

ARTICLE I. IN GENERAL

Secs. 102-1—102-30. Reserved.

ARTICLE II. FLOOD DAMAGE PREVENTION¹

DIVISION 1. GENERALLY

Sec. 102-31. Statutory authorization.

The Legislature of the State of Texas has in the Flood Control Insurance Act, Texas Water Code, § 16.315, delegated the responsibility of local governmental units to adopt regulations designed to minimize flood losses. Therefore, the City of North Richland Hills, Texas does ordain as follows.

(Ord. No. 3063, § 1, 8-24-2009)

Sec. 102-32. 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. 3063, § 1, 8-24-2009)

Sec. 102-33. 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;

¹Editor's note(s)—Ord. No. 3063, § 1, adopted Aug. 24, 2009, amended the former Art. II, §§ 102-31—102-43, 102-61—102-64, 102-81—102-85, and enacted a new Art. II as set out herein. The former Art. II pertained to similar subject matter and derived from Code 1975, §§ 104-21—104-33; 104-41—104-44; 104-51—104-55.

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- (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. 3063, § 1, 8-24-2009)

Sec. 102-34. Methods of reducing flood loss.

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. 3063, § 1, 8-24-2009)

Sec. 102-35. Definitions.

Unless specifically defined below, words or phrases used in this article are to be interpreted to give them the meaning 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.

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 foot 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 FEMA Zone "A" on the flood hazard boundary map (FHBM). After detailed rate making has been completed in preparation for publication of the FIRM, zone A usually is refined into zones A, AO, AH, A1-30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO, V1-30, VE or V. Also referred to as the "regulatory floodplain."

Base flood means the flood having a one percent chance of being equaled or exceeded in any given year. This is the regulatory standard also referred to as the "100-year flood" or "regulatory flood." The base flood is the national standard used by the NFIP and all federal agencies for the purposes of requiring the purchase of flood insurance and regulating new development.

Base flood elevation (BFE) The elevation shown on the flood insurance rate map (FIRM) and found in the accompanying flood insurance study (FIS) for zones A, AE, AH, A1-A30, AR, V1-V30, or VE that indicates the water surface elevation resulting from the flood that has a one percent chance of equaling or exceeding that level in any given year - also called the base flood.

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.

Conditional letter of map revision (CLOMR). A conditional letter of map revision (CLOMR) is FEMA's comment on a proposed project that would, upon construction, affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations (BFEs), or the special flood hazard area (SFHA). The letter does not revise an effective NFIP map; it indicates whether the project, if built as proposed, would be recognized by FEMA. FEMA charges a fee for processing a CLOMR to recover the costs associated with the review. Building permits cannot be issued based on a CLOMR, because a CLOMR does not change the NFIP map.

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 nonbasement 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:

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- (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 flood-prone 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

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- (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.

Letter of map revision (LOMR) means a letter of map revision (LOMR) which is FEMA's modification to an effective flood insurance rate map (FIRM). LOMRs are generally based on the implementation of physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations (BFEs), or the special flood hazard area (SFHA). The LOMR officially revises the flood insurance rate map (FIRM), and sometimes the flood insurance study (FIS) report, and when appropriate, includes a description of the modifications. The LOMR is generally accompanied by an annotated copy of the affected portions of the FIRM or FIS report.

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

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 North American Vertical Datum (NAVD) of 1988 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 floodplain. See *area of special flood hazard*.

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.

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.

Subdivision. A division of any tract of land situated within the corporate limits of the city into one or more parts for the purpose of creating lots for sale, for the purpose of identification, and/or to provide for the dedication of streets, alleys and easements. Subdivision includes re-subdivision (replat).

Substantial damage means damage of any origin sustained by a structure whereby the cost of restoring the structure to its pre-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."

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) 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 (or other datum, where specified), of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

(Ord. No. 3063, § 1, 8-24-2009)

Sec. 102-36. Lands to which this article applies.

The article applies to all areas of special flood hazard within the jurisdiction of the city.

(Ord. No. 3063, § 1, 8-24-2009)

Sec. 102-37. 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 Tarrant County, Texas And Incorporated Areas," dated March 21, 2019, with accompanying flood insurance rate maps dated March 21, 2019, and any revisions thereto are hereby adopted by reference and declared to be a part of this article.

(Ord. No. 3063, § 1, 8-24-2009)

Sec. 102-38. Establishment of floodplain development permit.

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

(Ord. No. 3063, § 1, 8-24-2009)

Sec. 102-39. Compliance.

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

(Ord. No. 3063, § 1, 8-24-2009)

Sec. 102-40. 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 prevails.

(Ord. No. 3063, § 1, 8-24-2009)

Sec. 102-41. Interpretation.

In the interpretation and application of this article, all provisions are; (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. 3063, § 1, 8-24-2009)

Sec. 102-42. 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 does not create liability on the part of the community or any official or employee thereof for any flood damage that results from reliance on this article or any administrative decision lawfully made hereunder.

(Ord. No. 3063, § 1, 8-24-2009)

Secs. 102-43—102-60. Reserved.*DIVISION 2. ADMINISTRATION²***Sec. 102-61. Designation of the floodplain administrator.**

The Director of Public Works or designee 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. 3063, § 1, 8-24-2009)

Sec. 102-62. Duties and responsibilities of the floodplain administrator.

Duties and responsibilities of the floodplain administrator include, but not 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. However, these assurances do not assume any responsibility on the part of the floodplain administrator or the City of North Richland Hills to enforce the conditions and requirements of permits issued by agencies other than the city.
- (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 will 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

²Cross reference(s)—Administration, ch. 2.

(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 102-37, the floodplain administrator will 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 hereof.
- (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) be permitted within FEMA Zones "A" or "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 FEMA Zone "AE" 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 the provisions required by Section 65.12.

(Ord. No. 3063, § 1, 8-24-2009)

Sec. 102-63. Floodplain permit procedures.

- (a) A City of North Richland Hills Floodplain Development Permit is required for all proposed development in an area of special flood hazard (floodplain), to ensure conformance with the provisions of this article. It will be issued by the Engineering Division of the Public Works Department.
- (b) Application for a floodplain development permit must be presented to the floodplain administrator on forms, digital or hard copy, 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) utilizing North American Vertical Datum (NAVD) of 1988 or future coordinate systems adopted by the Federal Emergency Management Agency, 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 must be floodproofed;
 - (3) A certificate from a registered professional engineer or architect that the nonresidential floodproofed structure must meet the floodproofing criteria of section 102-82(2);
 - (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 102-62(1);
 - (6) Base flood elevation data for subdivision proposals and other proposed development which consist of greater than 30 lots or three acres, whichever is lesser, if not otherwise provided;
 - (7) When requested, three or more stream cross sections including the channel of the stream at points specified by the floodplain administrator, topographic information for areas adjoining sides of the

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- channel, cross sections for land to be occupied by the proposed development, high water information, and other pertinent details may be required;
- (8) When requested, estimates of the discharge for the regulatory flood and determination of the specific flooding threat at the site of the proposed development and whether the proposed development is located in a floodway or flood fringe area may be required to be demonstrated by providing:
- a. Calculation of water surface elevations and finished floor elevations based upon a hydraulic analysis of the capacity of the stream channel and overbank areas to convey the regulatory flood.
 - b. Finished floor elevations must be at least 18 inches above the base flood elevation. This information must be shown for all proposed structures within 200 feet of the regulatory floodplain, on the plat.
 - c. For development within or along the Little Bear Creek Corridor as defined by current City Code, it must be shown that encroachments to the existing floodplain will not cause the base flood elevation to rise in excess of one foot in any one reach or for the cumulative effect of several reaches and there must be a zero increase in base flood elevation for the ultimate flow conditions.
- (c) Approval or denial of a floodplain development permit by the floodplain administrator will 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;
 - (10) The erosive velocities created by the project.

(Ord. No. 3063, § 1, 8-24-2009)

Sec. 102-64. Variance procedures.

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

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- (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 will maintain a record of all actions involving an appeal and will 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, providing the relevant factors in subsection 102-63(b) 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 102-33).
 - (h) Variances will 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 may only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
 - (2) Variances may only be issued upon: (i) showing a good and sufficient cause, (ii) a determination that failure to grant the variance would result in exceptional hardship to the applicant, and (iii) 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 will 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 subsection (a) through (i) are met, and (ii) the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

(Ord. No. 3063, § 1, 8-24-2009)

Secs. 102-65—102-80. Reserved.

DIVISION 3. PROVISIONS FOR FLOOD HAZARD REDUCTION

Sec. 102-81. 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 must 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 must be constructed by methods and practices that minimize flood damage;
- (3) All new construction or substantial improvements must be constructed with materials resistant to flood damage;
- (4) All new construction or substantial improvements must be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities, with associated machinery and equipment, must be elevated at least 12 inches above the base flood elevation (BFE), with the exception of utility meters and equipment specifically designed to withstand inundation according to the standards of the International Residential Codes and the National Floodplain Insurance Program (NFIP).;
- (5) All new construction or substantial improvements within area of special flood hazard areas must have the lowest floor, including basement, elevated at least 18 inches above the base flood elevation (BFE).
- (6) All new and replacement water supply systems must be designed to minimize or eliminate infiltration of flood waters into the system;
- (7) New and replacement sanitary sewage systems must be designed to minimize or eliminate infiltration of flood waters into the system and discharge from the systems into flood waters;
- (8) On-site waste disposal systems, constructed in accordance with Sec 98-432, must be located to avoid impairment to them or contamination from them during flooding; and,
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- (9) All lots that have a minimum floor requirement due to presence of floodplain or other factors must have FEMA elevation certifications prepared and submitted by a licensed professional surveyor for review and acceptance by the city's floodplain administrator on two separate occasions during the construction process.
 - a. An elevation certificate must be prepared, submitted, and accepted prior to the slab being poured; and
 - b. An elevation certificate must be prepared, submitted, and accepted prior to the issuance of the certificate of occupancy.

(Ord. No. 3063, § 1, 8-24-2009)

Sec. 102-82. Specific standards.

In all areas of special flood hazards where base flood elevation data has been provided as set forth in (i) section 102-37, (ii) section 102-62(8), or (iii) section 102-83(3), the following provisions are required:

- (1) *Residential construction.* New construction and substantial improvement of any residential structure must have the lowest floor (including basement) elevated at least 18 inches above the base flood elevation. The lowest adjacent grade to the lowest floor must be elevated one foot above the base flood elevation. A registered professional engineer, architect, or land surveyor must submit a certification to the floodplain administrator that the standard of this subsection as proposed in subsection 102-63(a) "Floodplain Permit Procedures", is satisfied. For structures located on fills within the floodplain of the base flood but outside of floodway areas, required fill areas must extend 15 feet beyond the limits of intended structures and, if the area is not to be sewer, must include areas for on-site waste disposal.
- (2) *Nonresidential construction.* New construction and substantial improvements of any commercial, industrial or other nonresidential structure must either have the lowest floor (including basement) elevated at least 18 inches above the base flood elevation or together with attendant utility and sanitary facilities, be designed so that 18 inches below the base flood elevation the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered professional engineer or architect must develop and/or review structural design, specifications, and plans for the construction, and must 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 must be maintained by the floodplain administrator. For structures located on fills within the floodplain of the base flood but outside of floodway areas, required fill areas must extend 15 feet beyond the limits of intended structures and, if the area is not to be sewer, must include areas for on-site waste disposal.
- (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 must 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 and 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 must be provided.
 - b. The bottom of all openings must 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.
- (4) *Manufactured homes.* No new or substantially improved manufactured home(s), parks, or subdivisions will be placed within an area of special flood hazard. For expansion to existing manufactured home parks and subdivisions; and for manufactured homes not placed in a manufactured home park or subdivision the following will apply:
 - a. Require that all manufactured homes to be placed within FEMA Zone "A" on a community's FHBM or FIRM must be installed using methods and practices which minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited

to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.

- b. Require that manufactured homes that are placed or substantially improved within FEMA Zones "A" and "AE" 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 a result of a flood, be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to at least 18 inches above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.
 - c. Require that manufactured homes be placed or substantially improved on sites in an existing manufactured home park or subdivision with FEMA Zones "A" and "AE" on the community's FIRM that are not subject to the provisions of paragraph (4) of this section be elevated to the following (i) or (ii), whichever is higher:
 - (i) The lowest floor of the manufactured home is at least 18 inches above the base flood elevation, or
 - (ii) 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.* Require that recreational vehicles placed on sites within FEMA Zones "A" or "AE" on the community's FIRM either (i) be on the site for fewer than 180 consecutive days, or (ii) be fully licensed and ready for highway use, or (iii) meet the permit requirements of section 102-63, and the elevation and anchoring requirements for "manufactured homes" in paragraph (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 disconnect type utilities and security devices and has no permanently attached additions.

(Ord. No. 3063, § 1, 8-24-2009)

Sec. 102-83. Standards for new development or subdivision proposals.

For the purposes of this section, "subdivision" includes the development of property within the City of North Richland Hills, regardless of the legal status (platted or not) of the property. This includes the addition of buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

- (1) All subdivision proposals including the placement of manufactured home parks and subdivisions must be consistent with sections 102-32, 102-33 and 102-34 of the Code of Ordinances.
- (2) All proposals for the development of subdivisions including the placement of manufactured home parks and subdivisions must meet floodplain development permit requirements of sections 102-38 and 102-63 of the Code of Ordinances and the provisions of division 3 of this article.
- (3) Base flood elevation data must be generated for subdivision proposals and other proposed developments which are greater than 30 lots or three acres, whichever is lesser, or if any portion of the proposed development/subdivision is determined to be located within a FEMA Zone "A" floodplain, if not otherwise provided pursuant to section 102-37 or section 102-62(8) of the Code of Ordinances.

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- (4) Base flood elevation data must be generated by a detailed engineering study for all FEMA Zone "A" areas, within 100 feet of the contour lines of FEMA Zone "A" areas, and other streams not mapped by FEMA, as indicated on the community's FIRM.
 - (5) If any portion of the proposed subdivision or its offsite improvements (including pipes or ditches) fall within the limits of the regulatory floodplain, a conditional letter of map revision will be required if:
 - a. Any portion of the proposed subdivision is determined to be located within a FEMA Zone "A" floodplain; or
 - b. Any portion of the proposed subdivision is determined to be located within a FEMA Zone "AE" floodplain and the overall subdivision (including all phases) is 50 lots or five acres; or
 - c. Any portion of the proposed improvements from a subdivision includes dredging or filling within a FEMA designated floodway.
 - (6) If a subdivision proposal or new development meets the criteria set forth in subsection (5) above, a letter of map revision (LOMR) is required. A LOMR is to be submitted to FEMA for approval within 180 days of completion of the construction as authorized by a floodplain development permit, or prior to the release of any building permits within the existing SFHA.
 - (7) Any development which results in a change to the base flood elevation, including the establishment of the base flood elevation in the case of FEMA Zone "A", must be submitted to FEMA in the form of a LOMR to provide the most up-to-date rate information. The LOMR must establish or update base flood elevations on the effective FIRM by defining or redefining FEMA Zone "AE".
 - (8) Should the results of the CLOMR/LOMR study indicate that neither the limits of the regulatory floodplain nor the base flood elevation has changed, but the hydraulic model has been altered/updated, then the necessary documentation must be provided to FEMA to officially update the effective model for the affected reach of the tributary.
 - (9) All subdivision proposals including the placement of manufactured home parks and subdivisions must have adequate drainage provided to reduce exposure to flood hazards.
 - (10) Any floodplain remaining after reclamation through the CLOMR/LOMR process (if performed) must be dedicated as a drainage easement to the City of North Richland Hills to prevent further encroachment and assure proper drainage maintenance.
 - (11) All subdivision proposals must have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.

(Ord. No. 3063, § 1, 8-24-2009)

Sec. 102-84. Standards for streets, drainage and utilities.

- (a) Storm drainage facilities must be designed to convey the flow of surface waters without causing damage to persons or property.
- (b) The system must ensure drainage at all points along streets, and provide positive drainage away from buildings and on-site waste disposal sites.
- (c) Drainage plans must be consistent with local and regional drainage plans.
- (d) The facilities must be designed to prevent the discharge of excess runoff onto adjacent properties.
- (e) Sewage disposal facilities requiring soil absorption systems are prohibited where such systems will not function due to high groundwater, flooding, or unsuitable soil characteristics.

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- (f) All manholes located in floodplains must be of watertight construction with sealed manhole lids.
 - (g) All other utilities, such as gas and electric lines, must be located and constructed so as to minimize or eliminate flood damage.

(Ord. No. 3063, § 1, 8-24-2009)

Sec. 102-85. Floodways.

Floodways located within areas of special flood hazard established in section 102-37 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 will 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 must comply with all applicable flood hazard reduction provisions of Division 3 hereof.
- (3) Under the provisions of 44 CFR Chapter 1, Section 102-65.12, 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. 3063, § 1, 8-24-2009)

Secs. 102-86—102-120. Reserved.