

ROANE COUNTY ROAD SPECIFICATIONS FOR ACCEPTANCE OF NEW ROADS INTO THE ROANE COUNTY SYSTEM FOR COUNTY MAINTENANCE.

GENERAL

1.) a. Roads to be accepted into the Roane County System for maintenance after August 12, 2002 (enactment date of ordinance) shall meet these minimum specifications with exception of any approved variances.

b. Roads that have been previously maintained by the County and inadvertently left off of the approved road list should follow attached procedure for adding or removing a road from the approved road list.

2.) Plans for new roads proposed for construction and acceptance for maintenance by the Roane County Road Department shall be submitted to the Roane County Road Supervisor for review and approved in writing prior to construction. Any road constructed prior to the approval of plans will be at the owner/developers risk and will not relieve the owner/developer of the responsibility for plan submission and approval. Plans should be prepared and certified by a qualified professional engineer or registered land surveyor. Upon completion of roadway construction, the road supervisor may require "as-built" plans certified by a qualified professional engineer or registered land surveyor for the completed improvements to disclose that the approved plan was complied with in regard to roadway construction.

3.) If a road falls under the jurisdiction of a Regional Planning Commission, the road specifications for that Regional Planning Commission will apply to the extent the requirements are greater than the Roane County Road Specifications. No provision of any Regional Planning Commission Roadway Specifications will be interpreted to mean that Roane County Road Specifications do not apply. Any approval or inspection required in the Roane County Road Specifications must be obtained for a roadway to be considered as a candidate for acceptance by Roane County as public roadway for maintenance by the Roane County Road Department.

4.) Prior to and during roadway construction, the Roane County Road Supervisor will be advised by the owner/developer of his selection of contractor(s) and timetable for various phases of roadway construction including grading, drainage, subgrade, roadway base and paving materials. The road supervisor shall require inspection of any and all phases of roadway construction. The road supervisor shall require testing or certifications by the owner/developer and/or his contractor(s) to insure compliance with these requirements. These tests and certifications would include, but are not limited to soil testing and/or proof rolling on subgrades, copies of weight tickets and certification of materials used in roadways, and cores of roadway materials in place to verify thickness of in place materials. Tests and certification required will be the responsibility of and at the expense of the owner/developer. Inspection by or failure of the Roane County Road

Supervisor or his designated agent to make detailed inspection of any phase of roadway construction will not relieve the owner/developer of compliance with standards required by any part these roadway specifications.

5.) No roadway will become a county road until all requirements defining the subject roadway(s) have been prepared and submitted for review and recommendation of approval made by the Roane County Road Supervisor and the Road Committee and voted approval by the Roane County Commission. Any bond(s) required will be agreed upon as to amount with the Roane County Road Supervisor.

6.) Any request for variances to these specifications must be submitted in writing to the Roane County Road Supervisor for review and recommendation to the Road Committee. The Road Supervisor will present to the Road Committee recommendations to either deny or approve variances. Variances will only be granted when documented evidence is presented that all reasonable efforts have been made to comply with the Roane County Road Specifications. Approval of variances does not constitute or infer approval or acceptance of the completed roadway.

7.) The Road Supervisor is authorized to demand that a contractor provide an inspector to monitor a project for reasons of guaranteeing that road specifications are being adhered to during the construction process. The Road Supervisor may at any phase of construction project have the contractor supply an inspector. The cost of the inspector will be the responsibility of the contractor.

ROADWAY DESIGN

1.) A minimum width of 50 feet will be required between property or lot lines adjoining the roadway for new roadways. Where existing roadways are used in conjunction with subdivision or development of adjoining property, a distance of 25 feet from the center of the existing roadway will be used to determine right-of-way line for the subdivision of property along any existing county roadway.

2.) All dead end roads developed to 300 feet or more as measured from the center of the connecting roadway will be provided with a cul-de-sac with a property line defined by a radius of 50 feet from the center of the cul-de-sac (100-foot diameter).

3.) Roadways connecting or intersecting other roadways, either proposed or existing where other connecting roadways are existing or proposed, must provide center line offsets of 150 feet or more or otherwise be aligned as horizontally opposed. It is the intent of this provision to not allow street jogs where traffic entering other roadways would become a traffic hazard created by the offset in alignment of roadways.

- 4.) All intersections of adjoining roadways shall be as near right angle as possible. No intersection shall be permitted where survey centerlines of connecting streets are less than 75 degrees. Design of intersection shall provide for safe stopping and sight distance. Minimum sight distance of 200 feet for approaching the intersection will be required. Minimum sight distance of 200 feet from vehicle stopping point as measured along the roadway to be entered is required. Greater stopping and sight distance will be required if anticipated roadway speed is 30 mph or greater.**
- 5.) All street and road right-of-way lines will be clearly shown on the plans and survey plats.**
- 6.) The minimum radius for paving of corners at intersecting roadways will be 15 feet.**
- 7.) The maximum allowable centerline grade for roadways will be 15 percent. Centerline grade for intersecting streets will not exceed 5 percent within 50 feet of the center of the roadway being entered**
- 8.) Roadway intersection design will provide for drainage not to interfere with traffic flow. No curb or ditch water flows will be allowed to cross the roadway surface or through a roadway intersection.**
- 9.) Changes in grade on crest vertical curves shall provide a minimum sight distance of 200 feet as determined by a 3.5-foot eye height and a 0.5-foot object height.**
- 10.) Changes in grade on sag vertical curves will be provided with a vertical curve of 90 feet minimum length or 3 times the design speeds (in mph) whichever is greater.**
- 11.) Horizontal and vertical alignment of roadway will provide for a minimum sight distance of 200 feet as determined by a 3.5-foot eye height and a 0.5-foot object height. Greater sight distance may be required if it appears to the Roane County Road Superintendent that design of roadway, roadway alignment or continued development contributing to the subject roadway will probably create a roadway speed of 30 mph or greater.**
- 12.) A roadway crown of 2 percent or a superelevation of 2 percent or more shall be built into the completed roadway to provide for proper drainage. No roadways constructed with curbs or where drainage will be along the edge of paved roadway surface will be allowed to have less than 1 percent centerline grade or will require other provision to eliminate ponding along roadway.**
- 13.) Minimum width of roadway bed including shoulders will be 26 feet. Minimum width of paved roadway will be 20 feet. A 3-foot width stone shoulder will be required where no curbs are used. If curbs are used, a minimum roadway width of 24 feet as measured between curb faces will be required. Minimum paved roadway diameter for cul-de-sacs will be 80 feet with a minimum of 3 foot width stone shoulder all around.**

14.) Minimum horizontal centerline radius for roadways will be 110 feet.

15.) Design of roadway banks and slopes will be provided with cut and fill slopes not exceeding 2 horizontal to 1 vertical. Steeper slope may be allowed if proper provision is made to insure stability of such slope and design is certified by a registered professional engineer and plan approved in advance by Roane County Road Supervisor.

16.) Roadway slopes will be grassed and/or sodded to provide erosion control and appearance prior to final acceptance.

17.) Roadway fill material will be placed in layers and provided with mechanical compaction that meets Tennessee Department of Transportation standards. The Roane County Road Supervisor or his designated agent may require proof of compaction in the form of testing by a qualified testing laboratory. No trees, stumps or organic matter will be allowed in any fill under roadway or roadway slopes.

18.) Roadway base shall be a minimum of 6 inches compacted mineral aggregate base. Compaction will meet or exceed the Tennessee Department of Transportation standards for the material being used. Subgrade will be "proof rolled" prior to placing base stone.

19.) A hot-mix asphaltic concrete binder conforming to Tennessee Department of Transportation specification (307-B, 307-BM) will be applied to a minimum compacted thickness of 2.5 inches.

20.) A final roadway surface of hot-mix asphaltic concrete conforming to Tennessee Department of Transportation specification (411-D, 411-E) will be applied over the binder to a minimum compacted thickness of 1.5 inches. If the top surface of the binder has been allowed to stand for some time or has become stained, a prime coat will be required prior to placing roadway surface to provide proper bonding.

21.) The developer and/or contractor will be required to furnish proof at his own expense that roadway and paving materials meet or exceed the density compaction requirements of the Tennessee Department of Transportation. The developer and/or contractor will be required to furnish certification of paving materials used.

DRAINAGE

1.) Drainage culverts, ditches and other systems shall be adequately sized to properly drain the roadway. Drainage plans will be required and reviewed by the Roane County

Road Supervisor. Plans are to be prepared and certified by a qualified professional who is licensed by the State of Tennessee.

2.) Culverts crossing under a roadway are required to be a minimum of 18-inch diameter and 30 feet in length set at 12 inches or greater under the roadway surface. Greater pipe sizes will be required where drainage from areas other than roadway will enter the drainage system. Drainage pipe lengths are required to provide for depth of fill and proper slopes. Drainage structure headwalls will be provided where necessary to insure proper hydraulic flow of the structure or stability of slopes.

3.) Roadways where curbs are used must have proper catch basins and/or spillways to provide for drainage of the roadway. Catch basins and/or spillways are to be provided at interval of no more than 300 feet from the head of drainage along the roadway curb line and at no more than 300 feet spacing along roadway curb where drainage continues along roadway. Additionally, catch basins and/or spillways must be provided to insure a maximum of 4 acres of total land area drained onto and along the street where street is to provide drainage for adjoining land areas.

4.) Roadways where no curbs are provided must provide for a ditch on both sides of roadway of a minimum of 18 inches depth below the edge of roadway and located an adequate distance from the edge of roadway. Ditches are to be provided with grass, sod, riprap or other lining to prevent erosion along the edge of roadway.

5.) Culverts buried to less than 15 feet in depth may be of 14 gauge corrugated metal pipe conforming to AASHTO M36 or high density polyethylene corrugated storm sewer pipe conforming to product specification ASTM F667 or reinforced concrete pipe Class 1 conforming to product specification ASTM C76 and bedded in conformance with manufacturer's recommendation. Culverts buried to greater than 12 feet in depth but less than 24 feet in depth shall be reinforced concrete pipe Class 2 conforming to product specification ASTM C76 and bedded according to manufacturer's recommendation. Culverts buried to greater than 24 feet in depth shall be reinforced concrete pipe Class 4 conforming to product specification ASTM C76 and bedded according to manufacturer's recommendation. Cast in place or precast reinforced concrete box culverts may be used, but must be designed and certified by a qualified professional licensed by the State of Tennessee.

6.) Drainage system installation will be inspected by the Roane County Road Supervisor.

BONDS

Performance/Construction Bond

1.) In lieu of completed construction, the owner/developer may option to post bond for an uncompleted part of roadway improvement. If acceptable roadway plans have been

submitted and approved by the Roane County Road Supervisor as part of the normal plans approval process, the owner/developer may request the right to make an acceptable surety deposit in lieu of the completed improvements. Insurance bond or irrevocable letter of credit may be considered for construction bonding. The Roane County Road Supervisor may approve plans in conjunction with the appropriate Planning Commission. The plat will bear the following statement:

I certify that the plans submitted with this plat for construction of streets purport to meet the specifications of the Roane County Highway Department and to insure completion of construction a bond or letter of credit in the amount of \$_____ is being held by the _____ Planning Commission.

Roane County Road Supervisor

Date

Maintenance Bond

2.) The owner/developer building the road shall be required to obligate an amount determined by the Road Supervisor and approved by the Road Committee in the form of a cash bond or other approved surety deposited with the Roane County Clerk for the purpose of making guarantee of the roadway improvements for a two year period commencing on the day of approval and acceptance of the roadway(s) by Roane County Commission. Should the Roane County Road Supervisor deem repairs are necessary, he will contact the owner/developer to allow the owner/developer the opportunity to make necessary repairs. Should the Roane County Road Supervisor deem repairs to be necessary on an emergency basis because of significant risk to the public, or should the owner/developer responsible for the road where repairs are deemed necessary fail to respond after notification, the Road supervisor may decide to cause the repairs to be made and charge same to the bond amount. At the end of two-year period, the owner/developer will request in writing to the Roane County Road Supervisor for release of the bond amount. The Roane County Road Supervisor or his designated agent will inspect the roadway(s) and make recommendation of approval or list repairs appearing to be necessary. These actions will be reported to the Road Committee. If repairs are required, release of the bond will be withheld. If the roadway improvements appear to be substantial and withstanding normal wear and tear, the Road Supervisor will recommend release of bond in writing to the contractor or developer.

PROCEDURES FOR CONSIDERING NEW COUNTY ROADS

- 1. On Motion of Commissioner _____, and the unanimous agreement of the Road Committee Membership, the following procedure is hereby set forth for all future proposals for adding or removing county roads to the Roane county Road List. Future issues regarding adding or removing roads to the Roane County Road List shall be dealt with only upon the recommendation of the Roane County Road Supervisor. The Roane County Road Supervisor is hereby directed to announce his/her recommendations for each such proposal to the Committee and to recommend the said road be accepted, rejected or submit no recommendation along with all relevant facts concerning said road proposal and report the findings of his/her investigation.**
- 2. All requests for adding or removing roads from the Roane County Road List shall be made directly to the road Supervisor in writing. Such requests adequately identify the road and the exact length of such road to be considered. The Road Supervisor shall conduct his/her investigation pursuant to the guidelines as set forth below and report directly to the Road Committee at the next regularly scheduled Road Committee meeting after the Road Supervisor has finished his/her investigation. The guidelines as set forth below for the Road Supervisor are not requirements but are simply a suggested guide for the Road Supervisor to follow. In addition to these guidelines the Road Supervisor shall rely upon his/her expertise and any and all other relevant factors in making his/her recommendations to the Road Committee.**

APPENDIX A:

Guidelines for the Consideration of Adding or Removing a Road From the County Road List

The Road Supervisor before making his/her recommendation to the Road Committee shall consider the following guidelines during the pendency of his investigation and said investigation shall include a diligent pursuit of all relevant information. The Road Supervisor shall use the following as guidelines for his/her investigation:

- 1. Affidavits from County Highway Department employees regarding whether or not the County or any other governmental entity has ever worked on the proposed road in any form or fashion.**
- 2. Affidavits from members of the community in regard to whether they or the public ever used said roadway as a public way.**
- 3. The feasibility of adding or removing said road from the county Road List in regard to Highway Department budget considerations.**
- 4. Whether or not the road has ever been dedicated for public use, either expressed or implied.**
- 5. Whether such proposed road would be acceptable and safe for purposed of school bus transportation, snow plows, ambulances etc.**
- 6. Any relevant records on file with the Roane County Highway Department or the Tennessee Department of Transportation.**