



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

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INSTRUCTIONAL BULLETIN NO. 21-15

Chapter 2 Update for Driveways

Effective immediately, however if the changes below will cause significant project delays, the Regional staff has the discretion to move the effective date to the end of the year, the Roadway Design Guidelines Chapter 2 to has been revised to include Section 12 – Driveways. Revisions are as follows:

SECTION 12 – DRIVEWAYS

2-1200.00 DRIVEWAYS

A driveway is defined as an improved area leading from a public road to private property. There are three types of driveways: private drives, business entrances, and field entrances. Driveways should be provided for the following:

- A. Where Existing Road is being improved
 - 1. Tie into existing driveway
 - 2. Relocate drive if connection to existing drive is too steep (see Limits of Vertical Grade)
 - 3. Tracts where there is no prior access
- B. New Roadway Construction
 - 1. Provide access to each tract if requested

All driveways on private and public side roads shall be shown on Present, Proposed, Profile, Signing and Marking, and Traffic Control sheets. The following section provides design requirements and considerations when creating a driveway. Designers will be required to add in ROW details for the driveway parcel in COGO. Designers will need to look at the grade sections to develop the correct construction easements. Designers should follow the standard guidance for construction easements of applying 10 ft for urban and 15 ft for rural. See *Figure 2-44, Rural Type Projects Typical Driveway Notation* and *Figure 2-45, Urban Type Projects Typical Driveway Notation* for examples of how to display driveways on plans. For additional information see also, [Manual for Constructing Driveway Entrances on State Highways, 2015](#) and the [Driveway Design Guide](#).

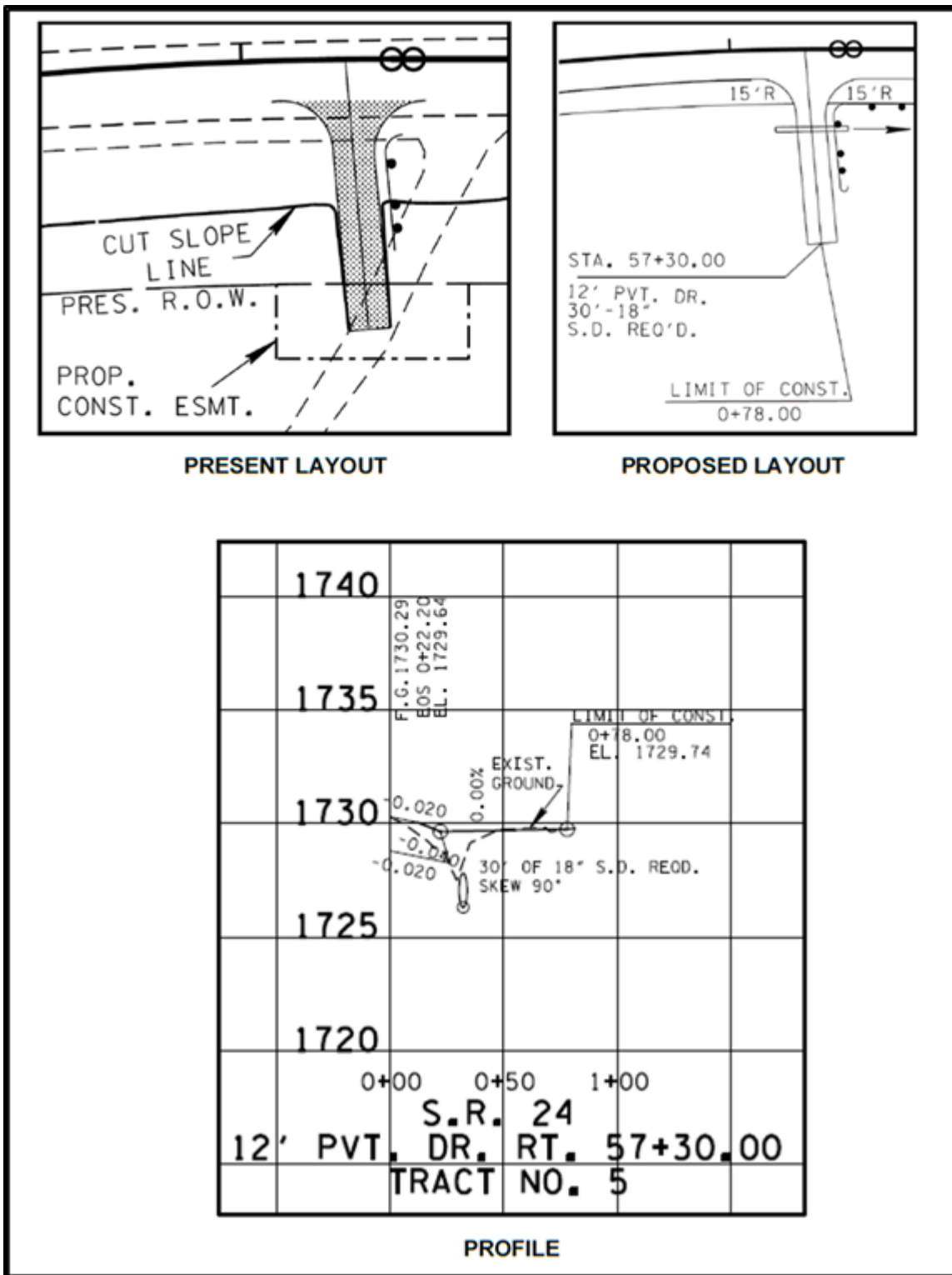
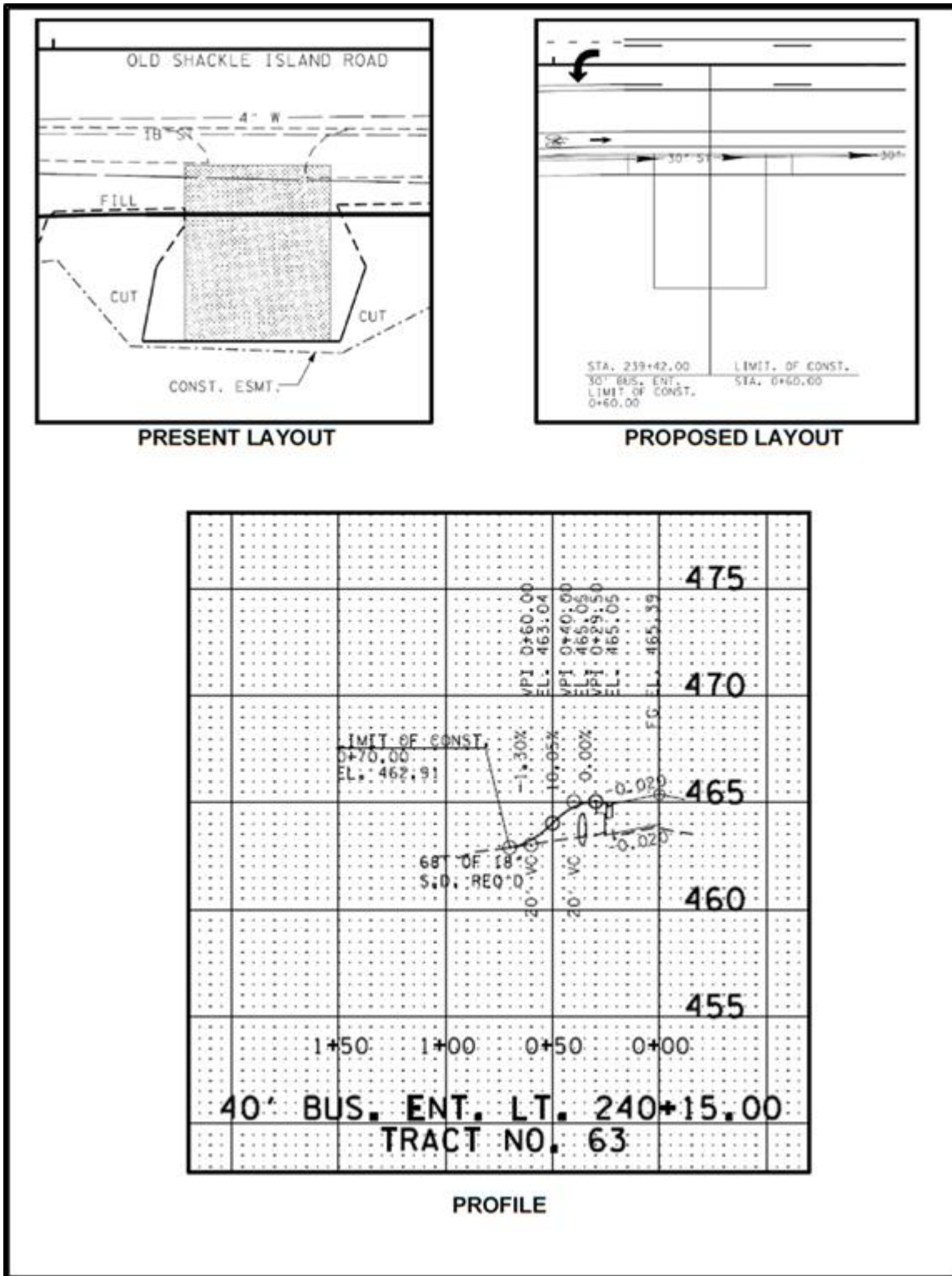


Figure 2-44
Rural Type Projects Typical Driveway Notation

Note: This figure is for layout procedure purposes only. Please refer to [Manual for Construction Driveway Entrances on State Highways, 2015](#) and Roadway Standard Drawings RP-D-15, RP-D-16 and RP-R-1 for design information.



**Figure 2-45
Urban Type Projects Typical Driveway Notation**

Note: This figure is for layout procedure purposes only. Please refer to [Manual for Construction Driveway Entrances on State Highways, 2015](#) and Roadway Standard Drawings RP-D-15, RP-D-16 and RP-R-1 for design information. .

2-1201.00 DRIVEWAY TYPICAL SECTION AND DESIGN CRITERIA

A new asphalt driveway section should consist of a surface, binder, and a base layer. See *Figure 2-46, Driveway Typical Section*. Where the surface of an existing drive is concrete, substitute 6 inches of concrete for surface and binder and 4 inches for base. Designers shall add a footnote for the Item Number 303-01, Mineral Aggregate, Type A Base, Grading D that notes the quantity used for driveways. When a Designer is connecting into an existing drive, the surface material should match.

If an existing drive is greater than 12 feet in width, the width of the proposed drive shall be equal to the existing width but not greater than the maximum allowable width, typically 40' for commercial. See Roadway Standard Drawing - RP Series for more information.

If an existing drive is gravel, surfacing will be for one shoulder width. The remainder of the drive will be replaced with gravel to the touchdown point.

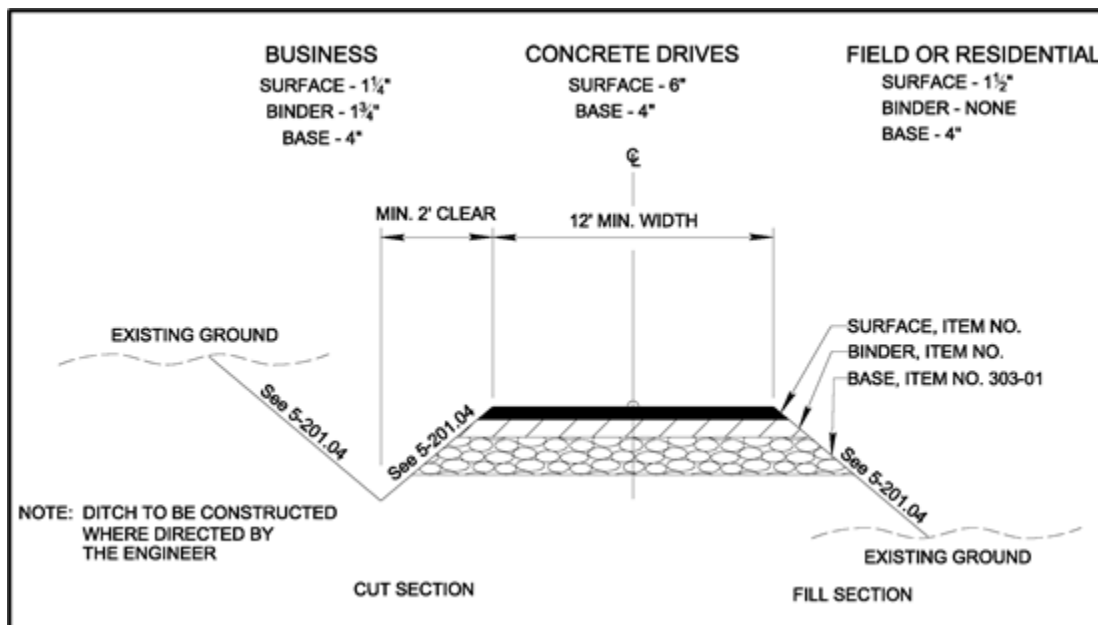


Figure 2-46
Driveway Typical Section

2-1201.01 DRIVEWAY VERTICAL CURVES

Vertical grade limits vary between rural and urban designs, both for private drives and field entrances and for business entrances. See Table 2-15 for maximum vertical grade limits. Vertical curve K values are 1 for a crest curve and 2 for a sag curve. See, Sections 5.3.1 through 5.3.3 of the [Manual for Constructing Driveway Entrances on State Highways, 2015](#) and Roadway Standard Drawing RP-R-1 for additional vertical curve information.

| Rural Roadways Vertical Grade Limits | |
|---|-------------|
| Private Drives & Field Entrances | 15% maximum |
| Business Entrances | 8% Maximum |
| Urban Roadway Design Vertical Grade Limits | |
| Private Drives and Field Entrances | 10% Maximum |
| Business Entrances | 8% Maximum |

Table 2-15
Vertical Grade Limits for Rural and Urban Roadways

2-1201.02 DRIVEWAY HORIZONTAL CURVES

For private drives, business entrance, and field entrance design on rural roadways, horizontal curve radius limits are 10 ft minimum and 20 ft maximum. For private drives, business entrance and field entrance design on urban roadways, horizontal curve radius limits are 5 ft minimum and 15 ft maximum. See [Manual for Constructing Driveway Entrances on State Highways, 2015](#), Section 5.1.3 and Roadway Standard Drawing RP-R-1 for additional horizontal curve information.

2-1201.03 DRIVEWAY CROSS SLOPE

Positive drainage should be maintained throughout the length of the driveway. One driveway edge may be higher than the other or the center line may be higher than the edges, creating driveway cross slope. Where the driveway and sidewalk intersect, the driveway cross slope is the same as the sidewalk grade.

2-1201.04 DRIVEWAY EDGE

A driveway edge should be clearly defined and visible to all users. The designer should avoid sudden drop-offs along the edge of drive. Fixed objects such as utility poles, fire hydrants, and drainage inlets should be set back from the edge of the driveway and from the edge of the roadway. If there is a side drain and the side drain is within the clear zone, maintain mainline side slopes through the safety endwall. If a parallel side drain is not required, 2:1 slopes may be used beyond the driveway radius. Designers should review the roadway and driveway slopes to ensure that a non-traversable slope within the clear zone is not created when the drop off is five foot or more.

2-1201.05 DRIVEWAY APRONS

Right-of-Way plans for new construction or reconstruction projects shall accommodate the appropriate driveway aprons. The driveway standard drawings have been modified to provide Public Right-of-Way Accessibility Guidelines (PROWAG) compliant cross-slope for sidewalks through driveway aprons. For curb and gutter sections, this typical section is to begin at the back edge of the proposed or future sidewalk. The aprons have also been modified to provide for a better turning radius into the drive. See Roadway Standard Drawings RP-D-15 and RP-D-16.

2-1201.06 DRIVEWAY SIDE DRAINS

A side drain is a pipe located under a driveway, at the toe of slope in a fill section or in the ditch line in a cut section. The drainage pipe (side drain) shall be a minimum of eighteen inches (18") in diameter. The side drain cover should be 12 inches from the top of pipe to the bottom of the driveway base. Endwalls are required if the drainage pipe falls within the clear zone. The pipe slope should be 0.5% to 2% slope for proper flow. See Roadway Standard Drawings D-SEW-1A, D-SEW-12D, and RP-R-1 for additional information. See the [Driveway Design Guide](#) for side drain calculation information.

2-1202.00 MULTIMODAL ROADWAY DESIGN IN DRIVEWAYS

Multimodal components must be considered when designing driveways. Driveway guidance has traditionally focused on accommodating motor vehicles, but now emphasis is also being placed on managing access and accommodating pedestrians and cyclists. The design of a driveway affects the safety and mobility of motorists, cyclists, and pedestrians. See [Chapter 3 Multimodal Design](#) for additional information for multimodal components.

2-1202.01 PEDESTRIAN SAFETY IN DRIVEWAYS

In order to comply with State and Federal requirements, pedestrian access needs to be considered while designing driveways. The following information should be addressed where applicable:

- For pedestrian facilities in driveways see Roadway Standard Drawings RP-D-15 and RP-D-16. To assist pedestrians with visual impairments, detectable warning surfaces/truncated domes should be provided where commercial driveways have a yield or stop control at the junction between the sidewalk and the driveway vehicle route. Detectable warning surfaces are not required for residential driveway crossings. Yellow is the last color a visually impaired person can detect; therefore, truncated domes shall be yellow in color.
- For driveways with raised channelized islands, the island should be at least 6 feet in width and have flat area for pedestrians in wheelchairs.
- When the pedestrian sidewalk crosses the existing driveways, the maximum cross slope at any point on a sidewalk is 2%.
- If the driveway touchdown point is at the back of sidewalk, see Roadway Standard Drawing RP-D-15 and RP-D-16. If not, the existing driveway should be modified as shown in 5-206.00.

2-1203.00 GUIDELINES FOR CONSTRUCTION AND RESURFACING OF DRIVEWAYS ON HIGHWAY PROJECTS

2-1203.01 GENERAL

For new construction projects, new driveway entrances shall be located and designed in accordance to the TDOT [Manual for Constructing Driveway Entrances on State Highways, 2015](#) and to the current Roadway Standard Drawings RP-D-series and RP-R-series. For retrofit, resurfacing, and reconstruction projects the designer should leave existing driveway entrances in place if the existing locations do not affect operational safety. It is important to identify potential conflicts during field reviews and have Traffic Operations Division evaluate the potential conflicts. This must be done early in the design process because if an existing driveway entrance needs to be relocated it can affect Right-of-Way acquisition.

DEFINITION OF TERMS

Paved Shoulder Width - The width of the shoulder paved as part of the project.

Paver Width - The width of asphalt paving machine used on mainline paving with maximum width of 12 feet or to extend beyond Right-of-Way limit.

Normal Right-of-Way – The areas of land including the normal slopes of the highway and the public road intersection.

2-1203.02 RESURFACING

- A. Where directed by the TDOT Engineer, the Contractor shall be required to shape public side roads, business entrances, and private drives, as well as clean existing

drains before placing materials. All costs are to be included in the price bid for other items of construction.

- B. Resurfacing projects on roadways with shoulders and ditches (no curb or gutter):
 - 1. Private driveways, field entrances, and business entrances will be resurfaced a paver width as a minimum. A pavement taper to transition the new pavement shall be required, it shall be based on an additional 1 foot of width per inch depth of pavement. If the shoulder is narrow enough that the sum of the shoulder and the transition are less than a paver width (lane width), the transition shall occur within the paver width. If the sum of the shoulder and the transition is greater than a paver width, the transition shall occur outside of the paver width.
- C. Resurfacing projects on roadway with urban curb and gutters
 - 1. Residential driveways and business entrances shall have a minimum width of material not less than one foot used in the transition to feather the pavement edge.
- D. In all cases, the length of the pavement transition, the thickness and width of the resurfacing and any additional pavement materials shall be as directed by the TDOT Engineer.
- E. During resurfacing projects, it is the Department's intent to evaluate the repair or installation of curb ramps which meet the PROWAG whenever possible as encountered through resurfacing. See [TDOT Policy Number 530-01](#) for additional information. According to TCA §54-5-202, when resurfacing or performing any maintenance work on a roadway, the Department is responsible for work from "curb to curb". Due to the limited resources of some localities, the Department will attempt to install or repair curb ramps whenever possible. The local government is responsible for maintaining sidewalks, curb ramps, etc.

2-1203.03 NEW OR RECONSTRUCTION

A. Facilities with Full Access Control

Full access control will be maintained for the entire designated project limits.

B. Facilities with Limited Access Control

Access will be allowed at public roads and streets only. No driveways will be permitted access to the mainline project.

C. Facilities with Partial Access Control or Non-Access Control - driveways permitted:

- 1. Fence Opening: For Partial Access Control facilities, one 50-foot opening in the control access fence will be provided per tract remainder, unless access is provided from an intersecting road or based on physical conditions and/or conflicts with other design considerations, which prevent an access opening.
- 2. Existing Driveways:
 - a. For Partial Access Control facilities, one existing paved driveway per tract remainder will be replaced in-kind to a

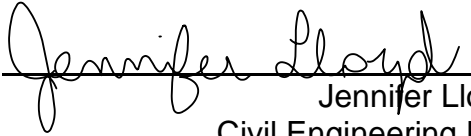
touchdown point. For Non-Access Control facilities, exiting paved driveways will be replaced in-kind to a touchdown point.

- b. Where the existing driveway is unpaved and the proposed driveway equals or exceeds 7 percent in grade, each proposed driveway will be paved to a touchdown point or until the grade is less than 7 percent.
 - c. Where the existing driveway is unpaved and the proposed driveway is less than 7 percent in grade, each proposed driveway will be paved a shoulder width from the edge of pavement and the remainder of that driveway replaced in-kind to a touchdown point.
3. Requirements for field entrances and/or other driveways:
- a. New driveways provided in the plans will be paved based on the 7 percent criteria. Those 7 percent or steeper in grade will be paved and those flatter than 7 percent will be covered with base stone.
 - b. Field entrances provided in the plans will be covered with base stone.
 - c. Normally, one field entrance or driveway, whichever is appropriate per tract remainder will be provided except in the following circumstances:
 1. In the project's preconstruction condition, there is a barrier to access such as a substantial cut, fill, ditch or curb.
 2. A non-gated fence where the existing frontage is totally fenced.
 3. In the project's post-construction condition, there is a substantial cut, fill, or ditch.
 - d. Small remainders and damage considerations are to be reviewed by Design Managers and the Right-of-Way Office to determine if a proposed driveway or field entrance is justified. The location, design and method of surfacing of the field entrance or driveway must be in accordance with the previously mentioned Rules. If the landowner does not desire a driveway, then it will not be included in the project.
4. All public roads will be paved to a touchdown point.

Chapters 2 has been updated on the website at the following link:

Chapter 2:

https://www.tn.gov/content/dam/tn/tdot/roadway-design/documents/design_guidelines/DG-C2.pdf


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KJL:JDK:LHC:MBB
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