

**ORDINANCE NO. 2007-07**

**AN ORDINANCE AMENDING THE CODE OF ORDINANCES OF THE CITY OF TOMBALL, TEXAS, BY DELETING ALL OF CHAPTER 38 THEREOF AND SUBSTITUTING THEREFOR A NEW CHAPTER 38; PROVIDING RULES AND REGULATIONS DESIGNED TO PREVENT DAMAGE TO PROPERTY AND INJURY TO PERSONS RESULTING FROM FLOODING; PROVIDING A PENALTY IN AN AMOUNT NOT TO EXCEED \$2,000 FOR EACH DAY OF VIOLATION OF ANY PROVISION HEREOF; AND PROVIDING FOR SEVERABILITY.**

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**BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF TOMBALL, TEXAS:**

**Section 1.** The Code of Ordinances of the City of Tomball, Texas, is hereby amended by deleting all of Chapter 38 thereof, said Chapter being entitled “Flood Damage Prevention,” and substituting therefor a new Chapter 38 to provide as follows:

**“Chapter 38**

**FLOOD DAMAGE PREVENTION**

**Article I. In General**

**Sec. 38-1. Statutory authorization.**

The Legislature of the State of Texas has, in Texas Water Code, Section 16.311, et seq., as amended, delegated the responsibility of local governmental units to adopt regulations designed to minimize flood losses. Therefore, the City of Tomball, Texas, does ordain as follows:

**Sec. 38-2. Findings of fact.**

(a) The flood hazard areas of the City of Tomball, Texas 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, and impairment of the tax base, 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 areas of special flood hazards, which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately floodproofed, elevated, or otherwise protected from flood damage also contribute to the flood loss.

**Sec. 38-3. Statement of purpose.**

It is the purpose of this chapter to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

- (a) to protect human life and health;
- (b) to minimize expenditure of public money for costly flood control projects;
- (c) to minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (d) to minimize prolonged business interruptions;
- (e) to minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard;;
- (f) to help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas; and
- (g) To ensure that potential buyers are notified that property is in an area of special flood hazard; and
- (h) To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

**Sec. 38-4. Methods of reducing flood losses.**

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

- (a) Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
- (b) Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

- (c) Controlling the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
- (d) Controlling filling, grading, dredging, and other development which may increase flood damage; and
- (e) Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or may increase flood hazards in other areas.

**Sec. 38-5. Definitions.**

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

*Accessory structures* - means structures which are on the same parcel of property as the principle structure, the use of which is incidental to the use of the principle structure, such as detached garages, boathouses, small pole barns and storage sheds, which are not to be used for human, habitation; shall be constructed and placed on the building site so as to offer minimum resistance to the flow of floodwaters; shall be anchored to prevent floatation which may result in damage to other structures; and service utilities such as electrical and heating equipment shall be elevated or flood-proofed.

*Addition* - means any alteration to an existing structure that increases its footprint.

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

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

*Appeal* - means a request for a review of the interpretation of any provision of this chapter or a request for a variance.

*Area of future conditions flood hazard* - means the land area that would be inundated by the 1-percent-annual chance (100 year) flood based on future conditions hydrology.

*Area of shallow flooding* - means a designated AO, or AH Zone on the Flood Insurance Rate Map (FIRM). The base flood depths range from one to

three feet; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and, velocity flow may be evident. AO is characterized as sheet flow and AH indicates ponding.

*Area of special flood hazard* – means the land in the flood plain within a community subject to a one percent (1%) or greater chance of flooding in any given year. Designation on maps always includes the letters A or V.

*Base flood* - means the flood having a one percent (1%) chance of being equaled or exceeded in any given year. Also referred to as the “100-year flood.” Designation on maps always includes the letters A or V.

*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 party 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.

*Conveyance* – means the flow of water during the base flood with a velocity that is greater than one foot per second or a depth that is greater than one foot.

*Crawlspace* - is an enclosed area below the base flood elevation and as such, must have openings that equalize hydrostatic pressures by allowing for the automatic entry and exist of floodwaters.

*Critical facility* - means a facility for which even a slight chance of flooding might be too great. Critical facilities include, but are not limited to schools, nursing homes, hospitals police, fire and emergency response installations, installations which produce, use or store hazardous materials or hazardous waste.

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

*Development* - means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

*Development permit* - means a permit issued under the provisions of this chapter for any development of a site located within a special flood hazard area.

The term shall also include a permit for the placement of a recreational vehicle for more than 180 days in Zones A1-A30, AH and AE.

*Elevated building* - means for insurance purposes, a nonbasement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns.

*Elevation Certificate* - means a statement from an engineer or surveyor licensed by the State of Texas on the most current FEMA form certifying that the lowest floor of the structure has been elevated at least as high as required by this chapter.

*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 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 adopted floodplain management regulations.

*Expansion to an existing manufactured home park or subdivision* - means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads.

*Fill* - means any material that is placed in an area and increases the elevation of that area or displaces water volume.

*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; and/or
- (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 the official flood insurance rate map promulgated by the federal insurance administrator of the Federal Emergency Management Agency which delineates both the special flood hazard areas and the risk premium zones applicable to the city, as amended and supplemented from time to time.

*Flood Insurance Study* – means the official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Boundary-Floodway Map, and the water surface elevation of the base flood.

*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 extend of the depths of associated flooding. Examples of flood protection systems include, but are not limited to, hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood modifying works are those constructed in conformance with sound engineering standards.

*Flood proofing* – means any combination of structural and non-structural 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.

*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 state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction. These include, but are not limited to zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as floodplain ordinance, grading ordinance and erosion control ordinance) and other applications of police power.

*Floodproofing certificate* – means a certificate issued by a registered professional engineer licensed in the State of Texas which states that he has developed and/or reviewed the structural design, specifications, and plans for the construction of the structure or improvements covered by the certificate and that the design and methods of construction are in accordance with accepted standards of practice for meeting the following requirements:

- (1) The floodproofing methods used are adequate to withstand the flood depths, pressures, velocities, impact and uplift forces and other factors associated with the base flood; and
- (2) Together with attendant utility and sanitary facilities, the structures are designed so that below the base flood level the structures are watertight with walls impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;

*Floodway* - means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

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

*Highest Adjacent Grade* - means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

*Historic Structure* – means any structure that is:

- (1) Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- (2) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- (3) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
- (4) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
  - (a) By an approved state program as determined by the Secretary of the Interior or;

(b) Directly by the Secretary of the Interior in states without approved programs.

*Lowest Floor* - means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this chapter found at section 38-42(a)(2).

*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 attached 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.

*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 the City of Tomball 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:

- (1) built on a single chassis;
- (2) 400 square feet or less when measured at the largest horizontal projections;
- (3) designed to be self-propelled or permanently towable by a light duty truck; and



- (4) 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.

*Repetitive loss* - means flood-related damages sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before damage occurred.

*Special flood hazard area or special area* – means the land in the floodplain within the city, that is subject to a one percent or greater chance of flooding in any given year and is designated as unnumbered A Zones, AE Zones, AO Zones, AH Zones, AI through A99 Zones, VO Zones, VI through V30 Zones, VE Zones or V Zones.

*Start of construction* - means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a 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 a walled and roofed building including a gas or liquid storage tank that is principally above ground.

*Substantial damage* - means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred

*Substantial improvement* - means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either:

- (1) Before the improvement or repair is started; or
- (2) If the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition, “substantial improvement” is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure.

The term does not, however, include either:

- (1) Any project for improvement of a structure to 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 structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

*Utilities* - means all building utilities including, but not limited to, electrical, heating, ductwork, ventilating, plumbing, air conditioning equipment, and any other service facilities.

*Utility construction permit* – means a permit issued to a developer by the city to construct a water or sewer main.

*Variance* - means a grant of relief from the requirements of this chapter which permits construction in a manner that would otherwise be prohibited by this chapter.

*Violation* - means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this chapter is presumed to be in violation until such time as that documentation is provided.

*Water dependent* - means a structure for commerce or industry which cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations.

**Sec. 38-6. General provisions.**

(a) *Lands to which this chapter applies.* This chapter shall apply to all areas of special flood hazards with the jurisdiction of the City of Tomball, Texas.

(b) *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 for Harris County, Texas," dated June 18, 2007, and any revisions thereto, are hereby by reference and declared to be a part of this chapter.

(c) *Penalties for noncompliance.* Any person who shall intentionally, knowingly, recklessly, or with criminal negligence, violate any provision of this chapter shall be deemed guilty of a misdemeanor and, upon conviction, shall be fined in an amount not to exceed \$2,000. Each day of violation shall constitute a separate offense.

(d) *Abrogation and greater restrictions.* This chapter is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this chapter and another Chapter, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(e) *Interpretation.* In the interpretation and application of this chapter, all provisions shall be:

- (1) Considered as minimum requirements;
- (2) Liberally construed in favor of the governing body; and
- (3) Deemed neither to limit or repeal any other powers granted under State statutes.

(f) *Warning and disclaimer or liability.* The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This chapter does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the City of Tomball, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

## ARTICLE II. ADMINISTRATION.

### Sec. 38-26. Establishment of development permit.

(a) *In general.* No building permit, development permit, utility construction permit or other permit required for a structure or development shall be issued, and no plat shall be approved, unless the applicant demonstrates that the permit or plat meets the applicable requirements of this chapter, or unless a variance, excepting such structure or development from the provisions of this chapter, is granted under the terms of this chapter.

(b) *Development permit required.* A development permit shall be obtained before construction or development begins within any area of special flood hazard established in section 38-6(b). The permit shall be for all structures including manufactured homes, as set forth in the “Definitions,” and for all development including fill and other activities, also as set forth in the “Definitions.”

(c) *Application for development permit.* Application for a development permit shall be made on forms furnished by the Department of Public Works and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically, the following information is required:

- (1) The existing topography and the location, dimensions, and elevation of any proposed alterations;
- (2) Existing and proposed structures;
- (3) The location of the proposed alterations in relation to special flood hazard areas;
- (4) Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures and substantial improvements;
- (5) Elevation in relation to mean sea level to which any structures will be or have been floodproofed;
- (6) Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in section 38-42(b);

- (7) If the site is adjacent to a watercourse or drainage channel, the definition of how that watercourse will be impacted as a result of proposed development;
- (8) Base flood elevations from effective FIRM data for all structures and substantial improvements; and
- (9) Each sheet in the plans on which elevations are marked shall include the vertical datum and adjustment, consistent with effective FIRM, along with the site benchmark used for vertical control.

(d) *Engineering Analyses.* Applicants shall submit an engineering analysis certified by a professional engineer licensed in the State of Texas that demonstrates that the development will not, at any time, either change the conveyance capacity or diminish storage volume of the special flood hazard area; except that, if the applicant submits a Conditional Letter of Map Revision approved by the Federal Emergency Management Agency, the engineering analysis need only demonstrate that the development will not, at any time, diminish storage volume of the special flood hazard area.

**Sec. 38-27. Designation of the floodplain administrator.**

The City Engineer is hereby appointed to administer and implement the provisions of this chapter by granting or denying development permit applications in accordance with its provisions.

**Sec. 38-28. Duties and responsibilities of the floodplain administrator.**

Duties and responsibilities of the Floodplain Administrator shall include, but not be limited to:

- (a) *Permit review.*
  - (1) Review all development permits to determine that the permit requirements of this chapter have been satisfied.
  - (2) Review all development permits to determine that all necessary permits have been obtained from those Federal, State, or local governmental agencies from which prior approval is required.
  - (3) Review all development permits to determine if the proposed development is located in the floodway. If located in the floodway, assure that the encroachment provisions of section 38-43 are met.

(b) *Use of other base flood Data (In A Zones).* When base flood elevation data has not been provided (A Zones) in accordance with section 38-6(b), **Basis for establishing the areas of special flood hazard**, the (local administrator) shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source, in order to administer sections 38-42, **Specific standards**, and 38-44, **Floodways**.

(c) *Information to be obtained and maintained.*

- (1) Where base flood elevation data is provided through the Flood Insurance Study, FIRM, or required as in section 38-28(b), obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement.
- (2) For all new or substantially improved floodproofed structures where base flood elevation data is provided through the Flood Insurance Study, FIRM, or as required in section 38.28(b):
  - (i) Verify and record the actual elevation (in relation to mean seal level), and
  - (ii) Maintain the floodproofing certifications required in section 38-26(b)(3).
- (3) Maintain for public inspection all records pertaining to the provisions of this chapter.

(d) *Alteration of watercourses.*

- (1) Notify adjacent communities and the Department of Land Conservation and Development prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.
- (2) Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.

(e) *Interpretation of FIRM boundaries.* Make interpretations where needed, as to 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 person contesting the location of the boundary shall be given a

reasonable opportunity to appeal the interpretation as provided in section 38-29.

**Sec. 38-29. Plat approval; issuance.**

- (a) Any person who is required or elects to obtain a plat shall also comply with the provisions of this chapter, if applicable.
- (b) When a person files an application for approval of a plat, the approval of the plat is subject to the approval of a drainage plan for the property that is the subject of the plat application if the property is located in whole or in part in a special flood hazard area within the city. The drainage plan shall include the base flood elevation data for the property certified as true and correct on the face of the drainage plan by a registered professional engineer licensed in the State of Texas.
- (c) The city engineer shall review the drainage plan and determine whether the development will be reasonably safe from flooding and whether such proposed development is:
  - (1) Consistent with the need to minimize flood damage within the special flood hazard area;
  - (2) To be constructed so that all public utility facilities including, but not limited to, sanitary sewer, gas, water and electrical systems are located and constructed so as to minimize flood damage from the base flood;
  - (3) To be constructed so that drainage is provided to reduce exposure of such development to flood hazards; and
  - (4) Would comply with the applicable requirements of Article III of this chapter.
- (d) If the proposed development satisfies the criteria in subsection (c) of this section, the city engineer shall approve the drainage plan and shall so notify the city planning commission in writing.
- (e) The city planning commission shall not approve a final plat until the city engineer has approved the drainage plan for that site.

**Sec. 38-30. Variance procedures.**

(a) *Appeal board.*

- (1) The Appeal Board, as established by City Council, shall hear and decide appeals and requests for variances from the requirements of this chapter.
- (2) The Appeal Board shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Flood Administrator in the enforcement or administration of this chapter.
- (3) In passing upon such applications, the City Council shall consider all technical evaluations, all relevant factors, standards specified in other sections of this chapter, and:
  - (i) The danger that materials may be swept onto other lands to the injury of others;
  - (ii) The danger to life and property due to flooding or erosion damage;
  - (iii) The susceptibility of the proposed facility and its contents to flood
  - (iv) damage and the effect of such damage on the individual owner;
  - (v) The importance of the services provided by the proposed facility to the community;
  - (vi) The necessity to the facility of a waterfront location, where applicable;
  - (vii) The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
  - (viii) The compatibility of the proposed use with existing and anticipated development;
  - (ix) The relationship of the proposed use to the comprehensive plan and flood plain management program for that area;



- (x) The safety of access to the property in times of flood for ordinary and emergency vehicles;
  - (xi) The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and,
  - (xii) The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.
- (4) Upon consideration of the factors of section 38-29(a)(3) and the purposes of this chapter, the Appeals Board may attach such conditions to the granting of variances as it deems necessary to further the purposes of this chapter.
  - (5) The Flood Administrator shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request.

(b) *Conditions for variances.*

- (1) Generally, the only condition under which a variance from the elevation standard may be issued is 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 items (i-xi) in section 38-29(a)(4) have been fully considered. As the lot size increases the technical justification required for issuing the variance increases.
- (2) 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 this section.
- (3) Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result

- (4) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (5) Variances shall only be issued upon:
  - (i) A showing of good and sufficient cause;
  - (ii) A determination that failure to grant the variance would result in exceptional hardship to the applicant;
  - (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 as identified in section 38-29(a)(3), or conflict with existing local laws or ordinances.
- (6) Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece or property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from the flood elevations should be quite rare.
- (7) Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of floodproofing than watertight or dry-floodproofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except section 38-29(b)(1), and otherwise complies with sections 38-41(a) and (b) of the **General standards**.
- (8) Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a 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.

## ARTICLE III. PROVISIONS FOR FLOOD HAZARD REDUCTION

### Sec. 38-41. General standards.

In all areas of special flood hazards, the following standards are required:

- (a) *Anchoring.*
  - (1) All new construction or substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.
  - (2) All manufactured homes must likewise be anchored to prevent flotation, collapse, or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors. (Reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques.)
- (b) *AH zone drainage.* Adequate drainage paths are required around structures on slopes to guide floodwaters around and away from proposed structures.
- (c) *Construction materials and methods.*
  - (1) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
  - (2) All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
  - (3) Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
- (d) *Utilities.*
  - (1) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;

- (2) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters; and
- (3) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

(e) *Standards for subdivisions.*

- (1) All subdivision proposals, including the placement of manufactured home parks and subdivisions, shall be consistent with the need to minimize flood damage;
- (2) All proposals for the development of subdivisions, including the placement of manufactured home parks and subdivisions, shall meet Floodplain Development Permit requirements of this chapter.
- (3) 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;
- (4) All subdivision proposals, including the placement of manufactured home parks and subdivisions, shall have adequate drainage provided to reduce exposure to flood damage; and,
- (5) Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres (whichever is less).

(f) *Review of building permits.* Where elevation data is not available either through the Flood Insurance Study, FIRM, or from another authoritative source (section 38-28(b)), applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two feet above grade in these zones may result in higher insurance rates.

**Sec. 38-42. Specific standards.**

(a) *Residential construction.*

- (1) New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to 1.5 feet above the base flood elevation. A registered professional engineer, architect, or land surveyor shall submit a certification to the Floodplain Administrator that the standard of this paragraph is satisfied.
- (2) Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or 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 be either certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:
  - (i) A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
  - (ii) The bottom of all openings shall be no higher than one foot above grade.
  - (iii) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
  - (iv) Below grade, crawlspaces are prohibited at sites where the velocity of floodwaters exceeds five (5) feet per second.
  - (v) All building utility systems within the crawlspace shall be elevated above base flood elevation or be designed so that floodwaters cannot enter or accumulate within the system component during flood conditions.
  - (vi) The interior of a crawlspace below the base flood elevation must not be more than 2 feet below the lowest adjacent exterior grade (LAG) and the height of the below grade crawlspace, measured from the interior grade of the crawlspace to the top of the crawlspace foundation must not exceed 4 feet at any point.
  - (vii) Below grade, crawlspaces constructed in accordance with the requirements listed in this

subsection shall not be considered basements. However, applicants who construct buildings that have below grade crawlspaces are hereby advised that such buildings will have higher flood insurance premiums than buildings that have crawlspaces with interior elevations at or above the lowest adjacent grade.

(b) *Nonresidential construction.* New construction and substantial improvements of any commercial, industrial, or other nonresidential structure shall either have the lowest floor, including basement, elevated to 1.5 feet above the base flood level, or, together with attendant utility and sanitary facilities, shall:

- (1) Be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
- (2) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;
- (3) Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in section 38-28(c)(2);
- (4) Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in section 38-42(a)(2);
- (5) Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g., a building floodproofed to the base flood level will be rated as one foot below).

(c) *Manufactured homes.*

- (1) All manufactured homes to be placed or substantially improved on sites:
  - (i) Outside of a manufactured home park or subdivision;
  - (ii) In a new manufactured home park or subdivision;
  - (iii) In an expansion to an existing manufactured home park or subdivision; or

(iv) In an existing manufactured home park or subdivision on which a manufactured home has incurred “substantial damage” as the result of a flood shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated at 1.5 feet above the base flood elevation and be securely anchored to an adequately designed foundation system to resist flotation, collapse and lateral movement.

(2) Manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision within Zones A1-30, AH, and AE on the community’s FIRM that are not subject to the above manufactured home provisions be elevated so that either:

(i) The lowest floor of the manufactured home is elevated at 1.5 feet 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 designed foundation system to resist flotation, collapse, and lateral movement.

(d) *Recreational vehicles.* Recreational vehicles placed on sites are required to either:

(1) be on the site for fewer than 180 consecutive days;

(2) be fully licensed and ready for highway use, on its wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or

(3) meet the requirements of section 38-42(c) above and the elevation and anchoring requirements for manufactured homes.

**Sec. 38-43. Before regulatory floodway.**

In areas where a regulatory floodway has not been designated, 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.

**Sec. 38-44. Floodways.**

Located within areas of special flood hazard established in section 38-6(b) are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and erosion potential, the following provisions shall apply:

- (a) Prohibit encroachments, including fill, new construction, substantial improvements, and other development unless certification by a registered professional civil engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge
- (b) If section 38-44(1) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Article III hereof, **Provisions for flood hazard reduction.**

**Sec. 38-45. Standards for shallow flooding areas (AO Zones).**

Shallow flooding areas appear on FIRMs as AO zones with depth designations. The base flood depths in these zones range from 1 to 3 feet above ground where a clearly defined channel does not exist, or where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In these areas, the following provisions apply:

- (a) New construction and substantial improvements of residential structures and manufactured homes within AO zones shall have the lowest floor (including basement) elevated above the highest grade adjacent to the building, 1.5 feet or more above the depth number specified on the FIRM (at least two feet if no depth number is specified).
- (b) New construction and substantial improvements of nonresidential structures within AO zones shall either:
  - (1) Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, 1.5 feet or



more above the depth number specified on the FIRM (at least two feet, if no depth number is specified); or

- (2) Together with attendant utility and sanitary facilities, be completely flood proofed to or above that level so that any space below that level 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. If this method is used, compliance shall be certified by a registered professional engineer or architect as in section 38-42(b)(3).
- (3) Require adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures
- (4) Recreational vehicles placed on sites within AO Zones on the community's FIRM either:
  - (i) be on the site for fewer than 180 consecutive days,
  - (ii) be fully licensed and ready for highway use, 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; or
  - (iii) Meet the requirements of section 38-45 above and the elevation and anchoring requirements for manufactured homes.

(c) *Critical facility.* Construction of new critical facilities shall be, to the extent possible, located outside the limits of the Special Flood Hazard Area (SFHA) (100-year floodplain). Construction of new critical facilities shall be permissible within the SFHA if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three feet or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility should also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation shall be provided to all critical facilities to the extent possible.”

**Section 2.** In the event any clause phrase, provision, sentence, or part of this Ordinance or the application of the same to any person or circumstances shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair, or invalidate this Ordinance as a whole or any part or provision hereof other than the part

declared to be invalid or unconstitutional; and the City Council of the City of Tomball, Texas, declares that it would have passed each and every part of the same notwithstanding the omission of any such part thus declared to be invalid or unconstitutional, whether there be one or more parts.

FIRST READING:

READ, PASSED AND APPROVED AS SET OUT BELOW AT THE MEETING OF THE CITY COUNCIL OF THE CITY OF TOMBALL HELD ON THE 18TH DAY OF JUNE 2007.

COUNCILMAN QUINN	<u>ABSENT</u>
COUNCILMAN LAZENBY	<u>AYE</u>
COUNCILMAN HARVEY	<u>AYE</u>
COUNCILMAN DRIVER	<u>AYE</u>

SECOND READING:

READ, PASSED AND APPROVED AS SET OUT BELOW AT THE MEETING OF THE CITY COUNCIL OF THE CITY OF TOMBALL HELD ON THE 19TH DAY OF NOVEMBER 2007.

COUNCILMAN QUINN	<u>ABSENT</u>
COUNCILMAN LAZENBY	<u>AYE</u>
COUNCILMAN WEBB	<u>AYE</u>
COUNCILMAN HARVEY	<u>AYE</u>
COUNCILMAN DRIVER	<u>AYE</u>

(signed) Gretchen Fagan  
Gretchen Fagan, Mayor

ATTEST:

(signed) Doris Speer  
Doris Speer, City Secretary