

## **Chapter 50 - FLOODS**

**Cross reference**— Buildings and building regulations, ch. 22; civil emergencies, ch. 34; emergency services, ch. 38; environment, ch. 42; [clean water, ch. 43](#); fire protection and prevention, ch. 46; health and sanitation, ch. 54; historical preservation, ch. 56; law enforcement, ch. 58; manufactured homes and trailers, ch. 66; planning, ch. 82; solid waste, ch. 94; streets, sidewalks and other public places, ch. 98; tree preservation and provisions, § 102-12; subdivision regulations, ch. 102; traffic and vehicles, ch. 110; utilities, ch. 114; zoning, ch. 125.

### **ARTICLE I. - IN GENERAL**

Secs. 50-1—50-30. - Reserved.

### **ARTICLE II. - FLOOD DAMAGE PREVENTION AND PROTECTION**

#### **DIVISION 1. - GENERALLY**

Sec. 50-31. - Statutory authority.

The legislature of the State of Texas has in the Flood Control Insurance Act, V.T.C.A., Water Code § 16.315, delegated the responsibility to local governmental units to adopt regulations designed to minimize flood losses. Therefore, the city council of the City of League City does ordain this article.

Sec. 50-32. - Findings of fact.

- (a) The flood hazard areas of the City of League 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~~ [may be](#) 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.

Sec. 50-33. - Purpose of article.

It is the purpose of this article 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 flood-prone areas in such a manner as to minimize future flood blight areas.
- (7) Ensure that potential buyers are notified that property is in a flood area.

Sec. 50-34. - Methods of reducing flood losses.

In order to accomplish its purposes, this article 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 service 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.

Sec. 50-35. - Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning. Unless specifically defined in this section, words or phrases used in this article shall be interpreted to give them the meanings they have in common usage and to give this article its most reasonable application.

*Alluvial fan flooding* means flooding occurring on the surface of an alluvial fan or similar landform which originates at the apex and is characterized by high-velocity flows; active processes of erosion, sediment transport, and deposition; and unpredictable flow paths.

*Apex* means a point on an alluvial fan or similar landform below which the flow path of the major stream that formed the fan becomes unpredictable and alluvial fan flooding can occur.

*Appeal* means a request for a review of the floodplain administrator's interpretation of any provision of this article, or a request for a variance.

*Appurtenant structure* means a structure which is on the same parcel of property as the principal structure to be insured and the use of which is incidental to the use of the principal structure.

*Area of future conditions flood hazard* means the land area that would be inundated by the one percent annual chance (100-year) flood based on future conditions hydrology.

*Area of shallow flooding* means a designated AO, AH, or VO zone on a community's flood insurance rate map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

*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. The area may be designated as zone A on the flood hazard boundary map (FHBM). After detailed ratemaking has been completed in preparation for publication of the FIRM, zone A usually is refined into zones A, AE, AH, AO, A1-~~A30~~, ~~A-9999~~, ~~AR~~, ~~AR/A~~, ~~AR/AE~~, ~~AR/AH~~, ~~AR/AO~~, ~~AR/A1-A30~~, ~~VQ~~, V1-~~V~~30, VE or V.

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

*Base flood elevation (BFE)* ~~The elevation of surface water resulting from a flood that has a 1% chance of equaling or exceeding that level in any given year. The~~ A rounded BFE is shown on the Flood Insurance Rate Map (FIRM) for zones AE, AH, A1-A30, AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO, V1-V30 and VE. The actual BFE for a given area can be found in the Flood Insurance Study. ~~is the elevation shown on the flood insurance rate map (FIRM) and found in the accompanying flood insurance study (FIS) for zones A, AE, AH, A A30, AR, V1-30, or VE that indicates the water surface elevation resulting from the flood that has a one percent chance of equaling or exceeding that level in any given year - also called the "base flood."~~

*Basement* means any area of the building, including any sunken room or sunken portion of a room, having its floor ~~subgrade~~ (below ground level) (subgrade) on all sides.

*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.

*Coastal high-hazard area* are Special Flood Hazard Areas (SFHAs) along the coasts that have additional hazards due to wind and wave action. These areas are identified on Flood Insurance Rate Maps (FIRMs) as zones V, V1-V30 and VE. ~~means the area subject to high velocity waters, including but not limited to hurricane wave wash or tsunamis. The area is designated on a flood insurance rate map as zone V1-30, VE or V.~~

*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.

*Cumulative substantial improvements/damage* means any structure wherein the cumulative costs of the improvements or damage repairs when combined incrementally over a ten-year period of time, equal or exceed 50 percent of the market value of the structure. When the cost of the work reaches 50 percent, the structure must be brought into compliance with current ordinance and codes.

*Development* means any man-made 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 or storage of equipment or materials.

*Elevated building* means a nonbasement building (i) built, in the case of a building in zones A1-A30, 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 zones V1-V30, VE, or V, to have bottom of the lowest horizontal structural member of the elevated floor elevated above ground level by means of pilings, columns (posts and piers), or shear walls parallel to the floor 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-A30, 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 the case of zones V1-V30, 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.

*Enclosure* is a fully enclosed area below the lowest floor that is usable solely for parking of vehicles, building access, or storage in an area other than a basement.

*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".

*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 pads) is completed before the effective date of the floodplain management regulations adopted by a community.

*Expansion to an existing manufactured home park or 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 of concrete pads).

*Fill* means ~~earthen fill material placed in a Special Flood Hazard Area to reduce flood risk that reduces floodplain storage volume and is prohibited within the floodway unless it has been demonstrated that it will not result in any increase in flood levels.~~

*Five hundred (500) year flood* means the flood that has a 0.2 percent chance (1 in 500 chance) of occurring in any given year.

*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 elevation study* means an examination, evaluation, and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation, and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards.

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

*Flood insurance study (FIS)* is the official report provided by the Federal Emergency Management Agency. The report contains flood profiles, water surface elevation of the base flood, as well as the flood boundary-floodway map. See also "flood elevation study."

*Flood proofing* means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

*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 area 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 flood-prone area* means any land area susceptible to being inundated by water from any source (see the definition of "flooding").

*Floodplain management* means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works and floodplain management regulations.

*Floodplain management regulations* means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance and erosion control ordinance) and other applications of police power. The term describes such state or

local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

*Floodway.* See "regulatory floodway."

*Freeboard means an additional amount of height above the Base Flood Elevation used as a factor of safety in determining the level at which a structure's lowest floor must be elevated or floodproofed. the distance between the Base Flood Elevation and the Finished Floor Elevation.*

*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.

*Habitable floor* means any floor usable for the following purposes: working, sleeping, eating, cooking or recreation, or a combination thereof. A floor used for storage purposes only is not a habitable floor.

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

*Historic structure* means any structure that is:

- (1) Listed individually in the National Register of Historic Places (a listing maintained by the department of interior) or preliminarily determined by the secretary of the interior as meeting the requirements for individual listing on the National Register;
- (2) Certified or preliminarily determined by the secretary of the interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the secretary to qualify as a registered historic district;
- (3) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the secretary of the interior; or
- (4) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
  - a. By an approved state program as determined by the secretary of the interior or;
  - b. Directly by the secretary of the interior in states without approved programs.

*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 or 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. The term "manufactured home" does not include a "recreational vehicle".

*Manufactured home park or subdivision* means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

*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.

*Mitigation means the effort to reduce loss of life and property by lessening the impact of disasters.*

*New construction* means, for the purpose of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

*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 floodplain management regulations adopted by a community.

*Primary frontal dune* means a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.

*Recreational vehicle* means a vehicle which is (i) built on a single chassis; (ii) 400 square feet or less when measured at the largest horizontal projections; (iii) designed to be self-propelled or permanently towable by a light duty truck; and (iv) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

*Regulatory 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 a designated height.

*Repetitive loss* means flood-related damage sustained by a structure on two separate occasions during a ten-year period for which the cost of repairs at the time of each such event, is over \$1,000.00 or, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred.

*Riverine* means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

*Sand dunes* mean naturally occurring accumulations of sand in ridges or mounds landward of the beach.

*Special flood hazard area.* See "area of special flood hazard."

*Start of construction* (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (Pub. L. 97-348)), includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation addition, 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 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 structures. For a substantial improvement,

the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

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

*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 50 percent of the market value of the structure before the damage occurred.

*Substantial improvement* means any repair, reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before "start of construction" of the improvement. This includes structures which have incurred "repetitive loss" or "substantial damage", regardless of the actual repair work performed. The term does not, however, include either:

- (1) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary conditions; or
- (2) Any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure".

*Variance* is a grant of relief to a person from the requirement 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 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.

**Cross reference**— Definitions generally, § 1-2.

Sec. 50-36. - Applicability of article.

This article shall apply to all areas of special flood hazard and all Zone X (shaded) areas within the jurisdiction of the city.

Sec. 50-37. - Compliance with article and other applicable regulations.

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

Sec. 50-38. - Interpretation of article.

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

- (1) Considered 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.

Sec. 50-39. - Warning and disclaimer of liability.

The degree of flood protection required by this article 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 article 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 article shall not create liability on the part of the city or any officer or employee thereof for any flood damages that result from reliance on this article or any administrative decision lawfully made thereunder.

Sec. 50-40. - Abrogation and greater restrictions.

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

Secs. 50-41—50-60. - Reserved.

## **DIVISION 2. - ADMINISTRATION AND ENFORCEMENT**

**Cross reference**— Administration, ch. 2.

Sec. 50-61. - Basis for establishing areas of special flood hazard.

The areas of special flood hazard identified by the Federal Emergency Management Agency in a scientific and engineering report entitled, "The Flood Insurance Study for League City, Texas, Galveston and Harris Counties" dated September 22, 1999, with the accompanying flood insurance rate maps and flood boundary-floodway maps (FIRM and FBFM) dated September 22, 1999, and any revisions thereto are hereby adopted by reference and declared to be a part of this article.

Sec. 50-62. - Designation of floodplain administrator.

The ~~city building official is hereby appointed the~~ city floodplain administrator ~~to shall~~ administer manage and implement the provisions of this chapter and other appropriate sections of 44 CFR (National Flood Insurance Program Regulations) pertaining to floodplain management.

Sec. 50-63. - Duties of floodplain administrator.

The 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 the provisions of this article.
- (2) Review permit applications to determine whether proposed building sites, including the placement of manufactured homes, will be reasonably safe from flooding.
- (3) Review, approve or deny all applications for development permits required by adoption of this article.

- (4) Review permits for proposed development to assure 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 U.S.C. 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 hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the floodplain administrator shall make the necessary interpretation.
- (6) Notify, in riverine situations, adjacent communities and the state coordinating agency which is the Texas Water Development Board (TWDB) and also the Texas Commission on Environmental Quality (TCEQ), prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.
- (7) Assure 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 50-61, the floodplain administrator shall 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 division 3 of this article.
- (9) When a regulatory floodway has not been designated the floodplain administrator 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 at any point within the community.
- (10) Under the provisions of 44 CFR Chapter 1, Section 65.12 of the National Flood Insurance Program regulations, a community may approve certain development in zones A1-30, AE, AH, on the community's FIRM which increases the water surface elevation of the base flood, provided that the community first applies for a conditional FIRM revision through FEMA.

**Sec. 50-64. - Development permit required.**

A development permit shall be required to ensure conformance with the provisions of this article.

**Cross reference—** Pipeline permit required, § 42-191 et seq.

**Sec. 50-65. - Application for development permit; conditions for granting.**

- (a) Application for a development permit shall be presented to the floodplain administrator on forms furnished by him/her 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, including the placement of manufactured homes, and the location of the foregoing in relation to 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 subsection 50-82(2).

- (4) A description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.
- (5) Elevation of the surface of all means of ingress and egress into and out of the proposed development. Such surface of means of egress and ingress shall not be less than two feet below the nearest base flood elevation.
- (6) Engineer certified copy of the flood water impact assessment form as provided by the city engineer's office.
- (7) Maintain a record of all such information in accordance with subsection 50-63(1).
- (b) Approval or denial of a development permit by the floodplain administrator shall be based on all of the provisions of this article 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 flood waters 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.

**Cross reference**— Denial, suspension or revocation of licenses or permits to conform to state law, § 2-7.

Sec. 50-66. - Appeals and variances.

- (a) The planning and zoning commission, as established by the city, shall hear and render judgment on requests for variances from the requirements of this article.
- (b) The planning and zoning commission 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 article.
- (c) Any person aggrieved by the decision of the planning and zoning commission may appeal such decision to the city council. Any person aggrieved by the decision of the city council may appeal such decision in the courts 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 article.
- (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 below the base flood level, providing the relevant factors in subsection 50-65(b) 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 above and the intent of this article, the planning and zoning commission may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this article.
- (h) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- (i) Variances may be issued for the repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
- (j) Prerequisites for granting variances:
  - (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 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 application 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.
- (k) 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 the criteria outlined in subsections (a) through (j) of this section are met, and 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.

Secs. 50-67—50-80. - Reserved.

### **DIVISION 3. - FLOOD HAZARD REDUCTION**

Sec. 50-81. - General standards.

In all areas of special flood hazard, the following provisions 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 and/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 flood waters into the system;
- (6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from the system into flood waters; and
- (7) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
- (8) All elevation requirements noted in this chapter shall be documented using the FEMA elevation certificate, shall be certified by a registered professional engineer, surveyor, or architect, and shall be submitted to the floodplain administrator.
- (9) Elevation Certificates shall be submitted to the ~~city~~ City Floodplain Coordinator ~~engineering department~~ for review and acceptance prior to a Certificate of Occupancy being issued.
- (10) A structure shall be deemed to be substantially improved or substantially damaged when the cumulative costs of the improvements or damage repairs, when combined incrementally over a ten-year period of time, equal or exceed 50 percent of the market value of the structure.
- (11) For all new and substantially improved construction ~~permitted on or after October 1, 2018~~, the electrical, ventilation, plumbing, and air conditioning equipment and other service facilities (including ductwork) must be elevated (residential) or floodproofed (nonresidential) to a minimum of ~~18-24 inches~~ ~~above~~ above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building and be a minimum of three (3) inches ~~(3")~~ above the ~~nearest~~ 500-year flood ~~elevation~~.
- (12) Substantial Improvements to structures completed prior to October 1, 2018, must have the electrical, ventilation, plumbing, and air conditioning equipment and other service facilities (including ductwork) elevated (residential) or floodproofed (nonresidential) to a minimum of 18 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building.
- (13) For all new and substantially improved construction in ~~unshaded X-zones~~ ~~areas of special flood hazard~~ and 0.2% annual chance floodplain ~~permitted on or after October 1, 2018~~, the lowest floor and all attendant utilities must be elevated (residential) or floodproofed (nonresidential) to a minimum of ~~24 inches~~ ~~above~~ above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building and be a minimum of three (3) inches ~~(3")~~ above the ~~nearest~~ 500-year flood ~~elevation~~.
- (14) Substantial improvements to structures completed prior to October 1, 2018, in areas of special flood hazard and 0.2% annual chance floodplain, must have the lowest floor and all attendant

utilities elevated (residential) or floodproofed (nonresidential) to a minimum of 18 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building.

- (15) When fill or any other development is placed in the special flood hazard area and 0.2% annual chance floodplain that has the effect of reducing the storage volume of flood waters in the floodplain, then an equal amount of storage volume must be created in another location of the same floodplain to compensate for the storage capacity lost. The fill or other development shall not negatively affect upstream/downstream properties.
- (16) All new construction and substantial improvements permitted on or after October 1, 2018, shall have the lowest floor (including basement) elevated a minimum of 24 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building and be a minimum of three (3) inches ~~(3")~~ above the nearest 500-year flood.

Sec. 50-82. - Specific standards.

In all areas of special flood hazards where base flood elevation data has been provided as set forth in sections 50-61, 50-63(8), or 50-83(e3), the following provisions are required:

(1) Residential construction.

- a. New construction and substantial improvement of any residential structure permitted on or after October 1, 2018, shall have the lowest floor (including basement), elevated a minimum of ~~18~~ 24 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building and be a minimum of three (3) inches ~~(3")~~ above the nearest 500-year flood. In areas where the 500-year flood elevation is not published, the 500-year wave envelope elevation at the nearest transect will govern. 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 subsection 50-65(a)(1), is satisfied.
- b. Substantial improvements to any residential structures completed prior to October 1, 2018, shall have the lowest floor (including basement), elevated a minimum of 18 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building. 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 subsection 50-65(a)(1), is satisfied.

(2) Nonresidential construction.

- a. New construction and substantial improvements of any commercial, industrial or other nonresidential structures permitted on or after October 1, 2018, shall have the lowest floor (including basement, and attendant utility and sanitary facilities) elevated or floodproofed to a minimum of ~~18~~ 24 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building and be a minimum of three (3) inches ~~(3")~~ above the nearest 500-year flood. ~~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 floodplain administrator.~~
- b. Substantial improvements to any commercial, industrial, or other nonresidential structures completed prior to October 1, 2018, shall have the lowest floor (including basement and attendant utility and sanitary facilities), elevated or floodproofed to a minimum of 18 inches

above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building. 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 floodplain administrator.

- (3) *Enclosures.* New construction and substantial improvements, with fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria:
- 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.
  - The bottom of all openings shall be no higher than one foot above grade.
  - Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
- (4) *Manufactured homes.*
- All manufactured homes to be placed within zone A 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.
  - All manufactured homes that are placed or substantially improved within zones A1-30, AH, and AE on sites (i) outside of a manufactured home park or subdivision, (ii) in a new manufactured home park or subdivision, (iii) in an expansion to an existing manufactured home park or subdivision, or (iv) in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as a result of a flood, be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to a minimum of ~~18-24~~ inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building; be a minimum of three (3) inches ~~(3")~~ above the nearest 500-year flood; and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.
  - All manufactured homes that are placed or substantially improved on sites in an existing manufactured home park or subdivision within zones A1-30, AH and AE that are not subject to the provisions of subsection (4) of this section must be elevated so that it achieves the higher of either:
    - The lowest floor of the manufactured home is elevated to a minimum ~~of 18 inches above the base flood elevation~~ of 24 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building and be a minimum of three (3) inches ~~(3")~~ above the nearest 500-year flood; or
    - The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above

grade and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

- (5) *Recreational vehicles.* All recreational vehicles placed on sites within zones A1-30, AH, and AE must either (i) be on the site for fewer than 180 consecutive days, (ii) be fully licensed and ready for highway use, or (iii) meet the permit requirements of subsection 50-65(a), and the elevation and anchoring requirements for "manufactured homes" in subsection (4) of this section. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnection type utilities and security devices, and has no permanently attached additions.

Sec. 50-83. - Standards for subdivision proposals.

- (1) All subdivision proposals including the placement of manufactured home parks and subdivisions shall be consistent with sections 50-32 through 50-34 of this regulation.
- (2) All proposals for the development of subdivisions, including the placement of manufactured home parks and subdivisions shall meet development permit requirements of sections 50-64 and 50-65 and the provisions of this division.
- (3) Base flood elevation and 500-yr flood elevation data shall be generated for subdivision proposals and other proposed development, including the placement of manufactured home parks and subdivisions which are greater than 50 lots or five acres, whichever is less, if not otherwise provided pursuant to sections 50-61 or 50-63(8) of this division.
- (4) All subdivision proposals, including manufactured home parks and subdivisions, shall have adequate drainage provided to reduce exposure to flood hazards.
- (5) 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.

Sec. 50-84. - Standards for areas of shallow flooding (AO and AH zones).

Located within the areas of special flood hazard established in section 50-61 are areas designated as shallow flooding. These areas have special flood hazards associated with base flood depths of one to three feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow; therefore, the following provisions apply:

- (1) (4) — All new construction and substantial improvements of residential structures ~~permitted on or after October 1, 2018, shall~~ have the lowest floor (including basement) elevated ~~above the highest adjacent grade, at least as high as 18 inches above the depth number specified in feet on the community's flood insurance rate map, or at least two feet~~ 24 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building and be a minimum of three (3) inches ~~(3")~~ above the nearest 500-year flood ~~if no depth number is specified.~~
- (2) Substantial improvements to any residential structure completed prior to October 1, 2018, shall have the lowest floor (including basement), elevated a minimum of 18 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building. 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 subsection 50-65(a)(1), is satisfied.

(3) All new construction and substantial improvements of nonresidential structures permitted on or after October 1, 2018, shall:

- a. Have the lowest floor (including basement) elevated above the highest adjacent grade, at least as high as ~~18 inches above the depth number specified in feet on the community's flood insurance rate map, or at least two feet~~ 24 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building and be a minimum of three (3) inches ~~(3")~~ above the nearest 500-year flood ~~if no depth number is specified~~; or
- b. Together with attendant utility and sanitary facilities be elevated or floodproofed to ~~18 inches above the base flood level~~ 24 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building and be a minimum of three (3) inches ~~(3")~~ above the nearest 500-year flood so the structure is watertight with walls substantially impermeable to the passage of water and with structural components have the capability of resisting hydrostatic and hydrodynamic loads of effects of buoyancy. A registered professional engineer or architect shall submit a certification to the floodplain administrator that the standards of this subsection, as proposed in subsection 50-65(a)(3), are satisfied.
- c. A registered professional engineer or land surveyor shall submit a certification to the floodplain administrator that the standards of this section, as proposed in subsection 50-65(a)(1), are satisfied.
- d. Within zones AH and AO, adequate drainage paths are required around structures on slopes, to guide floodwaters around and away from proposed structures.

(4) Substantial improvements to nonresidential structures completed prior to October 1, 2018, shall:

- a. Have the lowest floor (including basement) elevated above the highest adjacent grade, at least as high as 18 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building; or
- b. Together with attendant utility and sanitary facilities be elevated or floodproofed to 18 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building so the structure is watertight with walls substantially impermeable to the passage of water and with structural components have the capability of resisting hydrostatic and hydrodynamic loads of effects of buoyancy. A registered professional engineer or architect shall submit a certification to the floodplain administrator that the standards of this subsection, as proposed in subsection 50-65(a)(3), are satisfied.
- c. A registered professional engineer or land surveyor shall submit a certification to the floodplain administrator that the standards of this section, as proposed in subsection 50-65(a)(1), are satisfied.
- d. Within zones AH and AO, adequate drainage paths are required around structures on slopes, to guide floodwaters around and away from proposed structures.

Sec. 50-85. - Floodways.

Located within areas of special flood hazard established in section 50-61 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 shall apply:

- (1) Encroachments are prohibited, including fill, new construction, substantial improvements and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge. No fill shall be allowed except by special permit through city council.
- (2) If subsection (1) of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this division.
- (3) When fill or any other development is placed in the floodway that could have the effect of increasing the base flood of the flood waters in the floodway, then the cumulative increase shall not exceed a height of zero inches.

Sec. 50-86. - Coastal high-hazard areas.

Located within the areas of special flood hazard established in section 50-61 are areas designated as coastal high-hazard areas (zones V1-30, VE, and V). These areas have special flood hazards associated with high velocity waters from tidal surges and hurricane wave wash; therefore, in addition to meeting all provisions outlined in this article, the following provisions also apply:

- (1) The following information shall be obtained: the elevation in relation to mean sea level of the bottom of the lowest structural member of the lowest floor, excluding pilings and columns, of all new and substantially improved structures, and whether or not such structures contain a basement. The floodplain administrator shall maintain a record of all such information.
- (2) All new construction shall be located landward of the reach of mean high tide.
- (3) All new construction and substantial improvements permitted on or after October 1, 2018, shall be elevated on pilings and columns so that:
  - a. The bottom of the lowest horizontal structural member of the lowest floor, excluding the pilings or columns, is elevated to a minimum of 18 inches above the base flood level -24 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building and be a minimum of three (3) inches (~~3"~~) above the nearest effective 500-year flood if the elevation is included in the Flood Insurance Study.
  - b. The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a ~~one-zero-point-two~~ percent (0.2%) chance of being equaled or exceeded in any given year (~~400~~500-year mean recurrence interval). A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction and certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of subsections (3)(a) and (b) of this section.
- (4) All substantial improvements to structures completed prior to October 1, 2018, shall be elevated on piling and columns so that:
  - a. The bottom of the lowest horizontal structural member of the lowest floor, excluding the pilings or columns, is elevated to a minimum of 18 inches above the base flood level 18 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building.
  - b. The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting

simultaneously on all building components. Wind and water loading values shall each have a one percent (1.0%) chance of being equaled or exceeded in any given year (100-year mean recurrence interval). A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction and certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of subsections (3)(a) and (b) of this section.

~~(4)~~(5) All new construction and substantial improvements shall have the space below the lowest floor either free of obstruction or constructed with nonsupporting breakaway walls, open wood latticework or insect screening intended to collapse under wind and water loads without causing collapse, displacement or other structural damage to the elevated portion of the building or the supporting foundation system. For the purpose of this section, a breakaway wall shall have a design safe loading resistance of not less than ten and not more than 20 pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot (either by design or when so required by local or state codes) may be permitted only if a registered professional engineer or architect certifies that the designs proposed meet the following conditions:

- a. Breakaway wall collapse shall result from a water load less than that which would occur during the base flood; and
- b. The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and nonstructural). Maximum wind and water loading valued to be used in this determination shall each have a one percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval).

~~(5)~~(6) If breakaway walls are utilized, such enclosed space shall be useable solely for parking of vehicles, building access or storage. Such space shall not be used for human habitation.

~~(6)~~(7) The use of soil fill for structural support of buildings is prohibited.

~~(7)~~(8) Manmade alteration of sand dunes and mangrove stands which would increase potential flood damage is prohibited.

~~(8)~~(9) Manufactured homes that are placed or substantially improved within zones V1-30, V, and VE on the community's FIRM on sites (i) outside of a manufactured home park or subdivision, (ii) in a new manufactured home park or subdivision, (iii) in an expansion to an existing manufactured home park or subdivision, or (iv) in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as the result of a flood, meet the standards of paragraphs (1) through (7) of this section and that manufactured homes placed or substantially improved on other sites in an existing manufactured home park or subdivision within zones V1-30, V, and VE on the community's FIRM meet the requirements of section 50-82(4) of this chapter.

~~(9)~~(10) Recreational vehicles placed on sites within zones V1-30, V, and VE on the community's FIRM are required to either (i) be on the site for fewer than 180 consecutive days, (ii) be fully licensed and ready for highway use, or (iii) meet the requirements in section 50-82(5) of this chapter and paragraphs (1) through (7) of this section. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached additions.

Sec. 50-87. - Areas between limits of 100-year flood and 500-year flood ~~(shaded-z) Zone X (shaded)~~.

All new construction and substantial improvement of residential and nonresidential structures within ~~shaded Z~~ zone X ~~(shaded)~~ designations shall meet the following standards:

- (1) All new construction and substantial improvements of residential structures permitted on or after October 1, 2018, shall have the lowest floor, including basement, elevated a minimum of 18 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building and be a minimum of three (3) inches (3'') above the 500-year flood, as determined by the floodplain administrator.
- ~~(4)(2)~~ Substantial improvements to structures completed prior to October 1, 2018, shall have the lowest floor, including basement, elevated a minimum of 18 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building.
- ~~(2)(3)~~ All new construction and substantial improvements of nonresidential structures permitted on or after October 1, 2018, shall:
  - a. Have the lowest floor, including basement, elevated a minimum of 18 inches above the nearest adjacent A zone base flood elevation 24 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building and be a minimum of three (3) inches (3'') above the nearest 500-year flood specified in feet on the community flood insurance rate map, as determined by the floodplain administrator; or
  - b. Together with attendant utility and sanitary facilities, be floodproofed to a minimum of 24 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building and be a minimum of three (3) inches (3'') above the 500-year flood 18 inches so that 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 effect of buoyancy. A registered professional engineer or architect shall submit a certification to the floodplain administrator that the standards of this subsection as proposed in subsection 50-65(a)(3), are satisfied.
- ~~(4)~~ Substantial improvements to nonresidential structures constructed completed prior to October 1, 2018, shall:
  - a. Have the lowest floor, including basement, elevated a minimum of 18 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building; or
  - b. Together with attendant utility and sanitary facilities, be floodproofed to a minimum of 18 inches above the larger of the base flood elevation (BFE), the crown of the nearest street or the highest grade adjacent to the building so that 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 effect of buoyancy. A registered professional engineer or architect shall submit a certification to the floodplain administrator that the standards of this subsection as proposed in subsection 50-65(a)(3), are satisfied.
- ~~(3)(5)~~ A registered professional engineer or registered public surveyor shall submit a certification to the floodplain administrator that the standards of this section, as proposed in subsection 50-65(a)(1), are satisfied.

Sec. 50-88. - Penalties for noncompliance.

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this chapter and other applicable regulations. Violation of the provisions of this chapter by failure to comply with any of its requirements, including violations of conditions and safeguards established in connection with conditions, shall constitute a misdemeanor. Any person who violates this chapter or fails to comply with any of its requirements shall upon conviction thereof be fined not more than that which is allowed by law for each violation, and in addition shall pay all costs and expenses involved in the case. Nothing herein shall prevent the city from taking such other lawful action as is necessary to prevent or remedy any violation.