



$$w = 20 \text{ psf} \times (5' + 20'/2) = 300 \text{ plf}$$

$$V_2 = 300 \text{ plf} \times 75' = 22.5 \text{ k}$$

$$s_{w/drag} = \frac{22.5 \text{ k}}{50'} = 450 \text{ plf}$$

$$s_{w/o drag} = \frac{22.5 \text{ k}}{25'} = 900 \text{ plf}$$

$$P_{axial} = 25' \times 450 \text{ plf} = 11.25 \text{ k}$$

$$M = \frac{w l^2}{8} = \frac{450 \times 75^2}{8} = 316.4 \text{ k-ft}$$

$$T = C = \frac{M}{d} = \frac{316.4}{50'} = 6.33 \text{ k}$$

$\Delta = \text{Bending} + \text{shear} + \text{slip}$

$$= \frac{5 w l^2}{384 E I} + \frac{P L \cdot \alpha}{4 A G} + \text{slip} \Rightarrow \text{steel Deck see Vulcraft literature}$$

Wood Deck see NDS 2008 Wind & seismic