

Chapter 34 - FLOODS

ARTICLE I. - IN GENERAL

Secs. 34-1—34-29. - Reserved.

ARTICLE II. - FLOOD DAMAGE PREVENTION⁽¹⁾

Footnotes:

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Editor's note— Ord. No. [2019.03.25](#), § 1, adopted March 25, 2019, amended the Code by repealing former art. II, §§; 34-30—34-41, 34-66—34-69, and 34-91—34-105, and adding a new art. II. Former art. II pertained to similar subject matter, and derived from Ord. No. [2018.12.17E](#), § 1, adopted December 17, 2018.

DIVISION 1. - GENERALLY

Sec. 34-30. - Definitions.

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

0.2 percent chance flood elevation means the elevation of surface water resulting from a flood that has a 0.2-percent chance of equaling or exceeding that level in any given year (also known as the 500-year floodplain elevation). The 0.2 percent chance flood elevation is shown on the flood insurance rate map for zones B and X (shaded).

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.

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, AR/AO, AR/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 0.2 percent or greater chance of flooding in any given year. The area may be designated as zones A, AO, AH, A1-30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO, V1-30, VE, V, or X Shaded Zones.

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

Basement means any area of the building having its floor subgrade (below ground level) 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.

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

Development means any manmade change to 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, for insurance purposes, a non-basement building, which has its lowest elevated floor, raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

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). *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 special flood hazard areas and the risk premium zones applicable to the community.

Flood insurance study (FIS). See "flood elevation study."

Floodplain or floodprone area means any land area susceptible to being inundated by water from any source (see 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.

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.

Floodproofing 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.

Floodway. See "regulatory floodway."

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.

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

Levee system means a flood protection system which consists of a levee, 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 non-elevation 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. *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.

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.

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

Shaded zone X means areas subject to a 0.2 percent chance of flooding in any given year; areas of one percent annual chance flood with average depths of less than one foot or with drainage areas less than one square mile, and areas protected by levees from one percent annual chance flood.

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 structure. 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, for floodplain management purposes, 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 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 term includes structures which have incurred "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 to assure safe living 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."

Utilities means all building utilities including, but not limited to, electrical, heating, ductwork, ventilation, plumbing, air-conditioning equipment, water softener equipment, and other service facilities to a building. For purposes of this chapter only, it does not include pool lighting and equipment, sewer cleanouts, sampling well access, interceptor access, landscaping irrigation systems, or any similar items and equipment not servicing a building, or that are otherwise sealed.

Variance means a grant of relief by a community from the terms of a floodplain management regulation. (For full requirements see section 60.6 of the National Flood Insurance Program regulations.)

Violation means the failure of a structure or other development to be fully compliant with the community's floodplain 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 North American Vertical Datum (NAVD) of 1988, 2001 Adjustment (or other datum, where specified), of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

X shaded zone. See "Shaded zone X"

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-31. - Statutory authorization.

The legislature of the state has in the Local Government Code delegated the responsibility of local governmental units to adopt regulations designed to minimize flood losses. Therefore, the city council of the city does ordain as follows.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-32. - Findings of fact.

- (a) The flood hazard areas of the city are subject to periodic inundation, which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, and extraordinary public expenditures for flood protection and relief, all of which adversely affect the public health, safety and general welfare.
- (b) These flood losses are created by the cumulative effect of obstructions in floodplains which cause an increase in flood heights and velocities, and by the occupancy of flood hazard areas by uses vulnerable to floods and hazardous to other lands because they are inadequately elevated, floodproofed or otherwise protected from flood damage.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-33. - Statement of purpose.

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; and
- (7) Ensure that potential buyers are notified that property is in a flood area.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-34. - 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 serve such uses, be protected against flood damage at the time of initial construction;
- (3) Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of flood waters;
- (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 flood waters or which may increase flood hazards to other lands.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-35. - Lands to which this article applies.

The article shall apply to all areas of special flood hazard with the jurisdiction of the city.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-36. - Basis for establishing the areas of special flood hazard.

The areas of special flood hazard identified by the Federal Emergency Management Agency in the current scientific and engineering report entitled, "The Flood Insurance Study (FIS) for Harris County, Texas dated June 18, 2007, with accompanying flood insurance rate maps and/or flood boundary-floodway maps (FIRM and/or FBFM) dated June 18, 2007, and any revisions thereto are hereby adopted by reference and declared to be a part of this article.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-37. - Establishment of development permit.

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

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-38. - Compliance.

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.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-39. - 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.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-40. - Interpretation.

In the interpretation and application of this article, 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. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-41. - 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 manmade 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 community or any official or employee thereof for any flood damages that result from reliance on this article or any administrative decision lawfully made hereunder.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Secs. 34-42—34-65. - Reserved.

DIVISION 2. - ADMINISTRATION

Sec. 34-66. - Designation of the floodplain administrator.

The building inspector is hereby appointed the floodplain administrator to administer and implement the provisions of this article and other appropriate sections of 44 CFR (Emergency Management and Assistance—National Flood Insurance Program Regulations) pertaining to floodplain management.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-67. - Duties and responsibilities of the floodplain administrator.

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 application to determine whether to ensure that the proposed building site project, 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 (list the name of the state NFIP coordinating agency), 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 and 0.2 percent chance flood elevation data has not been provided in accordance with section 34-36, the floodplain administrator shall obtain, review and reasonably utilize any base flood elevation data, 0.2 percent chance flood elevation data, and floodway data available from a federal, state or other source, in order to administer the provisions of division 3.
- (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 more than one foot 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 by more than one foot, provided that the community first completes all of the provisions required by section 65.12.

(Ord. No. 2019.03.25, § 1, 3-25-19)

Sec. 34-68. - Permit procedures.

- (a) Application for a floodplain development permit is required in addition to any other permit that may be required for any development activity in areas of special flood hazard. The application 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 areas of special flood hazard. Additionally, the following information is required:
 - (1) Elevation (in relation to mean sea level), of the lowest floor (including basement) of all new and substantially improved structures;

- (2) Elevation in relation to mean sea level to which any nonresidential structure shall be floodproofed;
 - (3) A certificate from a registered professional engineer or architect that the nonresidential floodproofed structure shall meet the floodproofing criteria of section 34-93;
 - (4) Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development;
 - (5) Maintain a record of all such information in accordance with subsection 34-67(1);
- (b) Approval or denial of a floodplain 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 floodwaters and the effects of wave action, if applicable, expected at the site;
 - (8) The necessity to the facility of a waterfront location, where applicable;
 - (9) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use.

(Ord. No. 2019.03.25, § 1, 3-25-19)

Sec. 34-69. - Variance procedures.

- (a) The board of adjustment, as established by the community, shall hear and render judgment on requests for variances from the requirements of this article.
- (b) The board of adjustment 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 or persons aggrieved by the decision of the appeal board 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 contiguous to and surrounded by lots with existing structures constructed below the base flood level or 0.2 percent chance flood elevation, providing the relevant factors in subsection 34-68(a)(3) of this article 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 appeal board may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this article (section 34-33).
- (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 which 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: (i) the criteria outlined in subsections(a)-(i) of this section are met, and (ii) the structure or other development is protected by methods that minimize flood damages during the base flood and/or the 0.2 percent chance flood and create no additional threats to public safety.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Secs. 34-70—34-90. - Reserved.

DIVISION 3. - PROVISIONS FOR FLOOD HAZARD REDUCTION

Sec. 34-91. - General standards.

In all areas of special flood hazards 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 systems into flood waters; and,
- (7) Onsite waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-92. - Specific standards.

In all areas of special flood hazards where base flood elevation or 0.2 percent chance flood elevation data has been provided as set forth in section 34-36, subsection 34-67(8), or subsection 34-93(c), the following provisions are required:

- (1) *Residential construction.* New construction and substantial improvement of any residential structure shall have the lowest floor (including basement) and utilities elevated to two feet above the 0.2 percent chance flood elevation. A registered professional engineer, architect, or land surveyor shall submit a certification to the floodplain administrator that the standard of this subsection as proposed in subsection 34-68(a)(1), is satisfied.
- (2) *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. A minimum of two openings on separate walls having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
 - b. The bottom of all openings shall be no higher than one foot above grade.
 - c. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-93. - Standards for subdivision proposals.

- (a) All subdivision proposals including the placement of manufactured home parks and subdivisions shall be consistent with sections 34-32 through 34-34 of this article.
- (b) All proposals for the development of subdivisions including the placement of manufactured home parks and subdivisions shall meet floodplain development permit requirements of section 34-36; section 34-68; and the provisions of this division.
- (c) Base flood elevation and 0.2 percent chance flood elevation data shall be generated for subdivision proposals and other proposed development including the placement of manufactured home parks and subdivisions which is greater than 50 lots or five acres, whichever is lesser, if not otherwise provided pursuant to section 34-36 or subsection 34-67(8) of this article.

- (d) All subdivision proposals including the placement of manufactured home parks and subdivisions shall have adequate drainage provided to reduce exposure to flood hazards.
- (e) All subdivision proposals including the placement of manufactured home parks and subdivisions shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-94. - Standards for areas of shallow flooding (AO/AH zones).

Located within the areas of special flood hazard established in section 34-36, are areas designated as shallow flooding. These areas have special flood hazards associated with flood depths 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; therefore, the following provisions apply:

- (1) All new construction and substantial improvements of residential structures have the lowest floor (including basement) and all utilities elevated to two feet above the elevation number in feet specified on the FIRM for the site or at least three feet above the highest adjacent grade if no depth number is specified.
- (2) A registered professional engineer or architect shall submit a certification to the floodplain administrator that the standards of this section, as proposed in subsection 34-68(a)(1) are satisfied.
- (3) Require within zones AH or AO adequate drainage paths around structures on slopes, to guide flood waters around and away from proposed structures.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-95. - Floodways.

Located within areas of special flood hazard established in section 34-36, are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and erosion potential, the following provisions 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.
- (2) If subsection (1) above is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this division.
- (3) Under the provisions of 44 CFR chapter 1, section 65.12, of the National Flood Insurance Program Regulation, a community may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that the community first completes all of the provisions required by section 65.12.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-96. - Severability.

If any section, clause, sentence, or phrase of this article is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way affect the validity of the remaining portions of this article.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-97. - Penalties for noncompliance.

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this court order and other applicable regulations. Violation of the provisions of this court order 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 court order or fails to comply with any of its requirements shall upon conviction thereof be fined not more than \$2,000.00 per day or imprisoned for not more than one year, or both, for each violation, and in addition shall pay all costs and expenses involved in the case. Nothing herein contained shall prevent the floodplain administrator from taking such other lawful action as is necessary to prevent or remedy any violation.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

DIVISION 4. - FLOODPLAIN MANAGEMENT

Sec. 34-98. - Statutory authorization, findings of fact and purpose.

National Flood Insurance Program Compliance. This division is adopted to comply with the rules and regulations of the National Flood Insurance Program codified as 44 Code of Federal Regulations Parts 59—78, as amended, so as to maintain the community's eligibility in the National Flood Insurance Program.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-99. - General provisions.

- (a) *Definitions.* Unless specifically defined below, words or phrases used in this division shall be interpreted so as to give them the same meaning as they have in common usage and so as to give this division its most reasonable application.

Accessory use or structure means a use or structure on the same lot with, and of a nature customarily incidental and subordinate to, the principal use or structure.

Flood fringe means that portion of the 100-year floodplain outside of the floodway.

Obstruction means any dam, wall, wharf, embankment, levee, dike, pile, abutment, projection, excavation, dredged spoil, channel modification, culvert, building, wire, fence, stockpile, refuse, fill, structure, stockpile of sand or gravel or other material, or matter in, along, across, or projecting into any channel, watercourse, lake bed, or regulatory floodplain which may impede, retard, or change the direction of flow, either in itself, or by catching or collecting debris carried by floodwater.

- (b) *Annexations.* The flood insurance rate map panels adopted by reference into section 34-36 of this article may include floodplain areas that lie outside of the corporate boundaries of the city at the time of adoption of this division. If any of these floodplain land areas are annexed into the city after the date of adoption of this division, the newly annexed floodplain lands shall be subject to the provisions of this division immediately upon the date of annexation into the city.

- (c) *Severability.* If any section, clause, provision, or portion of this division is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of this division shall not be affected thereby.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-100. - Conflict with pre-existing zoning regulations and general compliance.

- (a) *Compliance.* No new structure or land shall hereafter be used and no structure shall be constructed, located, extended, converted, repaired, maintained, or structurally altered without full compliance with the terms of this division and other applicable regulations which apply to uses within the jurisdiction of this division. Within the floodway and flood fringe, all uses not listed as permitted uses in section 34-101 of this division shall be prohibited. In addition, a caution is provided here that:
- (1) New manufactured homes, replacement manufactured homes and certain recreational vehicles are subject to the general provisions of this division and specifically sections 34-101 of this division and subsection 34-93(e) of this article;
 - (2) Modifications, repair and maintenance, additions, structural alterations or repair after damage to existing nonconforming structures and nonconforming uses of structures or land are regulated by the general provisions of this division and specifically section 34-105; and
 - (3) As-built elevations for elevated structures must be certified by elevation surveys as' stated in section 34-104 of this division.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-101. - Permitted uses, standards, and floodplain evaluation criteria.

- (a) *Permitted uses in the floodplain.* The following uses of land are permitted uses in a floodplain, as defined in the Federal Insurance Rate Map (FIRM) most recent revision:
- (1) Any use of land which does not involve a structure, a fence, an addition to the outside dimensions to an existing structure (including a fence) or an obstruction to flood flows such as fill, excavation, or storage of materials or equipment.
 - (2) Any use of land involving the construction of new structures, a fence, the placement or replacement of manufactured homes, the addition to the outside dimensions of an existing structure (including a fence) or obstructions such as fill or storage of materials or equipment, provided these activities are located in the flood fringe portion of the floodplain. These uses shall be subject to the development standards in subsection 34-101(2) of this division and the floodplain evaluation criteria in section 34-36 of this article as a basis for establishing the areas of special flood hazard.
- (b) *Standards for floodplain permitted uses.*
- (1) Fill shall be properly compacted and the slopes shall be properly protected by the use of riprap, vegetative cover or other acceptable method. The Federal Emergency Management Agency (FEMA) has established criteria for removing the special flood hazard area designation for certain structures properly elevated on fill above the 100-year flood elevation- FEMA's requirements incorporate specific fill compaction and side slope protection standards for multi-structure or multi-lot developments. These standards should be investigated prior to the initiation of site preparation if a change of special flood hazard area designation will be requested.
 - (2) Storage of materials and equipment.

- a. The storage or processing of materials that are, in time of flooding flammable, explosive, or potentially injurious to human, animal, or plant life is prohibited.
 - b. Storage of other materials or equipment may be allowed if readily removable from the area within the time available after a flood warning or if placed on fill to one foot above the base flood elevation.
- (3) No use shall be permitted that will adversely affect the capacity of the channels or floodways of any tributary to the main stream, or any drainage ditch, or any other drainage facility or system.
- (4) All structures, including accessory structures, additions to existing structures and manufactured homes (excluding enclosures), as defined in section 34-30 of this article, shall be constructed so that the lowest floor, including basement floor, is one foot higher than the 0.2 percent elevation.
- (5) Limitation of lot fill for property located in areas with a 0.2 percent or greater chance of flooding in any given year. These areas may be designated as zones A, AO, AH, A1-30, AE, A99, AR, AR/A1-30, AR/AO, AR/AH, AR/A, VO, V1-30, VE, V, B, or X (shaded). If the property is in an area with a 0.2 percent or greater chance of flooding in any given year, the proposed improvements shall result in a no net increase in volume of material on the lot with the exception of the small amount of concrete material used on the lot for pier and beam raised foundation construction that may be permitted by the building official. A topographical survey performed under the supervision of a Texas Registered professional land surveyor should be completed prior to the demolition of any structures on the property to provide baseline conditions to determine the existing volume of material on the lot for the property. The elevations shall be based on current datum and vertical benchmark system being used by the city and should be at a maximum spacing of 25 feet throughout the property. The city will provide, upon request, locations and elevations of benchmarks available within the city. The topographical survey shall include as a minimum, the dimensions of all existing structures on the lot, the elevation of existing sidewalks, curb/gutters, ditches, storm sewers, sanitary sewers, elevations of slabs of existing structures, and the existing elevations of the lot. The builder's engineer preparing the drainage plan must provide supporting calculations and supporting data demonstrating that no net increase in volume of material is proposed.
- (6) Commercial and manufacturing uses. Accessory land uses, such as yards, railroad tracks, and parking lots may be at elevations lower than the one foot above the base flood elevation. However, a permit for such facilities to be used by the employees or the general public shall not be granted in the absence of a flood warning system that provides adequate time for evacuation if the area would be inundated to a depth and velocity such that when multiplying the depth (in feet) times velocity (in feet per second) the product number exceeds four upon occurrence of the base flood.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-102. - Utilities, railroads, roads and bridges within the floodplain.

All utilities and transportation facilities, including railroad tracks, roads and bridges, shall be constructed in accordance with National Floodplain Insurance Program.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-103. - Subdivisions.

Removal of special flood hazard area designation. The Federal Emergency Management Agency (FEMA) has established criteria for removing the special flood hazard area designated for certain structures properly elevated on fill above the 100-year and 500-year flood elevation. FEMA's requirements incorporate specific fill compaction and side slope protection standards for multi- structure

or multi-lot developments. These standards should be investigated prior to the initiation of site preparation if a change of special flood hazard area designation will be requested.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-104. - Administration.

- (a) *Permit required.* A permit issued by the floodplain administrator shall be secured prior to the erection, addition, modification, rehabilitation (including normal maintenance and repair), or alteration of any building or structure or portion thereof, the use or change of use of a building, structure, or land; the construction of a dam, fence, or onsite septic system, the change or extension of a nonconforming use, the repair of a structure that has been damaged by flood, fire, tornado, or any other source, or the placement of fill, excavation of materials or the storage of materials or equipment within the floodplain.
- (b) *State and federal permits.* Prior to granting a permit or processing an application for a variance, the applicant shall demonstrate to the city floodplain administrator that the applicant has obtained all necessary county, state, and federal permits.
- (c) *Certification of lowest floor elevations.* The applicant shall be required to submit certification (elevation certificate) by a registered professional engineer, or registered land surveyor that the finished building elevations were accomplished in compliance with the provisions of this article. The building official shall maintain a record of the elevation of the lowest floor (including basement) for all new structures and alterations or additions to existing structures in the floodplain.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-105. - Nonconformities.

A structure or the use of a structure or premises which was lawful before the passage or amendment of this division but which is not in conformity with the provisions of this division may be continued subject to the following conditions.

- (1) No such use shall be expanded, changed, enlarged, or altered in a way which increases its nonconformity.
- (2) A structural alteration within the inside dimensions of a nonconforming use or structure is permissible provided it utilizes flood resistant materials so as not to result in increasing the flood damage potential of that use or structure. A structural addition to a structure must be elevated one foot above the base flood elevation in accordance with subsection 34-101(b)(4) of this division.
- (3) The cost of all structural alterations or additions to any nonconforming structure over the life of the structure shall not exceed 50 percent of the market value of the structure unless the conditions of this section are satisfied. The cost of all structural alterations and additions must include all costs such as construction materials and labor. A reasonable cost must be placed on all market value of the structure. If cost exceeds 50 percent of the market value, the structure must meet the standards of section 34-101 of this division for new structures.
- (4) If any nonconforming use of a structure or land or nonconforming structure is substantially damaged, it shall not be reconstructed except in conformity with the provisions of this division and other applicable provisions of this article.
- (5) If a substantial improvement occurs, as defined in section 34-30 of this article, from any combination of a building addition to the outside dimensions of the existing building or a rehabilitation, reconstruction, alteration, or other improvement to the inside dimensions of an existing nonconforming building, then the building addition and the existing nonconforming building must meet the requirements of section 34-101 of this division for new structures.

(Ord. No. [2019.03.25](#), § 1, 3-25-19)

Sec. 34-106. - Reserved.

ARTICLE III. - STORMWATER DETENTION²¹

Footnotes:

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Editor's note— Ord. No. 979, § 1, adopted October 22, 2007, enacted provisions intended for use as div. 4, §§ 34-97—34-101. For purposes of classification, and in order to facilitate indexing, said provisions have been redesignated as art. III, §§ 34-107—34-111.

Sec. 34-107. - Stormwater detention.

The intention of stormwater detention is to mitigate the effect of the new development, redevelopment, or in-fill development (as defined below) on an existing drainage system. Stormwater detention volume is based on increased impervious cover and is calculated at the minimum rates set forth in section [34-110]. The city will not assume any maintenance responsibility on or within private detention facilities.

(Ord. No. 979, §1(34-97), 10-22-07)

Sec. 34-108. - Definitions.

Design storm. Rainfall intensity upon which the drainage facility will be sized.

Development. The term includes new development, redevelopment and in-fill development.

In-fill development. Development of open tracts of land in areas where the storm drainage infrastructure is already in place and takes advantage of the existing infrastructure as a drainage outlet.

New development. Development of open tracts of land in areas where the storm drainage infrastructure has not been constructed and a drainage outlet must be extended to a channel under the jurisdiction of the Harris County Flood Control District (HCFCD).

Redevelopment. A change in land use that alters the impervious cover from one type of development to either the same type or another type and takes advantage of the existing infrastructure in place as a drainage outlet.

(Ord. No. 979, §1(34-98), 10-22-07)

Sec. 34-109. - Application of detention requirements.

- (1) The use of onsite detention is required for all developments within the city and for utility districts within the city. If the criteria conflicts with the county (HCFCD) or other jurisdictions the most restrictive criteria shall govern.
- (2) If new development, redevelopment, or in-fill development drains directly into a channel maintained by HCFCD, then HCFCD criteria prevails. If new development, redevelopment or in-fill development drains directly to a roadside ditch, drainage ditch or storm sewer maintained by the county then the criteria in Regulations of Harris County, Texas for the approval and acceptance of infrastructure

governs; however, for all cases of multiple regulatory jurisdiction, the most restrictive criteria takes precedence.

- (3) If the drainage system outfalls directly into a channel maintained by HCFCD, and the requirements of HCFCD include payment of an impact fee, then no further impact fee will be required by the city.
- (4) If redevelopment occurs without increasing the overall impervious character of the site, then no detention will be required by the city.
- (5) The detention basin must be a have a minimum setback of 30 feet.
- (6) Hydrograph timing cannot be used as a substitute for detention.

(Ord. No. 979, §1(34-99), 10-22-07)

Sec. 34-110. - Calculation of detention volume.

- (1) Detention volume for development areas is calculated on the basis of the area of new development.
- (2) Areas between 1 and 50 acres: Detention will be required at a minimum rate of 0.55 acre-feet per acre of new development area, except a single-family residential structure and accessory buildings proposed on an existing lot is exempt from providing detention.
- (3) Areas greater than 50 acres: Reference HCFCD Criteria Manual.
- (4) Private parking areas, private streets, and private storm sewers may be used for detention provided the maximum depth of ponding does not exceed nine inches directly over the inlet, and paved parking areas are provided with signage stating that the area is subject to flooding during rainfall events.

(Ord. No. 979, §1(34-100), 10-22-07)

Sec. 34-111. - Types of detention facilities.

- (1) The type of detention basin facility acceptable in the city is a naturalized basin in which standing shallow pools of water is allowed to exist along the bottom of the basin and support natural or wetlands vegetation. This type of basin is only maintained around the sides and perimeter and involves special design considerations at the outfall structure. Designing this type of facility must be approved by the city and must consider the aesthetics of the surrounding area. The perimeter of the basin which can be seen from any roadway shall be screened with approved landscaping.

(2) *Calculation of outlet size.*

- a. Detention pond discharge pipe into an existing city storm sewer facility (ditch or storm sewer):
 1. *Maximum pool elevation at or below the design hydraulic grade at the drainage system outfall.* The discharge line shall be sized for the design storm with the discharge pipe flowing full. The pond will float on the drainage system to provide maximum benefit.
 2. *Maximum pool elevation at or above the hydraulic grade at the drainage system outfall.* Provide a reducer or restrictor pipe to be constructed inside the discharge line. The discharge line shall be sized for the design storm with the discharge pipe flowing full.
- b. Reducer or restrictor pipes shall be sized as follows:
 1. *Allowable discharge rate.* Use the lowest of the discharge rates described below:
 - i. Restrictor pipes will provide a combination of low level and high level controlled release from the detention basin. The low level restrictor pipe (primary office) shall be sized to

provide a release rate of 0.5 CFS/acre when the detention basin water depth reaches 25 percent of full basin depth. The low level restrictor pipe (primary orifice) shall be located at the bottom of the basin to provide complete drainage of the pond. The high level restrictor pipe (secondary orifice) shall be sized to provide a combined release rate (from the primary orifice and secondary orifice) of 2.0 CFS/acre at full basin depth. The high level restrictor (secondary orifice) shall begin releasing flow when detention basin water depth reaches 75 percent of full basin depth. The combined rate of 2.0 CFS/acre is the approximate discharge from an undeveloped tract for the 100-year storm.

- ii. Flow discharged to the storm drain shall not exceed the proportional amount of pipe capacity allocated to the development. The proportional amount of pipe capacity allocated to the development shall be determined by the ratio of the area (acres) of the development (in storm drain watershed) divided by the total drainage area acres) of the storm drain multiplied by the capacity of the storm drain.

2. Use the following equations to calculate the required outflow orifice:

Q	=	$CA^{1.2}g Vh$
D	=	$Q^{1/2}(2.25h^{1/4})$
Where		
Q	=	outflow discharge (cfs)
C	=	coefficient of discharge
	=	0.8 for short segment of pipe
	=	0.6 for opening in plates, standpipes, or concrete walls
A	=	orifice area (square feet)

g	=	gravitational factor (32.2)
h	=	head, water surface differential (feet)
D	=	orifice diameter (feet)

3. Restrictor shall be either of the required diameter or of the equivalent cross-sectional area. The orifice diameter D shall be a minimum of 0.5 feet.
- c. In addition to a pipe outlet, the detention basin shall be provided with a gravity spillway that will protect structures from flooding should the detention basin be overtopped.
- (3) *Ownership and easements.*
- a. *Private facilities.*
 1. Pump discharges into a roadside ditch requires the submittal of pump specifications on the design drawings.
 2. The city reserves the right to prohibit the use of pump discharges where their use may aggravate flooding in the public right-of-way.
 3. Responsibility for maintenance of the detention facility must be indicated by letter submitted to the city as part of the design review.
 4. All private properties being served have drainage access to the pond. Dedicated easements may be required.
 5. No public properties drain into the detention area.
 6. A private maintenance agreement is provided when multiple tracts are being served.
 - b. *Public facilities.*
 1. Facilities will only be accepted for maintenance by the city within the city limits in cases where public drainage is being provided.
 2. The city requires a maintenance work area of 30-foot width surrounding the extent of the detention area. Public rights-of-way or permanent access easements may be included as a portion of this 30-foot width.
 3. A dedication of easement shall be provided by plat or by separate instrument.
 4. Proper dedication of public access to the detention pond must be shown on the plat or by separate instrument. This includes permanent access easements with overlapping public utility easements.
 5. Backslope drainage systems are required where the natural ground slopes towards the drainage basin and should comply with criteria provided in HCFCD Criteria Manual. A basin that is within 30 feet of a parking lot or roadway with berms that drain away from the basin does not require a backslope swale.

(Ord. No. 979, §1(34-101), 10-22-07)

Secs. 34-112—34-119. - Reserved.

ARTICLE IV. - LIMITATION ON FILL FOR NEW DEVELOPMENT

Sec. 34-120. - Objective and purpose of article.

- (a) To prevent storm water from being displaced from newly developed property onto adjacent property by limiting the amount of fill allowed on newly developed property.
- (b) Development inside the 500-year flood plain will still be required to conform with the existing requirements provided for in article II of this chapter, establishing a zero net fill requirement for any fill in the existing 500-year flood plain.
- (c) It is not the intent of the ordinance to change any of the established city drainage criteria. All applicants must meet the requirements established in this section plus the current drainage criteria established by the city.

(Ord. No. [2015.07.27](#), § 2, 7-27-15)

Sec. 34-121. - Definitions.

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

100-year flood plain means the area that is subject to a one percent or greater chance of flooding in any given year.

500-year flood plain means the area that is subject to a 0.2 percent or greater chance of flooding in any given year.

Base flood elevation means the water surface elevation resulting from a 100-year (one percent chance) storm event.

Elevated structure means any area of a walled or roofed building having the bottom of the lowest horizontal structure member of the floor elevated above the ground.

High bank means the edge at which the ditch, gully, ravine, creek, bayou or swale is defined. The high bank in this ordinance shall be the high bank closest to the proposed development.

Pier and beam foundation construction means the floor of the structure is elevated above the ground, supported by a number of piers and beams, such that flood waters may raise and recede under the floor of the structure. The area under the structure should be graded such that water will not pond.

Structure means any area of a walled or roofed building.

(Ord. No. [2015.07.27](#), § 2, 7-27-15)

Sec. 34-122. - Limitation on lot fill for property.

- (a) The height to which any point on the lot can be filled, other than the foundation, shall be limited to no more than the amount needed to create a maximum elevation equal to a one percent slope from the existing top of curb, edge of road (if no curb exists), existing high bank or property lines (whichever is closer to the development) from all sides.
- (b) In no case shall more than 12 inches of fill be allowed on any lot.

- (c) Existing elevations which are higher than the calculated elevations are not required to be cut to meet the requirements of this section. The calculation only applies to additional fill above the existing ground elevation (pre-construction elevations).
- (d) All fill used on property located inside the 500-year flood plain shall comply with zero net fill requirements that are established in article III of this chapter.

(Ord. No. [2015.07.27](#), § 2, 7-27-15)

Sec. 34-123. - Fill on non-conforming lots.

Fill that is added to non-conforming lots it shall comply with the rules provided for in section 34-122 above. However, because of the limitations of size the property, an allowable height of six inches located in the middle of the property will be allowed and sloped back to the property line.

(Ord. No. [2015.07.27](#), § 2, 7-27-15)

Sec. 34-124. - Appeal.

- (a) If an appeal from the requirements provided for in this article is requested, the developer or owner's representative shall submit such appeal in writing to the city's building official. The developer or owner's representative shall meet with the city's building official and city engineer to discuss the appeal. Each appeal will be evaluated individually. The developer or owner's representative must produce additional information that is requested to verify that the proposed improvement will not negatively affect adjacent properties. The city engineer's and city building official's decision on allowable fill shall be based on all information provided.
- (b) The developer or owner's representative may appeal the decision of the city's building official and city engineer to the city administrator. The decision of the city administrator shall be final.

(Ord. No. [2015.07.27](#), § 2, 7-27-15)