

$$\delta_s = \frac{1}{1 - \frac{(910 + 287) \times 2}{0.75 \times [2(5832 + 3514)]}}$$

$$= 1.25$$

$$\text{and } M_2 = M_{2NS} + \delta_s M_{2S}$$

$$= 265 + 1.25 \times 191$$

$$= 503.75 \text{ ft-kip}$$

Design for  $P_u = 910 \text{ kips}$   
 $M_2 = 503.75 \text{ ft-kip}$

5. Design the column:

(a) Load case 1:  $\frac{P_u}{A_g} = \frac{1128}{18 \times 24} = 2.61$

$$\frac{M_u}{A_g h} = \frac{354 \times 12}{(18 \times 24) \times 24} = 0.41$$

(b) Load case 2:  $\frac{P_u}{A_g} = \frac{910}{18 \times 24} = 2.11$

$$\frac{M_u}{A_g h} = \frac{503.75 \times 12}{(18 \times 24) \times 24} = 0.58$$

} controls

$$f'_c = 4 \text{ ksi}$$

$$f_y = 60 \text{ ksi}$$

$$\gamma = \frac{24 - 5}{24} = 0.79$$