

NOTICE OF APPROVAL – Notice is hereby given that at the December 21, 2020 City Council Meeting of the City of Jersey Village, Texas, the following ordinances, which may be viewed online at <http://www.jerseyvillagetx.com/>, were passed and approved:

ORDINANCE NO. 2020-28 - AN ORDINANCE OF THE CITY OF JERSEY VILLAGE, TEXAS, AMENDING THE CODE OF ORDINANCES OF THE CITY OF JERSEY VILLAGE, BY AMENDING, CHAPTER 14, "BUILDING AND DEVELOPMENT," ARTICLE I, "IN GENERAL," SECTION 14-5, "DEFINITIONS;" PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR REPEAL; PROVIDING FOR PENALTY; AND PROVIDING AN EFFECTIVE DATE.

ORDINANCE NO. 2020-29 - AN ORDINANCE OF THE CITY OF JERSEY VILLAGE, TEXAS, AMENDING THE CODE OF ORDINANCES OF THE CITY OF JERSEY VILLAGE, BY AMENDING, CHAPTER 14, "BUILDING AND DEVELOPMENT," ARTICLE XIII, "BUILDING CODE," DIVISION 1, "GENERALLY," SECTION 14-333, "FINISHED FLOOR ELEVATIONS;" AND SECTION 14-334 "RESERVED;" PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR REPEAL; PROVIDING FOR PENALTY; AND PROVIDING AN EFFECTIVE DATE.

ORDINANCE NO. 2020-30 - AN ORDINANCE OF THE CITY OF JERSEY VILLAGE, TEXAS, AMENDING THE CODE OF ORDINANCES OF THE CITY OF JERSEY VILLAGE, BY AMENDING, CHAPTER 14, "BUILDING AND DEVELOPMENT," AT SECTION 14-152, "DRAINAGE/FLOODWAY EASEMENTS;" SECTION 14-221, "PERMIT TO CONSTRUCT STORM WATER IMPROVEMENTS;" SECTION 14-222, "GENERAL PROVISIONS;" SECTION 14-223, "DESIGN CRITERIA;" SECTION 14-225, "FLOOD DAMAGE PREVENTION;" SECTION 14-226, "STORMWATER DETENTION;" AND SECTION 14-359, "LOCAL AMENDMENTS TO THE INTERNATIONAL RESIDENTIAL CODE;" PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR REPEAL; PROVIDING FOR PENALTY; AND PROVIDING AN EFFECTIVE DATE.

ORDINANCE NO. 2020-31 - AN ORDINANCE OF THE CITY OF JERSEY VILLAGE, TEXAS, AMENDING THE CODE OF ORDINANCES OF THE CITY OF JERSEY VILLAGE, BY AMENDING, CHAPTER 14, "BUILDING AND DEVELOPMENT," ARTICLE XIII, "BUILDING CODE," DIVISION 2 "STANDARDS," SECTION 14-353, "LOCAL AMENDMENTS TO THE INTERNATIONAL BUILDING CODE;" PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR REPEAL; PROVIDING FOR PENALTY; AND PROVIDING AN EFFECTIVE DATE.

Any person who shall violate any provision of these Ordinance shall be punished upon conviction as provided by Section 1-8 of the City of Jersey Village Code of Ordinances by a fine not to exceed \$500.00 provided, however, that if the fine or penalty is found to be for the violation of a rule, ordinance, or police regulation that governs fire safety, zoning, or public health and sanitation, including dumping of refuse, the fine may not exceed \$2,000.00. No penalty shall be greater or less than the penalty provided for the same or a similar offense under the laws of the state, and each day such violation shall exist shall be a separate offense.

PASSED, APPROVED, AND ADOPTED the 21st day of December, 2020. /s/Andrew Mitcham, Mayor
Attest: /s/ Lorri Coody, City Secretary, Jersey Village

Issued for publication on December 30, 2020 on this the 22nd day of December, 2020.
/s/Lorri Coody, City Secretary, Jersey Village, Texas

ORDINANCE NO. 2020-28

AN ORDINANCE OF THE CITY OF JERSEY VILLAGE, TEXAS, AMENDING THE CODE OF ORDINANCES OF THE CITY OF JERSEY VILLAGE, BY AMENDING, CHAPTER 14, "BUILDING AND DEVELOPMENT," ARTICLE I, "IN GENERAL," SECTION 14-5, "DEFINITIONS;" PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR REPEAL; PROVIDING FOR PENALTY; AND PROVIDING AN EFFECTIVE DATE.

* * * * *

WHEREAS, the Building Board of Adjustment and Appeals is charged with the responsibility for making recommendations to the City Council on any code changes brought before them dealing with the Building Code; and

WHEREAS, the Building Board of Adjustment and Appeals met on December 14, 2020 to discuss various changes affecting the Building Code at Section 14-5; and

WHEREAS, the Building Board of Adjustment and Appeals has presented its Written Recommendations to City Council concerning recommended changes to Section 14-5; and

WHEREAS, the City Council of the City of Jersey Village desires to amend the Code of Ordinances of the City of Jersey Village, by amending, Chapter 14, "Building and Development," Article I, "In General," Section 14-5, "Definitions" in order to implement the changes recommended by the Building Board of Adjustment and Appeals; **NOW THEREFORE**,

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF JERSEY VILLAGE, TEXAS, THAT:

Section 1: The facts and matters set forth in the preamble of this Ordinance are found to be true and correct and are hereby adopted, ratified, and confirmed.

Section 2: Chapter 14, "Building and Development," Article I, "In General," Section 14-5, "Definitions" of the Code of Ordinances of the City of Jersey Village, is hereby amended by adding the language underlined and deleting the language struck through as outlined in Exhibit A which is attached hereto and made a part hereof.

Section 3. Severability. 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 than the part declared to be invalid or unconstitutional; and the City Council of the City of Jersey Village, 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, or whether there be one or more parts.

Section 4. Repeal. All other ordinances or parts of ordinances in conflict or inconsistent herewith are, to the extent of such conflict or inconsistency, hereby repealed.

Section 5. Penalty. Any person who shall violate any provision of this Ordinance shall be guilty of a misdemeanor and subject to a fine as provided in Section 1-8.

Section 6. Effective Date. This ordinance shall be in full force and effect from and after its passage.

PASSED, APPROVED, AND ADOPTED this 21st day of December 2020.

Andrew Mitcham, Mayor

ATTEST:

Lorri Coody, City Secretary



Sec. 14-5. - Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

AE means areas of the base (1 percent or 100-year) flood where base flood elevations have been determined.

Accessory building means a building or structure customarily incidental and subordinate to the principal structure and located on the same lot as the principal building.

Accessory use of a building means a subordinate use or building customarily incident to and located on the lots occupied by the main use or building.

Advertising means to seek the attraction, or to direct the attention, of the public to any goods, services, merchandise, purpose or cause.

Agriculture means any land or building used for pasturage, floriculture, dairying, horticulture, forestry and livestock or poultry husbandry.

Alley means a legally established private access easement affording a secondary means of vehicular access to abutting property and not intended for general traffic circulation.

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.

Alter means to change, rearrange, enlarge, extend or reduce any structure or part thereof on the same site.

Alterations means any change, addition or modification in construction or type of occupancy; any change in the structural members of a building, such as walls or partitions, columns, beams or girders; or any change which may be referred to in this chapter as "altered" or "reconstructed."

Apartment means a dwelling unit in a multiple-family dwelling.

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

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

Appurtenant structure, for floodplain management purposes, 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 chance or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Area of special flood hazard (ASFH) – also referred to as a special flood hazard area (SFHA) -- means the land in the floodplain within a community subject to a ~~one~~ 0.2 percent or greater chance of flooding in any given year. The area may be designated as zone A on the flood hazard boundary map (FHBM). After detailed ratemaking has been completed in preparation for publication of the FIRM, Zone A usually is refined into zones A, AE, AH, AO, A1-30, A99, AR, AR/A1-30, AR/AE, AR/ AO, AR/A, VO, V1-30, VE, ~~or~~ V or X Shaded Zones.

As-built documents means documents prepared by a registered professional engineer and confirming that the public improvements are constructed as shown.

Auto body shop means any shop or garage, other than a private garage, where bodywork and painting are performed.

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

Base flood elevation (BFE) or base flood level means the elevation ~~shown on the Flood Insurance Rate Map (FIRM) for Zones A, AE, AH, A1 - A30, AR, V1 - V30 or VE above mean sea level~~ that indicates the water surface elevation resulting from the floodwaters that has 1% chance of equaling or exceeding that level in any given year — also referred to as have been calculated to reach during the base flood at a specific location.

Basement, for floodplain management purposes, means any area of the building having its floor subgrade (below ground level) on all sides.

Berm means a manmade, formed, earth mound of definite height and width used for obscuring purposes; the intent of which is to provide a transition between uses of differing intensity.

Billboard means an off-premises sign.

Block means a tract or parcel of land designated as such on a subdivision plat surrounded by streets or other physical obstructions.

Blockface means the properties abutting on one side of a street between the two nearest intersecting streets or other physical features, such as a watercourse or unsubdivided land, that defines the end of the block.

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.

Boundary sewer line means a sewer line installed in a street bounding a development or faced on only one side by a development, which can also serve property not included in the development on the opposite side of the street.

Boundary water line means a water line, installed in a street bounding a development or faced on only one side by a development, which can also serve property not included in the development on the opposite side of the street.

Buffer means the area, space or physical means which is established to protect or insulate one land use or one building from another. Generally, buffering will be the use of landscaping (other than mere grass on a flat terrain) or the use of landscaping along with berms, walls or decorative fences that at least partially and periodically obstruct the view from the street and adjacent property in a continuous manner, of vehicular use areas, parking lots and their parked cars, and detention ponds.

Buffer yard means a strip of land, including any specified type and amount of planting or structures which may be required to protect one type of land use from another, or minimize or eliminate conflicts between them.

Build means to convert, enlarge, reconstruct or alter a building or structure.

Building. See the definitions within the adopted building codes.

Building area means ground floor area computed by using the outside dimensions, excluding the floor area of garages, open or screened porches, basements or semifurnished storage rooms not used for residential purposes.

Building height means the vertical distance measured from the established grade to the highest point of the roof surface for flat roofs; to the deck line of mansard roofs; and to the average height between eaves and ridge for gable, hip and gambrel roofs. Where a building is located on a sloping terrain, the height may be measured from the average ground level of the grade at the building wall.

Building line means a line parallel to the front lot line. A minimum building line is the same as the minimum required front setback line.

Building, principal means a building in which is conducted the main or principal use of the lot on which such building is located.

Business frontage means the linear measurement from outer wall to outer wall of the side of the building which faces or fronts a street and which generally contains the primary entrance to the building.

Business purposes means the erection or use of any property, building, structure, permanent or temporary, for the primary purpose of conducting in such building or structure or on such property a lawful commercial enterprise in compliance with all ordinances and regulations of the city governing such activity. The term "business purpose" shall not include any property, building or structure erected or used for the primary purpose of securing a permit to erect a sign.

Cabana or dressing room means a small structure for use as a bathhouse adjacent to a swimming pool.

Car wash facility means a facility of the tunnel unit type for washing and cleaning of passenger vehicles which allows washing of multiple vehicles in a tandem arrangement while moving through the structure, to include detail areas, vacuum areas and a lobby.

Carport means a permanent structure that is attached to a residence or private garage, that covers a driveway, and that consists of a roof and one or more sides.

Certificate of compliance means a certificate issued by the city to a party intending to initiate any work or change any use of property in the city.

Child-care center means a facility licensed by the State of Texas to provide care at a location other than the permit holder's home, for seven or more children under 14 years of age, for less than 24 hours per day, but at least two hours a day, three or more days per week (40 TAC § 745.37(2)(D)).

Child day-care operations means any facility used for the following child day-care operations licensed under state law (40 TAC Ch. 745): "child-care center" and "school-age program" operations.

Church means a building wherein persons regularly assemble for religious worship and which is maintained and controlled by a religious body organized to sustain public worship, together with all accessory buildings and uses customarily associated with such primary purpose.

Clinic means the office of one or more licensed doctors who may or may not be associated in the practice of their profession.

Club means an organization of persons for special purposes or for the promulgation of sports, arts, science, literature, politics or similar activities, but not operated for profit and open only to members and not the general public.

Commercial building means any building other than a single-family residence.

Commercial message means a message placed or caused to be placed before the public by a person directly involved in the manufacture or sale of the products, property, accommodations, services, attractions or activities or possible substitutes for those things which are the subject of the message; and that refers to the offer for sale or existence for sale of products, property, accommodations, services, attractions or activities that are offered or exist for sale or for hire; or that attracts attention to a business or to products, property, accommodations, services, attractions or activities that are offered or exist for sale or for hire.

Condominium. See Unified development.

Conveyance means, unless otherwise determined by the city engineer, 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.

Courts means an open space, bounded on more than two sides by the walls of a building. An inner court is a court entirely surrounded by the exterior walls of a building. An outer court has one side open to a street or alley, yard or other permanent open space.

Critical Facilities means those facilities essential to the preservation of life and property, including, but not limited to schools, nursing homes, blood banks, health care facilities including those storing vital medical records, housing likely to contain occupants who may not be sufficiently mobile to avoid death or injury during a flood, hospitals, police, fire and emergency response installations, facilities used for the storage of critical records, and commercial installations which produce, use or store hazardous materials or hazardous waste as referenced in the High-Hazard Group (Group H) of the adopted International Building Code and International Fire Code.

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.

Curbline means an imaginary line drawn along the edge of the pavement on either side of a public street.

Density means the average number of dwelling units per acre for the entire development, including streets.

Design flood elevation (DFE) means the elevation above base flood elevation (BFE) that the community requires - also referred to as freeboard.

Developer means any person who improves or subdivides a tract of land or improves or takes any action preparatory to the erection, improvement or movement of any building or structure on a tract of land.

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

District means an area of land for which there are uniform zoning regulations governing the use of buildings and premises, density of development, yard requirements and height regulations.

Double-faced sign means a single sign with two parallel sign faces back-to-back.

Dwelling, multiple-family means a building used or designed as a residence for three or more families living together independently of each other.

Dwelling, single-family means a detached building, designed for or occupied exclusively by one family.

Dwelling, two-family means a detached building, designed for or occupied by two families living independently of each other.

Dwelling unit means one or more rooms with bathroom and principal kitchen facilities designed as a self-contained unit for occupancy by one family for living, cooking and sleeping purposes.

Easement, utility means a right held by the city to make use of the land of another for a limited purpose, such as right of passage.

Electrical sign means a sign containing electrical wiring or utilizing electric current, but not a sign illuminated by an exterior light source.

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

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, as well as the elevation of equipment and adjacent grade.

Erected means built, constructed, reconstructed, moved upon, or any physical operations on the premises required for the building. Excavations, fill, drainage and the like shall be considered a part of erection.

Excavation means any breaking of ground, except common household gardening, general farming and ground care.

Existing construction means, for the purposes of determining flood insurance 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. The term "existing construction" may also be referred to as "existing structures."

Existing manufactured home park or subdivision, for floodplain management purposes, 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, for floodplain management purposes, 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).

Family means:

- (1) One person, or a group of two or more persons living together and related by blood, marriage or legal adoption, living together as a single housekeeping unit. The person thus constituting a family may also include gratuitous guests and domestic servants.
- (2) A group of individuals not related by blood, marriage or legal adoption, but living together as a single housekeeping unit. For controlling of residential density, each such group of four individuals shall constitute of a family.
- (3) A group of not more than eight individuals, not related by blood, marriage or legal adoption, which group is comprised of individuals with disabilities protected under the Fair Housing Act, and where the group is not established within one-half mile of an existing like group.
- (4) A group of not more than six persons with disabilities and two supervisors residing in a qualified community home, as defined by the Texas Community Homes for Disabled Persons Location Act.

Filling means the depositing or dumping of any matter into or onto the ground except common household gardening and general maintenance.

Filling stations means any building or premises used for the dispensing, sale or offering for sale or retail of any automobile fuels or oils. If the dispensing, sale or offering for sale is incidental to a public garage, the premises shall be classified as a public garage.

Firewall means a wall made of fireproof material to prevent the spread of a fire from one part of a building to another.

Flag lot means a lot which has minimum frontage on a public street, which is reached via a private drive or lane whose width some distance back from the street right-of-way, meets all ordinance requirements.

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; 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 an official map of a community, on which the Federal Emergency Management Agency (FEMA) has delineated both the special flood hazards areas (SFHA) / areas of special flood hazards (ASFH) and the risk premium zones applicable to the community.

Flood insurance study (FIS). See *Flood elevation study*.

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 areas within a community subject to a special flood hazard and the extent of the depths of associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood modifying works are those constructed in conformance with sound engineering standards.

~~*Floodplain or floodprone area* means any land area susceptible to being inundated by water from any source. (See definition of flooding.)~~

Floodplain development permit means a permit issued under the provisions of this chapter for any development of a site located within a Jersey Village special flood hazard area (SFHA) / area of special flood hazards (ASFH)

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

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 a structure or improvement 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 0.2 percent chance flood; and

(2) Together with attendant utility and sanitary facilities, the structures are designed so that below the 0.2 percent chance 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. See *Regulatory floodway*.

Freeboard. See *Design Flood Elevation*.

Freestanding structure means any building for the support, shelter or enclosure of persons, animals, chattels or moveable property of any kind and surrounded by yards or open space and not containing permanent provisions for living, sleeping or cooking.

Functionally dependent use means, for floodplain management purposes, 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 shipbuilding and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

Garage, front load , means a private garage where the vehicle access doors to the garage face toward and are generally visible from a public view.

Garage, J-swing means a garage upon which the entry point from the street is located in front of the house and the garage door is perpendicular to the front of the house. A J-swing garage must have at least two windows, each 12 square feet or greater, oriented toward the front or the lot.

Garage, private means a garage intended for private use by the resident family with a ground floor capacity for not more than four automobiles or trucks of which not more than one vehicle shall be used for commercial purposes.

Garage, private, detached means a private garage constructed as a freestanding structure.

Garage, public means a building, or portion thereof, other than a private or storage garage, designed or used for servicing, repairing, equipping, hiring, selling or storing motor-driven vehicles.

Garage, sideloaded means a private garage where the vehicle access doors to the garage are perpendicular to the front lot line and, therefore, are generally not visible from a public way, unless the lot is a corner lot and the garage loads to a side street.

Grade means a ground elevation established for the purpose of controlling the number of stories and the height of any structure. The building grade shall be determined by the level of the ground adjacent to the walls of any structure if the finished grade is level. If the ground is not level, the grade shall be determined by averaging the elevation of the ground for each face of the structure.

Grand opening means the commencement of operation by a business in a new location or the assumption of ownership of an existing business by a new owner or group of owners.

Ground sign means a sign which is a pole sign, a monument sign or a nonconforming billboard which exists on the effective date of the ordinance. See Figure 14-19.

Habitable floor means, for the purpose of flood hazard regulation, any floor usable for the following purposes which include working, sleeping, eating, cooking or recreation, or a combination thereof. A floor used for storage purposes only is not a habitable floor.

Half-street means a vehicular accessway created if only a portion of the required right-of-way width or pavement width is dedicated and/or constructed.

Health club, also includes the terms *athletic club, gym, fitness studio, and fitness center*, means a place of business which provides a place for a variety of physical exercises including facilities or studios for personal training, physical fitness training, weight and aerobic training, free weights, spinning/cycling, circuit training, yoga, Pilates, racquetball/squash courts, group fitness classes, boxing, wrestling, martial arts training, basketball courts, swimming pools and swimming lessons.

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

Historic structure means any structure that is:

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

Industrial means a business, plant or enterprise for production of goods, merchandise or machines.

Integrated business development means commercial development such as a strip center, mall, multitenant office building, commercial center or industrial complex in which two or more separate businesses occupy a single structure or multiple structures which share on-site parking facilities and common driveways.

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.

Logo sign means a sign operated and maintained by the state department of highways and public transportation within the public right-of-way along a country toll road which bears the name and trademark design of a business.

Lot means an undivided tract or parcel of land having frontage on a public street and which is, or in the future may be, offered for sale, conveyance, transfer or improvement.

Lot depth means the distance on a horizontal plane between the midpoint of the front lot line and the midpoint of the rear lot line.

Lot lines means the lines bounding a lot as follows:

- (1) *Lot line, front* means, for interior lots, a line separating the lot from the street; for corner lots, a line separating the narrowest street frontage of the lot from the street, except in those cases where the deed restrictions specify another line as the front lot line. In all cases the front lot line of a nonresidential lot shall be that side adjacent to the highest volume street.
- (2) *Lot line, rear* means a lot line opposite and most distant from the front lot line.
- (3) *Lot line, side* means any lot line not a front line or rear lot line.

Lot of record means a lot which is part of a platted subdivision, the plat of which is recorded in the office of the county clerk; a parcel or lot the deed for which was recorded in the office of the county clerk prior to March 1, 1982, and which has not been partitioned in any manner since that time.

Lot width means the distance on a horizontal plane between the midpoint of the side lot lines.

Lowest floor means, for floodplain management purposes, 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 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. For floodplain management purposes, the term "manufactured home" also includes park trailer, travel trailers and other similar vehicles placed on a site for greater than 190 consecutive days. For insurance purposes the term "manufactured home" does not include a "recreational vehicle."

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

Marquee means a roof-like structure of a permanent nature projecting from the wall of a building.

Marquee sign means a sign on a marquee. See Figure 14-19.

Masonry means that form of construction composed of stone, brick, concrete, hollow clay tile, decorative concrete block or tile, glass block or other similar building units or materials or a combination of these materials laid up unit by unit and set in mortar. For the purposes of this definition, true stucco is considered masonry.

Mean sea level means, for purposes of the National Flood Insurance Program, the North American Vertical Datum of 1988 or other datum, to which base flood elevations shown on a community's flood insurance rate map are referenced.

Minimum flood protection elevation is the community's design flood elevation in any given area, and specifically means the 0.2 percent flood elevation, plus 2 feet, or 3 feet for critical facilities and floodway locations. See Table 14-5 in Section 14-222 (5).

Mobile home means a movable or portable dwelling structure which is constructed to be towed on its own chassis, is capable of being connected to public utilities, and is designed for year round living as a single-family dwelling unit without the necessity of a permanent foundation. The term "mobile home" shall not include pickup campers, travel trailers, motor homes, converted buses, tent trailers or other transportable structures designed for temporary use (see also *Manufactured home*).

Mobile (manufactured) home park means a parcel of land under single ownership on which two or more mobile (manufactured) homes are occupied as residences. Any mobile (manufactured) home facility where two or more units are intended for long-term residential use (beyond 90 days) is considered a mobile (manufactured) home park for purposes of applying development standards.

Model home means a single-family residential structure used temporarily as an office for the sale of single-family residential structures in the same platted subdivision.

Monument sign means a ground sign supported by a solid base which is equal to but not more than 15 percent larger than the sign face base which contains no commercial message and is not attached to any building. See Figure 14-19.

Motor vehicle sales means the use of a site for sale or rental of automobiles, trucks, motorcycles, motor homes, recreational vehicles, or boats, including incidental storage, maintenance, and servicing. This use includes new and used car dealerships, motorcycle dealerships, and boat, trailer, and recreational vehicle dealerships.

Multifaced sign means a single sign with two or more faces which are not parallel or back to back.

Nameplate means a sign which denotes only the name of the person occupying the premises.

New construction means, for the purpose of determining flood hazard 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" commences 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, for floodplain management purposes, 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.

Noncommercial message means a message that is not a commercial message.

Noncommercial sign means a sign directing attention to a purpose or cause not created or existing for the generation of profit or for the remuneration of individuals including, but not limited to, religious, charitable, civic or educational purposes or causes.

Nonconforming building (nonconforming structure) means a building or structure (or portion thereof) lawfully existing at the time of adoption of the ordinance from which this chapter derives, or subsequent amendment thereto, that does not conform to the provisions of this chapter relative to height, bulk, area, placement or yards for the district in which it is located.

Nonconforming use means the use of a building or structure or of a parcel or tract of land, lawfully existing at the time of adoption of this chapter or subsequent amendment thereto, that does not conform to the regulations of the district in which it is situated.

Off-premises sign means a sign which identifies a use, facility or service which is not located on the premises where such sign is displayed; identifies a product which is not produced, sold or manufactured on the premises where such sign is displayed; or advertises or otherwise directs attention to a product, service, activity, person, institution, facility or business which may or may not be identified by a brand name and which occurs or is primarily conducted, sold, manufactured, produced or offered elsewhere than on the premises where such sign is displayed.

On-premises sign means a sign which identifies the name of the owner or occupant of the premises on which the sign is located; identifies a use, facility or service located on the premises where such sign is displayed; identifies a product which produced, sold or manufactured on the premises where the sign is located; or advertises or otherwise directs attention to a product, service, activity, person, institution, facility or business which may or may not be identified by a brand name and which occurs or is primarily conducted, sold, manufactured, produced or offered on the premises where the sign is located.

Owner means any owner, authorized agent or contractor who constructs, enlarges, alters, repairs, moves or changes the occupancy of a building or structure.

Pavement width means the portion of the surface of the street available for vehicular traffic; if curbed, it is that portion of the street between the back of the curb and back of the curb.

Pawnshop shall have the meaning set out in V.T.C.A., Finance Code § 371.003.

Person means an individual, firm, partnership, corporation, company, association, joint stock association or governmental entity. It includes a trustee, receiver, assignee or similar representative of any of them.

Planned unit development (PUD). See *Unified development*.

Portable sign means a sign designed or constructed to be easily moved from one location to another, including signs mounted upon, or designed to be mounted upon, a trailer, bench, wheeled carrier or other motorized or nonmotorized mobile structure or vehicle, whether or not its wheels have been removed. For the purpose of this chapter, trailer signs and signs on benches are portable signs.

Principal use means the main use to which the premises are devoted and the principal use for which the premises exist.

Private street means a vehicular accessway under private ownership and maintenance providing access to building units in the interior of a lot.

Projecting sign means a sign which is affixed to a building wall or structure and which extends beyond the building wall or structure more than 12 inches.

Public improvement means one or more of the following: water lines and appurtenances, sewer lines and appurtenances, streets and/or drainage facilities.

Public right-of-way means any part of a right-of-way, not privately owned or controlled, which the city or other governmental agency is responsible for maintaining.

Public street means the entire width between property lines of any road, street, way, alley, bridge or other similar thoroughfare, not privately owned or controlled, which is open to the public for vehicular traffic and which the city or other governmental agency is responsible for maintaining.

Public utility means any person, firm or corporation, municipal department, board or commission duly authorized to furnish and furnishing under federal, state or municipal regulations to the public: gas, steam, electricity, sewage disposal, communication, telephone, telegraph, transportation or water.

Reader panel means a permanently constructed changeable copy bulletin board, lighted or unlighted, with detachable precut letters and figures.

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

Regulatory floodway means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

Reserve means a tract of land created within a plat that is not divided into lots or proposed for development at the time of platting.

Residential means a tract of land designed for or used exclusively to contain a dwelling unit. A primary residential area shall mean a street in which a majority of the total front footage is used for residential purposes.

Restaurant means an eating establishment whose primary function is the sale, dispensing or service of food, refreshments and beverages to customers, and which may sell alcoholic beverages as an accompaniment to meals served therein. All food must be prepared and cooked in a commercial kitchen on the premises. This may include such eating establishments as dining rooms, drive-in restaurants, fast food restaurants, cafes, cafeterias, and carryout restaurants, but specifically excludes bars, taverns, saloons, cabarets, or other similar establishments which derive 75 percent or more of the establishment's gross revenue from the on-premises sale of alcoholic beverages.

Retail shops and retail trade means a shop or establishment for the sale of goods or merchandise from a fixed location, such as a department store, boutique, or kiosk, in small or individual lots for direct consumption by the purchaser. "Retail shops or retail trade" specifically excludes a pawnshop.

Right-of-way means a street, alley or other thoroughfare or easement permanently established for passage of persons, vehicles or the location of utilities. The right-of-way is delineated by legally established lines or boundaries.

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

Roof sign means a sign erected or maintained above or on the sloped roof of any building or above the parapet wall or the mansard roof of a flat-roof building.

Roofline means the height above finished grade of the upper beam, rafter, ridge or purlin of any building.

School-age program center means a facility licensed by the State of Texas providing supervision and recreation, skills instruction, or skills training for at least two hours a day and three days a week to children attending pre-kindergarten through grade six. A school-age program operates before or after the customary school day and may also operate during school holidays, the summer period, or any other time when school is not in session (40 TAC § 745.37(2)(H)).

Screening means fences, walls, trees, shrubbery and other landscape elements used to conceal or interfere with the view and reduce noise impact thereof from adjacent properties and public rights-of-way at street level in accordance with the standards set forth in this chapter.

Service centers means a one-story building containing a minimum of 25 percent office space. The remaining space shall be used for other business functions governed by use regulations for District J.

Setback means the minimum unoccupied distance between the lot line and the principal and accessory buildings, as required in this chapter.

Setback, front means the minimum unoccupied distance, extending the full lot width, between the principal and accessory buildings and the front lot line.

Setback, rear means the minimum required unoccupied distance, extending the full lot width, between the principal and accessory buildings and the lot line opposite the front lot line.

Setback, side means the minimum required unoccupied distance, extending from the front setback to the rear setback, between the principal and accessory buildings and the side lot line.

Sign means any structure, part thereof or device of inscription which is located upon, attached to, or painted or represented on any land or on the outside of any building or structure, or on an awning, canopy, marquee or similar appendage, or displayed or shown so as to be seen from the outside of the

building or structure, and which displays or includes any numeral letter, work model, banner, emblem, insignia, symbol, device, monogram, heraldry, trademark, light or other representation used as or in the nature of an announcement, advertisement, attention arrester, direction warning or designation of any person, industry or activity, or any combination thereof.

Sign area means the total square footage of all sign faces, including that portion of the sign structure or trim which contains any wording, symbols, identifying color or pictures; provided, however, that in the case of a double-faced sign, the sign area shall be the total square footage of one face.

Sign face means the sign face area of any sign upon, against or through which the message is displayed or illustrated; provided, however, that the sign face area of a sign on which the words, letters or symbols are independently mounted shall be that of the smallest regular geometric form that will wholly contain all of the message. See Figure 14-19.

Sign structure means a structure which supports or is capable of supporting a sign. A sign structure may be a single pole and may or may not be an integral part of a building.

Single-family dwelling means a building containing only one dwelling unit and/or occupied by only one family or group of individuals included within the definition of family.

Single-occupant detached commercial or industrial building means a commercial or industrial building which contains a single occupant and which is not a part of an integrated business development or which is located in a reserve that is part of, but is physically separated by a distance of more than 50 feet from any other structure in, an integrated business development.

Site plan means a plan showing all salient features of a proposed development, so that it may be evaluated in order to determine whether it meets the provisions of this chapter.

Special flood hazard area (SFHA). See *Area of special flood hazard*.

Spectacular sign means a sign that has one or more of the following as elements in its physical structure:

- (1) Automatically changing advertising that changes more often than once every five minutes (not including date, time, temperature);
- (2) Blinking, rotating, moving, chasing, flashing, glaring, strobe, scintillating or spot lights, or similar devices;
- (3) Lights or colored elements creating a continuously moving, shimmering or prismatic effect; or
- (4) Rotating or moving parts.

Start of construction [for other than new construction or substantial improvements under the Coastal Barrier Resources Act (Pub. L. 97-348)], for flood hazard management purposes, 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.

Story means that part of a building between the surface of a floor and the ceiling immediately above.

Story, half means that which covers a floor area of not more than 50 percent of the floor area and the ceiling immediately above.

Street means any public or private street or easement used for access.

Street, arterial means roads of regional importance or the main roads of a community. Direct access is primarily limited to significant land uses.

Street, collector means that which provides access to nonresidential land uses and connects residential streets to the system's arterial streets.

Street, expressway means a road intended to serve interstate or high speed, high volume urban traffic. Access to an expressway is limited to other expressways and major streets.

Street frontage means the length of a lot or tract of land which is adjacent to a public or private street.

Streetline means the line establishing the outer most boundary of the street right-of-way.

Street, local means a street which provides access to adjacent land; characterized by low volume and low speeds.

Structural alterations means any change in the supporting members of a structure, such as bearing walls, columns, beams or girders.

Structure means anything constructed or erected, which requires location on the ground or attached to something having a location on the ground including, but not limited to, buildings of all types, advertising signs and billboards, but excluding basketball goals and ornamental yard lights. (See also the adopted building codes.)

Structure, for floodplain management purposes, means a walled and roofed building or structure, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home. This includes a fence or a wall per the adopted building codes.

Subdivision plat means a map or drawing of a proposed subdivision prepared in a manner suitable for recording in the county records and containing accurate and detailed engineering and survey data, dimensions, dedicatory statements and certificates.

(1) Preliminary plat: See section 14-55(1).

(2) Final plat: See section 14-55(2).

Substantial damage, for flood hazard management purposes, 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, for flood hazard management purposes, 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."

Temporary building means a building used for a temporary period of time in connection with construction on the premises of which it is located, real estate sales, and educational, municipal or church functions.

Temporary sign means a sign constructed of cloth, canvas, light fabric, cardboard, wallboard or other light material. A portable sign shall not be considered a temporary sign.

Townhouse means a structure which is one of a series of dwelling units designed and used for only single-family occupancy, ground to sky, with no entrances or exits to or from the adjoining structures, if any.

Underground shelter means any structure built primarily below ground level.

Unified development means the separate ownership of single units or apartments in a multiple unit structure with common elements. (See Vernon's Ann. Civ. St. art. 1301a.)

Use means the purpose or activity for which any land or building is designed, arranged or intended, or for which it is so occupied or maintained, and shall include any manner of such activity with respect to the standards of this chapter.

Utility structure means any structure built primarily for the storage of tools, such as garden and lawn equipment.

Variance, for flood hazard management purposes, 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.)

Violation, for flood hazard management purposes, 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 14-225 and in section 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) of the National Flood Insurance Program is presumed to be in violation until such time as that documentation is provided.

Wall line means the surface that connects the foundation to the roof.

Wall sign means a flat sign, either of solid face construction or individual letters, symbols or pictures, erected, installed or printed, which is placed against the exterior wall of any building or structure and which does not extend more than eight inches from the exterior wall and does not extend above the wall line.

Water surface elevation means the height, in relation to the North American Vertical Datum (NGVD) of 1988 (or other datum, where specified), of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

Watercourse means a definite channel of a stream in which water flows within a defined bed and banks, originating from a definite source. The water may flow continuously or intermittently, and if the latter, with some degree of regularity, depending on the characteristics of the source.

X Shaded Zone means areas subject to a 0.2 percent chance of flooding in any given year; areas of 1.0 percent annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.

X Unshaded Zone means areas of minimal flood hazard, outside of the 0.2 percent chance of flood.

Yard, front means the space enclosed by the front lot line, the side lot lines and a line parallel to the front lot line and even with the main building or any projections thereof, other than steps, or planter box.

Yard, rear means the space unoccupied, except for freestanding buildings between the rear of the main building (dwelling) and the rear lot line.

Yard, side means the open space between a building and the side lot lines, but not including any part of the front or rear yards.

Zero property line housing means housing commonly known as patio homes. It is a detached living unit constructed on a smaller lot in which one side of the unit is placed on the property line without openings. This concept utilizes the entire lot with a living unit that has a private side and rear yard. The front yard of the unit is reduced in size to contain the auto ingress and egress area along with the guest entry area.

Zoning district map means the map incorporated into this chapter and made a part of this chapter by reference thereto.

(Ord. No. 95-04, § 1(art. 12), 2-20-95; Ord. No. 98-24, § 1, 11-16-98; Ord. No. 99-04, § 1, 2-15-99; Ord. No. 99-17, § 2, 8-16-99; Ord. No. 00-11, §§ 1, 2, 3-20-00; Ord. No. 00-16, § 1, 5-15-00; Ord. No. 00-17, § 1, 5-9-00; Ord. No. 00-21, §§ 1, 2, 6-19-00; Ord. No. 01-30, § 10, 10-15-01; Ord. No. 02-33, § 1, 12-16-02; Ord. No. 03-24, § 1, 6-16-03; Ord. No. 2006-9, § 1, 2-20-06; Ord. No. 2009-22, § 3, 5-18-09; Ord. No. 2010-40, § 1, 8-23-10; Ord. No. 2010-55, § 1, 12-13-10; Ord. No. 2011-28, § 1, 6-20-11; Ord. No. 2013-10, § 1, 3-18-13; Ord. No. 2013-45, § 1, 12-16-13; Ord. No. 2013-46, § 1(Exh. A), 12-16-13; Ord. No. 2014-35, § 2, 10-20-14; Ord. No. 2017-28, § 2(Exh. A), 7-17-17; Ord. No. 2018-31, § 2(Exh. A), 12-17-18)

Cross reference— Definitions generally, § 1-2.

ORDINANCE NO. 2020-29

AN ORDINANCE OF THE CITY OF JERSEY VILLAGE, TEXAS, AMENDING THE CODE OF ORDINANCES OF THE CITY OF JERSEY VILLAGE, BY AMENDING, CHAPTER 14, "BUILDING AND DEVELOPMENT," ARTICLE XIII, "BUILDING CODE," DIVISION 1, "GENERALLY," SECTION 14-333, "FINISHED FLOOR ELEVATIONS;" AND SECTION 14-334 "RESERVED;" PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR REPEAL; PROVIDING FOR PENALTY; AND PROVIDING AN EFFECTIVE DATE.

* * * * *

WHEREAS, the Building Board of Adjustment and Appeals is charged with the responsibility for making recommendations to the City Council on any code changes brought before them dealing with the Building Code; and

WHEREAS, the Building Board of Adjustment and Appeals met on December 14, 2020 to discuss various changes affecting the Building Code at Sections 14-333 and 14-334; and

WHEREAS, the Building Board of Adjustment and Appeals has presented its Written Recommendations to City Council concerning recommended changes to Section 14-333 and Section 14-334; and

WHEREAS, the City Council of the City of Jersey Village desires to amend the Code of Ordinances of the City of Jersey Village, by amending, Chapter 14, "Building and Development," Article XIII, "Building Code," Division 1, "Generally," Section 14-333, "Finished floor elevations;" and Section 14-334, "Reserved;" in order to implement the changes recommended by the Building Board of Adjustment and Appeals; **NOW THEREFORE**,

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF JERSEY VILLAGE, TEXAS, THAT:

Section 1: The facts and matters set forth in the preamble of this Ordinance are found to be true and correct and are hereby adopted, ratified, and confirmed.

Section 2: Chapter 14, "Building and Development," Article XIII, "Building Code," Division 1, "Generally," Section 14-333, "Finished floor elevations;" and Section 14-334, "Reserved;" of the Code of Ordinances of the City of Jersey Village, are hereby amended by adding the language underlined and deleting the language struck through as outlined in Exhibit A which is attached hereto and made a part hereof.

Section 3. Severability. 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 than the part declared to be invalid or unconstitutional; and the City Council of the City of Jersey Village, 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, or whether there be one or more parts.

Section 4. **Repeal.** All other ordinances or parts of ordinances in conflict or inconsistent herewith are, to the extent of such conflict or inconsistency, hereby repealed.

Section 5. **Penalty.** Any person who shall violate any provision of this Ordinance shall be guilty of a misdemeanor and subject to a fine as provided in Section 1-8.

Section 6. **Effective Date.** This ordinance shall be in full force and effect from and after its passage.

PASSED, APPROVED, AND ADOPTED this 21st day of December 2020.

Andrew Mitcham, Mayor

ATTEST:

Lorri Coody, City Secretary



ARTICLE XIII. - BUILDING CODE

DIVISION 1. - GENERALLY

Sec. 14-333. - Finished floor elevations.

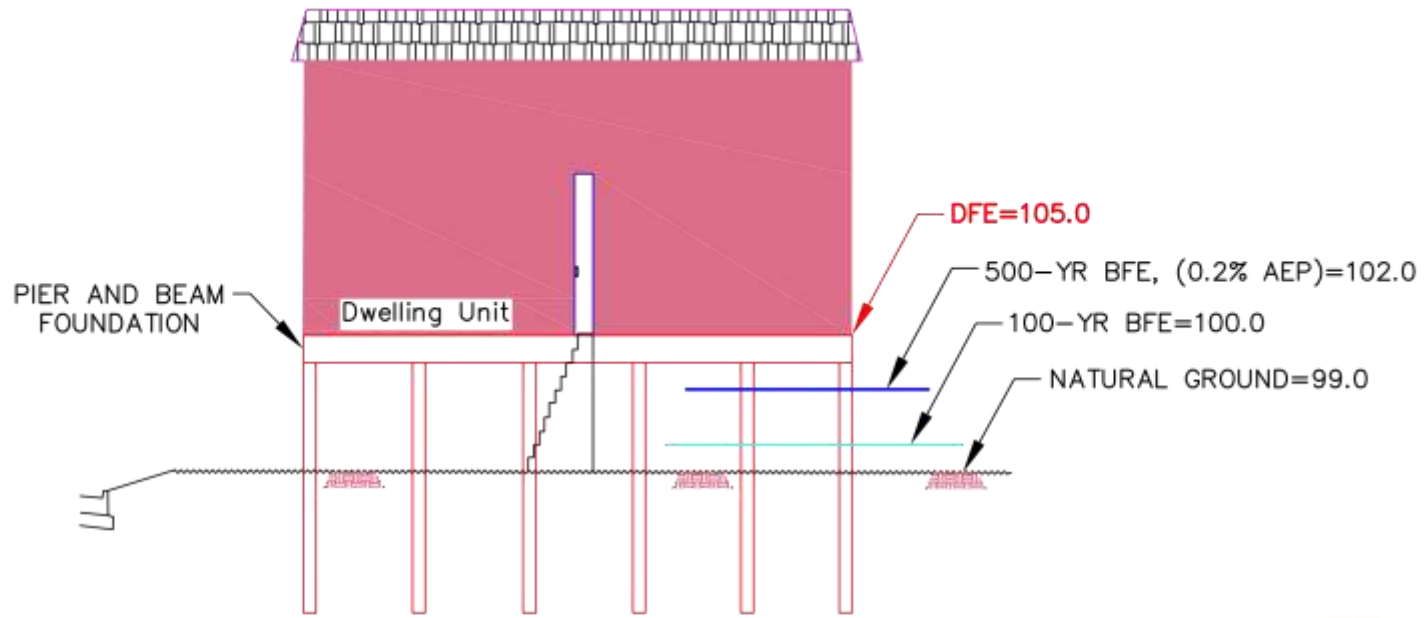
~~All residences shall be constructed on a concrete slab, piers, or on continuous concrete grade beams. For all areas, lowest finished floor elevations shall meet the minimum flood protection elevations. Refer to Table 14-5, Section 14-222 (5). The lowest finished floor elevation of all residences dwelling units shall be at least 12 inches above grade, and also shall be a minimum of 12 inches above the top of the curbline. For additions to existing dwelling units structures located outside of the 100-year floodplain, where the addition will directly communicate to the existing structure and where the lowest contiguous finished floor elevation is lower than 12 inches above grade, then the addition may match the existing lowest contiguous finished floor elevations, provided that: the finish floor elevation is at or above the minimum flood protection elevation; where so long as the provisions for protection against decay found in the International Residential Code and the International Building Code are met; where not in conflict with Table 14-5, Section 14-222 (5); and if where in compliance with the provisions found in sections 14-353 and 14-359, as applicable. For all areas, lowest finished floor elevations shall be a minimum of 18 inches above the 100-year base flood elevation. Streets and lots shall be graded so that all lots can be made to drain from the back of the lot toward the curbline. The lot grade from back to front shall be at least one percent except where rear lot elevations have been established at a lower elevation by previously developed lots to the rear, such lots having a common rear property line with the lot under consideration. When that condition makes general one percent grading impossible, a grading plan must be approved by the building official prior to issuance of a building permit. However, all lots which are adjacent and contiguous to a bayou shall be permitted to drain into the bayou. No additional net fill at each lot is permissible with the exception of fill for slab-on-grade foundation forms if located outside of the limits of the 100-year floodplain and minimal fill as determined by the city used to meet the International Residential Code or International Building Code requirements for drainage away from a structure if located outside of the limits of the 100-year floodplain. Soil cut and fill quantities shall be provided on the construction plans for all earthwork activities. This section shall not apply to foundations constructed before the effective date of Ordinance No. 96-02.~~

(Ord. No. 96-02, art. I, § 4-3, 2-19-96; Ord. No. 2011-14, § 5(Exh. E), 3-21-11; Ord. No. 201206, § 2, 2-20-12; Ord. No. 2013-20, § 2, 6-17-13)

Sec. 14-334. - Reserved. Minimum Flood Protection Elevation Details

LEGEND

DFE=DESIGN FLOOD ELEVATION
(36" FREEBOARD ABOVE 0.2%)
BFE=BASE FLOOD ELEVATION
EC=ELEVATION CERTIFICATE, WILL ALSO
VERIFY HAG, LAG, LOWEST ELEVATION
OF MACHINERY, EQUIPMENT, ETC.
AEP=ANNUAL EXCEEDANCE PROBABILITY
FFE=FINISHED FLOOR ELEVATION



FLOODWAY

DWELLING UNIT MINIMUM DESIGN FLOOD ELEVATION (or FFE)
EC REQ'D.

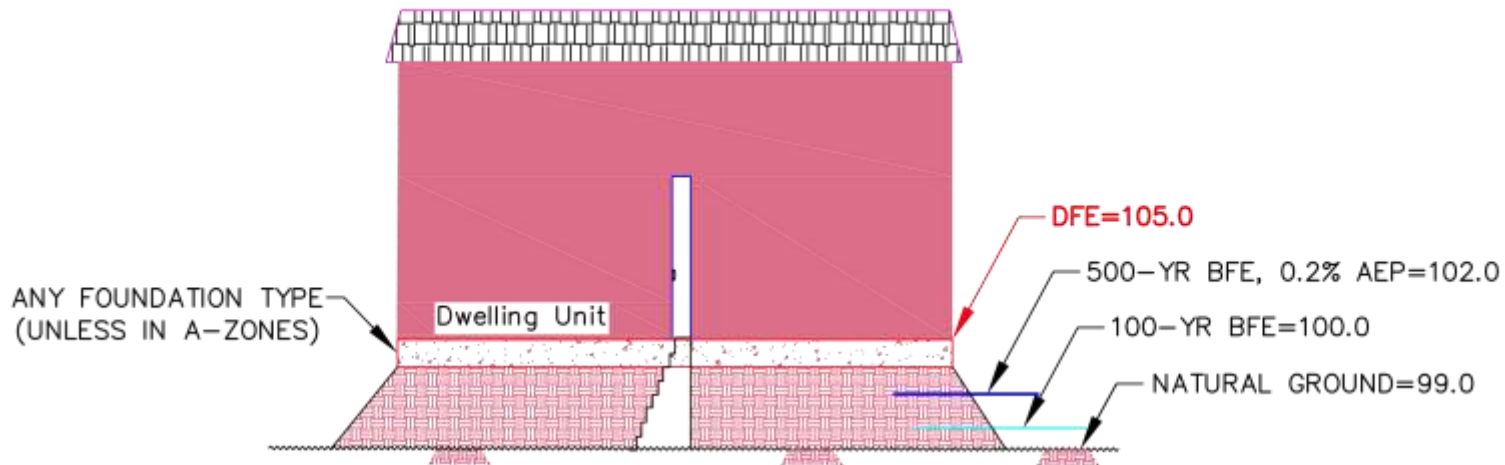
N.T.S.



12/2020

LEGEND

DFE=DESIGN FLOOD ELEVATION
(36" FREEBOARD ABOVE 0.2%)
BFE=BASE FLOOD ELEVATION
EC=ELEVATION CERTIFICATE, WILL ALSO
VERIFY HAG, LAG, LOWEST ELEVATION
OF MACHINERY, EQUIPMENT, ETC.
AEP=ANNUAL EXCEEDANCE PROBABILITY
FFE=FINISHED FLOOR ELEVATION



CRITICAL FACILITY

DWELLING UNIT MINIMUM DESIGN FLOOD ELEVATION (or FFE)
*OUTSIDE A-ZONES TO THE EXTENT POSSIBLE
EC REQ'D.

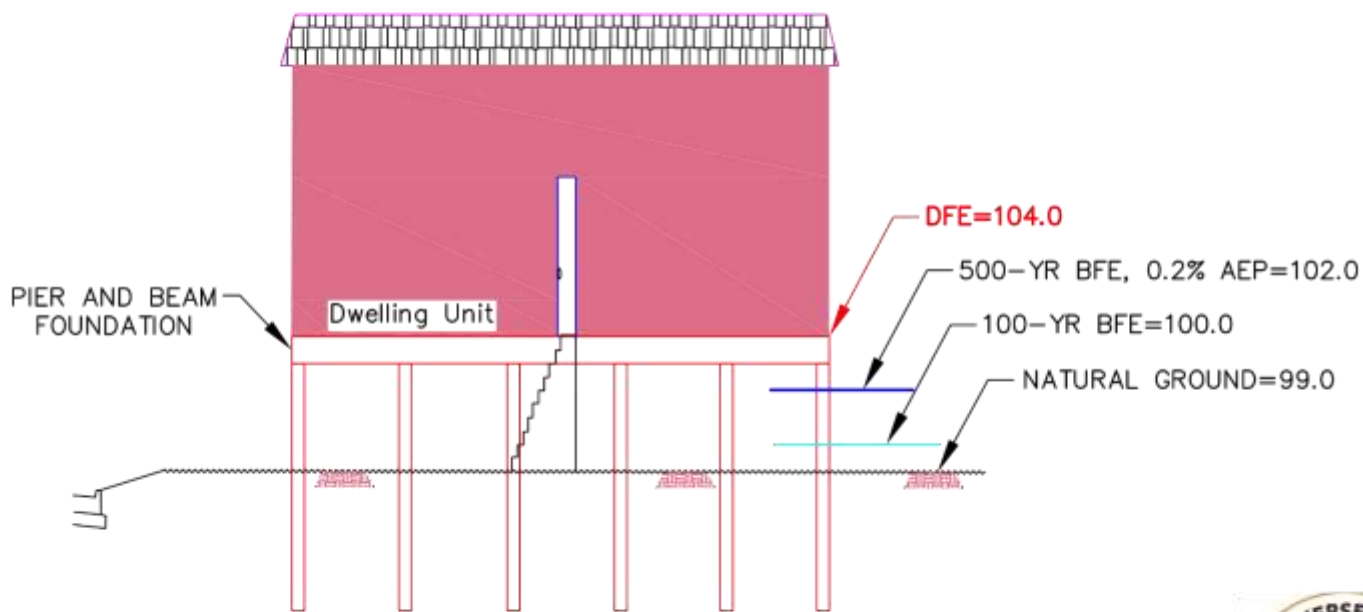
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12/2020

LEGEND

DFE=DESIGN FLOOD ELEVATION
(24" FREEBOARD ABOVE 0.2%)
BFE=BASE FLOOD ELEVATION
EC=ELEVATION CERTIFICATE, WILL ALSO
VERIFY HAG, LAG, LOWEST ELEVATION
OF MACHINERY, EQUIPMENT, ETC.
AEP=ANNUAL EXCEEDANCE PROBABILITY
FFE=FINISHED FLOOR ELEVATION



ZONE AE

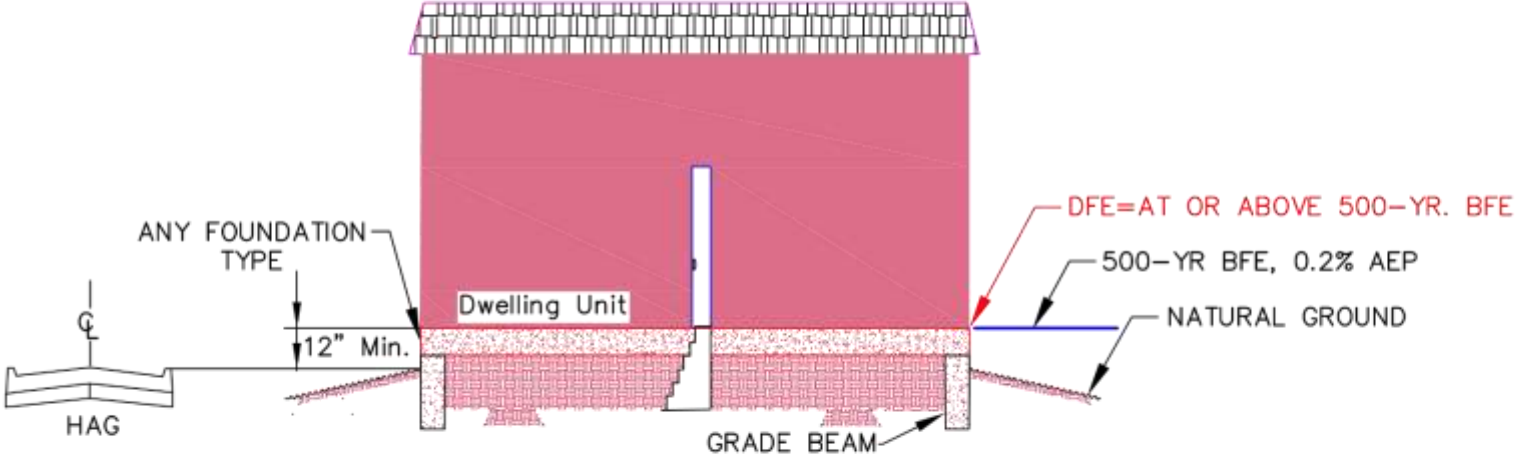
DWELLING UNIT MINIMUM DESIGN FLOOD ELEVATION (or FFE)
EC REQ'D.
N.T.S.



12/2020

LEGEND

- DFE=DESIGN FLOOD ELEVATION (FREEBOARD AT/ABOVE 0.2%)
- BFE=BASE FLOOD ELEVATION
- EC=ELEVATION CERTIFICATE, WILL ALSO VERIFY HAG, LAG, LOWEST ELEVATION OF MACHINERY, EQUIPMENT, ETC.
- AEP=ANNUAL EXCEEDANCE PROBABILITY
- FFE=FINISHED FLOOR ELEVATION



X-SHADED

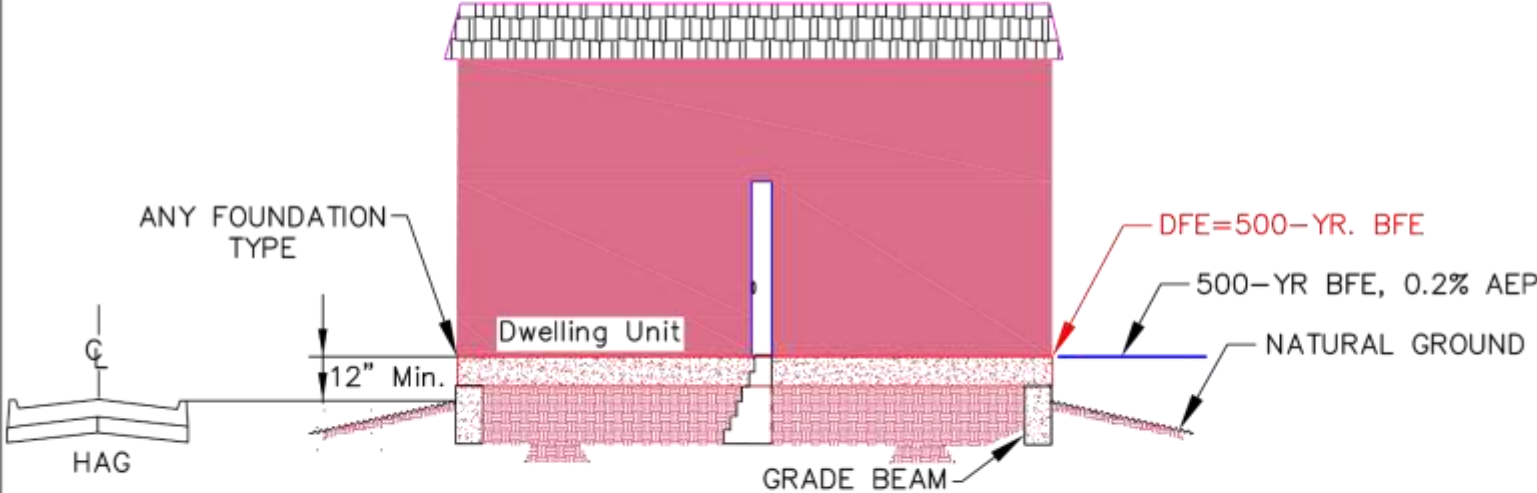
DWELLING UNIT MINIMUM FINISHED FLOOR ELEVATION
EC REQ'D.
N.T.S.



12/2020

LEGEND

- DFE=DESIGN FLOOD ELEVATION (FREEBOARD AT 0.2%)
- BFE=BASE FLOOD ELEVATION
- EC=ELEVATION CERTIFICATE, WILL ALSO VERIFY HAG, LAG, LOWEST ELEVATION OF MACHINERY, EQUIPMENT, ETC.
- AEP=ANNUAL EXCEEDANCE PROBABILITY
- FFE=FINISHED FLOOR ELEVATION



X-UNSHADED

DWELLING UNIT MINIMUM DESIGN FLOOD ELEVATION (or FFE)
EC REQ'D.
N.T.S.



12/2020

ORDINANCE NO. 2020-30

AN ORDINANCE OF THE CITY OF JERSEY VILLAGE, TEXAS, AMENDING THE CODE OF ORDINANCES OF THE CITY OF JERSEY VILLAGE, BY AMENDING, CHAPTER 14, “BUILDING AND DEVELOPMENT,” AT SECTION 14-152, “DRAINAGE/FLOODWAY EASEMENTS;” SECTION 14-221, “PERMIT TO CONSTRUCT STORM WATER IMPROVEMENTS;” SECTION 14-222, “GENERAL PROVISIONS;” SECTION 14-223, “DESIGN CRITERIA;” SECTION 14-225, “FLOOD DAMAGE PREVENTION;” SECTION 14-226, “STORMWATER DETENTION;” AND SECTION 14-359, “LOCAL AMENDMENTS TO THE INTERNATIONAL RESIDENTIAL CODE;” PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR REPEAL; PROVIDING FOR PENALTY; AND PROVIDING AN EFFECTIVE DATE.

* * * * *

WHEREAS, the Building Board of Adjustment and Appeals is charged with the responsibility for making recommendations to the City Council on any code changes brought before them dealing with the Building Code; and

WHEREAS, the Building Board of Adjustment and Appeals met on December 14, 2020 to discuss various changes affecting the Building Code at Sections 14-152,14-221, 14-222, 14-223, 14-225, 14-226 and 14-359; and

WHEREAS, the Building Board of Adjustment and Appeals has presented its Written Recommendations to City Council concerning recommended changes to Sections 14-152,14-221, 14-222, 14-223, 14-225, 14-226 and 14-359; and

WHEREAS, the City Council of the City of Jersey Village desires to amend the Code of Ordinances of the City of Jersey Village, by amending, Chapter 14, “Building and Development,” at Section 14-152, “Drainage/Floodway Easements;” Section 14-221, “Permit to Construct Storm Water Improvements;” Section 14-222, “General Provisions;” Section 14-223, “Design Criteria;” Section 14-225, “Flood Damage Prevention;” Section 14-226, “Stormwater Detention;” and Section 14-359, “Local Amendments to the International Residential Code” in order to implement the changes recommended by the Building Board of Adjustment and Appeals; **NOW THEREFORE**,

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF JERSEY VILLAGE, TEXAS, THAT:

Section 1: The facts and matters set forth in the preamble of this Ordinance are found to be true and correct and are hereby adopted, ratified, and confirmed.

Section 2: Chapter 14, “Building and Development,” Section 14-152, “Drainage/Floodway Easements;” Section 14-221, “Permit to Construct Storm Water Improvements;” Section 14-222, “General Provisions;” Section 14-223, “Design Criteria;” Section 14-225, “Flood Damage Prevention;” and Section 14-226, “Stormwater Detention” are hereby amended by adding the language underlined and deleting the language struck through as outlined in Exhibit A which is attached hereto and made a part hereof.

Section 3: Chapter 14, “Building and Development,” Section 14-359, “Local Amendments to the International Residential Code,” is hereby amended by adding the language underlined and deleting the language struck through as outlined in Exhibit B which is attached hereto and made a part hereof.

Section 4. Severability. 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 than the part declared to be invalid or unconstitutional; and the City Council of the City of Jersey Village, 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, or whether there be one or more parts.

Section 5. Repeal. All other ordinances or parts of ordinances in conflict or inconsistent herewith are, to the extent of such conflict or inconsistency, hereby repealed.

Section 6. Penalty. Any person who shall violate any provision of this Ordinance shall be guilty of a misdemeanor and subject to a fine as provided in Section 1-8.

Section 7. Effective Date. This ordinance shall be in full force and effect from and after its passage.

PASSED, APPROVED, AND ADOPTED this 21st day of December 2020.

Andrew Mitcham, Mayor

ATTEST:

Lorri Coody, City Secretary



ARTICLE VI. - PUBLIC EASEMENT STANDARDS

Sec. 14-152. - Drainage/floodway easements.

The developer shall provide drainage easements along all natural and manmade drainage channels and floodways which drain two or more lots or tracts of land according to the following criteria:

- (1) Open drainage channels in accordance with the requirements of the county flood control district.
- (2) Enclosed drainage systems. Where enclosed drainage systems are provided that are not within or adjacent to a public street, the developer shall provide storm drainage easements of 20-foot minimum width. Easements shall be centered on the system. If necessary, the developer shall provide larger easements.
- (3) See also article IX of this chapter.

Floodplain Restriction

No construction, without the written prior approval of the city shall be allowed within a floodplain, and then only after detailed engineering plans and studies show that no flooding and no obstruction to the natural flow of water will result. If construction is permitted, all finished floor elevations shall, at be a minimum, meet or exceed the minimum flood protection elevation of Table 14-5 of 18 inches above the 100-year base flood elevation.

The existing creeks, lakes, reservoirs or drainage channels, not within a public easement, traversing along or across portions of this subdivision, shall remain as an open channel at all times and shall be maintained by the individual owners of the lots that are the individual owners of the lots that are traversed by or adjacent to the drainage courses along or across such lots. The city shall not be responsible for the maintenance and operation of such private drainageways or for the control of erosion. Each property owner shall keep the natural drainage channels traversing or adjacent to the property clean and free of debris, silt or any substance which would result in unsanitary conditions. The city shall have the right of ingress and egress for the purpose of inspection and supervision of maintenance work by the property owner and to alleviate any undesirable conditions that may occur. The natural drainage channels are subject to stormwater overflow and natural bank erosion to an extent that cannot be definitely defined, the city shall not be liable for damages of any nature resulting from the occurrence of these natural phenomena, nor resulting from a failure of any structures within the natural drainage channels. The natural drainage channel crossing each lot is shown by the floodplain easement line as shown on the plat.

- (4) See also article IX of this chapter.

(Ord. No. 95-04, § 1(502), 2-20-95; Ord. No. 2011-14, § 2(Exh. B), 3-21-11)

ARTICLE IX. – STORM DRAINAGE AND FLOOD DAMAGE PREVENTION

Sec. 14-221. - Permit to construct storm water improvements.

- (a) *Public improvement permit required.* A person commits an offense if he constructs, alters or removes any public storm water improvement without a permit for the work from the city.
- (b) *Application procedures.* The developer shall submit an application for the permit on standard forms provided by the city. The application shall be accompanied by three complete sets of proposed construction documents. Such plans and one set of construction cost estimates shall bear the seal of an engineer registered in the state and shall be prepared in accordance with the latest city standards.

(c) *Issuance and fees.* A permit for construction, alteration or removal of public improvements can be issued upon approval of the engineered documents and cost estimates for the work and payment of a plan checking and inspection fee in accordance with the duly adopted schedule of fees.

(d) *Construction documents.*

(1) *Storm drainage construction plans.* The developer shall submit storm drainage plans as part of a complete construction document package showing the information specified as follows:

a. A plan and profile of proposed storm sewers or channels, showing hydraulic data, pipe grades and sizes, manholes, inlets, pipe connections, outlet structures, etc., in conformance with the criteria established in this article. All plans shall show existing and proposed topography with a minimum of two contour lines with at least one-foot intervals and all existing public improvements (streets, sewer, water, etc.) and public easements. Existing and proposed private improvements shall be shown including but not limited to building foundations, patios, decks, swimming pools, drives, parking lots, walks, landscape areas, etc. Surveyed spot elevations within the property shall be provided in a grid pattern with a maximum distance of 25 feet between points and along the property line at intervals of 25 feet. No elevations changes shall occur around the perimeter of the property.

Each plan shall show the seal and signature of an engineer registered in the state who prepared the plans. Each sheet shall include north point, scale (minimum engineering scale one inch to 40 feet), date and benchmark description to sea level datum. All elevations must be referenced to the datum used for the effective Flood Insurance Rate Maps published by the Federal Emergency Management Agency.

b. A general location map of the tract showing the entire watershed (a USGS quadrangle is satisfactory).

c. Calculations showing the anticipated stormwater flow, including watershed area, runoff coefficient and time of concentrations shall be included on the plans and submitted showing basis for design of all improvements. Drainage areas shall be clearly delineated on a drainage map.

d. Detailed plans for any bridges, culverts, catchbasins, any other drainage structures, or any other improvements to be made. Hydraulic grade lines shall be shown on profiles and computations shall be included on the plans.

e. Upon completion of construction, the developer must submit an as-built plan set to the city to verify the construction was completed in accordance with the approved plans. The city will not issue a certificate of occupancy after the completion of construction until an as-built plan has been submitted and approved by the city.

(2) *Design summary.* The developer shall submit a separate report entitled "Engineering Design Summary" with final plans and specifications for construction of public improvements, and shall summarize calculations and such other engineering information pertaining to the major items of design significance as may be necessary in the city's review of the plans and specifications to determine whether the facilities proposed for construction have been designed in accordance with the intent of the city's design criteria. Calculations shall include drainage facilities, water demand, sewage flows and any others considered necessary by the city.

(3) *Format.*

a. The developer shall submit all improvement plans to the city on sheets 24 inches by 36 inches. A binding margin shall be provided of not less than one and one-half inches on the left side of the sheet and margins not less than one-half inch on the three other sides. Other media may be accepted if approved by the city prior to submission.

b. Upon approval by the city and by the county flood control district (if required), of the engineering plans and conditional approval of the final subdivision plat, the developer will be issued a permit to construct public improvements.

- c. Upon completion of the required public improvements, the developer's engineer registered in the state shall present to the city ~~high quality, reproducible drafting film (four mils thick) of complete~~ as-built plans for all paving, drainage structure, storm drains, water lines and sewer lines within 30 days of the completion of each contract. The engineer registered in the state shall confirm in writing that the as-built plans are in fact true representations of the actual construction.
- d. The city shall not accept ownership or maintenance of any public improvements until the developer submits all final plats, all as-built plans and a one-year maintenance bond relating to the project to the city.

(Ord. No. 00-11, § 3, 3-20-00; Ord. No. 2011-14, § 3(Exh. C), 3-21-11)

Sec. 14-222. - General provisions.

The developer shall design and construct drainage facilities in accordance with this article. The following design criteria are the city's minimum methods and standards. Other hydrologic and hydraulic design methods may be used to satisfy drainage requirements with prior approval of the city:

- (1) *Channel design.* The developer shall design all channels in accordance with county flood control district criteria and shall have such designs approved by the Harris County Flood Control District (HCFCD) and by the city's public works department and floodplain administrator.
- (2) *Discharge points.* The developer shall terminate all drainage improvements at a discharge point approved by the HCFCD.
- (3) *Public streets as drainage facilities.* The maximum depth of water to be allowed in local streets at a ~~three~~two-year design flow shall be at the top of the crown, or the top of the curb, whichever is least. The maximum spread of water in collector streets at ten-year design flow shall allow for one clear lane of traffic (12 feet wide). The maximum spread of water in arterial streets at ten-year design flow shall allow for two clear lanes of traffic (24 feet wide).
- (4) *Storm drainage systems.* The developer shall install an underground storm drain on curb and gutter streets beginning at the point where the calculated stormwater runoff is of such a quantity that it exceeds the height specified above (~~see also table 14-8~~). The developer shall construct the storm drain system from this point to an approved outlet. The developer shall design and construct storm drainage facilities to terminate at an outlet approved by HCFCD.
- (5) *Habitable structures.* The developer shall provide adequate means for stormwater runoff in excess of the streets' designed storm capacity (i.e., ~~three~~two, ten-year storm) to flow around habitable structures. New habitable structures and additions shall meet or exceed the minimum flood protection elevations as shown in Table 14-5.
 - a. If adjacent topography rises away from the street, the developer shall provide a grading/drainage plan which shows that all building sites can provide a finished floor elevation:
 - 1. At least one foot above the top of the curb using the highest point along the portion of such curb fronting the building site; or
 - 2. At least 18-inches above the top of ditch elevation, using the highest point along the portion of such ditch fronting the building site.
 - 3. The lowest finished floor elevation shall, at be a minimum, meet or exceed the criteria of Table 14-5 of 18-inches above the 100-year (one percent probability) storm base flood elevation as determined by the effective Flood Insurance Rate Maps and Flood Insurance Studies published by the Federal Emergency Management Agency. Areas outside of the FEMA regulatory floodplain limits shall, also provide at a minimum, meet or exceed the criteria of Table 14-5 of 18-inches above the 100-year (one percent probability) base flood elevation. An engineer or surveyor registered with the State of

Texas shall provide documentation that this requirement is met. An Elevation Certificate, ~~FEMA Form 81-31, dated March 2009 or subsequent revisions~~ shall be filed upon completion of the construction and prior to the issuance of a certificate of occupancy.

4. All residential lots shall be sloped from back-to-front at a minimum grade of one percent.
 - b. If adjacent topography falls away from the street, the developer shall provide a grading/drainage plan which shows that all building sites can provide a finished floor elevation at least one foot above the ground elevation along all sides of the building site and, at a minimum, meet or exceed the criteria of Table 14-5 ~~of 18 inches above the 100-year (one percent probability) base flood elevation.~~
 - c. The developer shall design and construct all streets to minimize any fill required to bring building pads into compliance with this chapter.
 - d. The lowest finished floor elevations shall meet or exceed the criteria of Table 14-5 ~~within the 100-year floodplain shall be set a minimum of 18 inches above the 100-year (one percent probability) base flood elevation as determined by the most recent flood insurance rate maps.~~
 - e. Alternate methods of building protection of those above may be accepted by the city upon submittal of detailed, engineered plans.

TABLE 14-5

MINIMUM FLOOD PROTECTION ELEVATION REGULATIONS

See minimum flood elevation protection graphics at Section 14-334.

Minimum Flood Protection Elevation Regulations

See also Section 14-333 of the Code of Ordinances

Special Flood Hazard Area	Design Flood Elevation (DFE) (Freeboard Above .2%)	Foundation Type	FF Proof
Floodway	+36 inches	Pier & Beam	EC (CD, BUC, FC)
Critical Facility	+36 inches	Any, unless in A-zones	EC (CD, BUC, FC)
<i>*Located outside of A-zones, to the extent possible</i>			
AE	+24 Inches	Pier & Beam	EC (CD, BUC, FC)
X-Shaded	At or above the 500 yr. floodplain elevation	Any	EC (CD, BUC, FC)
X-Unshaded	No additional above .2%	Any	EC (CD, BUC, FC)

Legend:
FF= Finished Floor Elevation
EC= Elevation Certificate

Types of EC: Construction Drawings (CD); Building Under Construction (BUC); Finished Construction (FC). The final Finished Construction EC will also verify Highest Adjacent Grade (HAG), Lowest Adjacent Grade (LAG), lowest elevation of machinery and equipment, etc.

- (6) *Drainage system criteria.* Storm drainage shall be by curb and gutter and underground pipe network. Flow velocities shall be between three and eight feet per second in the pipe.
- (7) *Bridges and box culverts.* The developer shall design and construct bridges and box culverts on all street crossings over all drainageways and floodways in accordance with HCFCD criteria.
- (8) *Valley gutters.* The developer shall provide concrete valley gutters if the gutter flow must be carried across intersections of curbed streets.
- (9) *Public easements required.* All public drainage facilities shall be placed in public easements as described in article VI of this chapter.

(Ord. No. 00-11, § 3, 3-20-00; Ord. No. 2011-14, § 3(Exh. C), 3-21-11)

Sec. 14-223. - Design criteria.

- (a) *Basis for discharge.* The developer shall design drainage improvements for watersheds less than 640 acres based on flood discharges determined from the Rational Formula. The Rational Formula for calculating storm flows is shown in figure 14-10. All outfalls and channels shall be designed in accordance with HCFCFCD criteria. Drainage areas in excess of 640 acres shall be analyzed in accordance with the HCFCFCD criteria.
- (b) *Determination of time of concentration.* The time of concentration may be calculated based on the average runoff velocities shown in table 14-7.
- (c) *Storm frequency.* Design storm frequencies for storm drainage improvements are shown in table 14-9.
- (d) *Underground drainage facility design.* The developer shall calculate underground drainage facility (storm drain) capacity by Manning's Formula (table 14-8).

TABLE 14-7
VELOCITY OF RUNOFF

	Velocity of Runoff in Feet per Second for Slope in Percent			
Description of Watercourse (% Slope)	0 to 3	4 to 7	8 to 11	Over 12
Overland surface drainage (ft./sec.)	5	10	15	18
Channels	Determine V by Manning's Formula			
Storm sewers	Determine V by Manning's Formula			

For street or gutter flow, the velocity shall be based on the grade of the street. In the absence of detailed calculation by Manning's Formula for the specific street section, the average velocities shown in table 14-8 may be used.

FIGURE 14-10
THE RATIONAL FORMULA

$$Q = CIA,$$

where:

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Q =	the maximum storm flow rate at a given point (in cubic feet per second);
C =	a runoff coefficient which varies with the topography, land use and moisture content of the soil at the time. The runoff coefficient shall be based on the ultimate use of the land. The runoff coefficient can be selected from the major use classification shown below.

Shopping centers		0.95
Business areas		0.80
Industrial areas		0.70
Residential areas		
(1) Less than 2 lots/acre		0.40
(2) Greater than 2 lots/acre but less than 4 lots/acre		0.50
(3) Greater than 4 lots/acre but less than 8 lots/acre		0.60
(4) Greater than 8 lots/acre		0.75
Multifamily residential		0.75
Park and open space		0.30

I =	the average intensity of rainfall in inches per hour for a period equal to the time of concentration of flow from the farthest point of the drainage area to the point under consideration.	

$$t = b / (t + d)^e$$

For IDF curves, TxDOT⁴ uses a formula for approximating the intensity-duration-frequency curve. The formula is

$$i = \frac{b}{(t_c + d)^e} \quad (3)$$

⁴TxDOT Hydraulic Design Guidelines, <http://manuals.dot.state.tx.us/dynaweb/colbridg/hyd>

where:

d = 7.8 and

	3-year	5-year	10-year	25-year	50-year
b =	69.3	73	80	84	94
e =	0.783	0.778	0.759	0.739	0.740
t =	time of concentration in minutes				

Coefficient	50 % AEP 2-Year	20 % AEP 5-Year	10 % AEP 10-Year	4 % AEP 25-Year	2 % AEP 50-Year	1 % AEP 100-Year	0.2 % AEP 500-Year
Region 3							
e	0.7244	0.6900	0.6623	0.6294	0.6096	0.5797	0.5196
b (in.)	48.35	52.32	54.68	57.79	61.00	60.66	62.17
d (min.)	9.07	7.88	6.96	5.89	5.46	4.44	2.95

AEP - annual exceedance probability

A =		the drainage area, in acres, tributary to the point under design calculated from the drainage map of the area. This drainage map shall be submitted with any drainage plans submitted for consideration by the city.

TABLE 14-8
AVERAGE VELOCITIES OF RUNOFF

Slope of Gutter (percent)	Assumed Velocity (feet/second)
0.3	1.2
0.5	1.5
1.0	2.2
2.0	3.1
3.0	3.8
4.0	4.3
5.0	4.9
6.0	5.3
8.0	6.1
10.0	6.9

Using the average velocities in table 14-8, the developer shall calculate the time of concentration by the formula shown in figure 14-12 or by other recognized formulas such as the Texas Department of Transportation formulas unless more data is shown on the plans for calculating time of concentration.

TABLE 14-9
DESIGN STORM FREQUENCY

Type of Facility	Description of Area to be Drained	Minimum Design Frequency (years)
Streets and storm sewers or side ditches, combined*	Residential**, commercial and industrial	Local— 3 <u>2</u> Collector—5 Arterial—10
Culverts, bridges, channels and creeks	Any type of area less than 640 acres	100

* If in a storm drain system, an inlet is located at a low point so that flow in excess of the storm drain capacity would be directed onto private property, and such overflow could cause damage or serious inconvenience, in the opinion of the city, the design frequency shall be 25 years.

** Residential includes new or teardown and reconstruction on single family lots.

¹FIGURE 14-11
MANNING'S FORMULA

$$Q = 1.486 * A * R^{2/3} * S^{1/2} / n$$

The volume flow in the channel can be calculated as

$$q = A v = (k_n / n) R_h^{2/3} S^{1/2}$$

where:

Q = the discharge in cubic feet per second;

A = the cross sectional area of flow in square feet;

R = the hydraulic radius in feet = area/wetted perimeter;

S = the slope of the hydraulic gradient in feet per foot;

n = the coefficient of roughness.

Manning's equation can be used to calculate average velocity flow in open channel

$$v = (k_n / n) R_h^{2/3} S^{1/2}$$

where

¹ Engineering ToolBox, (2004). *Manning's Formula for Gravity Flow*. [online] Available at: https://www.engineeringtoolbox.com/mannings-formula-gravity-flow-d_800.html

$v = \text{cross-sectional mean velocity (ft/s, m/s)}$

$k_n = 1.486 \text{ for English units and } k_n = 1.0 \text{ for SI units}$

$n = \text{Manning coefficient of roughness}$

$R_h = \text{hydraulic radius (ft, m)}$

$S = \text{slope - or gradient - of pipe (ft/ft, m/m)}$

Hydraulic radius can be expressed as

$$R_h = A/P_w$$

where

$A = \text{Cross sectional area of flow (ft}^2, \text{m)}$

$P_w = \text{wetted perimeter (ft, m)}$

- Flow Section Channels- Geometric Relationships

The volume flow in the channel can be calculated as

$$q = A v = (k_n/n) R_h^{2/3} S^{1/2}$$

where

$q = \text{volume flow (ft}^3/\text{s, m}^3/\text{s)}$

The elevation of the hydraulic gradient of the storm sewer shall be below the elevation of the adjacent street gutter. The developer shall use stormwater pipe sized so that the average velocity in the pipe is between three and eight feet per second. Tail water conditions at the outfall of the system shall be no less than the proposed top of pipe of the receiving system.

FIGURE 14-12
TIME OF CONCENTRATION

$T_c = D/(V \times 60)$ Example: If $D=100'$, $V=1.2\text{fps}$, then: $T_c=100'/(1.2\text{fps} \times 60) = (100'/72\text{fpm}) = 1.39 \text{ min.}$
 $1.39 \text{ min.} < 10 \text{ min.}$, therefore $T_c=10 \text{ min.}$

$T_c = D/(V \times 60)$ Example: If $D=100'$, $V=1.2\text{fps}$, then: $T_c=100'/(1.2\text{fps} \times 60) = (100'/72\text{fpm}) = 1.39 \text{ min.}$
 $1.39 \text{ min.} < 10 \text{ min.}$, therefore $T_c=10 \text{ min.}$

+10

where:

T _c	=	Time of concentration in minutes for use in figure 14-11 <u>10</u> . The minimum time of concentration shall be ten minutes.
D	=	Distance in feet from point of concentration to the hydraulically most distant part of the drainage basin under construction.
V	=	Velocity in feet per second from table 14-1 <u>14.7, 14.8</u> or velocity calculated by an engineer for streets and/or storm sewers.

- (1) All new construction or substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy; and
- (2) All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage.
- (3) Storm water flows shall be contained within the property and discharged to a public right-of-way. Acceptable methods to contain flows include use of adequately sized swales, curbs, area inlets, or methods that will contain flows on the development parcel and prevent spill over onto adjacent private property. Fence lines shall be designed to avoid impeding storm water flows within the side lot swales. All swales must be contained within the development parcel unless a recorded easement is provided.
- (4) Storm water flows up to the city's design storm shall not go onto an adjacent private property without a drainage easement recorded at the Harris County Clerk's office. No private agreements between property owners will be allowed unless recorded at the county clerk's office and approved by the city.
- (5) The use of French drains are not permissible as a drainage element to contain and convey flows to public rights-of-way.
- (6) Area drains shall have a minimum grate size of 12 inches by 12 inches and be designed to accommodate the full design storm. Cleanouts shall be provided at all junctions and at every bend.
- (7) For single family residential developments, roof drains may be tied into a storm sewer system. All tie in points shall be identified on the construction plans. A minimum pipe diameter of four inches shall be allowed for one roof drain. A minimum pipe diameter of six inches shall be allowed for up to four roof drains. For all other land uses, roof drains shall be properly sized by a registered engineer or architect. The minimum pipe sizes listed for single family developments shall also be used.

TABLE 14-10
COEFFICIENT OF ROUGHNESS ⁽¹⁾

Open Channels	Maximum Permissible Velocity in Feet/Second	Coefficient "n"

Paved			
	Concrete	15	0.011 to 0.020
	Asphalt	15	0.013 to 0.017
	Rubble or riprap	15	0.017 to 0.030
Earth ⁽²⁾			
	Bare, sandy silt, weathered	2.0	0.020 to 0.150
	Silt clay or soft shale	3.5	0.020 to 0.150
	Clay	6.0	0.020 to 0.150
	Soft sandstone	8.0	0.020 to 0.150
	Clean gravelly soil	6.0	0.030 to 0.150
Turf			
	Shallow flow	6.0	0.06 to 0.08
	Depth of flow over 1 foot	6.0	0.04 to 0.06

⁽¹⁾ Coefficient of roughness in accordance with HCFCD criteria, if required.

⁽²⁾ Will vary with straightness of alignment, smoothness of bed and side slopes, and whether channel has light vegetation or is choked with weeds and brush.

(Ord. No. 00-11, § 3, 3-20-00; Ord. No. 2011-14, § 3(Exh. C), 3-21-11)

Sec. 14-224. - Reserved.

Sec. 14-225. - Flood damage prevention.

(a) *Permit required.*

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

- (2) A floodplain development permit shall be required to ensure conformance with the provisions of this chapter. This chapter shall apply to all areas of special flood hazard within the jurisdiction of the City.
 - (3) The developer shall obtain a floodplain development permit from the city prior to locating, altering, or changing the use of any structure or land within an area of special flood hazard.
 - (4) An application for a permit shall be accompanied by the payment of a fee in accordance with the duly adopted schedule of fees.
 - (5) This chapter is not intended to repeal, abrogate, or impair any existing easements, covenants or deed restrictions. However, where this chapter and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.
- (b) *Designation of flood hazard zones.* The areas of special flood hazard identified by the Federal Emergency Management Agency (FEMA) in the current scientific and engineering report entitled, The Flood Insurance Study (FIS) of Harris County, Texas and Incorporated Areas, dated November 15, 2019 with accompanying Flood Insurance Rate Maps (FIRM) dated November 15, 2019, and any revisions thereto are hereby adopted by reference and declared to be a part of this chapter.
 - (c) *Designation of the floodplain administrator.* The director of public works, or the director's designated agent, is hereby appointed the floodplain administrator to administer and implement the provisions of this chapter and other appropriate sections of 44 CFR (Emergency Management and Assistance - National Flood Insurance Program Regulations) pertaining to floodplain management.
 - (d) *Duties and responsibilities of the floodplain administrator.* Duties and responsibilities of the floodplain administrator shall include, but not be limited to, the following:
 - (1) Maintain and hold open for public inspection all records pertaining to the provisions of this chapter.
 - (2) Review permit applications to determine whether proposed building sites and projects, including the placement of manufactured homes, will be reasonably safe from flooding.
 - (3) Review, approve or deny all applications for [floodplain] development permits required by adoption of this chapter.
 - (4) Review permits for proposed development to ensure that all necessary permits have been obtained from those federal, state or local governmental agencies (including but not limited to section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 USC 1334, and the Endangered Species Act of 1973) from which prior approval is required.
 - (5) Determine the flood hazard boundary line, 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).
 - (6) Notify, in riverine situations, adjacent communities and the state coordinating agency (the Texas Water Development Board and the Texas Commission on Environmental Quality), prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.
 - (7) Ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained.
 - (8) 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 the section when base flood elevation data has not been provided in accordance with subsection (b) of this section.
 - (9) Require that no new construction, substantial improvements or other development (including fill) shall be permitted within flood hazard zones A1-30 and AE on the city's flood insurance rate maps [FIRM], when a regulatory floodway has not been designated, 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 elevations of the base flood by more

than one foot at any point in the city, that the proposed development complies with all of the provisions of 44 CFR Chapter 1, Section 65.12, and that the proposed development shall meet the requirements of the Harris County Flood Control District.

- (10) In the interpretation and application of this chapter, all provisions shall be:
 - a. Considered as minimum requirements;
 - b. Liberally construed in favor of the city; and
 - c. Deemed neither to limit nor repeal any other powers granted under State law.
 - (11) The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On occasions greater floods can and will occur and 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 or any official or employee thereof that result from reliance on this chapter or any administrative decision made hereunder.
- (e) *Permit procedures for flood hazard zone areas.*
- (1) Application for a floodplain development permit shall be presented to the floodplain administrator on forms furnished by the city and may include, but not be limited to, site plans [as described in subsection 14-6(d)] and 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:
 - a. Elevation (in relation to sea level datum) of the lowest floor (including the basement) of all new and substantially improved structures;
 - b. Elevation in relation to mean sea level to which any nonresidential structure shall be floodproofed;
 - c. A certificate from an engineer or architect registered in the state that the nonresidential floodproofed structure shall meet the floodproofing criteria of subsection (h)(2) below;
 - d. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development; and
 - e. Maintain a record of all such information in accordance with subsection (d)(1) above.
 - (2) Approval or denial of a floodplain development permit by the city shall be based on all of the provisions of this section and emphasizing the following relevant factors:
 - a. The danger to life and property due to flooding or erosion damage;
 - b. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - c. The danger that materials may be swept onto other lands to the injury of others;
 - d. The compatibility of the proposed use with existing and anticipated development;
 - e. The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - f. 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;
 - g. 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;
 - h. The necessity to the facility of a waterfront location, where applicable;

- i. The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use; and
 - j. The relationship of the proposed use to the comprehensive plan for that area.
- (f) *Appeal and variance procedures.* A developer may appeal the decision of the [floodplain administrator] to the board of adjustment when it is alleged there has been an error in any requirement, decision or determination in the enforcement or administration of this chapter. The procedure for an appeal shall be according to the hardship relief procedures contained in section 14-9. The board of adjustment shall hear and render judgment on a developer's request for variance(s) from the requirements of this chapter. Prerequisites for granting variances are:
 - (1) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
 - (2) Variances shall only be issued upon showing a good and sufficient cause, a determination that failure to grant the variance would result in exceptional hardship to the applicant and 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) Variances may be granted by the city for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use, provided that the criteria outlined in subsection (e)(2) above, and this subsection are met, and the structure or other development is protected by methods that minimize flood damages during the base flood and 500-year storm and create no additional threats to public safety.
 - (4) 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 (e)(2) above, has been fully considered. As the lot size increase beyond the one-half acre, the technical justification required for issuing the variance increases.
 - (5) Variances shall not be issued within any designated floodway.
 - (6) Other variance provisions.
 - a. The floodplain administrator shall maintain a record of all actions involving an appeal and shall report variances to the Federal Emergency Management Agency upon request.
 - b. 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 chapter.
 - c. Upon consideration of the factors noted above and the intent of this chapter, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this chapter.
 - d. 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.
- (g) *General standards for flood hazard reduction.* In all areas of special flood hazards the following provisions are required for all new construction and substantial improvements:
 - (1) All new construction or substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
 - (2) All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;

- (3) All new construction or substantial improvements shall be constructed with materials resistant to flood damage. FEMA Bulletins 1-93, 2-93, and 3-93 or subsequent revisions will serve as the guideline for this requirement;
 - (4) All new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;
 - (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
 - (6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharge from the systems into floodwaters; and
 - (7) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
 - (8) All new construction or substantial improvements shall obtain approval of an elevation certificate, ~~FEMA Form 81-31 dated March 2009 and subsequent revisions~~ verifying that the finish floor elevation meets or exceeds the criteria of Table 14-5~~minimum freeboard between the 100-year base flood elevation and lowest finished floor elevation is 18 inches.~~
 - (9) If any substantial improvement including the reconstruction, rehabilitation, addition or other improvement of a habitable structure where the cost of which equals or exceeds 50 percent of the marked value of the structure before "start of construction" occurs, then the entire existing nonconforming building must meet the requirements for new development.
 - (10) If a structure is substantially damaged, where the damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged conditions would equal or exceed 50 percent of the market value of the structure before the damage occurred, it shall not be reconstructed except in conformity with the provisions of this chapter.
- (h) *Specific standards.* In all areas of special flood hazards where base flood elevation data has been provided as set forth in subsections (b), (d)(8) and (l)(2) of this section, the following provisions are required:
- (1) *Residential construction.* New construction and substantial improvement of any residential structure shall have the lowest floor (including the basement), together with the attendant utility and sanitary facilities, and machinery and equipment, elevated so as to meet or exceed the criteria of Table 14-5~~to a minimum of 18 inches above the 100-year base flood elevation.~~ A land surveyor registered in the state shall submit a certification to the city prior to receiving a development permit that the standard of this subsection is satisfied. No additional fill below the 100-year base flood elevation is permissible, however on-site soils may be used to construct a building pad area as long as there is no loss in the floodplain volume storage. Soil cut and fill quantities shall be provided on the construction plans to for earthwork quantities below the 100-year base flood elevation. Use of pier and beam construction, or stem walls with proper flood openings in the foundation as described in section 14-225(g) is permitted as long as the property shall have no net increase in volume of material on the lot below the base flood elevation, with the exceptions of the small amount of concrete used for construction. A dwelling unit's sanitary drains, such as where the flood level rim of the plumbing fixture is below the DFE, may be placed below the DFE where the building's sanitary sewer is protected with a backflow device.
 - (2) *Nonresidential construction.* New construction and substantial improvements of any commercial, industrial or other nonresidential structure shall either have the lowest floor (including the basement) elevated so as to meet or exceed the criteria of Table 14-5~~to a minimum of 18 inches above the 100-year base flood level~~ or, together with attendant utility and sanitary facilities, and machinery and equipment, be designed so that below the base flood level 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. An engineer or architect registered in the state shall develop and/or review structural

design, specifications and plans for the construction, and shall certify that the design and methods of construction are in accordance with accepted standards of practice as outlined in this subsection. A record of such certification which includes the specific elevation (in relation to mean sea level) to which such structures are floodproofed shall be maintained by the city as part of the permanent development permit file. A FEMA Floodproofing Certificate for Non-Residential Structures, ~~Form 81-65, dated March 2009 and subsequent revisions shall be used and approved.~~ No additional fill below the ~~400~~500-year ~~floodplain base flood~~ elevation is permissible. Soil cut and fill quantities shall be provided on the construction plans to for earthwork quantities below the ~~400~~500-year floodplain ~~base flood~~ elevation. A building's sanitary drains, such as where the flood level rim of the plumbing fixture is below the DFE, may be placed below the DFE where the building's sanitary sewer is protected with a backflow device.

- (3) *Enclosures.* New construction and substantial improvements, with fully enclosed areas below the lowest floor that are usable solely for parking of vehicles including detached or attached garages, building access or storage in an area other than a basement and that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must be certified by an engineer or architect registered in the state that meet or exceed the following minimum criteria:
- a. 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 or the requirements in ~~FEMA~~ the National Flood Insurance Program's NFIP Technical Bulletin 1-93, dated March 2020, or subsequent revisions shall serve as guidelines for this requirement.
 - b. The bottom of all openings shall be no higher than one foot above grade.
 - c. Openings may be equipped with screens, louvers, valves or other coverings or devices, provided that they permit the automatic entry and exit of floodwaters.
 - d. Construction materials shall be resistant to flood damage.
 - e. ~~No additional net fill below the 100-year base flood elevation at each lot is permissible with the exception of fill for slab-on-grade foundation forms if located outside of the limits of the 100-year floodplain and minimal fill as determined by the city used to meet the International Residential Code or International Building Code requirements for drainage away from a structure if located outside of the limits of the 100-year floodplain.~~ Soil cut and fill quantities shall be provided on the construction plans to for all earthwork quantities activities below the 100-year base flood elevation.
- (4) *Manufactured homes.*
- a. All manufactured homes to be placed within flood hazard zone A shall be installed using methods and practices which minimize flood damage. For the purpose 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. All manufactured homes shall be in compliance with subsection (c)(1) of this section (first floor elevation must meet or exceed the criteria of Table 14-518 inches above the 100-year base flood level).
 - c. All manufactured homes to be placed or substantially improved within flood hazard zones A, and AE on the city's FIRM shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated so as to meet or exceed the criteria of Table 14-518 inches above the 100-year base flood elevation; and be securely anchored to an adequately anchored foundation system in accordance with the provisions of subsection (h)(4)a. of this section.
 - d. A person commits an offense if he places any manufactured home in the regulatory floodway in other than an existing manufactured home park or manufactured home subdivision.

- e. ~~No additional net fill below the 100-year base flood elevation at each lot is permissible with the exception of fill for slab-on-grade foundation forms if located outside of the limits of the 100-year floodplain and minimal fill as determined by the city used to meet the International Residential Code or International Building Code requirements for drainage away from a structure if located outside of the limits of the 100-year floodplain. Soil cut and fill quantities shall be provided on the construction plans to for all earthwork quantities activities below the 100-year base flood elevation.~~
- (i) *Standards for subdivision proposals.*
- (1) The developer of subdivisions, including manufactured home parks and subdivisions, shall obtain a development permit (see subsection (a) above) prior to final platting.
 - (2) Base flood elevation data shall be generated for subdivision proposals and other proposed development including manufactured home parks and subdivisions which are greater than 50 lots or five acres, whichever is lesser, if not otherwise provided pursuant to subsection (b) of this section, subsection (d)(8) of this section or elsewhere in this article.
 - (3) All subdivision proposals, including manufactured home parks and subdivisions, shall have adequate drainage provided to reduce exposure to flood hazards.
 - (4) All subdivision proposals, including manufactured home parks and subdivisions, shall have public utilities and facilities (sewer, gas, electrical and water systems) located and constructed to minimize or eliminate flood damage.
 - (5) ~~No additional net fill below the 100-year base flood elevation at each lot is permissible with the exception of fill for slab-on-grade foundation forms if located outside of the limits of the 100-year floodplain and minimal fill as determined by the city used to meet the International Residential Code or International Building Code requirements for drainage away from a structure if located outside of the limits of the 100-year floodplain. Soil cut and fill quantities shall be provided on the construction plans to for all earthwork quantities activities below the 100-year base flood elevation.~~
- (j) ~~(Reserved) Standards for areas of shallow flooding (flood hazard zones AO/AH). Located within the areas of special flood hazard established in subsection (b) of this section, are areas designated as shallow flooding. These areas have special flood hazards associated with base flood depths of one to three feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow; therefore, the following provisions apply:~~
- (1) ~~All new construction and substantial improvements of residential structures shall have the lowest floor (including the basement) elevated 18 inches above the 100-year base flood elevation specified in feet on the city's FIRM (at least 18 inches if no depth number is specified). No additional fill below the 100-year base flood elevation is permissible. Soil cut and fill quantities shall be provided on the construction plans to for earthwork quantities below the 100-year base flood elevation.~~
 - (2) ~~All new construction and substantial improvements of nonresidential structures:~~
 - a. ~~Shall have the lowest floor (including the basement) elevated 18 inches above the 100-year base flood elevation specified in feet on the city's FIRM (at least 18 inches if no 100-year base flood elevation is specified); or~~
 - b. ~~Together with attendant utility and sanitary facilities be designed so that below the base flood level 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 of effects of buoyancy.~~
 - c. ~~No additional fill below the 100-year base flood elevation is permissible. Soil cut and fill quantities shall be provided on the construction plans to for earthwork quantities below the 100-year base flood elevation.~~

- ~~(3) An engineer or architect registered in the state shall submit a certification to the city which shall become part of the permanent development permit file that the standards of subsection (e)(1)a. above, are satisfied.~~
- ~~(4) Within zones AH or AO the developer shall provide adequate drainage paths around structures on slopes, to guide floodwaters around and away from proposed structures.~~
- (k) *Floodways.* Floodways are located within areas of special flood hazard established in subsection (b) of this section. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and erosion potential, the following provisions shall apply:
- (1) Encroachments are prohibited, including fill, new construction, substantial improvements and other development unless approved by HCFCD.
 - (2) Where subsection (1) of this subsection (k) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of subsections (b), and (g) through (k) of this section. ~~In addition, the bottom of the lowest supporting member of any structure shall be elevated 18 inches or more above the 100-year base flood elevation.~~

(Ord. No. 00-11, § 3, 3-20-00; Ord. No. 2007-24, § 1, 6-18-07; Ord. No. 2011-14, § 3(Exh. C), 3-21-11; Ord. No. 2013-46, § 4(Exh. A), 12-16-13; Ord. No. 2014-15, § 1, 5-19-14; Ord. No. 2019-05, § 2, 2-18-19; Ord. No. 2019-21, § 1, 6-17-19; Ord. No. 2019-32, § 1, 8-19-19)

Sec. 14-226. - Stormwater detention.

- (a) *Detention required.* The developer shall provide stormwater detention according to the standards established in this section for all developments meeting the following criteria:
- (1) In any nonresidential development ~~greater than five acres;~~
 - (2) In any residential development greater than ~~five~~one acres, except a single-family residential structure and accessory buildings proposed on an existing lot.
- (b) *Definitions.*
- Detention basin.* A facility that provides for temporary storage of stormwater runoff and controlled release of this runoff during and after a flood or storm.
- (c) *Detention facilities design.* The developer shall design the maximum storage to be provided in a detention basin based on the runoff from the 100-year storm event with a 24-hour rainfall depth and reservoir routing methods. The developer shall calculate detention storage using the following hydrograph method:
- (1) *Types of storage facilities.* Detention ponds may be either on-stream or off-stream facilities. An on-stream pond is defined as one that is located on a Harris County Flood Control District ("HCFCD") or Texas Department of Transportation ("TxDOT") ditch and receives runoff from areas significantly larger than the development project under design. An off-stream pond generally receives runoff from a small drainage area consisting primarily of one development project. In the following regulations, the design methods presented are generally oriented to off-stream detention facilities. Specific reference will be made to methods for on-stream facilities.
 - (2) *Design consideration.* The developer shall design a gravity detention pond according to the following steps:
 - a. Determine a design inflow hydrograph for the proposed detention pond.
 - b. Determine the maximum allowable outflow rate from the detention pond.
 - c. Determine the design tailwater elevation at the downstream end of the outflow structure and the maximum water elevation in the pond.
 - d. Determine the preliminary sizing of the pond storage capacity and the outflow structure.

- e. Determine that the maximum allowable outflow rate is not exceeded by routing a design inflow hydrograph through the pond with adjustment of storage and outflow structure, as required.
 - f. Insure that these systems will operate properly under design water surface conditions in the pond. Analysis of the hydraulic gradients for storm sewers and inflow channels entering the pond.
 - g. Analyze rainfall events in excess of the design frequency for structural and flood considerations, including provisions for an emergency spillway or overflow structure.
 - h. Define any potential geotechnical and structural problems.
- (3) *Geotechnical design.* The developer shall submit to the city a detailed soils investigation by a geotechnical engineer registered in the State of Texas prior to initiating final design of a detention pond.

At a minimum, the soils investigation shall address:

- a. The ground water conditions at the proposed site.
 - b. The type of material to be excavated from the pond site and its suitability for fill material.
 - c. If a dam is to be constructed, adequate investigation of potential seepage problems through the dam and attendant control requirements, the availability of suitable embankment material and the stability requirements for the dam itself.
 - d. Potential for structural movement on areas adjacent to the pond due to the induced loads from existing or proposed structures and methods of control that may be required.
 - e. Stability of the pond side slopes.
- (4) *Hydraulic design for drainage areas greater than ~~five~~ one acres.* For draining of areas greater than ~~five~~ one acres, no detailed determination of the inflow hydrograph is required. The maximum allowable outflow rate shall be based on the 100-year, undeveloped runoff from the site and is determined as follows:

$$Q_{MAX} = 1.2 A$$

Where Q is the maximum outflow rate in cubic feet per second and A is the drainage area in acres. For ponds discharging into a roadside ditch or storm sewer, the maximum outflow rate should be restricted to the three-year frequency runoff from the undeveloped site. The allowable undeveloped outflow rate is:

$$Q_{MAX} = 0.5 A$$

The required storage volume, S, of a detention pond for either of the outfall conditions discussed above is a function of the drainage area and determined by:

$$S = 0.55A$$

Where A is the drainage area in acres, no further hydrologic design is required.

- (5) *Hydrologic design for drainage areas greater than 50 acres.* For drainage areas greater than 50 acres, the small watershed method procedure is recommended for use in accordance with the procedures described in Section 3 - Hydrology of the Policy Criteria and Procedure Manual, dated October 2004 and subsequent revisions for the Design of Flood Control and Drainage Facilities, Harris County Flood Control District. Please note areas updated for Atlas 14, per HCFCD.

In the small watershed method, the maximum inflow rate and the volume of runoff to the detention facility shall be determined. With the peak flow and volume of runoff determined, an inflow hydrograph may be developed.

The maximum allowable outflow rate shall be restricted to the flow rate from the undeveloped tract. Design inflow hydrographs and maximum allowable outflow rates shall be determined for both the 100-year and 10-year frequency, except in cases where the receiving stream has less than 100-year frequency capacity. In such cases, the maximum allowable outflow rate shall be limited to the flow from the undeveloped tract for the return period which produces bankfull capacity in the outflow channel. Otherwise, the detention facility could aggravate downstream flooding.

- (6) *On-stream detention ponds.* The developer shall complete a routing study for the design of an on-stream detention pond such as a TxDOT ditch or a HCFCD ditch to develop the design inflow hydrograph and the maximum allowable outflow rate. The specific procedures and assumptions to be used shall be approved by TxDOT, HCFCD and the city prior to initiating design.
- (7) *Hydraulic design.* The developer shall complete the hydraulic design of a detention pond according to the following:
 - a. Determine the preliminary sizing of pond storage and outflow structure.
 - b. Determine the design tailwater elevation at the downstream end of the outflow structure and maximum water deviation in the pond.
 - c. Verify that the storage and outflow rate is not exceeded by routing of design inflow hydrograph through the pond with adjustments as necessary.
 - d. Ensure that the systems operate properly under design water surface conditions in the pond by analyzing of the hydraulic gradients for any storm sewers and inflow channels entering the pond.
 - e. Analyze rainfall events in excess of the design frequency for structural and flood considerations.
- (8) *Storage requirements.* The developer shall determine preliminary sizing of the storage volume requirements by plotting the computed inflow hydrograph and a straight line from the origin to the maximum allowable outflow rate on the recession side of the inflow hydrograph, then plan metering the resulting area under the inflow hydrograph above the straight line.

The outflow structure may be sized as follows:

- a. Determine the maximum allowable water surface elevation in the pond for the 100-year frequency inflow hydrograph.
- b. Determine the maximum flow line elevation for the outflow structure.
- c. Estimate the size of the structure required to pass the allowable outflow rate based on the difference in elevation between the 100-year water level in the pond and the top of pipe.
- d. Estimate the size of overflow spillway required to pass the 100-year flow.

Once the preliminary storage and outflow structure have been determined, routing of the inflow hydrograph through the pond shall be performed.

As required input to the reservoir procedure, plots of stage (water surface elevation) versus storage and outflow must be determined. The maximum or 100-year water surface elevation in the pond shall be based on local topography or the 100-year water surface in the outfall channel. Also, of prime consideration in developing the stage-outflow curve is the downstream water surface elevation (tailwater) on the outflow structure. This tailwater elevation may affect the discharge capacity of the outflow structure and must be considered in determining the outflow versus stage relationship.

There are two tailwater conditions which may be applied to detention pond routing: a constant tailwater elevation or tailwater elevations varying with time. Routing a hydrograph through a detention pond should incorporate the effect of the variable tailwater on the outflow. In most cases development of a storm hydrograph in the outfall channel would require extensive watershed modeling.

For drainage areas greater than 50 acres, a constant tailwater elevation for determining the stage-versus-outflow relationship is acceptable. The developer shall use a tailwater elevation either two feet below the 100-year water surface in the detention pond or the 100-year water surface in the channel, whichever is lower.

Once the inflow hydrograph is routed through the pond, the resulting outflow rate shall be compared to the maximum allowable rate. Adjustments in the storage volume and the outflow structure size shall then be made as required to insure that the maximum outflow rate is not exceeded and that the resulting outflow rate is not significantly smaller than required. This process may require several iterations to determine the required storage volume and the outflow structure size. The minimum outflow pipe size shall be 12 inches.

Once the pond has been sized and the outflow structure determined for the 100-year frequency, the resulting maximum ten-year water surface elevation in the pond shall be determined by routing the ten-year inflow hydrograph through the pond. The developer shall use the ten-year water surface in the outfall channel as the constant tailwater elevation for determining the stage-versus-outflow relationship.

Storm events in excess of the 100-year event must be considered in the design of detention facilities from the standpoint of overtopping. For a detention facility which is an excavated pond and has no dam associated with it, the outflow structure shall be designed with an overflow structure or swale.

For ponds which require a dam, the possibility of dam failure due to overtopping of the dam embankment must be considered. Downstream flood damage and loss of life must be evaluated and, if a significant hazard exists, the dam must be adequately designed to prevent such hazards. Specific dam criteria for storm events with frequencies in excess of the 100-year frequency shall be established by the city on a case-by-case basis. These criteria should be established in the preliminary design phase.

The use of hydrograph timing as a substitution for detention on any project is prohibited.

- (9) *Pump systems.* Where it is determined that a pump system is necessary, approval by the city of the preliminary conceptual design shall be obtained before any detailed engineering is performed.

The city shall not approve the use of pump-type detention systems for private use except under the following conditions:

- a. A gravity system is not feasible from an engineering and economic standpoint;
- b. At least two pumps are provided, each of which is sized to pump the design flow rate, if a triplex system is used, any two of the three pumps must be capable of pumping the design flow rate;
- c. The selected design outflow rate must not aggravate downstream flooding (Example: A pump system designed to discharge at the existing 100-year flow rate each time the system comes on-line could aggravate flooding for more frequent storm events.);
- d. Fencing of the control panel is provided to prevent unauthorized operation and vandalism;
- e. Adequate assurance is provided that the system will be operated and maintained on a continuous basis;
- f. No public drainage can be tied to a permanent pumped detention facility;

- g. An emergency source of power is provided; or
 - h. Detention facilities which utilize pumps shall be designed in such a way that should the pump fail, the detention pond will not overflow onto adjacent property. All overflow must be retained on site.
- (10) *Erosion control.* The developer shall provide adequate erosion control and re-vegetation during and following construction of the pond.
- (11) *Safety, aesthetic consideration and multi-purpose use.* Detention ponds may be utilized as private parks and recreational facilities on a case-by-case basis. Also, a parking area may be used for a portion of the storage as long as the 100-year water depth is six inches or less where cars are parked. The proposed use and the facilities to be constructed within the pond area must be specifically approved by the city.
- (d) *Other standards.* For additional details regarding design and construction of stormwater detention facilities refer to Sections 3, 4, and 5 of the Criteria Manual for the Design of Flood Control and Drainage Facilities in Harris County, published by the Harris County Flood Control District and adopted by Harris County Commissioners Court in October 2018. Other methods of design may be used upon prior written approval from the city engineer.

(Ord. No. 00-20, § 1, 6-19-00; Ord. No. 2010-44, § 1, 10-18-10; Ord. No. 2011-14, § 3(Exh. C), 3-21-11; Ord. No. 2019-05, § 2, 2-18-19)

Secs. 14-227—14-239. - Reserved.

Sec. 14-359. - Local amendments to the International Residential Code.

The International Residential Code adopted by section 14-358 is hereby amended as set forth in this section:

~~Appendix J, Existing Buildings and Structures, is hereby amended to read as follows:~~

- ~~(a) If, within any 12-month period, alterations, additions, renovations, repairs or any combination thereof, costing in excess of 50 percent of the then physical value of the building are made to an existing building in the floodplain, such building and associated mechanical, electrical, plumbing and fuel gas equipment, fixtures and appurtenances shall be made to conform to the requirements of this Code for new buildings in regards to the Design Flood Elevation.~~
- ~~(b) If an existing building is damaged by fire or otherwise in excess of 50 percent of its then physical value before such damage is repaired, it shall be made to conform to the requirements of this Code for new buildings, except in regards to slab height, where the structure is located outside the floodplain, the footprint is not modified and the slab is intact.~~
- ~~(c) [Reserved.]~~
- ~~(d) For the purpose of this section physical value of the building shall be its appraised value as shown on the city's latest tax roll. Alternatively, upon filing for an appeal to the floodplain manager, a professional market appraisal for the pre-event evaluation, assessed post-event, may be submitted for review.~~
- ~~(e) The following are authorized: Repair and alterations, not covered by the preceding paragraphs of this section, restoring a building to its condition previous to damage or deterioration, or altering it in conformity with the provisions of this code or in such manner as will not extend or increase the same kind of materials as those of which the building is constructed; but not more than 25 percent of the roof covering of a building shall be replaced in any period of 12 months unless the entire roof covering is made to conform with the requirements of this code for new buildings.~~

~~Chapter 1, Scope and administration, Section R103, Department of building safety, of the International Residential Code, is hereby deleted in its entirety.~~

~~Section R104.10.1 Flood hazard areas, is deleted in its entirety.~~

~~Sec. R105 Permits is hereby amended to include a new subsection, Sec. R501.1.1, Additional permits. Temporary storage units and receptacles for debris and rubbish require permits, unless associated with a building permit. Where located in an area of special flood hazard areas (ASFH) special flood hazard area (SFHA), a floodplain development permit will be required.~~

~~Section R105.2 Work exempt from permit, is hereby amended to provide as follows:~~

- ~~1. One-story detached accessory structures, provided that the floor area does not exceed 200 square feet (18.58 m²) - unless located in an aArea of sSpecial fFlood hHazards- (ASFH) / special flood hazard area (SFHA) then a floodplain development permit will be required.~~
- ~~2. Fences both not over 42 inches (1067 mm) high and not over 25 lineal feet. Replacement fencing will be considered new work and must comply with the governing building, development and storm water damage and prevention codes, whether subject to permitting or not- -- though any fencing in an ASFH / SFHA will require a floodplain development permit.~~
- ~~3. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge - unless located in an Area of Special Flood Hazards though any retaining wall of any size, height, and whether or not supporting a surcharge in an ASFH / SFHA will require a floodplain development permit.~~
- ~~4. Water tanks supported directly upon *grade* if the capacity does not exceed 5,000 gallons (18 927 L) and the ratio of height to diameter or width does not exceed 2 to 1 - unless located in an Area of Special Flood Hazards though any water tank of any capacity or size in an ASFH / SFHA will require a floodplain development permit.~~

5. Flatwork in a rear yard - unless located in an ASFH / SFHA, then a floodplain development permit will be required.
6. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work - unless located in an ASFH / SFHA Area of Special Flood Hazards, then a floodplain development permit will be required.
7. Prefabricated swimming pools that are less than 24 inches (610 mm) deep -- ~~unless located in an Area of Special Flood Hazards~~ though any pool of any capacity or depth in an ASFH / SFHA will require a floodplain development permit.
8. Swings and other playground equipment - unless located in the regulatory floodway, then a floodplain development permit will be required.
9. Window awnings supported by an exterior wall that do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support – though, any awning addition of any size in an ASFH / SFHA will require a floodplain development permit.
10. Decks not exceeding 200 square feet (18.58 m²) in area, that are not more than 30 inches (762 mm) above *grade* at any point, are not attached to a dwelling and do not serve the exit door required by Section R311.4 - ~~unless located in an Area of Special Flood Hazards~~ though any deck of any size or height in an ASFH / SFHA will require a Floodplain Development Permit.

Where located within an ASFH / SFHA, a floodplain development permit will also be required for all development, to include work involving the dwelling unit, the dwelling unit's lot, grading and outdoor storage (ex: temporary portable storage units; vehicles that aren't fully licensed and highway ready), temporary refuse containers, etc.

Section R105.2.2, Repairs, is hereby amended by adding thereto a modified opening sentence to read as follows:

Except in an ASFH / SFHA,

Section R106.2, Site Plan, is hereby amended by adding thereto new paragraphs (a), (b) and (c) to read as follows:

- (a) For all building sites or lots outside and ~~within the 100-year floodplain~~ an ASFH / SFHA according to the latest flood insurance rate map (FIRM) as established by the Federal Emergency Management Agency in the National Flood Insurance Program, an elevation certificate shall be prepared by a qualified surveyor, licensed by the State of Texas, certifying that the elevation of the first floor of the building or structure is at the required height with relation to the curb of the street and/or the base flood elevation. This certificate shall be required once the foundation is formed and ready for inspection- or, in the case of pier-and-beam construction, when floor decking is installed.
- (b) A survey shall be prepared by a qualified surveyor, licensed by the State of Texas, for each building site showing that the slab height or floor decking is at or above the Design Flood Elevation (DFE) and also show the distance from interior lot lines. This shall be required at the foundation form make-up or upon completion of ~~sub-flooring decking framing~~ for pier-and-beam construction.
- (c) An elevation certificate, topographical survey and civil "As-Builts" shall be prepared by a qualified surveyor, licensed by the State of Texas, for each building site or lot showing that all drainage requirements have been satisfied. This shall be required before a certificate of occupancy is issued.

Section 108.4, Violation penalties, is hereby deleted in its entirety.

Section R110.1, Exception No. 2, is hereby deleted.

Section R112, Board of Appeals, is hereby deleted in its entirety.

Chapter 3, Building Planning,

Table R301 is hereby amended to read:

TABLE R301.2(1)

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD ^o	WIND DESIGN				SEISMIC DESIGN CATEGORY ^f	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP ^e	ICE BARRIER UNDER-LAYMENT REQUIRED ^h	FLOOD HAZARDS ^g	AIR FREEZING INDEX ⁱ	MEAN ANNUAL TEMP ^j
	Speed ^d (mph) ^k	Topographic effects ^c	Special wind region ^l	Wind-borne debris zone ^m		Weathering ^a	Frost line depth ^b	Termite ^c					
2.5	131	NO	NO	NO	A	Negligible	12"	Very Heavy	32	No	(See Footnote g)	25 (City of Sugarland)	68.9°
MANUAL J DESIGN CRITERIAⁿ													
Elevation			Latitude ^e	Winter heating	Summer cooling	Altitude correction factor			Indoor design temperature ^e	Design temperature cooling		Heating temperature difference	
105' (BIAH)			30°	34	89	0			70	75		-	
Cooling temperature difference			Wind velocity heating	Wind velocity cooling	Coincident wet bulb	Daily range			Winter humidity	Summer humidity			
M			15 mph	7.5 mph	75	20			40	50			

or SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

- a. Where weathering requires a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code, the frost line depth strength required for weathering shall govern. The weathering column shall be filled in with the weathering index, "negligible," "moderate" or "severe" for concrete as determined from Figure R301.2(4). The grade of masonry units shall be determined from ASTM C34, C55, C62, C73, C90, C129, C145, C216 or C652.
- b. Where the frost line depth requires deeper footings than indicated in Figure R403.1(1), the frost line depth strength required for weathering shall govern. The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.
- c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.
- d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(5)A]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
- e. The outdoor design dry-bulb temperature shall be selected from the columns of 97¹/₂-percent values for winter from Appendix D of the *International Plumbing Code*. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official. [Also see Figure R301.2(1).]
- f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.
- g. Effective Flood Insurance Rate Maps (FIRMs) and effective FIRM index dates and Flood Insurance study dates.

48201CIND0G	11/15/2019
48201C0635M	6/9/2014
48201C0630M	11/15/2019
48201C0445M	5/2/2019
48201C0440N	11/15/2019

Minimum Flood Protection Elevation Regulations			
<i>See also Section 14-333 of the Code of Ordinances</i>			
Special Flood Hazard Area	Design Flood Elevation (DFE) (Freeboard Above .2%)	Foundation Type	FF Proof
Floodway	+36 inches	Pier & Beam	EC (CD, BUC, FC)
Critical Facility <i>*Located outside of A-zones, to the extent possible</i>	+36 inches	Any, unless in A-zones	EC (CD, BUC, FC)
AE	+24 Inches	Pier & Beam	EC (CD, BUC, FC)
X-Shaded	At or above the 500 yr. floodplain elevation	Any	EC (CD, BUC, FC)
X-Unshaded	No additional above .2%	Any	EC (CD, BUC, FC)

Legend:

FF= Finished Floor Elevation

EC= Elevation

Certificate

Types of EC: Construction Drawings (CD); Building Under Construction (BUC); Finished Construction (FC). The final Finished Construction EC will also verify Highest Adjacent Grade (HAG), Lowest Adjacent Grade (LAG), lowest elevation of machinery and equipment, etc.

h. In accordance with Sections R905.1.2, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."

i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)."

j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)."

k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

l. In accordance with Figure R301.2(5)A, where there is local historical data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with "YES" and identify any specific requirements. Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

m. In accordance with Section R301.2.1.2 the jurisdiction shall indicate the wind-borne debris wind zone(s). Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

n. The jurisdiction shall fill in these sections of the table to establish the design criteria using Table 1a or 1b from ACCA Manual J or established criteria determined by the jurisdiction.

o. The jurisdiction shall fill in this section of the table using the Ground Snow Loads in Figure R301.2(6).

R309 Garages and Carports, Section R309.3 Flood Hazard Areas, is hereby amended to read as follows:

For buildings located in an area of special flood hazards (ASFH) / special flood hazard areas (SFHA) as established by the latest flood insurance rate map (FIRM) and Table R301.2(1), garage floors shall be:

1. Elevated to or above the design flood elevation as determined in Section R322; or
2. If the garage floor level is lower than the design flood elevation, the garage shall be used solely for parking, building access or storage and the floor shall be at or above grade on all sides and shall meet the requirements in Section R322, and are otherwise constructed in accordance with this code. All new construction or substantial improvements shall be constructed with materials resistant to flood damage.

Section R309.5 "Fire Sprinklers." is deleted.

Section, R318.1, Subterranean termite control methods, is hereby amended by adding thereto a modified section to read as follows:

In areas subject to damage from termites as indicated by Table R301.2(1), for all structures of 600 square feet or greater, protection shall be by one, or a combination, of the following methods:

1. Chemical termiticide treatment in accordance with Section R318.2, except ~~with an Area of Special Flood Hazards (ASFH) / SFHA.~~

R322 Flood-Resistant Construction, Section R322.1.4 Establishing the Design Flood Elevation, is hereby amended to read as follows:

~~See Table R301.2(1) The design flood elevation shall be 18 inches above the base flood elevation at the depth of peak elevation of flooding which has a 1 percent (100-year flood) or greater chance of being equaled or exceeded in any given year.~~

Section R322.1.10 As-Built Elevation Documentation, is hereby amended to read as follows:

A registered design professional shall prepare and seal a FEMA Elevation Certificate of the elevations specified in Section R322.2 or R322.3. The completed Elevation Certificate shall be provided to the Building Official and/or Floodplain Manager prior to issuance of a certificate of occupancy.

Section R322.1.6 Protection of Mechanical, Plumbing and Electrical systems, is hereby amended to read as follows:

Electrical systems, equipment and components; heating, ventilating, air-conditioning; plumbing appliances and plumbing fixtures; duct systems; and other service equipment shall be located at or above the elevation required in Section R322.2 or R322.3. If replaced as part of a substantial improvement, electrical systems, equipment and components; heating, ventilating, air-conditioning and plumbing appliances and plumbing fixtures; duct systems; and other service equipment shall meet the requirements of this section. Systems, fixtures, and equipment and components shall not be mounted on or penetrate through walls intended to break away under flood loads.

Exception: Locating electrical systems, equipment and components is permitted below the elevation required in Section R322.2 or R322.3 provided that they are designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to the design flood elevation in accordance with ASCE 24. Electrical wiring systems are permitted to be located below the required elevation provided that they conform to the provisions of the electrical part of this code for wet locations.

Section R322.1.7 Protection of water supply and sanitary sewage systems, is hereby amended to provide for an additional last sentence:

A dwelling unit's sanitary drains, such as where the flood level rim of the plumbing fixture is below the DFE, may be placed below the DFE where the building's sanitary sewer is protected with a backflow device.

Section R322.2.1 Elevation Requirements, is hereby amended to read as follows:

1. Buildings and structures shall have the lowest floors elevated to or above the design flood elevation.
2. In areas of shallow flooding (AO and AH Zones), buildings and structures shall have the lowest floor (including basement) elevated to or above the DFE at least 18 inches above the highest adjacent grade as a depth number specified in feet on the FIRM. or at least 2 feet if a depth number is not specified.

Chapter 5, Floors, R506.2.1 Concrete Floors, is hereby amended to read as follows:

- ~~4.~~ Fill material, when utilized in full compliance with other provisions of the code, shall be free of vegetation and foreign material. All fill shall be compacted to assure uniform support of the slab.

Chapter 33, Storm Drainage, P3302.1 Area Drainage, is hereby amended to read as follows:

1. Storm water flows shall be contained within the property and discharged to a public right-of-way. Acceptable methods to contain flows include use of adequately sized swales, curbs, area inlets, or methods that will contain flows on the development parcel and prevent spill over onto adjacent private property. Fence lines shall be designed to avoid impeding storm water flows within the side lot swales. All swales must be contained within the development parcel unless a recorded easement is provided.

2. Storm water flows up to the city's design storm shall not go onto an adjacent private property without a drainage easement recorded at the Harris County Clerk's office. No private agreements between property owners will be allowed unless recorded at the county clerk's office and approved by the city.
3. The use of *French* drains are not permissible as a drainage element to contain and convey flows to public rights-of-way.
4. Area drains shall have a minimum grate size of 12 inches by 12 inches and be designed to accommodate the full design storm. Cleanouts shall be provided at all junctions and at every bend.
5. For single family residential developments, roof drains may be tied into a storm sewer system. All tie in points shall be identified on the construction plans. A minimum pipe diameter of four inches shall be allowed for one roof drain. A minimum pipe diameter of six inches shall be allowed for up to four roof drains. For all other land uses, roof drains shall be properly sized by a registered engineer or architect. The minimum pipe sizes listed for single family developments shall also be used.

Section P3303 Sumps and Pumping Systems. The sump pump, pit and discharge piping shall conform to Sections P3303.1.1 through P3303.1.4.

P3303.1.1 Pump Capacity and Head. The sump pump shall be of a capacity and head appropriate to anticipated use requirements.

P3303.1.2 Sump Pit. The sump pit shall be not less than 18 inches (457 mm) in diameter and 24 inches (610 mm) deep, unless otherwise *approved*. The pit shall be accessible and located so that all drainage flows into the pit by gravity. The sump pit shall be constructed of tile, steel, plastic, cast-iron, concrete or other *approved* material, with a removable cover adequate to support anticipated loads in the area of use. The pit floor shall be solid and provide permanent support for the pump.

P3303.1.3 Electrical. Electrical outlets shall meet the requirements of Chapters 34 through 43.

P3304 Materials. Piping and fittings shall meet the requirements of Sections P3002.1, P3002.2, P3002.3 and P3003. Discharge piping shall include an accessible full flow check valve. Pipe and fittings shall be the same size as, or larger than, pump discharge tapping.

The International Residential Code adopted by section 14-358 is hereby amended as set forth in this section:

Appendix J, Existing Buildings and Structures, Section AJ102.5 Flood hazard areas is hereby amended by adding new paragraphs (a), (b), (c), (d) and (e) to read as follows:

Work performed in existing buildings located in a flood hazard area as established by Table R301.2(1) shall be subject to the provisions of Section R105.3.1.1, and

- (a) If, within any 12-month period, alterations, additions, renovations, repairs or any combination thereof, costing in excess of 50 percent of the then physical value of the building are made to an existing building in the floodplain, such building and associated mechanical, electrical, plumbing and fuel gas equipment, fixtures and appurtenances shall be made to conform to the requirements of this Code for new buildings in regards to the dDesign fFlood eElevation (DFE).
- (b) If an existing building is damaged by fire or otherwise in excess of 50 percent of its then physical value before such damage is repaired, it shall be made to conform to the requirements of this Code for new buildings, except in regards to slab height, where the structure is located outside the floodplain, the footprint is not modified and the slab is intact.
- (c) [Reserved.]
- (d) For the purpose of this section physical value of the building shall be its appraised value as shown on the city's latest tax roll or the value of the building from an appraisal by an independent professional appraiser. Alternatively, upon filing for an appeal to the floodplain manager, a

professional market appraisal for the pre-event evaluation, assessed post-event, may be submitted for review.

- (e) The following are authorized: Repair and alterations, not covered by the preceding paragraphs of this section, restoring a building to its condition previous to damage or deterioration, or altering it in conformity with the provisions of this code or in such manner as will not extend or increase the same kind of materials as those of which the building is constructed; but not more than 25 percent of the roof covering of a building shall be replaced in any period of 12 months unless the entire roof covering is made to conform with the requirements of this code for new buildings and, where warranted, with the applicable permits.

(Ord. No. 2011-14, § 5(Exh. E), 3-21-11; Ord. No. 2013-21, § 2(Exh. A), 6-17-13; Ord. No. 2013-32, § 2(Exh. B), 10-21-13; Ord. No. 2014-24, § 2(Exh. A), 6-16-14; Ord. No. 2017-52, § 2(Exh. A), 11-20-17; Ord. No. 2017-53, § 2(Exh. A), 12-18-17; Ord. No. 2019-04, § 6, 2-18-19)

ORDINANCE NO. 2020-31

AN ORDINANCE OF THE CITY OF JERSEY VILLAGE, TEXAS, AMENDING THE CODE OF ORDINANCES OF THE CITY OF JERSEY VILLAGE, BY AMENDING, CHAPTER 14, "BUILDING AND DEVELOPMENT," ARTICLE XIII, "BUILDING CODE," DIVISION 2 "STANDARDS," SECTION 14-353, "LOCAL AMENDMENTS TO THE INTERNATIONAL BUILDING CODE;" PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR REPEAL; PROVIDING FOR PENALTY; AND PROVIDING AN EFFECTIVE DATE.

* * * * *

WHEREAS, the Building Board of Adjustment and Appeals is charged with the responsibility for making recommendations to the City Council on any code changes brought before them dealing with the Building Code; and

WHEREAS, the Building Board of Adjustment and Appeals met on December 14, 2020 to discuss various changes affecting the Building Code at Section 14-353; and

WHEREAS, the Building Board of Adjustment and Appeals has presented its Written Recommendations to City Council concerning recommended changes to Section 14-353; and

WHEREAS, the City Council of the City of Jersey Village desires to amend the Code of Ordinances of the City of Jersey Village, by amending Chapter 14, "Building and Development," Article XIII, "Building Code," Division 2 "Standards," Section 14-353, "Local amendments to the International Building Code" in order to implement the changes recommended by the Building Board of Adjustment and Appeals; **NOW THEREFORE**,

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF JERSEY VILLAGE, TEXAS, THAT:

Section 1: The facts and matters set forth in the preamble of this Ordinance are found to be true and correct and are hereby adopted, ratified, and confirmed.

Section 2: Chapter 14, "Building and Development," Article XIII, "Building Code," Division 2 "Standards," Section 14-353, "Local amendments to the International Building Code" of the Code of Ordinances of the City of Jersey Village, is hereby amended by adding the language underlined and deleting the language struck through as outlined in Exhibit A which is attached hereto and made a part hereof.

Section 3. Severability. 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 than the part declared to be invalid or unconstitutional; and the City Council of the City of Jersey Village, 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, or whether there be one or more parts.

Section 4. **Repeal.** All other ordinances or parts of ordinances in conflict or inconsistent herewith are, to the extent of such conflict or inconsistency, hereby repealed.

Section 5. **Penalty.** Any person who shall violate any provision of this Ordinance shall be guilty of a misdemeanor and subject to a fine as provided in Section 1-8.

Section 6. **Effective Date.** This ordinance shall be in full force and effect from and after its passage.

PASSED, APPROVED, AND ADOPTED this 21st day of December 2020.

Andrew Mitcham, Mayor

ATTEST:

Lorri Coody, City Secretary



ARTICLE XIII. - BUILDING CODE

DIVISION 2. - STANDARDS

Sec. 14-353. - Local amendments to the International Building Code.

The International Building Code adopted by section 14-351 is hereby amended as set forth in this section:

~~Chapter 34, Reserved, is hereby amended to read as follows:~~

~~Chapter 34, Existing Structures, is hereby amended to read as follows:~~

- ~~(a) If, within any 12-month period, alterations, additions, renovations, repairs, or any combination thereof, costing in excess of 50 percent of the then physical value of the building are made to an existing building in the floodplain, such building and associated mechanical, electrical, plumbing and fuel gas equipment, fixtures and appurtenances shall be made to conform to the requirements of this code for new buildings in regards to the Design Flood Elevation.~~
- ~~(b) If an existing building is damaged by fire or otherwise in excess of 50 percent of its then physical value before such damage is repaired, it shall be made to conform to the requirements of this code for new buildings, except in regards to slab height, where the structure is located outside the floodplain, the footprint is not modified and the slab is intact.~~
- ~~(c) [Reserved.]~~
- ~~(d) For the purpose of this section physical value of the building shall be its appraised value as shown on the city's latest tax roll. Alternatively, upon filing for an appeal to the floodplain manager, a professional market appraisal for the pre-event evaluation, assessed post-event, may be submitted for review.~~
- ~~(e) If the occupancy of any existing building is entirely changed the building shall be made to conform to the requirements of this code for the new occupancy. If the occupancy of only a portion of an existing building is changed and that portion is separated from the remainder as stipulated in Chapter 3, then only such portion need be made to conform.~~
- ~~(f) The following are authorized: Repair and alterations, not covered by the preceding paragraphs of this section, restoring a building to its condition previous to damage or deterioration, or altering it in conformity with the provisions of this code or in such manner as will not extend or increase the same kind of materials as those of which the building is constructed; but not more than 25 percent of the roof covering of a building shall be replaced in any period of 12 months unless the entire roof covering is made to conform with the requirements of this Code for new buildings. Section 103.5, Unsafe Buildings or Systems, is hereby deleted in its entirety.~~

~~Chapter 1, Scope and administration, Section 103, Department of building safety, is hereby deleted in its entirety.~~

~~Section 105.2 Work exempt from permit is hereby amended by adding thereto modified paragraphs to read as follows:~~

~~Building:"...~~

- ~~1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided that the floor area is not greater than 120 square feet (11 m²) - unless located within an Area of Special Flood Hazards.~~
- ~~2. Fences both not over 42 inches (1067 mm) high and not over 25 lineal feet. Replacement fencing will be considered new work and must comply with the governing building, development and storm water damage and prevention codes, whether subject to permitting or not.~~
- ~~3. Oil derricks - unless located within an Area of Special Flood Hazards.~~

4. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II or IIIA liquids - unless located within an Area of Special Flood Hazards.
5. Water tanks supported directly on grade if the capacity is not greater than 5,000 gallons (18,925 L) and the ratio of height to diameter or width is not greater than 2:1 - unless located within an Area of Special Flood Hazards.
6. Flatwork in a rear yard that is not part of an accessible route in 1 & 2 Family structures..."
7. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work - unless located within an Area of Special Flood Hazards.
8. Temporary motion picture, television and theater stage sets and scenery - unless located within an Area of Special Flood Hazards.
9. Prefabricated *swimming pools* that are less than 24 inches (610 mm) deep, are not greater than 5,000 gallons (18 925 L) and are installed entirely above ground - unless located within an Area of Special Flood Hazards.
10. Shade cloth structures constructed for nursery or agricultural purposes, not including service systems - unless located in the regulatory floodway.
11. Swings and other playground equipment - unless located in the regulatory floodway.
12. Window awnings in Group U occupancies, supported by an exterior wall that do not project more than 54 inches (1372 mm) from the *exterior wall* and do not require additional support.

Section 105.2.3 Repairs. Application or notice to the building official is not required for ordinary repairs to structures, replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles. Such repairs shall not include the cutting away of any wall, partition or portion thereof - to include suspended acoustical ceiling modifications - the removal or cutting of any structural beam or load-bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the egress requirements; nor shall ordinary repairs include addition to, alteration of, replacement or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work affecting public health or general safety.

Section 107.2.6 Site Plan is hereby amended by adding thereto new paragraphs to read as follows:

- (a) For all building sites or lots outside and within the 100-year floodplain according to the latest flood insurance rate map as established by the Federal Emergency Management Agency in the National Flood Insurance Program, an elevation certificate shall be prepared by a qualified surveyor, licensed by the State of Texas, certifying that the elevation of the first floor of the building or structure is at the required height with relation to the curb of the street and/or the base flood elevation. This certificate shall be required once the foundation is formed and ready for inspection.
- (b) A survey shall be prepared by a qualified surveyor, licensed by the State of Texas, for each building site showing that the slab height is at or above the DFE and the distance from interior lot lines. This shall be required at the foundation form make-up or upon completion of sub-flooring framing for pier-and-beam construction.
- (c) An elevation survey shall be prepared by a qualified surveyor, licensed by the State of Texas, for each building site or lot showing that all drainage requirements have been satisfied. This shall be required before a certificate of occupancy is issued.

Section 113, Board of Appeals, is hereby deleted in its entirety.

Section 114.4, Violation penalties, is hereby deleted in its entirety.

Chapter 7, Fire-Resistance-Rated Construction, is hereby amended by adding Section 723, Townhouse Fire Separation, to provide as follows:

Each townhouse shall be considered a separate building and shall be separated from adjoining townhouses by the use of separate exterior walls meeting the requirements for zero clearance from property lines as required by the type of construction and fire protection requirements, or by a party wall; or when not more than three stories in height, may be separated by a single wall meeting the following requirements:

- (1) A firewall shall be constructed of noncombustible materials between each townhouse with a party wall, such as solid masonry, hollow masonry or reinforced concrete or equal where approved by the building official, having no openings and having a fire-resistive rating of not less than four hours, and having sufficient structural stability under fire conditions to allow collapse of construction on either side without collapse of the wall. Firewalls may be loadbearing or nonloadbearing; however, recesses may be cut into firewalls so long as the four-hour fire-resistive rating is not reduced. Plumbing, piping, ducts, electrical or other building services shall not be installed within or through the four-hour wall.
- (2) Firewalls shall start at the foundation and extend continuously through all stories to and above the roof for a distance of not less than 18 inches, except where the roof assembly is of fire-resistive construction having not less than a two-hour fire-resistive rating and the wall is carried up tightly and continuously against the underside of the roof deck.
- (3) For townhouses to be built in a straight-line configuration, that is the units are not staggered either along front or rear walls or rooflines, then in such event the firewalls shall be extended 18 inches beyond the front and rear exterior walls of the common units they protect, and 24 inches above the common roof they protect. For townhouses to be built in a staggered configuration, either front or rear, the firewall shall extend at least 18 inches beyond the adjoining exterior wall. For townhouses which are to be built with staggered rooflines, the firewall shall extend beyond the roofline of the highest of two adjacent roofs unless the elevation of the adjoining rooflines are less than 24 inches apart in which event the firewall shall extend at least 18 inches above the highest of the two adjoining roofs. The extended portion of any firewall required herein shall comply with the requirements of a firewall as set forth in subsection (1) of section 705. In no event shall the extended portion of any firewall required by this subsection which would otherwise be exposed be covered or have attached thereto combustible materials.
- (4) Roof construction of all townhouses and patio homes shall be of metal, slate, tile or fire-retardant fiberglass 225-pound composition shingles or approved equal.

Section 903 Automatic Sprinkler Systems.

903.1.1 of the International Building Code is hereby amended to provide as follows:

Section 903.1.1.1 Exempt Locations. Automatic sprinklers may not be required with the approval of the fire code official in certain rooms or areas located within a structure

903.2. Where required. Approved automatic sprinkler systems shall be installed throughout all levels to which access is granted of all new Group A, B, E, F, H, I, M, R, S and U occupancies when the building square footage is 3000 square feet or more. In accordance with section 903, and the fire department interpretation and as set in this section, fire walls shall not be added with the intent of separating or dividing a structure for purposes of not installing a fire sprinkler system.

Exceptions: Automatic fire sprinklers are not required in the following open structures: Pavilions, open gazebos, detached canopies or open parking garages as defined by the Building Code. Except for parking garages, open structures shall have a minimum of seventy (70) percent clear opening on all sides.

903.2.1 Group A. An automatic sprinkler system shall be provided throughout buildings and portions thereof used as Group A occupancies in accordance with NFPA 13 installation of sprinkler systems and section 903.2 of the fire department interpretation.

903.2.3 Group E. An automatic sprinkler system shall be provided for Group E occupancies in accordance with NFPA 13 installation of sprinkler systems and section 903.2 of the fire department interpretation.

903.2.4 Group F. An automatic sprinkler system shall be provided throughout all Group F occupancies in accordance with NFPA 13 installation of sprinkler systems and section 903.2 of the fire department interpretation.

903.2.5 Group H. Automatic sprinkler systems shall be provided throughout all high-hazard occupancies in accordance with NFPA 13 installation of sprinkler systems and section 903.2 of the fire department interpretation.

903.2.6 Group I. An automatic sprinkler system shall be provided throughout all Group I occupancies in accordance with NFPA 13 installation of sprinkler systems and section 903.2 of the fire department interpretation.

903.2.7 Group M. An automatic sprinkler system shall be provided throughout all Group M occupancies in accordance with NFPA 13 installation of sprinkler systems and section 903.2 of the fire department interpretation.

903.2.8 Group R. An automatic sprinkler system shall be provided throughout all Group R occupancies in accordance with NFPA 13, 13-R or 13-D installation of sprinkler systems and section 903.2 of the fire department interpretation.

903.2.9 Group S-1. An automatic sprinkler system shall be provided throughout all Group S-1 occupancies in accordance with NFPA 13 installation of sprinkler systems and section 903.2 of the fire department interpretation.

903.2.10 Group S-2. An automatic sprinkler system shall be provided throughout all Group S-2 occupancies in accordance with NFPA 13 installation of sprinkler systems and section 903.2 of the fire department interpretation.

903.2.13 Group B. Is added to the International Building Code: An automatic sprinkler system shall be installed throughout all Group B occupancies in accordance with NFPA 13 installation of sprinkler systems and section 903.2 of the fire department interpretation.

903.3 Installation requirements. Automatic sprinkler systems shall be designed and installed in accordance with NFPA 13, 13-R, 13-D installation of sprinkler systems as modified by the fire department interpretation and applications manual.

903.3.6 Hose threads. Fire hose threads and fittings used in connection with automatic sprinkler systems shall be national standard thread (NST). Fire Department Connection shall be a 5 inch Storz connection.

903.3.7 Fire department connections. The fire department connections shall be located in accordance with section 912 or as approved by the fire code official.

Section 903.4 of the International Building Code is hereby amended to provide as follows:

Section 903.4, Sprinkler System supervision and alarms. All valves controlling the water supply for automatic sprinkler systems shall be electrically supervised. Valves located in a secure location, under the supervision of the property owner, may be supervised in accordance with NFPA 13.

Exceptions: Automatic sprinkler systems protecting one and two-family dwellings. Limited area systems serving fewer than 20 sprinklers. Automatic sprinkler systems installed in accordance with 13R where a common supply main is used to supply both domestic and automatic sprinkler systems and a separate shutoff valve for the automatic sprinkler system is not provided. Jockey pump control valves that are sealed or locked in the open position. Control valves to commercial kitchen hoods, paint spray booths or dip tanks that are sealed or locked in the open position. Valves controlling the fuel supply to fire pump engines that are sealed or locked in the open position. Trim valves to pressure switches in dry, pre-action and deluge sprinkler systems that are sealed or locked in the open position.

Section 903.4.2 of the International Building Code is hereby amended to provide as follows:

Section 903.4.2 Alarms. Approved audible devices shall be connected to every automatic sprinkler system. Such sprinkler water flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Alarm devices shall be provided on

the exterior of the building, in an approved location. When water flow supervisions is provided, alarm devices shall be located within the interior of the building to provide an internal evacuation signal throughout the building. Groups R-1, R-2 and Condominiums shall be provided with an alarm signal device in each unit to provide an internal evacuation signal. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.

Section 905.3 of the International Building Code is hereby amended to provide as follows:

Section 905.3. Required installations. Standpipe systems shall be installed where required by Sections 905.3.1 through 905.3.6 and in the locations indicated in Sections 905.4, 905.5, 905.6 and in open or closed automobile parking garages, as defined by the Building Code. Standpipe systems are allowed to be combined with automatic sprinkler systems.

Exception: Standpipe systems are not required in Group R-3 occupancies.

Section 907.2 of the International Building Code is hereby amended to provide as follows:

907.2 Where Required—New buildings and structures. An approved fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures.

Chapter 9 is hereby amended by adding Section 908.3 as follows:

Section 908.3. In dwellings and dwelling units, smoke detectors shall be mounted on the ceiling or wall at a point centrally located in the corridor or area giving access to each group of rooms used for sleeping purposes and in each sleeping room, and, in dwellings or dwelling units containing more than one story, on each story including basements, but not including uninhabitable attics, in close proximity to the stairway leading to the floor above. Required smoke detectors shall be wired to the structure's electrical system and shall have battery backup. Required smoke detectors shall be connected so that when one alarm sounds all alarms sound.

Section 912.1 of the International Building Code is hereby amended to provide as follows:

Section 912.1, Installation. New Fire department connections shall be installed in accordance with NFPA standard applicable to the system design. The connection shall be a 5 inch Storz connection and shall comply with sections 912.2 through 912.6

Section 1612.3, Establishment of flood hazard areas, is hereby amended to read as follows:

48201CIND0G	11/15/2019
48201C0635M	6/9/2014
48201C0630M	11/15/2019
48201C0445M	5/2/2019
48201C0440N	11/15/2019

Minimum Flood Protection Elevation Regulations			
<i>See also Section 14-333 of the Code of Ordinances</i>			
Special Flood Hazard Area	Design Flood Elevation (DFE) (Freeboard Above .2%)	Foundation Type	FF Proof

Floodway	+36 inches	Pier & Beam	EC (CD, BUC, FC)
Critical Facility	+36 inches	Any, unless in A-zones	EC (CD, BUC, FC)
<i>*Located outside of A-zones, to the extent possible</i>			
AE	+24 Inches	Pier & Beam	EC (CD, BUC, FC)
X-Shaded	At or above the 500 yr. floodplain elevation	Any	EC (CD, BUC, FC)
X-Unshaded	No additional above .2%	Any	EC (CD, BUC, FC)

Legend:

FF= Finished Floor Elevation

EC= Elevation Certificate

Types of EC: Construction Drawings (CD); Building Under Construction (BUC); Finished Construction (FC). The final Finished Construction EC will also verify Highest Adjacent Grade (HAG), Lowest Adjacent Grade (LAG), lowest elevation of machinery and equipment, etc.

See minimum flood elevation protection graphics at Section 14-334 of the Code of Ordinances.

Chapter 23, to the extent of conflict with the following provisions, is hereby deleted.

- (1) All walls where plumbing drain, waste and vent lines are located shall be two-inch by six-inch sized lumber minimum.
- (2) All framing shall be no more than 16 inches on center including rafters, joists and vertical framing.
- (3) All lumber, including rafters, joists and vertical framing, shall be number 2 grade minimum. Utility grade lumber is not allowed.

Chapter 34, Reserved, is hereby amended to read as follows:

Chapter 34, Existing Structures, is hereby amended to read as follows:

- (a) If, within any 12-month period, alterations, additions, renovations, repairs, or any combination thereof, costing in excess of 50 percent of the then physical value of the building are made to an existing building in the floodplain, such building and associated mechanical, electrical, plumbing and fuel gas equipment, fixtures and appurtenances shall be made to conform to the requirements of this code for new buildings in regards to the Design Flood Elevation (DFE).
- (b) If an existing building is damaged by fire or otherwise in excess of 50 percent of its then physical value before such damage is repaired, it shall be made to conform to the requirements of this code for new buildings, except in regards to slab height, where the structure is located outside the floodplain, the footprint is not modified and the slab is intact.

(c) [Reserved.]

(d) For the purpose of this section physical value of the building shall be its appraised value as shown on the city's latest tax roll or the value of the building from an appraisal by an independent professional appraiser. Alternatively, upon filing for an appeal to the floodplain manager, a professional market appraisal for the pre-event evaluation, assessed post-event, may be submitted for review.

(e) If the occupancy of any existing building is entirely changed the building shall be made to conform to the requirements of this code for the new occupancy. If the occupancy of only a portion of an existing building is changed and that portion is separated from the remainder as stipulated in Chapter 3, then only such portion need be made to conform.

(f) The following are authorized: Repair and alterations, not covered by the preceding paragraphs of this section, restoring a building to its condition previous to damage or deterioration, or altering it in conformity with the provisions of this code or in such manner as will not extend or increase the same kind of materials as those of which the building is constructed; but not more than 25 percent of the roof covering of a building shall be replaced in any period of 12 months unless the entire roof covering is made to conform with the requirements of this Code for new buildings and, where warranted, with the applicable permits.

Appendix G, Section G101.3, Scope, is hereby amended to provide as follows:

The provisions of this appendix shall apply to all proposed development in a *flood hazard area* established in Section 1612 of this code, including certain building work exempt from permit under Section 105.2. Where in conflict with either/or Part II, Chapter 14, Article I, Section 14-5 and Part II, Chapter 14, Article IX of the Code of Ordinances, the provisions of the most stringent shall apply.

Appendix G, Section G104, Violations, shall read as follows:

Any violation of a provision of this appendix, or failure to comply with a permit, or variance, or any requirement of this appendix, shall be handled in accordance with the Code of Ordinances of the City of Jersey Village.

Appendix G, Section G105, Variances, is deleted in its entirety.

(Ord. No. 96-02, art. I, § 4-54, 2-19-96; Ord. No. 00-12, § 2, 5-15-00; Ord. No. 01-23, § 1, 7-16-01; Ord. No. 03-14, § 1, 3-17-03; Ord. No. 2011-14, § 5(Exh. E), 3-21-11; Ord. No. 2013-32, § 1(Exh. A), 10-21-13; Ord. No. 2014-23, § 2(Exh. A), 6-16-14; Ord. No. 2017-51, § 2, 11-20-17; Ord. No. 2019-04, § 3, 2-18-19)