

$$1 \text{ t} = 2.00 \text{ K}$$

$$\text{DESIGN FOR } 2g = 2 \times 2.00 \text{ K} = 4.00 \text{ K}$$

$$M = \frac{PL}{4} = \frac{4.00 \text{ K} \times 16'}{4} = 16.00 \text{ FT K}$$

EQUIV. UNIF. LOAD

$$M = \frac{WL^2}{8}$$

$$W = \sqrt{\frac{8M}{L^2}} = \sqrt{\frac{8 \times 16.00 \text{ FT K}}{16^2}} = 0.71 \text{ KLF}$$

$$\text{TOTAL UNIF. LOAD} = 0.71 \text{ KLF} \times 16 \text{ FT} = 11.36 \text{ K}$$

S8 x 18.4 CAPACITY = 14.8 K BUT SEE BELOW.

DESIGN FOR DEFLECTION:

$$\Delta = \frac{1}{4}'' = \frac{l}{768}$$

$$I_{\text{REQ'D}} = \frac{4.00 \text{ K} \times 16^3}{48 \left( \frac{29,000}{1728} \right) 0.25''} = 81.36 \text{ IN}^4$$

S 10 x 25.4