

Check DAS Problem 8.3

$$P_p = \gamma K_p D = 110 \times 3 \times D = 330D$$

$$P_a = \gamma K_a D = 110 \times 0.333 D = 36.63D$$

$$\Sigma M_o = 0$$

$$\frac{1}{2} D \times 330D \times \frac{D}{3}$$

$$- \frac{1}{2} D \times 36.63D \times \frac{D}{3}$$

$$- 2000 \times (D + 15)$$

$$= 0$$

→ CUBIC EQ!

$$55D^3 - 6.105D^3 - 2000D - 30,000 = 0$$

$$48.895D^3 - 0D^2 - 2000D - 30,000 = 0$$

$$\Sigma M_o = 0 @ D = 10.086365' \quad (\text{use } D \times 120\% = 12.1' \text{ MIN.})$$

(SEE NEXT PAGE)

$$V = 146.685D^2 - 0D - 2000 = 0$$

$$M_{max} \text{ is @ } V = 0$$

$$V = 0 @ D = 3.69251 = \text{SAME AS DAS}$$

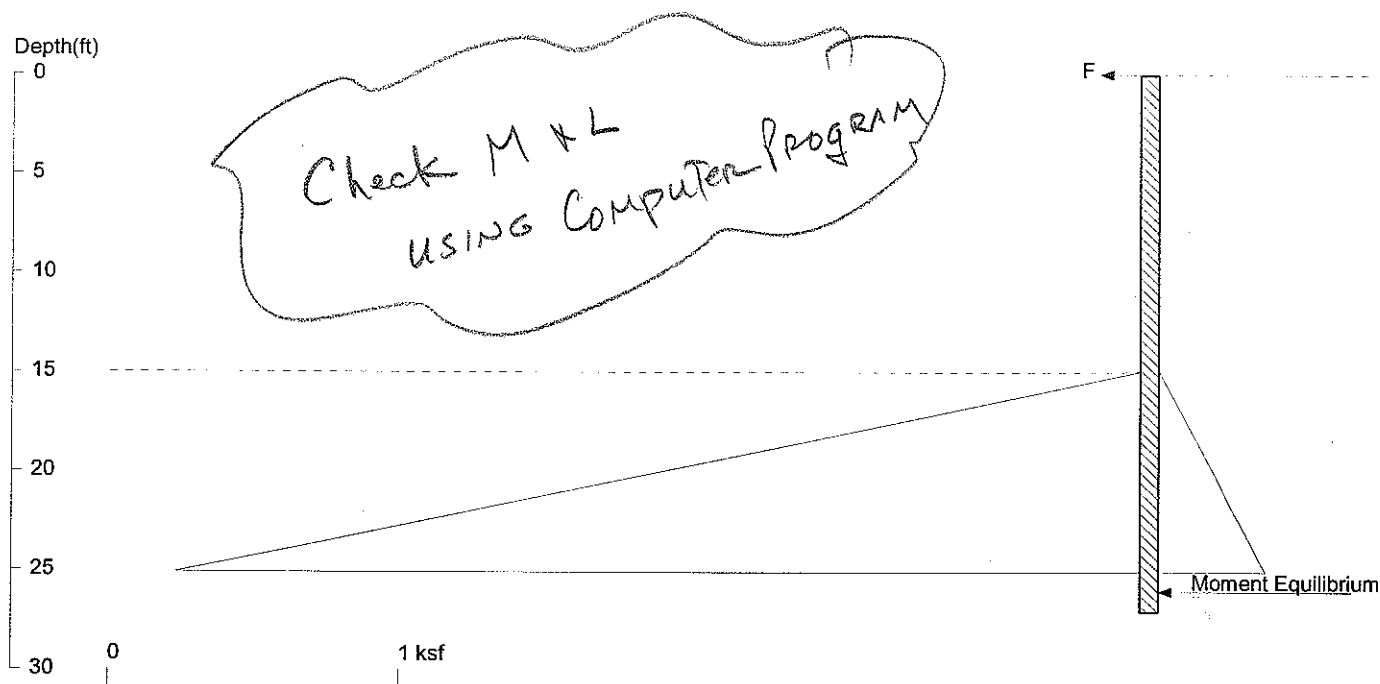
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$$M_{3.69251} = -34,923 \text{ ft}\cdot\text{\#/lf} = \text{SAME AS DAS}$$

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$$\text{SSP Length} = 15.0' + (10.086365' \times 120\%) = 27.1'$$

A (enter)	48.895				
B (enter)	0.000				
C (enter)	-2000.000	$AX^3 + BX^2 + CX + D =$	0	= Moment	
D (enter)	-30000.000		@ X =	10.086365	
X (enter)	10.086365	FT.			
A (enter)	146.685	$AX^2 + BX + C = 0$			
B (enter)	0.000				
C (enter)	-2000				
X1	3.69251	FT.			
X2	-3.69251	FT.			
MOMENT = 0 @ X =	10.09	FT.		Mom. @ X =	10.09
M' = V = 0 @ X =	3.69	FT.		0	
Mmax is @ X =	3.69	FT. (POINT OF ZERO SHEAR)			
Mmax =	34,923	FT-LBS per LF			



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Wall Height=15.0

Pile Diameter=1.0

Pile Spacing=1.0

Wall Type: 1. Sheet Pile

PILE LENGTH: Min. Embedment=12.10 Min. Pile Length=27.10

MOMENT IN PILE: Max. Moment=34.92 per Pile Spacing=1.0 at Depth=18.71

DRIVING PRESSURES (ACTIVE, WATER, & SURCHARGE):

Z1	P1	Z2	P2	Slope
15.0	0.0	115	3.663	0.03663 = 0.110 x 0.333

PASSIVE PRESSURES:

Z1	P1	Z2	P2	Slope
15.0	0.00	115.0	33.00	0.330 = 0.110 x 3.0

ACTIVE SPACING:

No.	Z depth	Spacing
1	0.00	1.00
2	15.00	1.00

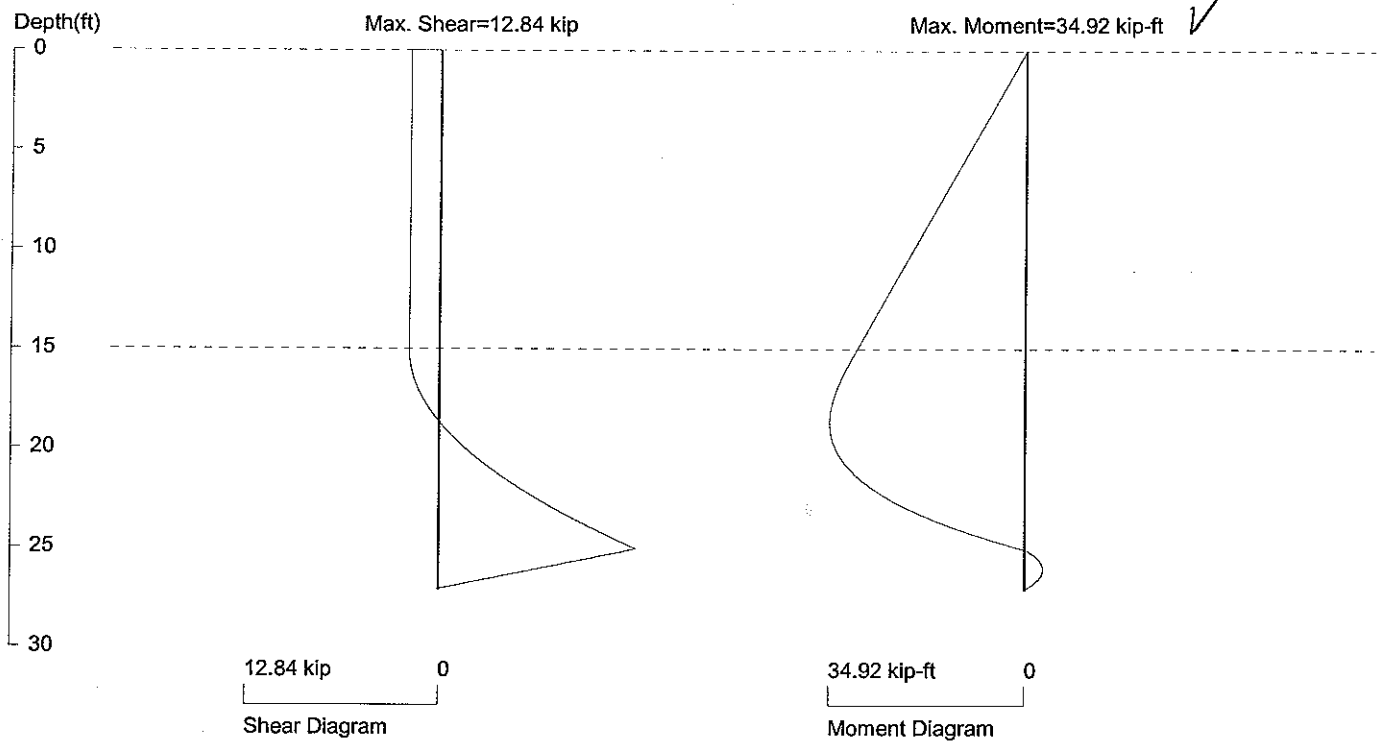
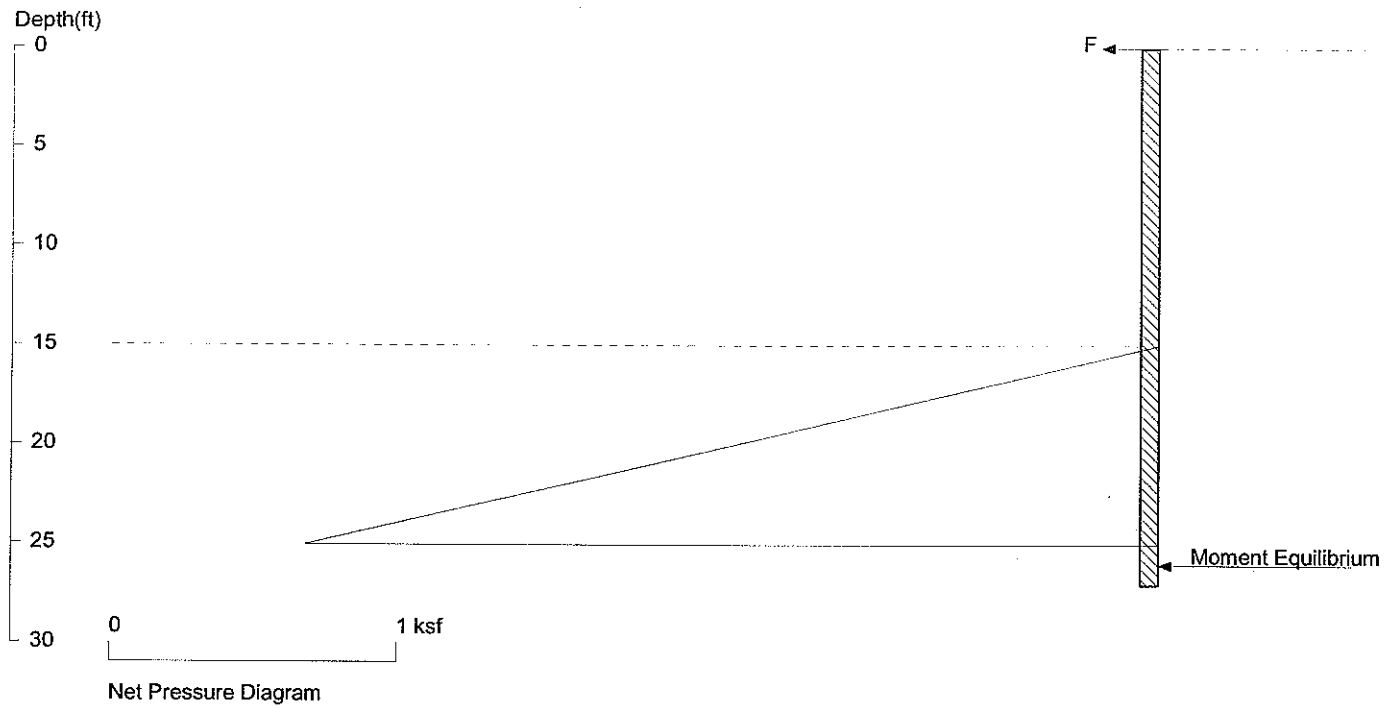
PASSIVE SPACING:

No.	Z depth	Spacing
1	15.00	1.00

EXTERNAL FORCE ACTING ON WALL (Pushing on Wall - Positive; Against Wall - Negative)

No.	Z force	Force	Angle	Spacing
1	0.00	2.00	0.0	1.00

UNITS: Width, Spacing, Diameter, Length, and Depth - ft; Force - kip; Moment - kip-ft
Friction, Bearing, and Pressure - ksf; Pres. Slope - kip/ft³; Deflection - in



PRESSURE, SHEAR, AND MOMENT DIAGRAMS

Based on pile spacing: 1.0 foot or meter

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