

Chapter 47 - FLOOD DAMAGE PREVENTION^[14]

Footnotes:

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Editor's note— Ord. No. 3052, § 1, adopted Dec. 21, 1977, amended the Code by adding a new Ch. 47, pertaining to flood damage prevention. Said ordinance was enacted as an emergency ordinance, to become effective immediately upon passage. Ord. No. 3549, § 1, adopted Nov. 6, 1980, subsequently reenacted the chapter.

Cross reference— Buildings, Ch. 8; Irving Minimum Housing Code, Ch. 8A; flood control, Ch. 17A; trailers and mobile homes, Ch. 38; water and sewer systems, Ch. 41.

State Law reference— Local participation in national flood insurance program, V.T.C.A., Water Code § 16.311 et seq.

Sec. 47-1. - Definitions.

Unless specifically defined below, words or phrases used in this chapter shall be interpreted to give them the meaning they have in common usage and to give this chapter its most reasonable application.

Appeal means a request for a review of the director of public works' interpretation of any provision of this chapter or a request for a variance.

Area of shallow flooding means a designated AO and AH Zone on a community's flood insurance rate map (FIRM) with base flood depths from one foot to three (3) feet. This condition occurs where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.

Area of special flood hazard is the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year (one-hundred-year flood level).

Base flood means the flood having a one percent chance of being equaled or exceeded in any given year (one-hundred-year flood level).

Base flood elevation (BFE) means the elevation shown on the Flood Insurance Rate Map (FIRM) and found in the accompanying Flood Insurance Study (FIS) for Zones A, AE, AH, A1-A30, AR, V1-V30, or VE that indicates the water surface elevation resulting from the flood that has a one (1) percent chance of equaling or exceeding that level in any given year. Also called the base flood.

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 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.

Elevated building means a nonbasement building (i) 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, elevated above the ground level by means of pilings, columns (posts and piers), or shear walls parallel to the flow of the water; and (ii) 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, and 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 flood waters.

Existing manufactured home park or manufactured home subdivision means a parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale for which the construction of facilities for servicing the lot on which the manufactured home is to be affixed (including, at

a minimum, the installation of utilities, either final site grading or the pouring of concrete pads, and the construction of streets) was completed before November 6, 1980.

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 of runoff of surface waters from any source.

Flood boundary floodway map (FBFM) means an official map of a community, issued by the Federal Insurance Administration, where the areas within the boundaries of special flood hazards and floodways have been designated.

Flood insurance rate map (FIRM) means an official map of a community, on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

Flood insurance study is the official report provided by the Federal Insurance Administration. The report contains flood profiles, the water surface elevation of the base flood, as well as the flood hazard boundary-floodway map.

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.

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.

Functionally dependent use means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

Highest adjacent grade means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Levee means a man-made 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, or levees, 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 one hundred eighty (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 the average height of the sea for all stages of the tide.

Mobile home means the same as "manufactured home."

New construction means, for floodplain management purposes, structures for which the "start of construction" commenced on or after December 21, 1977.

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 one hundred eighty (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 and/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 that is principally aboveground, as well as a mobile home.

Substantial improvement means any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds fifty (50) percent of the market value of the structure either (1) before the improvement or repair is started, or (2) 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:

- (1) 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 assure safe living conditions; or
- (2) Any alteration of a structure listed on the National Register of Historic Places or a state inventory of historic places.

Variance is 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.

Violation means the failure of a structure or other development to be fully compliant with the community's floodplain management 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 44 CFR part 60 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. 3052, § 1, 12-21-77; Ord. No. 3549, § 1, 11-6-80; Ord. No. 5195, §§ 1, 2, 4-16-87; Ord. No. 5386, § 1, 2-4-88; Ord. No. 2012-9344, § 1, 6-21-12)

State Law reference— Local governmental units to adopt regulations designed to minimize flood losses, V.T.C.A., Water Code § 16.315.

Sec. 47-2. - Lands to which chapter applies.

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

(Ord. No. 3052, § 1, 12-21-77; Ord. No. 3549, § 1, 11-6-80)

Sec. 47-3. - 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 "Flood Insurance Study, Dallas County, Texas and Incorporated Areas" dated August 23, 2001, with accompanying flood insurance rate maps (FIRM) and any revisions thereto either before or after the passage of this chapter are hereby adopted by reference and declared to be a part of this chapter.

(Ord. No. 3052, § 1, 12-21-77; Ord. No. 3549, § 1, 11-6-80; Ord. No. 7875, § 1, 8-9-01)

Editor's note— The flood boundary-floodway maps adopted by Ord. No. 3549 were amended by Ord. No. 3780, §§ 1, 2, adopted Dec. 17, 1981, and Ord. No. 3895, §§ 1, 2, adopted June 17, 1982.

Sec. 47-4. - Establishment of development permit requirement.

A development permit pursuant to this chapter is hereby required to assure conformance with the provisions of this chapter and must be obtained prior to the issuance of any building permit on property to which this chapter is applicable.

(Ord. No. 3052, § 1, 12-21-77; Ord. No. 3549, § 1, 11-6-80)

Sec. 47-5. - Compliance.

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

(Ord. No. 3052, § 1, 12-21-77; Ord. No. 3549, § 1, 11-6-80)

Sec. 47-6. - 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. 3052, § 1, 12-21-77; Ord. No. 3549, § 1, 11-6-80)

Sec. 47-7. - Interpretation standards.

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

- (1) Considered as minimum requirements;
- (2) Liberally construed in favor of the governing body; and
- (3) Deemed neither to limit nor repeal any other powers granted under state statutes.

(Ord. No. 3052, § 1, 12-21-77; Ord. No. 3549, § 1, 11-6-80)

Sec. 47-8. - 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 man-made or natural causes. This chapter 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 chapter shall not create liability on the part of the City of Irving or any officer or employee thereof for any flood damages that result from reliance on this chapter or any administrative decision lawfully made thereunder.

(Ord. No. 3052, § 1, 12-21-77; Ord. No. 3549, § 1, 11-6-80)

Sec. 47-9. - Designation of director of public works to administer chapter provisions.

The director of public works is hereby appointed to administer and implement the provisions of this chapter.

(Ord. No. 3052, § 1, 12-21-77; Ord. No. 3549, § 1, 11-6-80)

Sec. 47-10. - Duties and responsibilities of the director of public works.

Duties and responsibilities of the director of public works shall include, but not be limited to, the following:

- (1) Maintain and hold open for public inspection all records pertaining to the provisions of this chapter;
- (2) Review, approve or deny all applications for development permits required by section 47-4 of this chapter;
- (3) Review applications for permits to assure that the applicant has obtained all necessary permits from the U.S. Army Corps of Engineers, Texas Department of Water Resources, and any other federal, state or local governmental agency from which approval is required;
- (4) Where interpretation is needed as to the 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 director of public works shall make the necessary interpretation;
- (5) Review applications to assure that the applicant has notified adjacent communities, the Texas Department of Water Resources and the U.S. Army Corps of Engineers prior to any alteration and relocation of a watercourse, and has submitted evidence of such notification to the Federal Insurance Administration;
- (6) When base flood elevation data has not been provided in accordance with section 47-3, the director of public works shall obtain, review and reasonably utilize any base flood elevation data available from a federal, state or other source, in order to administer the provision of section 47-13;
- (7) Assure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained; and
- (8) When a regulatory floodway has not been designated, the director of public works must require that no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

(Ord. No. 3052, § 1, 12-21-77; Ord. No. 3549, § 1, 11-6-80; Ord. No. 5386, § 2, 2-4-88)

Sec. 47-11. - Permit procedures.

- (1) Application for a development permit shall be presented to the director of public works on forms furnished by him and which forms may include, but not be limited to, plans in duplicate, drawn to scale, showing the location, dimensions and elevation of existing and proposed structures, and the location of the foregoing in relation to areas of special flood hazard. Additionally, the following information is required:
 - (a) Elevation in relation to mean sea level, of the lowest floor (including basement) of all proposed structures;
 - (b) Elevation in relation to mean sea level to which any nonresidential structure shall be floodproofed;
 - (c) A certificate from a registered professional engineer that the nonresidential floodproofed structure shall meet the floodproofing criteria of section 47-14(2);
 - (d) Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.
- (2) Approval or denial of a development permit by the director of public works shall be based on all of the provisions of this chapter and the following relevant factors:
 - (a) The danger to life and property due to flooding or erosion damage;
 - (b) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - (c) The danger that materials may be swept onto other lands to the injury of others;
 - (d) The compatibility of the proposed use with existing and anticipated development;
 - (e) The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - (f) 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;
 - (g) 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;
 - (h) The necessity to the facility of a waterfront location, where applicable;
 - (i) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
 - (j) The relationship of the proposed use to the comprehensive plan for that area.
 - (k) However, no development permits shall be issued for new construction or substantial improvements of a structure in an area designated special flood hazard unless the lowest floor slab elevation is at least two (2) feet above the base level. When the floor slab elevation has been set at least two (2) feet above the base flood level, no additional flood proofing or special construction requirements shall be demanded of the applicant except as provided in section 47-14(4) and (5). Further, the start of construction of new mobile home subdivisions shall not be approved unless the lowest elevation on which any mobile home is to be located is at least two (2) feet above the base flood level elevation.
- (3) The applicant for a development permit shall provide from the U.S. Army Corps of Engineers and the Texas Department of Water Resources either written approval of the proposed plans or a written statement demonstrating that the particular agency does not assert jurisdiction over the proposed project, and, in the case of projects requiring the alteration and relocation of a watercourse, provide evidence that the applicant has notified adjacent communities and has submitted evidence of such notification to the Federal Insurance Administration.

(Ord. No. 3549, § 1, 11-6-80)

Sec. 47-12. - Variance procedures.

- (1) The building code board of adjustments and appeals as established by the city shall hear and render judgement on requests for variances from the requirements of this chapter.
- (2) The building code board of adjustments and appeals shall hear and render judgement on an appeal only when it is alleged there is an error in any requirement, decision, or determination made by the director of public works in the enforcement or administration of this chapter.
- (3) Any person or persons aggrieved by the decision of the building code board of adjustments and appeals under this chapter may appeal such decision in the courts of competent jurisdiction.
- (4) The director of public works shall maintain a record of all actions involving an appeal and shall report variances to the Federal Insurance Administration upon request.
- (5) 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 section.
- (6) The building code board of adjustments and appeals may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this chapter.
- (7) Prerequisites for granting variances:
 - (a) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
 - (b) Variances shall only be issued upon:
 - (i) A showing of good and sufficient cause, and
 - (ii) 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.
 - (c) The building code board of adjustments and appeals shall have no authority to grant a variance permitting new construction of a structure in an area designated special flood hazard when the lowest slab elevation is lower than two (2) feet above the base flood level or the level established by the city council and/or planning and zoning commission. However, said board shall have authority to grant a variance permitting substantial improvements of a structure located in an area designated special flood hazard. The building code board of adjustments and appeals shall not have any jurisdiction to grant a variance permitting construction of new mobile home parks or new mobile home subdivisions at a lower elevation than at least two (2) feet above the base-flood level or the elevation established by the city council and/or planning and zoning commission.
- (8) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

(Ord. No. 3052, § 1, 12-21-77; Ord. No. 3549, § 1, 11-6-80; Ord. No. 5386, § 3, 2-4-88)

Sec. 47-13. - General standards of building construction.

In all areas of special flood hazard which are not two (2) feet or more higher than the base flood level, the following provisions are required:

- (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 substantial improvements shall be constructed by methods and practices that minimize flood damage;
- (3) All substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;
- (4) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
- (5) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharges from the systems into floodwaters; and
- (6) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
- (7) Electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

(Ord. No. 3052, § 1, 12-21-77; Ord. No. 3549, § 1, 11-6-80; Ord. No. 5195, § 3, 4-16-87; Ord. No. 5386, § 4, 2-4-88)

Sec. 47-14. - Specific standards of building construction.

In all areas of special flood hazards where base flood elevation data has been provided as set forth in section 47-3, section 47-10 or section 47-15, the following provisions are required:

- (1) *Residential construction.* New construction of any residential structure shall have the lowest floor, including basement, elevated to at least two (2) feet above the base flood elevation. A registered professional engineer shall submit a certification to the director of public works that the standard of this subsection is satisfied. Further, once the above requirement has been met, the floor slab elevation of all new residential structures shall be no lower than the top of the street curb of the street on which the structure is located.
- (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 two (2) feet 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 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. 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 director of public works.
- (3) *Manufactured homes.* Manufactured homes located less than two (2) feet above base flood level:
 - (a) Manufactured homes shall be installed using methods and practices which 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) No manufactured home shall be placed in a floodway.

- (c) The lowest floor of any manufactured home shall be no lower than the base flood elevation.
- (d) All new manufactured homes whose lowest floor is located less than two (2) feet above base flood level but no lower than the base flood elevation shall be anchored to resist flotation, collapse or lateral movement.

Specific requirements are:

- (i) Over-the-top ties at each of the four (4) corners of the manufactured home, with two (2) additional ties per side at intermediate locations and for manufactured homes more than fifty (50) feet long, one additional tie per side;
 - (ii) Frame ties at each corner of the home with five (5) additional ties per side at intermediate points and for manufactured homes more than fifty (50) feet long, four (4) additional ties per side;
 - (iii) All components of the anchoring system must be capable of carrying a force of forty-eight hundred (4,800) pounds;
 - (iv) Any additions to the manufactured home must be similarly anchored.
- (e) Except in an existing manufactured home park, require that all manufactured homes to be placed or substantially improved within Zones A1-30, AH and AE on the community's FIRM be elevated on a permanent foundation such that the lowest floor of the manufactured home is at least two (2) feet above the base flood elevation; and be securely anchored to an adequately anchored foundation system in accordance with the provisions of this section.
 - (f) No manufactured home shall be placed in a floodway or floodplain, except in an existing manufactured home park or manufactured home subdivision.
- (4) *Floodways.* Located within areas of special flood hazard established in section 47-3 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and erosion potential, the following provisions apply:
- (a) Encroachments are prohibited, including fill, new construction, substantial improvements and other development unless certification by a professional registered engineer is provided demonstrating that encroachments shall not result in any increase in flood levels within the community during the occurrence of the base flood discharge.
 - (b) All new construction and substantial improvements permitted by this subsection shall comply with all applicable flood hazard reduction provisions of section 47-14.
 - (c) The placement of any mobile home, except in an existing mobile home park or subdivision, is prohibited.
 - (d) A person proposing an encroachment within an area designated as a floodway under section 47-3 shall provide to the director of public works sufficient data, certified by a registered professional engineer, to establish that the proposed encroachment, together with a comparable encroachment on the opposite side of the area designated as floodway if such encroachment does not exist but is plausible, is not prohibited by paragraph (a) above and will not increase flooding or divert waters in such a way that any person's life or property will be endangered or subjected to significantly increased flooding.
- (5) *Standards for areas of shallow flooding (AO and AH Zones).* Within the areas of shallow flooding established by section 47-3, the following provisions apply:
- (a) All new construction and substantial improvements of residential structures shall have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two (2) feet if no depth number is specified).

- (b) All new construction and substantial improvements of nonresidential structures shall have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two (2) feet if no depth number is specified).
 - (c) A registered professional engineer or registered surveyor shall submit a certification to the director of public works that the standards of this section, as proposed in section 47-11(1)(a) are satisfied.
 - (d) Require within zones AH or AO adequate drainage paths around structures on slopes, to guide flood waters around and away from proposed structures.
- (6) *Enclosed areas below lowest floor.* Fully enclosed areas below the lowest floor that 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 registered professional engineer or architect or must meet or exceed the following minimum criteria: A minimum of two (2) 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. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

(Ord. No. 3052, § 1, 12-21-77; Ord. No. 3549, § 1, 11-6-80; Ord. No. 5195, §§ 4—7, 4-16-87; Ord. No. 5386, §§ 5—9, 2-4-88)

Sec. 47-15. - Standards for subdivision proposals.

- (1) All subdivision proposals shall be consistent with the statutory authorization, findings of fact, purposes and methods of reducing flooding.
- (2) All proposals for the development of subdivisions shall meet development permit requirements of sections 47-4, 47-11, 47-13 and 47-14.
- (3) Base flood elevation data shall be generated for subdivision proposals and other proposed development if not otherwise provided pursuant to section 47-3 or section 47-10(6) of this chapter.
- (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 flood damage.

(Ord. No. 3052, § 1, 12-21-77; Ord. No. 3549, § 1, 11-6-80)

Sec. 47-16. - Penalty; continuing violations.

A violation of any of the provisions of this chapter shall be punishable by a fine not to exceed five hundred dollars (\$500.00).

Each day any violation of any provision of this chapter continues shall constitute a separate offense.

(Ord. No. 5853, § 47, 9-6-90)

Sec. 47-17. - Trinity River corridor development certificate process.

- (a) *Definitions.* In this section:

Corridor Development Certificate Manual means the manual by that title dated January 31, 1992, which is attached to this section and kept on file in the office of the city secretary.

Floodplain alteration means any construction of buildings or other structures, mining, dredging, filling, grading, or excavation in the floodplain.

Trinity River Corridor means the portion of the bed and banks of the West Fork, Elm Fork, and mainstream segments of the Trinity River within the Irving city limits.

- (b) *Certificate required.* A person commits an offense if he makes any floodplain alteration within the Trinity River Corridor without first obtaining a corridor development certificate from the director of public works. It is a defense to prosecution that an exemption or waiver has been obtained in accordance with subsection (e) of this section.
- (c) *Application.* An application for a corridor development certificate must be filed with the director of public works on a form furnished by the department of public works.
- (d) *Review.* The director of public works shall deny an application for a certificate unless it complies with the standards contained in the Corridor Development Certificate Manual or unless an exemption from or waiver of those standards is obtained in accordance with subsection (e) of this section.
- (e) *Exemptions and waivers.*
 - (1) *Exemptions.*
 - a. An exemption from the requirements of this section may be obtained if the floodplain alteration involves the following activities:
 - 1. Ordinary maintenance of and repair to flood control structures;
 - 2. The construction of outfall structures and associated intake structures if the outfall has been permitted under state or federal law;
 - 3. Discharge of material for backfill or bedding for utility lines, provided there is no significant change in pre-existing bottom contours and excess materials are removed to an upland disposal area.
 - 4. Bank stabilization;
 - 5. Any project listed in the U.S. Army Corps of Engineers March 1990 Reconnaissance Report, which is attached as Appendix A to the Corridor Development Certificate Manual, or any project approved under the provisions of this division, provided the approval, permit, or authorization has not expired and no significant changes have occurred since the approval, permit, or authorization was issued.
 - b. Application for an exemption must be made to the director of public works on a form provided by the department of public works.
 - c. If the director of public works determines that an application for an exemption falls within one of the categories listed in paragraph (1), the director shall issue a written exemption from the requirements of this section.
 - (2) *Waivers.* If the director of public works determines that the application for a corridor development certificate does not comply with all of the standards contained in the Corridor Development Certificate Manual, the applicant may apply for a waiver to any standard contained in the manual. An application for a waiver must be made to the director of public works, who shall schedule the application for consideration by the city council. The city council may grant a waiver provided the waiver will not violate any provision of federal or state law, result in increased flood levels, or endanger life or property.

(Ord. No. 6311, § 1, 8-26-93)

Sec. 47-18. - Running bear park levee system—Operations and maintenance plan.

The city hereby adopts the Running Bear Park Levee System Operations and Maintenance Plan as approved by the U.S. Federal Emergency Management Agency (FEMA), which shall be kept on file in the office of the city secretary of the city of Irving.

(Ord. No. 2016-9861, § 1, 9-22-16)