ERRATA for

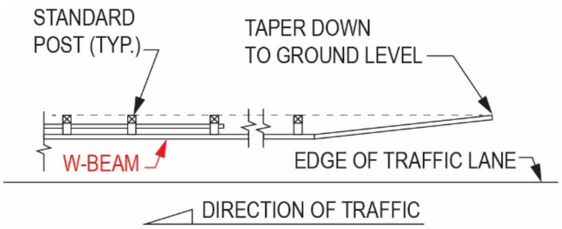
PE Civil*: *Transportation Practice Exam

ISBN: 978-1-947801-32-5

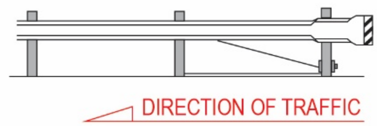
Errata posted 03/03/2025

Revisions are shown in red.

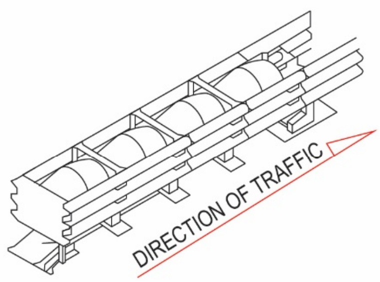
Question 21, p. 13:



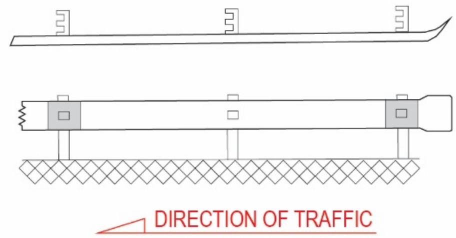
TURNDOWN-STYLE END TERMINAL



SLOTTED RAIL TERMINAL



CRASH CUSHION



GUARDRAIL ANCHORAGE

THRIE-BEAM BULLNOSE

SAND-FILLED INERTIAL BARRIER ARRAY

☐ A. Turndown-style end terminal

☐ B. Slotted rail terminal

☐ C. Crash cushion

☐ D. Guardrail anchorage

☐ E. Thrie-beam bullnose

☐ F. Sand-filled inertial barrier array

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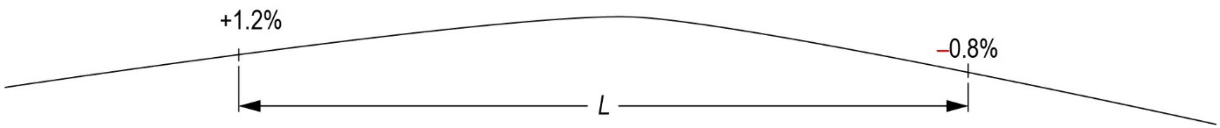
Question 26, p. 15:

PI station = 12+40.00
Degree of curve (arc) = 10°
Deflection angle = 12°30′

Question 43, p. 25:

A crest vertical curve originally designed to provide passing sight distance is experiencing drainage issues due to the high K value of the curve. If the two-lane, 50-mph design speed roadway is modified to provide only stopping sight distance, the decrease in length L (ft) of the curve is ____________.



Question 58, p. 36:

Delineators are to be placed on the outside of a horizontal roadway curve of 5° (arc). The approximate spacing (ft) for the delineators along the curve is most nearly:

Solution 12, p. 54:

Reference: FHWA, *Manual on Uniform Traffic Control Devices*, 2009, Section 2B.12.

Solution 16, p. 56:

where

v_p = pedestrian unit flow rate (p/ft/min)

v_{15} = peak 15-min flow (p/h)

W_E = effective walkway width (ft)

$$v_p = \frac{1,200}{15(6.5)} = \frac{1,200}{97.5} = 12.3$$

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Solution 21, p. 58

The turndown-style W-beam rail is not found in the *Roadside Design Guide*, because it is not crashworthy. This type of end terminal may result in vaulting over the tapered end at high speeds.

The slotted rail terminal is explicitly shown in Table 8-2 as meeting TL-3 Crash Test Criteria.

The crash cushion is addressed by Table 8-6 with corresponding test level approvals.

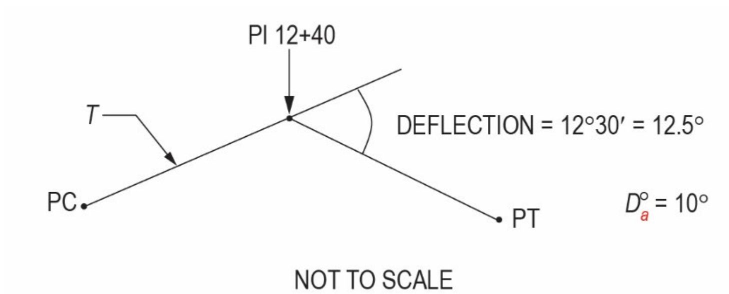
The guardrail anchorage is noted as not crashworthy in Section 8.0.

The thrie-beam bullnose is addressed in Section 8.4.2.1.1 and noted to have passed appropriate test levels.

The inertial barrier array is addressed in Table 8-8.

THE CORRECT ANSWERS ARE: A, D

Solution 26, p. 59:



$$R = 5{,}729.648/D_a^\circ$$
$$= 5{,}729.648/10 = 572.96 \text{ ft}$$
$$T = R \tan\left(\frac{1}{2}\Delta\right) = R \tan(6.25°)$$
$$= 572.96 (\tan 6.25°)$$
$$= 572.96 (0.1095178)$$
$$= 62.75 \text{ ft}$$
$$\text{Station PC} = \text{Station PI} - T$$
$$= (12+40) - 62.75$$
$$= 11+77.25$$
$$\text{Station PT} = \text{Station PC} + \text{length of curve}$$
$$\text{Length of curve} = L = 100\,\Delta/D_a^\circ$$
$$= 100(12.5)/10 = 125 \text{ ft}$$
$$\text{Station PT} = \text{Station PC} + 125 \text{ ft} = (11+77.25) + 125 = 13+02.25$$

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Solution 43, p. 68:
Stopping sight distance at 50 mph per Table 3-35 = 425 ft, K value = 84, which is under the typical drainage maximum of 167.

Solution 58, p. 73:

$$R = \frac{5,730}{D_a} = \frac{5,730}{5} = 1,146 \text{ ft}$$

Solution 65, p. 75:
Reference: AASHTO, *Mechanistic-Empirical Pavement Design Guide*, 2022, Table 9-8, p. 127.