



# ENGINEERING, INC.

Consulting Structural and Civil Engineers

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JOB LPG VENTURES  
SHEET NO. 1 OF \_\_\_\_\_  
CALCULATED BY APH DATE 6/16/10  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
SCALE NORMAL WEIGHT PIER CAPACT

FOOTING BENDING:

$$\text{REINF} = 2 \times .307 \text{ in}^2 @ 12' \text{ o.c.} = 0.014 \text{ in}^2/\text{ft}$$

$$M_n \text{ ALLOW} = \frac{(12^2 - (12 - \frac{0.014 \times 2 \times 60,000}{1.7 \times 5000 \times 12})^2) \times 17 \times 5000 \times 12}{4 \times 1.7} \times 0.9$$

$$= 226,855 \text{ in-lb}$$

$$M_n = 226,855 / 1.65 = 137,488 \text{ in-lb}$$

$$W_{\text{ALLOW}} = \frac{137,488}{6 \times 2.417^2} = 3923 \text{ psf}$$

TOTAL WEIGHT (TANK + PRODUCT + PIER)

$$= 3923 \times 10' \times 6.167' = 241,952 \text{ lb}$$

$$\text{PIER WEIGHT} = 145 \text{ ft}^3 \times 145 \text{ pcf} = 21,025 \text{ lb}$$

$$\text{APPLIED LOAD} = 241,952 - 21,025 = 220,927 \text{ lb}$$

