



RAM Steel v11.1  
 DataBase: kha  
 Building Code: IBC

## Gravity Beam Design

04/08/07 16:57:3  
 Steel Code: AISC LRFI

**Floor Type: ROOF**                      **Beam Number = 69**

**SPAN INFORMATION (ft): I-End (35.00,-2.92)    J-End (35.00,10.00)**

Beam Size (Optimum)                      = W10X12                      Fy = 50.0 ksi  
 Total Beam Length (ft)                    = 12.92  
 Cantilever on left (ft)                     = 2.92  
 Mp (kip-ft) = 52.50

**POINT LOADS (kips):**

Dist	DL	RedLL	Red%	NonRLL	StorLL	Red%	RoofLL	Red%
0.000	2.54							
0.000	2.54							

**LINE LOADS (k/ft):**

Load	Dist	DL	LL	Red%	Type
1	0.000	0.150	0.000	0.0%	Red
	2.916	0.150	0.000		
2	0.000	0.000	0.300	---	Snow
	2.916	0.000	0.300		
3	2.917	0.150	0.000	0.0%	Red
	12.916	0.150	0.000		
4	2.917	0.000	0.300	---	Snow
	6.916	0.000	0.300		
5	6.917	0.000	0.300	---	Snow
	12.916	0.000	0.650		
6	0.000	0.012	0.000	---	NonR
	2.916	0.012	0.000		
7	2.917	0.012	0.000	---	NonR
	12.916	0.012	0.000		

**SHEAR (Ultimate): Max Vu (1.2DL+1.6LL) = 8.06 kips    0.90Vn = 50.63 kips**

**MOMENTS (Ultimate):**

Span	Cond	LoadCombo	Mu kip-ft	@ ft	Lb ft	Cb	Phi	Phi*Mn kip-ft
Left	Max -	1.4DL	-21.7	2.9	2.9	1.00	0.90	46.80
	Max +	1.2DL+1.6LL	3.5	10.4	0.0	1.00	0.90	46.94
Center	Max -	1.4DL	-21.7	2.9	10.0	1.96	0.90	38.92
	Controlling	1.4DL	-21.7	2.9	10.0	1.96	0.90	38.92

**REACTIONS (kips):**

	Left	Right
DL reaction	7.91	-0.74
Max +LL reaction	2.71	2.34
Max -LL reaction	0.00	-0.13
Max +total reaction (factored)	13.84	2.85
Max -total reaction	11.08	-1.09

**DEFLECTIONS:**



## Gravity Beam Design

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**Left cantilever:**

Dead load (in)	=	-0.193	L/D =	362
Pos Live load (in)	=	-0.017	L/D =	4181
Neg Live load (in)	=	0.050	L/D =	1387
Pos Total load (in)	=	-0.210	L/D =	333

**Center span:**

Dead load (in)	at	6.97 ft =	0.088	L/D =	1369
Live load (in)	at	5.77 ft =	-0.043	L/D =	2796
Net Total load (in)	at	6.97 ft =	0.097	L/D =	1241

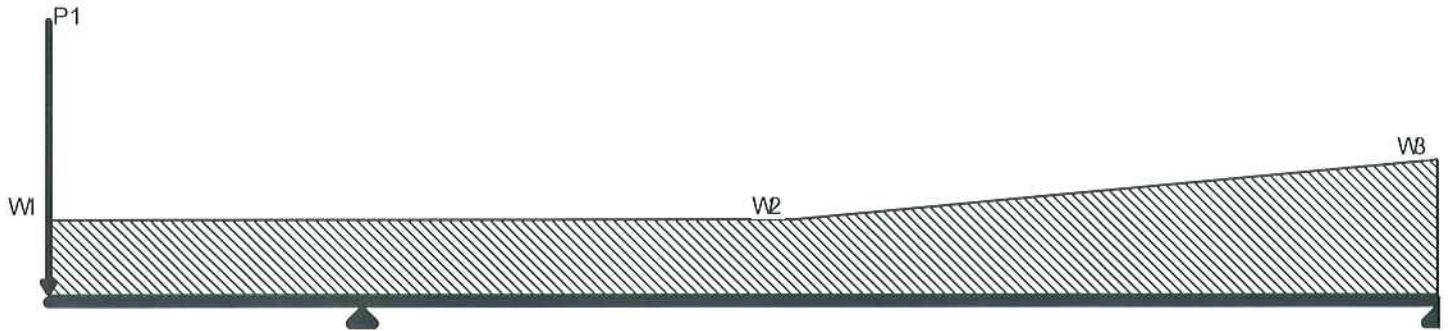


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# Load Diagram

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**Floor Type: ROOF**      **Beam Number = 69**  
 Span information (ft): I-End (35.00,-2.92)      J-End (35.00,10.00)



Load	Dist ft	DL kips	LL+ kips	LL- kips	Max Tot kips
P1	0.000	5.081	0.000	0.000	5.081
	ft	k/ft	k/ft	k/ft	k/ft
W1	0.000	0.162	0.300	0.000	0.462
W2	6.916	0.162	0.300	0.000	0.462
W3	12.916	0.162	0.650	0.000	0.812

Ram Steel v11.0 Shear, Moment, and Deflection Diagrams

DataBase: kha

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Building Code: IBC

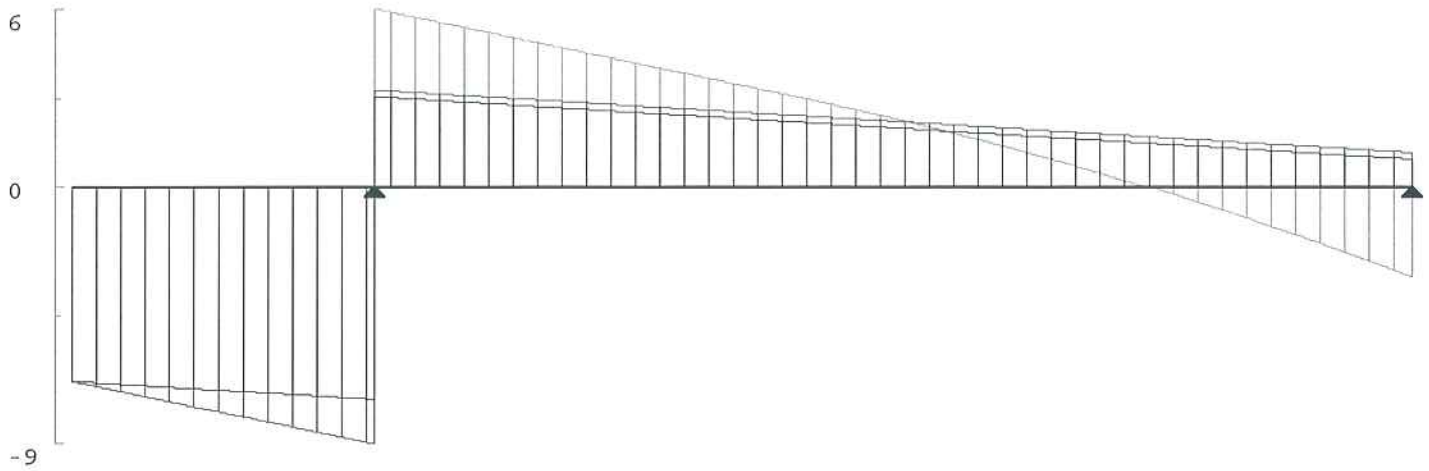
Floor Type: ROOF

Beam Number = 69

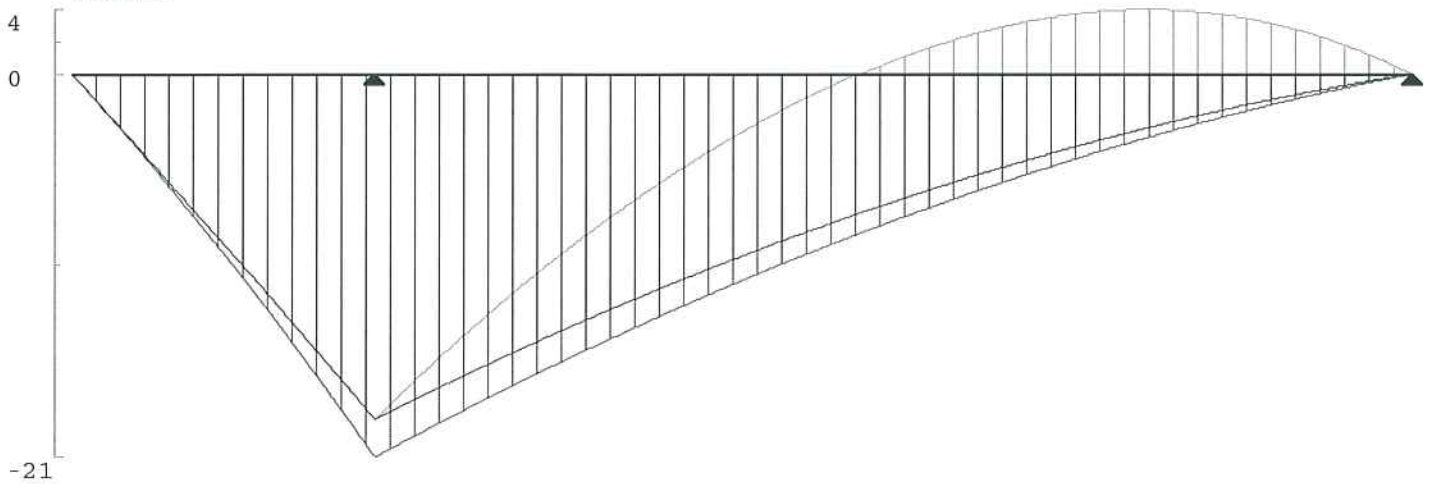
Span information (ft): I-End (35.00,-2.92)

J-End (35.00,10.00)

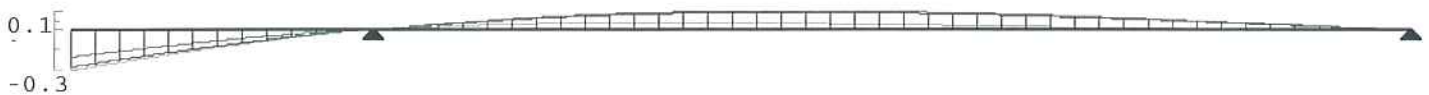
Shear



Moment



Deflection



Max DL Shear = 7.77 kips

Max Shear = 7.77 kips

Max Pos Moment = 3.52 kip-ft

at 10.356 ft

Max Neg Moment = -21.71 kip-ft

at left support



RAM Steel v11.1  
 DataBase: kha  
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## Gravity Beam Design

04/08/07 16:57:3  
 Steel Code: AISC LRFI

**Floor Type: ROOF**

**Beam Number = 56**

**SPAN INFORMATION (ft): I-End (25.00,-2.92) J-End (25.00,21.00)**

Beam Size (Optimum) = W12X19 Fy = 50.0 ksi  
 Total Beam Length (ft) = 23.92  
 Cantilever on left (ft) = 2.92  
 Mp (kip-ft) = 102.92

**POINT LOADS (kips):**

Dist	DL	RedLL	Red%	NonRLL	StorLL	Red%	RoofLL	Red%
0.000	2.54							
0.000	2.54							
12.917	0.75	0.00	0.0	0.00	0.00	0.0	1.17	Snow
		0.00	0.0	0.00	0.00	0.0	-0.06	Snow
20.917	1.24	0.00	0.0	0.00	0.00	0.0	0.37	Snow

**LINE LOADS (k/ft):**

Load	Dist	DL	LL	Red%	Type
1	12.917	0.100	0.000	0.0%	Red
	20.916	0.100	0.000		
2	0.000	0.150	0.000	0.0%	Red
	2.916	0.150	0.000		
3	0.000	0.000	0.300	---	Snow
	2.916	0.000	0.300		
4	2.917	0.075	0.000	0.0%	Red
	23.916	0.075	0.000		
5	2.917	0.000	0.150	---	Snow
	23.916	0.000	0.150		
6	2.917	0.075	0.000	0.0%	Red
	12.916	0.075	0.000		
7	2.917	0.000	0.150	---	Snow
	6.916	0.000	0.150		
8	6.917	0.000	0.150	---	Snow
	12.916	0.000	0.325		
9	20.917	0.075	0.000	0.0%	Red
	23.916	0.075	0.000		
10	20.917	0.000	0.250	---	Snow
	23.916	0.000	0.250		
11	0.000	0.019	0.000	---	NonR
	2.916	0.019	0.000		
12	2.917	0.019	0.000	---	NonR
	23.916	0.019	0.000		

**SHEAR (Ultimate): Max Vu (1.2DL+1.6LL) = 9.90 kips 0.90Vn = 77.41 kips**

**MOMENTS (Ultimate):**

Span	Cond	LoadCombo	Mu kip-ft	@ ft	Lb ft	Cb	Phi	Phi*Mn kip-ft
Left	Max -	1.4DL	-21.8	2.9	2.9	1.00	0.90	92.54



## Gravity Beam Design

Span	Cond	LoadCombo	Mu	@	Lb	Cb	Phi	Phi*Mn
Center	Max +	1.2DL+1.6LL	43.5	12.9	0.0	1.00	0.90	92.62
	Max -	1.4DL	-21.8	2.9	5.8	1.76	0.90	92.63
Controlling		1.2DL+1.6LL	43.5	12.9	0.0	1.00	0.90	92.62

### REACTIONS (kips):

	Left	Right
DL reaction	8.72	2.59
Max +LL reaction	4.70	3.71
Max -LL reaction	-0.03	-0.09
Max +total reaction (factored)	17.99	9.04

### DEFLECTIONS:

#### Left cantilever:

Dead load (in)	=	-0.028	L/D =	2540
Pos Live load (in)	=	-0.016	L/D =	4498
Neg Live load (in)	=	0.191	L/D =	366
Pos Total load (in)	=	-0.043	L/D =	1623
Neg Total load (in)	=	0.164	L/D =	427

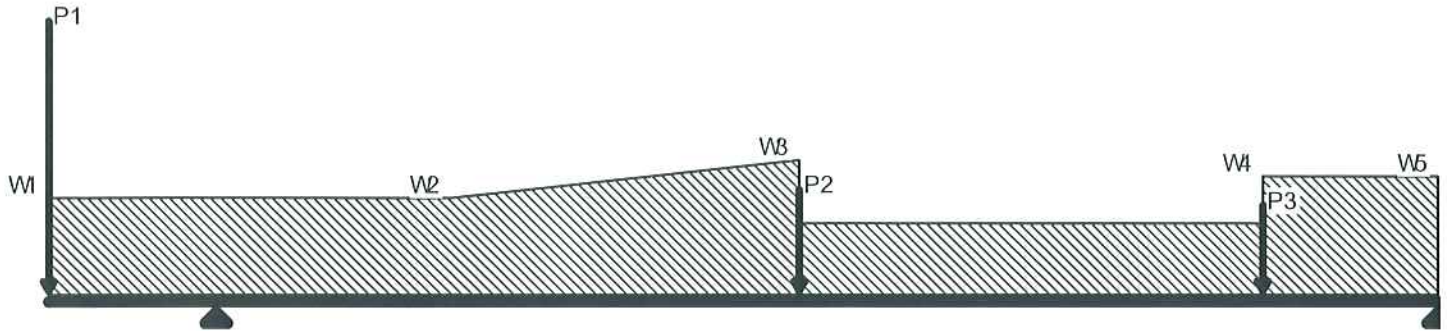
#### Center span:

Dead load (in)	at	15.73 ft =	-0.133	L/D =	1892
Live load (in)	at	13.84 ft =	-0.426	L/D =	592
Net Total load (in)	at	13.84 ft =	-0.554	L/D =	455



# Load Diagram

**Floor Type: ROOF**      **Beam Number = 56**  
 Span information (ft): I-End (25.00,-2.92)      J-End (25.00,21.00)



Load	Dist ft	DL kips	LL+ kips	LL- kips	Max Tot kips
P1	0.000	5.081	0.000	0.000	5.081
P2	12.917	0.750	1.170	-0.064	1.920
P3	20.917	1.240	0.375	0.000	1.615
	ft	k/ft	k/ft	k/ft	k/ft
W1	0.000	0.169	0.300	0.000	0.469
W2	6.916	0.169	0.300	0.000	0.469
W3	12.917	0.169	0.475	0.000	0.644
		0.194	0.150	0.000	0.344
W4	20.916	0.194	0.150	0.000	0.344
		0.169	0.400	0.000	0.569
W5	23.916	0.169	0.400	0.000	0.569

Ram Steel v11.0 Shear, Moment, and Deflection Diagrams

DataBase: kha

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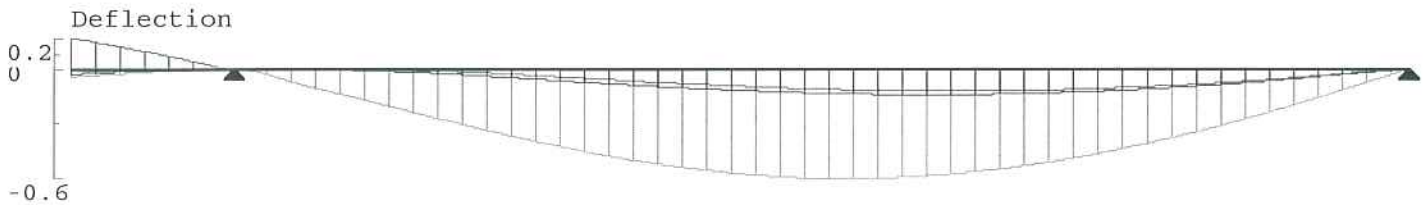
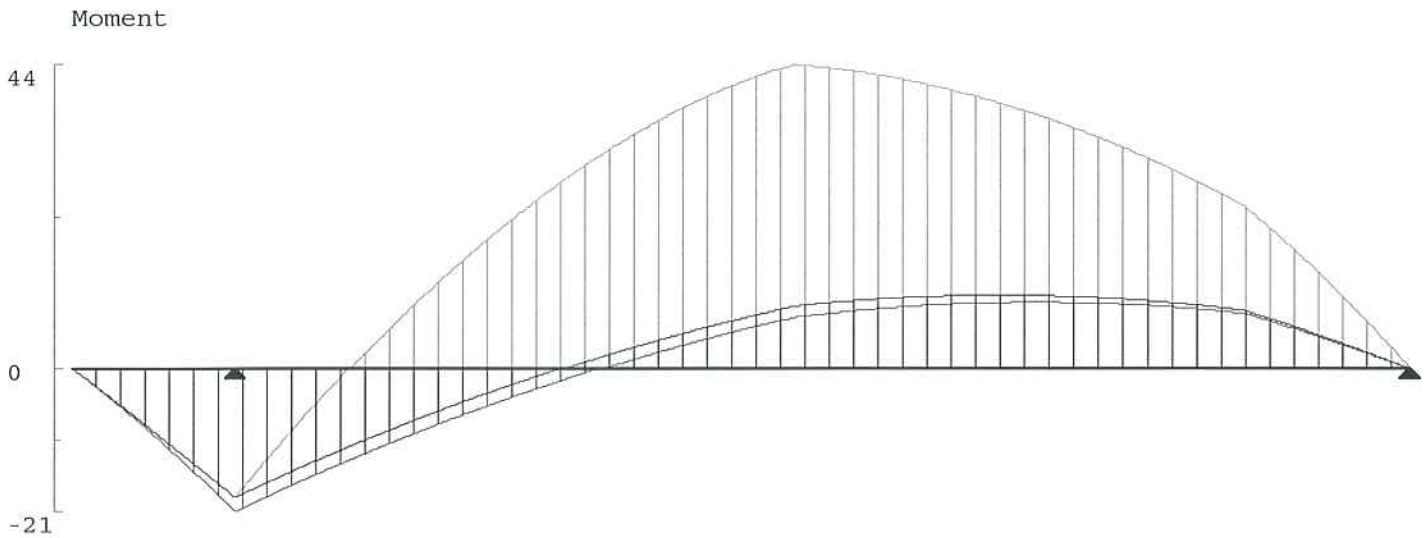
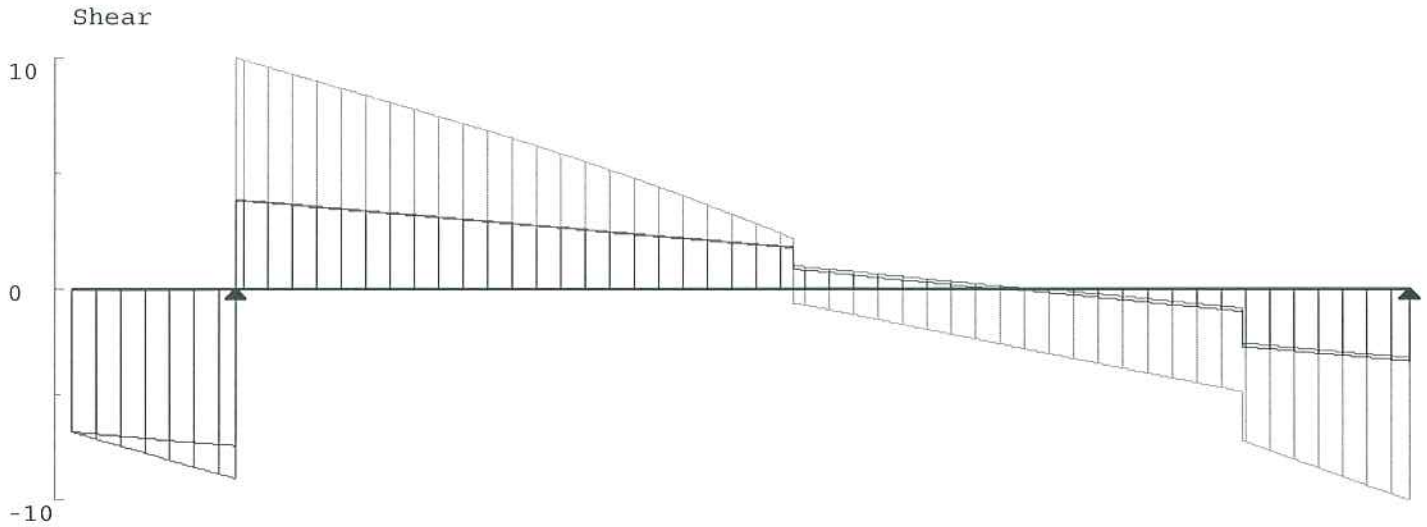
Building Code: IBC

Floor Type: ROOF

Beam Number = 56

Span information (ft): I-End (25.00, -2.92)

J-End (25.00, 21.00)



Max DL Shear = 6.69 kips  
Max Shear = 9.90 kips

Max Pos Moment = 43.55 kip-ft at 12.917 ft  
Max Neg Moment = -21.75 kip-ft at left support





RAM Steel v11.1  
 DataBase: kha  
 Building Code: IBC

## Gravity Beam Design

04/08/07 16:57:3  
 Steel Code: AISC LRFI

**Floor Type: ROOF**

**Beam Number = 55**

**SPAN INFORMATION (ft): I-End (45.00,-2.92) J-End (45.00,21.00)**

Beam Size (Optimum) = W14X22 Fy = 50.0 ksi  
 Total Beam Length (ft) = 23.92  
 Cantilever on left (ft) = 2.92  
 Mp (kip-ft) = 138.33

**POINT LOADS (kips):**

Dist	DL	RedLL	Red%	NonRLL	StorLL	Red%	RoofLL	Red%
0.000	2.54							
0.000	2.54							
12.917	1.09	0.00	0.0	0.00	0.00	0.0	2.34	Snow
		0.00	0.0	0.00	0.00	0.0	-0.13	Snow
12.917	0.75	0.00	0.0	0.00	0.00	0.0	1.17	Snow
		0.00	0.0	0.00	0.00	0.0	-0.06	Snow
20.917	2.07	0.00	0.0	0.00	0.00	0.0	0.75	Snow
20.917	1.24	0.00	0.0	0.00	0.00	0.0	0.37	Snow

**LINE LOADS (k/ft):**

Load	Dist	DL	LL	Red%	Type
1	0.000	0.150	0.000	0.0%	Red
	2.916	0.150	0.000		
2	0.000	0.000	0.300	---	Snow
	2.916	0.000	0.300		
3	2.917	0.150	0.000	0.0%	Red
	12.916	0.150	0.000		
4	2.917	0.000	0.300	---	Snow
	6.916	0.000	0.300		
5	6.917	0.000	0.300	---	Snow
	12.916	0.000	0.650		
6	20.917	0.150	0.000	0.0%	Red
	23.916	0.150	0.000		
7	20.917	0.000	0.500	---	Snow
	23.916	0.000	0.500		
8	0.000	0.022	0.000	---	NonR
	2.916	0.022	0.000		
9	2.917	0.022	0.000	---	NonR
	23.916	0.022	0.000		

**SHEAR (Ultimate): Max Vu (1.2DL+1.6LL) = 13.00 kips 0.90Vn = 85.08 kips**

**MOMENTS (Ultimate):**

Span	Cond	LoadCombo	Mu kip-ft	@ ft	Lb ft	Cb	Phi	Phi*Mn kip-ft
Left	Max -	1.4DL	-21.8	2.9	2.9	1.00	0.90	124.50
Center	Max +	1.2DL+1.6LL	67.3	12.9	8.0	1.24	0.90	120.67
	Max -	1.4DL	-21.8	2.9	4.9	1.73	0.90	124.50
Controlling		1.2DL+1.6LL	67.3	12.9	8.0	1.24	0.90	120.67



## Gravity Beam Design

### REACTIONS (kips):

	Left	Right
DL reaction	9.17	3.98
Max +LL reaction	5.98	5.14
Max -LL reaction	-0.10	-0.15
Max +total reaction (factored)	20.56	13.00

### DEFLECTIONS:

#### Left cantilever:

Dead load (in)	= 0.003	L/D = 26554
Pos Live load (in)	= -0.013	L/D = 5271
Neg Live load (in)	= 0.181	L/D = 387
Pos Total load (in)	= -0.011	L/D = 6577
Neg Total load (in)	= 0.184	L/D = 381

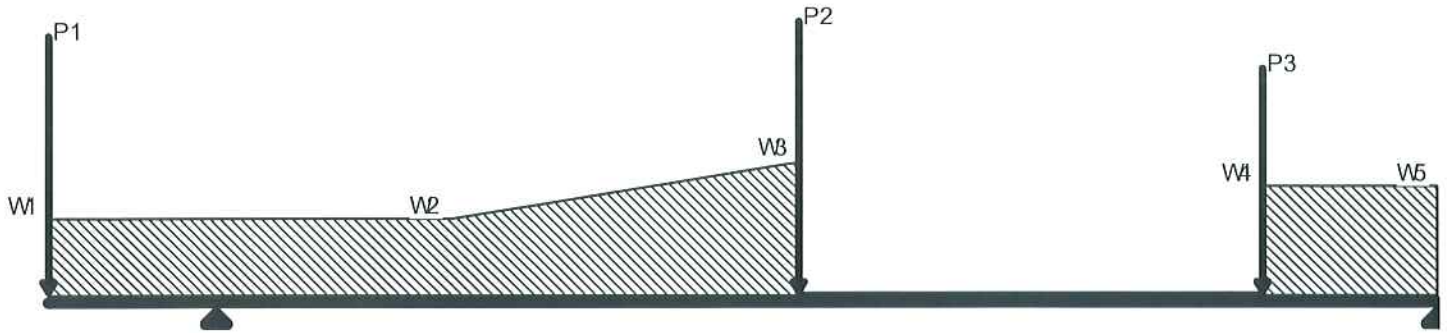
#### Center span:

Dead load (in)	at 15.20 ft =	-0.136	L/D = 1857
Live load (in)	at 13.63 ft =	-0.406	L/D = 620
Net Total load (in)	at 13.63 ft =	-0.540	L/D = 467



# Load Diagram

**Floor Type: ROOF**      **Beam Number = 55**  
 Span information (ft): I-End (45.00,-2.92)      J-End (45.00,21.00)



Load	Dist ft	DL kips	LL+ kips	LL- kips	Max Tot kips
P1	0.000	5.081	0.000	0.000	5.081
P2	12.917	1.841	3.509	-0.191	5.350
P3	20.917	3.312	1.125	0.000	4.436
	ft	k/ft	k/ft	k/ft	k/ft
W1	0.000	0.172	0.300	0.000	0.472
W2	6.916	0.172	0.300	0.000	0.472
W3	12.916	0.172	0.650	0.000	0.822
		0.022	0.000	0.000	0.022
W4	20.917	0.022	0.000	0.000	0.022
		0.172	0.500	0.000	0.672
W5	23.916	0.172	0.500	0.000	0.672

Ram Steel v11.0 Shear, Moment, and Deflection Diagrams

DataBase: kha

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Building Code: IBC

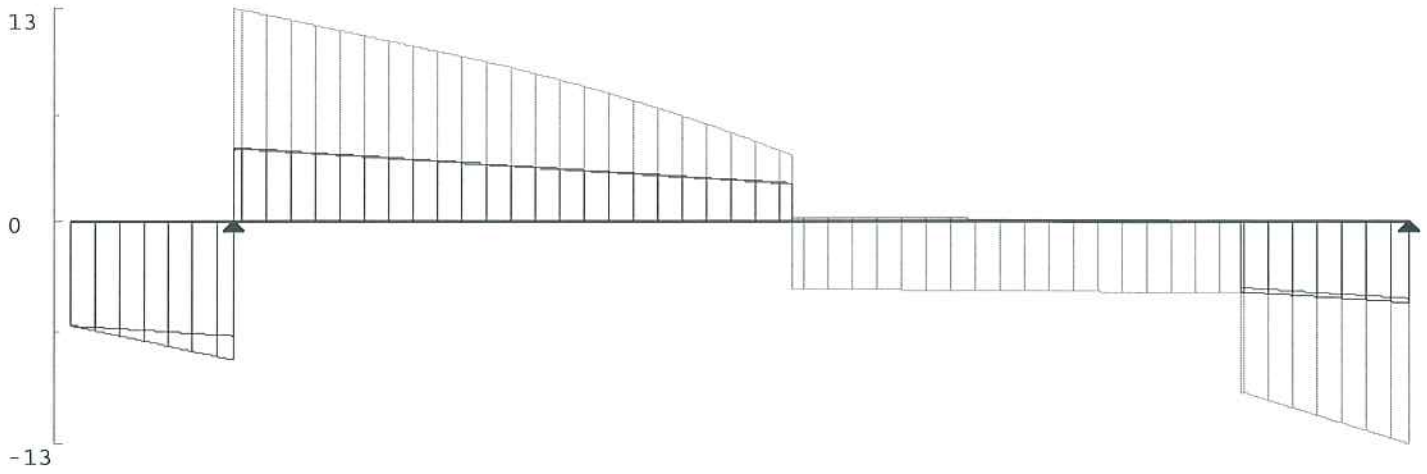
Floor Type: ROOF

Beam Number = 55

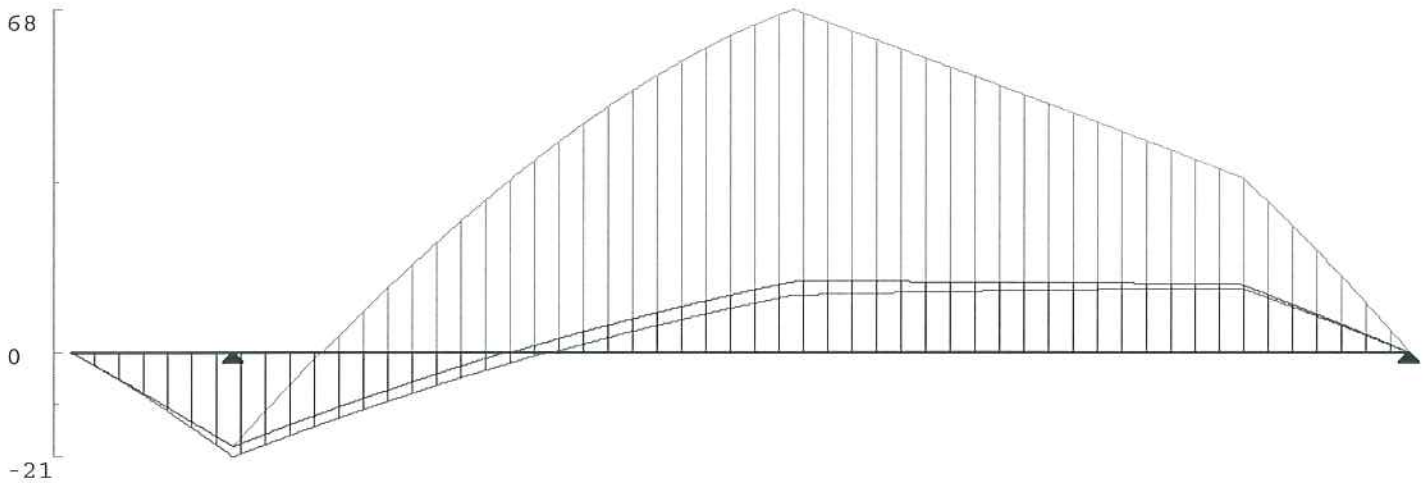
Span information (ft): I-End (45.00,-2.92)

J-End (45.00,21.00)

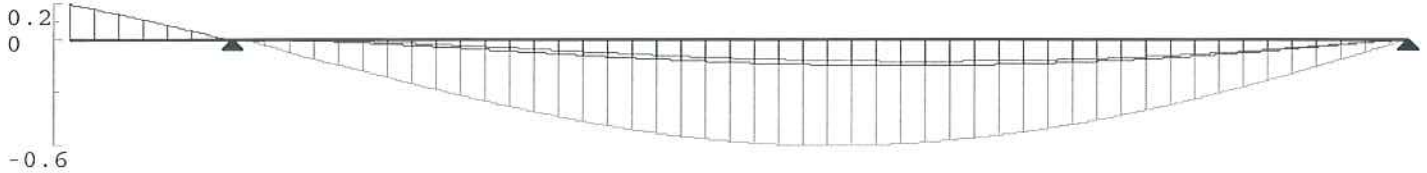
Shear



Moment



Deflection



Max DL Shear = 6.70 kips  
Max Shear = 13.00 kips

Max Pos Moment = 67.33 kip-ft at 12.917 ft  
Max Neg Moment = -21.77 kip-ft at left support



RAM Steel v11.1  
 DataBase: kha  
 Building Code: IBC

## Gravity Beam Design

04/08/07 16:57:3  
 Steel Code: AISC LRFI

**Floor Type: ROOF**

**Beam Number = 60**

**SPAN INFORMATION (ft): I-End (25.00,10.00) J-End (45.00,10.00)**

Beam Size (Optimum) = W10X12 Fy = 50.0 ksi  
 Total Beam Length (ft) = 20.00  
 Mp (kip-ft) = 52.50

**POINT LOADS (kips):**

Dist	DL	RedLL	Red%	NonRLL	StorLL	Red%	RoofLL	Red%
10.000	-0.74	0.00	0.0	0.00	0.00	0.0	2.34	Snow
		0.00	0.0	0.00	0.00	0.0	-0.13	Snow

**LINE LOADS (k/ft):**

Load	Dist	DL	LL	Red%	Type
1	0.000	0.100	0.000	0.0%	Red
	20.000	0.100	0.000		
2	0.000	0.012	0.000	---	NonR
	20.000	0.012	0.000		

**SHEAR (Ultimate): Max Vu (1.2DL+1.6LL) = 2.77 kips 0.90Vn = 50.63 kips**

**MOMENTS (Ultimate):**

Span	Cond	LoadCombo	Mu kip-ft	@ ft	Lb ft	Cb	Phi	Phi*Mn kip-ft
Center	Max +	1.2DL+1.6LL	21.0	10.0	10.0	1.53	0.90	30.40
Controlling		1.2DL+1.6LL	21.0	10.0	10.0	1.53	0.90	30.40

**REACTIONS (kips):**

	Left	Right
DL reaction	0.75	0.75
Max +LL reaction	1.17	1.17
Max -LL reaction	-0.06	-0.06
Max +total reaction (factored)	2.77	2.77

**DEFLECTIONS:**

Dead load (in)	at	10.00 ft =	-0.122	L/D =	1970
Live load (in)	at	10.00 ft =	-0.432	L/D =	556
Net Total load (in)	at	10.00 ft =	-0.554	L/D =	433

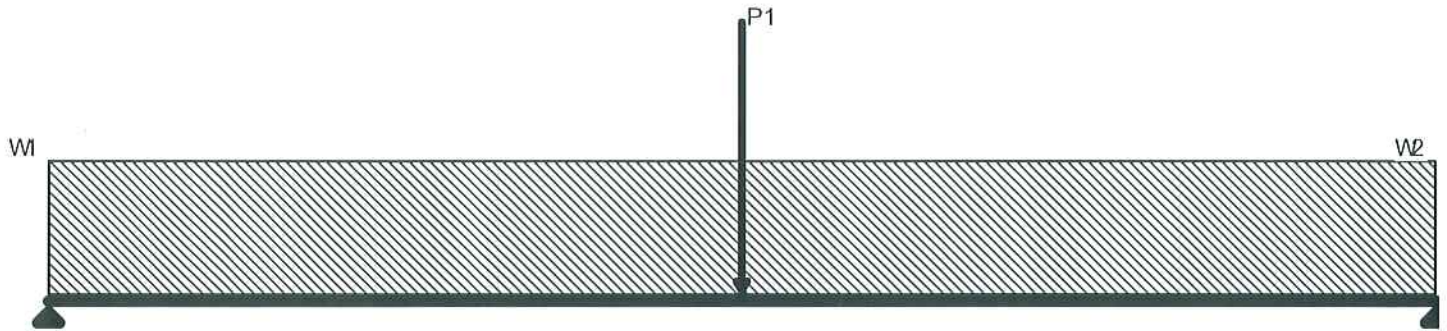


RAM Steel v11.1  
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# Load Diagram

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**Floor Type: ROOF**      **Beam Number = 60**  
 Span information (ft): I-End (25.00,10.00)      J-End (45.00,10.00)



Load	Dist ft	DL kips	LL+ kips	LL- kips	Max Tot kips
P1	10.000	-0.741	2.340	-0.128	1.599
	ft	k/ft	k/ft	k/ft	k/ft
W1	0.000	0.112	0.000	0.000	0.112
W2	20.000	0.112	0.000	0.000	0.112

Ram Steel v11.0 Shear, Moment, and Deflection Diagrams

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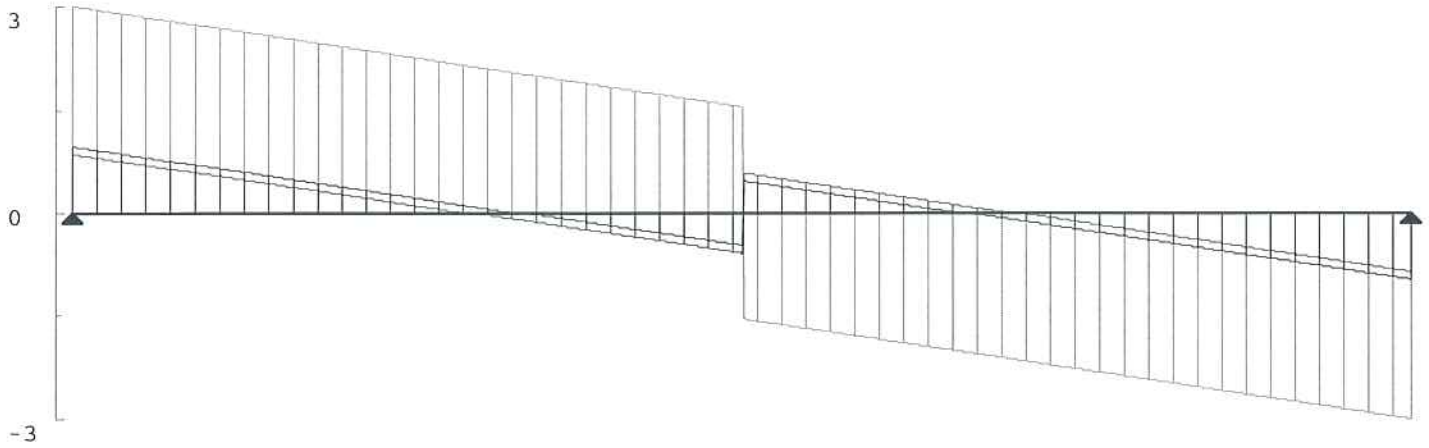
Floor Type: ROOF

Beam Number = 60

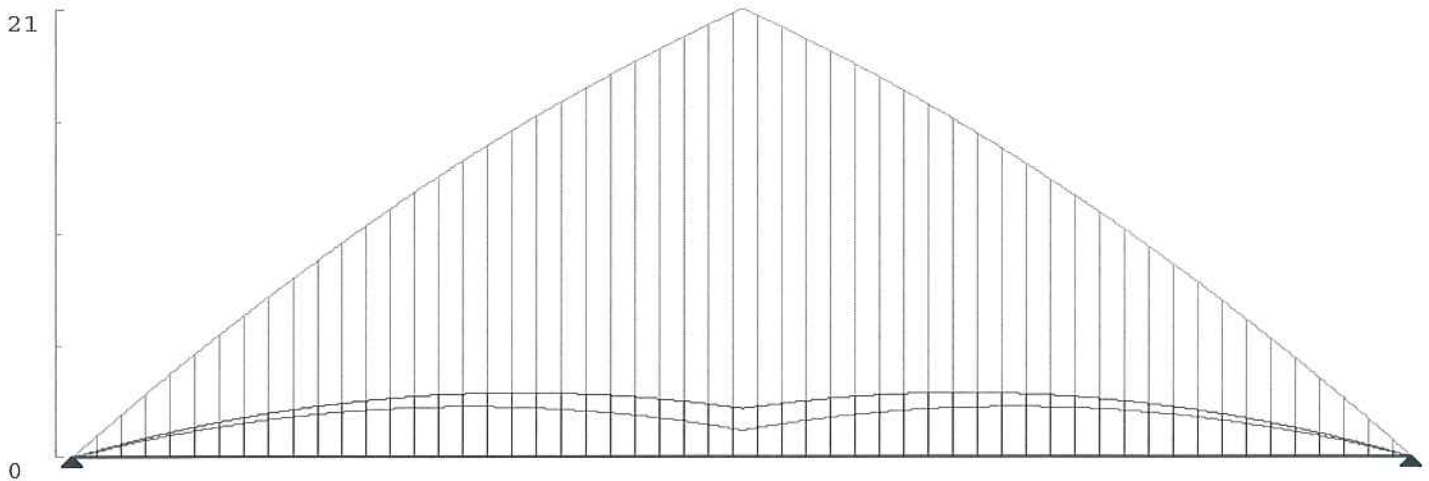
Span information (ft): I-End (25.00,10.00)

J-End (45.00,10.00)

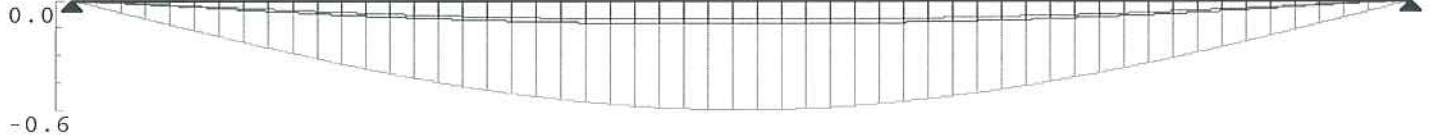
Shear



Moment



Deflection



Max DL Shear = 0.90 kips

Max Shear = 2.77 kips

Max Pos Moment = 21.00 kip-ft

at 10.000 ft



RAM Steel v11.1  
 DataBase: kha  
 Building Code: IBC

## Gravity Beam Design

04/08/07 16:57:3  
 Steel Code: AISC LRFI

**Floor Type: ROOF**

**Beam Number = 61**

**SPAN INFORMATION (ft): I-End (45.00,10.00) J-End (75.00,10.00)**

Beam Size (Optimum) = W14X22 Fy = 50.0 ksi  
 Total Beam Length (ft) = 30.00  
 Mp (kip-ft) = 138.33

**POINT LOADS (kips):**

Dist	DL	RedLL	Red%	NonRLL	StorLL	Red%	RoofLL	Red%
10.000	-0.74	0.00	0.0	0.00	0.00	0.0	2.34	Snow
		0.00	0.0	0.00	0.00	0.0	-0.13	Snow
20.000	-0.74	0.00	0.0	0.00	0.00	0.0	2.34	Snow
		0.00	0.0	0.00	0.00	0.0	-0.13	Snow

**LINE LOADS (k/ft):**

Load	Dist	DL	LL	Red%	Type
1	0.000	0.100	0.000	0.0%	Red
	30.000	0.100	0.000		
2	0.000	0.022	0.000	---	NonR
	30.000	0.022	0.000		

**SHEAR (Ultimate): Max Vu (1.2DL+1.6LL) = 5.05 kips 0.90Vn = 85.08 kips**

**MOMENTS (Ultimate):**

Span	Cond	LoadCombo	Mu kip-ft	@ ft	Lb ft	Cb	Phi	Phi*Mn kip-ft
Center	Max +	1.2DL+1.6LL	45.0	15.0	10.0	1.00	0.90	82.30
Controlling		1.2DL+1.6LL	45.0	15.0	10.0	1.00	0.90	82.30

**REACTIONS (kips):**

	Left	Right
DL reaction	1.09	1.09
Max +LL reaction	2.34	2.34
Max -LL reaction	-0.13	-0.13
Max +total reaction (factored)	5.05	5.05

**DEFLECTIONS:**

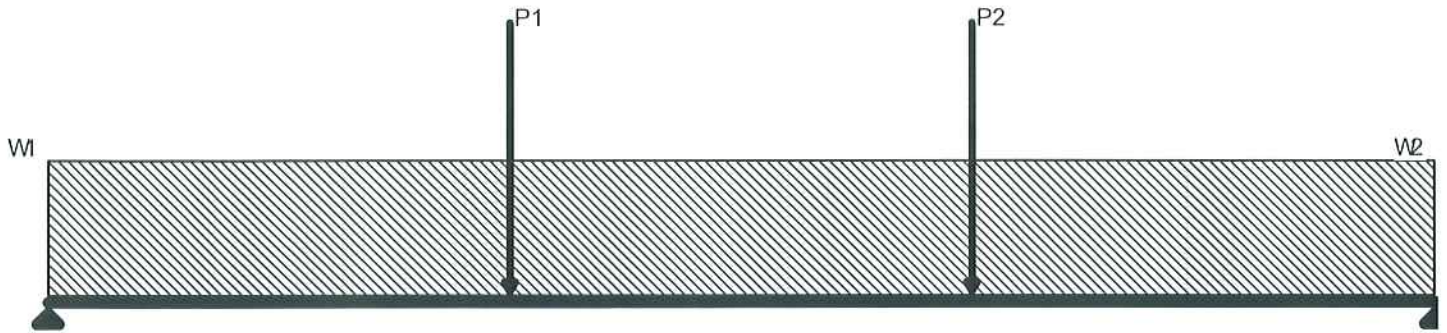
Dead load (in)	at	15.00 ft =	-0.173	L/D =	2081
Live load (in)	at	15.00 ft =	-0.671	L/D =	536
Net Total load (in)	at	15.00 ft =	-0.844	L/D =	426





# Load Diagram

**Floor Type: ROOF**      **Beam Number = 61**  
 Span information (ft): I-End (45.00,10.00)      J-End (75.00,10.00)



Load	Dist ft	DL kips	LL+ kips	LL- kips	Max Tot kips
P1	10.000	-0.741	2.340	-0.128	1.599
P2	20.000	-0.741	2.340	-0.128	1.599
	ft	k/ft	k/ft	k/ft	k/ft
W1	0.000	0.122	0.000	0.000	0.122
W2	30.000	0.122	0.000	0.000	0.122

Ram Steel v11.0 Shear, Moment, and Deflection Diagrams

DataBase: kha

04/08/07 16:57:33

Building Code: IBC

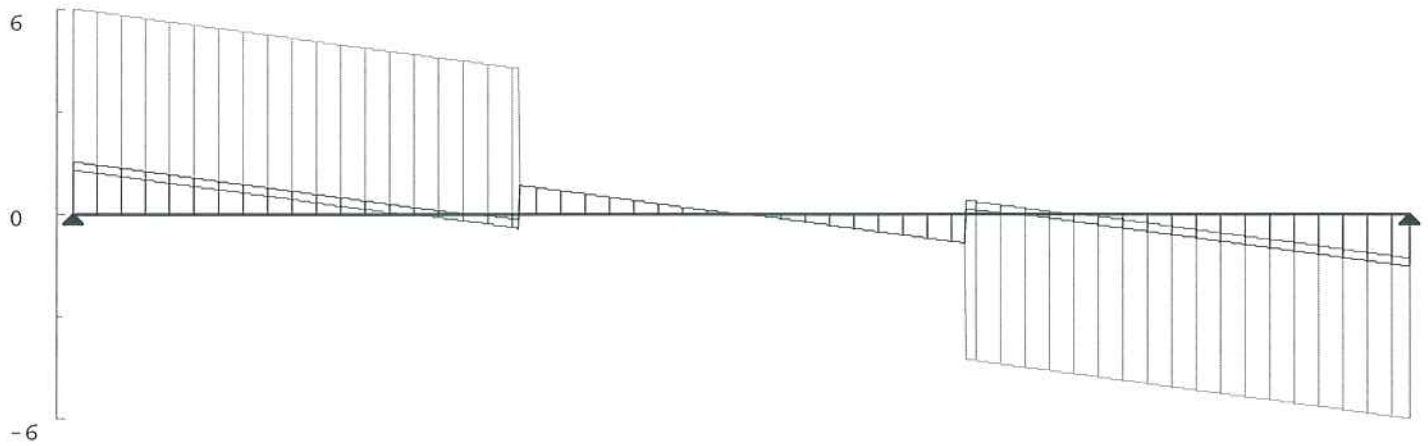
Floor Type: ROOF

Beam Number = 61

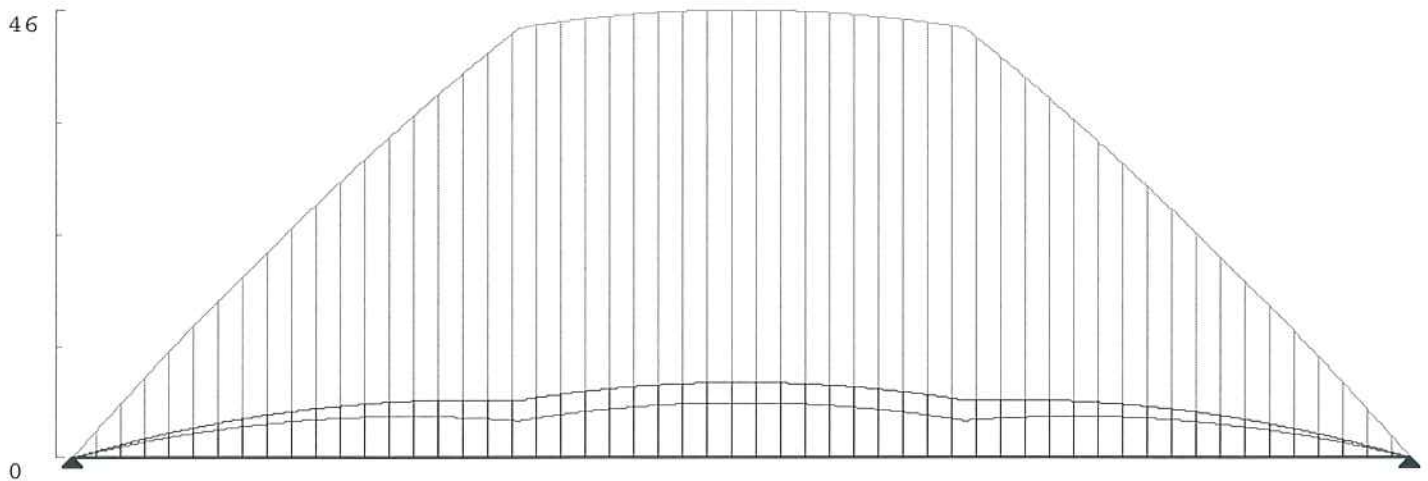
Span information (ft): I-End (45.00,10.00)

J-End (75.00,10.00)

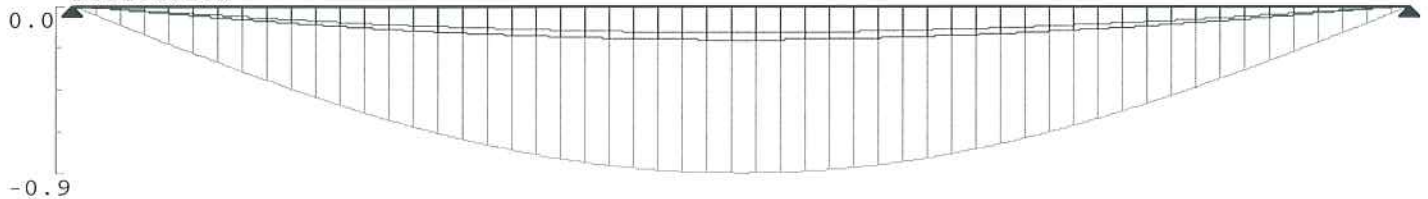
Shear



Moment



Deflection



Max DL Shear = 1.31 kips

Max Shear = 5.05 kips

Max Pos Moment = 45.03 kip-ft

at 15.00 ft



RAM Steel v11.1  
 DataBase: S-KHA2007THESIS  
 Building Code: IBC

## Gravity Beam Design

04/09/07 07:57:1  
 Steel Code: AISC LRFI

**Floor Type: ROOF**                      **Beam Number = 28**

**SPAN INFORMATION (ft): I-End (55.00,21.00)    J-End (55.00,49.00)**

Beam Size (Optimum)                      = W16X26                      Fy = 50.0 ksi  
 Total Beam Length (ft)                      = 28.00

**COMPOSITE PROPERTIES (Not Shored):**

	<b>Left</b>	<b>Right</b>
Concrete thickness (in)	2.50	2.50
Unit weight concrete (pcf)	150.00	150.00
fc (ksi)	3.50	3.50
Decking Orientation	perpendicular	perpendicular
Decking type	USD 3" Lok-Floor	USD 3" Lok-Floor
beff (in)                      =                      84.00	Y bar(in)                      =                      17.19	
Mnf (kip-ft)                      =                      402.61	Mn (kip-ft)                      =                      333.67	
C (kips)                      =                      199.87	PNA (in)                      =                      15.37	
Ieff (in4)                      =                      936.85	Itr (in4)                      =                      1182.34	
Stud length (in)                      =                      4.50	Stud diam (in)                      =                      0.75	
Stud Capacity (kips)    Qn = 18.2		
# of studs:    Full = 53    Partial = 22    Actual = 22		
Number of Stud Rows = 1    Percent of Full Composite Action = 52.05		

**LINE LOADS (k/ft):**

Load	Dist	DL	CDL	LL	Red%	Type	CLL
1	0.000	0.630	0.000	1.000	---	NonR	0.000
	28.000	0.630	0.000	1.000			0.000
2	0.000	0.000	0.000	0.150	---	Snow	0.000
	28.000	0.000	0.000	0.150			0.000
3	0.228	0.000	0.000	0.150	---	Snow	0.000
	28.000	0.000	0.000	0.150			0.000
4	0.000	0.000	0.000	0.150	---	Snow	0.000
	0.228	0.000	0.000	0.150			0.000
5	0.000	0.026	0.026	0.000	---	NonR	0.000
	28.000	0.026	0.026	0.000			0.000

**SHEAR (Ultimate): Max Vu (1.2DL+1.6LL) = 40.14 kips    0.90Vn = 104.15 kips**

**MOMENTS (Ultimate):**

Span	Cond	LoadCombo	Mu kip-ft	@ ft	Lb ft	Cb	Phi	Phi*Mn kip-ft
Center	PreCmp+	1.4DL	3.6	14.1	0.0	1.00	0.90	165.75
	Init DL	1.4DL	3.6	14.1	---	---		
	Max +	1.2DL+1.6LL	281.0	14.0	---	---	0.85	283.62
Controlling		1.2DL+1.6LL	281.0	14.0	---	---	0.85	283.62

**REACTIONS (kips):**

	<b>Left</b>	<b>Right</b>
Initial reaction	0.37	0.37
DL reaction	9.19	9.19
Max +LL reaction	18.20	18.20



## Gravity Beam Design

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	<b>Left</b>	<b>Right</b>
Max +total reaction (factored)	40.14	40.14

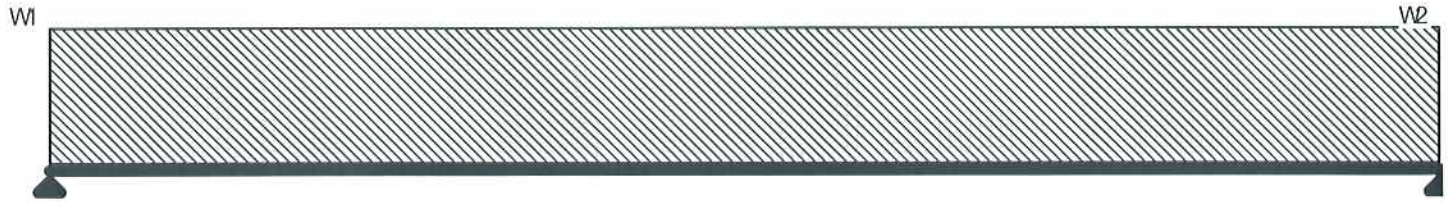
### **DEFLECTIONS:**

Initial load (in)	at	14.00 ft =	-0.041	L/D =	8115
Live load (in)	at	14.00 ft =	-0.662	L/D =	508
Post Comp load (in)	at	14.00 ft =	-0.982	L/D =	342
Net Total load (in)	at	14.00 ft =	-1.024	L/D =	328



## Load Diagram

**Floor Type: ROOF**      **Beam Number = 28**  
Span information (ft): I-End (55.00,21.00)      J-End (55.00,49.00)



Load	Dist ft	DL k/ft	LL+ k/ft	LL- k/ft	Max Tot k/ft
W1	0.000	0.656	1.300	0.000	1.956
W2	28.000	0.656	1.300	0.000	1.956

Ram Steel v11.0 Shear, Moment, and Deflection Diagrams

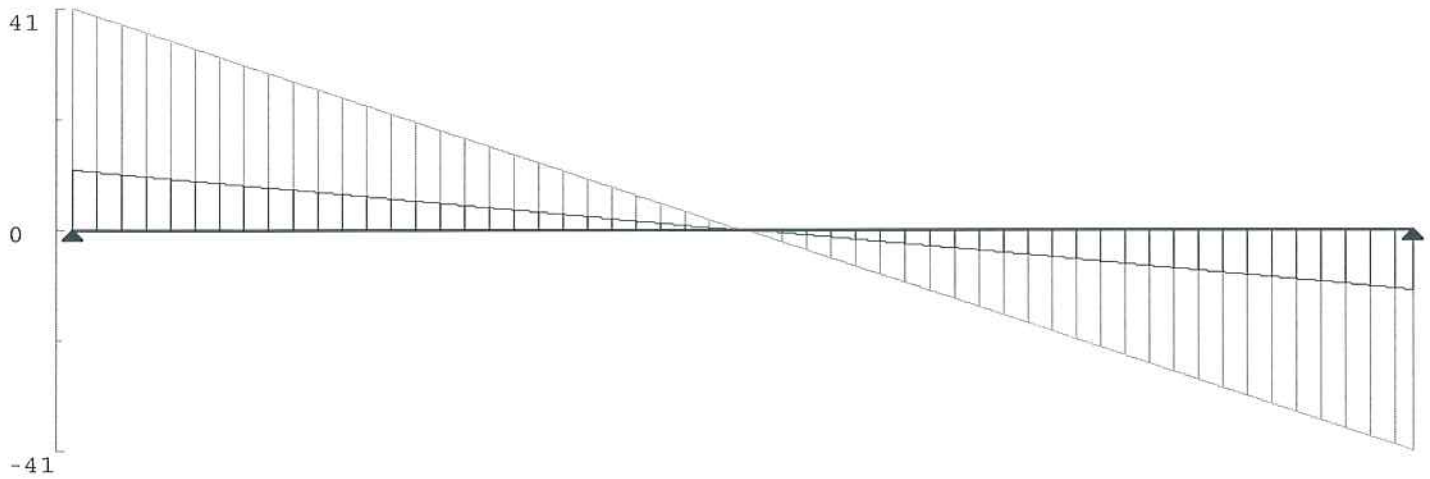
DataBase: S-KHA2007THESIS 04/09/07 07:57:17

Building Code: IBC

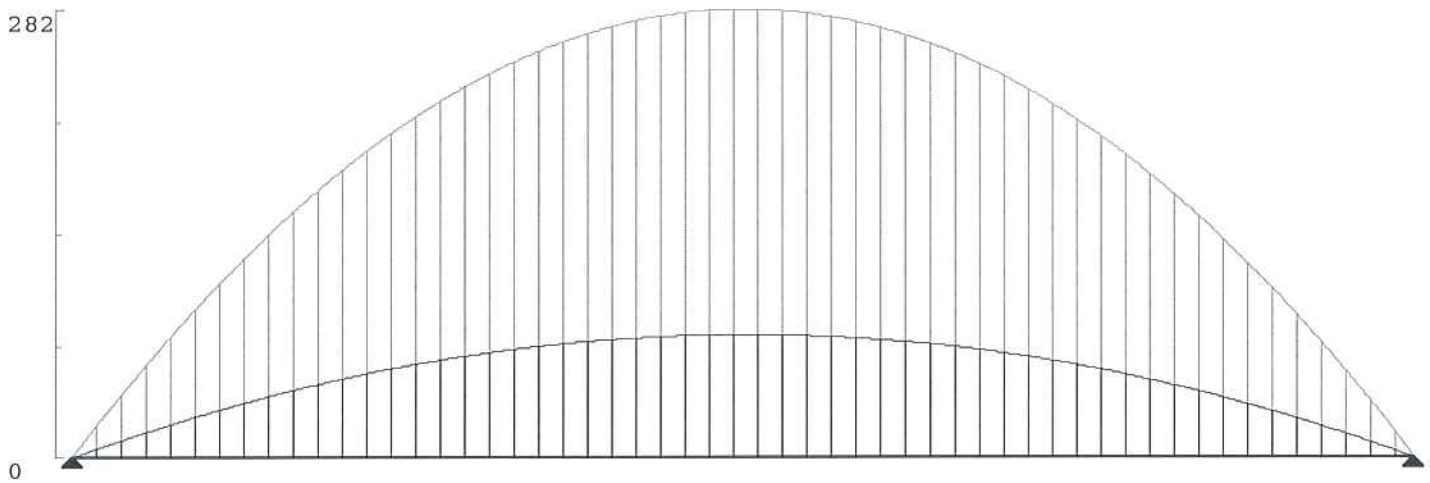
Floor Type: ROOF Beam Number = 28

Span information (ft): I-End (55.00,21.00) J-End (55.00,49.00)

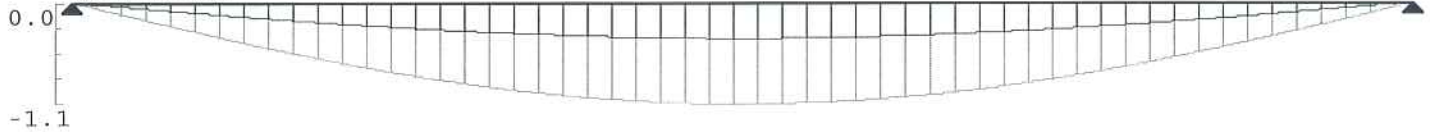
Shear



Moment



Deflection



Max DL Shear = 11.02 kips

Max Shear = 40.14 kips

Max Pos Moment = 281.00 kip-ft

at 13.999 ft



# Floor Map

RAM Steel v11.1  
DataBase: S-KHA2007THESIS  
Building Code: IBC

04/09/07 08:09:24  
Steel Code: AISC LRFD

Floor Type: ROOF

