

$$\sum F_y = P_{COL} + P_{FTG} + P_{SOIL} + P_{SLAB} + P_{NOTCH}$$

$$= 17.4k + (5.5' \times 5.5' \times 1.75' \times 0.15 \text{ kcf}) + (0.25' \times 5.5' \times 5.5' \times 0.12 \text{ kcf}) + (0.33' \times 5.5' \times 5.5' \times 0.15 \text{ kcf}) + (0.75' \times 0.333' \times 5.5' \times 0.15 \text{ kcf})$$

$$= 17.4k + 7.94k + 0.908k + 1.5k + 0.206k$$

$$\sum F_y \text{ OR } (R) = 27.956k$$

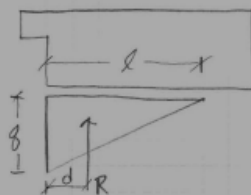
$$\sum M_A = -17.4k(0.167') + (7.94k)(2.92') + (0.908k)(2.92') + (1.5k)(2.92') - (0.206k)(0.167') + (27.956k)(x) = 0$$

$$x = 0.98'$$

RESULTANT IS 0.98' FROM EDGE OF FTG

$$e = \left(\frac{L}{2} - x\right) = 1.77' > \frac{L}{6}$$

PRESSURE LOOKS LIKE:



BASED ON TRIANGULAR LOADING:

$$R = \frac{lq}{2}$$

WHERE $R = 27.956 \text{ k} / 5.5' = 5.08 \text{ k/ft}$

$$l = 3(d) = 2.94' \quad \mathbf{2.76}$$

$$5.08 \text{ k/ft} = \frac{(2.76)q}{2}$$

$$q = 3.456 \text{ ksf}$$

$$\mathbf{3.69 \text{ ksf}}$$

↑ BASED ON
RESULTANT OF
TRIANGULAR
LOAD BEING
 $\frac{1}{3}(l)$ FROM
 q_{max}