

**Lafayette City-Parish Planning Commission
Lafayette IN a Century (LINC)
Comprehensive Master Plan**

**DRAINAGE & STORMWATER
ELEMENTS**

Public Notice in the Advertiser: September 28, 2008

Public Hearing Date: October 9, 2008

City Parish Planning Commission Adoption Date:
October 27, 2008

Resolution No. 2008-04

Clerk of Court Recordation Date: April 8, 2009

Certified Transmittal Date to State Planning Office:



Local Government Transmittal Dates

Lafayette Consolidated Government:

City of Broussard:

City of Carencro:

City of Duson:

City of Scott:

City of Youngsville:



Lafayette Consolidated Government
Traffic & Transportation Department



Metropolitan Planning Organization
Comprehensive Planning Division

PREFACE

- 1) The Steering Committee focused on minimizing flooding of structures both residential and commercial.
- 2) The Bayou Vermilion and its tributaries (bayous, coulees and ditches) have a limited capacity for drainage.
- 3) Drainage and flooding are consistently identified as a major concern to parish citizens.
- 4) There is a lack of information on residential flooding for units not in the Federal Flood Insurance Program.
- 5) There is an urgent need for a comprehensive parish wide drainage plan which should be initiated at the earliest possible date.
- 6) Statement of Understanding: Although a comprehensive parish wide drainage plan is necessary and recommended, no drainage plan in Lafayette will solve the flooding problem completely or permanently. A drainage plan designed for a 10 year rainfall event will not eliminate flooding during a 25 year rainfall event. A drainage plan designed for a 50 year rainfall event will not eliminate flooding during a 100 year rainfall event. The Acadiana Area of South Louisiana has experienced 500 year rainfall events in the past.

1.1 DRAINAGE ADVISORY COMMITTEE

Establish a permanent citizen-based Drainage Advisory Committee to coordinate and advise on drainage improvements, issues and standards for the Parish. This permanent Drainage Advisory Committee would be answerable to the City-Parish Planning Commission.

Commentary: The Drainage Committee spent eight months reviewing data, documents, and maps on flooding and drainage in Lafayette Parish. The Committee has also met with professional and technically trained individuals who know and understand hydrology. The committee members consider the information and education they have obtained on flooding and drainage problems in the area to be a valuable resource to the community that should be continued as a policy of the Comprehensive Master Plan. The Steering Committee is not necessarily suggesting that its members or subcommittee members be appointed to this permanent Drainage Advisory Committee, but that such a citizen group be established and serve as an important balance and link between public and private sector needs and demands.

1.2 FLOODING PROBLEMS RANKINGS

Divide “Flooding Problems” into four specific ranking designations:

- a) Residential Units
- b) Business Buildings
- c) Street/Roadways
- d) Land (Vacant, Agriculture, Yard)

Commentary: The Committee quickly recognized the subject of flooding and drainage problems mean different things to different people. For clarification the committee members ranked the term “flooding problems” for priority concerns and to help identify and recommend solutions. The Comprehensive Master Plan should clearly distinguish what is flooding in reference to drainage problems and issues. This policy should help distinguish and focus on solutions.

1.3 COMMUNITY RATING SYSTEM

Join the “Community Rating System” (CRS) Program sponsored by the Federal Emergency Management Agency (FEMA) and Administered by the Louisiana Office of Emergency Preparedness. This program shall be established for maximum point values and benefit applications throughout Lafayette Parish.

Commentary: The program assigns point values to community activities which reduce flooding. Incentives are provided to encourage flood prevention strategies including reduction of flood insurance rates and grants for acquisition of critical or repetitive flooding locations for public open space and other practical uses. The program works to avoid future flooding through public information and management. The Steering Committee members determined that the CRS program clearly identifies a comprehensive plan for drainage and flooding policies, goals, and objectives. The

program also provides a well established and convenient tool for performance measures. Many of the community activities listed in CRS are already established in Lafayette Parish and would provide immediate point values and benefits.

1.4 FLOODING PROBLEMS CATEGORIES

“Flooding Problems” shall be classified into one of two categories:

- a) Existing Problems
- b) Future Problems

Commentary: The complexity of using the terms drainage and flooding and problems require an approach that may help simplify the issues and generate better understanding. Assuming there would be no further development in the parish (roads, houses, businesses, industry, etc.), where and what are the problems? This is the existing drainage and flooding category of actions to plan and resolve over time.

The Lafayette Area historically averages 55-60 inches of rainfall per year. This is important. Average means it is higher on occasion. It is not uncommon for half this amount to fall within a month! There must be a realistic balance between the Drainage Plan and the “not uncommon” rain event. It is projected that a 100 Year flood event is occurring in Lafayette Parish or a part of the parish every ten years.

Assuming new development in the parish will continue (with new roads, houses, businesses and industry), where and what are the problems? This is the future drainage and flooding category of actions to plan and resolve. The CRS program bridges both categories. However, to facilitate their discussions the Committee determined it was necessary to divide its recommendations on drainage into existing and future problems to better present solutions.

1.5 RESIDENCES THAT HAVE FLOODED

For Existing Residences that have flooded, the following actions shall be taken:

- a) A LCG Drainage Analysis.
- b) Causes identified shall be cured by responsible party if found to be localized.
- c) Residences are encouraged to be covered in the Federal Flood Insurance Program.
- d) Mandatory Federal Flood Insurance after the second event.
- e) Elevate Structure by: 1) utilizing grant funding; and 2) utilizing LCG resources.
- f) Buy out Option by: 1) utilizing grant funding; and 2) utilizing LCG resources.
- g) Condemnation/Demolition with three documented flooding events within five years.

Commentary: Drainage studies are currently underway through the Lafayette City-Parish Government Department of Public Works and the U.S. Army Corps of Engineers to identify and possibly resolve some of the flood way problems in the Parish. It is anticipated that the causes and solutions will not completely resolve the problems and will require substantial funding. The Committee members note that not all residences that

repeatedly flood (majority) are in the Federal Flood Insurance Program. The Parish participation in the Community Rating System (CRS) program combined with Flood Insurance and some capital resources on the federal, state, and City-Parish level should adequately address the problem over time.

1.6 BUSINESSES THAT HAVE FLOODED

For Existing Businesses that have flooded, the following actions shall be taken:

- a) A LCG Drainage Analysis.
- b) Causes identified shall be cured by responsible party if found to be localized.
- c) Business Buildings are encouraged to be covered in the Federal Flood Insurance Program.
- d) Mandatory Federal Flood Insurance after the second event.
- e) Elevate Structure by: 1) utilizing grant funding; and 2) utilizing LCG resources.
- f) Buy Out Option by: 1) utilizing grant funding; and 2) utilizing LCG resources.
- g) Condemnation/Demolition with three documented flooding events within five years.

Commentary: Drainage studies are currently underway through the Lafayette City-Parish Government Department of Public Works and the U.S. Army Corps of Engineers to identify and possibly resolve some of the flood way problems in the Parish. It is anticipated that the causes and solutions will not completely resolve the problems and will require substantial funding. The Parish participation in the Community Rating System (CRS) program combined with Flood Insurance and some capital resources on the federal, state, and City-Parish level should adequately address the problem over time.

1.7 STREETS/ROADS THAT HAVE FLOODED

For Existing Streets/Roads that have flooded, the following actions shall be taken

- a) For Streets/Roads that are frequently designed to be used as retention/detention facilities during high rainfall events, each must be inventoried for historic flooding records and readily available for reference.
- b) Appropriate signage shall be installed on these streets/roads with “No Traffic” identified above set flood level/stages.

Commentary: Committee members did not consider the issue of flooding streets and roads to be a significant problem during unusual rainfall events.

1.8 LANDS THAT HAVE FLOODED

For Existing Lands (vacant, agriculture, yard) that have flooded, the following actions shall be taken:

- a) An LCG Drainage Analysis should be conducted
- b) Causes identified must be cured by responsible party if found to be localized.

Commentary: Committee members recognize the numerous complaints about flooding yards, but decided agricultural lands and yards should be a secondary consideration during unusual rainfall events. Identification of these areas would serve to indicate potential localized or flood way problems, and specific actions or public resources are recommended to eliminate these situations.

1.9 RESIDENCES THAT FLOOD FOR THE FIRST TIME

For Existing Residences that Flood for the first time, the following actions shall be taken:

- a) An LCG Drainage Analysis.
- b) Causes identified must be cured by responsible party if found to be localized.
- c) Mandatory Federal Flood Insurance after the second event.

Commentary: Existing residences that flood for the first time may be caused by one or more temporary or permanent localized problems. Such situations should be studied for proper remedy within a short period of time. Should such flooding be generated by rising flood elevations or unusual rainfall events, then federal flood insurance must be made a mandatory requirement.

1.10 BUILDINGS THAT FLOOD FOR THE FIRST TIME

For Existing Business Buildings that Flood for the first time, the following actions shall be taken:

- a) An LCG Drainage Analysis.
- b) Causes identified shall be cured by responsible party if found to be localized.
- c) Mandatory Federal Flood Insurance after the second event.

Commentary: Existing businesses that flood for the first time may be caused by one or more temporary or permanent localized problems. Such situations should be studied for proper remedy within a short period of time. Should such flooding be generated by rising flood elevations or unusual rainfall events, then federal flood insurance must be made a mandatory requirement.

1.11 STREETS/ROADS THAT FLOOD FOR FIRST TIME

For Existing Streets/Roads that Flood for the first time, the following actions shall be taken:

- a) If designed for retention/detention, no action.
- b) If not designed for retention/detention, an LCG Drainage Analysis.
- c) Causes identified shall be cured by responsible party if found to be localized.

Commentary: The flooding of streets and roads is not considered a serious priority unless it is indicative of a developing localized problem.

1.12 LANDS THAT FLOOD FOR FIRST TIME

For Existing Lands (vacant, agriculture, yard) that flood for the first time, the following actions shall be taken:

- a) Noting that the flooding may be indicative of a localized flooding problem that might need correcting.
- b) An LCG Drainage Analysis.
- c) Localized causes (if found) should be cured by responsible parties within two years.

Commentary: Committee members noted a drainage problem which occurred in North Vermilion Parish. A Drainage District was established to help fund solutions. What was part of the problem? Beavers were building dams across waterways and coulees. This example was not viewed as a localized problem by committee members, but rather a general public maintenance responsibility.

1.13 FEDERAL FLOOD HAZARD AREA

Recognizing the expanding urbanization of the Parish and the resulting increased water runoff may require extending Federal Flood Hazard Area Boundaries and heighten existing flood elevations in the future, the minimum federal structural base floor standards are not considered satisfactorily preventive. The Base Floor Elevation of all new structures shall be constructed a minimum of six inches (6") (12) above the 100 year federal flood hazard area elevation as determined at the time of construction. This new standard shall apply to structures within the current Flood Hazard Areas. In addition, all new structures constructed outside the current Flood Hazard Area shall be elevated six inches (6") above grade level as a future flood prevention measure. A "Certificate of Elevation" shall be required only in the Flood Hazard Area.

Commentary: It was the unanimous opinion of the Drainage Subcommittee that the minimum floor elevation for new homes and businesses based on existing federal flood elevations is not adequate planning for the future. One member of the subcommittee noted that his home is outside but adjacent to the flood hazard area. He built his base floor twelve inches (12") above the federal flood elevation even though he was not required to do so and yet his home has almost flooded twice. The 100 Year Flood Event is a practical design standard for this area of Louisiana considering that such a rain event is occurring not once every hundred years, but more realistically every ten years. Assuming increasing urbanization and development in Lafayette Parish over the next century and lacking major capital expenditures for retention/detention facilities, it is prudent to prepare and protect future construction with increases in minimum base floor elevations as soon as possible.

1.14 DEVELOPMENTS EXCEEDING PRE-DEVELOPMENT CONDITIONS

Once both options are available, all new development plats and plans that result in increased water runoff exceeding the pre-development condition shall be required to

mitigate the increase through one of these two qualified options or combinations of these options:

- a) Construction of a retention facility that maintains the pre-development runoff.
- b) Payment of an equivalent amount of funds to a public funded Drainage District(s) to construct and support a local area wide retention facility established for that purpose.

The above options shall be designed and based on the following criteria:

1. 100 Year Storm Rainfall Event
2. Public fund drainage Districts to be established (one or more as deemed appropriate for the Parish) including perpetual maintenance.
3. Performance regulated which specify a measurable result before and after development is completed (as opposed to conventional regulated which specify exact standards to which improvements shall conform.)

Commentary: The Subcommittee debated this issue for many weeks. Recognizing that Lafayette Parish is blessed and at times challenged with plenty of rainfall events that overwhelm both natural and manmade drainage systems and that new residences, businesses, roads, parking lots and urban development land coverage will continue into the foreseeable future makes it incumbent on the present generation to prevent future obvious drainage problems to the greatest degree. The responsibility is here and now and must be incorporated into the Comprehensive Master Plan. The impact on the development community is well understood. Homes built over fifty years ago in both the urban and rural areas of the Parish were constructed on piers a couple of feet off the ground. New homes and businesses today are generally constructed with a slab at grade. Perhaps older construction methods may be more practically applied today and in the future given the climate and topography of Lafayette Parish. The Steering Committee members agreed with the Subcommittee position and voted unanimously in support of this recommendation.

1.15 DRAINAGE MAINTENANCE PROGRAM

All existing drainage ways shall be under a regular and comprehensive maintenance program based on their designed or natural performance capacity and function.

Commentary: A parish drainage system can only work as well as it is maintained. Adequate public funding for regular and proper maintenance of the drainage infrastructure and network cannot be over emphasized. Again, the complexity of the drainage issues and needs in the Parish hamper the identification of solutions and compound the financing of these solutions. Committee members note the Parish has approximately \$1 million budgeted each year for drainage. This is not adequate for maintenance, much less for major capital improvements.

1.16 DRAINAGE STUDY AND PLAN

Initiation of a Comprehensive Parish Drainage Study and Plan to include at a minimum:

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- a) A one foot contour map of the Parish
- b) Map identification of all residential and business structures that have experienced flooding in the Parish.
- c) A drainage flow capacity analysis of all natural and man-made public drainage ways in the Parish.
- d) A plan for size, location and construction of areawide retention and detention facilities to mitigate 100 year rain events in the Parish.

Commentary: Recommendation No. 16 is not intended to preclude implementation of recommendations Nos. 1 through 15. Funding of this proposed Parish Drainage Study and Plan will be substantial and should be addressed by the financial issues and needs for the entire Comprehensive Master Plan. Even when monies are secured it will require several years before a Drainage Study and Plan would be completed. The LINC Steering Committee strongly supports the position that the remaining recommendations (1-16) be implemented at the earliest possible date.

1.17 ENFORCEMENT OF DRAINAGE REGULATIONS

Enforcement of existing and future drainage regulations shall be consistent and strengthened and follow a due process.

Commentary: Much discussion by the Committee was focused on localized flooding problems experienced by residents in relatively new subdivisions (last 20-30 years). As an example, streets and roads designed as “open ditch” are being compromised by individual hap hazard subsurface installations of culverts. Streets planned with open ditch drainage serve a local flood prevention need and should be maintained as such. Though it may be politically expedient to allow residents to individually subsurface their front ditch, the results negatively impact the local drainage system over time.