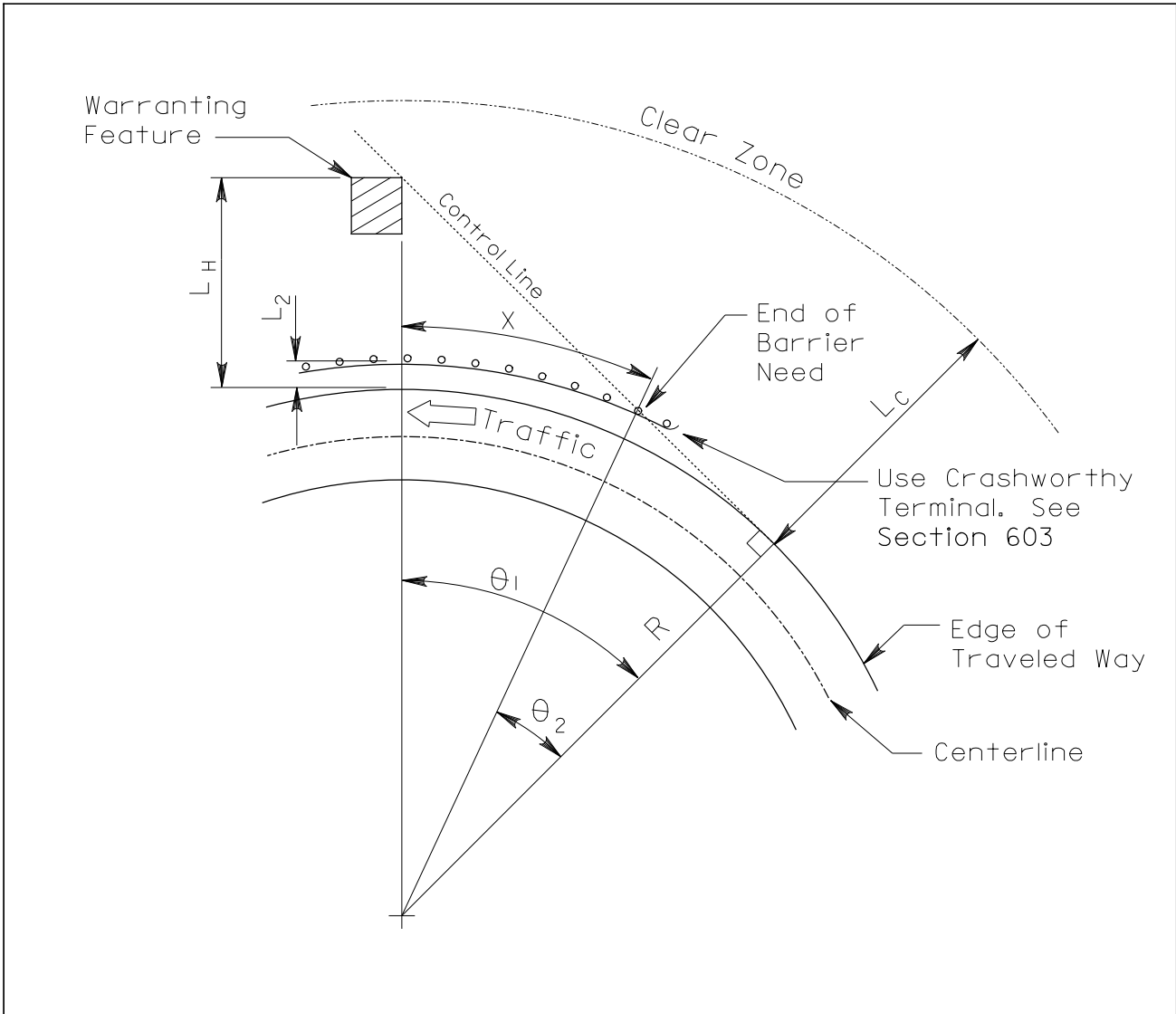


BARRIER LENGTH OF NEED (CURVED ALIGNMENT)

602-2

REFERENCE SECTIONS
602.1.3, 602:5.1, & 603.6



Formulas

- X = Length of Need
- L_C = Required Clear Zone
- L_H = Lateral Offset to Back of Warranting Feature
- L_2 = Lateral Offset to Face of Barrier (See Figure 301-3, Guardrail Offset)
- If $L_H < L_C$: $X = (R + L_2)(\theta_1 - \theta_2)$ radians, where $\theta_1 = \cos^{-1}(R / (R + L_H))$ and $\theta_2 = \cos^{-1}(R / (R + L_2))$
- $R = 5729.58 / D_c$, where D_c = decimal degree of curve
- 1 degree = $\pi / 180$ radians
- If $L_H > L_C$: Substitute L_C in the above formulas