"C" STUD - JOIST DESIGN CONT.

4" CSJ 18, 33 KSI

$S_x = 0.446\ IN^3$

$F_b = 0.6\ F_y = 0.6 \times 33\ KSI = 19.8\ KSI = 19800\ PSI$

$RM = SF_b = M \quad RM = \frac{0.446\ IN^3 \times 19800\ PSI}{12} = 735.9 \rightarrow 736\ FOOT\ LBS$

$= 8830\ 8/4\text{-}LB < M_x = 9685\ STD\ LB$

$\therefore OK$

$M = \frac{WL}{8}, \quad L = 4'\text{-}0"$

THEN $W = \frac{8M}{2}$ OR $W = \frac{8 \times 736\ FT\ LBS}{4} = 1472\ LBS.$

LOAD $W = \frac{1472\ LBS}{4} = 368\ \#/LF$ ON BEAM

SPACING IS @ 2'-0" CC DESIGN LOAD $= \frac{368\ \#/LF}{2} = 184\ PSF$

ACTUAL FACTORED LOAD = 68 PSF < 184 PSF $\therefore$ OK

4" CSJ 18, 33 KSI JOIST WILL WORK