

WALK WAY CHANNEL DESIGN

FROM JOIST DESIGN, FACTORED LOAD = 68 PSF

TOTAL AREA OF CAT WALK = 4' x (22' + 20') = 168 FT<sup>2</sup>

TRIBUTARY AREA OF CHANNEL = 2' x 42' = 84 FT<sup>2</sup>

TOTAL WEIGHT ON CHANNEL = 84 FT<sup>2</sup> x 68 PSF =  $\frac{5712 \text{ LBS}}{42'} = 136 \text{ \#/FT}$

136 \#/FT + WT. OF CHANNEL = 136 \#/FT + 20.7 \#/FT = 156.7 \#/FT

SIMPLE BEAM - UNIFORM LOAD FULL LENGTH OF SPAN L

W = 157 \#/LF, L = 22'-0"

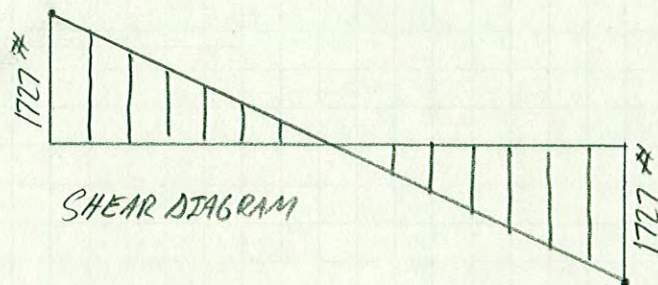
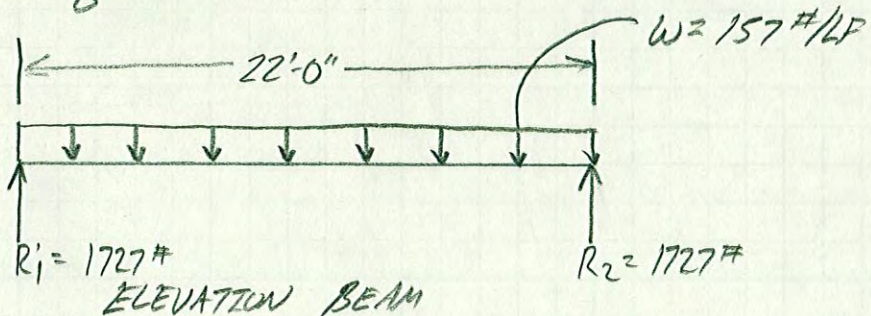
CALCULATE MAX. MOMENT:

$M = \frac{WL}{8}$ , W = 157 \#/LF, W = 157 \#/LF x 22' = 3454 LBS. TOTAL LOAD

$M = \frac{WL}{8} = \frac{(3454 \text{ LBS})(22')}{8} = 9498.5 \text{ FT-LBS POSITIVE MOMENT}$

$R_1 = R_2$

$R_2 = \frac{WL}{2} = 1727 \#$



$$M_{11} = (1727 \times 11) - (157 \times 11 \times 5.5)$$

$$= 9498.5 \rightarrow 9500 \text{ FT-LBS}$$

$M_{MAX} = 9500 \text{ FT-LBS}$

