

Nacogdoches County Regulations and Specifications

Construction of New Subdivision Roads and Streets

GENERAL

These regulations and specifications are intended as a supplement to the provisions of the Nacogdoches County Subdivisions Regulations. These regulations do not necessarily apply in whole to the repair, maintenance or improvement of existing roadways.

RIGHT-OF-WAYS and EASEMENTS

All roads and streets with open ditch drainage systems must have a minimum of a sixty (60) foot wide right-of-way. Roads and streets with curb and gutter drainage must have a minimum of a fifty (50) foot right-of-way.

If needed, additional utility easements shall be dedicated outside the right-of-way to accommodate public utilities that cannot be placed within the right-of-way.

CONSTRUCTION PLANS AND SPECIFICATIONS

Construction plans and specifications prepared by a Professional Engineer licensed in the State of Texas, must be submitted to the County Road Administrator for review and approval prior to the start of construction. The Owner may start initial clearing and grubbing work prior to plan submittal at his own risk.

Construction plans must show:

1. All horizontal and vertical geometry of the roadway and any drainage ditches.
2. All storm sewer systems and culverts.
3. Contours of the existing ground and contours or spot elevation information of all proposed grading.
4. Longitudinal ditch slopes (%) and side slopes (H/V).
5. Erosion control systems.
6. A typical cross section of the proposed roadway including details on pavement, base and sub-grade construction.
7. Other details as necessary to show special construction items.

All construction plans must include a cover sheet with the project name, a vicinity map, the Owners name, the subdivision name or a single road name, as applicable.

ROADWAY DIMENSIONS

Major arterial roads with open ditch drainage shall have minimum 12 foot wide travel lanes and 4 foot wide paved shoulders. Major arterial roads with curb and gutter drainage systems shall have minimum 14 foot wide travel lanes.

Local and collector streets with open ditch drainage shall have 12 foot wide travel lanes with 2 foot gravel shoulders. Local and collector streets with curb and gutter drainage systems shall have 14 foot wide travel lanes.

ROADWAY PAVEMENTS

Sub-grade soils for all pavements shall be compacted to 95% Standard Proctor Density (ASTM D698) with a moisture content of +/- 2% of optimum. Sub-grade soils with a Plasticity Index of less than 3 or greater than 20 shall be chemically stabilized to a depth of 6 inches below the base or pavement material as recommended by an engineer.

All soft sub-grade areas shall be over-excavated to a depth to reach suitable soils and backfilled with a compacted select-soil material. The County Road Administrator will inspect, and must approve, sub-grade preparation prior to placing any base material.

All asphaltic concrete pavements will require a minimum of six (6) inches of granular base compacted to 95% Modified Proctor Density (ASTM D1557) with a moisture content of +/- 2% of optimum. Base materials for flexible pavements shall meet or exceed the requirements of TxDOT Type A Grade 2 crushed stone. Base materials shall receive an asphaltic Prime Coat and a Tack Coat as recommended by the engineer. Alternate designs for base materials and thicknesses may be submitted for approval with design equivalency information prepared by an engineer.

Hot mixed asphalt concrete pavements shall consist of two (2) inches of Type D or D Modified (TxDOT Item 340) asphalt compacted to contain between 5 and 9 percent air voids.

Oil Sand pavements shall be comprised of six (6) inches of a plant-mixed hot oil sand compacted in 3 inch lifts, placed on an approved sub-grade. Creating oil sand pavements using on-site materials must be approved by the County Road Administrator and will require the submission of an engineering report identifying the suitability of the soils, the proposed oil or emulsion to be used, application rates and mixing depths to achieve strengths equal to or greater than that of a plant mix oil sand.

Concrete roads may be allowed, but will not be accepted by the County for maintenance.

DRAINAGE DESIGN

Longitudinal ditch slopes must be at least a 1% grade and not more than a 6% grade without permanent erosion controls. Ditches shall have a 6/1 or flatter cross slope on the roadside and a maximum of a 4/1

back slope. Ditches in unconsolidated or loose soils may require flatter slopes as determined at the discretion of the County Road Administrator.

Road culverts shall be sized to accommodate the calculated flow capacity of the ditch and shall be a minimum of 15 inches in diameter. Culvert pipe materials must be approved by the County Road Administrator and some may require special bedding, backfill or coatings. Culverts shall have concrete headwalls or concrete safety end treatments. Cross culverts must extend beyond the road or shoulder edge a minimum of 6 feet or to the bottom of the connecting ditches, whichever is longer. In general, culverts must connect to ditch flow lines and must have a slope not less than that required for a 2 foot per second velocity under gravity flow conditions. Culverts with velocities greater than 8 feet per second will require permanent erosion controls immediately downstream of the culvert outfall.

Concrete curb and gutter drainage sections must be at least 18 inches in width (including a 6 inch curb) and have a minimum longitudinal slope of 1%, unless approved otherwise.

Roadside ditches, culverts and storm sewers shall be designed for a capacity meeting a 25-year, 24-hour storm event with at least 6" of freeboard below the edge of the road. Curbed streets with inlets must be able to carry a 25-year, 24-hour storm event leaving a 12 foot dry travel lane in the middle of the road for emergency access.

Detailed drainage and capacity calculations for all ditches, culverts, storm sewers, inlets and curbed roadways may be requested when roadway construction plans are submitted. The engineer shall employ the drainage calculation methods described in the TxDOT Hydraulic Design Manual or an approved alternative.

Storm sewer systems (other than driveway and road cross culverts), inlets and appurtenances will not be accepted by the County for maintenance and must be properly maintained by the developer, property owner or other entity.

ROADWAY EXCAVATION AND EMBANKMENT

The roadway shall be stripped of all grass, debris or deleterious matter, and all stump holes or other excavations in the limits of the embankment shall be backfilled with suitable material and thoroughly compacted. Stumps and other debris may not be buried within the right-of-way.

Embankment or fill material shall meet requirements for sub-grade soils as described under ROADWAY PAVEMENTS, placed in maximum 8" loose lifts and compacted to 95% of the maximum density as determined by the ASTM D 698. The finished embankment shall conform to the lines and grade as shown in the plans.

On-site excavated materials may be used for embankment under the roadway if they meet the requirements for sub-grade soils as described under ROADWAY PAVEMENTS. Cut soil materials not meeting this requirement may be used in un-paved areas that require additional fill.

All disturbed soil areas must receive erosion controls meeting the requirements of a permitted Storm Water Pollution Prevention Plan including sediment fences on downhill slopes, rock construction entrances, rock filter dams, sediment ponds and any other required improvements to arrest soil erosion.

All non-paved disturbed areas must receive a final grass cover acceptable to the County Road Administrator.

PUBLIC UTILITIES

Public utilities may be installed within the road right-of-way, but must have at least 30" of cover below the ditch flow line if they cross a roadside ditch, or if they are installed parallel to the ditch and within the banks of the ditch. All utilities placed outside the limits of the ditch, but parallel to the roadway, shall have a clear cover of at least 30" and be as close as possible to the right-of-way line as can be reasonably be achieved. No private utility lines shall be located within the road right-of-way or a designated public utility easement.

Utilities over 2" in diameter, crossing under existing roadways, must be dry bored and cased to a distance of 6 feet behind the curb or to the flow-line of the roadside ditch with a minimum cover of six (6) feet below the road surface. Utility installations controlled by State or Federal regulations, shall comply with the more stringent version of these requirements.

LIGHTING

All outdoor lighting within the right-of-way and also within subdivision common areas must conform to the provisions of the latest version of the National Electric Code. All luminaries in excess of 50 watts located in road right-of-ways or common areas, shall be fully shielded to avoid light rays above the horizontal plane, except for monument signs where the lighting may not project above the top of the sign.

FINAL ROAD and PLAT ACCEPTANCE

Upon completion of the road and drainage improvements, the developer shall contact the County Commissioner and County Road Administrator for a final inspection of the project. The owner shall submit a Certificate of Construction Completion signed by a Professional Engineer along with as-built construction plans and materials testing reports. Test results shall include passing density tests on the sub-grade and base, sieve analysis for the base material, and results from cores cut in the pavement and base showing acceptable thicknesses, air voids and material constituents as appropriate.

The approval of the final plat by the County does not constitute the acceptance of a roadway for maintenance. All roads must be maintained by the Owner or Developer until the roads are accepted for maintenance by the Commissioners' Court. The Owner shall provide a one year warranty on all materials and workmanship of the road after acceptance by the County.