



Method (2)

Resisting Moments

$$\left. \begin{aligned} M_W &= 129.0 \times 0.93 = 120 \text{ kN}\cdot\text{m} \\ M_{F1} &= 34.0 \times 0.1 = 3.4 \text{ kN}\cdot\text{m} \end{aligned} \right\} = 123.4 \text{ kN}\cdot\text{m}$$

Overturning Moments

$$M_{F2} = 33.0 \times 0.53 = 17.5 \text{ kN}\cdot\text{m}$$

$$FS = \frac{123.4}{17.5} = 7.1$$

Method (1)

Resisting Moments

$$129.0 \times 0.93 + 20.2 \times 1.84 + 19.6 \times 1.65 = 189.5 \text{ kN}\cdot\text{m}$$

Overturning Moments

$$27.4 \times 1.25 + 26.6 \times 1.88 = 84.3 \text{ kN}\cdot\text{m}$$

$$FS = \frac{189.5}{84.3} = 2.2$$

Check $123.4 - 17.5 = 105.9$
 $189.5 - 84.3 = 105.2$
 rounding etc.