

**PART 3. MARKINGS**  
**CHAPTER 3D. DELINEATORS**

Markings Technical Committee Recommendations  
Approved by NCUTCD Council January 10 & 12, 2008

Yellow highlight indicates recommended changes to the NPA.

3D.01  
Approved by  
NC without  
revisions to  
NPA.

**Section 3D.01 Delineators**

Support:

Delineators are particularly beneficial at locations where the alignment might be confusing or unexpected, such as at lane-reduction transitions and curves. Delineators are effective guidance devices at night and during adverse weather. An important advantage of delineators in certain locations is that they remain visible when the roadway is wet or snow covered.

Delineators are considered guidance devices rather than warning devices.

Option:

Delineators may be used on long continuous sections of highway or through short stretches where there are changes in horizontal alignment.

**Section 3D.02 Delineator Design**

3D.02  
Approved by  
NC without  
revisions to  
NPA.

**Standard:**

**Delineators shall be retroreflective devices mounted above the roadway surface and along the side of the roadway in a series to indicate the alignment of the roadway. Delineators shall consist of retroreflector units that are capable of clearly retroreflecting light under normal atmospheric conditions from a distance of 300 m (1,000 ft) when illuminated by the high beams of standard automobile lights.**

**Retroreflective elements for delineators shall have a minimum dimension of 75 mm (3 in).**

Option:

Elongated retroreflective units of appropriate size may be used in place of two retroreflectors mounted as a unit.

3D.03

Approved by  
NC with  
revisions to  
NPA.

Approved  
revision  
highlighted in  
yellow.

### Section 3D.03 Delineator Application

#### Standard:

The color of delineators shall conform to the color of edge lines stipulated in Section 3B.06.

Single delineators shall be provided on the right-hand **edited to increase clarity** side of freeways and expressways and on at least one side of interchange ramps, except in **one of** the following cases **(A or B)**:

- A. On tangent sections of freeways and expressways when ~~all~~ **both** of the following conditions are met:
  1. Raised pavement markers are used continuously on lane lines throughout all curves and on all tangents to supplement pavement markings.
  2. ~~Where whole routes or substantial portions of routes have large sections of tangent alignment.~~
  3. Roadside delineators are used to lead into all curves.
- B. On sections of roadways where continuous lighting is in operation between interchanges.

#### Option:

Delineators may be provided on other classes of roads. Single delineators may be provided on the left-hand **edited to increase clarity** side of roadways.

#### Standard:

Delineators on the left-hand side of a two-way roadway shall be white.

#### Guidance:

Single delineators should be provided on the outside of curves on interchange ramps.

Where median crossovers are provided for official or emergency use on divided highways and where these crossovers are to be marked, a double yellow delineator should be placed on the left-hand **edited to increase clarity** side of the through roadway on the far side of the crossover for each roadway.

Double or vertically elongated delineators should be installed at 30 m (100 ft) intervals along acceleration and deceleration lanes.

Delineators should be used wherever guardrail or other longitudinal barriers are present.

#### Option:

Red delineators may be used on the reverse side of any delineator where it would be viewed by a road user traveling in the wrong direction on ~~that particular~~ a one-way ramp or roadway.

Delineators of the appropriate color may be used to indicate a lane-reduction transition where either an outside or inside lane merges into an adjacent lane.

#### Guidance:

When used for lane-reduction transitions, the delineators should be ~~used~~ installed adjacent to the lane or lanes reduced for the full length of the transition and should be so placed and spaced to show the reduction (see Figure 3B-13).

Support:

Delineators are not necessary for traffic moving in the direction of a wider pavement or on the side of the roadway where the alignment is not affected by the lane-reduction transition.

Guidance:

On a highway with continuous delineation on either or both sides, delineators should be carried through transitions.

Option:

On a highway with continuous delineation on either or both sides, the spacing between a series of delineators may be closer.

**Standard:**

**When used on a truck escape ramp, delineators shall be red.**

Guidance:

Red delineators should be placed on both sides of truck escape ramps. The delineators should be spaced at 15 m (50 ft) intervals for a distance sufficient to identify the ramp entrance. Delineator spacing beyond the ramp entrance should be adequate for guidance according to the length and design of the escape ramp.

3D.04

Approved by  
NC with  
revisions to  
NPA.

Approved  
revision  
highlighted in  
yellow.

### **Section 3D.04 Delineator Placement and Spacing**

Guidance:

Delineators should be mounted on suitable supports ~~so that~~ at a **minimum mounting height, measured vertically from the ~~top~~ bottom** of the ~~highest~~ lowest retroreflector **to the elevation of the near edge of the roadway, is of 1.2 m (4 ft) above the near roadway edge.**

Option:

When mounted on the face of or on top of guardrails or other longitudinal barriers, delineators may be mounted at a lower elevation than the normal delineator height stated above.

Guidance:

~~They~~ Delineators should be placed 0.6 to 2.4 m (2 to 8 ft) outside the outer edge of the shoulder, or if appropriate, in line with the roadside barrier that is 2.4 m (8 ft) or less outside the outer edge of the shoulder.

Delineators should be placed at a constant distance from the edge of the roadway, except that where an obstruction intrudes into the space between the pavement edge and the extension of the line of the delineators, the delineators should be transitioned to be in line with or inside the innermost edge of the obstruction. If the obstruction is a guardrail, the delineators should be transitioned to be ~~either~~ **grammar – more than two choices** just behind, directly above (in line with), or on the innermost edge of the guardrail.

Delineators should be spaced 60 to 160 m (200 to 530 ft) apart on mainline tangent sections. Delineators should be spaced 30 m (100 ft) apart on ramp tangent sections.

Support:

Examples of delineator installations are shown in Figure 3D-1.

Option:

When uniform spacing is interrupted by such features as driveways and intersections, delineators which would ordinarily be located within the features may be relocated in either direction for a distance not exceeding one quarter of the uniform spacing. Delineators still falling within such features may be eliminated.

Delineators may be transitioned in advance of a lane transition or obstruction as a guide for oncoming traffic.

Guidance:

The spacing of delineators should be adjusted on approaches to and throughout horizontal curves so that several delineators are always simultaneously visible to the road user. The approximate spacing shown in Table 3D-1 should be used.

Option:

When needed for special conditions, delineators of the appropriate color may be mounted in a closely-spaced manner on the face of or on top of guardrails or other longitudinal barriers to form a continuous or nearly continuous “ribbon” of delineation.

## **Document Comment Related to Approval of Indicated Text**

The MTC and NCUTCD reviewed the NPA text for Chapter 3D and offer the following explanations for recommended changes to the NPA language:

### **Section 3D.03**

Language has been added to clarify that only one of Conditions A or B need to be met, not both. Without this clarification, the interpretation could be that both conditions must be met. The NCUTCD does not believe it appropriate to require both conditions to be met.

### **Section 3D.04**

The mounting height has been clarified as a minimum so that agencies are not required to place all delineators at exactly 4 ft height.