On motion by **Councilman Cox** and seconded by **Councilman Rau,** the following ordinance was introduced:

ORDINANCE NO. 3618

An ordinance amending the Gretna Code of Ordinances relative to incorporating the new Advisory Base Flood Elevations into the ordinances and other regulations relative to the requirements of the Federal Emergency Management Agency (FEMA) in connection with National Flood Insurance Program (NFIP) and the Federal Insurance Administration (FIA) of the Department of Homeland Security, and to provide for related matters.

NOW, THEREFORE, BE IT ORDAINED by the City Council of Gretna, Louisiana, acting as governing authority of said City:

SECTION 1. That Section 46-38 (*Maps)* of the Gretna Code of Ordinances be and the same is hereby amended and re-adopted to read as follows:

Sec. 46-38. Official Flood Maps

1) Official flood maps entitled FIA Flood Hazard Boundary Maps and Flood Insurance Rate Maps for the incorporated area of the City of Gretna, Jefferson Parish, LA, are hereby made a part of these regulations and are on file with the city Department of Inspections and Code Enforcement and the Department of Public Works.

2) The City of Gretna Department of Inspections and Code Enforcement and the Department of Public Works are authorized and directed to apply the Advisory Base Flood Elevation (ABFE) pursuant to the FEMA Flood Recovery Guidance for Jefferson Parish, dated April 12, 2006, until such time as the Flood Insurance Rating Maps (FIRM) are updated and approved. The Council by resolution may adopt any additional requirements necessary to effectuate the application of the Flood Recovery Guidance for City of Gretna or other such guidance recovery advisories issued by FEMA.

SECTION 2. That Section 46-38 of the Gretna Code of Ordinances be and the same is hereby amended by adding the definition of "Freeboard" to read as follows:

Definitions.

The following words and phrases, when used in this chapter, shall have the meanings respectively ascribed to them:

Freeboard means a factor of safety usually expressed in feet above a flood level for the purposes of floodplain management. "Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed.

Provided that a majority of the City of Gretna Council has voted in favor of this ordinance, this ordinance shall have full force and effect of law at midnight on the tenth day following the Clerk's presentment of the same to the Mayor, in accordance with Louisiana Revised Statutes 33:406(c)(2) unless the Mayor returns the same, unsigned, to the Clerk during that ten-day period.

This ordinance having been submitted to a vote, the vote thereon was as follows:

Yeas: **Council Members Bolar, Constant, Cox, Rau and Templet**

Nays: None

Absent: None

ADOPTED: DECEMBER 11, 2005

/S/ AZALEA M. ROUSSELL, CMC
CITY CLERK
CITY OF GRETNA
STATE OF LOUISIANA

APPROVED: DECEMBER 12, 2005

/S/ RONNIE C. HARRIS
MAYOR
CITY OF GRETNA
STATE OF LOUISIANA

Ordinance presented to the
Mayor on December 12, 2006

/S/ AZALEA M. ROUSSELL, CMC
CITY CLERK

Ordinance returned from the
Mayor on December 12, 2006

/S/ AZALEA M. ROUSSELL, CMC
CITY CLERK

A TRUE COPY:

/S/ AZALEA M. ROUSSELL, CMC
CITY CLERK

City of Gretna

Chapter 28 - FLOODS[1]

Footnotes:

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State Law reference— General powers of city, R.S. 33:361.

ARTICLE I. - IN GENERAL

Sec. 28-1. - Blocking or impeding drainage ditches, canals or subsurface drains.

(a) No person shall dump, discharge or permit to be dumped or discharged into any waters or drains of this city, specifically drainage ditches, canals and subsurface drains, any trees or other objects, substances or materials, which might interfere with the drainage.

(b) The blocking or impeding of any drainage ditch, canal or subsurface drain on or across a highway or street, or the blocking or impeding of any natural drainage is prohibited.

(Code 1979, § 16-112.1(a), (b); Code 1997, § 46-1)

Sec. 28-2. - Development of publicly owned open areas greater than five acres prohibited.

Development of publicly owned open areas greater than five acres is prohibited and such open areas shall be preserved as publicly owned or controlled open space.

(Code 1997, § 46-2; Ord. No. 3211, 5-11-1998)

Sec. 28-3. - Ten-year storm event post-development rate of runoff for proposed developments.

For all proposed developments, other than single-family residential, totaling 10,000 square feet or more (all phases), and all single-family residential developments totaling five acres or more (all phases), the ten-year storm event post-development rate of runoff shall not exceed the ten-year storm event predevelopment rate of runoff. To ensure that the post-development rate of run-off does not exceed the predevelopment rate of runoff, on-site detention is hereby required in a manner approved by the city department of public works. The detention system cannot release water from the site at a rate greater than the predevelopment rate of runoff.

(Code 1997, § 46-3; Ord. No. 3213, 5-11-1998)

Secs. 28-4—28-24. - Reserved.

ARTICLE II. - FLOOD DAMAGE PREVENTION[2]

Footnotes:

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State Law reference— Ordinances to comply with federal flood insurance programs, R.S. 38:84.

DIVISION 1. - GENERALLY

Sec. 28-25. - Statutory authorization, findings of fact, purpose, and methods of reducing flood loss.

(a) *Statutory authorization.* The legislature of the state has R.S. 38:84 delegating the responsibility of local governmental units to adopt regulations designed to minimize flood losses to comply with the Federal Flood Insurance Act. Therefore, the City of Gretna, Louisiana, includes R.S. 38:85 hurricane protection and flood control in City of Gretna, does ordain as follows:

(b) *Findings of fact.*

(1) The flood hazard areas of the city are subject to periodic inundation, which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, and extraordinary public expenditures for flood protection and relief, all of which adversely affect the public health, safety, and general welfare.

(2) These flood losses are created by the cumulative effect of obstructions in floodplains which cause an increase in flood heights and velocities, and by the occupancy of flood hazard areas by uses vulnerable to floods and hazardous to other lands because they are inadequately elevated, floodproofed, or otherwise protected from damage.

(c) *Statement of purpose.*

(1) It is the principal purpose of this section to prescribe minimum requirements for land use and control measures for floodprone areas in the city as determined by the Federal Insurance Administration (FIA) of the FEMA. These regulations are based upon relevant technical storm data specific to the city, as developed by the U.S. Corps of Engineers for the Federal Insurance Administration. These measures must be applied uniformly throughout the community to all privately and publicly owned land within floodprone areas based upon standards set forth in these regulations as prescribed by the Federal Insurance Administration.

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

a. Protect human life and health;

b. Minimize expenditure of public money for costly flood control projects;

c. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

d. Minimize prolonged business interruptions;

e. Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;

f. Help maintain a stable tax base by providing for the sound use and development of floodprone areas in such a manner as to minimize future flood blight areas; and

g. Ensure that potential buyers are notified that property is in a flood area.

(d) *Methods of reducing flood losses.* In order to accomplish its purposes, this division uses the following methods:

(1) Restrict or prohibit uses that are dangerous to health, safety, or property in times of flood, or cause excessive increases in flood heights or velocities;

(2) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

(3) Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of floodwaters;

(4) Control filling, grading, dredging, and other development, which may increase flood damage;

(5) Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.

(e) *Department responsibility.* It shall be the responsibility of the floodplain administrator/CRS coordinator along with the building inspection department and code enforcement department to coordinate the efforts of the departments of public works, site plan review committee, and relative to the implementation and enforcement of all regulations of the Federal Emergency Management Agency (FEMA) in connection with the National Flood Insurance Program (NFIP) and to submit to FEMA any and all necessary reports required thereby.

(Code 1979, § 6-113; Code 1997, § 46-31; Ord. No. 3618, § 2, 12-12-2006; Ord. No. 4439, 10-10-2012)

Sec. 28-26. - Definitions.

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

Appurtenant/accessory structure means a structure which is on the same parcel of property as the principal structure to be insured and the use of which is incidental to the use of the principal structure, provided the structure is solely used for parking and storage or access and does not exceed 1,000 square feet.

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

Area of shallow flooding means a designated AO, AH, AR/AO, AR/AH, or VO zone on a community's flood insurance rate map (FIRM) with a one-percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

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

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

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

Breakaway wall means a wall that is not part of the structural support of the building and is intended, through its design and construction, to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

Coastal high hazard area means the portion of a coastal floodplain having special flood hazards that is subject to high velocity waters, including hurricane or storm surges.

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.

Cumulative substantial damage means flood-related damages sustained by a structure on two separate occasions during a rolling ten-year period for which the cost of repairing the flood damage, on the average, equals or exceeds 25 percent of the market value of the structure before the damages occurred.

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

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

Existing construction means, for the purposes of determining rates, structures for which the start of construction commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. The term "existing construction" may also be referred to as "existing structures."

Existing manufactured home park or subdivision means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community.

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

Federal Insurance Administrator means the individual to whom the Secretary of the Department of Homeland Security has delegated the administration of the program (34F.R.2680-81, February 27, 1969).

Flood or *flooding* means a general and temporary condition of partial or complete inundation of normally dry land areas from:

(1) The overflow of inland or tidal waters.

(2) The unusual and rapid accumulation or runoff of surface waters from any source.

Flood hazard boundary map means an official map or plot of a community issued or approved by the administrator on which the boundaries of the floodplain areas having special hazards have been drawn. This map must conform to the special flood hazard map and be of sufficient scale and clarity to permit the ready identification of individual building sites as either within or without the area having special flood hazards.

Flood insurance rate map (FIRM) means an official map of a community, on which the Federal Emergency Management Agency has delineated both the special flood hazard areas and the risk premium zones applicable to the community.

Flood insurance study (FIS) 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 protection system means those physical structural works for which funds have been authorized, appropriated, and expended and which have been constructed specifically to modify flooding in order to reduce the extent of the area within a community subject to a special flood hazard and the extent of the depths of associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood-modifying works are those constructed in conformance with sound engineering standards.

Floodplain or floodprone area means any land area located in special flood hazard areas susceptible to being inundated by water from any source (see *Flooding*).

Floodplain management means the operation of an overall program of corrective and preventive measures for reducing flood damage, including, but not limited to, emergency preparedness plans, flood control works and floodplain management regulations.

Floodplain management regulations means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance and erosion control ordinance) and other applications of police power. The term "floodplain management regulations" describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

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

Floodway (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.

Freeboard means a factor of safety, usually expressed in feet above a flood level, for the purposes of floodplain management. The term "freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed. Freeboard requires at least a one-foot freeboard to account for the one-foot rise built into the concept of designating a floodway and the encroachment requirements where floodways have not been designated.

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

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

Historic structure means any structure that is:

(1) Listed individually in the National Register of Historic Places (a listing maintained by the Department of the 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.

Land use and control measures means zoning ordinances, subdivision regulations, building codes, health regulations, and other applications and extensions of the normal police power to provide standards and effective enforcement provisions for the prudent use and occupancy of floodprone areas.

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

Levee system means a flood protection system which consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

Lowest floor means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking 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 as defined in the Uniform Standards Code for Manufactured Housing (R.S. 51:911.21 et seq.) or Title 44 of the Code of Federal Regulations (CFR), whichever is more restrictive. A structure transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a recreational vehicle.

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

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

New construction means, for the purpose of determining insurance rates, structures for which the start of construction commenced on or after the effective date of the initial FIRM or after December 31, 1974, whichever is later, for the first placement of permanent construction on a site, such as the pouring of slabs or footings or any work beyond the stage of excavation. For a structure without a basement or poured footings, the start of construction includes the first permanent framing or assembly of the structure or any part thereof or its pilings or foundation, or the affixing of any prefabricated structure or mobile home to its permanent site. Permanent construction does not include land preparation, land clearing, grading, filling; excavation for basement, footings, piers, or foundations; erection of temporary forms; installation of sewer, gas and water pipes, or electric or other service lines from the street or existence on the property of accessory buildings, such as garages or sheds, not occupied as dwelling units or not a part of the main structure.

New manufactured home park or subdivision means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by a community.

One-hundred-year flood/storm means the highest level of flooding that, on the average, is likely to occur once in every 100 years; that has a one-percent chance of being equaled or exceeded in any given year. This is the regulatory standard also referred to as the "100-year flood."

Overtopping means the amount of water passing over the top of a structure as a result of wave run-up or surge action.

Ponding means the storage behind a water-retaining structure of water from interior runoffs or the overtopping of a structure.

Recreational vehicle means a vehicle which is:

(1) Built on a single chassis;

(2) 400 square feet or less when measured at the largest horizontal projections;

(3) Designed to be self-propelled or permanently towable by a light-duty truck; and

(4) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

Repetitive loss means flood-related damages sustained by a structure resulting in two or more claim payments of more than $1,000.00 each from the National Flood Insurance Program (NFIP) within any rolling ten-year period for a home or business.

Residential living area means all floor areas, except unenclosed porches, sloops, exterior and unenclosed stairs, and accessory uses, such as private garages, carports, porte-cocheres, open and enclosed sheds, bomb and fallout shelters, private stables, and minor buildings used as accessory buildings, as defined in "appurtenant structure," not exceeding 1,000 square feet.

Residential structure means a building, or portion thereof, designed or used exclusively for residential occupancy, but not including trailers, hotels, motels, and motor lodges.

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

Severe repetitive loss (SRL), established in section 1361A of the National Flood Insurance Act, as amended (NFIA), 42 USC 4102a., and severe repetitive loss (SRL) structure is defined as a residential property that is covered under an NFIP flood insurance policy, having two of the referenced claims within any ten-year period but greater than ten days apart, and either:

(1) Has at least four NFIP claim payments (including building and contents) over $5,000.00 each, and the cumulative amount of such claims payments exceeds $20,000.00; or

(2) For which at least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.

Special flood hazard area is the land in the floodplain within a community designated by the Federal Insurance Administrator on official flood hazard boundary map as "special flood hazards," subject to a one-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 rate making has been completed in preparation for publication of the FIRM, zone A usually is refined into zones A, AO, AH, A1-30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO, V1-30, VE or V.

Special flood hazard maps means an official map or plot of a community issued or approved by the administrator on official flood hazard boundary maps as "special flood hazards" which may be flooded in the event of a 100-year flood.

Start of construction (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (Pub. L. 97-348) includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure means for floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank that is principally above ground, as well as a manufactured home.

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

Substantial improvement means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before start of construction of the improvement. The term "substantial improvement" includes structures which have

incurred substantial damage, regardless of the actual repair work performed. The term "substantial improvement" 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 ensure 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.

Surge means the mass of water causing an increase in elevation of water surface at the time of a hurricane or storm.

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

Violation means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Section 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) is presumed to be in violation until such time as that documentation is provided.

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

(Code 1979, § 6-109; Code 1997, § 46-32; Ord. No. 4439, 10-10-2012)

Sec. 28-27. - General provisions.

(a) *Lands to which this article applies.* The article shall apply to all areas of special flood hazard with the jurisdiction of city.

(b) *Basis for establishing the areas of special flood hazard.* The areas of special flood hazard identified by the Federal Emergency Management Agency in the current scientific and engineering report entitled, "The Preliminary Flood Insurance Study (FIS) for Jefferson Parish and Incorporated Areas," dated November 1, 1985, with accompanying Preliminary Digital Flood Insurance Rate Maps (DFIRMs) for the east bank of the Mississippi River and the FEMA Advisory Base Flood Elevations (ABFEs) dated April 12, 2006, with accompanying inundation and ABFE maps, dated June 2006, for the west bank of the Mississippi River, and any revisions thereto are hereby adopted by reference and declared to be a part of this article.

(1) Official flood maps entitled Preliminary Digital Flood Insurance Rate Maps (DFIRMs) for the City of Gretna, LA, Community No. 225198, effective November 1, 1985, and as hereafter amended are hereby made a part of these regulations in addition to the previous March 23, 1995, official flood maps and they are both on file with the floodplain administrator/CRS coordinator, city site plan review committee, building inspection department, the code enforcement department, the department of public works, and the Department of Homeland Security.

(2) Notwithstanding the provisions of subsection (b)(1) of this section, the floodplain administrator/CRS coordinator, the city site plan review committee, the building inspection department, the code enforcement department,, the department of public works, and the Department of Homeland Security are authorized and directed to apply the preliminary DFIRMs pursuant to the FEMA Louisiana Flood Recovery Guidance for City of Gretna, dated February 11, 2008, until such time as the final digital flood insurance rate maps (DFIRMs) are issued by FEMA and subsequently adopted by the city. The council, by resolution, may adopt any additional requirements necessary to effectuate the application of the Flood Recovery Guidance for the City of Gretna or other such guidance recovery issued by FEMA.

(3) The provisions adopted in subsections (b)(1) and (2) of this section, hereby eliminate the use of FEMA advisory base flood elevations (ABFEs) in all of the city on the east bank, which were previously adopted on July 19, 2006. The FEMA ABFEs however, are still in force for all of the city on the west bank until final FIRMs are issued as mentioned in subsection (b)(2) of this section.

(c) *Designation of coastal high hazard areas.* The Federal Insurance Administrator is the official agency that has designated coastal high hazard areas and FIA official flood maps are on file at the offices of the site plan review committee, building inspection department, code enforcement department, and public utilities department.

(d) *Compliance.*

(1) No structure or land shall hereafter be located, altered, or have its use changed which would result in the structure to become noncompliant and thereby shall require full compliance with the terms of this division and other applicable regulations.

(2) When a regulatory floodway has not been designated, the floodplain administrator/CRS coordinator along with the appropriate city departments, must require that no new construction, substantial improvements, or other development (including fill) shall be permitted within zones A1-30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community (44 CFR 60.3C10).

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

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

(1) Considered as minimum requirements;

(2) Liberally construed in favor of the city council; and

(3) Deemed neither to limit nor repeal any other powers granted under state statutes.

(g) *Warning and disclaimer or liability.* The degree of flood protection required by this division is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On rare occasions, greater floods can and will occur and flood heights may be increased by manmade or natural causes. This division 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 division shall not create liability on the part of the community or any official or employee thereof for any flood damages that result from reliance on this division or any administrative decision lawfully made hereunder.

(Code 1979, § 6-110; Code 1997, § 46-33; Ord. No. 4439, 10-10-2012)

Sec. 28-28. - Administration.

(a) *Designation of the floodplain administrator/CRS coordinator.* The floodplain administrator/CRS coordinator is hereby appointed to administer and implement the provisions of this division and other appropriate sections of 44 CFR (Emergency Management and Assistance—National Flood Insurance Program Regulations) pertaining to floodplain management in conjunction with the building inspection department, code enforcement department, public works department and site plan review committee.

(b) *Duties and responsibilities of the floodplain administrator/CRS coordinator.* Duties and responsibilities of the floodplain administrator/CRS coordinator 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 division.

(2) Make the necessary interpretation 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).

(3) Under the provisions of 44 CFR Chapter 1, Section 65.12, of the National Flood Insurance Program regulations, a community may approve certain development in zones A1-30, AE, AH, on the community's FIRM which increases the water surface elevation of the base flood by more than one foot, provided that the community first completes all of the provisions required by Section 65.12.

(4) When base flood elevation data has not been provided in accordance with section 28-27(b), 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 this division.

(5) Perform administrative and professional work as the certified floodplain manager/CRS coordinator and must maintain certification as a certified floodplain manager.

(6) Update and review the FEMA database of repetitive loss structure in the city, maintain flood insurance rate map (FIRM) files, oversee and update special flood hazard area (SFHA) maps.

(7) Perform administrative and professional work for all city FEMA mitigation grant proposal submissions, reporting, recordkeeping, reimbursement requests to Louisiana Homeland Security/Emergency Preparedness and maintains approved FEMA mitigation grant records and necessary information required by the state office of homeland security and emergency preparedness for closeout, and representation for the city mitigation projects and FEMA floodplain issues.

(8) Provide citizens, insurance agents, lending institutions, and real estate brokers assistance with flood insurance rate maps, technical guidance on various mitigation methods, and inquires referencing the National Flood Insurance Program.

(9) Review floodplain administration/CRS coordinator to coordinate on related projects provided by the state DOTD, U.S. Army Corps of Engineers, and city departments along with their contracted professional service agents to ensure compliance with FEMA guidelines in the course of the oversight for FEMA mitigation grants.

(10) Prepare, obtain, and maintain all documentation necessary to justify city classification under the community rating system program; performs annual certification of community rating system program review and designated renewal period of complete certification of the program.

(c) *Permit procedures, construction requirements, review of construction.*

(1) Application for a floodplain development building permit shall be presented to the building inspection department on forms furnished by the department and may include, but not be limited to, plans in duplicate drawn to scale showing the location, dimensions, and elevation of proposed landscape alterations, existing and proposed structures, including the placement of manufactured homes, and the location of the foregoing in relation to areas of special flood hazard. Additionally, the following information is required:

a. Elevation (in relation to mean sea level), of the lowest floor (including 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 a registered professional engineer or architect that the nonresidential floodproofed structure shall meet the floodproofing criteria of section 28-29(b);

d. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development;

e. Maintain a record of all such information in accordance with section 28-29(a).

(2) Approval or denial of a floodplain development building permit by the office of inspection and code enforcement shall be based on all of the provisions of this division and 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.

(3) *Securing a permit.*

a. In the city, it shall be unlawful to proceed with any new development, construction, or substantial improvement, to include repetitive loss and substantial damaged structures, or mobile homes, without having previously obtained a permit properly numbered and approved from the building official.

b. It shall be the duty of the code enforcement department to see that such work requiring a permit is authorized. All work must comply with the building code, as well as this chapter, and shall be subject to inspection whether a permit is required or not, and is subject to citation at the discretion of the director.

c. All necessary permits must be received from those governmental agencies from which approval is required by federal or state law, including Section 404 of the Federal Pollution Control Act Amendments of 1973, 33 USC 1334.

(4) *Review of construction.* It shall be the responsibility of the building official or code enforcement official, as appropriate, to ensure that:

a. The first floor elevation of new residential structures or substantial improvements to include repetitive loss, substantially damaged, and severe repetitive loss structures be either at or above the base flood level of a 100-year storm;

b. The first floor elevation of new nonresidential structures or substantial improvements to include repetitive loss and substantially damaged structures be either at or above the base flood level of a 100-year storm or, if below the base flood elevation, that together with its attendant utility and sanitary facilities be floodproofed up to the level of the base flood elevation of a 100-year storm;

c. Where floodproofing is utilized for a particular structure, a state registered architect or state registered civil engineer shall certify that the floodproofing methods and materials are adequate to withstand the flood depth pressures, velocities, impact and uplift forces and other factors associated with the base flood, and a record of such certificates indicating the specific elevation in relation to mean sea level to which such structures are floodproofed shall be maintained by the building inspection department, including but not limited to electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities designed and/or located to prevent water entry to accumulation.

(5) *Construction requirements.*

a. *Utilization of new uses.*

1. Any new structure or substantial improvement, to include repetitive loss and substantially damaged structures as well as prefabricated and mobile homes within a floodplain area having special hazards shall be:

(i) Designed and built to protect the construction against flood damage;

(ii) Built or modified in compliance with the building code and good engineering practices so as to prevent flotation, collapse, or lateral movement of the structure;

(iii) Use construction materials and utility equipment that are resistant to flood damage;

(iv) Use construction methods and practices that will minimize flood damage.

2. The structure shall be adequately anchored to foundation and, if a raised structure, shall be adequately anchored to the columns.

3. The structure shall have its lowest floor level at or above the base flood elevation of a 100-year storm.

b. *Existing uses.* Any existing use located on land below the level of the 100-year flood in a coastal high hazard area shall not be expanded except in accord with these provisions.

c. *Mobile home parks or subdivisions.* New or improved mobile home parks or subdivisions in Zones A1-30, for new, substantially improved or expanded manufactured home parks or subdivisions for manufactured home placement not in existing manufactured home parks or subdivisions, adequate access and drainage shall be provided and, if pilings are used for elevation, lots shall be large enough to permit steps, piling foundations shall be placed in stable soil no more than ten feet apart, and reinforcement shall be provided for pilings more than six feet above the ground level.

(6) *Manufactured home flood protection.*

a. No manufactured home shall be placed in a floodway or a coastal high hazard area, except in an existing manufactured home park or existing manufactured home subdivision.

b. All manufactured homes shall be anchored to resist flotation, collapse or lateral movement. Specific requirements shall be:

1. Over-the-top ties at each of the four corners of the manufactured home, with two additional ties per side at intermediate locations, and manufactured homes less than 50 feet long requiring one additional tie per side;

2. Frame ties at each corner of the home with five additional ties per side at intermediate points, and manufactured homes less than 50 feet long requiring four additional ties per side;

3. All components of the anchoring system be capable of carrying a force of 4,800 pounds;

4. Any additions to the manufactured home are similarly anchored.

c. For new manufactured home parks and subdivisions; for expansions to existing manufactured home parks and subdivisions; for existing manufactured home parks and subdivisions where the repair, reconstruction or improvement of the streets, utilities and pads equals or exceeds 50 percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement has commenced; and for manufactured homes not placed in a manufactured home park or subdivision the following is required:

1. Stands or lots are elevated on compacted fill or on pilings so that the bottom of the longitudinal structural I-beam of the manufactured home will be at or above the base flood level. A state registered land surveyor shall submit a certification to the director of

inspection and code enforcement stating that the floor is at, or above, the base flood elevation;

2. Adequate surface drainage and access for a hauler are provided; and

3. In the instance of elevation on pilings:

(i) Lots are large enough to permit steps;

(ii) Lots are large enough to permit steps;

(iii) Piling foundations are placed in stable soil no more than ten feet apart; and

(iv) Reinforcement is provided for pilings more than six feet above the ground-level.

(d) *Variance procedures.* The city council shall hear and render judgment on requests for variances from the requirements of this division.

(1) Any applicant for a permit from the building official required by this chapter whose application has been refused or revoked, or any person who has been ordered by the director in incurring any expense, or any person who feels that there are practical difficulties or unnecessary hardships involved in carrying out the strict letter of this chapter, or where it is alleged that there is an error in any order, requirement, decision, or any determination made by the director may, within 15 days after being notified of such refusal or order, appeal from the decision of the director to the board of standards and appeals by giving the building official notice in writing that the person does so appeal. Said notice shall be accompanied by a check in the amount indicated in the building code of the city.

(2) It shall be the duty of the council to:

a. Hear and decide appeals where it is alleged there is error in any order, requirement, decision, or determination made by the building official or code enforcement official in the enforcement of this chapter;

b. Hear and decide all matters referred to it or upon which it is required to pass under this chapter;

c. Pass upon appeals where there are practical difficulties or unnecessary hardships in the way of carrying out the strict letter of this chapter, to vary or modify the application of any of the regulations or provisions of this chapter relating to the construction or alteration of buildings or structures so that the spirit of this chapter shall be observed, public safety and welfare secured, and substantial justice done;

d. Interpret the intent or meaning of this chapter and so advise the director and to recommend to the council such amendments or revisions which may be required to clarify the wording as well as recommend amendments or revisions as may be required from time to time to meet the changing condition.

(3) Variances may be issued:

a. In cases generally limited to 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, in conformance with:

1. A showing of good and sufficient cause.

2. A determination that failure to grant the variance would 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.

b. Only upon a determination that the variance is the minimum necessary, considering the flood hazard to affect relief.

c. In situations which could result in an undue delay in construction when all of the above conditions have been met and the requested variance will not increase the cost of the flood insurance, the director may grant a variance.

(4) In order to execute the above-mentioned powers, the city council may reverse or affirm wholly or in part, or may modify the order, requirement, decision or determination appealed from and may make such order, requirement, decision, or determination of the building official or code enforcement official, or to decide in favor of the applicant on any matters on which it is required to pass under this chapter.

(5) Decisions of the city council should state the variances or denials granted and conditions, if any, as they may require in such action. The decisions shall be filed in the offices of the building official and code enforcement official within ten working days after the hearing and a certified copy sent to the applicant by certified mail. The building official or code enforcement official must abide in the actions taken by the council.

(6) In those instances where a variance is granted, the appellate shall be given a written notice that a structure built with the lowest floor elevation below the BFE will then have the cost of flood insurance commensurate with the increased risk resulting from the reduced lowest floor elevation.

(e) *Final body of variance appeal.*

(1) The city council shall be the final body of appeal to hear petitions supporting variances in this chapter after all other avenues of appeal have been exhausted.

(2) In order to execute the above-mentioned powers, the city council may reverse an action wholly or in part, or may modify the order, requirement, decisions, or determination appealed from and may make such order requirement, decision or determination of the building official or code enforcement official, or decide in favor of the applicant on any matters on which it is required to pass under this chapter.

(3) Decisions of the city council should state the variances or denials granted and conditions, if any, as they may require in such action. The decisions shall be filed in the office of inspection and code enforcement within ten days after the hearing and a certified copy sent to the applicant by certified mail. The building official and code enforcement official must abide by the actions taken by the city council.

(f) *Recording of base flood elevation variance affidavit.* Any applicant whose variance from the base flood elevation is approved by the city, shall record in the conveyance records of the clerk of the court of the parish an affidavit indicating that the applicant's property does not meet the required base flood elevation of the city. Verification of the applicant's recorded affidavit shall be presented to the planning and zoning department prior to the issuance of a use and occupancy certificate.

(Code 1979, § 6-111; Code 1997, § 46-34; Ord. No. 4439, 10-10-2012)

Sec. 28-29. - Provisions for flood hazard reduction.

(a) *General standards.* In all areas of special flood hazards the following provisions for permits are required for all new construction and substantial improvements to insure sites are reasonably safe from flooding:

(1) All new construction or substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;

(2) All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;

(3) All new construction or substantial improvements shall be constructed with materials resistant to flood damage;

(4) All new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;

(5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of 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;

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

(8) First floor elevation required.

a. All building permits issued for new construction or substantial improvements to include repetitive loss and substantial damaged structures must have imprinted upon them the required mean sea level elevation of the lowest floor (including basement) and the base flood level of the 100-year storm. Such elevation requirements apply to all new residential and non-residential structures as well as substantial improvement.

b. If the nonresidential structure and its attendant utility and sanitary facilities are located below the level of the prescribed base flood elevation, then the nonresidential structure and its attendant utility and sanitary facilities must be floodproofed up to the level of the prescribed base flood elevation.

c. Where floodproofing is utilized for a particular structure, a state registered architect or state registered civil engineer shall certify that the floodproofing methods and materials are adequate to withstand the flood depth pressures, velocities, impact and uplift forces and other factors associated with the base flood, and a record of such certificates indicating the specific elevation in relation to mean sea level, including, but not limited to, electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities to which such structures are floodproofed and/or located to prevent water entry to accumulation shall be maintained by the building inspection department.

(9) *Requirement for lowest floor of new construction to be elevated at or above the level of the 100-year flood.*

a. *Responsibilities of the building inspection department regarding first floor elevation.*

1. It shall be the responsibility of the building inspection department to act as repository for first-floor elevation records and to assign required first-floor elevation. The notation shall be made on the face of the building permit. The first floor elevation of new residential livable areas and substantial damage/improvements must, as a minimum, be elevated to the 100-year base flood level, as determined by the FEMA preliminary DFIRM's of November 1, 1985, for Community No. 225198 and also in accordance with "Higher Regulatory Standards" stipulated in section 28-29(f) for certain designated areas of the city.

2. Minimum floor elevation requirement for new construction and substantial improvements:

Zone	Elevation
AE	Base flood elevation

X, V	See map for specific elevation

3. All new construction and substantial improvements within Zones V1—30:

   (i) Shall be elevated on adequately anchored pilings or columns, and securely anchored to such piles or columns so that the lowest horizontal portion of the structural members of the lowest floor (excluding the pilings or columns) is elevated to or above the base flood level; and

   (ii) That a state registered architect or state registered civil engineer certify that the structure is securely anchored to adequately anchored piling or columns in order to withstand velocity waters and hurricane wave wash. The space below the lowest floor shall be free of obstructions or shall be constructed with breakaway walls intended to collapse under stress without jeopardizing the structural support of the structure so that the impact on the structure by abnormally high tides or wind driven water is minimized. Such enclosed space shall not be used for human habitation and area use is restricted to parking, storage, or building access only. Within V zones, fill shall not be used for structural support of buildings.

b. *Responsibilities of the building inspection department regarding grade certificate*. Upon application for a building permit and prior to the issuance of a use and occupancy certificate, the applicant must present a grade certificate to the building inspection department which shows the mean sea level elevation of the first floor of the structure, and any electrical, heating, ventilation, plumbing, air conditioning equipment and any other service facilities, as certified by a registered civil engineer or land surveyor, using the benchmarks established by the department of public utilities, and certification that requirements of Article 202 et seq. of the city building code, or the elevation requirements contained herein, whichever is the more restrictive, have been complied with within the floodprone or high hazard areas.

(b) *Specific standards.*

(1) *Areas of special flood hazards.* In all areas of special flood hazards where base flood elevation data has been provided as set forth in sections 28-27(b), 28-28(b) and 28-29(c) the following provisions are required:

a. *Residential construction.* Permits issued for new construction and substantial improvement of any residential structure, to include repetitive loss and substantial damaged structures must have the required mean sea level, as defined, elevation of the lowest floor (including basement) and the base flood level of the 100-year storm. New construction and substantial improvement of any residential structure, as well as nonresidential structures, shall have the lowest floor (including basement), elevated to or above the base flood elevation. A registered professional engineer, architect, or land surveyor shall submit a certification to the floodplain administrator/CRS coordinator that the standard of this subsection as proposed in section 28-28(c)(1) is satisfied.

b. *Nonresidential construction.* Permits issued for new construction and substantial improvements of any commercial, industrial or other nonresidential structure shall either have the lowest floor (including basement) elevated to or above the base flood level or, 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 and effects of buoyancy, floodproofed up to the level of the prescribed base flood elevations. A registered professional engineer or architect 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 floodplain administrator/CRS coordinator.

c. *Enclosures.* New construction and substantial improvements, with fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria:

    1. A minimum of two openings on separate walls having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.

    2. The bottom of all openings shall be no higher than one foot above grade.

    3. Openings may be equipped with screens, louvers, valves, or other coverings or devices, provided that they permit the automatic entry and exit of floodwaters.

(2) *Manufactured homes.*

a. Require that all manufactured homes to be placed within Zone A on a community's FHBM or FIRM shall be installed using methods and practices which minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.

b. Require that manufactured homes that are placed or substantially improved within Zones A1-30, AH, and AE on the community's FIRM on sites:

    1. Outside of a manufactured home park or subdivision;

    2. In a new manufactured home park or subdivision;

    3. In an expansion to an existing manufactured home park or subdivision; or

    4. In an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage as a result of a flood;

be elevated on a permanent foundation such that the bottom of the longitudinal structural I-beam of the manufactured home is elevated to or above the base flood elevation plus one foot and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

c. Require that manufactured homes be placed or substantially improved on sites in an existing manufactured home park or subdivision with Zones A1-30, AH and AE on the community's FIRM that are not subject to the provisions of subsection (4) of this section be elevated so that either:

    1. The bottom of the longitudinal structural I-beam of the manufactured home is at or above the base flood elevation; or

    2. The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

(3) *Recreational vehicles.* Require that recreational vehicles placed on sites within zones A1-30, AH, and AE on the community's FIRM either:

a. Be on the site for fewer than 180 consecutive days; or

b. Be fully licensed and ready for highway use; or

c. Meet the permit requirements of section 28-28(c)(1); and

the elevation and anchoring requirements for manufactured homes in subsection (b)(2) of this section. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.

(c) *Standards for subdivision proposals.*

(1) All subdivision proposals, including the placement of manufactured home parks and subdivisions, shall be consistent with section 28-25(b), (c), and (d).

(2) All proposals for the development of subdivisions, including the placement of manufactured home parks and subdivisions, shall meet floodplain development permit requirements of sections 28-27, 28-28 and the provisions of section 28-29.

(3) Base flood elevation data shall be generated for subdivision proposals and other proposed developments, including the placement of manufactured home parks and subdivisions, which is greater than 50 lots or five acres, whichever is lesser, if not otherwise provided pursuant to sections 28-27(b) or 28-28.

(4) All subdivision proposals, including the placement of manufactured home parks and subdivisions, shall have adequate drainage provided to reduce exposure to flood hazards.

(5) All subdivision proposals, including the placement of manufactured home parks and subdivisions, shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.

(6) Stormwater run-off detention.

a. For all proposed developments, other than single-family residential, totaling 10,000 square feet or more (all phases), and all single-family residential developments totaling five acres or more (all phases), the ten-year storm event post-development rate of run-off shall not exceed the ten-year storm event pre-development rate of run-off. To insure that the post-development rate of run-off does not exceed the pre-development rate of run-off, on-site detention will be required in a manner approved by the city department of public works. The detention system cannot release water from the site at a rate greater than the pre-development rate of run-off.

b. The design concepts for detention facilities and determination of storm run-off shall be consistent with sound hydrological and hydraulic engineering principles and practices, and the provisions of the Jefferson Parish "Storm Drainage Design Manual," dated 1981, and "Parking Lot Storm Run-Off Detention Manual" prepared by the engineering division of the parish department of public works. The director of public works shall approve any and all modifications to the drainage manuals.

c. The developer shall submit drainage design calculations, including a drainage map, along with engineering plans to the department of public works for approval by the city engineer. The drainage map shall include a line diagram reflecting the existing drainage system from the outfall end of the proposed development to the receiving outfall canal, reflected in the applicable current master drainage plan. The developer shall also submit calculations showing the impacts to the detention facility from a 100-year storm event.

d. 1. Drainage calculations shall consider all relevant information that would affect the hydraulics of the drainage system, including, but not limited to, the following:

(i) Drainage basin characteristics;

(ii) System hydraulics; and

(iii) Other external influences upstream and downstream from the drainage system that may impact or be impacted by the proposed system.

2. Drainage calculations shall consist of:

(i) Ten-year pre-development flow;

(ii) Ten-year post-development flow;

(iii) Description of release facility and volume of release versus depth of storage in detention facility for ten-year and 100-year storm events;

(iv) Maximum depth of water in the detention facility for design storms;

(v) Description of impact to the proposed facility resulting from increased depth of storage; and

(vi) The description of how the system will be maintained.

e. Unless unstable or highly erosive soil conditions indicate a lower design velocity is desirable, or unless ditch paving at the outlet is provided, the maximum velocity for culvert design shall adhere to the criteria in the parish "Storm Drainage Design Manual" dated 1981.

f. The director of public works shall review for approval each proposed development covered by this section prior to the issuance of permits to proceed with said development. Any decision in which the director of public works denies a request or which requires a variance shall be submitted to the city council.

(d) *Standards for areas of shallow flooding (AO/AH zones).* Located within the areas of special flood hazard established in section 28-27(b), are areas designated as shallow flooding. These areas have special flood hazards associated with flood depths of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow; therefore, the following provisions apply:

(1) All new construction and substantial improvements of residential structures have the lowest floor (including basement) elevated to or above the base flood elevation or the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two feet if no depth number is specified).

(2) All new construction and substantial improvements of nonresidential structures:

a. Have the lowest floor (including basement) elevated to or above the base flood elevation or the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two feet if no depth number is specified); or

b. Together with attendant utility and sanitary facilities, be designed so that below the base specified flood depth in an AO zone, or below the base flood elevation in an AH zone, 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.

(3) A registered professional engineer or architect shall submit a certification to the floodplain administrator/CRS coordinator that the standards of this section, as proposed in subsection (b) of this section are satisfied.

(4) Require within zones AH or AO adequate drainage paths around structures on slopes, to guide floodwaters around and away from proposed structures.

(e) *Recognition of cumulative substantially damaged structure status.* That the definition for cumulative substantially damaged structures be recognized and accepted by the city to allow for mitigation assistance of flood-damaged properties under the substantial damage structure requirements of

increased cost of compliance (ICC) of the National Flood Insurance Program (NFIP) and its flood policies.

(f) *Higher regulatory standards for specific designated areas of the city.*

(1) All structures in X, AE, and VE flood zones in the city, will continue to follow the FEMA Advisory Base Flood Elevation (ABFE) and HEAG guidance adopted by the city on or about July 19, 2006.

(2) In any instance of map changes and/or adoptions, to protect against flooding, no new construction or substantial improvement in the city shall be allowed with the lowest floor elevation under -3.50 MSL or one foot above BFE, whichever is highest in special flood hazard areas.

(g) *Penalties for noncompliance.* Under the authority of the building code of the city, the building official and code enforcement official are authorized to enforce the provisions of the current adopted technical codes. No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this division and other applicable regulations. The owner or general agent of the building or premises where a violation of any regulation pertinent to the special flood hazard areas has been committed or exists, or the general agent, architect, building contractor, or any other person who assists in any violation of the pertinent flood regulations or who maintains any building or premises in which the violation exists shall be punished as provided in section 1-8.

(h) *Floodplain management in adjoining parishes.*

(1) Consideration of individual floodplain management programs in Orleans and St. Bernard Parishes shall be given in an approach to overall flood management in the Metropolitan New Orleans area.

(2) In riverine situations, adjacent communities and the state coordinating office will be notified prior to any alteration or relocation of a watercourse, and copies of such notification will be submitted to FIA. The flood-carrying capacity of altered or relocated portions of any watercourse will be maintained.

(i) *Priority of floodprone area regulations.* All regulations described in this chapter represent minimum standards and supersede all existing ordinances which require lower standards.

(Code 1979, § 6-112; Code 1997, § 46-35; Ord. No. 4439, 10-10-2012)

Sec. 28-30. - Compliance required.

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

(Code 1979, § 6-116; Code 1997, § 46-36)

Sec. 28-31. - Interpretation.

(a) This article is not intended to repeal, abrogate, or impair any existing servitudes, building restrictions or deed restrictions. However, where this article and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(b) The degree of flood protection required by this article is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On rare occasions greater floods can and will occur and flood heights may be increased by manmade or natural causes. This article does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This article shall not create liability on the part of the community or any official or employee thereof for any flood damages that result from reliance on this article or any administrative decision lawfully made thereunder.

(c) In the interpretation and application of this article all provisions shall be:

(1) Considered as minimum requirements;

(2) Liberally construed in favor of the mayor and city council; and

(3) Deemed neither to limit nor repeal any other powers granted under state statutes.

(Code 1979, § 6-114; Code 1997, § 46-37)

Sec. 28-32. - Official flood maps.

(a) Official flood maps entitled FIA Flood Hazard Boundary Maps and Flood Insurance Rate Maps for the incorporated area of the City of Gretna, Jefferson Parish, LA, are hereby made a part of these regulations and are on file with the city.

(b) The city staff authorized and directed to apply the Advisory Base Flood Elevation (ABFE) pursuant to the FEMA Flood Recovery Guidance for Jefferson Parish, dated April 12, 2006, until such time as the flood insurance rating maps (FIRM) are updated and approved. The council, by resolution, may adopt any additional requirements necessary to effectuate the application of the flood recovery guidance for the city or other such guidance recovery advisories issued by FEMA.

(Code 1979, § 6-115; Code 1997, § 46-38; Ord. No. 3618, § 1, 12-12-2006)

Secs. 28-33—28-52. - Reserved.

DIVISION 2. - ADMINISTRATION AND ENFORCEMENT

Sec. 28-53. - Floodplain administrator.

(a) *Designation.* The building official is hereby appointed the floodplain administrator to administer and implement the provisions of this article and other appropriate sections of 44 CFR (National Flood Insurance Program regulations) pertaining to floodplain management.

(b) *Duties and responsibilities.* The duties and responsibilities of the floodplain administrator shall include, but not be limited to, the following:

(1) Maintain and hold open for public inspection all records pertaining to the provisions of this article.

(2) Review permit applications to determine whether proposed building sites will be reasonably safe from flooding.

(3) Review, approve or deny all applications for development permits required by adoption of this article.

(4) Review permits for proposed development to assure that all necessary permits have been obtained from those federal, state or local governmental agencies (including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 USC 1344) from which prior approval is required.

(5) Where interpretation is needed as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the floodplain administrator shall make the necessary interpretation.

(6) Notify, in riverine situations, adjacent communities and the state coordinating agency, which is the department of urban and community affairs, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.

(7) Assure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained.

(8) When base flood elevation data has not been provided in accordance with section 28-32, 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 this article.

(9) When a regulatory floodway has not been designated, the floodplain administrator must require that no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

(Code 1979, § 6-117; Code 1997, § 46-56)

Sec. 28-54. - Development permit.

(a) *Establishment of development permit.* A development permit shall be required to ensure conformance with the provisions of this article.

(b) *Permit procedures.*

(1) Application for a development permit shall be presented to the floodplain administrator on forms furnished by the administrator and may include, but not be limited to, plans in duplicate drawn to scale showing the location, dimensions, and elevation of proposed landscape alterations, existing and proposed structures, 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 mean sea level) of the lowest floor (including 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 a registered professional engineer or architect that the nonresidential floodproofed structure shall meet the floodproofing criteria of section 28-85(2).

d. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.

e. Maintain a record of all such information in accordance with section 28-53(b)(1).

(2) Approval or denial of a development permit by the floodplain administrator shall be based on all of the provisions of this article and 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 material 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.

j. The relationship of the proposed use to the comprehensive plan for that area.

(Code 1979, § 6-118; Code 1997, § 46-57)

Sec. 28-55. - Variance procedures.

(a) The city council is designated as the appeal board, which shall hear and render judgment on request for variances from the requirements of this article.

(b) The appeal board shall hear and render judgment on an appeal only when it is alleged that there is an error in any requirement, decision, or determination made by the floodplain administrator in the enforcement or administration of this article.

(c) Any person or persons aggrieved by the decision of the appeal board may appeal such decision in the courts of competent jurisdiction.

(d) The building official shall maintain a record of all actions involving an appeal and shall report variances to the Federal Emergency Management Agency upon request.

(e) Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the state inventory of historic places, without regard to the procedures set forth in the remainder of this article.

(f) Variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to, and surrounded by, lots with existing structures constructed below the base flood level, provided the relevant factors in section 28-54(b)(2) have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.

(g) Upon consideration of the factors noted above and the intent of this article, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this article.

(h) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

(i) The prerequisites for granting variances are as follows:

(1) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

(2) Variances shall only be issued upon:

a. Showing a good and sufficient cause;

b. A determination that failure to grant the variance would result in exceptional hardship to the applicant; and

c. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

(3) Any application to whom a variance is granted shall be given written notice that the structure will be permitted to be built with the lowest floor elevation below the base flood elevation, and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

(j) Variances may be issued by a community for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use, provided that the:

(1) Criteria outlined in this section are met; and

(2) Structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

(Code 1979, § 6-119; Code 1997, § 46-58)

Secs. 28-56—28-83. - Reserved.

DIVISION 3. - PROVISIONS FOR FLOOD HAZARD REDUCTION

Sec. 28-84. - General standards.

In all areas of special flood hazard, the following provisions are required for all new construction and substantial improvements:

(1) All new construction or substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;

(2) All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;

(3) All new construction or substantial improvements shall be constructed with materials resistant to flood damage;

(4) All new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;

(5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;

(6) New and replacement sanitary sewerage 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.

(Code 1979, § 6-120(a); Code 1997, § 46-76)

Sec. 28-85. - Specific standards.

In all areas of special flood hazard where base flood elevation data has been provided as set forth in section 28-32, section 28-53(b)(8) or section 28-86(c), the following provisions are required:

(1) *Residential construction.* New construction and substantial improvement of any residential structure shall have the lowest floor (including basement), elevated to or above the base flood elevation. A registered professional engineer, architect, or land surveyor shall submit a certification to the building official that the standard of this subsection as proposed in section 28-54(b)(1)a is satisfied.

(2) *Nonresidential construction.* New construction and substantial improvements of any commercial, industrial or other nonresidential structure shall either have the lowest floor (including basement) elevated to or above the base flood level, or 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 and effects of buoyancy. A registered professional engineer or architect 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 building official.

(3) *Enclosures.* New construction and substantial improvements, with fully enclosed areas below the lowest floor 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 either be certified by a registered professional engineer or architect or 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.

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 that will permit the automatic entry and exit of floodwaters.

(4) *Manufactured homes.*

a. Require that all manufactured homes to be placed within 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 to be placed or substantially improved within Zones A1-30, AH and AE on the community's FIRM be elevated on a permanent foundation such that the lowest floor of the manufactured home is at or above the base flood elevation; and be securely anchored to an adequately anchored foundation system in accordance with the provision of subsection (4)a of this section. All manufactured homes shall comply with subsection (1) of this section.

(5) *Accessory structures size restricted.* Accessory structures not exceeding 600 square feet and as defined in sections 58-3(b) and 58-158(2) and (5), that are to be constructed below the base flood elevation shall be designed with flood-resistant materials and to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria:

a. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.

b. The bottom of all openings shall be no higher than one foot above grade.

c. Openings may be equipped with screens, louvers, valves, or other coverings or devices that will permit the automatic entry and exit of floodwaters.

d. Electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities must be elevated to or above the base flood elevation or designed so as to prevent water from entering or accumulating within the components during conditions of flooding.

(Code 1979, § 6-120(b); Code 1997, § 46-77; Ord. No. 4106, 3-10-2010; Ord. No. 4607, 9-10-2014)

Sec. 28-86. - Standards for subdivision proposals.

(a) All subdivision proposals, including manufactured home parks and subdivisions, shall be consistent with this article.

(b) All proposals for the development of subdivisions, including manufactured home parks and subdivisions, shall meet the development permit requirements of section 28-54 and the provisions of this section.

(c) 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 section 28-32 or section 28-53(b)(8).

(d) All subdivision proposals, including manufactured home parks and subdivisions, shall have adequate drainage provided to reduce exposure to flood hazards.

(e) All subdivision proposals, including manufactured home parks and subdivisions, shall have public utilities and facilities, such as sewer, gas, electrical and water systems, located and constructed to minimize or eliminate flood damage.

(Code 1979, § 6-120(c); Code 1997, § 46-78)

Sec. 28-87. - Standards for areas of shallow flooding (AO/AH zones).

Located within the area of special flood hazard established in section 28-32 are areas designated as shallow flooding. These areas have special flood hazard 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 improvement of residential structures have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two feet if no depth number is specified).

(2) All new construction and substantial improvements of nonresidential structures:

a. Have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two feet if no depth number 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 and effects of buoyancy.

(3) A registered professional engineer or architect shall submit a certification to the building official that the standards of this section, as proposed in section 28-29(d) are satisfied.

(4) Require within Zones AH or AO adequate drainage paths around structures on slopes, to guide floodwaters around and away from proposed structures.

(Code 1979, § 6-120(d); Code 1997, § 46-79)