

The seal of McLennan County, Texas, is a circular emblem. It features a central five-pointed star surrounded by a wreath of oak and cotton branches. The words "MCCLENNAN COUNTY" are inscribed along the top inner edge, and "TEXAS" is at the bottom. The entire seal is rendered in a light gray, semi-transparent style.

**ROADWAY DESIGN  
AND  
CONSTRUCTION REQUIREMENTS**  
McLennan County, Texas

# ROADWAY DESIGN AND CONSTRUCTION REQUIREMENTS

McLennan County, Texas

## TABLE OF CONTENTS

<b>Article I</b> .....	C-1
<u>Purpose and Authority</u> .....	C-1
Section 1.1 <u>Purpose</u> .....	C-1
Section 1.2 <u>Findings</u> .....	C-1
Section 1.3 <u>Order</u> .....	C-1
Section 1.4 <u>Interpretation</u> .....	C-2
<b>Article II</b> .....	C-2
<u>Definitions</u> .....	C-2
Section 2.1 <u>Interpretation</u> .....	C-2
<b>Article III</b> .....	C-4
<u>Existing Gravel Roads</u> .....	C-4
Section 3.1 <u>Acceptance of Existing Gravel Roads</u> .....	C-4
<b>Article IV</b> .....	C-5
<u>New Roadway Design and Construction</u> .....	C-5
Section 4.1 <u>General Requirements</u> .....	C-5
Section 4.2 <u>Construction Plan Requirements</u> .....	C-6
Section 4.3 <u>Right-of-Way and Road Widths</u> .....	C-7
Section 4.4 <u>Roadway Construction Requirements</u> .....	C-7
Section 4.5 <u>Roadway Drainage</u> .....	C-9
Section 4.6 <u>Utility Lines and Underground Facilities</u> .....	C-10
Section 4.7 <u>Road Names and Signage</u> .....	C-10
<b>Article V</b> .....	C-11
<u>Final Inspection and County Acceptance</u> .....	C-11
Section 5.1 <u>Final Roadway Inspection</u> .....	C-11
Section 5.2 <u>County Acceptance</u> .....	C-11
Section 5.3 <u>Implementation</u> .....	C-12
Section 5.4 <u>Severability</u> .....	C-12
Section 5.5 <u>Amendment to Requirements</u> .....	C-12

# ROADWAY DESIGN AND CONSTRUCTION REQUIREMENTS

McLennan County, Texas

## Article I

### Purpose and Authority

#### Section 1.1 Purpose

These Roadway Design and Construction Requirements have been adopted to establish the minimum design and construction standards that owners or developers seeking to construct roadways must meet, whether such roads are to be deeded or dedicated to McLennan County for acceptance into the County road system for maintenance or such roads are to remain private. These Requirements have been prepared to promote the health, safety and general welfare of the citizens of McLennan County.

#### Section 1.2 Findings

The McLennan County Commissioners Court hereby makes the following findings:

- A. The Commissioners Court has the authority and obligation to exercise general control over the roads, highways, bridges and related drainage structures and development with McLennan County, and these Requirements are a necessary component of such obligations;
- B. The Commissioners Court has been granted authority and responsibility under the Federal Emergency Management Agency (FEMA), Chapter 16, Section 16.315, Water Code, to administer floodplain development regulations within McLennan County, and to regulate associated development;
- C. The Commissioners Court has the authority and obligation to protect the public health, safety and welfare of the citizens of McLennan County;
- D. The Commissioners Court has considered the potential burden upon landowners and taxpayers of substandard road construction; and,
- E. These Requirements are adopted to preserve and protect the resources, public health and private property interests of McLennan County.

#### Section 1.3 Order

The Commissioners Court of McLennan County, following public notice, investigation and hearing, has declared and hereby declares these Roadway Design and Construction Requirements to be necessary and appropriate to accomplish the purposes and goals stated above. These Requirements have been adopted by order of the McLennan County Commissioners Court to help ensure

that new roadway design and construction is in accordance with good and generally accepted engineering practices.

Section 1.4 Interpretation

In the interpretation and application of the provisions of these Requirements, it is the intention of the Commissioners Court that the principle, standards and requirements provided for herein shall be minimum requirements for the design and construction of roadways within McLennan County, and shall supersede the previous “Minimum Requirements for Roads to be Accepted into the McLennan County Road System” (approved on September 13, 1979) in their entirety.

**Article II**

Definitions

Section 2.1 Interpretation

For the purpose of these Requirements, the following terms, phrases, words and their derivations shall have the meaning given herein. Definitions not expressly prescribed herein are to be determined in accordance with customary usage in construction and engineering practice. The word “shall” is mandatory and the word “may” is permissive.

Alley – A minor public right-of-way, not intended to provide the primary means of access to abutting lots, which is used primarily for vehicular service access to the back or sides of property otherwise abutting on a road.

Arterial Street – A principle traffic artery, carrying higher volumes of traffic, more or less continuously, which is intended to connect remote parts of the area adjacent thereto and to act as a principle connecting street with state highways.

Collector Street – A street or road providing for travel between local streets and the arterial street network, or serving multi-family development or neighborhood centers or services such as schools, parks or fire stations.

Commissioners Court – The Commissioners Court of McLennan County.

County – McLennan County, Texas.

County Engineer – The County Engineer of McLennan County or their designated representative.

County Road – A roadway under the control and maintenance of the County.

County Road System – Public dedicated roads that have been accepted for County maintenance.

Dedication – The appropriation of land, or an easement therein, by an owner, for the use of the public and accepted for such use by or on the behalf of the public.

Easement – The word “easement” shall mean an area for restricted use on private property upon which a public utility/entity shall have the right to remove and keep removed all or part of any buildings, fences, trees, shrubs or other improvements or growth which may in any way endanger or interfere with the construction, maintenance and/or efficiency of its respective systems on or within any of these easements.

Engineer – A person licensed under the provisions of the Texas Engineering Registration Act to practice the profession of engineering.

Existing Roadways – Roadways that have been constructed and in place prior to the passage of this order.

Extraterritorial Jurisdiction (ETJ) – The unincorporated land area, not a part of any city, which is contiguous to the corporate limits, as defined in Local Government Code, Chapter 42.

FEMA – Federal Emergency Management Agency.

Final Acceptance – Formal acceptance by the McLennan County Commissioners Court.

Floodplain – That area subject to inundation by flood, having a one percent probability of occurrence in any given year (100-year flood), based on existing conditions of development within the watershed area, as shown on the Flood Insurance Rate Maps (FIRM) provided by FEMA.

Grade – The horizontal elevation of a finished surface of the ground or paving at a point where height is to be measured or the degree of inclination of a surface.

Local Street – A street or road which is intended primarily to serve traffic within a neighborhood or limited residential area and which is not continuous through several residential areas.

Minimum Requirements – Minimum acceptable requirements; such requirements may be increased by the County Engineer due to circumstances pertaining to each unique roadway.

Precinct Commissioner - McLennan County Commissioner in whose precinct the roadway is located.

Private Road – A residential road that is typically owned and/or maintained by an entity other than the County and that is generally intended to serve residents located thereon but not the public at large.

Public Road – A public right-of-way, however designated, dedicated, or acquired which provides vehicular access to adjacent properties.

Requirements - McLennan County Roadway Design and Construction Requirements, as may be amended.

Residential Collector Street – A street or road collecting traffic from local streets of a residential nature and leading to streets of a higher type of classification.

Right-of-Way – A parcel of land that is occupied or intended to be occupied, by a road or alley. Where appropriate, “right-of-way” may include other facilities and/or utilities such as sidewalks; railroad crossings; electrical, telecommunication, oil, gas, water, sanitary sewer and/or storm sewer facilities. The term “right-of-way” shall also include parkways and medians which are located outside of the actual pavement.

Street (or Road) – A right-of-way (or easement), whether public or private and however designated, which provides vehicular access to adjacent land.

Street (or Road) Right-of-Way – The distance between property lines measured at right angles to the centerline of the street.

Substandard Street (or Road) – A street which does not meet the minimum County road standards (as contained within these requirements).

Surveyor – A person licensed under the provisions of the Texas Professional Land Surveying Practices Act to practice the profession of surveying.

### **Article III**

#### **Existing Gravel Roads**

##### **Section 3.1 Acceptance of Existing Gravel Roads**

- A. Existing gravel roadways that are not a part of the County road system but are used by the public for access to existing property tracts or as a thoroughfare, may be considered for acceptance into the County road system by the Commissioners Court for minor routine maintenance (e.g., minor blading and placement of gravel, dust control, etc.). In order for the road to be considered for acceptance into the County road system, a written request must be submitted to the County Engineer and must

contain the signature of each property owner who has a legal interest or holds fee title to the road or whose property abuts the road. Such requests will be considered on a case by case basis, however, prior to submitting the request, the Precinct Commissioner should be consulted by the owner(s).

- B. Prior to acceptance by the Commissioners Court, the owner or owners shall deed or dedicate the associated right(s)-of-way to McLennan County, as trustee for the public, by separate instrument. Such instrument shall be recorded with the County Clerk. The minimum right-of-way width shall be 50 feet or as required by the County Engineer, based upon site specific conditions.
- C. Upon acceptance of the roadway by the Commissioners Court, the roadway will be taken into the County road system as a gravel road and shall remain a gravel road at the discretion of the Precinct Commissioner or until payment for paving is submitted by the owner(s) and agreed to the Precinct Commissioner.
- D. Upon approval of such a request, the County Engineer will prepare a cost estimate for paving the road and any other required improvements and will submit the estimate to the owner(s) for full payment. Full payment must be received by the County Engineer's office prior to paving of the road. Once payment is received, the work will be scheduled at the earliest and most appropriate time by the Precinct Commissioner.
- E. The adjacent property owners may employ a private contractor to pave the road in accordance with County specifications.

## Article IV

### New Roadway Design and Construction

#### Section 4.1 General Requirements

All new roads must meet these road requirements, unless otherwise directed by the County Engineer.

- A. All roadways are to be constructed according to specifications found in the current version of the Texas Department of Transportation (TxDOT) Manual "*Standard Specifications for Construction of Highways, Streets, and Bridges,*" unless otherwise stated in these Requirements.
- B. All roads built within the extraterritorial jurisdiction (ETJ) of an incorporated municipality shall conform to the construction requirements of the municipality as they apply to their respective ETJ. In no case,

however, shall standards less stringent than required herein in any respect be acceptable to the Commissioners Court.

- C. All roadways shall have a minimum right-of-way width as specified in Section 4.3.
- D. The paved portion of the roadway shall be no less than 22 feet in width.
- E. Cul-de-sacs shall have a radius of 60 feet and a minimum paved radius of 45 feet.
- F. The entire right-of-way must have a neat and finished appearance, free of obstructions and be neatly mowed, if required. The paved portion of the road shall be clear of all vegetation at the time of acceptance by the County.
- G. The roadway shall be neatly shaped and crowned to provide for proper drainage and to prevent ponding of water on the roadway.
- H. The finished surface of the road shall be such that it will furnish a safe and comfortable ride at speeds up to forty (40) miles per hour.
- I. In general, curves shall have a minimum radius of 125 feet and sight distance shall not be less than 300 feet.
- J. Roads shall connect with existing roads, new roads, or future roads to form "T" intersections. Acute angles between roads at their intersections shall be avoided.
- K. No dead end roads will be permitted without a cul-de-sac, unless in the opinion of the County Engineer, one is not warranted due to site specific conditions. If the extension of a road is planned in the future, a temporary turnaround shall be constructed, either within a dedicated easement or within the existing right-of-way.
- L. The total costs for all engineering design, plans, specifications, materials, labor, equipment, and any incidental costs incurred to satisfy these requirements shall be borne solely by the owner or developer. All required information shall be furnished to the County Engineer for review and approval.

Section 4.2 Construction Plan Requirements

- A. The owner or developer shall submit construction plans for the roadway to the County Engineer for review, including roadway layout and design, drainage improvements, traffic signage and utility placement. These plans

are to be approved by the County Engineer prior to placement of the gravel base.

- B. Prior to the start of construction, a pre-construction meeting should be scheduled by the owner or developer. The design engineer, owner/developer, contractor, subcontractors, and County Engineer should attend this meeting.
- C. Upon approval of the construction plans, the owner or developer shall provide the County Engineer's office with a tentative construction schedule and inform the office prior to each phase of construction completion (i.e., subgrade, culvert placement, base placement, wearing surface, etc.) in order that an inspection can be made prior to the beginning of the next phase of construction.
- D. Once the roadway has been completed and the County Engineer has approved the construction, the owner or developer shall provide the County Engineer with a set of "As Built" plans that depict the roadway as it was actually built.

Section 4.3 Right-of-Way and Road Widths

- A. Arterial streets shall have a minimum right-of-way width of not less than sixty (60) feet if curbed, and a minimum paved width of forty (40) feet, face to face of curbs. If the street is to be of the open ditch type, it shall have a minimum right-of-way width of eighty (80) feet and a minimum paved width of thirty-six (36) feet.
- B. All other streets or roads shall have a minimum right-of-way width of not less than fifty (50) feet if curbed and a minimum paved width of thirty (30) feet, face to face of curbs. If the street or road is to be of the open ditch type, it shall have a minimum right-of-way width of fifty (50) feet and a minimum paved width of twenty-two (22) feet.

Section 4.4 Roadway Construction Requirements

- A. Subgrade:
  - (1) Prior to subgrade preparation, soil samples shall be taken along the proposed roadway at a frequency as determined by the County Engineer. Using these samples, a soils report (i.e., Atterberg limits) shall be prepared and reviewed by the County Engineer. Based on the soils report, if the plasticity index (PI) of the subgrade is greater than 20 and the thickness of the tested material is over two (2) feet deep, lime, cement, or an approved asphalt based stabilizing agent shall be added in accordance with TxDOT

specifications, to a minimum depth of six (6) inches, until the PI is less than 20. The subgrade shall be prepared and compacted to a minimum density of 95% Standard Proctor density. In lieu of the above, other stabilization methods may be considered on a case by case basis.

- (2) The subgrade shall be tested by an Independent Testing Laboratory for PI, percent stabilization material (if used), and Standard Proctor density. The frequency of compaction tests shall be as required by the County Engineer.
- (3) Copies of the test results shall be reviewed by the County Engineer prior to the placement of base material.

B. Base Material:

- (1) Base material shall only be placed on subgrade that has been properly prepared and approved by the County Engineer. All roads shall have a minimum compacted depth of six (6) inches of base material or as required by the County Engineer.
- (2) Base material shall conform to TxDOT Item 247, "Flexible Base", and, at a minimum, shall meet the requirements for Type B material, with a maximum PI of 15. The owner or developer shall submit to the County Engineer acceptable evidence in the form of valid test reports that the base material meets or exceeds the above requirements. The base shall be prepared and compacted to a minimum density of 95% Standard Proctor density.
- (3) The base shall be tested by an Independent Testing Laboratory for Standard Proctor density and depth. The frequency of these tests shall be as required by the County Engineer.
- (4) Copies of the test results shall be reviewed by the County Engineer prior to the placement of the wearing surface.

C. Wearing Surface:

- (1) The wearing surface shall only be placed on base material that has been properly prepared and approved by the County Engineer. All new roads shall be constructed with one of the following types of wearing surfaces unless otherwise approved by the County Engineer:
  - (a) 1-1/2 inches (minimum compacted depth), Type D, Hot Mix Asphaltic Concrete (HMAC)
  - (b) Two course surface treatment (chip seal paving)
  - (c) Concrete pavement
- (2) The HMAC material and construction methods shall meet the requirements of TxDOT Item 340, "Hot Mix Asphaltic Concrete

Pavement.” A copy of the mix design shall be submitted to the County Engineer prior to placement of the material. The owner or developer shall submit to the County Engineer acceptable evidence in the form of valid test reports that the HMAC material meets or exceeds the above requirements.

- (3) The two course surface treatment shall meet the requirements of TxDOT Item 316, “Surface Treatments.” The asphaltic materials shall include both a prime coat of either an emulsified or medium curing asphalt and surface coats of rapid setting asphalt in accordance with TxDOT Item 300, “Asphalts, Oils and Emulsions.” The types and quantities of asphalt to be applied shall be in accordance with generally accepted road construction practices or as directed by the County Engineer. The aggregates for surface treatment shall meet TxDOT Item 302, “Aggregates for Surface Treatments,” Type A or Pa, Grade 4 (first course) and Grade 5 (second course). The owner or developer shall submit to the County Engineer a copy of the gradation test results prior to the application of the materials.
- (4) Concrete pavement shall be considered by the County Engineer on a case by case basis.

#### Section 4.5 Roadway Drainage

- A. Drainage ditches shall be constructed on level sides or on the uphill side of the roadway. These ditches shall be adequate to intercept and convey water away from the roadway.
- B. Cross drains shall be provided at each low point along the ditch in the form of concrete, corrugated metal, or approved plastic drainage pipes in accordance with McLennan County’s “Culvert Setting Policy” order, duly adopted by Commissioners Court. These cross drains shall be of adequate size to handle and convey the stormwater runoff under the road satisfactorily; however, in no case shall a cross drain be less than 18 inches in diameter (inside dimension).
- C. 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. 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. Calculations shall be submitted with the construction plans for review.

- D. To prevent erosion, the sides of drainage ditches shall be sloped and the banks shall be permanently protected with vegetation or other acceptable erosion control device.
- E. Roads constructed in areas of frequent flooding or within the floodplain will not be considered for acceptance unless prior authorization is given by the County Engineer.

Section 4.6 Utility Lines and Underground Facilities

- A. No road surface or pavement shall be constructed until all planned underground facilities affecting the roads have been installed and properly backfilled.
- B. Underground and overhead utility lines should be placed in easements that lie outside the dedicated right-of-way. When underground lines are placed in the right-of-way, they must be buried with at least 24 inches of cover and must be within three (3) feet of the right-of-way limits. Overhead lines and poles should also be located within three (3) feet of the right-of-way limits.
- C. Utility lines and poles shall not be placed in the bottom of ditches or in the roadway shoulder. No underground lines shall be placed in the roadway, unless approved by the County Engineer. Underground lines crossing roads must be no nearer than 24 inches to the surface at any point, including the bottom of ditches and shall be encased.

Section 4.7 Road Names and Signage

- A. All new or existing unnamed road shall be named, with prior approval being received from the McLennan County 911 Emergency Assistance District office.
- B. All signs, including road name signs, regulatory signs (e.g., stop and yield), warning signs, and informational signs, shall be installed by the owner or developer, as required by the County Engineer. All traffic control signs and devices shall be installed in accordance with the most current version of the “*Texas Manual on Uniform Traffic Control Devices.*”

## Article V

### Final Inspection and County Acceptance

#### Section 5.1 Final Roadway Inspection

- A. Upon completion of all roadway construction, the owner or developer shall request a final inspection by the County Engineer. Upon inspection, the owner or developer will be notified in writing of any work not found in compliance or of the project's conformance with these Requirements.
  
- B. After final inspection, the Commissioners Court may accept a road for County maintenance when either of the following conditions has been satisfied:
  - (1) The construction, installation and actual occupancy of at least sixty percent (60%) of the lots or rental spaces within the development (subdivision and/or manufactured home rental community) has occurred; or,
  - (2) The expiration of two (2) years from the date of written conformance by the County Engineer that all roads and drainage improvements in the development (subdivision and/or manufactured home rental community) are in accordance with the standards of this Order.

Upon meeting either of the above conditions, the owner or developer shall request in writing that the roadway be reinspected by the County Engineer for consideration by the Commissioners Court for acceptance into the County road system.

- C. Based upon this inspection and the approval of the Precinct Commissioner, if it is determined that little or no maintenance or repairs are needed to the road, the owner or developer will be notified in writing that the roadway complies with these Requirements.

#### Section 5.2 County Acceptance

Upon compliance with Section 5.1, the owner or developer shall submit the following items to the County Engineer's office for final acceptance by the Commissioners Court:

- A. A letter indicating that the road(s) was constructed in conformance with these Requirements and requesting that the road(s) be accepted into the County Road System for maintenance.

- B. A fee simple deed or dedication of the associated right(s)-of-way to McLennan County, as trustee for the public, by separate instrument, if not previously done by a subdivision plat or development plan. Such instrument shall be recorded with the County Clerk.
- C. A copy of the “As-Built” plans as prepared by a registered surveyor or engineer, as directed by the County Engineer.

Section 5.3 Implementation

This document amends and supercedes the “Minimum Requirements for Roads to be Accepted into the McLennan County Road System” order that was approved by the Commissioners Court on September 13, 1979 and shall become effective from and after its date of approval as required by law, for all projects except those projects that have received approval by the Commissioners Court prior to the approval date of these Requirements.

Section 5.4 Severability

In the event any article, appendix, section, paragraph, sentence, clause or phrase of these Requirements shall be declared unconstitutional or invalid by the valid judgment or decree of any court of competent jurisdiction for any reason, such declaration shall not affect any remaining part of these Requirements. It is the express intent of the McLennan County Commissioners Court that the articles, appendices, sections, paragraphs, sentences, clauses or phrases of these Regulations be severable.

Section 5.5 Amendment to Requirements

The Commissioners Court may amend this order from time to time and may adopt new orders by vote of simple majority.

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