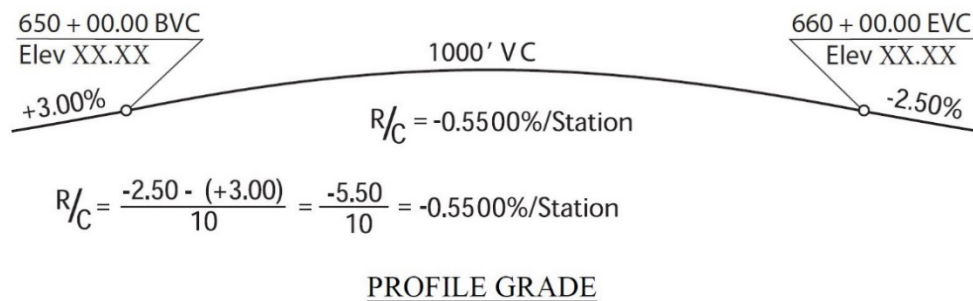




# Bridge Design Details 2.3 October 2019

## Rate of Change of Vertical Curves

Example:



**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