

ORDINANCE NO. _____

**AN ORDINANCE TO AMEND AND RE-ENACT SECTION
18-83 (5) OF THE THIBODAUX CITY CODE OF ORDINANCES
(DESIGN STANDARDS-DRAINAGE)**

BE IT ORDAINED by the City Council of the City of Thibodaux in regular session assembled that:

WHEREAS, Section 18-83 (5), is hereby amended and re-enacted so as to read as follows:

Sec. 18-83. - Design standards.

(5) *Drainage*. The design criteria for storm drainage shall be based on the rational formula. The data contained in the State of Louisiana, Office of Highways Hydraulics Manual shall be used. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.

a. Design. Roadside and off-road drainage shall be designed using the rational formula and a ~~10~~25-year storm frequency curve equalling nine and ~~one-half (9.5)~~six tenths (9.6) inches of rainfall in a 24-hour period.

The design shall consider the subdivision as fully developed and the "C" factor for the rational formula shall be 0.45.

One (1) set of drainage design calculations with plans and specifications, for the entire subdivision shall be submitted to the department of public works.

b. Roadside drainage. Roadside drainage may be open ditch or subsurface. The roadway drainage system shall be designed such that during a ~~10~~25-year storm event, water shall not rise over the centerline of the street.

1. Subsurface drainage. The roadside drainage system shall be designed to carry roadway, adjacent land and building stormwater drainage. In no case shall the spacing between inlets be greater than two hundred (200) linear feet, or between a high point in grade and an inlet.

2. Open roadside ditches. Open roadside ditches shall be constructed with sloped sides, having a maximum angle of slope not exceeding forty-five (45) degrees off horizontal.

(i) Culverts. The design and installation of culverts in public road ditches and/or cross roads must be certified by a registered engineer, and a certified copy of "as built" plans specifying the size, length and type of pipe and the grade for same, must be submitted with the final plat. Only pipe manufactured from material approved by the city shall be installed. Culverts to be used for driveways shall be the same as though all of lot front is being filled.

3. Dedication of drainage easements:

Minimum culvert diameter: Fifteen (15) inches.

Catch basins shall be located a maximum of seventy-five (75) feet apart; at each property line; and, at all intersections.

- c. Off-road drainage. The design of the off-road drainage system shall include the watershed affecting the subdivision and shall extend to a stream or ditch adequate to receive the storm drainage.

Natural drainage canals or existing canals or ditches shall not be blocked or altered or any utility lines constructed through except by written permission of the city.

- d. Drainage impact analyses. Drainage studies shall be required pursuant to the following requirements:

A comprehensive drainage impact analysis of all proposed subdivision(s) and surrounding affected areas must be submitted to the planning commission by a licensed professional engineer registered with the State of Louisiana. Neither the subdivision final plat nor subdivision construction plans will be approved until a favorable written certification of the drainage impact analysis has been made by the department of public works.

If the commission gives final approval to the plat contingent on later submission of the drainage analysis and if this drainage impact analysis is found to indicate improper drainage will result because of the subdivision, then the plat shall be returned to the commission for reconsideration at its next scheduled meeting. Until the developer has developed a drainage plan that is acceptable to the city, the final plat shall not be approved.

Developers may request that the city approve a waiver of the drainage impact analysis. If such a request is granted, the department of public works will provide written approval, the waiver authorization shall be forwarded to the planning commission for their concurrence and no drainage impact analysis shall be required for the subdivision.

Specifications for drainage impact analyses and subdivision drainage design. Required drainage impact analyses shall comply with the following specifications:

1. An area drainage map shall be submitted that designates:
 - (i) The various drainage areas involved.
 - (ii) The acreage in each drainage area.
 - (iii) The slope of each drainage area to the entry and/or exit point of the subdivision.
 - (iv) Peak run-off in cubic feet per second (cfs) for each drainage area including total run-off and total cfs.
2. The drainage impact analysis shall indicate the cfs of water at each subdivision entry point that will result from a designated storm. This determination to be based on future land use of the upstream drainage areas.

3. The drainage analysis shall indicate that cfs of stormwater at each subdivision exit point that will result from a designated storm. The determination to be based on future land use of upstream drainage areas. This calculation shall take into account expected construction within the subdivision that will change the grades, direction of flow, run-off factors or other existing conditions.
4. The drainage impact analysis shall indicate the maximum capacity, expressed in cfs, of all existing and proposed drainage structures within the subdivision.
5. The drainage impact analysis shall indicate the capacity of all ditches, culverts, subsurface and surface drainage structures that will be utilized downstream of the subdivision in allowing passage of stormwater to the first public outfall, coulee, canal or river.
6. The drainage impact analysis shall consist of three (3) distinct and designated parts as follows:
 - (i) Conclusions: The affect of the proposed construction on upstream and downstream areas.
 - (ii) Design criteria: Description of methodology, data and assumptions used.
 - (iii) Calculations: Clear, concise, step-by-step calculations made.
7. The subdivision drainage and impact analysis and the subdivision drainage design shall be based on the ~~10~~25-year storm event.
8. Subsurface drainage of drainage outfalls serving more than the subdivision will be based on the ~~10~~25-year storm event.
9. Open channel drainage of channels serving more than the subdivision shall be based on a ~~10~~25-year storm event with one-foot of freeboard existing in the channel above the ~~10~~25-year water surface elevation.
10. The drainage impact analysis and subdivision drainage design is based on rainfall intensity data contained in the most recent edition of the Louisiana Department of Transportation and Development's "Drainage Design Standards Manual" shall be used.
11. Ponding, retention or detention of stormwater shall not be used in the drainage impact analysis unless ~~authorized~~approved in writing by the city.
12. The hydraulic head above the crown of subsurface drainage conduits shall not be used in the drainage impact analysis unless authorized by the city.
13. The subdivision drainage plans shall give the location, description, and elevation of all permanent and temporary benchmarks used for the drainage study and to be used for the subdivision construction. Benchmarks

shall be tied to NGVD or the latest published governmental mark.

14. Hydraulic calculations, plan profile sheets and area drainage maps shall be approved by the city before any subdivision improvement work begins.

15. Subdivision subsurface storm sewers shall be designed for the ~~10~~25-year storm. Outfall structures and outfall channels shall be designed for the ~~10~~25-year storm. Collector street crossings shall be designed for the ~~25~~50-year storm.

16. The developer will provide what effect the 100-year storm, 24-hour rainfall will have on the proposed subdivision (i.e. how much water will be on the proposed lots to be developed with respect to the 100-year storm, 24-hour rainfall).

e. Construction of drainage facilities. All drainage facilities shall be constructed in accordance with DOTD standard specifications for construction.

In all cases, the use of untreated, plain corrugated metal pipe is prohibited.

f. The requirement for a drainage impact analysis ~~shall~~may be waived for those residential developments involving less than ~~five~~ ~~(5)~~three (3) acres of raw land, and any commercial development involving less than ~~two~~one and one-half ~~(2.5)~~(1.5) acres of raw land.

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

YEAS:

NAYS:

ABSTAINED:

ABSENT:

And the above ordinance was declared adopted this _____ day of _____ 2019.

Jennifer Morvant, Council Adm.

Chad Mire, President