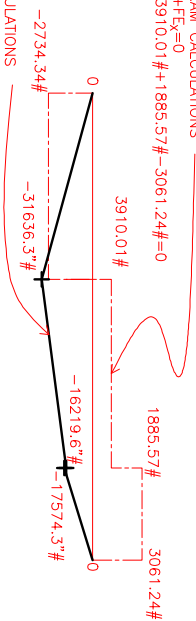


SHEAR DIAGRAM CALCULATIONS
 $F_9 + FF_y + F_E = 0$
 $-2734.34 + 3910.01 + 1885.57 - 3061.24 = 0$



MOMENT CALCULATIONS
 $M_{1.5700} = -2734.34 \times 11.5700 = -31636.3 \text{#}$
 $M_{23.2592} = -2734.34 \times 23.2592 + (508.986 \times 3.28913) + 3910.01 \times 11.6892 = -16219.6 \text{#}$
 $M_{29.0000} = -2734.34 \times 29.0000 + (508.986 \times 3.28913) + 3910.01 \times 17.4300 - (1074.94 \times 1.26030) + 1885.57 \times 5.74084 = -255781 \text{#}$

A500 RECTANGULAR TUBING
 TENSILE STRENGTH 58000PSI
 YIELD STRENGTH 46000PSI
 YIELD STRENGTH WITH SAFETY FACTOR 3 15333PSI

$P = -575.103 - 508.986 + 1074.94 + 9.14992 = 1150.21 \text{#}$
 $M = -31636.3 \text{#}$

$$\frac{P}{A} \pm \frac{M}{S} = S_T$$

$$\frac{1150.21 \text{#}}{2.06 \text{in}^2} + \frac{-31636.3 \text{#}}{2.15 \text{in}^3} = S_T$$

558PSI + 14715PSI = 15273PSI

A 4X2-1/2X3/16" RECTANGULAR
 TUBE WILL BE NEEDED.