LEGEND

P. I. – Point of Intersection

P. C. – Point of Curvature

P. T. – Point of Tangency

Δ – Deflection Angle Between the Tangents

T – Tangent Distance

E – External Distance

R – Radius of the Circular Arc

M – Middle Ordinate

L. C. – Long Chord (Distance Between P. C. and P. T.)

C – Midpoint of Long Chord

D – Degree of Curvature

L – Length of Curve

FORMULAS FOR ARC DEFINITION

$$\Delta = \frac{DL}{100}$$

$$D = \frac{5729.58}{R}$$

$$T = R \, \text{Tan} \, \frac{\Delta}{2}$$

$$L = \frac{100\,\Delta}{D}$$

$$R = \frac{5729.58}{D}$$

$$E = T \, \text{Tan} \, \frac{\Delta}{4} = R \, \text{Sec} \, \frac{\Delta}{2} - R = \text{Exsec} \, \frac{\Delta}{2}$$

$$M = R \, \text{Vers} \, \frac{\Delta}{2}$$

$$L.\,C. = 2 \, R \, \text{Sin} \, \frac{\Delta}{2}$$

Locating the P. C. and P. T.

Sta. P. C. = Sta. P. I. – T

Sta. P. T. = Sta. P. C. + L

FIGURE C-6-7 SIMPLE CURVE COMPUTATIONS*

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* Rev. 7/07