Moments and Shears on Overhead Truss Due to Ice Loads

Span	Ice Load on truss	Ice Load on Signs		
		Load	Dist. from Left	
(feet)	(plf)	(kips)	(feet)	
63.97	18	0.55	30.66	P1 Left Sign
		0.58	47.73	P2 Center Sign
		0.00	0.00	P3 Right Sign

Total Uniform Load =	0.02 klf

Total Load =	2.27 kips

Left Reaction
1.00 kips

Right Reaction
1.27 kips

Moments and Shears

X/L	Distance	P1 dist.	P2 dist.	P3 dist.	Moment
0.0	0.0	0	0	0	0.00
0.1	6.4	0	0	6.397	6.06
0.2	12.8	0	0	12.794	11.39
0.3	19.2	0	0	19.191	15.99
0.4	25.6	0	0	25.588	19.65
0.5	32.0	1.525	0	31.985	22.25
0.6	38.4	7.722	0	38.382	21.16
0.7	44.8	14.119	0	44.779	19.33
0.8	51.2	20.516	3.446	51.176	14.76
0.9	57.6	26.913	9.843	57.573	7.75
1.0	64.0	33.31	16.24	63.97	0.00

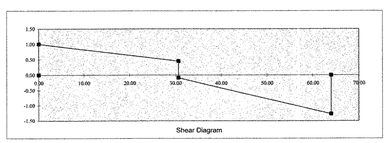
Values for Shear Diagram	
0.00	0.00
0.00	1.00
30.66	0.46
30.66	-0.09
30.66	0.46
30.66	-0.09
30.66	0.46
30.66	-0.09
64.0	-1.27
64.0	0.00

Shear at Point Loads		Shear Left	Shear Right	Max or Min
At Left Reaction	0.00	0.00	1.00	1.00
At Point P1	22.39	0.46	-0.09	0.46
At Point P2	18.23	-0.40	-0.98	-0.98
At Point P3	0.00	-0.12	-0.12	-0.12
At Right Reaction	0.00	-1.27	0.00	-1.27

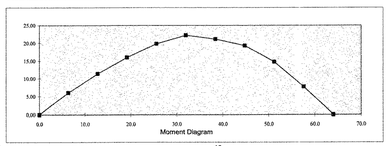
	Moment	Shear
Maximum	22.25	1.00
Minimum	0.00	-1.27

Forces at Field Splices and at Mid-Span

Left Side		Right Side		Mid-Span	
Location	31.99 feet	Location	63.97 feet	Location	31.99 feet
Left Reaction	1.00 kips	Left Reaction	1.00 kips	Left Reaction	1.00 kips
Point Load 1	0.55 kips	Point Load 1	0.55 kips	Point Load 1	0.55 kips
Point Load 2	0.00 kips	Point Load 2	0.58 kips	Point Load 2	0.00 kips
Point Load 3	0.00 kips	Point Load 3	0.00 kips	Point Load 3	0.00 kips
Uniform Load	0.02 kips per foot	Uniform Load	0.02 kips per foot	Uniform Load	0.02 kips per foot
Shear at splice	-0.11 kips	Shear at splice	-1.27 kips	Shear at splice	-0.11 kips
Moment at splice	22.25 kip feet	Moment at splice	-0.01 kip feet	Moment at splice	22.25 kip feet



Shear Diagram



Moment Diagram

150-Signed