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Chapter 26 - ZONING AND DEVELOPMENT

FOOTNOTE(S):

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**Editor's note**— Ord. No. 6143, § II, adopted Dec. 6, 2012, amended Ch. 26 in its entirety to read as set out herein. Former Ch. 26, Arts. I—VIII, pertained to zoning. See the Code Comparative Table for a complete derivation.

ARTICLE I. - GENERAL

DIVISION 1. - PURPOSE, APPLICABILITY, VESTING

Sec. 26-1. - Purpose.

The purpose of this chapter is to serve as a complete guide for development.

(Ord. No. 6143, § II, 12-6-12)

Sec. 26-2. - Applicability.

The regulations contained in this chapter apply to all developments within the unincorporated areas of Calcasieu Parish.

(Ord. No. 6143, § II, 12-6-12)

Sec. 26-3. - Vested development.

~~Subdivision development having submitted a complete preliminary plat application prior to October 1, 2014, may proceed under the standards in effect at the time of submittal provided that:~~

- ~~(1) All approved preliminary plats will remain valid as long as the applicant receives final plat approval within four (4) years of October 1, 2014.~~
- ~~(2) All approved engineering plans shall remain valid if applicant receives final plat approval within two (2) years of October 1, 2014.~~
- ~~(3) The director of planning and development is authorized to grant a one (1) year extension based upon a review of the written request outlining the need for an extension.~~

(a) Subdivision development having submitted a complete preliminary plat application prior to October 1, 2014, may proceed under the standards in effect at the time of submittal provided that:

- (1) All approved preliminary plats will remain valid as long as the applicant receives final plat approval within four (4) years of October 1, 2014.
- (2) All approved engineering plans shall remain valid if applicant receives final plat approval within two (2) years of October 1, 2014.

- (3) The director of planning and development is authorized to grant a one (1) year extension based upon a review of the written request outlining the need for an extension.
- (b) Subdivision development having submitted a complete preliminary plat application between October 1, 2014 and prior to June 1, 2018 may proceed under the standards in effect at the time of submittal provided that:

  - (1) All approved preliminary plats under this time frame will remain valid as long as the applicant receives final plat approval within two (2) years of June 1, 2018.
  - (2) All approved engineering plans during this time frame shall remain valid if applicant receives final plat approval within one (1) year of June 1, 2018.
  - (3) The director of planning and development is authorized to grant a one (1) year extension based upon a review of the written request outlining the need for an extension.
- (c) All development with a valid development permit as of June 1, 2018 may proceed under the standards in effect at the time of permitting.

(Ord. No. 6143, § II, 12-6-12; Ord. No. 6423, § 1, 9-4-14)

## DIVISION 2. - DEFINITIONS

### Sec. 26-4. - Definitions.

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

*Absorption trench:* a gravel or approved material filled trench that accepts treated wastewater from an individual sewerage treatment system by gravity for underground disposal.

*Accessory building:* a subordinated building or portion of the main building on a lot, the use of which is customarily incidental to that of the main or principal building.

*Accessory use:* a use customarily incidental and subordinate to the principal use or building and located on the same lot with such principal use or building.

*Administrator, coastal zone:* the administrator of the coastal management section within the state department of natural resources.

*Adopted level of service:* the level of service for a public facility prescribed in the Minimum Level of Service Standards and the Typical Sections (see Appendix) or LaDOTD Current Transportation Design Specifications, as may be amended from time to time.

*Agricultural stormwater runoff:* any stormwater runoff from cultivated crops, pastures, and other non-point source agricultural activities, but not discharges from concentrated animal feeding operations as defined in LAC 33:IX.2315 or discharges from concentrated aquatic animal production facilities as defined in LAC 33:IX.2507.

*Agriculture:* the science of cultivating soil, producing crops, raising livestock, or growing timber.

*Airport:* any area of land or water which is used or intended for the landing and taking off of aircraft, and any appurtenant areas which are used or intended for use for airport buildings or other airport facilities or rights-of-way, including all necessary taxiways, aircraft storage and tie-down areas, hangars, and other

*Director of planning and development:* the chief administrative officer of the division of planning and development, or designee. Also known as "director".

*Discharge:* any addition or introduction of any pollutant, stormwater, or any other substance whatsoever into the municipal separate storm sewer system (MS4) or into waters of the United States.

*Discharger:* any person who causes, allows, permits, or is otherwise responsible for, a discharge, including, without limitation, any operator of a construction site or industrial facility.

*Distance between structures, signs, off premises:* the measurement in feet along the nearest edge of the pavement or surface between points directly opposite the signs and shall apply only to structures located along the same side of the highway. Spacing restrictions shall apply to property facing the nearest edge of the right-of-way of a highway or interstate, excluding intersections, which is zoned or used so as to permit outdoor advertising signs. For the purposes hereof, each side of the parish, state and federal highway or interstate system shall be considered separately, excluding intersections.

*District:* any section of the total zoned area in which the zoning regulations are uniform.

*Division:* the division of planning and development as the official agency designated by the police jury to administer these regulations.

*Division staff:* the director of the division of planning and development and designees.

*Domestic sewage:* human excrement, gray water (from home clothes washing, bathing, showers, dishwashing, and food preparation), other wastewater from household drains, and waterborne waste normally discharged from the sanitary conveniences of dwellings, office buildings, industrial sites, and institutions, that is free from industrial waste.

*Dormitory:* a building intended or used principally for sleeping accommodations where such building is related to an educational or public institution, including religious institutions and hospitals.

~~*Drainage impact assessment:* a study of the stormwater management needs pursuant to section 26-215 of this Code.~~

*Drainage outfall:* any drainage facility within any right-of-way or easement including, but not limited to, curbs, gutters, swales, ditches, culverts, and pipes.

*Drainage way:* any channel that conveys surface runoff throughout the site.

*Drive thru establishment:* an establishment of the "drive-thru" type is one which accommodates patrons in automobiles from which the occupants may watch, purchase, eat, bank or conduct business of convenience. Such an establishment may also serve customers inside the building.

*Drug store:* a store where prescriptions are filled and drugs and other articles are sold; a pharmacy.

*Duplex:* see "Dwelling, two-family".

*Dwelling:* any building which is designed for or used exclusively for residential purposes.

*Dwelling unit:* a room or group of rooms occupied or intended to be occupied as separate living quarters by a single family or other group of persons living together as a household, or by a person living alone.

*Dwelling, multiple-family:* a building used or designed as a residence for three (3) or more families living independently of each other and doing their own cooking therein, including apartments, condominiums, townhomes, triplexes and fourplexes.

*Dwelling, single-family:* a detached building designed for or occupied exclusively by one (1) family.

*Dwelling, two-family:* a dwelling designed for or occupied by two (2) families. This dwelling is commonly referred to as a duplex.

*Earthwork:* the disturbance of soils on a site associated with clearing, grading, grubbing, or excavation activities.

*Hotel/motel:* a building containing rooms intended or designed to be used or which are used, rented, or hired out to be occupied for sleeping purposes by guests and transients and where only a kitchen and dining room are provided within the building or in an accessory building.

*Illegal discharge:* see illicit discharge.

*Illicit connection:* any drain or conveyance, whether on the surface or subsurface, which allows an illicit discharge to enter the storm drainage system.

*Illicit discharge:* any discharge to the storm drainage system that is prohibited under this chapter.

*Impervious surface area:* shall include, but not be limited to, asphalt, concrete, roofs, structures, parking areas and appurtenances. [Surfaces compacted for development such as aggregate parking or aggregate storage areas shall be considered impervious surface areas.](#)

*Individual sewerage system:* any system of piping (excluding building plumbing), treatment device or other facility that conveys, stores, treats or disposes of sewer on the property where it originates and which utilizes the individual sewer technologies as approved by the LA DHH/OPH.

*Industrial subdivision:* a subdivision created to serve industrial or wholesale needs.

*Industrial waste:* any waterborne liquid or solid substance that results from any process of industry, manufacturing, production, trade or business.

*Institution:* a land use for hospitals, including such educational, clinical, research, and convalescent facilities as are integral to the operation of the hospital, medical and health service facilities and clinics, including nursing homes, supervised residential institutions, rehabilitation therapy centers, and public health facilities, cultural, educational, eleemosynary facilities, and other similar uses.

*Intermediate watercourse:* a drainage way, channel, coulee, or stream that has a watershed greater than ten (10) acres, but less than three hundred (300) acres, at the discharge point or point of exit from proposed development.

*Junk yard:* the use of any lot, whether inside or outside a building, for the storage, keeping, or abandonment of junk, including scrap metals or other scrap materials, or the dismantling, demolition, or abandonment of automobiles or other vehicles or machinery or parts thereof.

*kennel:* a facility for the care or boarding of animals which is operated for economic gain or the keeping of more than six (6) dogs/cats over six (6) months of age outside the principal building.

*Large developments:* any commercial, industrial, or noncommercial developments which include more than forty thousand (40,000) square feet of impervious surface area.

*Larger than utility runway:* a runway that is constructed for and intended to be used by propeller driven aircraft of greater than twelve thousand five hundred (12,500) pounds maximum gross weight and jet powered aircraft.

*Laundromat:* business premises equipped with individual clothes washing machines for the use of retail customers, exclusive of laundry facilities provided as an accessory use in an apartment.

*Levee:* 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:* 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.

*Level of service:* describes the quality of services provided by public facilities which is measured by availability and some comparison of capacity and demand.

*Light manufacturing:* the manufacturing or processing of materials employing electricity or other objectionable motor power, utilizing hand labor or unobjectionable machinery or processes, and free from any objectionable odors, fumes, dirt, vibration, or noise.

*Release:* any spill, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the municipal separate storm sewer system (MS4) or the waters of the United States.

*Repetitive loss:* flood-related damages sustained by a structure on two (2) separate occasions during a ten-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds twenty-five (25) percent of the market value of the structure before the damages occurred.

*Residential structure:* any structure or portion thereof which is used or occupied as a dwelling or other living accommodations, including hotels and other lodging facilities.

*Residential subdivision:* a subdivision designed for single-family and/or multifamily dwellings other than manufactured homes.

*Restaurant:* an establishment which is devoted to the selling and serving of food for consumption by patrons on the premises and shall include alcoholic beverages sold as an accompaniment to meals only. Restaurants do not include lounges.

*Retail manufacturing:* baking, confectionery, dressmaking, dying, laundry, dry cleaning, printing, tailoring, upholstering, and similar establishments, and businesses of a similar and more objectionable character.

*Right-of-way:* the area of land designated by grant, contract, deed or dedication from the owner, or acquired by use, maintenance or acquisitive prescription, for use as a street, alley or utilities, whether such area is owned by the public or other user in fee or as servitude.

*Road corridor:* a developing length of road which may consist of neighborhoods or business potentials commonly called in planning a "road corridor".

*Rooming house:* a residential building, or portion thereof, containing sleeping rooms which will accommodate persons who are not members of the keeper's family.

*Rubbish:* non-putrescible solid waste, excluding ashes, that consist of (A) combustible waste materials, including paper, rags, cartons, wood, furniture, rubber, plastics, yard trimmings, leaves, and similar materials; and (B) noncombustible waste materials, including glass, crockery, tin cans, aluminum cans, metal furniture, and similar materials that do not burn at ordinary incinerator temperatures (1600 to 1800 degrees Fahrenheit).

*Runway:* a defined area on an airport prepared for landing and take-off of aircraft along its length. The runway includes any proposed new runway or runway extension shown on an airport layout plan or other planning document.

[Runoff Management Plan: a study of the stormwater runoff management and floodplain preservation needs pursuant to section 26-215 of this Code.](#)

*Same ownership:* adjacent or contiguous lands touching along a line or point which are owned by the same person, corporation, partnership, association or trust, or in which five (5) percent or more of each ownership interest is held by the same person, corporation, partnership, association or trust.

*Sanitary sewer (or sewer):* the system of pipes, conduits, and other conveyances which carry industrial waste and domestic sewage from residential dwellings, commercial buildings, industrial and manufacturing facilities, and institutions, whether treated or untreated, to the sewage treatment plants within the parish (and to which stormwater, surface water, and groundwater are not intentionally admitted).

*School, business:* privately owned schools offering instruction in accounting, secretarial work, business administration, the fine or illustrative arts, trades, dancing, music and similar subjects.

*School, private:* privately owned schools having curriculum essentially the same as ordinarily given in a public elementary or high school.

*Secretary, coastal zone:* the secretary of the state department of natural resources.

*Section:* those areas between road intersections designated for a separation within a road corridor.

- (c) *Phase development.* Notwithstanding any provisions to the contrary, any developer applying for approval of a proposed subdivision may, initially or at any stage during the processing of the application, elect to:
- (1) Develop the subdivision in phases, by dividing it into two (2) or more distinct parts, and when such election has been made, subdivision approval shall be granted for such part for which the requirements have been met, without regard to the status of any remaining parts of the entire proposed subdivision; and/or
  - (2) Sell, transfer, alienate or encumber the entirety of all or any of such parts of the subdivision.
- (d) *Review process for subdivisions.*
- (1) *Conceptual plan.*
    - a. The initial step in the application for subdivision approval shall be the submission of a conceptual plan to the director for consideration, on an informal basis, of the proposed land use, street layout and utility services. Conceptual plan review should be coordinated with permit submittals for U.S. Army Corps of Engineers' approval. ~~Submission of a conceptual plan to the director is highly encouraged for phased projects, new developers, or those unfamiliar with the ordinances of the parish.~~ A conceptual plan shall also be required in conjunction with any application for a zoning map amendment. The conceptual plan shall include:
      1. The proposed subdivision name which may not duplicate, or be deceptively similar to, any existing subdivision in the parish, as determined by the director;
      2. The legal description of the property to be subdivided;
      3. A sketch of the entire tract to be subdivided showing boundaries at an appropriate scale, a vicinity map at a scale of one (1) inch equals two thousand (2,000) feet, approximate location of the public streets and roads adjoining or crossing the property, or in the absence thereof, the public street or road nearest the proposed subdivision property, and the location of proposed streets and roads, the approximate location of active or uncapped oil wells, gas wells, and water wells, servitudes for pipelines, utilities, drainage or other purposes, and other existing features affecting the proposed subdivision property;
      4. The proposed intensity and use or uses for each area; and
      5. The phasing schedule for development of subareas, if applicable.
    - b. The director shall render its letter of approval or denial within ten (10) working days, excluding legal holidays, after receipt of the conceptual plan;
    - c. A letter of denial of a conceptual plan shall state in detail the reasons for such denial. Reasons for denial may include inconsistency with the standards established in the Parish Code or failure to comply with other adopted development regulations;
    - d. If the conceptual plan is denied by the director, or if a letter of approval or denial has not been timely rendered, the applicant may present the conceptual plan to the next regularly-scheduled meeting of the planning and zoning board for its review and decision. Appeals from a denial by the board shall be handled in accordance with subsection 26-16(a).
    - e. Conceptual plan approval shall expire twenty-four (24) months after approval unless development is consistent with an approved phasing schedule.
  - (2) *Preliminary plat.*
    - a. After approval of the conceptual plan, the applicant ~~may~~ shall submit a preliminary plat to the director, who will consider layouts and configuration of lots, streets, proposed drainage and easements, and their relationships with existing streets and easements which may join or cross the proposed subdivision. The preliminary plat shall also include:

1. The name of the proposed subdivision owner, applicant and developer;
  2. The name of the planner or planning firm, if any;
  3. The location of the property by reference to governmental section, township and range;
  4. The legal description of the property;
  5. The scale used for the map, at one (1) inch equals one hundred (100) feet or larger scale approved by the director of planning and development;
  6. A north arrow;
  7. Proposed street names, which may not duplicate or be substantially similar to any existing streets in the parish as determined by the director;
  8. Lots and block numbers;
  9. Alignment and dimensions of proposed lots, blocks, existing and proposed streets, and servitudes that adjoin, traverse, or are included in the proposed subdivision;
  10. A vicinity map showing the property at a scale of one (1) inch equals two thousand (2,000) feet;
  11. A drainage ~~impact analysis~~ if [Runoff Management Plan \(RMP\)](#) as required by the drainage regulations of this Code; and
  12. Other information that the applicant wishes to submit to demonstrate compliance with the Parish Code.
- b. Attached to the application shall be a letter from a public and/or private electric utility company verifying its capacity and intention to provide utility service to the subdivision.
  - c. Attached to the application shall be a letter from the applicable water and sewer service provider verifying its capacity and intention to provide service to the subdivision.
  - d. Minor variations in lot arrangements or sizes resulting from final field survey shall not constitute an addendum, for filing fee purposes, and no charge shall be made therefor.
  - e. Areas shown on the preliminary plat that do not meet the standards listed above in (a.) shall be deemed as future development, labeled as such, and subject to a separate preliminary plat approval.
  - f. The director shall recommend approval, approval subject to conditions, or denial of the plat within twenty (20) working days, [of each complete submittal](#) excluding legal holidays, after receipt of the preliminary plat.
  - g. After reviewing the director's recommendations and input from the public hearing, the planning and zoning board may approve, approve subject to conditions, or deny the preliminary plat.
  - h. Appeals to the decision of the planning and zoning board ~~may be submitted to the police jury within thirty (30) days of the board's action.~~ [shall be in accordance with procedures previously adopted for due process through the Fourteenth Judicial Court System.](#)
  - i. Unless superseded by section 26-3 vested development, the preliminary plat approval shall remain valid as long as the applicant receives final plat approval within four (4) years from the date of action by the planning and zoning board. This may be extended for one (1) year by decision of the director after receipt of a written request and valid reason from the applicant. Any further extensions thereafter may be granted by action of the planning and zoning board, or included in a valid development agreement as defined in subsection 26-13(e)(1).
  - j. For phased development, preliminary plat approval shall expire within eight (8) years from the date of action by the planning and zoning board. Failure to submit the final plat for the

final phase within this timeframe shall make the approval of the preliminary plat null and void. This may be extended for two (2) years by decision of the director after receipt of a written request and valid reason from the applicant. Any further extensions thereafter may be granted by action of the planning and zoning board, or included in a valid development agreement as defined in subsection 26-13(e)(1).

k. If a preliminary plat is given conditional approval by the planning and zoning board with requirements for completion of an RMP, Traffic Impact Analysis, or standard requirements as described within this ordinance, the preliminary plat shall not be considered approved until each of these items is provided to and approved by the Calcasieu Parish director of planning and development. Developer is encouraged not to begin engineering documents until requirements of the conditional approval are met.

(3) *Engineering plans.*

- a. After approval of the preliminary plat, the applicant shall submit engineering plans to the director and secure approval of those plans prior to submitting an application for final plat approval.
- b. The engineering plan shall include:
  1. Copies of the detailed layout and construction plans and specifications for the proposed subdivision;
  2. The name of the proposed subdivision and the name of the owner, developer and applicant;
  3. The name of the individuals who surveyed the property and prepared, stamped, signed and sealed the plans and specifications;
  4. A copy of the approved preliminary plat, reflecting required amendments;
  5. The location and description of existing and proposed sewerage facilities, if any central sewerage collection, treatment and disposal system is planned;
  6. Plans showing the proposed vertical and horizontal alignments of water, sewer, gas, electrical and telecommunications, and the proposed locations of light standards and fire hydrants, in accordance with the "Space Allocations for Utilities in New Construction" in the Appendix:
    - i. Waivers from the adopted space allocations for utilities may be granted by the parish engineer based upon unforeseen circumstances;
    - ii. Requests for waiver must be submitted in writing by the developer's engineer and be accompanied by a revised space allocation plan for review and approval;  
The space allocation plan does not relieve utility companies or individuals from complying with any applicable utility codes.
  7. Specifications of the proposed improvements, including typical street cross-sections, utilities, and the materials to be used in such improvements;
  8. Details of plans for sewerage disposal, tie-in to existing collection systems, construction of a new collection and disposal system, use of lagoons, lift stations, force mains, etc.;
  9. Information required to demonstrate compliance with the drainage regulations of this Code; and
  10. Copies of the proposed covenants or restrictions governing the use of the property and the construction of improvements in the subdivisions.

- c. The director shall render a letter of approval or denial within twenty (20) working days of each complete submittal, excluding legal holidays, after receipt of the engineering plans. Denial of engineering plans shall relate in detail the reasons for the denial.
- d. Resubmittals of plans with modifications or corrections shall be clearly labeled revised and shall clearly illustrated the required changes from the previous submittal.

(4) Inspections During Construction

- a. The parish will inspect features of all new subdivision on items for public dedication at critical milestones in the construction process. The developer shall submit prior to construction a schedule for construction and critical milestones for inspection scheduling, and shall contact the parish for required inspections no less than five (5) calendar days in advance of inspection checkpoints so that and inspector can be scheduled to be on site. Inspections shall be completed during normal working hours for the Parish. Standardized checklists based on ASCE and industry inspection standards will be provided to the developer during the plan approval process.

(5) Final plat. (Complete after construction as the final step in the development process.)

- a. After approval of engineering plans and completion of required improvements, the applicant shall submit a final plat and as-built drainage layout plan to the director. The director shall review and make recommendations to the police jury, which will consider the director's recommendations, public testimony, and staff reports on the status improvements or assurances of the completion of the subdivision in accordance with the approved engineering plans before deciding to approve, approve with conditions or deny the final plat and as-built drainage layout plan. Following adoption of the resolution adopting the final plat and as-built drainage layout plan, the director of planning and development or designee shall file the final plat and as-built drainage layout plan with the clerk of court who shall record the final plat.
- b. Except as provided in paragraph (d) of this section, no lot or other parcel of land in the proposed subdivision may be sold until the final plat is filed in records of the clerk of court by the director of planning and development or designee.
- c. No subdivision plat may be filed in the records of the clerk of court until approved by the police jury.
- d. Review criteria. No final plat will be approved by the police jury until the following requirements have been met:
  - 1. The applicant has submitted to the board a subdivision plat, including a complete legal description of the subdivision property, including, without limitation, the designation of the government section, township and range, and complying with all laws of Louisiana for the preparation and filing of subdivision plats, particularly R.S. 33:5051 et seq., and reflecting the location of servitudes as required to serve all lots in the subdivision.
  - 2. The applicant's engineer shall provide a signed and sealed letter certifying ~~certifies~~ that all construction has been completed in accordance with the plans and specifications outlined in the engineering plan or has proffered a development agreement that is acceptable by the police jury in accordance with subsection 26-13(e)(1)(development agreements) of this Code.

3. The division of engineering and public works has certified to its inspection and the completion of all construction in accordance with the plans and specifications contained in the engineering plans. The division of engineering and public works shall complete the inspection and report to the division of planning and development within ten (10) working days of each request, excluding legal holidays, after receipt of written request therefor from the applicant.
4. In lieu of meeting the requirements of subparagraphs a. and b. above, the applicant may elect to seek approval of the subdivision plat by furnishing a performance bond with adequate surety in accordance with subsection 26-13(e)(1)(development agreements) of this Code.
5. The following statements concerning dedication of rights-of-way and methods of sewage disposal shall be affixed to the plat with appropriate signatures:
  - i. Dedication. The right-of-way of streets shown hereon, if not previously dedicated, is hereby dedicated to the perpetual use of the public. All areas shown as servitudes are granted to the public for use of utilities, drainage, sewage removal or other proper purpose for the general use of the public. No building, structure, or fence shall be constructed, nor shrubbery planted within the limits of any servitude, so as to prevent or unreasonably interfere with any purpose for which the servitude is granted.
  - ii. Sewerage disposal. No person shall provide a method of sewage disposal, except connection to an approved sanitary sewer system, until the method of sewage treatment and disposal has been approved by the health unit of Calcasieu Parish.

Signature

Printed Name

Title

Company

This is to certify that this plat is made in accordance with R.S. 33:5051 et seq., and conforms to all parish ordinances governing the subdivision of land.

Signature

Printed Name

Title

Company

Professional Certification or License

6. In addition to other statutorily required information, the final plat shall include the following:
  - i. The as-built elevation within the proposed building lines of each lot in accordance with the drainage layout plan;
  - ii. The base flood elevations and required freeboard elevation for each lot;
  - iii. The applicable flood zones; and
  - iv. A statement that development of individual lots shall remain consistent with the approved engineering plans and "as-built" drainage layout plan.

(6) *Final acceptance of improvements*

Copies of the subdivision plat, the division of engineering and public works' certification of completion, and the approval and recommendations of the board, shall be submitted by the director of planning and development, or designee, to the police jury through the public works committee. Upon finding satisfactory compliance with all requirements of these subdivision regulations, the police jury shall accept for perpetual maintenance the subdivision and the infrastructure constructed therein.

(7) *Plat corrections.*

- a. *Purpose and applicability.* The following short form approval process may be used to correct a plat error, including the correction of any other type of formal, nonsubstantive, clerical error or omission by the police jury; such errors and omissions may include, but are not limited to: lot numbers, acreage, street names and identification of adjacent recorded plats.
- b. *Application and procedure.* This application shall be submitted to the division of planning and development. The staff will make its recommendations and forward these to the director of planning and development for consideration. The application shall include the corrected plat with a cover letter explaining any corrections or deviations from the originally submitted plat.
- c. *Review criteria.* Each of the following criteria shall be satisfied prior to approval of the plat correction:
  1. All resultant parcels shall comply with the minimum standards required by the Parish Code;
  2. No reduction in street right-of-way width or reduction of servitude width shall occur; and
  3. The action shall not adversely affect the character of the previously recorded plat or the character of the area.
- d. *Decision maker.* The director of planning and development or designee shall approve, conditionally approve, or deny all applications for plat corrections. The director of planning and development or designee shall be the final decision maker except that the applicant may appeal the decision to the planning and zoning board through the major subdivision process.

(8) *Minor subdivision.*

- a. *Purpose.* The provision of adequate data concerning land use, utility requirements, traffic impact, drainage, streets, servitudes and dedications is vital to ensure the continued health, safety and welfare of the parish's residents. Recognizing that the significance of this data is reduced for small-scale projects that are most heavily impacted by cost of producing this data, that the need for a public hearing is reduced for most small projects, and in accordance with law, the police jury herein establishes a simplified procedure for minor subdivisions.
- b. *Applicability.* Any subdivision meeting the criteria established in this section may be submitted to the director. The director will make an administrative review subject to the requirements of this section.
  1. If all of the following conditions are met, the platting of new lots, the realignment or shifting of lot boundary lines, including removal, addition, alignment, or shifting of interior lot boundary lines, or the designation or re-designation of lot numbers, may be considered a minor subdivision:
    - (i) Does not require the creation of any public infrastructure to be publicly maintained, new street, right-of-way in full ownership that is consistent with the thoroughfare plan or other public improvement but may provide for the dedication, acceptance, relocation, or deletion of public utility servitudes granted to Calcasieu Parish, other than streets.

This shall include the radius, central angle, point of tangent, tangent distance and arcs and chords of all curved streets and curved property lines, point of curvature and length of curve;

- (vii) Accurate location and description of all property corners, monuments and markers, as well as the location of utility lines;
  - (viii) All dimensions shall be to the nearest one-hundredth of a foot and angles to the nearest minute;
  - (ix) Lot lines, and lot and block numbers;
  - (x) Minimum building setback lines; ~~and~~
  - (xi) [Pipe sizing for roadside culverts of each lot.](#)
  - (xii) The names and locations of adjoining subdivisions and streets, and the location and ownership of adjoining unsubdivided property.
- d. *Review criteria.* The minor subdivision shall comply with the criteria set forth for final plats.
- e. *Decision maker.* The director of planning and development shall approve or send the application to the planning and zoning board and police jury in conformance with the requirements for subdivision applications not eligible for minor subdivision review. All subdivision plats approved by this administrative procedure shall designate such fact on the plats, and the plats shall be recorded by the director of planning and development or designee in the records of the clerk of court. Any plat so approved shall have the same force and effect and legal status of a subdivision application approved by police jury ordinance.

[\(9\)](#) *Subdivision variances.*

- a. *Purpose.* Subdivision variances provide a mechanism for relief for property owners when strict application would result in practical difficulties or a particular hardship to a property owner due to unique conditions of a property proposed to be subdivided. Variances may be granted at the time of preliminary plat approval.
- b. *Applicability.* Subdivision variances may be requested when an applicant can demonstrate that the unique parcel shape, size, configuration or other conditions preclude compliance with the Parish Code.
- c. *Application and procedure.* The application shall be filed with the division of planning and development. Subdivision variance requests shall be requested in writing along with a plat application, and processed concurrently with a preliminary plat application.
- d. *Required findings.* A variance is not a right. In conformance with state law, a variance may be granted only upon finding that:
  - 1. The property cannot be developed reasonably under the provisions of the Parish Code;
  - 2. The requested variance will not conflict with the purposes of the Parish Code or the comprehensive plan;
  - 3. The hardship does not generally apply to other properties in the parish. Reasons for hardship may relate to the particular property, because of size, shape, topography or other physical conditions, rather than personal circumstances;
  - 4. If the applicant complies strictly with the provisions of the Parish Code, then the applicant will be unable to make reasonable use of the affected property;
  - 5. The hardship does not exist because of conditions created by the owner or previous owners of the property;
  - 6. Granting the requested variance will not confer on the applicant any special privilege that is denied by the Parish Code to other lands that are similarly situated and configured;

7. The granting of the variance will not be contrary to the public interest, will not adversely affect property values, will not adversely affect other property in the vicinity, and will be in harmony with the intent and purpose of the Parish Code; and
  8. The variance requested is the minimum modification to the Parish Code necessary to alleviate the hardship.
- e. *Decision maker.* Decisions on subdivision variances to the Parish Code shall be made by the planning and zoning board. When a variance to the Parish Code constitutes a variance to multiple sections, separate actions shall not be required to modify the provisions of each section. However, each variance shall be cited in the action approving the preliminary plat and shall be noted on the final plat.
- (e) *Review for general development.*
- (1) *Development agreements.*
    - a. *Purpose.* The purpose of a development agreement is to ensure completion of public improvements and facilities, to assign responsibility for construction and funding of on- and off-site improvements, to provide assurances to the applicant that the development may proceed under the terms of the development agreement, and to document all agreements between the police jury and the applicant relating to a development.
    - b. *Applicability.* Except as provided below, before the plat is recorded, all applicants shall be required to complete, to the satisfaction of the parish engineer, all street, [drainage](#), sanitary, and other public improvements required by the Parish Code. The required improvements shall be those specified in the approved engineering plans.
    - c. *Conditions.* If the applicant chooses not to complete all required on and off-site public improvements prior to final plat approval, the applicant may provide financial guarantees in favor of the police jury to assure the construction of on- and off-site public improvements identified in the final plat approval and documented in the development agreement. This surety shall remain in effect for the duration of the agreement or until the police jury has accepted all improvements. In the event the applicant is unable to complete the required improvements, and such improvements are deemed necessary for the preservation of the public health and safety, the police jury may use the guarantee to complete the improvements as required or pursue other remedies authorized by state law. [This condition shall not apply to Runoff Management Plan requirements to maintain the site in a neutral condition in terms of pre and post development runoff and floodplain preservation.](#)
    - d. *Guarantee of completion of public improvements.* The police jury may defer the requirement for the completion of required improvements if the applicant enters into a development agreement by which the applicant guarantees completion of all required public improvements no later than two (2) years following the date upon which the final plat is approved. The police jury may authorize an agreement providing for multi-phase development over a longer period of time, provided that the agreement includes a phasing schedule and that provisions are made for guaranteeing completion of improvements required to serve each phase as it is subdivided. The police jury may require the applicant to complete and/or dedicate some required public improvements, rights-of-way or servitudes for subsequent development phases prior to approval of the final plat for any phase of a multi-phase development. Approval of the form and legality of any development agreement by the police jury's legal counsel is required prior to its execution. The parish engineer or designee shall verify that improvement costs provided by the applicant reasonably reflect the costs of required improvements prior to execution of the development agreement.
    - e. *Covenants to run with the land.* The development agreement shall provide that the covenants contained therein shall run with the land and bind all successors, heirs and assignees of the applicant. The development agreement shall be recorded with the Calcasieu Parish Clerk of

the officers or officials authorized to act on their behalf, agreeing to comply fully with all applicable provisions of these regulations.

- I. *Decision maker.* The police jury shall approve, approve with conditions or deny the development agreement after review by the police jury's legal counsel.

(Ord. No. 6143, § II, 12-6-12; Ord. No. 6214, § 1, 6-6-13; Ord. No. 6423, §§ 2—4, 9-4-14)

Sec. 26-14. - Standards for development; all subdivisions.

- (a) *Lots.* The minimum size of lots shall be the same as for the appropriate zoning district.
- (b) *Layout.*
  - (1) *Block length.* No block in a subdivision may be longer than two thousand two hundred (2,200) linear feet between cross streets unless the board determines that, in view of adjacent development or terrain, blocks in excess of two thousand two hundred (2,200) feet would not endanger the public safety.
  - (2) *Access limitations.* Vehicular driveway access from residential lots shall be prohibited when such lots abut streets designed as major thoroughfares, freeways, or any other public street which carries a traffic volume where additional vehicular driveways would create a traffic hazard or impede the flow of traffic. In the event that access is prohibited by these regulations or by action of the board, such access restriction shall be noted directly upon the as-built plat, adjacent to the lots in question.
- (c) *Streets.*
  - (1) The minimum width of a street or road right-of-way in any subdivision shall be the respective width shown in the "typical sections," dated October 11, 2005, or latest revisions, a copy of which is included in the appendix of this chapter. The board may require an increase in the minimum right-of-way width to conform the same to any existing streets within or adjoining the subdivision.
  - (2) If the transportation plan adopted by the police jury reflects that the traffic density within or through a proposed subdivision will create a hazard to traffic safety, the board may require reasonable variations in the proposed street plan and/or increases in the minimum street or road right-of-way.
  - (3) If proposed streets and roads delineated ~~on a major thoroughfare~~ on the Right-of-Way Preservation Map Master Thoroughfare Plan approved by the police jury traverse or adjoin a proposed subdivision, the board may require that sufficient rights-of-way be dedicated to conform with such plans.
  - (4) When an existing or proposed major street is located in or adjacent to the proposed subdivision, the board may require higher street standards and specifications to enable the street to meet the traffic demands reasonably to be anticipated, but only if the police jury agrees to bear the additional cost of such constructing according to such higher standards and specifications.
  - (5) All streets and roads, whether asphalt, concrete or other surfacing, shall be constructed in accordance with the respective standards and specifications for such streets and roads as provided in the "typical sections," unless the division of engineering and public works authorizes a variance therefrom based upon soil conditions or other pertinent construction factors.
  - (6) Street jogs with center line off-sets of less than one hundred twenty-five (125) feet shall not be permitted, except when the board determines that an off-set of less than one hundred twenty-five (125) feet would not endanger public safety.
  - (7) Cul-de-sacs shall provide a minimum turning radius of fifty (50) feet.
  - (8) The names of proposed streets shall not duplicate or be deceptively similar to the names of existing streets.
  - (9) Storm drainage pipe may be located within the street right-of-way, and servitudes may be required for interconnections or outfall purposes within the subdivision. Watershed and floodplain

preservation measures other than storm drain pipe, such as detention ponds, green space or preserved wetlands shall not be located within the road right of way unless specifically approved by the Division of Engineering and Public Works and addressed in a development agreement as per subsection 26-13 (e).

- (10) Sanitary sewer lines may be located in the streets and in rear or side lot servitudes.
  - (11) The board may direct that any street or road connecting two (2) existing hard-surfaced streets or roads be hard-surfaced to conform to such existing streets or roads.
  - (12) Private alleys may be provided within any subdivision plat to provide secondary vehicular access to lots which otherwise have their primary access from an adjacent public street. Private alleys may not be used or designed to provide the principal access to any tract of land and may not provide any access to property outside the subdivision plat boundaries in which the alleys are located. The use of private alleys must be accompanied by enclosed ditch drainage.
    - a. *Rights-of-way, intersections, curves.* Private alleys shall conform to the following requirements:
      1. For two-way alleys, the right-of-way width shall be not less than twenty (20) feet with a minimum paving width of eighteen (18) feet.
      2. For one-way alleys, the right-of-way width shall be not less than fourteen (14) feet with a minimum paving width of twelve (12) feet.
      3. Intersections with private alleys or public streets shall be at right angles except in those instances where the applicant requests and receives a variance.
      4. All corners at the intersection of alley rights-of-way with streets or alleys shall have at least thirty (30) feet of angular cutbacks provided.
    - b. *Dead-end alleys.* Dead-end private alleys shall not extend further than one thousand (1,000) feet from the nearest right-of-way line of the intersecting public street measured along the centerline of said private alley to the center of the circular cul-de-sac turnaround. Dead-end private alleys with a length of over one hundred fifty (150) feet shall be terminated by a circular cul-de-sac having a right-of-way radius of not less than fifty (50) feet and a minimum pavement radius of thirty-five (35) feet.
    - c. *Maintenance.* Where private alleys are proposed to be used, applicants shall be required to submit to the division of planning and development satisfactory evidence of the existence of a legal entity that will guarantee and assure the perpetual maintenance of all private alleys. Evidence of the existence of the required maintenance entity shall be prepared by an attorney licensed to practice in the State of Louisiana and submitted to and approved by the division of planning and development prior to the approval of the final plat for the subject subdivision. Said document shall be filed simultaneously with final plat by the division of planning and development.
- (d) *Drainage.*
- (1) Wherever drainage channels exist within a proposed subdivision, drainage servitudes shall be dedicated to the parish as prescribed by subsection 26-216(c) of this Code.
  - (2) When subsurface drainage is planned by the developer, the drainage facilities and construction plans shall conform to the requirements ~~of the parish drainage plans as prescribed by the division of engineering and public works-~~ established in Article VII.
  - (3) All drainage plans must undergo review of the respective drainage board. This review shall be coordinated as part of the Division of Engineering review.

- (4) ~~Drainage design criteria must be approved by the division of engineering and public works. All new subdivisions shall be designed in accordance criteria establish in Article VII of this code and shall meet the following watershed performance standards:~~
- a) New subdivisions shall be designed to result in zero increase in peak runoff rate for each outfall draining the proposed subdivision. Peak runoff design shall be based on each of the following design storms (2 year, 5 year, 10 year, and the 25 year design storm events). Detention ponds or systems designed as per the requirements of this section shall meet the storage requirements for a 25-year storm.
  - b) New subdivisions shall be designed in manner to provide for no net loss of floodplain storage capacity. Pre and post development stage-storage curves for the new subdivision site shall be compared for conformance.
  - c) New subdivisions shall be designed to avoid impacting any existing floodways. Development in a floodway will require a no-rise certification in accordance with FEMA guidelines to be completed.
  - d) All new structures within new subdivisions shall be required to comply with the Police Jury's freeboard requirements as included herein. This provision shall apply regardless of flood zone designation.
- (e) *Other improvements.*
- (1) *Fire hydrants.* Fire hydrants will be installed in the subdivision if there exists a six-inch water main in the proposed subdivision. Any fire hydrants installed shall have a maximum spacing of one thousand (1,000) feet, with no area in the subdivision exceeding five hundred (500) feet from any hydrant. With approval of the board, spacing may be altered slightly to conform to location lot lines.
  - (2) *Street signs.* Developers of proposed subdivisions are required to purchase the appropriate street name and traffic regulatory signs at a cost of fifty dollars (\$50.00) each from the parish, with the signs to be installed by the parish throughout the new subdivisions at the required locations, as deemed necessary by the division of engineering and public works.
  - (3) *Corner markers.* Corner markers of five-eighths-inch steel rod shall be used to mark the corners of all blocks within the subdivision.
  - (4) *Servitudes.* Servitudes shall be dedicated at locations and of dimensions required for installation and maintenance of the utilities proposed for the subdivision.
- (f) *Development improvements; commercial and/or light industry subdivision.* All streets shall be provided with adequate drainage.
- (g) *Development improvements; industrial subdivisions.*
- (1) Waste disposal shall be as required by the state board of health or applicable federal agencies.
  - (2) Construction of an eight-inch water line will be included unless it is certified in writing by the appropriate utility district that a suitable arrangement has been made to cover the subdivision. This certificate shall be submitted with the engineering plan.

(Ord. No. 6143, § II, 12-6-12)

Sec. 26-15. - Public sites and open spaces.

Whenever the proposed site of a park, playground, school, or other public use shown in the comprehensive plan is located in whole or in part of a subdivision, the board may require the reservation of such area within the subdivision for that purpose, if adequate provision is made within a reasonable time for payment by the police jury of just and adequate compensation to the developer as may be required by law.

(h) *Alcoholic beverage businesses.*

- (1) Certain alcoholic beverage businesses are permitted within certain commercial and industrial zoning districts as provided for by chart A of the zoning district regulations. Notwithstanding any other provisions of this section to the contrary, no commercial or industrial zoning district shall permit an alcoholic beverage business in which alcoholic beverages constitute over fifty (50) percent of the total gross sales to locate within three hundred (300) feet of a dwelling under a class A parish permit, excluding civic clubs, unless approved by the board.
- (2) The business of selling, offering for sale, keeping for sale, storing, giving away, or otherwise handling as a business any alcoholic beverages, whether at retail, wholesale, or otherwise at any place whereby alcoholic beverages constitute over fifty (50) percent of the total gross sales is hereby prohibited within three hundred (300) feet of a dwelling under a class A parish permit in all commercial and industrial zoning districts, excluding civic clubs, unless approved by the board.
- (3) The distance provided in subsection (2) shall be measured in a straight line from the nearest point of the property line of such dwelling to the nearest point of the premises wherein such business is conducted or proposed to be conducted; however, if there are sidewalks, the measurement of this distance shall be made as a person walks using the middle of the sidewalk from the nearest point of the property line of the dwelling to the nearest point of premises to be permitted.
- (4) The above prohibitions shall not apply to any place of business mentioned in subsection (2) which was being conducted on and prior to the effective date of this chapter, and said prohibitions shall not apply to any such business not or hereafter being conducted under permits validly issued in the event a dwelling is built or established within three hundred (300) feet of said business at any time after such business has commenced, or the permit therefore has been issued.

(i) Drainage.

- (1) All new development shall be designed in accordance criteria establish in Article VII of this code and shall meet the following watershed performance standards:
  - a) New developments shall be designed to result in zero increase in peak runoff rate for each outfall draining the proposed development. Peak runoff design shall be based on each of the following design storms (2 year, 5 year, 10 year, and the 25 year design storm events). Detention ponds or systems designed as per the requirements of this section shall meet the storage requirements for a 25-year storm.
  - b) New developments shall be designed in manner to provide for no net loss of floodplain storage capacity. Pre and post development stage-storage curves for the new development site shall be compared for conformance.
  - c) New developments shall be designed to avoid impacting any existing floodways. Development in a floodway will require a no-rise certification in accordance with FEMA guidelines to be completed.
  - d) All new structures within new developments shall be required to comply with the Police Jury's freeboard requirements as included herein. This provision shall apply regardless of flood zone designation.

1. The lot square footage is equal to or exceeds the requirement per dwelling.
2. The public road frontage is equal to at least forty (40) percent of the required footage.
- b. Minimum lot area:
  1. The public road frontage is equal to or exceeds the requirement per dwelling.
  2. The minimum lot area is equal to at least seventy (70) percent of the required lot area.
- c. Residential development:
  1. Residential development shall not exceed two (2) dwellings per lot for commercial and industrial zoned property. The minimum lot square footage and road frontage shall be determined based upon standards in R-2 (mixed residential) zoning.
  2. Temporary housing used as a second dwelling shall not exceed one (1) year while constructing a new dwelling, excluding R-1 (single-family residential) zoning.
- d. Building setbacks:
  1. The building setbacks shall not be less than fifty (50) percent of the setback requirement.
- e. Accessory building:
  1. Accessory building is allowed prior to the main dwelling provided the main dwelling must be constructed within a time period not to exceed two (2) years.
  2. Building height shall not exceed an additional twenty-five (25) percent of the maximum limit.
  3. Square footage shall not exceed the maximum square footage allowed by more than fifty (50) percent.
- f. Borrow-pit:
  1. Borrow-pits shall not exceed five (5) acres.
  2. Borrow-pits shall have a setback minimum of fifty (50) feet from property lines (where applicable a fifty (50) foot front yard setback will be measured from the required right-of-way line as per the major thoroughfare plan). A public hearing is required if the minimum setbacks are not met.
  3. Administrative review of borrow-pits in R-1 (single-family residential) or R-2 (mixed residential) zoning districts is prohibited.
  4. The applicant shall meet the following requirements:
    - i. That the extraction and hauling be performed from daylight to dusk only;
    - ii. That the extraction is performed in accordance with the borrow-pit application and the site plan on file with the division of planning and development;
    - iii. That necessary steps must be taken to maintain dust control and to prevent spillage and tracking from occurring on any public road;
    - iv. That no hauling will take place during inclement weather;
    - v. That a local development permit must be obtained prior to hauling;
    - vi. That hauling will be subject to any weight limits on any affected parish road or bridge;
    - vii. That backfilling is prohibited without proper permitting;
    - viii. That the development adheres to stormwater best management practices;

- ix. That an application for and/or compliance with an LPDES stormwater, sand and gravel pit, or discharge permit through the department of environmental quality may be required;
- x. That a road damage bond may be required as per the recommendation of the parish engineer;
- xi. That obstructing the flow of surface water is prohibited; ~~and~~
- xii. [Borrow-pits shall be developed in accordance with watershed performance standards established herein with additional design criteria established in Article VII of this code.](#)
- xiii. That hauling must be completed within three (3) years. This may be extended for one (1) year by decision of the director after receipt of a written request and valid reason from the applicant. Any further extensions thereafter may be granted by action of the planning and zoning board.

(2) Director's approval procedures:

- a. The applicant executes and files an application to petition with the division. The division may require supplementary data, including, but not limited to, a site plan, building plans, and/or approval from department of health and hospitals.
- b. After the director of the division of planning and development has determined the application to be complete, a copy of the application shall be forwarded to the representing police juror for review, notice of the request shall be published at least two (2) times in the official journal of the parish, and fifteen (15) days shall elapse between the first publication and the date of the notice of director's decision.
- c. The director of the division of planning and development may approve, approve with stipulations, or deny the application. Unless appealed by the applicant, all decisions shall be final.

(Ord. No. 6143, § II, 12-6-12; Ord. No. 6423, § 5, 9-4-14)

DIVISION 3. - PROCESS FOR EXCEPTIONS, VARIANCES, AND ADMINISTRATIVE APPEALS

Sec. 26-123. - Procedure for applying for an application to petition for zoning exceptions and variances and administrative appeals.

No application to petition for zoning exceptions and variances shall become effective unless and until:

- (1) The applicant executes and files an application to petition with the division. The division may require supplementary data including, but not limited to, a plat plan, site plan, building plans or studies including, but not limited to, traffic impact analysis, drainage impact analysis, and economic impact analysis.
- (2) After the director of planning and development has determined the application to be complete, a date for a public hearing is set. Notice of the time and place of the hearing shall be published at least three (3) times in the official journal of the parish, and at least ten (10) days shall elapse between the first publication and the date of the hearing.
- (3) The director of planning and development then forwards the application to petition and supporting documents to the board.
- (4) The board, after reviewing the application to petition and hearing comments at the public hearing, will make a final decision known at the public hearing for the approval, conditional approval, or disapproval of the application to petition for all zoning exceptions and variances and appeals.

(Ord. No. 6143, § II, 12-6-12)

Sec. 26-211. - Purpose of easements; maximum width.

It is to be understood that the right-of-way or maintenance easement granted by the developer shall be solely for the installation and/or maintenance of water improvements and utilities. The easement and/or right-of-way shall have a maximum width of fifteen (15) feet.

(Ord. No. 6143, § II, 12-6-12)

Sec. 26-212. - Permanent structure prohibited.

No permanent structures shall be built upon the right-of-way or maintenance easement, and, in the case of nonpermanent structures being built on same, all responsibility for removal of the nonpermanent structures shall lie with the property owner or owners who have placed same upon the maintenance easement or right-of-way, in the manner as described in section 26-213.

(Ord. No. 6143, § II, 12-6-12)

Sec. 26-213. - Obstruction prohibited.

The owner or owners obstructing any right-of-way or maintenance easement shall be notified by registered letter from the parish that the obstruction or obstructions shall be removed within fifteen (15) days from receipt of the letter.

(Ord. No. 6143, § II, 12-6-12)

Sec. 26-214. - Violations.

Any person found in violation of these provisions shall be subject to an injunction and/or, upon conviction, be fined up to five hundred dollars (\$500.00) or imprisoned for up to thirty (30) days, or both, at the discretion of the court, or such additional punishment as may be authorized by law.

(Ord. No. 6143, § II, 12-6-12)

#### DIVISION 4. - DRAINAGE STANDARDS

Sec. 26-215. - ~~Drainage impact analysis.~~ Runoff Management Plan (RMP).

- (a) *Scope.* This article applies to all new developments within the unincorporated area of Calcasieu Parish, however, the study limits may extend into incorporated areas. Requirements of this article shall apply in addition to any state and federal provisions.
- (b) *Purpose.* This article will establish the requirements for a ~~drainage impact analysis (DIA)~~ Runoff Management Plan (RMP) and the guidelines for preparation and submittal of said analysis plan. ~~The standards of this article shall constitute the basic DIA standards and are intended to minimize the risk of flooding due to an increase in surface water runoff and water surface elevations resulting from development. The standards of this article shall constitute the basic RMP standards and are intended to minimize the risk of flooding and watershed impacts resulting from a development and to preserve the floodplain storage capacity. RMPs should provide a detailed design and explanation of mitigation measures required to meet the watershed performance standards established in this code.~~

- (c) *When required.* A ~~comprehensive drainage impact analysis (DIA) RMP~~ is required for all new subdivision developments, and all new site developments requiring a building or grading permit.

Waivers for ~~DIA RMP~~ submittals shall be approved in accordance with subsection (d).

Said ~~DIA RMP~~ shall be submitted to the parish engineer for review and approval. Cover page of said ~~DIA RMP~~ shall be stamped and signed by a licensed Louisiana civil engineer. No development shall be approved for construction ~~without an prior to parish engineer or designee providing a favorable recommendation approved of the DIA RMP or obtaining a waiver.~~ However, the planning and zoning board may grant preliminary approval to a proposed subdivision or development contingent on later submission of the ~~DIA RMP~~, or in accordance with the latest ~~subdivision~~ regulations. ~~The preliminary plan must include the proposed drainage plan at time of preliminary approval.~~ In any case, the ~~DIA RMP~~ must receive the parish engineer or designee's review and approval before any development improvements begin.

- (d) *Waivers.* Developers may request ~~that the parish engineer or designee approve~~ a waiver of the ~~DIA RMP requirements for all new developments, except for new major subdivision developments.~~ Waivers will be considered on a case-by-case basis if the development meets one of the requirements below:

1. Will not alter the existing natural characteristics of the site;
2. Will not result in more than ~~a thirty (30)~~ twenty (20) percent ~~increase in~~ impervious area that results in direct drainage runoff;
3. ~~Will not result in more than forty thousand (40,000) square feet of total impervious area;~~
4. ~~Is located within a minor subdivision;~~
3. Is ~~a commercial/industrial site of five (5) acres or less~~ than 2 acre development; ~~or~~
4. ~~Comprises less than ten (10) percent of the total upstream drainage watershed at the outfall discharge point.~~

Additional requests for waivers will be considered where supporting data is submitted indicating no adverse impact on surrounding properties. Proposed developments within or partially within any existing regulatory floodway shall not be considered for an RMP waiver.

In any case, the developer must submit the request for waiver in writing, along with supporting watershed and hydraulic data for consideration of the waiver.

All new developments receiving a RMP Waiver shall be required to pay a fee in lieu of detention drainage impact fee based on impervious area created. This fee in lieu of detention Drainage Impact Fee shall be in accordance with the latest revised fee schedule adopted by the Police Jury and shall be added to existing development permit fees schedule.

- (e) *General considerations.* The developer shall prepare the proposed development layout in conformance with the following general provisions.

- (1) The design and construction of the development shall preserve, insofar as it is practical, the natural terrain and natural drainage. The development shall be designed and construction to meet the watershed and floodplain performance standards established herein and shall have no adverse impact to the watershed, the existing drainage system and/or the FEMA delineated floodplain.
- (2) Any land subject to inundation or located along a natural drainage channel or in a FEMA designated 100-year floodplain shall not be developed until provisions, as determined by the ~~DIA RMP~~, are made to adequately protect the development and surrounding properties. ~~An independent engineer shall be required, at the expense of the developer, for the purpose of verifying the technical requirements.~~ At the expense of the developer, the Engineer of Record shall be required to verify the technical requirements specified herein are met. These provisions

shall be made to protect the health, safety, and welfare of the public as well as to minimize any flood hazard resulting from development of the area. Areas subject to flooding shall remain undeveloped.

(3) Provisions should be made to preserve any natural hydraulic watershed features of the site which would enhance the development and limit offsite impacts.

(4) Methods and schedule of construction shall be developed in a manner to protect the watershed from interim construction impacts during the construction phases of the project. RMP mitigation measures designed to protect the watershed and preserve the floodplain should be constructed at the start of construction in a manner that will prevent impact to watershed or floodplain during the construction process.

~~(4)(5)~~ No development, fill, or obstruction of any type on or over any portion of a regulatory floodway, coastal high hazard area or areas of special flood hazard, as determined by the DIA RMP, shall be permitted which, alone or cumulatively with other such activities, would cause or result in a barrier that will adversely affect the efficiency of or restrict the flow or capacity of a designated floodway or watercourse so as to cause foreseeable damage to others, wherever located. ~~Any such development application must include a drainage impact analysis (DIA) including hydrologic and hydraulic data, confirming that no adverse floodwater effects will result from a proposed development. The DIA must be stamped and certified by a Licensed Louisiana Engineer and is subject to review and approval or denial by the floodplain administrator, the parish engineer or designee. In addition, FEMA certification shall be required noting that proposed floodway encroachment does not impact existing water surface profile analyses. A fill mitigation plan shall be prepared by the applicant in accordance with the provisions established in Section 26-216.~~

(f) *Submission contents.* A required ~~drainage impact analysis (DIA)-RMP~~ shall include:

~~(1) A watershed map reflecting:~~

(1) An overall watershed map reflecting:

- a. Overall watershed boundaries delineated using the latest LIDAR ~~two-foot interval contours data available~~.
- b. ~~Two~~ One-foot topographic site contours within the boundary of the development delineated using actual topographic surveys, as required by the parish engineer.
- c. Delineated drainage areas involved including offsite watershed areas with acreage shown;
- d. Slope and travel length of each drainage area to the entry point and/or exit point of the development;
- e. Existing (pre-development) land use and vegetative cover for all drainage areas; Pre-development conditions shall be based on an observation of site conditions no less than 5 years prior to the application date of this ordinance. Aerial photographs may be used to establish the pre-development conditions of the site.
- f. All major, intermediate, and minor watercourses, utilizing the labeling program adopted by the parish stormwater master plan upon implementation;
- g. Overall view of drainage and ultimate drainage disposal map including the limits of the watershed downstream of development to the point where said development is less than ten (10) percent of the entire watershed; and
- h. One-hundred-year flood zones, if applicable, including all regulatory floodways and coastal high hazard areas.

(2) *Survey data reflecting:*

- a. Existing watercourses and downstream drainage structures within the study limits including cross sections of the downstream watercourse where hydraulic grade line analysis is required. Watercourse cross-sections shall be at intervals adequate to define the hydraulic characteristics of the channel. Drainage structure cross-sections shall be taken at the upstream and downstream ends of the structure and at the structure in accordance with ~~HEC-RAS~~ applicable standards for modeling impacts. Stream cross-sections may be tied to LIDAR to produce full cross-sections of the drainage ways.
- b. The RMP shall give the location, description, and elevation references so that adequate review of accuracy can be completed.

(3) *A development drainage layout plan reflecting:*

- a. Proposed layout of development;
- b. Various drainage areas based on conceptual design and proposed layout of development;
- c. Offsite drainage areas shown at entry points to the development with calculated ~~ten-year peak~~ pre and post development discharge rates;
- d. Existing and proposed development contours at one-foot intervals with existing and proposed stage-storage curves for the site, as required by the parish engineer. One foot contours may be required by the parish engineer where additional information is needed to define topographic features of a site;
- e. Existing and proposed drainage and maintenance easements;
- f. Delineated flood zones, regulatory floodways, coastal high hazard areas, and the highest recorded inundation, where applicable;
- g. Existing and proposed drainage patterns, slope, and travel length with estimated ~~ten-year~~ peak discharge rates based upon existing and future land use and zoning of the offsite drainage areas. Future conditions will be based on the current land use and zoning maps; and
- h. Existing and proposed ditches, culverts, or other hydraulic features or structures that will be utilized to mitigate impact.

(4) *Detailed findings.*

- a. *Conclusions.* The ~~DIA-RMP~~ should contain an executive summary and should clearly identify the results and conclusions of the analysis and recommend provisions for any required action(s) so that surrounding properties experience no adverse impact. ~~Recommendations should ensure that existing watersheds and existing water surface profiles would not be negatively altered as a result of the development, and that the new development will meet the required performance standards established herein.~~
- b. ~~Design criteria. The DIA should clearly describe the methodology, data and assumptions used. The design criteria must support section 26-216~~ Design criteria. The RMP should clearly describe the methodology, data and assumptions used. The design criteria must support the latest approved and published drainage design standards accepted by the Parish.
- c. *Calculations.* The ~~DIA-RMP~~ should include clear, concise, step-by-step calculations. The calculations section should contain all necessary topographic data, such as existing ground elevations, cross sections of drainage laterals, and size, type, and invert elevations of all downstream drainage facilities included in the ~~DIA-RMP~~.

(5) *Additional information.*

- a. ~~The DIA shall describe the proposed development.~~ RMP shall include all pre and post inflow and outflow hydrographs for designs that consider retention, detention, or watercourse

routing. Rating curves for outlet structures, as well as details of any proposed outlet structures, should be included. As part of the RMP, peak discharges and inflow hydrographs shall be developed in accordance with guidelines established herein.

~~b. The RMP DIA shall describe existing land use in the project watershed. Said description will include soil types, vegetative cover, watershed slopes, and an estimate of the percent of impervious area under fully developed conditions. shall indicate the capacity of all existing and proposed drainage features to convey the pre- and post- development discharges. Boundary conditions for hydraulic grade line analysis shall be defined at the upstream or downstream limits of the study area depending upon the flow type (i.e., supercritical or subcritical flow). Boundary conditions shall be based on the ten-year design water surface elevation.~~

~~c. The DIA shall describe analyses methods used to determine drainage impacts and summarize all conclusions at the end of the report.~~

~~d. The DIA shall include all pre and post inflow and outflow hydrographs for designs that consider retention, detention, or watercourse routing. Rating curves for outlet structures, as well as details of any proposed outlet structures, should be included. As part of the DIA, peak discharges shall be developed in accordance with guidelines established in the Louisiana Department of Transportation and Development Hydraulics Manual, based on total acreage of each watershed and rainfall data. Hydrographs shall be developed using the SCS Method Unit Hydrograph or an approved curvilinear synthetic hydrograph. Triangular hydrographs shall not be used as part of the DIA. Unless otherwise noted, the DIA shall be based on a 10- and 100-year storm frequency for a twenty-four-hour storm duration. See section 26-216 for additional design requirements.~~

c. The RMP's hydraulic water surface calculations shall indicate any areas where the ten-year elevation is above the existing top of bank under either the pre- or post-development conditions. In such cases where the hydraulic water surface is expected to overtop the existing banks, the engineer shall recommend provisions to reduce flooding or mitigate foreseeable impacts of the proposed development. Fill mitigation below the ten year water surface elevation shall be balanced in the stage-storage relationships curves for the site such that pre-development storage conditions are not reduced.

~~e. The DIA shall indicate the capacity of all existing and proposed drainage features to convey the pre- and post- development discharges by hydraulic grade line analysis. Boundary conditions for hydraulic grade line analysis shall be defined at the upstream or downstream limits of the study area depending upon the flow type (i.e., supercritical or subcritical flow). Boundary conditions shall be based on the ten-year design water surface elevation. The ten-year water surface shall be calculated in accordance with acceptable engineering practices until such time that stormwater master plan models are available. Once said models are available, the parish shall provide the starting water surface elevation at the nearest location to the proposed development. Where the parish stormwater models do not extend to the boundaries of the proposed development, it shall be required, as part of DIA that the developer's engineer will extend the models to include the new development. The parish will include the extended model into its system.~~

~~f. The DIA shall study the effects and indicate the capacity of all ditches, culverts, sub-surface, and surface drainage structures that will be utilized downstream of the development in allowing passage of stormwater to the first recorded public watercourse, or as specified by the parish engineer. Where no immediate downstream facility is available, analysis shall be~~

~~carried downstream to the point where the development is less than ten (10) percent of the overall watershed. The starting water surface profile elevation at a given location shall be the highest elevation indicated by the FEMA flood profile, the parish stormwater model, or normal depth analysis at said location.~~

~~g. The DIA's hydraulic water surface calculations shall indicate any areas where the ten-year elevation is above the existing top of bank under either the pre- or post-development conditions. In such cases where the hydraulic water surface is expected to overtop the existing banks, the engineer shall recommend provisions to reduce flooding or mitigate foreseeable impacts of the proposed development.~~

~~h. The DIA shall give the location, description, and elevation of all permanent and temporary benchmarks used for the analysis and to be used for the development construction.~~

~~i. The DIA shall establish natural ridgelines and drainage boundaries and the developed condition shall maintain these areas, draining to each natural outfall as closely as possible.~~

~~j. The DIA for developments within the 100-year floodplain, a regulatory floodway, a coastal high hazard area, or where the DIA indicates the need for fill restriction to maintain the natural flow capacity of the overall drainage system, shall include a fill mitigation and grading plan for any volume of fill to be placed below the base flood elevation or within the natural storage areas as determined by actual site contours, irregardless of whether the development is depicted in a recognized flood zone. Said fill mitigation plan shall mitigate or compensate and balance hydraulically for fill in restricted areas within the same watersheds. Approval of fill mitigation plans in no way supersedes the requirement to obtain FEMA certification noting that fill in floodways does not have an impact on existing water surface profile analyses.~~

(6) *Water surface profiles.*

a. Existing condition water surface profiles shall be computed based on the natural channel, culverts, bridges, and other natural features through the property to be developed.

b. Developed condition water surface profiles shall be computed based on the proposed conditions and shall account for all existing features to be removed, any new channel geometry, proposed culverts or storm drain systems, and any fill placed within the over-bank flow in the existing channel sections.

c. The water surface profile elevations at the upstream and downstream property lines of the development shall not negatively impact the existing condition water surface elevation at that point.

~~(g)7~~ *Specific considerations.* In developing the ~~drainage impact analysis (DIA), RMP~~ the independent engineer must give certain items specific consideration ~~such as:~~

~~(1)a~~ Natural ponding, retention, or detention of stormwater shall not be used in the ~~DIA RMP~~ unless authorized in writing by the parish engineer or designee, or unless specifically incorporated into the ~~permanent platted~~ design of the development ~~with appropriate easements and designations so that such features can remain in place and functioning as designed.~~

~~(2)b~~ ~~The DIA shall study the effects of the proposed development on existing downstream facilities outside the limits of the proposed development to the nearest publicly maintained, indexed lateral or until the area of the proposed development represents less than ten (10) percent of the total watershed.~~

c. ~~(3)~~ No portion of a watershed shall be diverted to an adjacent watershed unless approved by the parish engineer.

d. ~~(4)~~ Where an existing stormwater conveyance system, either man-made or natural channel, traverses through the development and accommodates off-site drainage areas, any alterations to the existing system shall not negatively impact the existing condition water surface elevation at the entrance and exit points.

Sec. 26-216. - Drainage ~~design~~ Design standards Standards.

- (a) *Scope*. This article applies to new developments within the unincorporated area of Calcasieu Parish and within its extra-territorial jurisdiction. Requirements of this article shall apply in addition to any state and federal provisions. Requirements of this article are intended to support and supplement the requirements of the previous section for RMPs (when required), and to provide design standards for new drainage system infrastructure to be constructed or modified as the result of a new development.
- (b) *Purpose*. This article will establish the requirements for drainage design standards for new developments and will establish the guidelines for preparation and submittal of said design. The standards of this article shall constitute the minimum drainage design standards and are intended to provide protection from flooding for developed properties.
- (c) *Easements*.
- (1) Drainage easement standards. Where a watercourse traverses a development, a drainage easement shall be provided. The boundaries of said easement shall be in substantial conformance with the lines of the watercourse. Drainage easements shall be accompanied by a maintenance easement as outlined in paragraph (2) below. Drainage easements are not subject to the RMP waivers and shall be dedicated as described herein for all new developments. The total width of the drainage easement shall include the width of the drainage feature from top of bank to top of bank in addition to the requirements below. Existing top of bank will be determined by projecting a ~~3:4~~ 4:1 slope from the design toe of the existing bank to the existing natural ground level. Drainage easements must be in accordance with subsection (i) below and with the following widths:
- a. *Major watercourse*. A minimum width of thirty (30) feet ~~twenty (20) feet~~, measured from the top of the projected bank, shall be provided on each side for all existing or proposed "major" or indexed watercourses.
- b. *Intermediate watercourse*. A minimum width of twenty (20) feet ~~ten (10) feet~~, measured from the top of the projected bank, shall be provided on each side for all existing and proposed "intermediate" watercourses.
- c. *Minor watercourse*. A minimum width of ten (10) feet ~~five (5) feet~~, measured from the top of the projected bank, shall be provided on each side for all existing and proposed "minor" watercourses. ~~The total right-of-way required for "minor" watercourses shall not be less than twenty (20) feet.~~
- d. *Enclosed watercourse*. A minimum width of twenty (20) feet, centered along the centerline of all existing or proposed enclosed watercourses, should be provided. Enclosed watercourse easements should be dedicated so as not to be centered on lot lines. An additional easement is required for culvert sizes larger or wider than thirty-six (36) inches according to the following:
- 36"—54": Minimum twenty (20) foot ~~twenty-foot~~ additional easement.
  - 60"—120": Minimum twenty-five (25) ~~foot~~ foot additional easement.
  - Above 120": As specified by the parish engineer.

In all cases, the easement widths referenced above shall be minimum guidelines and subject to be changed by either the jurisdictional gravity drainage board or the parish engineer, if circumstances dictate such changes.

All drainage easements shall also be subject to conformance with the latest revisions of the parish's stormwater master plan, when applicable.

- (2) *Maintenance easement standards*. All major watercourse drainage easements shall be accompanied by a minimum fifty (50) foot ~~thirty-foot~~ maintenance easement on one (1) side of the lateral for maintenance access. Drainage easements for intermediate and minor watercourses

shall be accompanied by a minimum ~~twenty-foot~~ thirty (30) foot- maintenance easement on one (1) side of the lateral for maintenance access. Drainage easements for minor watercourses shall be accompanied by a minimum ten-foot maintenance easement on one (1) side of the lateral for maintenance access. Maintenance easements are not subject to RMP waivers and shall be dedicated as prescribed herein for all new developments.

Maintenance easements may be used as an individual access easement from a public right-of-way or servitude to gain access to drainage easements. The individual access will allow the parish to travel to and from drainage easements and street rights-of-way. Maintenance easements shall remain on the same side of the lateral for the entire length, where possible, to provide access continuity. A minimum of 20 feet of useable area is required. Where the maintenance easement is transitioned from one side to the other an approved lateral crossing or access easement shall be provided by the developer.

No permanent structures shall be built upon such maintenance or drainage easements. In the case of nonpermanent structures being built on the same, all responsibility for damage and/or removal of such nonpermanent structures shall lie with the property owner in the manner as described in paragraph (3) below.

The owner obstructing any maintenance easement shall be notified by registered letter from the parish that the obstruction shall be removed within fifteen (15) calendar days from receipt of such letter.

Any person or persons found in violation of maintenance or drainage easement standards shall, upon conviction, be subject to punishment as provided in section 1-9 of this Code, or such additional punishment as may be authorized by law.

- (3) *Additional requirements.* When a proposed drainage system will carry water across private land outside of the boundaries of the proposed development, the developer must obtain the appropriate drainage and maintenance easements across said abutting properties from the boundary of the development to the nearest public maintained outfall prior to final approval of construction plans and issuance of permission to construct the development, as determined by the parish engineer.
- (4) *Dedication of drainage and maintenance easements.* The act of dedication of the easement required herein shall provide for the following:
  - a. *Permanent obstructions.* No permanent building or obstructions shall be placed within the easement without the approval of the parish engineer or designee.
  - b. *Non-permanent obstructions.* The property owner shall not be permitted to place non-permanent obstructions in the easement that obstruct the flow or interfere with the ability to maintain said easement. All subdivision plats shall include a note stating:

Fences, plantings, or temporary obstructions that obstruct the flow of water in a watercourse or interfere with the ability to maintain an easement shall not be placed within said easement. Any public entity accessing said easement is not responsible for damages to fences, plantings, or temporary obstructions within the easement.

Upon written request, said obstructions shall be removed by the property owner or, in default of said movement within a fifteen-day notification period, said obstructions shall be removed by the appropriate authority using said easement. Upon such removal, said property owner shall not be entitled to recover any costs of replacing the objects removed from said easement and may be penalized in accordance with section 1-9 of this Code.
  - c. *Drainage across easements.* Drainage across easements shall not be permitted for more than one lot or multiple parcel unless enclosed with a drop pipe or other proper erosion

protection is provided. The property owner shall not permit drainage across an easement into the watercourse except by natural means. Should drainage across an easement be requested, access continuity should not be obstructed. The parish engineer and the respective gravity drainage district board or designee must approve any drainage structure crossing gravity drainage easements.

- d. *Rationale for creating easements.* All drainage easements created are to ensure and allow proper drainage. The waterway included and served by the drainage easement will be maintained by either a private or governmental entity, as is appropriate.
  - e. *No overlap of utility and drainage easements.* Utility easements and drainage easements for major, intermediate, and minor drainage laterals or watercourses may cross but shall not overlap, unless approved by the parish engineer and the utility company. This restriction shall not apply to roadside ditches.
- (d) *Required improvements.* The design engineer shall make design improvements in accordance the following:
- ~~(1) The design engineer shall make design improvements in accordance with the following:~~
- (1) The developer has the duty to the downstream property owner(s) to not divert surface waters, change the velocity of flow, add to pollution, or increase the amount of waters from other directions to the extent that material damage occurs on the lower lying property of the other land owner. Ideally, the surface water flow should imitate the conditions in existence when the lands were in a natural state.
  - (2) The developer has the duty to the upstream property owner(s) not to prevent or obstruct the flow of surface waters onto his land from that of the upland owner. The developer cannot exclude these surface waters, nor can he cause the water to flow back to his upstream property owner.
  - (3) Drainage improvement provisions shall be made to accommodate sheet flow of stormwater crossing development lot lines. Additionally, provisions shall be made to allow no sheet flow of stormwater from the proposed development to flow onto adjacent properties, unless otherwise approved by the parish engineer.
  - (4) Streets and lots of a proposed development shall be arranged so as to keep relocated drainage channels at a minimum. Where relocations are necessary, the developer shall analyze the upstream and downstream impacts through prescribed routing methods and hydraulic grade line analysis for pre- and post-development conditions. The developer of the proposed site shall dedicate all necessary drainage and maintenance easements of adequate width as approved by the parish engineer or designee for existing and proposed drainage laterals, ditches or watercourses collecting and conveying stormwater runoff through the proposed development.
  - (5) Any additional drainage and maintenance easements shall be obtained as needed to improve existing downstream drainage facilities to offset any foreseeable impact that may be caused by the proposed development.
  - (6) The parish shall not be obligated to provide any infrastructure or drainage improvements pursuant to this ordinance to accommodate any new development.
  - (7) All drainage improvements except those allowed within the public right of way, shall be privately maintained in perpetuity. The developer shall provide as part of the engineering plan submittals, a perpetual operations and maintenance plan (O&M Plan) for the proposed improvements. O&M Plan for said improvements shall be legalized through a development agreement and shall remain the responsibility of the developer in perpetuity. The development agreement may provide for the transfer of the O&M Plan responsibilities, but shall require a formal revision to the original agreement and shall be approved by the Police Jury. The Police Jury will develop a template procedure to allow transfer of these perpetual maintenance requirements to an owner's association. Development Agreements shall be in accordance with the guidelines established herein. The

police jury will hold on file all development agreements and may inspect drainage improvements for proper O&M as needed.

- (e) *Submittal requirements.* Drainage plans requirements. The design engineer shall submit a stamped and signed set of detailed drainage calculations and plans for all proposed developments subject to these requirements. The drainage plans shall contain a Watershed Map, a Drainage Layout Map, a Grading Plan, Plan-Profile sheets, Typical Cross sections, and Special Details sheets where the following minimum information and data should be provided for review:
- (1) The drainage plans shall detail the runoff flowing into, ~~through~~ across, and exiting the development.
  - (2) The location, description, and elevation ~~of permanent or temporary benchmarks to be used in the construction of all improvements. Vertical control for proposed developments shall be established by a GPS occupation with OPUS derived solutions, done during the time of the survey or by N.G.V.D., measured to at least second order accuracy or better and shall be run from a U.S. Geological Survey (U.S.G.S.), Louisiana Geological Survey (L.G.S.), or Calcasieu Parish GPS monument. A note shall be placed on the drainage plan sheet indicating the U.S.G.S. or L.G.S. monument and elevation used in determining the benchmark used for the development.~~ reference datum's or coordinate systems adequate for survey data review and accuracy.
  - (3) The delineated floodplain based on flood-actual site elevations, ~~if applicable,~~ and the area(s) located within the delineated 100-year floodplain ~~based on onsite two-foot contour intervals, which will be~~ shall be shaded for clarity.
  - (4) Cross-drain and side drain sizes (existing and proposed) for all road crossings and driveways with a notation of the flow rate and drainage area for each section of pipe or driveway shown in table format.
  - (5) Calculated discharge rates for both onsite and offsite drainage areas shall be in accordance with subsection (f) below.
  - (6) All proposed and existing drainage and maintenance easements within the boundaries of the proposed development. Include cross sections of each easement on drainage plan.
  - (7) Layout, location, slopes, inverts, type and sizes of all storm sewer structures.
  - (8) Slopes of all major, intermediate, and minor watercourses.
  - (9) A note on the plan requiring the lot owner to provide the proper grading of lots to match drainage design including lot flow arrows identifying grading requirements to satisfy drainage design.
  - (10) Typical pond sections (if applicable) noting normal pool elevations and peak ~~ten (10) year event~~ water surface elevations from routing calculations.
  - 11) Hydraulic and hydrologic calculations, plan-profile sheets, and drainage area maps shall also be submitted with the drainage plan to provide for detailed review. All submittals shall be stamped and signed by the certifying engineer.
  - 12) Grading plan shall provide the following:
    - a. All proposed final grades and lines within the boundaries of the new development required for the new construction to conform to the development's RMP;
    - b. Final grades and lines of the development shall be completed during construction, adequate to meet the development's RMP;
    - c. Delineation of all fill to be placed or potentially placed onsite within the delineated floodplain;

(f) *Peak runoff determination methods.*

- (1) For drainage areas less than ~~two hundred (200) acres, the design engineer shall use the rational method ( $Q = CIA$ ) for determining runoff rates. Rainfall intensities and runoff coefficients utilized with the rational method shall be consistent with the Louisiana Department of Transportation and Development (LaDOTD) Hydraulics Manual.~~ six hundred (600) acres the Rational or SCS based calculation may be used to develop peak discharge for design storms. However, to expedite review and provide consistent application of the methods, all calculation for peak discharge runoff shall follow the Parish approved design process and variable sheet protocols.
- (2) For drainage areas ~~from two hundred (200) acres to two thousand (2,000) acres, the peak stormwater runoff shall be determined utilizing the procedures established by the United States Soil Conservation Service Technical Release No. 55 (TR 55) "Urban Hydrology for Small Watersheds."~~ over six hundred (600) acres, modeled flows for predevelopment conditions shall be required. Parish Engineer shall approve the methodology and modeling program that shall be used. Unless approved otherwise the required methodology and modeling program will be the same as the current practices and versions utilized by the parish drainage department responsible for the review of the proposed improvements.
- (3) ~~Runoff calculations for areas draining more than two thousand (2,000) acres shall be estimated by HEC-HMS analysis or regression equation guidelines established in the LaDOTD Hydraulics Manual.~~

(g) *Hydrograph determination methods.* For cases where the flow rate is required over time, curvilinear hydrographs shall be generated utilizing SCS method or approved equal. Shape factors required to generate the hydrograph shall be consistent with development's topography. in accordance with the Small Watershed Hydrograph Method approved by the parish.

(h) *Watercourse routing methods.* For cases where watercourse routing ~~is required HEC-HMS, HEC-RAS, or an approved equal hydrologic modeling program shall be used.~~ is required the Parish Engineer shall approve the methodology and modeling program that shall be used. Unless approved otherwise the required methodology and modeling program will be the same as the current practices and versions utilized by the parish drainage department responsible for the review of the proposed improvements.

(i) *Hydraulic design criteria.*

- (1) All drainage facilities shall be designed and constructed in accordance with the latest edition of the LaDOTD Hydraulics Manual and Louisiana Standard Specifications for Roads and Bridges unless otherwise stated herein.
- (2) Developments shall be designed and constructed in a manner to accommodate completely enclosed storm sewers. ~~unless permanently designated as an open ditch.~~ The hydraulic grade line analysis for a closed conduit system shall include all junction/manhole and friction losses and should assume, at a minimum, junctions and catch basin spacing as described in this section. However, streets may be permanently designated as open ditch. Where designated as permanently open ditch, the ditches will not be allowed to be enclosed at any time. Only driveway crossing shall be allowed. A statement of such, including the maximum driveway width of thirty (30) feet, shall be noted on the final plat and as-built drainage layout plan.

(3) ~~Streets permanently designated as open ditch will not be allowed to be enclosed at any time and shall be noted on the survey plat.~~ Public infrastructure constructed or modified as part of a new development shall be designed as follows:

a. *Storm sewer design.*

1. The design storm frequency to be utilized for drainage design shall be as follows:

Local street .....5-year

Collector street .....10-year

~~Major~~ Minor watercourse .....~~50~~ 5-year

Intermediate watercourse .....~~25~~ 10-year

~~Minor~~ Major watercourse .....~~10~~ 25-year

2. The minimum size of pipe, or round equivalent, to be used in a storm sewer system shall be fifteen (~~15 inches~~ 18 inches). The Parish Engineer may grant a minimum size reduction where dictated by site conditions.

3. The storm sewer shall be designed and constructed to operate full with a minimum self-cleansing velocity of three (3) feet per second, where possible. No storm sewer system should be designed to produce velocities in excess of ten (10) feet per second.

4. Storm sewers shall be designed with catch basins located at lot lines with a maximum spacing of three hundred (300) feet. Catch basins shall have a minimum twenty-four-inch diameter opening and meet AASHTO-HS-20 loading.

5. Storm sewer alignment between manholes or structures shall be straight, unless otherwise approved by the parish engineer or designee. All changes in alignment or pipe size shall require the use of a structure, such as a catch basin, junction box, or manhole. Catch basins located at intersections shall be pre-cast or cast in place, constructed with reinforced concrete, and shall meet LaDOTD standards. All other catch basins located within the parish right-of-way shall meet AASHTO-HS-20 loading.

6. Yard drains are supplemental small drain basins that may be used to connect to the roadside subsurface drain systems and serve as local lot drainage inlets.

Pipe Size	Yard Drain Diameter
<del>15 inches</del> <u>Less than 18 inches</u>	12-inch
18 inches and above	15-inch

7. Catch basin and yard drain inlets shall be at least six (6) inches below the edge of pavement.

8. The storm sewer grade should be such that a minimum cover to withstand ~~AASHTO-HS-20~~ loading on the pipe is maintained. The minimum cover requirements will depend on the size and type of pipe and the bedding conditions, but should not be less than

twelve (12) inches for all sizes and types. All pipe to be installed in the road right of way shall meet or exceed the Parish Engineer's approved requirements.

9. A minimum clearance of twelve (12) inches either above or below shall be maintained between the storm sewer and underground utilities unless otherwise required by a utility permit. For conflicts where minimum clearances cannot be maintained, a conflict box may be constructed if applicable to the utility in conflict.
  10. Manning's roughness coefficients utilized for the design of storm sewers and culverts shall be in accordance with the latest edition of the LaDOTD Hydraulics Manual. To expedite review and provide consistent application of the methods, all calculation for peak discharge runoff shall follow the Parish approved design process and variable sheet.
  11. All storm sewer facilities must be designed taking into consideration the water surface elevation of the receiving conveyance system, pond or lake. The design tail water condition shall be based on a ten-year stage in the receiving system.
  12. The storm sewer system shall be designed to convey the peak design flow based on full-flow conditions. The storm sewer capacity and velocity shall be based on Manning's formula. The storm sewer system shall be designed so that the hydraulic grade line does not exceed the edge of pavement of the proposed road.
  13. The hydraulic grade line shall be computed beginning at the outlet end of the system and systematically working upstream, accounting for all friction losses in each storm sewer segment and minor losses at each junction. The computed hydraulic grade line shall be plotted on the development plan-profile sheets for review and approval.
  14. For streets with curb and/or grate inlets, a detailed inlet spacing and capacity analysis shall be completed in accordance with the LaDOTD Hydraulics Manual. An exception allowing a maximum width of lane flooding of eleven (11) feet for local streets shall be granted.
- b. *Open channel design.*
1. Hydraulic analysis shall be required to identify the adequacy of natural channels and to define the water surface profile for both natural and constructed drainage channels. The hydraulic analysis must include friction losses and effects of bridges, culverts, transitions, ineffective flow areas, etc. Sufficient cross sections of a natural channel must be taken to define its physical characteristics and the limits of the natural floodplain. The hydraulic analysis of open channels shall be based on either uniform or gradually varied flow. For the design of a proposed channel with a uniform cross section, uniform flow is normally assumed. For the evaluation of natural non-uniform channels, channels with over-bank flow, and channels subject to backwater, a standard step backwater analysis for gradually varied flow must be utilized.
  2. Open channels shall be designed based on the following frequencies:  
Local street .....5-year  
Collector street .....10-year  
~~Major~~ Minor watercourse .....~~50~~ 5-year  
Intermediate watercourse .....~~25~~ 10 -year  
~~Minor~~ Major watercourse .....~~10~~ 25-year
  3. Hydraulic analysis of major watercourses shall be completed in accordance with the parish HEC-RAS modeling standards utilized in the stormwater planning models.

4. Alignment of proposed open channel outfalls shall follow existing ditches and low areas to minimize cut, reduce conflicts and maintain natural drainage patterns. Side slopes shall be a ~~maximum~~-minimum of ~~3~~ 4:1.
  5. Where ~~average-calculated~~-channel velocities are expected to be greater than five (5) feet per second, adequate erosion protection shall be required at all bends, confluences and outfalls of laterals.
  6. Starting water surface elevation for water surface profiles of tributary streams should begin at normal depth, unless coincident design floods on the tributary and mainstream are likely. For this condition, the tributary water surface profile shall be plotted to reflect the results of the normal depth analysis or the level of backwater from the mainstream, whichever is greater. For conditions where coincident design floods can be expected, a backwater profile shall be calculated for the tributary stream starting at the coincident flood elevation of the main stream.
  7. Miscellaneous design criteria for open channels which may not have been specifically addressed in the preceding sections are summarized below:
    - (i) A minimum freeboard below top of bank to the design water surface of one (1) foot for channel depths of eight (8) feet or less, and two (2) feet for depths greater than eight (8) feet shall be required.
    - (ii) A minimum radius of curvature of three (3) times the top width is recommended for earthen channels. This minimum may be reduced to 1.2 times the top width for erosion-protected channels. For earthen channels not meeting the recommended radius of curvature, erosion protection shall be required along the outer channel bank, extending a minimum of one hundred (100) feet upstream and downstream of the bend.
    - (iii) The maximum intersection angle at confluence shall be ninety (90) degrees. Erosion protection shall be required at all intersections, which are not required to be enclosed.
    - (iv) The utility line crossings of channels must be designed to minimize channel obstructions. For lines that pass under a channel, the top of the utility line shall be a minimum of ten (10) feet below the ultimate channel flow line and twenty (20) feet measured horizontally from the side slope, unless otherwise approved by the Gravity Drainage District.
    - (v) The parish engineer or designee shall approve, in advance, design standards for concrete lined channels or permanent cross section channels.
    - (vi) Channel blocks shall be installed at the confluence of all existing and proposed open channels regardless of the elevation difference in accordance with the LaDOTD Hydraulics Manual. Outfall pipe shall be properly protected against scour and erosion at both ends of the pipe.
    - (vii) Lateral ditches from the street to an outfall channel that traverse lots shall be enclosed with storm drain pipe. Lateral ditches shall be protected from scour or erosion at both ends.
    - (viii) Open ditches for roadside drainage shall be designed in accordance with LaDOTD Hydraulics Manual unless noted otherwise herein.
- c. *Culvert design.*
1. The design storm frequency for cross drains shall be designed based on the following frequencies:  
Local street .....5-year

Collector street .....10-year

~~Major~~ Minor watercourse .....~~50~~ 5 -year

Intermediate watercourse .....~~25~~ 10 -year

~~Minor~~ Major watercourse ~~40~~ 25 -year

2. Side drains shall be designed based on a five-year design storm frequency.
  3. The minimum size culvert for a side drain shall be ~~eighteen~~fifteen (~~15-18~~) inches in diameter and eighteen (18) inches in diameter for a cross-drain unless approved by the parish engineer or designee. The parish engineer shall have the authority to consider a minimum fifteen (15) inch diameter culvert on upstream terminal segments that are not placed under publicly maintained roads such as when design standards for minimum velocity cannot be maintained or when all roadway crossings are privately maintained. Any requests for waiver from this requirement shall be accompanied by drainage calculations.
  4. The allowable headwater or differential head across the structure, at the design frequency, shall follow guidelines specified in the LaDOTD Hydraulics Manual.
- d. *Bridge design.* The design and placement of bridges shall be coordinated with the parish engineer or designee. To be accepted by the parish, bridges must be constructed to LaDOTD standards. It is recommended that a pre-design conference be held before proceeding with any bridge design.
- e. *Detention pond design.*
1. All detention ponds shall be designed for a ~~ten-year design~~ full spectrum of frequency frequencies as established in the watershed performance standards. All facilities must also be checked for the 100-year frequency to assure adequate performance during major rain events. All facilities shall be designed with a 100-year frequency emergency spillway to control the location of overtopping of the facility.
  2. ~~All detention facilities associated with residential developments shall be offline unless designed to accommodate full upstream development.~~
    - (i) ~~Wet basin ponds. Only the outlet structure shall be dedicated for public maintenance, and a minimum thirty foot maintenance easement shall be provided for access. Both the construction plans and final plat for developments with wet ponds shall clearly indicate the above requirements and shall include a note that states that the proposed basin and shoreline will be privately owned and maintained.~~
    - (ii) ~~Dry basin ponds. Only the outlet structure shall be dedicated for public maintenance, and a minimum thirty foot maintenance easement shall be provided for access. An adequate concrete lined or enclosed low flow drainage channel should be incorporated into the design to avoid unnecessary maintenance or hazard. Additionally, an adequate drainage easement and maintenance easement should be provided. Both the construction plans and the final plat for the developments shall clearly indicate the above requirements and shall include a note which states that the proposed dry basin, less drainage and maintenance easements, shall be privately owned and maintained. As a part of the construction of dry basins, the developer shall mark the limits of all drainage and maintenance easements for public maintenance.~~
- All detention facilities shall be established offline and shall not be incorporated into an existing watercourse.

3. Basins shall be designed with a minimum ~~side slope- slopes~~ of 5:1 ~~to approximately two (2) feet below the normal water surface and a slope of 3:1 beyond.~~ Embankment slopes shall be stabilized to prevent erosion. The minimum embankment top width of six (6) feet shall be provided on all basins.
  4. For wet detention basins, a minimum permanent pool depth of five (5) feet ~~should be provided.~~ is required. Sewer effluent discharge shall not be routed through any wet detention basin. For wet detention basins where individual treatment plants may be allowed by other development standards, the use of individual treatment plants will not be permitted unless appropriate water quality criteria have been addressed as part of the plan review process and where appropriate measures are put in place and included within the development of the subdivision.
  5. For dry basins, a low-flow drainage channel to control flow and direct it to the outlet structure shall be provided. Said low-flow channel shall have a minimum capacity of 0.15 cubic feet per second per acre drained and a minimum design slope of 0.1 percent graded towards the outlet structure. Sewer effluent discharge ~~shall~~ ~~should~~ not be routed through any dry detention basins unless concrete lined or enclosed low flow channels are provided.
  6. Pond outlet structures shall be designed to be as maintenance free as possible and protected from clogging. ~~Sloped trash racks shall be provided for all orifices and small bleed down pipes. The area of the trash rack shall be a minimum of ten (10) times the area of the orifice and should extend away from the outlet to reduce any interference with the outlet operation.~~ For this purpose, only open top weir outlets are desired. Weir outlet structures shall be designed and constructed with reinforced concrete. Shop drawings, cross sections and plan details shall be required for approval. Weir outlets shall be designed to resist overturning, settlement or failure. Alternate outlet structures may be approved by the Parish Engineer if dictated by site specific circumstances.
  7. ~~A minimum pipe size of eighteen (18) inches shall be required for any outlet pipe. To further restrict the design outflow from the basin, a weir at the entrance of the pipe may be required.~~
  8. For all basins, the time to drain the facility and to re-establish full storage capacity from the peak of the storm event shall not be longer than thirty (30) hours.
  9. For approval, the developer's engineer shall submit design calculations, which include, but are not limited to the following:
    - i. A stage-storage and stage-discharge relationship for the basin.
    - ii. The development inflow hydrographs for the ~~ten- and 100-year~~ full spectrum of design frequencies, and all parameters and assumptions utilized to develop the hydrographs. ~~Synthetic hydrographs similar to the unit hydrograph shall be used in lieu of triangular hydrographs to more accurately account for the total volume of runoff from the storm event. In flow hydrographs shall be developed using the methods specified herein.~~
    - iii. The routing calculations and outflow hydrographs for ~~the ten- and 100-year~~ full spectrum of design frequencies.
    - iv. All necessary outlet structure details, including ~~a sketch or drawing~~ detailed engineering construction drawings and specifications with reference to mean sea level elevations at invert and overtopping locations, for the structure. Weir coefficients and/or friction coefficients shall be provided if applicable.
- f. *Fill mitigation requirements.*

1. No fill of any type shall be placed on or over any portion of a regulatory floodway, coastal high hazard area or any areas of special flood hazard or the floodplain, existing watercourse which, alone or cumulatively with other such activities, would cause or result in a barrier that will adversely affect the efficiency of, or restrict the flow or capacity of, a designated floodway or watercourse so as to cause foreseeable damage to others, wherever located. For the purpose of fill mitigation requirements, site specific stage-storage curves for the pre and post development conditions shall be prepared and compared for consistency, conformance and balance so that no net loss in stage-storage relationship results for the development for both the 10-year and 100-year storms. Fill mitigation plan should fully compensate for any fill or potential to be deposited with in the delineated flood-plain. Developer may decide to limit future fill placement in restricted areas to reduce mitigation requirements. The fill proposed under the requirements of this section does not necessarily need to be placed at the time of subdivision construction, but this proposed fill is intended to include the complete requirements for future development including limit and quantities of allowable fill that may be placed later. All fill must be pre-mitigated unless the final plat includes restrictions on placement of additional fill in excess of the mitigation plan.
2. A fill mitigation plan shall be submitted by a certified licensed Louisiana engineer and is subject to review and approval or denial by the floodplain administrator, the parish engineer or designee.
3. Submittal requirements. (Information for fill mitigation shall be incorporated into the required site grading plan for review and approval.)
  - i. Delineated 100-year floodplain elevation on predevelopment construction ~~two~~ one -foot contour intervals.
  - ii. Post development ~~two~~ one-foot contours.
  - iii. Post development fill volume to be deposited below the designated 100-year flood elevation.
  - iv. Location of proposed fill credits to mitigate the fill volume below the delineated 100-year flood elevation with cross-sections.
  - v. Watershed boundaries are to be included.
4. Additional requirements.
  - i. Where detention ponds are to be excavated, the volume of dirt removed below the normal pool water surface level of the required minimum pond size cannot be credited as compensating fill mitigation volume.
  - ii. If the compensating storage for fill mitigation is derived from an off-site source that is not part of the development, the storage must be located in the same watershed as the development. Additionally, the base flood elevation at the off-site source shall not be greater than one (1) foot above or below the base flood elevation of the development site.
  - iii. Fill required for new construction, building pads or any development not subject to the RMP or fill mitigation requirement ~~shall meet the following standards: and development roads shall be exempt from the above requirements where transition back to natural grade is made at slopes no flatter than 6:1, unless located in designated floodway.~~

a) Fill above natural ground should not be placed any closer than five (5) feet to any property line in order to facilitate the collection and transportation of any runoff via side-yard swales where necessary.

~~5. The parish engineer or designee may, on a case-by-case basis, issue a waiver for fill mitigation requirements due to a developer's inability to generate fill credits.~~

5. Fill Mitigation Exemption

i. The parish engineer or designee shall issue a waiver for either partial or full fill mitigation requirements based on one of the following (Developer may only use either option 1 or 2 when determining required fill mitigation volumes):

1) Minimal fill utilized for filling of depressions or regrading the site to promote positive drainage shall not be required to be measured for fill mitigation purposes if it does not exceed 6-inches above the prevailing natural ground;

2) Ten percent of total calculated fill volume calculated in preparation of the overall fill mitigation plans may be exempted from the total required mitigation volume to account for variations in ground conditions.

ii. On a case by case basis, due to a developer's inability to generate fill credits, the Parish Engineer may issue a waiver for fill mitigation requirements based on the developer providing adequate information that credits are not obtainable and/or alternate design construction techniques cannot be utilized.

(j) *Construction standards.*

- (1) All areas disturbed as part of drainage construction shall be maintained for erosion and sediment control in accordance with the parish stormwater ordinance.
- (2) All construction shall be in accordance with the latest edition of the Louisiana Standard Specifications for Roads and Bridges except those superseded by parish standards and specifications.
- (3) The minimum design service life for drainage structures shall be as follows:
  - a. Thirty (30) years for all side drains.
  - b. Seventy (70) years for all cross drains.
  - c. Seventy (70) years for subsurface storm drains.
  - d. Fifty (50) years for outfall structures.
- (4) Metal culverts may be used for termini at channels and as otherwise approved by the parish engineer or designee after determination of the net effect of corrosion from both interior and exterior conditions concurrently. The developer's engineer shall submit the necessary calculations and data as per LaDOTD EDSM No: II.2.1.6 as part of the review package.
- (5) All roadway cross drains shall be reinforced concrete pipe. No other material (i.e. plastic, metal, etc.) will be accepted unless otherwise approved by the parish engineer or designee.

- (k) *Certifications.* The engineer of record responsible for each phase of the drainage design, site plan, drainage layout plan, grading plan and infrastructure improvements or detention facility, or any drainage improvements for any development shall sign off on the Parish's standard certification letter ~~provide a letter of certification to the parish engineer or designee~~ prior to final plat approval. The letter shall certify that all the drainage improvements required and approve herein have been fully ~~were~~ constructed in accordance with the approved plans and specifications.
- l) *Inspections.* The parish will inspect all new development with drainage additions and connections to the publicly maintained drainage system at critical milestones in the construction process. The developer shall submit prior to construction a schedule for construction and critical milestones for inspection scheduling, and shall contact the parish for required inspections no less than five (5) calendar days in advance of inspection checkpoints so that and inspector can be scheduled to be on site. Inspections shall be completed during normal working hours for the Parish. Standardized checklists based on ASCE and industry inspection standards will be provided to the developer during the plan approval process.
- m) *Final Approval and Final Plat Acceptance.* For new subdivisions and new developments the final plat or final acceptance shall not be recommended or granted prior to or until the Certifications and Inspections reference above have been satisfactorily completed. For new developments other than subdivisions not requiring a final plat approval, said developments shall not be issued final acceptance prior to the Certifications and Inspections of all proposed drainage additions or connections to major, intermediate and minor watercourse that will become part of the public drainage system. Also, where fill mitigation is required final approval shall not be issued until as-built final grading plans have been reviewed and field verified.
- (H)n) *Disclaimer of liabilities.* This article does not imply that land inside or outside the jurisdictional area of the parish and/or any district will be free from flooding or flood damage. This article shall not create liability on the part of this community, the board members of any districts, the Calcasieu Parish Police Jury or its members, or any other official or respective employee, for flood damages that result from reliance on this article or any other administrative decision lawfully made.

(Ord. No. 6143, § II, 12-6-12)

## DIVISION 5. - CULVERT INSTALLATION STANDARDS

### Sec. 26-217. - Culvert permit applications; fee.

- (a) A culvert installation permit shall be required for all new culvert installations in the parish road right-of-way in the unincorporated areas of Calcasieu Parish.
- (b) Culvert permits by the parish shall be limited to parish maintained roads. Culverts installed during the development of both residential and commercial subdivisions shall be permitted through existing parish development ordinances and established procedures.
- (c) As part of this permit agreement, the applicant is required to pay a one hundred dollar (\$100.00) inspection fee. The inspection of culverts shall be made before the backfill operations begin, and it shall be the applicant's responsibility to call for the inspection a minimum of three (3) days in advance. Constructed catch basins will require separate inspections for the bottom, walls, and the top prior to

concrete pour. Failure to obtain a favorable inspection will result in the removal of unapproved structures by the parish at the owner's expense.

- (d) Applications not paid in full within one hundred eighty (180) days of said request shall be void, and the applicant's retainer fee shall be forfeited. New applications shall be subject to any new policy changes or cost changes made by the parish.

(Ord. No. 6143, § II, 12-6-12)

Sec. 26-218. - Requirements.

- (a) Driveways, approaches or other improvements in the road right-of-way shall at all times be subject to changes, additions, repairs or relocation when necessary to maintain the roadway or roadway drainage.
- (b) Culverts installed as an exercise of this permit shall not be relocated or its dimensions altered without the written permission of the permit agent.
- (c) Applicants are required to install the permitted culverts themselves or by private contractor in accordance with the specifications, standards and guidelines established by the parish.
- (d) The applicant shall be responsible for the final dressing of the limits of construction, including topsoil, seeding, fertilizing, watering, erosion protection and final grading as required or desired. Applicant shall also be responsible for grading property to insure proper drainage toward drain inlets. Often this may require the applicant to raise the elevation of his/her property.
- (e) In some cases the applicants may be required as part of their permit to reset, replace, or repair existing culverts or side drains connecting to or adjacent to the proposed new installation due to grade adjustments or pipe size changes and/or substandard or deteriorated existing materials to insure proper drainage. The required repair and/or replacement of driveways or other property improvements within the parish right-of-way resulting from said improvements are the responsibility of the applicant.
- (f) Unless approved otherwise by the permit agent, culverts and storm drains shall be constructed in accordance with the latest edition of the Louisiana Standard Specifications for Roads and Bridges, under appropriate section for culverts and storm drains and in accordance with the following minimum special provisions:

- (1) Driveway culverts shall be a minimum of twenty-four (24) feet of reinforced concrete pipe. Applicants may extend existing driveways with like materials if the existing pipe is in good condition and is extendable. When hard-surfacing a driveway over a culvert installation with concrete pavement, a construction joint shall be constructed at the right-of-way line.

Plastic pipe culverts for driveways may be used in lieu of concrete pipe. Plastic pipe must meet all minimum specifications as established and required by the division of planning and development and the division of engineering and public works and is subject to proper installation in accordance with parish standards. Current minimum specifications for plastic pipe are available and on file with both parish divisions. Plastic pipe failures shall be replaced immediately by, and at the expense of, the property owner. Failure to comply will be a violation.

- (2) Minimum size culverts shall be ~~fifteen-eighteen~~ - inch diameter. [Parish engineer shall have the authority to review this requirement and allow reductions in culvert size based on site specific conditions.](#)
- (3) No "used" or substandard pipe shall be installed within the parish road right-of-way.
- (4) Plastic or floatable pipe shall not be installed where the manufacturer's recommended installation guidelines cannot be met. Typically, plastic pipe shall not be installed unless a minimum of twelve (12) inches of backfill material can be placed and compacted on top of the pipe without impacting the roadway and shoulder drainage characteristics.
- (5) Drainage of the roadway and the roadside ditches shall not be altered or impeded. Where the proper size culverts cannot be installed on grade and without impeding or altering said drainage,