

ORDINANCE NO. 2021-22

AN ORDINANCE OF THE CITY OF TOMBALL, TEXAS AMENDING ITS CODE OF ORDINANCES BY AMENDING SECTION 10-445, GENERAL STANDARDS, AND SECTION 10-446, SPECIFIC STANDARDS, OF DIVISION 3, PROVISIONS FOR FLOOD HAZARD REDUCTION, OF ARTICLE VIII, FLOOD DAMAGE PREVENTION OF CHAPTER 10, BUILDINGS AND BUILDING REGULATIONS; PROVIDING FOR SEVERABILITY; PROVIDING FOR A PENALTY OF AN AMOUNT NOT TO EXCEED \$2,000 FOR EACH DAY OF VIOLATION OF ANY PROVISION HEREOF; MAKING FINDINGS OF FACT; AND PROVIDING FOR OTHER RELATED MATTERS.

* * * * *

WHEREAS, the City Council of the City of Tomball, Texas, hereby finds that amending its flood damage prevention regulations as set forth herein is in the best interest of the health, safety and welfare of the citizens;

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

Section 1. The facts and matters contained in the preamble are hereby found to be true and correct.

Section 2. Section 10-445, General Standards, of Division 3, Provisions for Flood Hazard Reduction, of Article VIII, Flood Damage Prevention, of Chapter 10, Buildings and Building Regulations, of the Code of Ordinances of the City of Tomball, Texas is hereby amended to add the language underscored below and to delete the language struck through below.

“Sec. 10-445. - General standards.

In the flood-prone area, the following standards are required:

- (1) *Anchoring.*
 - a. All new construction or substantial improvements shall be designed (or modified) and adequately anchored to prevent

flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads including the effects of buoyancy.

- b. All manufactured homes must likewise be designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrostatic and hydrodynamic loads including the effects of buoyancy, 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.)

(2) *Site drainage.* Drainage pathways are required around structures to guide floodwaters around such structures.

(3) *Construction materials and methods.*

- a. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- b. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
- c. All new construction and substantial improvements shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

(4) *Utilities.*

- a. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
- b. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters; and

- c. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

(5) *Standards for subdivisions.*

- a. All subdivision proposals, including the placement of manufactured home parks and subdivisions, shall be consistent with the need to minimize flood damage;
- b. All proposals for the development of subdivisions, including the placement of manufactured home parks and subdivisions, shall meet floodplain development permit requirements of this article;
- c. 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;
- d. All subdivision proposals, including the placement of manufactured home parks and subdivisions, shall have adequate drainage provided to reduce exposure to flood damage; and
- e. 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 five acres (whichever is less).

(6) *Review of building permits.* Where elevation data is not available either through the flood insurance study, FIRM, or from another authoritative source (section 10-421(2)), 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 the highest adjacent grade in these zones may result in higher insurance rates.

(7) *Mitigation of fill.* Fill in the ~~flood-prone~~ one percent annual chance (100-year) and 0.2 percent annual chance (500-year) floodplain area must be mitigated to ensure that the storage volume of such area is not diminished by development. A development permit applicant must

submit a fill mitigation analysis demonstrating that the proposed development, if constructed, will not result in a decrease in storage volume within the flood-prone area.”

Section 3. Section 10-446, Specific Standards, of Division 3, Provisions for Flood Hazard Reduction, of Article VIII, Flood Damage Prevention, of Chapter 10, Buildings and Building Regulations, of the Code of Ordinances of the City of Tomball, Texas is hereby amended to add the language underscored below.

“Sec. 10-446. - Specific standards.

- (a) *Residential construction.* New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, floodproofed or elevated at least 1.5 feet above the one percent annual chance (100-year) base flood elevation or at the 0.2 percent annual chance (500-year) base flood elevation, whichever is higher. A registered professional engineer or land surveyor shall submit a FEMA elevation certificate to the floodplain administrator that verifies that the standard of this subsection is satisfied.
- (b) *Nonresidential construction.*
 - (1) New construction and substantial improvements of any commercial, industrial, or other nonresidential structure shall either meet the specific standards for residential construction, or, together with attendant utility and sanitary facilities, shall:
 - a. Be floodproofed to at least 1.5 feet above the base flood level so that the structure is watertight with walls substantially impermeable to the passage of water;
 - b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;
 - c. 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 10-421(3)b.;

- (2) Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in subsection (d) of this section;
 - (3) Applicants floodproofing nonresidential buildings are advised that flood insurance premiums may be based on rates that are greater than those established for buildings with the first floor elevated to the same level.
- (c) *Critical facility.* Construction of new critical facilities shall be, to the extent possible, located outside the limits of the flood-prone area. Construction of new critical facilities shall be permissible within the flood-prone area if no feasible alternative site is available. Critical facilities constructed within the flood-prone area shall have the lowest floor elevated, or the structure shall be floodproofed to an elevation at least 1.5 feet above the elevation of the 500-year (0.2 percent probability) flood event or three feet above the highest adjacent grade of the building site if flood elevation data is not available. Additionally, floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access to and from the critical facility must be assured under all circumstances. The city engineer will review and approve all plans for access routes for critical facilities located in the flood-prone area.
- (d) *Enclosures.* 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 either be certified by a professional engineer licensed in the state or must meet or exceed the following minimum criteria:
- (1) 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.
 - (2) The bottom of all openings shall be no higher than one foot above grade.
 - (3) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
 - (4) Below-grade crawlspaces shall be designed in accordance with FEMA Technical Bulletin 11-01, "Crawlspace Construction for

Buildings Located in Special Flood Hazard Areas," FIA-TB-11, or revisions to this document.

- (5) Below-grade crawlspaces are prohibited at sites where the velocity of floodwaters exceeds five feet per second.
- (6) 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.
- (7) The interior of a crawlspace below the base flood elevation must not be more than two 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 four feet at any point.
- (8) Below-grade crawlspaces constructed in accordance with the requirements listed in this subsection (d) shall not be considered basements. However, applicants who construct buildings that have below-grade crawlspaces are hereby advised that such buildings may have higher flood insurance premiums than buildings that have crawlspaces with interior elevations at or above the lowest adjacent grade. In addition, the building design must include adequate provision for drainage from the crawlspace following a flooding event.

(e) *Manufactured homes.*

- (1) All manufactured homes to be placed or substantially improved on sites:
 - a. Outside of a manufactured home park or subdivision;
 - b. In a new manufactured home park or subdivision;
 - c. In an expansion to an existing manufactured home park or subdivision; or
 - d. 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 or at the 0.2 percent annual chance (500-year) base flood elevation, whichever is higher 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 the flood-prone area that are not subject to the above manufactured home provisions shall be elevated so that either:
 - a. The lowest floor of the manufactured home is elevated at 1.5 feet above the base flood elevation or at the 0.2 percent annual chance (500-year) base flood elevation, whichever is higher; or
 - b. 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.
- (f) *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 subsection (e) of this section and the elevation and anchoring requirements for manufactured homes.
- (g) *Accessory structures.* Accessory structures 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 floodproofed.
- (h) *Breakaway walls.* Breakaway walls must be designed so that if carried downstream they will not cause damage to any other

structure. Breakaway walls must have a design safe loading resistance of not less than ten and no more than 20 pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot (either by design or when so required by city or state codes) may be permitted only if a registered professional engineer certifies that the proposed design meets the following conditions:

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

Section 4. In the event any section, paragraph, subdivision, clause, phrase, provision, sentence, or part of this Ordinance or the application of the same to any person or circumstance 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 any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of Tomball, Texas, declares that it would have passed each and every part of the same notwithstanding the omission of any and every part of the same notwithstanding the omission of any such part thus declared to be invalid or unconstitutional, or whether there be one or more parts.

Section 5. Any person who shall intentionally, knowingly, recklessly or with criminal negligence violate any provision of this Ordinance 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.

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 7th DAY OF JUNE, 2021.

COUNCILMAN FORD	<u>AYE</u>
COUNCILMAN STOLL	<u>AYE</u>
COUNCILMAN DEGGES	<u>AYE</u>
COUNCILMAN TOWNSEND	<u>AYE</u>
COUNCILMAN KLEIN QUINN	<u>AYE</u>

SECOND READING:

READ, PASSED, AND ORDAINED AS SET OUT BELOW AT A REGULAR MEETING OF THE CITY COUNCIL OF THE CITY OF TOMBALL, HELD ON THE 21st DAY OF JUNE, 2021.

COUNCILMAN FORD	<u>AYE</u>
COUNCILMAN STOLL	<u>AYE</u>
COUNCILMAN DEGGES	<u>AYE</u>
COUNCILMAN TOWNSEND	<u>AYE</u>
COUNCILMAN KLEIN QUINN	<u>AYE</u>

Gretchen Fagan
GRETCHEN FAGAN, Mayor

ATTEST:

Doris Speer
DORIS SPEER, City Secretary