

OPUS

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PROJECT NO: 9467 SHEET NO: 12

REV:

DESIGNED: AWS

REVIEWED:

DATE: JAN 12

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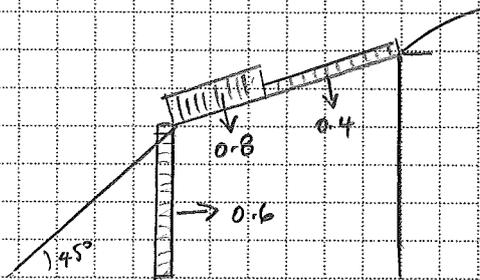
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PROJECT: TRAVELLING BARN

Aisle Guy Loading - assume guyp at 1.1m chs

Worst case side wind



Horizontal wind load at top of guyp = (1.1m chs)

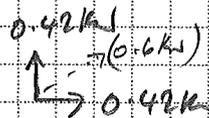
Side - $0.328 \times 0.6 \times 2.4/2 \times 1.1 = 0.26$

Roof - $(0.328 \times 0.8 \times 1.342 \times \frac{2.059}{2.73} + 0.328 \times 0.4 \times 1.388 \times \frac{1.388/2}{2.73}) \times 1.1 \times \sin 28.44^\circ = 0.16$

Total = $0.26 + 0.16 = 0.42 \text{ kN}$

Tension in guyp = $\frac{0.42}{\cos 45^\circ} = 0.6 \text{ kN}$

Tension in guyp = 0.6 kN



Check suction condition

Max uplift = $(0.328 \times 0.5 \times 1.342 \times \frac{2.059}{2.73} + 0.328 \times 0.2 \times 1.388 \times \frac{1.388/2}{2.73}) \times 1.1 = 0.208 \text{ kN}$

Vertical component = $0.208 \times \cos 28.44^\circ = 0.183 \text{ kN}$

Horiz component = $0.208 \times \sin 28.44^\circ = 0.099 \text{ kN}$

Guy load = $\begin{matrix} \uparrow 0.183 \text{ kN} \\ \leftarrow 0.26 - 0.099 = 0.161 \text{ kN} \end{matrix}$

Resultant tension = 0.244 kN Not critical