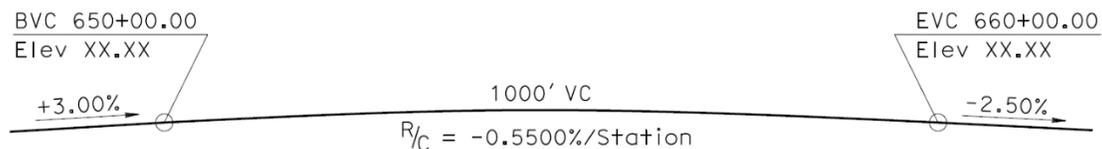




Bridge Design Details 2.3 January 2023

Rate of Change of Vertical Curves

EXAMPLE:



PROFILE GRADE NO SCALE

$$R/C = \frac{-2.50 - (+3.00)}{10} = \frac{-5.50}{10} = -0.5500\%/Station$$

Figure 2.3.1 Vertical Curve Profile Grade

Normally the Rate of Change is given on the PROFILE GRADE and shown on the GENERAL PLAN sheet above the ELEVATION view, where:

R/C = Rate of Change of Grade per Station (% Station)
(Carry this value to four significant figures to maintain accuracy)

The Rate of Change Formula is:

$$R/C = \frac{\text{Grade at EVC} - \text{Grade at BVC}}{\text{Length of vertical curve}} = \frac{G_2 - G_1}{L}$$

G_1 = Grade at first point on curve (%)

G_2 = Grade at last point on curve (%)

+G = ascending grade

-G = descending grade

L = Length of vertical curve in stations