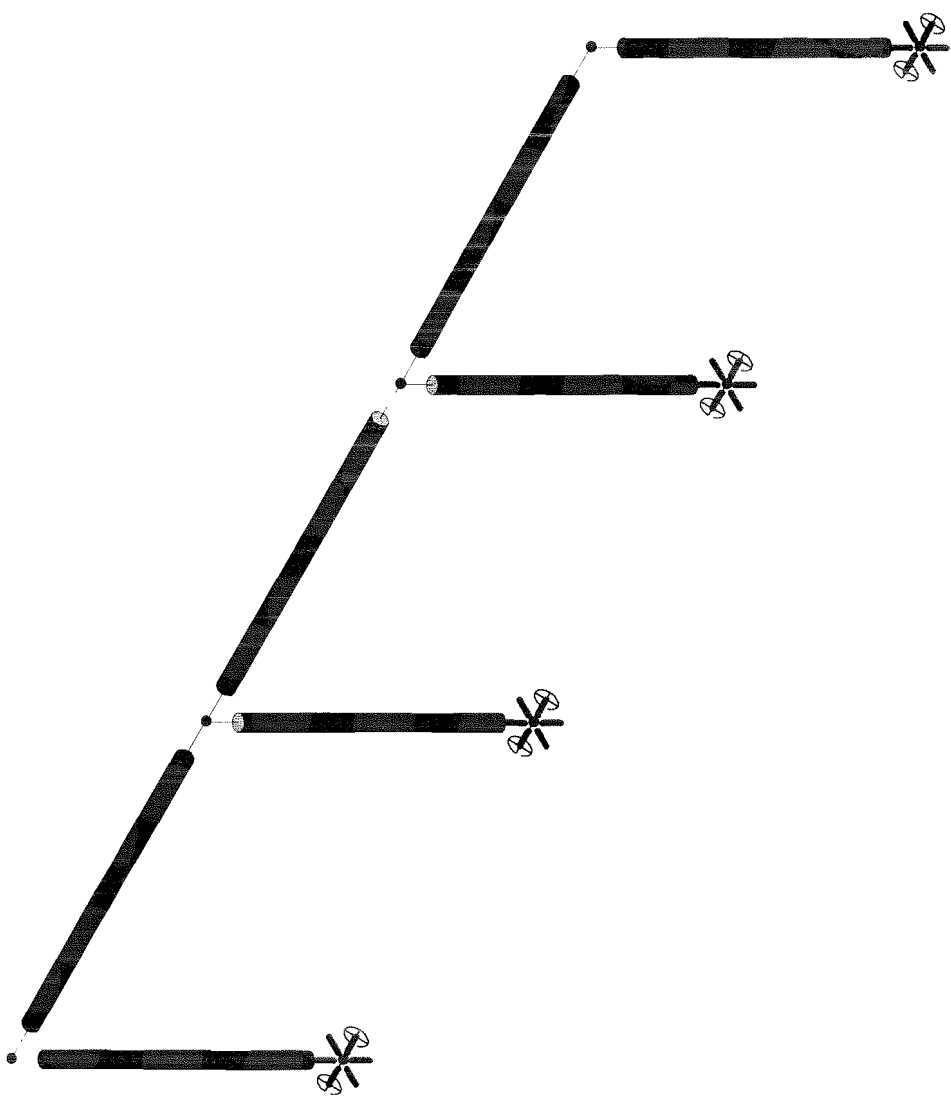
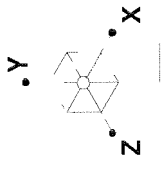


D26—1-1/4" PIPE x 36-1/2" HIGH RAIL WITHOUT BOTTOM RAIL

Building Code:	2006 International Building Code 2007 California Building Code AISC Steel Construction Manual, 13th ed—ASD
Material:	Carbon Steel, A53, Grade B, Fy = 35 ksi Carbon Steel, A501, Grade B, Fy = 36 ksi Carbon Steel, A572, Grade 55, Fy = 55 ksi (Round Bar) Stainless Steel, A312, Grade TP-304 or TP-316, Fy = 30 ksi Stainless Steel, LDX 2101 (UNS S32101), Fy = 60 ksi (Anchor Post and Adjacent Rail)
Height:	36.5"
Anchor Post:	Carbon Steel: 1.66" ϕ Round Bar (A572, Grade 55) Stainless Steel: 1.25" XXS (1.66" OD x 0.382") Pipe (LDX 2101)
Intermediate Posts:	Carbon Steel: 1.25" SCHD 40 (1.66" OD x 0.140") Pipe Stainless Steel: 1.25" SCHD 80 (1.66" OD x 0.191") Pipe
Top Rail at Anchor Posts:	Carbon Steel: 1.66" ϕ Round Bar (A572, Grade 55) Stainless Steel: 1.25" XXS (1.66" OD x 0.382") Pipe (LDX 2101)
Top Rail Elsewhere:	Carbon Steel: 1.25" SCHD 40 (1.66" OD x 0.140") Pipe Stainless Steel: 1.25" SCHD 40 (1.66" OD x 0.140") Pipe
Bottom Rail:	None
Number of Cables:	10
Cable Spacing:	3.17"



Disclaimer: Analysis and Structural Certification DOES NOT include base plates or anchorage to supporting structure. Where required by the Local Building Official, these shall be reviewed and designed by the project Structural Engineer of Record.



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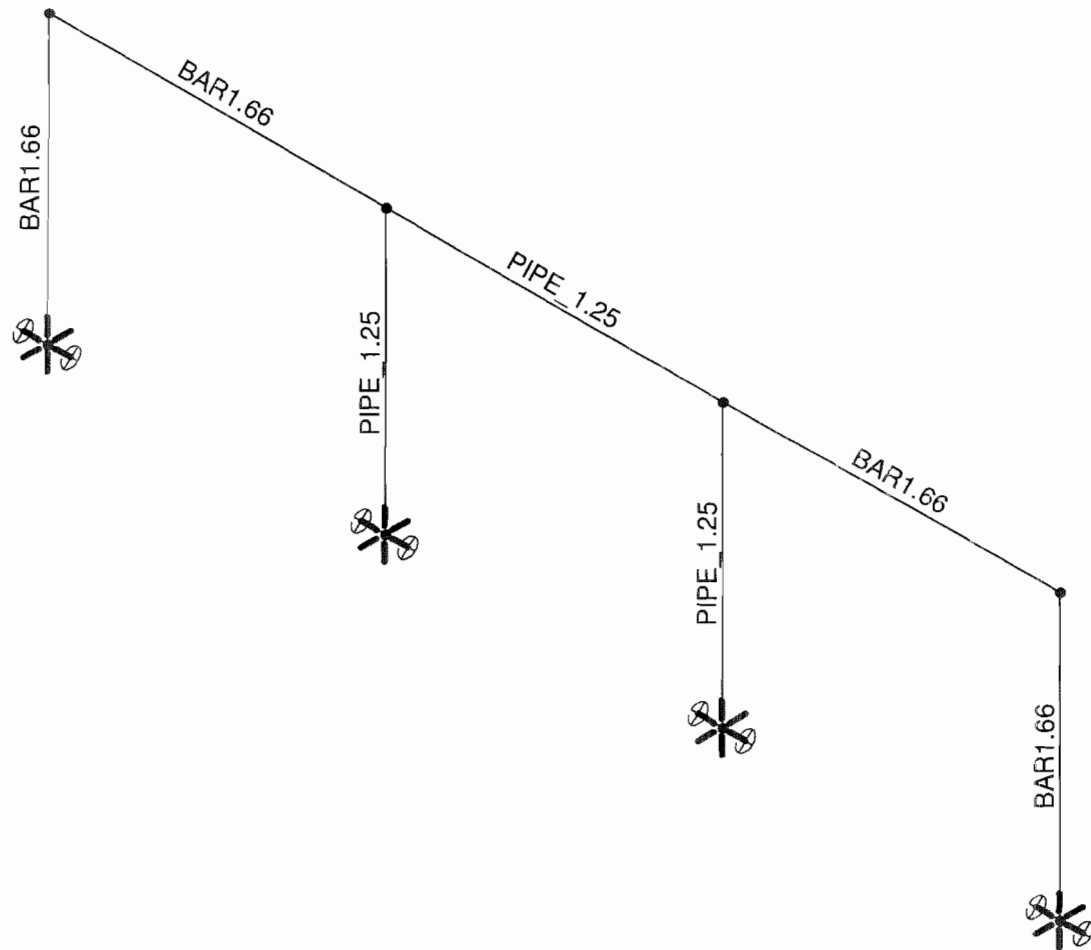
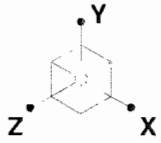
Dan O'Connor

08196

D26 - 1.25" PIPE x 36.5" HIGH RAIL W/O BTM RAIL

Dec 10, 2008 at 1:07 PM

D26.r3d



Ferrari Shields & Associates

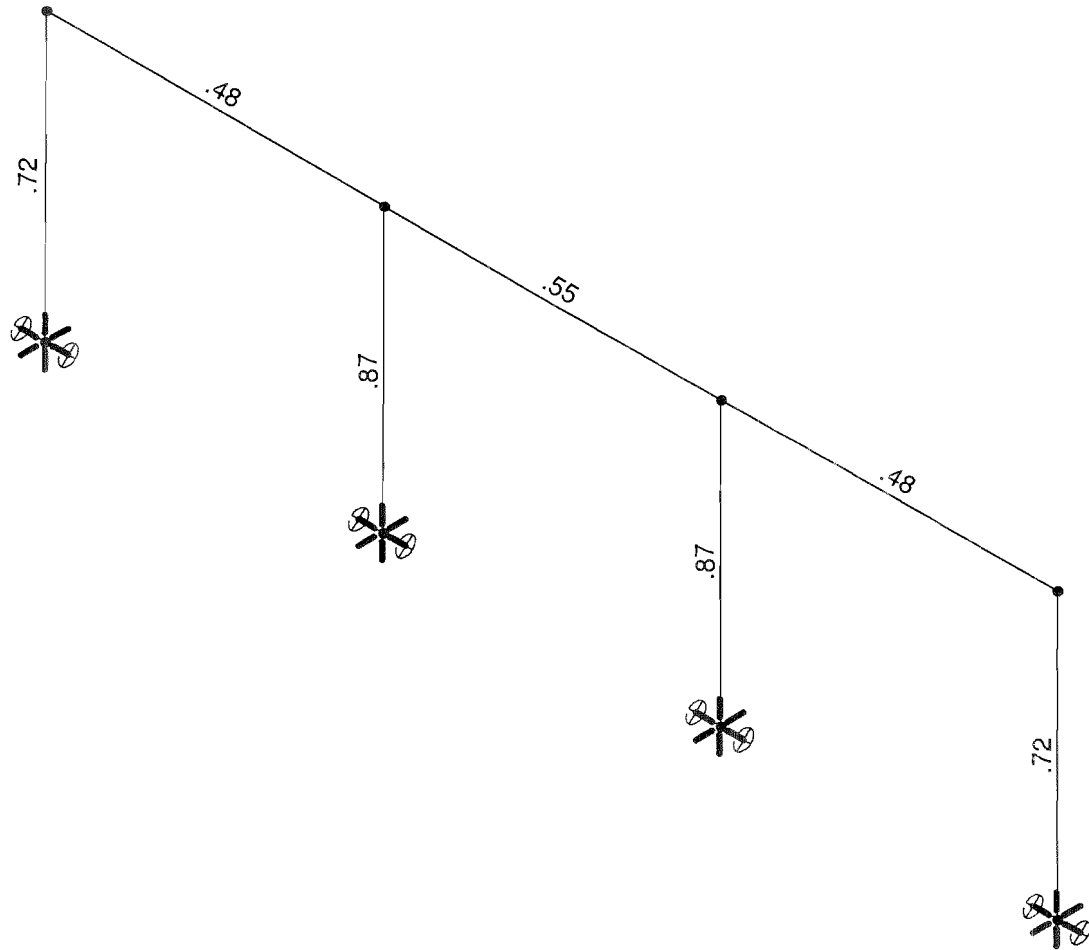
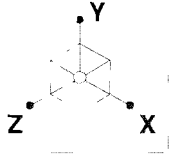
Dan O'Connor

08196

D26 - 1.25" PIPE x 36.5" HIGH RAIL W/O BTM RAIL

Dec 10, 2008 at 1:07 PM

D26.r3d



Member Code Checks Displayed
Solution: Envelope

Ferrari Shields & Associates

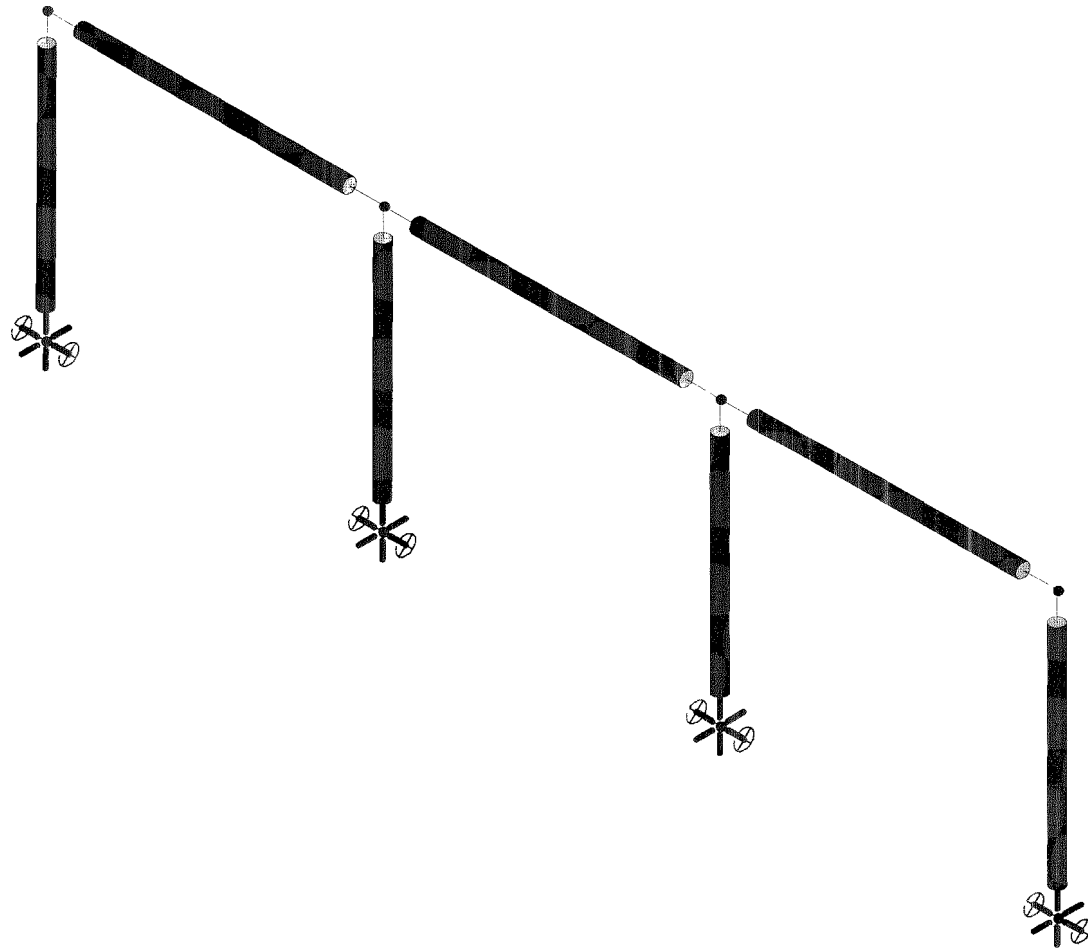
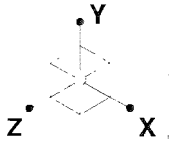
Dan O'Connor

08196

D26 - 1.25" PIPE x 36.5" HIGH RAIL W/O BTM RAIL

Dec 10, 2008 at 1:08 PM

D26.r3d



Ferrari Shields & Associates

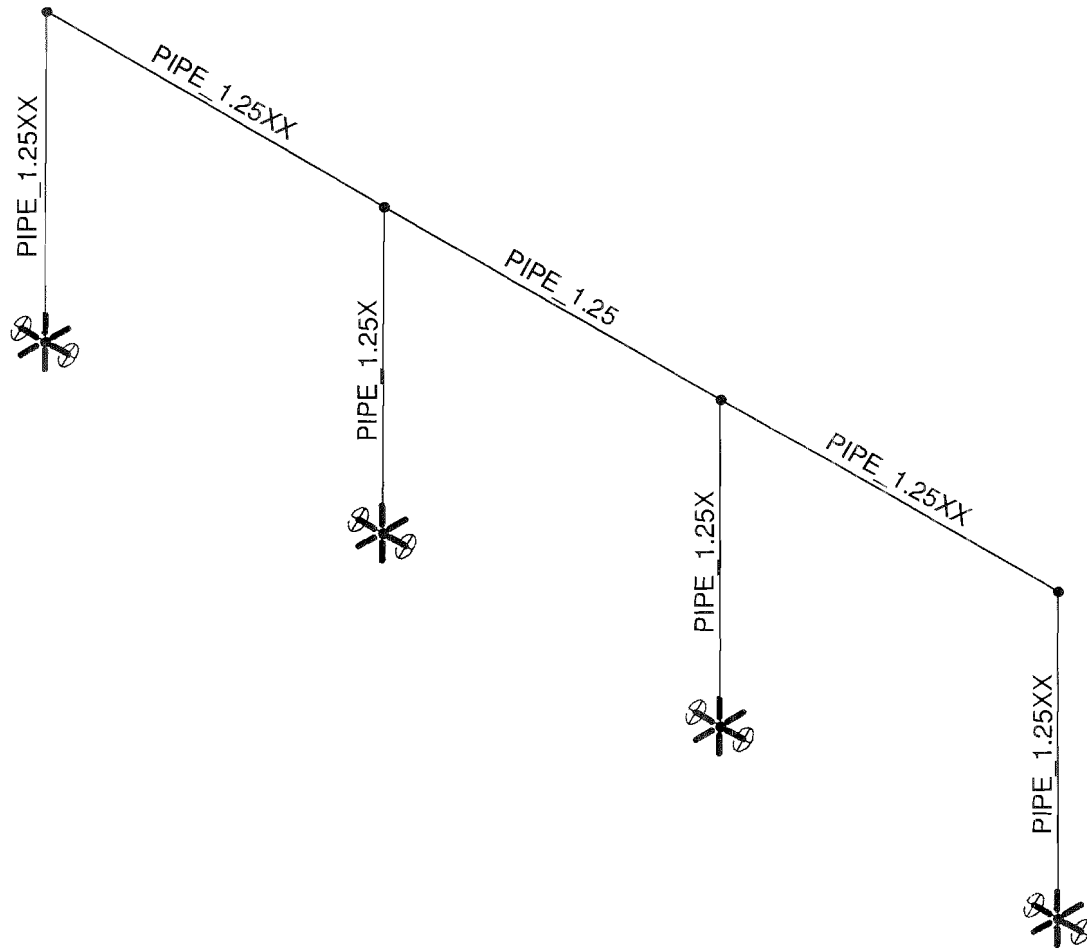
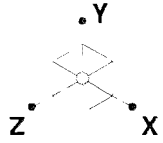
Dan O'Connor

08196

D26 (SS) - 1.25" PIPE x 36.5" HIGH RAIL W/O BTM RAIL

Dec 10, 2008 at 1:04 PM

D26ss.r3d



Ferrari Shields & Associates

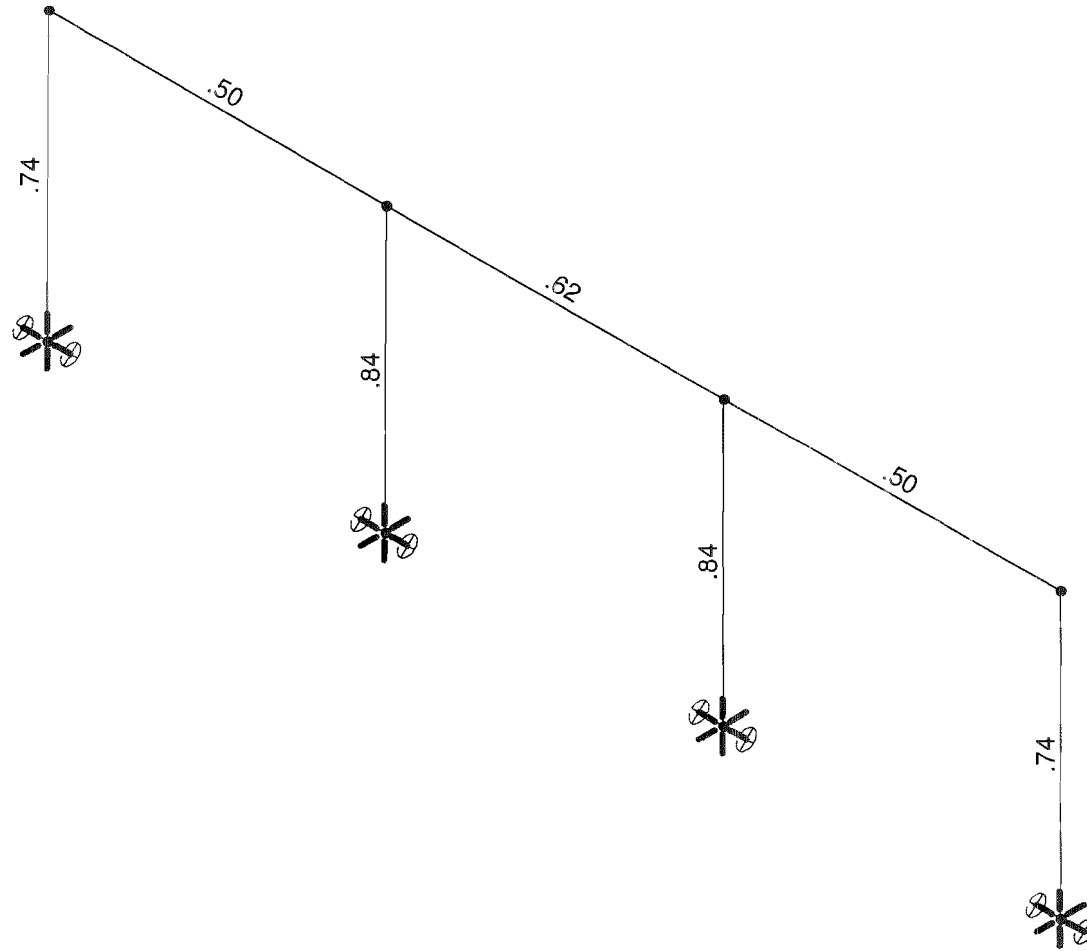
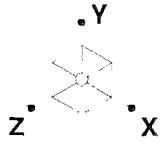
Dan O'Connor

08196

D26 (SS) - 1.25" PIPE x 36.5" HIGH RAIL W/O BTM RAIL

Dec 10, 2008 at 1:04 PM

D26ss.r3d



Member Code Checks Displayed
Solution: Envelope

Ferrari Shields & Associates

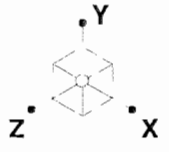
Dan O'Connor

08196

D26 (SS) - 1.25" PIPE x 36.5" HIGH RAIL W/O BTM RAIL

Dec 10, 2008 at 1:04 PM

D26ss.r3d



400lb
400lb
400lb
400lb
400lb
400lb
400lb
400lb
400lb
400lb

269.4

-1793.8

-269.4
38.7

-269.4

-38.7

1793.8

269.4

-400lb
-400lb
-400lb
-400lb
-400lb
-400lb
-400lb
-400lb
-400lb

Loads: LC 1, Cable Prestress
Results for LC 1, Cable Prestress
Reaction units are lb and k-ft

Ferrari Shields & Associates

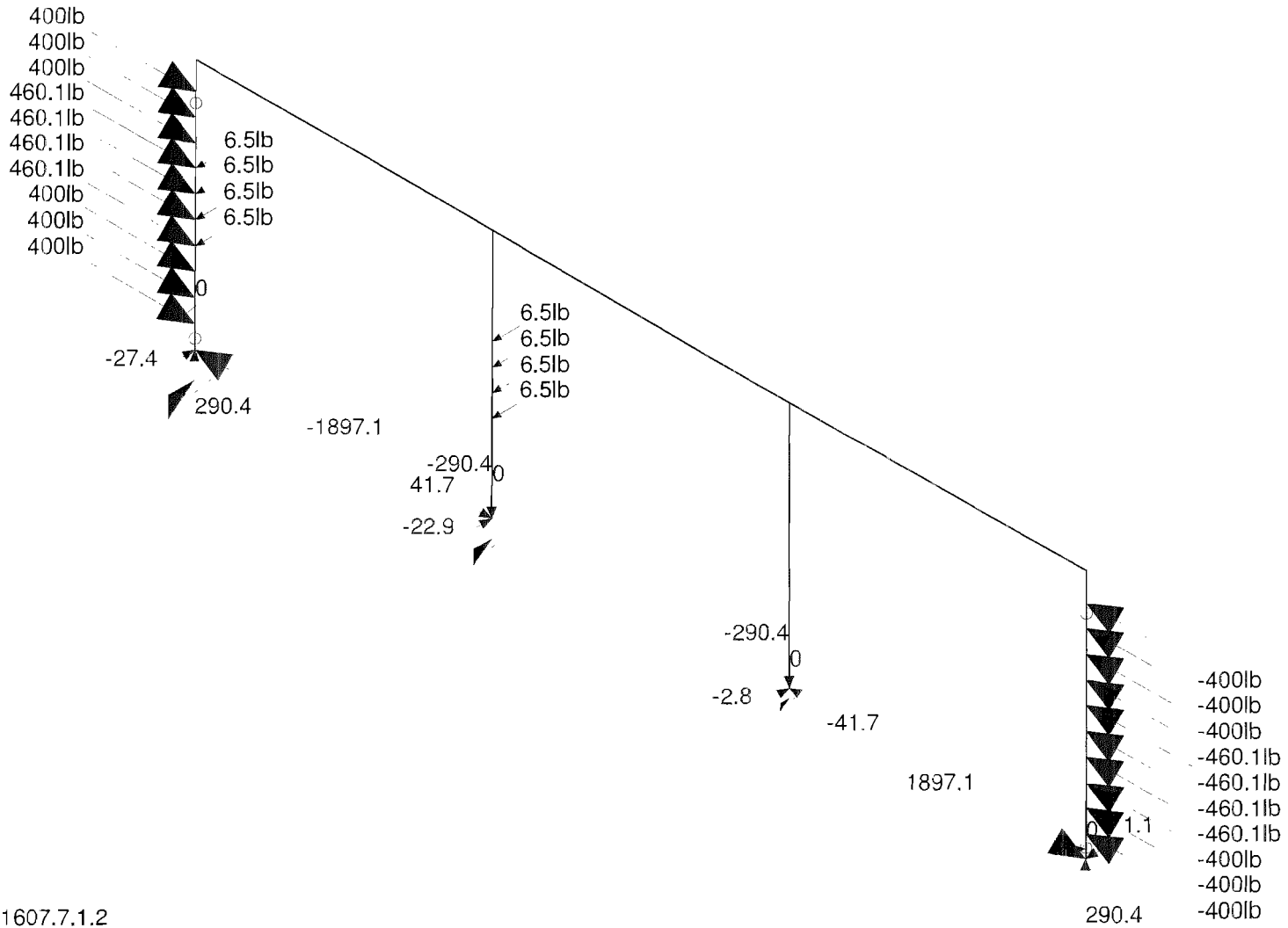
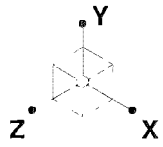
Dan O'Connor

08196

D22 - 1.5" PIPE x 36.5" HIGH RAIL W/O BTM RAIL

Dec 8, 2008 at 2:24 PM

D22.r3d



Loads: LC 2, 1607.7.1.2
 Results for LC 2, 1607.7.1.2
 Reaction units are lb and k-ft

Ferrari Shields & Associates

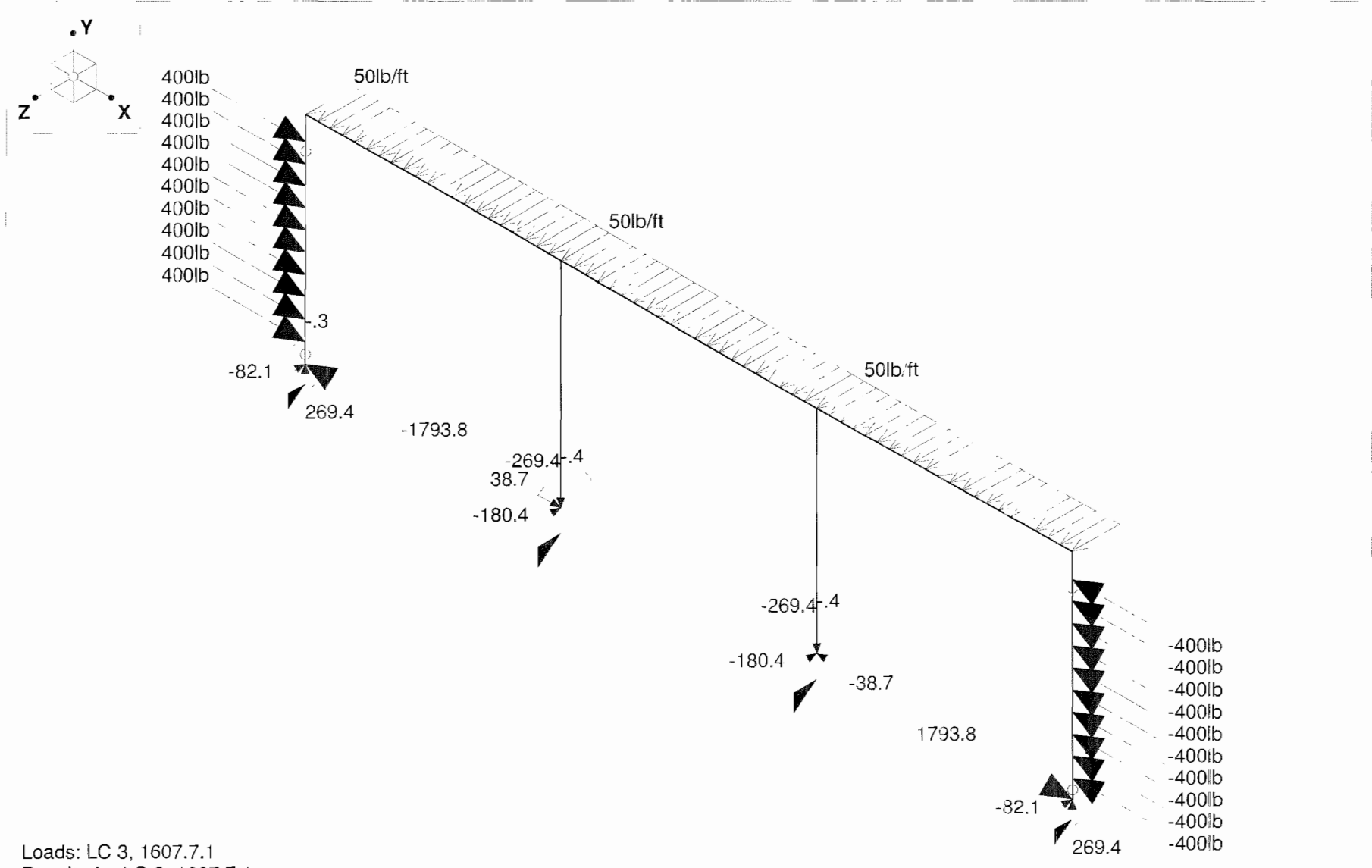
Dan O'Connor

08196

D22 - 1.5" PIPE x 36.5" HIGH RAIL W/O BTM RAIL

Dec 8, 2008 at 2:25 PM

D22.r3d



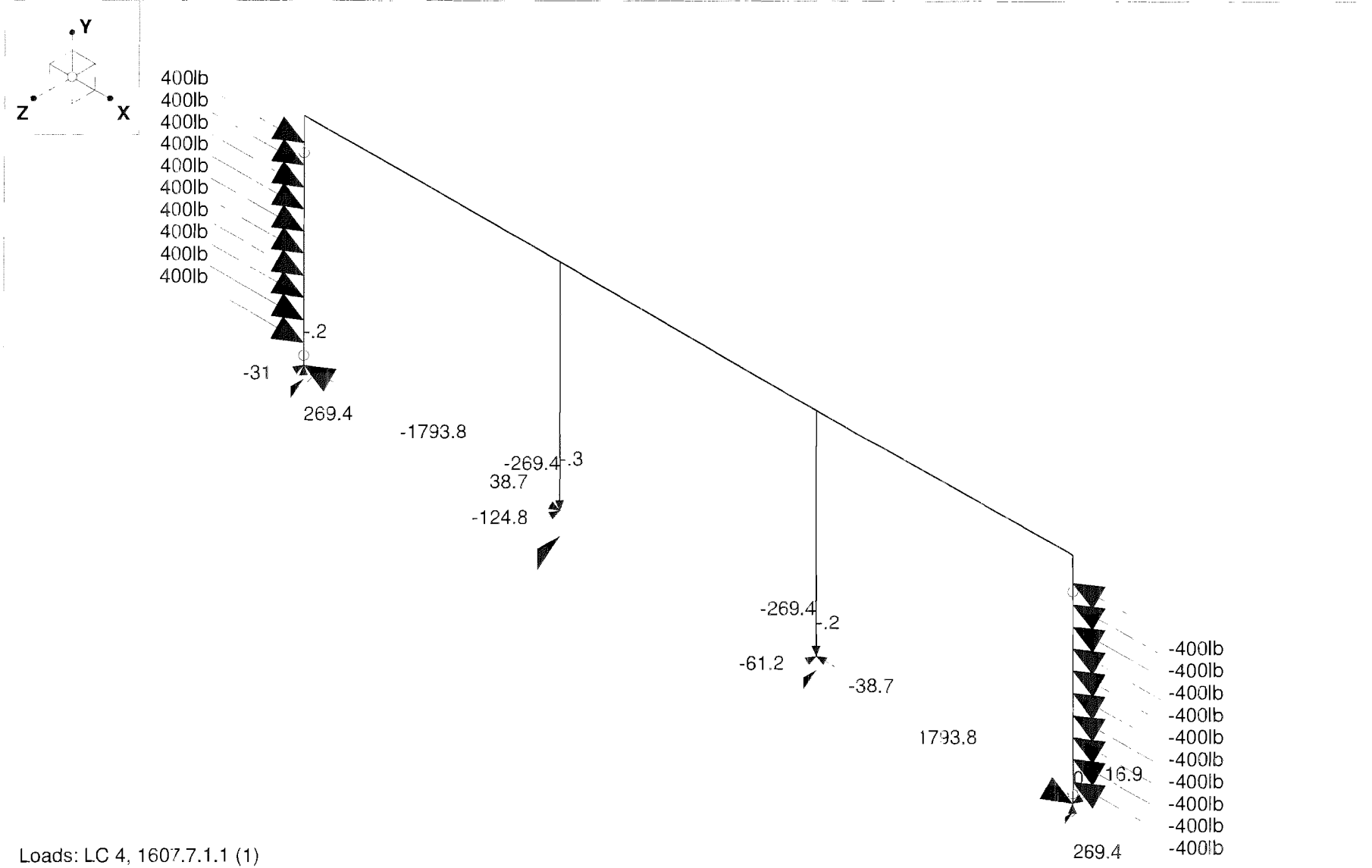
Loads: LC 3, 1607.7.1
 Results for LC 3, 1607.7.1
 Reaction units are lb and k-ft

Ferrari Shields & Associates
 Dan O'Connor
 08196

D22 - 1.5" PIPE x 36.5" HIGH RAIL W/O BTM RAIL

Dec 8, 2008 at 2:25 PM

D22.r3d



Loads: LC 4, 1607.7.1.1 (1)
 Results for LC 4, 1607.7.1.1 (1)
 Reaction units are lb and k-ft

Ferrari Shields & Associates

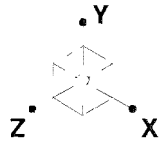
Dan O'Connor

08196

D22 - 1.5" PIPE x 36.5" HIGH RAIL W/O BTM RAIL

Dec 8, 2008 at 2:25 PM

D22.r3d



400lb
400lb
400lb
400lb
400lb
400lb
400lb
400lb
400lb
400lb



9.6
0
269.4

-1793.8

-269.4
38.7
-109.6

200lb

-269.4
-109.6
-38.7

1793.8



9.6
0
269.4

-400lb
-400lb
-400lb
-400lb
-400lb
-400lb
-400lb
-400lb
-400lb

Loads: LC 5, 1607.7.1.1 (2)
Results for LC 5, 1607.7.1.1 (2)
Reaction units are lb and k-ft

Ferrari Shields & Associates

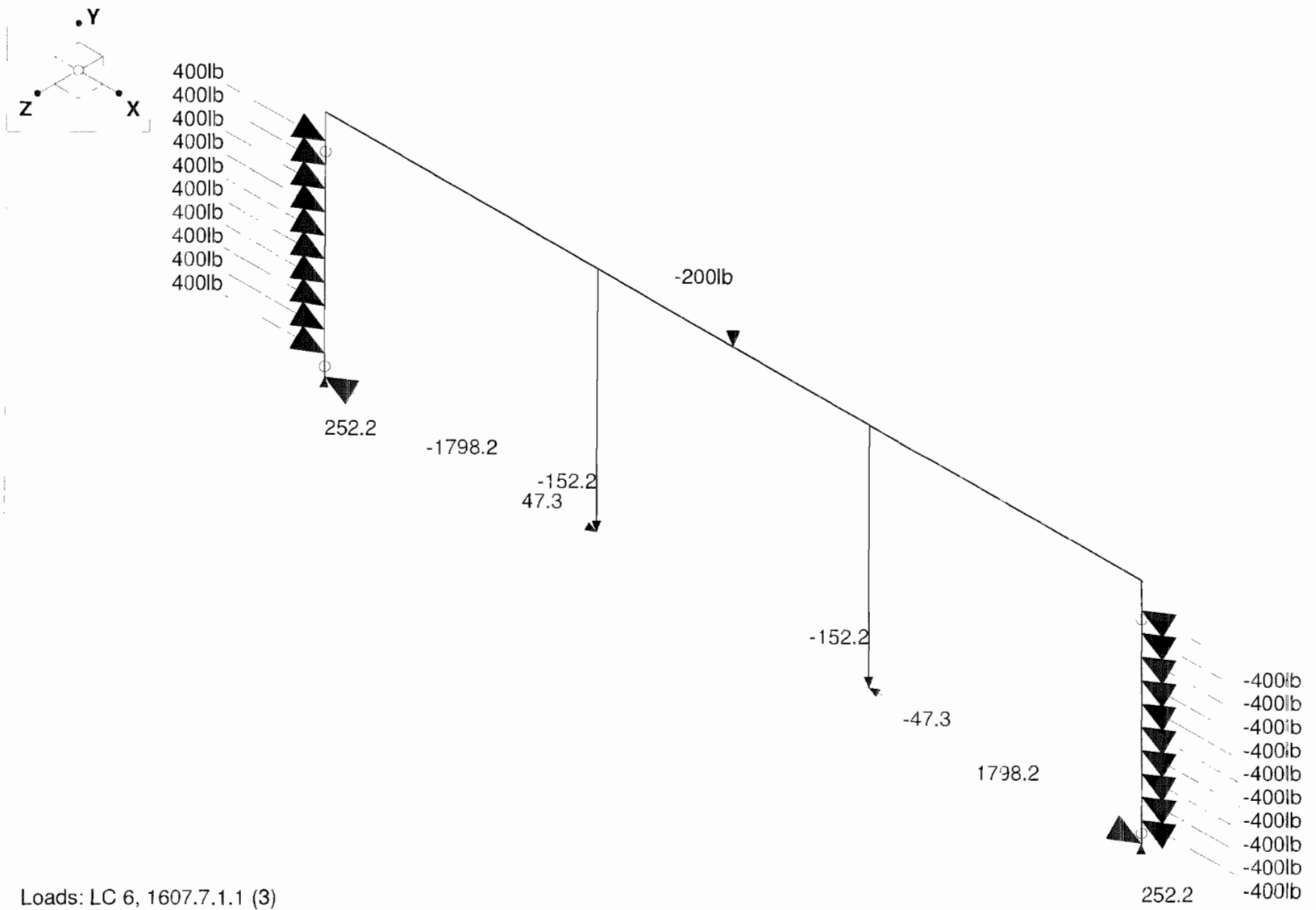
Dan O'Connor

08196

D22 - 1.5" PIPE x 36.5" HIGH RAIL W/O BTM RAIL

Dec 8, 2008 at 2:26 PM

D22.r3d



Loads: LC 6, 1607.7.1.1 (3)
 Results for LC 6, 1607.7.1.1 (3)
 Reaction units are lb and k-ft

Global

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation	Yes
Include Warping	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Vertical Axis	Y

Hot Rolled Steel Code	AISC : ASD 13th
Cold Formed Steel Code	AISI 01: ASD
Wood Code	NDS 2005: ASD
Wood Temperature	< 100F
Concrete Code	ACI 2005

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	PCA Load Contour
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections	Yes
Bad Framing Warnings	No
Unused Force Warnings	Yes

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (1E5 F)	Density[k/ft^3]	Yield[ksi]
1	A53GrB/A501	29000	11154	.3	.65	.49	35
2	A572Gr55	29000	11154	.3	.65	.49	55

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	RAIL	PIPE 1.25	Beam	Pipe	A53GrB/A501	Typical	.62	.184	.184	.368
2	ERAIL	BAR1.66	Beam	Pipe	A572Gr55	Typical	2.164	.373	.373	.745
3	IPOST	PIPE 1.25	Column	Pipe	A53GrB/A501	Typical	.62	.184	.184	.368
4	EPOST	BAR1.66	Column	Pipe	A572Gr55	Typical	2.164	.373	.373	.745

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area (Mem...	Surface (Pl...
1	Cable Prestress	None					20			
2	1607.7.1.2	None					16			
3	1607.7.1	None						3		
4	1607.7.1.1 (1)	None				1				
5	1607.7.1.1 (2)	None					1			
6	1607.7.1.1 (3)	None					1			

Load Combinations

	Description	Solve	PDelta	SR...	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor
1	Cable Prestress	Yes	C		1	1						
2	1607.7.1.2	Yes	C		1	1	2	1				
3	1607.7.1	Yes	C		1	1	3	1				
4	1607.7.1.1 (1)	Yes	C		1	1	4	1				
5	1607.7.1.1 (2)	Yes	C		1	1	5	1				
6	1607.7.1.1 (3)	Yes	C		1	1	6	1				

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2			EPOST	Column	Pipe	A572Gr55	Typical
2	M2	N3	N4			IPOST	Column	Pipe	A53GrB/A...	Typical
3	M3	N2	N4			ERAIL	Beam	Pipe	A572Gr55	Typical
4	M4	N4	N8			RAIL	Beam	Pipe	A53GrB/A...	Typical
5	M5	N5	N6			EPOST	Column	Pipe	A572Gr55	Typical
6	M6	N7	N8			IPOST	Column	Pipe	A53GrB/A...	Typical
7	M7	N8	N6			ERAIL	Beam	Pipe	A572Gr55	Typical

Envelope Joint Reactions

	Joint		X [lb]	lc	Y [lb]	lc	Z [lb]	lc	MX [k-ft]	lc	MY [k-ft]	lc	MZ [k-ft]	lc
1	N1	max	-1787.248	4	305.232	2	14.576	5	0	1	0	1	0	1
2		min	-1889.981	2	265.68	6	-76.252	3	-0.331	3	0	1	0	1
3	N3	max	48.438	6	-165.68	6	0	1	0	1	0	1	0	1
4		min	40.109	3	-305.232	2	-186.248	3	-0.456	3	0	1	0	1
5	N5	max	1889.981	2	305.232	2	21.377	4	.002	4	0	1	0	1
6		min	1787.248	4	265.68	6	-76.252	3	-0.331	3	0	1	0	1
7	N7	max	-40.109	3	-165.68	6	0	1	0	1	0	1	0	1
8		min	-48.438	6	-305.232	2	-186.248	3	-0.456	3	0	1	0	1
9	Totals:	max	0	4	200	6	0	1						
10		min	0	2	0	1	-525	3						

Envelope Member Section Forces

	Member	Sec		Axial[lb]	lc	y Shear[lb]	lc	z Shear[lb]	lc	Torque[k-ft]	lc	y-y Moment[...]	lc	z-z Moment[...]	lc
1	M1	1	max	305.232	2	1890.041	2	14.105	5	0	1	.331	3	0	1
2			min	265.68	6	1787.3	1	-78.528	3	0	1	0	1	0	1
3		2	max	305.232	2	1090.041	2	14.105	5	0	1	.273	3	-1.049	1
4			min	265.68	6	987.3	1	-78.528	3	0	1	0	1	-1.125	2
5		3	max	305.232	2	-208.37	6	14.105	5	0	1	.214	3	-1.259	1
6			min	265.68	6	-230.159	2	-78.528	3	0	1	0	1	-1.375	2
7		4	max	305.232	2	-1408.37	6	14.105	5	0	1	.156	3	-.63	1
8			min	265.68	6	-1550.359	2	-78.528	3	0	1	0	1	-.671	2
9		5	max	305.232	2	-2208.37	6	14.105	5	0	1	.097	3	.865	2
10			min	265.68	6	-2350.359	2	-78.528	3	0	1	0	2	.79	6
11	M2	1	max	-165.68	6	-40.109	3	0	1	0	1	.456	3	0	1
12			min	-305.232	2	-48.438	6	-186.248	3	0	1	0	1	0	1
13		2	max	-165.68	6	-40.109	3	0	1	0	1	.318	3	.036	6
14			min	-305.232	2	-48.438	6	-186.248	3	0	1	0	1	.03	3
15		3	max	-165.68	6	-40.109	3	0	1	0	1	.179	3	.072	6

Envelope Member Section Forces (Continued)

Member	Sec		Axial[lb]	lc	y Shear[lb]	lc	z Shear[lb]	lc	Torque[k-ft]	lc	y-y Moment[...]	lc	z-z Moment[...]	lc	
16		min	-305.232	2	-48.438	6	-186.248	3	0	1	-.002	2	.06	3	
17	4	max	-165.68	6	-40.109	3	2.983	2	0	1	.041	3	.108	6	
18		min	-305.232	2	-48.438	6	-186.248	3	0	1	-.003	2	.089	3	
19	5	max	-165.68	6	-40.109	3	2.983	2	0	1	0	1	.144	6	
20		min	-305.232	2	-48.438	6	-186.248	3	0	1	-.097	3	.119	3	
21	M3	1	max	2350.419	2	305.145	2	0	1	0	2	0	1	.865	2
22		min	2208.419	6	265.629	6	-94.041	3	-.097	3	0	1	.79	6	
23	2	max	2350.419	2	305.145	2	0	1	0	2	0	1	.598	2	
24		min	2208.419	6	265.629	6	-50.291	3	-.097	3	-.063	3	.555	3	
25	3	max	2350.419	2	305.145	2	0	1	0	2	0	1	.331	2	
26		min	2208.419	6	265.629	6	-40.713	4	-.097	3	-.088	3	.307	3	
27	4	max	2350.419	2	305.145	2	37.209	3	0	2	0	1	.093	6	
28		min	2208.419	6	265.629	6	-40.713	4	-.097	3	-.107	4	.059	1	
29	5	max	2350.419	2	305.145	2	80.959	3	0	2	0	1	-.14	6	
30		min	2208.419	6	265.629	6	-40.713	4	-.097	3	-.142	4	-.203	2	
31	M4	1	max	2393.642	2	100	6	51.985	4	.026	4	0	1	.004	6
32		min	2252.861	1	0	1	-100	5	0	1	-.142	4	-.075	2	
33	2	max	2393.642	2	100	6	51.985	4	.026	4	0	1	-.069	3	
34		min	2252.861	1	0	1	-100	5	0	1	-.097	4	-.083	6	
35	3	max	2393.642	2	0	1	100	5	.026	4	0	1	-.069	3	
36		min	2252.861	1	-100	6	0	1	0	1	-.175	5	-.171	6	
37	4	max	2393.642	2	0	1	100	5	.026	4	0	2	-.069	3	
38		min	2252.861	1	-100	6	0	1	0	1	-.088	5	-.083	6	
39	5	max	2393.642	2	0	1	100	5	.026	4	.039	4	.004	6	
40		min	2252.861	1	-100	6	0	1	0	1	-.023	3	-.075	2	
41	M5	1	max	305.232	2	-1787.3	1	21.205	4	0	1	.331	3	0	1
42		min	265.68	6	-1890.041	2	-78.528	3	0	1	-.002	4	0	1	
43	2	max	305.232	2	-987.3	1	21.205	4	0	1	.273	3	1.125	2	
44		min	265.68	6	-1090.041	2	-78.528	3	0	1	0	1	1.049	1	
45	3	max	305.232	2	230.159	2	21.205	4	0	1	.214	3	1.375	2	
46		min	265.68	6	208.37	6	-78.528	3	0	1	0	1	1.259	1	
47	4	max	305.232	2	1550.359	2	21.205	4	0	1	.156	3	.671	2	
48		min	265.68	6	1408.37	6	-78.528	3	0	1	0	1	.63	1	
49	5	max	305.232	2	2350.359	2	21.205	4	0	1	.097	3	-.79	6	
50		min	265.68	6	2208.37	6	-78.528	3	0	1	0	1	-.865	2	
51	M6	1	max	-165.68	6	48.438	6	0	1	0	1	.456	3	0	1
52		min	-305.232	2	40.109	3	-186.248	3	0	1	0	1	0	1	
53	2	max	-165.68	6	48.438	6	0	1	0	1	.318	3	-.03	3	
54		min	-305.232	2	40.109	3	-186.248	3	0	1	0	1	-.036	6	
55	3	max	-165.68	6	48.438	6	0	1	0	1	.179	3	-.06	3	
56		min	-305.232	2	40.109	3	-186.248	3	0	1	0	1	-.072	6	
57	4	max	-165.68	6	48.438	6	0	1	0	1	.041	3	-.089	3	
58		min	-305.232	2	40.109	3	-186.248	3	0	1	0	1	-.108	6	
59	5	max	-165.68	6	48.438	6	0	1	0	1	0	1	-.119	3	
60		min	-305.232	2	40.109	3	-186.248	3	0	1	-.097	3	-.144	6	
61	M7	1	max	2350.419	2	-265.629	6	.061	5	.097	3	.039	4	-.14	6
62		min	2208.419	6	-305.145	2	-80.959	3	0	1	-.023	3	-.203	2	
63	2	max	2350.419	2	-265.629	6	.061	5	.097	3	.03	4	.093	6	
64		min	2208.419	6	-305.145	2	-37.209	3	0	1	-.075	3	.059	1	
65	3	max	2350.419	2	-265.629	6	6.541	3	.097	3	.02	4	.331	2	
66		min	2208.419	6	-305.145	2	-11.272	4	0	1	-.088	3	.307	3	
67	4	max	2350.419	2	-265.629	6	50.291	3	.097	3	.01	4	.598	2	
68		min	2208.419	6	-305.145	2	-11.272	4	0	1	-.063	3	.555	3	

Envelope Member Section Forces (Continued)

Member	Sec	Axial[lb]	lc	y Shear[lb]	lc	z Shear[lb]	lc	Torque[k-ft]	lc	y-y Moment[...]	lc	z-z Moment[...]	lc	
69	5	max	2350.419	2	-265.629	6	94.041	3	.097	3	0	1	.865	2
70		min	2208.419	6	-305.145	2	-11.272	4	0	1	0	1	.79	6

Envelope AISC 13th ASD Steel Code Checks

Member	Shape	Code Check	Loc[in]	lc	Shear ...	Loc[in]	Dir	lc	Pnc/om [lb]	Pnt/om [lb]	Mnyy/om [k-ft]	Mnzz/om ...	Cb	LRFD E...
1	M1	BAR1.66	.720	15.607	2	.055	31.585	2	39342.708	71277.47	1.972	1.972	1...	H1-1b
2	M2	PIPE 1.25	.867	0	3	.049	0	3	10433.553	12994.012	.533	.533	1...	H1-1b
3	M3	BAR1.66	.476	0	2	.056	0	3	31274.188	71277.47	1.972	1.972	1...	H1-1b
4	M4	PIPE 1.25	.549	21	5	.070	0	4	9585.646	12994.012	.533	.533	1	H1-1a
5	M5	BAR1.66	.720	15.607	2	.055	31.585	2	39342.708	71277.47	1.972	1.972	1...	H1-1b
6	M6	PIPE 1.25	.867	0	3	.049	0	3	10433.553	12994.012	.533	.533	1...	H1-1b
7	M7	BAR1.66	.476	42	2	.056	42	3	31274.188	71277.47	1.972	1.972	1...	H1-1b

Global

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation	Yes
Include Warping	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Vertical Axis	Y

Hot Rolled Steel Code	AISC : ASD 13th
Cold Formed Steel Code	AISI 01: ASD
Wood Code	NDS 2005: ASD
Wood Temperature	< 100F
Concrete Code	ACI 2005

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	PCA Load Contour
Parame Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections	Yes
Bad Framing Warnings	No
Unused Force Warnings	Yes

Hot Rolled Steel Properties

	Label	E (ksj)	G (ksj)	Nu	Therm (1E5 F)	Density(k/ft^3)	Yield(ksi)
1	SS316	29000	11154	.3	.65	.49	30
2	LDX2101	28000	11154	.3	.65	.49	60

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	RAIL	PIPE 1.25	Beam	Pipe	SS316	Typical	.62	.184	.184	.368
2	ERAIL	PIPE 1.25XX	Beam	Pipe	LDX2101	Typical	1.534	.341	.341	.682
3	IPOST	PIPE 1.25X	Column	Pipe	SS316	Typical	.83	.231	.231	.462
4	EPOST	PIPE 1.25XX	Column	Pipe	LDX2101	Typical	1.534	.341	.341	.682

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area (Mem...	Surface (Pl...
1	Cable Prestress	None					20			
2	1607.7.1.2	None					16			
3	1607.7.1	None						3		
4	1607.7.1.1 (1)	None				1				
5	1607.7.1.1 (2)	None					1			
6	1607.7.1.1 (3)	None					1			

Load Combinations

	Description	Solve	PDelta	SR...	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor
1	Cable Prestress	Yes	C		1	1						
2	1607.7.1.2	Yes	C		1	1	2	1				
3	1607.7.1	Yes	C		1	1	3	1				
4	1607.7.1.1 (1)	Yes	C		1	1	4	1				
5	1607.7.1.1 (2)	Yes	C		1	1	5	1				
6	1607.7.1.1 (3)	Yes	C		1	1	6	1				

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2			EPOST	Column	Pipe	LDX2101	Typical
2	M2	N3	N4			IPOST	Column	Pipe	SS316	Typical
3	M3	N2	N4			ERAIL	Beam	Pipe	LDX2101	Typical
4	M4	N4	N8			RAIL	Beam	Pipe	SS316	Typical
5	M5	N5	N6			EPOST	Column	Pipe	LDX2101	Typical
6	M6	N7	N8			IPOST	Column	Pipe	SS316	Typical
7	M7	N8	N6			ERAIL	Beam	Pipe	LDX2101	Typical

Envelope Joint Reactions

	Joint		X [lb]	lc	Y [lb]	lc	Z [lb]	lc	MX [k-ft]	lc	MY [k-ft]	lc	MZ [k-ft]	lc
1	N1	max	-1784.883	4	316.262	2	15.082	5	0	1	0	1	0	1
2		min	-1887.432	2	278.064	6	-74.326	3	-.301	3	0	1	0	1
3	N3	max	60.353	6	-178.064	6	0	1	0	1	0	1	0	1
4		min	49.984	4	-316.262	2	-188.174	3	-.486	3	0	1	0	1
5	N5	max	1887.432	2	316.262	2	20.535	4	.01	4	0	1	0	1
6		min	1784.883	4	278.064	6	-74.326	3	-.301	3	0	1	0	1
7	N7	max	-49.984	3	-178.064	6	0	1	0	1	0	1	0	1
8		min	-60.353	6	-316.262	2	-188.174	3	-.486	3	0	1	0	1
9	Totals:	max	0	6	200	6	0	1						
10		min	0	1	0	1	-525	3						

Envelope Member Section Forces

	Member	Sec		Axial[lb]	lc	y Shear[lb]	lc	z Shear[lb]	lc	Torque[k-ft]	lc	y-y Moment[...]	lc	z-z Moment[...]	lc
1	M1	1	max	316.262	2	1887.504	2	14.672	5	0	1	.301	3	0	1
2			min	278.064	6	1784.946	1	-76.7	3	0	1	0	1	0	1
3		2	max	316.262	2	1087.504	2	14.672	5	0	1	.244	3	-1.047	1
4			min	278.064	6	984.946	1	-76.7	3	0	1	0	1	-1.123	2
5		3	max	316.262	2	-211.243	6	14.672	5	0	1	.187	3	-1.255	1
6			min	278.064	6	-232.696	2	-76.7	3	0	1	0	1	-1.371	2
7		4	max	316.262	2	-1411.243	6	14.672	5	0	1	.13	3	-.625	1
8			min	278.064	6	-1552.896	2	-76.7	3	0	1	0	2	-.665	2
9		5	max	316.262	2	-2211.243	6	14.672	5	0	1	.073	3	.872	2
10			min	278.064	6	-2352.896	2	-76.7	3	0	1	-.001	2	.798	6
11	M2	1	max	-178.064	6	-49.984	3	0	1	0	1	.486	3	0	1
12			min	-316.262	2	-60.353	6	-188.174	3	0	1	0	1	0	1
13		2	max	-178.064	6	-49.984	3	0	1	0	1	.347	3	.045	6
14			min	-316.262	2	-60.353	6	-188.174	3	0	1	0	1	.037	3
15		3	max	-178.064	6	-49.984	3	0	1	0	1	.207	3	.09	6

Envelope Member Section Forces (Continued)

Member	Sec		Axial[lb]	lc	y Shear[lb]	lc	z Shear[lb]	lc	Torque[k-ft]	lc	y-y Moment[...]	lc	z-z Moment[...]	lc	
16		min	-316.262	2	-60.353	6	-188.174	3	0	1	0	2	.074	3	
17	4	max	-178.064	6	-49.984	3	2.446	2	0	1	.067	3	.135	6	
18		min	-316.262	2	-60.353	6	-188.174	3	0	1	-.002	2	.111	3	
19	5	max	-178.064	6	-49.984	3	2.446	2	0	1	0	1	.179	6	
20		min	-316.262	2	-60.353	6	-188.174	3	0	1	-.081	4	.149	3	
21	M3	1	max	2352.968	2	316.18	2	2.254	5	.001	2	0	1	.872	2
22		min	2211.303	6	278.011	6	-88.059	3	-.073	3	0	1	.798	6	
23	2	max	2352.968	2	316.18	2	2.254	5	.001	2	.002	5	.596	2	
24		min	2211.303	6	278.011	6	-44.309	3	-.073	3	-.058	3	.553	3	
25	3	max	2352.968	2	316.18	2	2.254	5	.001	2	.004	5	.319	2	
26		min	2211.303	6	278.011	6	-36.257	4	-.073	3	-.078	3	.296	3	
27	4	max	2352.968	2	316.18	2	43.191	3	.001	2	.006	5	.069	6	
28		min	2211.303	6	278.011	6	-36.257	4	-.073	3	-.095	4	.039	1	
29	5	max	2352.968	2	316.18	2	86.941	3	.001	2	.008	5	-.175	6	
30		min	2211.303	6	278.011	6	-36.257	4	-.073	3	-.127	4	-.234	2	
31	M4	1	max	2406.832	2	100	6	48.2	4	.028	4	.008	5	.005	6
32		min	2265.101	1	0	1	-100	5	0	1	-.127	4	-.074	2	
33	2	max	2406.832	2	100	6	48.2	4	.028	4	0	1	-.069	3	
34		min	2265.101	1	0	1	-100	5	0	1	-.085	4	-.083	6	
35	3	max	2406.832	2	0	1	100	5	.028	4	0	1	-.069	3	
36		min	2265.101	1	-100	6	0	1	0	1	-.167	5	-.17	6	
37	4	max	2406.832	2	0	1	100	5	.028	4	.001	2	-.069	3	
38		min	2265.101	1	-100	6	0	1	0	1	-.08	5	-.083	6	
39	5	max	2406.832	2	0	1	100	5	.028	4	.042	4	.005	6	
40		min	2265.101	1	-100	6	0	1	0	1	-.002	3	-.074	2	
41	M5	1	max	316.262	2	-1784.946	1	20.431	4	0	1	301	3	0	1
42		min	278.064	6	-1887.504	2	-76.7	3	0	1	-.01	4	0	1	
43	2	max	316.262	2	-984.946	1	20.431	4	0	1	.244	3	1.123	2	
44		min	278.064	6	-1087.504	2	-76.7	3	0	1	0	2	1.047	1	
45	3	max	316.262	2	232.696	2	20.431	4	0	1	.187	3	1.371	2	
46		min	278.064	6	211.243	6	-76.7	3	0	1	0	1	1.255	1	
47	4	max	316.262	2	1552.896	2	20.431	4	0	1	.13	3	.665	2	
48		min	278.064	6	1411.243	6	-76.7	3	0	1	0	1	.625	1	
49	5	max	316.262	2	2352.896	2	20.431	4	0	1	.073	3	-.798	6	
50		min	278.064	6	2211.243	6	-76.7	3	0	1	0	1	-.872	2	
51	M6	1	max	-178.064	6	60.353	6	0	1	0	1	.486	3	0	1
52		min	-316.262	2	49.984	4	-188.174	3	0	1	0	1	0	1	
53	2	max	-178.064	6	60.353	6	0	1	0	1	.347	3	-.037	3	
54		min	-316.262	2	49.984	4	-188.174	3	0	1	0	1	-.045	6	
55	3	max	-178.064	6	60.353	6	0	1	0	1	.207	3	-.074	3	
56		min	-316.262	2	49.984	4	-188.174	3	0	1	0	1	-.09	6	
57	4	max	-178.064	6	60.353	6	0	1	0	1	.067	3	-.111	3	
58		min	-316.262	2	49.984	4	-188.174	3	0	1	0	1	-.135	6	
59	5	max	-178.064	6	60.353	6	0	1	0	1	0	1	-.149	3	
60		min	-316.262	2	49.984	4	-188.174	3	0	1	-.073	3	-.179	6	
61	M7	1	max	2352.968	2	-278.011	6	0	1	.073	3	.042	4	-.175	6
62		min	2211.303	6	-316.18	2	-86.941	3	0	1	-.002	3	-.234	2	
63	2	max	2352.968	2	-278.011	6	0	1	.073	3	.031	4	.069	6	
64		min	2211.303	6	-316.18	2	-43.191	3	0	1	-.059	3	.039	1	
65	3	max	2352.968	2	-278.011	6	.559	3	.073	3	.021	4	.319	2	
66		min	2211.303	6	-316.18	2	-11.943	4	0	1	-.078	3	.296	4	
67	4	max	2352.968	2	-278.011	6	44.309	3	.073	3	.01	4	.596	2	
68		min	2211.303	6	-316.18	2	-11.943	4	0	1	-.058	3	.553	4	

Envelope Member Section Forces (Continued)

Member	Sec	Axial[lb]	lc	y Shear[lb]	lc	z Shear[lb]	lc	Torque[k-ft]	lc	y-y Moment[...]	lc	z-z Moment[...]	lc	
69	5	max	2352.968	2	-278.011	6	88.059	3	.073	3	0	1	.872	2
70		min	2211.303	6	-316.18	2	-11.943	4	0	1	0	1	.798	6

Envelope AISC 13th ASD Steel Code Checks

Member	Shape	Code Check	Loc[in]	lc	Shear ...	Loc[in]	Dir	lc	Pnc/om [lb]	Pnt/om [lb]	Mnyy/om [k-ft]	Mnzz/om ...	Cb	LRFD E...
1	M1	PIPE_1.25XX	.737	15.607	2	.142	31.585	2	32761.387	55103.46	1.924	1.924	1...	H1-1b
2	M2	PIPE_1.25X	.837	0	3	.044	0	3	12200.25	14910.18	.588	.588	1...	H1-1b
3	M3	PIPE_1.25XX	.497	0	2	.068	0	3	26800.807	55103.46	1.924	1.924	2...	H1-1b
4	M4	PIPE_1.25	.616	21	5	.085	0	4	8581.222	11137.725	.457	.457	1	H1-1a
5	M5	PIPE_1.25XX	.737	15.607	2	.142	31.585	2	32761.387	55103.46	1.924	1.924	1...	H1-1b
6	M6	PIPE_1.25X	.837	0	3	.044	0	3	12200.25	14910.18	.588	.588	1...	H1-1b
7	M7	PIPE_1.25XX	.497	42	2	.068	42	3	26800.807	55103.46	1.924	1.924	2...	H1-1b

*** End of Calculations ***