



**DRAINAGE  
AND  
FLOOD CONTROL  
REQUIREMENTS**  
McLennan County, Texas

# **DRAINAGE AND FLOOD CONTROL REQUIREMENTS**

McLennan County, Texas

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## **DRAINAGE AND FLOOD CONTROL REQUIREMENTS**

McLennan County, Texas

### Section 1.1 General Requirements

- A. No preliminary or final plat or development plan shall be approved unless stormwater drainage improvements and flood control measures have been provided for in accordance with the standards contained within either the “Subdivision Regulations” or “Infrastructure Development Regulations for Manufactured Home Rental Communities” for McLennan County, as may be amended from time to time.
- B. Stormwater discharges from all development projects shall conform to all applicable federal, state, and local regulations, including but not limited to the National Pollutant Discharge Elimination System (NPDES) requirements of the Clean Water Act and the requirements of the Texas Water Code.
- C. The property owner shall dedicate all drainage easements in accordance with the requirements contained within either the “Subdivision Regulations” or “Infrastructure Development Regulations for Manufactured Home Rental Communities” for McLennan County, as may be amended from time to time. Where the improvement or construction of a stormwater drainage facility is required along a property line common to two (2) or more owners, the owner/developer shall be responsible for the required improvements at the time of development, including the dedication of all necessary rights-of-way or easements, to accommodate the improvements.
- D. The minimum drainage easement width shall be twenty (20) feet, unless directed otherwise by the County Engineer due to site specific conditions.
- E. Maintenance of drainage facilities outside of the rights-of-way of roads that have been accepted by the Commissioners Court, shall be the responsibility of the property owner or property owners association, if established.
- F. Development within the floodplain shall be in accordance with McLennan County’s “Flood Damage Prevention Order”, as may be amended from time to time.

### Section 1.2 Stormwater Run-Off into County Drainage Facilities

Stormwater run-off from any development may not be released into any County drainage ditch, swale, easement, culvert or other facility, or into any such drainage facility associated with an existing road, whether public or private, until the downstream capacity of the facility that is receiving the run-off is evaluated

by a professional engineer (utilizing Q<sub>100</sub>). Based on this evaluation, the County Engineer may require detention of stormwater run-off being released into any County drainage ditch, swale, easement, culvert or other facility, or into any such drainage facility associated with an existing road, whether public or private, if existing downstream facilities are undersized or if downstream jurisdictions have detention requirements. If detention is required, the owner/developer or property owners association (if established) shall assume full responsibility for maintenance of the detention pond. This obligation shall run with the land and shall be a continuing obligation.

Section 1.3 Sizing of Drainage Facilities

All drainage facilities, including ditches, swales, drainage pipes, street curbs, gutter inlets, driveway/road culverts, and storm sewers, shall be designed to intercept and transport run-off from a 25-year storm event. Roadway drainage shall be in accordance with the requirements contained in the “Roadway Design and Construction Requirements” for McLennan County, as may be amended from time to time.

Section 1.4 Conveyance of 100-Year Storm Event

- A. Lots or rental spaces located wholly or partially within the floodplain shall show on each lot or rental space the minimum required finished floor elevation, which shall not be less than one (1) foot above the base flood elevation, in accordance with McLennan County’s “Flood Damage Prevention Order.”
- B. Subdivisions or rental communities that are located wholly or partially within a flood zone as shown on the current FIRM for McLennan County shall be subject to the following additional requirements:
  - (1) A note shall be included on the plat or development plan stating the following: “All development within the 100-year floodplain shall comply with all applicable orders and regulations, including but not limited to McLennan County’s “Flood Damage Prevention Order.” A floodplain development permit shall be obtained from the County Engineer’s Office prior to the construction/placement of any structure(s) within the floodplain.”
  - (2) All proposed subdivisions or rental communities shall be consistent with McLennan County’s “Flood Damage Prevention Order.”

Section 1.5 Completion of Drainage System Prior to Acceptance of Road

No streets will be accepted by the Commissioners Court until all drainage structures, including drain pipes for all driveways constructed as of the acceptance date, have been installed by the owner(s) or occupant(s) of the lot(s) or rental space(s) and inspected and approved by the County Engineer.

Section 1.6 Drainage Design Methodology

All drainage structures and appurtenances shall be designed and sized by a professional engineer to convey the runoff from a 25-year storm event. Drainage calculations should be based on the “Rational Method” or other method approved by the County Engineer based upon commonly accepted engineering practices. All appropriate calculations showing runoff and capacity quantities shall be provided for all drainage areas and structures, including design flow, velocity, depth of pipe flow and headwater depth.

Section 1.7 Drainage Plan Requirements

- A. The preliminary and final drainage plans shall include all appropriate calculations depicting the anticipated flow of all drainage onto and from the proposed subdivision or rental community and showing all major topographic features on or adjacent to the property, including, but not limited to, all water courses, 100-year floodplain boundaries, ravines, bridges and culverts. The drainage plan shall show how and where water will be collected, handled and routed within the subdivision or rental community and how and where it will be discharged to a recognized drainage way.
- B. The preliminary and final drainage plans shall also include such off-site drainage improvements as are necessary to assure that the proper transition between on-site and off-site drainage can be maintained. The criteria for on-site drainage facilities shall also apply to off-site.
- C. Preliminary and final drainage plans shall be sealed by a professional engineer who is licensed to practice in the State of Texas. The total costs for such engineering plans and specifications shall be borne by the owner or developer, and shall be furnished to the County Engineer for review and approval.

Section 1.8 Floodplain Management

- A. The areas of special flood hazard identified by the Federal Emergency Management Agency (FEMA) on the Flood Insurance Rate Maps (FIRM), dated September 2, 1981, and Flood Hazard Boundary-Floodway Maps and any amendment or revisions thereto are hereby adopted by reference and declared to be a part of these Regulations. These maps are on file at the County Engineer’s office.
- B. The County Engineer is responsible for administering and implementing the floodplain management portions of these Regulations, including appropriate sections of 44 Code of Federal Regulations (CFR) (National

Flood Insurance Program Regulations) pertaining to floodplain management.

- C. The degree of flood protection required by these Regulations is considered reasonable for regulatory purposes, and is based upon engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. These Regulations do not imply that land outside the area of the special flood hazards or uses permitted within such areas will be free from flooding or flood damages. These Regulations shall not create liability on the part of McLennan County, any official or employee thereof, or FEMA for any flood damages that result from reliance upon these Regulations or any administrative decision lawfully made thereunder.

#### Section 1.9 Drainage Easements

- A. All areas within the floodway shall be contained within a dedicated drainage easement and floodway easement or right-of-way and shall be shown on the final plat or development plan.
- B. Where public drainage within a subdivision or rental community transverses private property, provisions shall be made for drainage easements to allow for proper upkeep and future maintenance within the easement area. Determination of the proper size for drainage facilities is the responsibility of the developer's engineer, however, at no time shall the width of the drainage easement be less than twenty (20) feet, unless otherwise directed by the County Engineer due to site specific conditions.
- C. Provisions shall be made for drainage easements and drainage structures, in accordance with these Regulations, to allow for proper control of drainage and for future maintenance within the easement area(s). Drainage easements shall be subject to the following requirements:
  - (1) The drainage and floodway easement shall be dedicated to the public for drainage and floodway purposes in perpetuity.
  - (2) The owners shall not obstruct the natural flow of stormwater runoff by the construction of any type of building, fence, or any other structure (including fill material, such as dirt, gravel, rocks) within the drainage and floodway easement.
  - (3) The County is not responsible for the construction or maintenance of facilities within drainage easements. However, the County shall at all times have the right to enter upon the easements, at any point or points, with all rights of ingress and egress, to investigate, survey, or perform any other function deemed necessary by the County for drainage purposes.

Section 1.10 Erosion Control

- A. During construction, erosion control measures shall be sufficient to prevent sedimentation of drainageways, drainage structures, and floodplain areas that could result in reduced flow capacity, excessive streambank erosion, erosion around structures, or damage of adjoining property.
- B. Permanent erosion control measures shall be sufficient to meet the following:
  - (1) Stabilize all disturbed areas with permanent vegetation, including slopes and embankments.
  - (2) Prevent erosion from exit velocities at outlets of culverts, bridges, storm sewers, and channels through dissipators, rip-rap, level spreaders, linings, gabions, etc.
  - (3) Prevent gullying and scouring of roadside ditches and open channels through vegetation, linings, retention blankets, retards, drop structures, etc.
  - (4) Protect the integrity of all structural improvements and prevent excessive continuing sedimentation from unstable right-of-way areas into drainage structures, channels, and bar ditches.

AND IT IS SO ORDERED:

PASSED AND APPROVED BY THE McLENNAN COUNTY COMMISSIONERS COURT  
THIS \_\_\_\_ DAY OF \_\_\_\_\_, 2002.

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JIM LEWIS  
McLennan County Judge

ATTEST:

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Deputy County Clerk for and on  
behalf of J.A. "Andy" Harwell,  
McLennan County Clerk