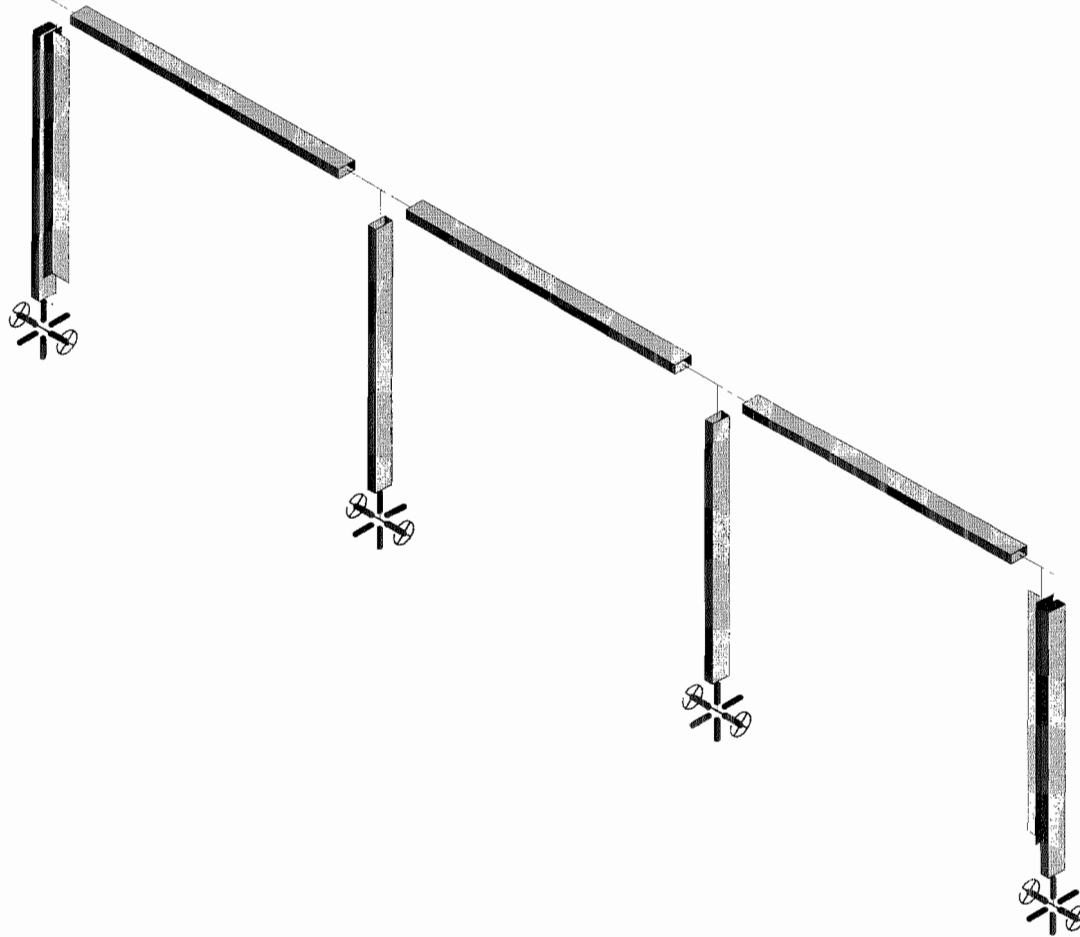
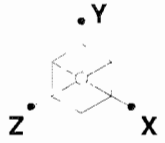


**D10c—2"x1" RECT. TUBE x 36-1/2" HIGH RAIL WITH 2"x1-1/2"x1/4" TEE
FOR USE WITH ADJUST-A-JAW™ AND FIXED JAW HARDWARE,
WITHOUT BOTTOM RAIL**

Building Code:	2006 <i>International Building Code</i> 2007 <i>California Building Code</i> <i>AISC Steel Construction Manual</i> , 13th ed—ASD
Material:	Carbon Steel, A500, Grade B, Fy = 42 ksi (HSS Tube) Carbon Steel, A36, Fy = 36 ksi (Bar and Tee) Stainless Steel, A554, Grade MT-304 or MT-316, Fy = 30 ksi Stainless Steel, LDX 2101 (UNS S32101), Fy = 60 ksi (Tee)
Height:	36.5"
Anchor Post:	Carbon Steel: 2"x1" Solid Bar with 2"x1.5"x 1/4" Tee Stainless Steel: 2"x1" Solid Bar with 2"x1.5"x 1/4" Tee (LDX 2101)
Intermediate Posts:	Carbon Steel: HSS 2x1x1/8 Tube Stainless Steel: 2"x1"x0.120" Tube
Top Rail:	Carbon Steel: HSS 2x1x1/8 Tube Stainless Steel: 2"x1"x0.120" Tube
Bottom Rail:	None
Number of Cables:	10
Cable Spacing:	3.23"



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.



Ferrari Shields & Associates

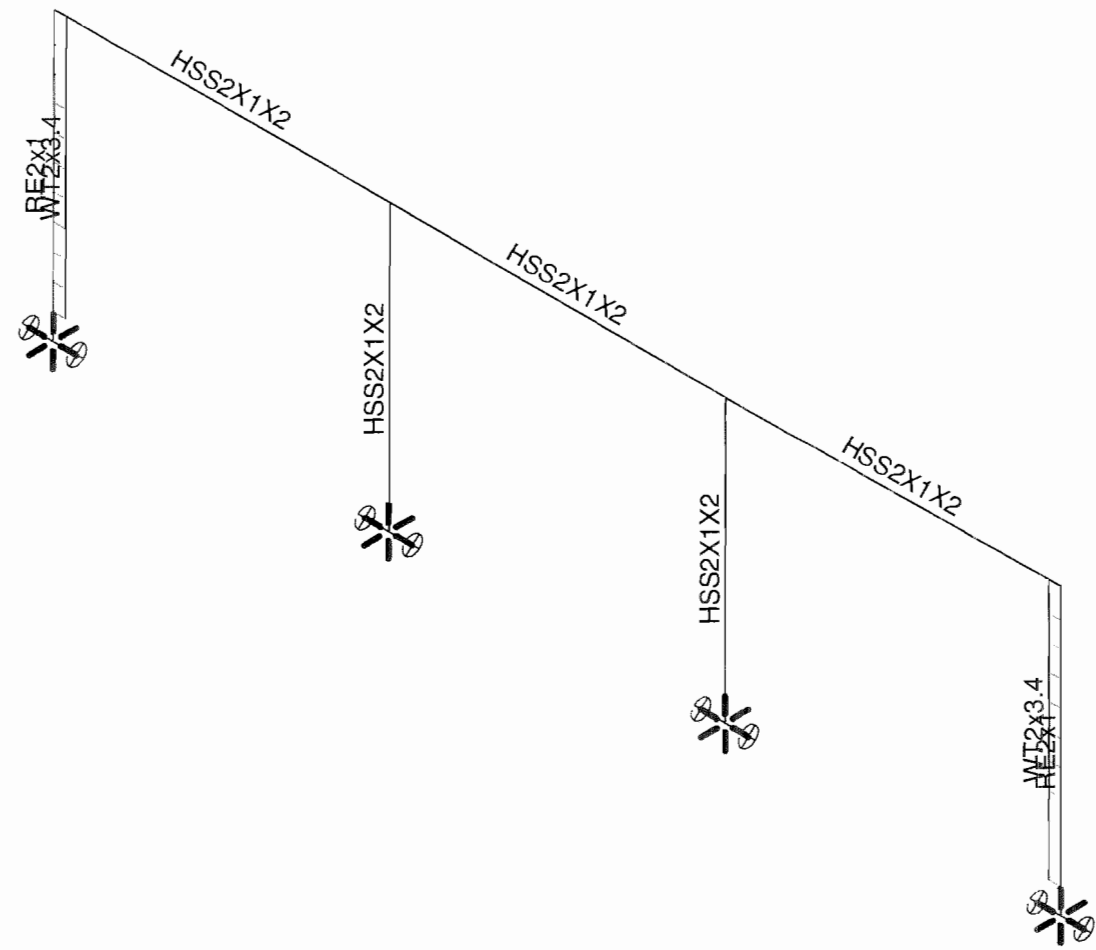
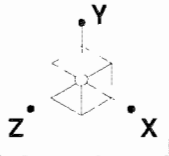
D. O'Connor

08196

D10c - 2x1 TUBE x 36-1/2" HIGH RAIL W/ T2x1.5x0.25 W/O BTM RAIL

Dec 10, 2008 at 2:51 PM

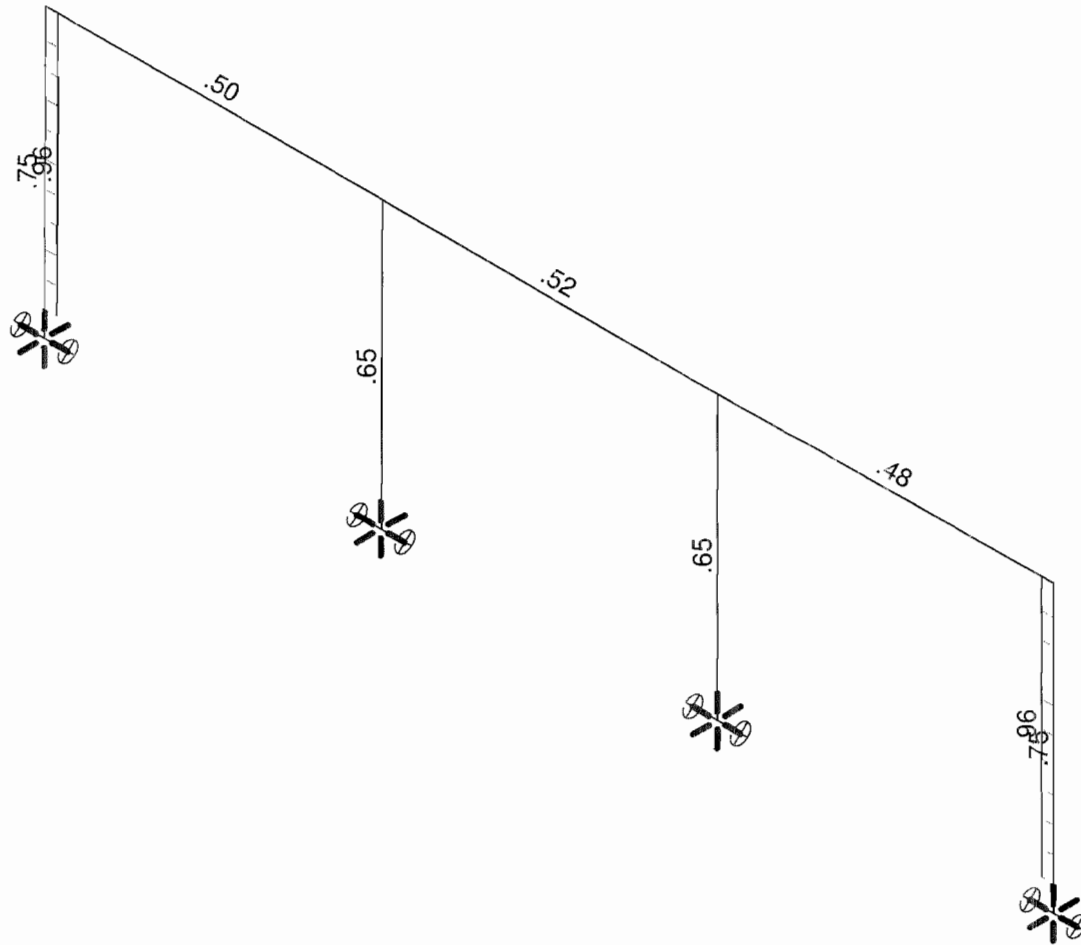
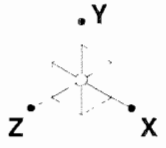
D10c.R3D



Ferrari Shields & Associates
D. O'Connor
08196

D10c - 2x1 TUBE x 36-1/2" HIGH RAIL W/ T2x1.5x0.25 W/O BTM RAIL

Dec 10, 2008 at 2:52 PM
D10c.R3D



Member Code Checks Displayed
Solution: Envelope

Ferrari Shields & Associates

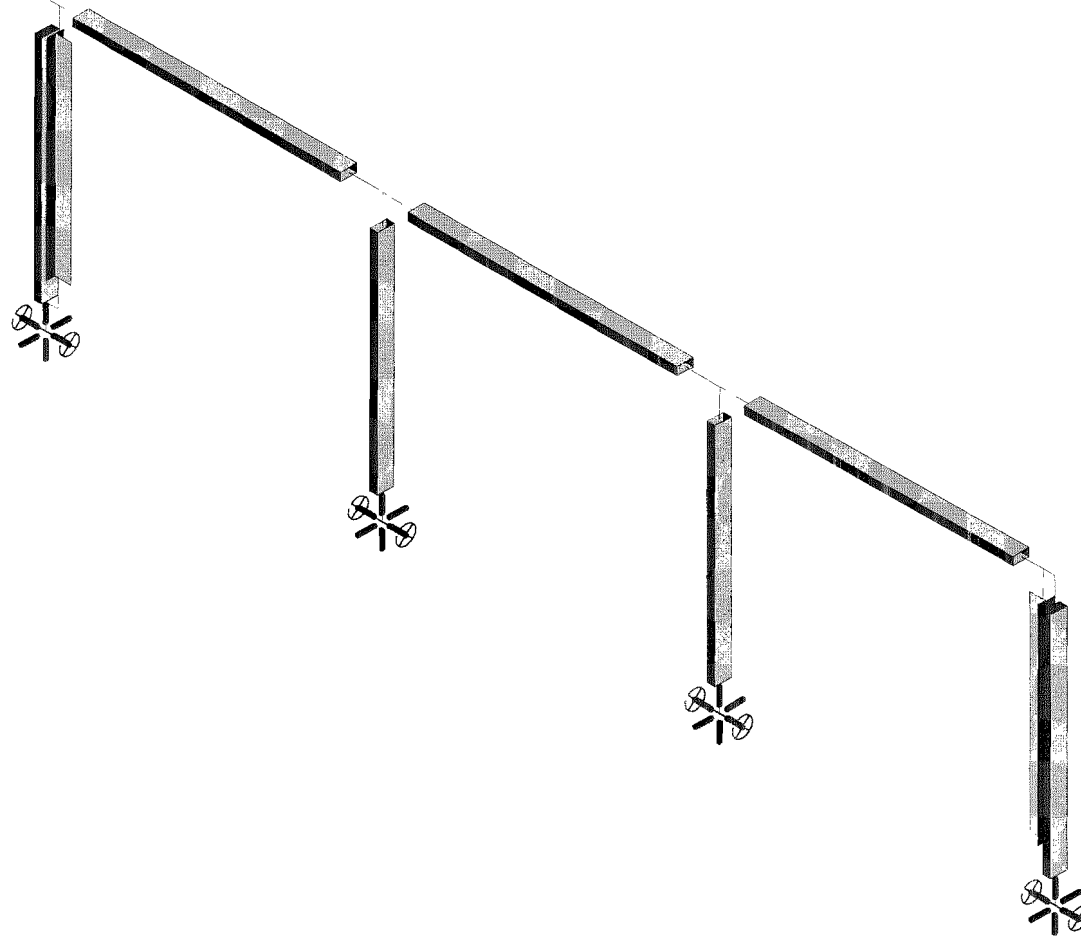
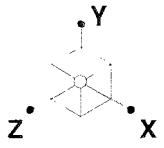
D. O'Connor

08196

D10c - 2x1 TUBE x 36-1/2" HIGH RAIL W/ T2x1.5x0.25 W/O BTM RAIL

Dec 10, 2008 at 2:52 PM

D10c.R3D



Ferrari Shields & Associates

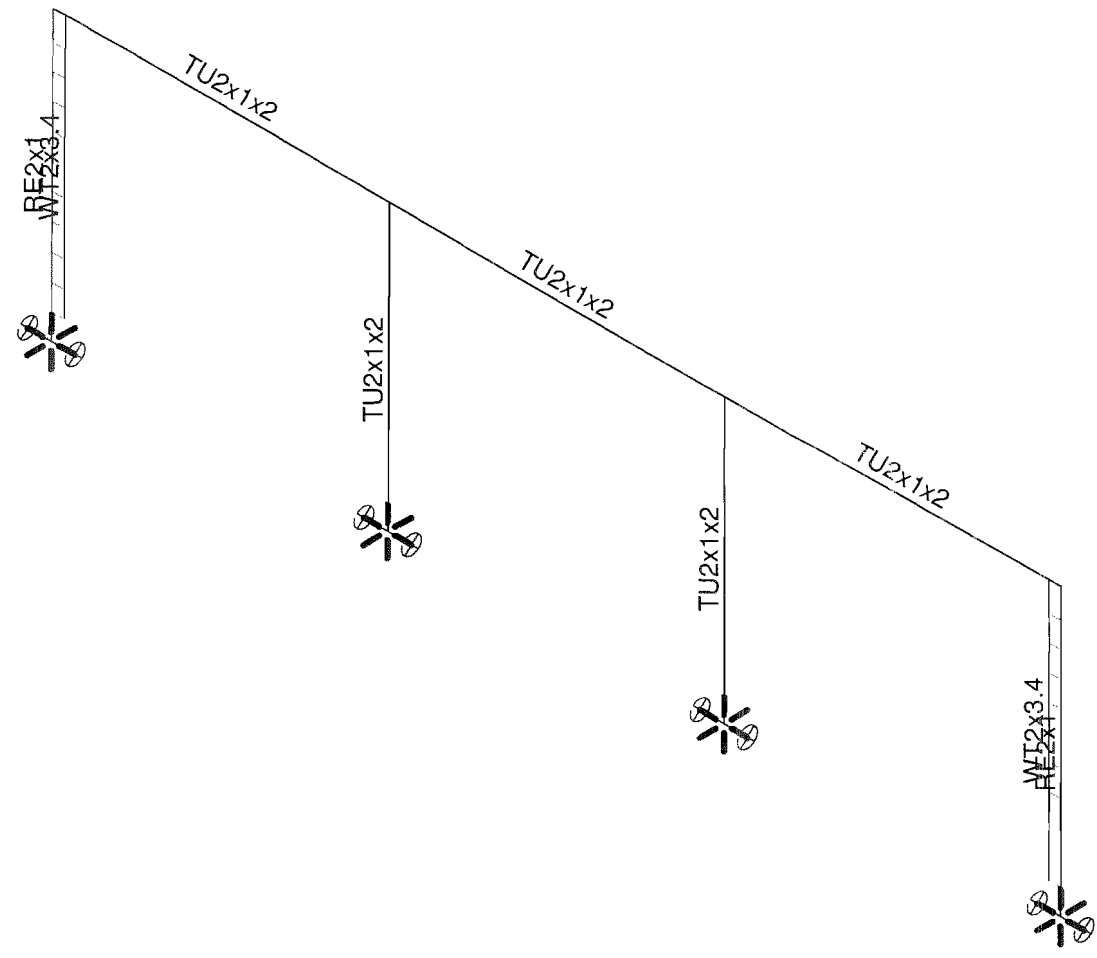
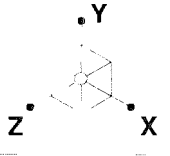
D. O'Connor

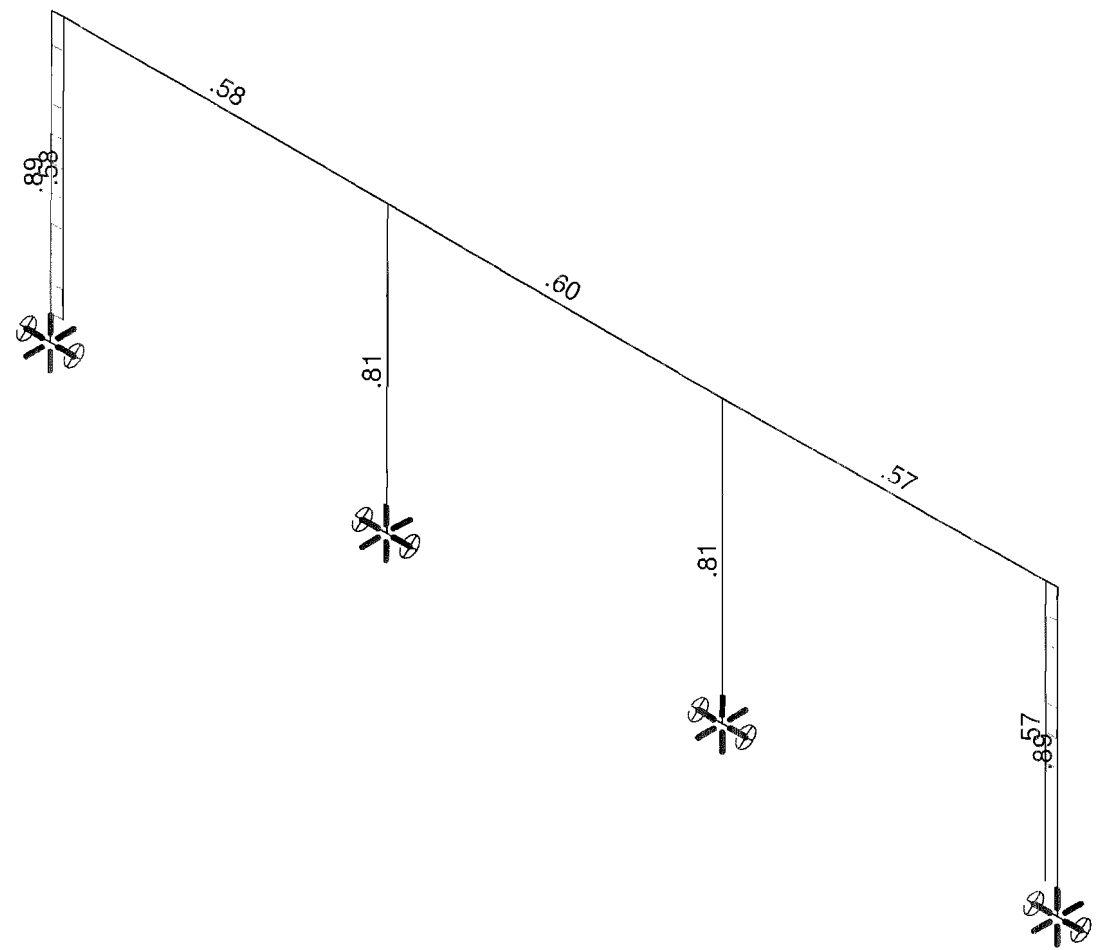
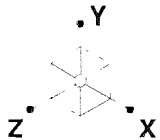
08196

D10c (SS) - 2x1 TUBE x 36-1/2" HIGH RAIL W/ T2x1.5x0.25 W/O BTM RAIL

Dec 10, 2008 at 2:57 PM

D10css.R3D





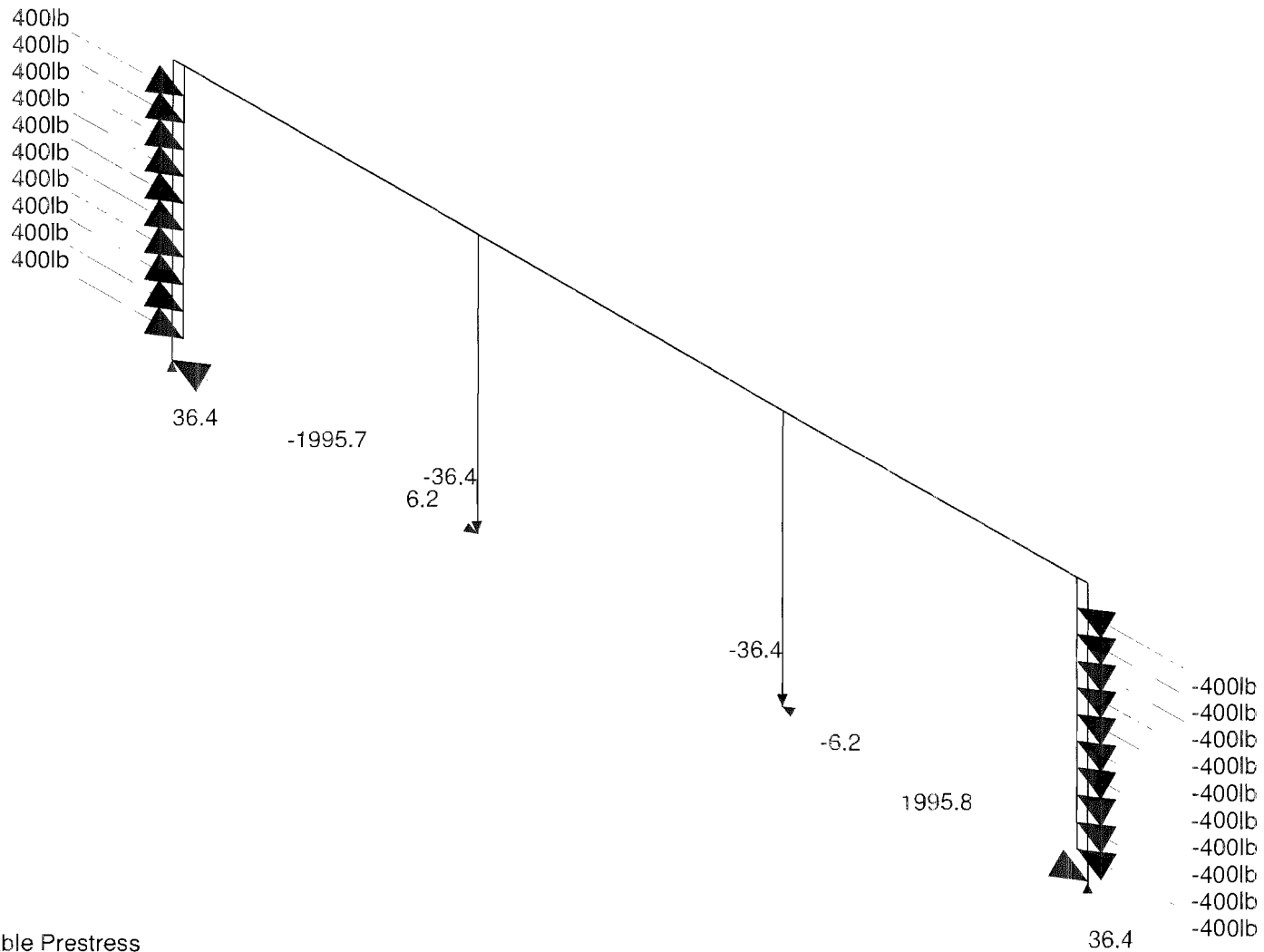
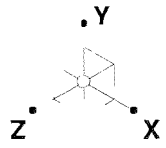
Member Code Checks Displayed
Solution: Envelope
Reaction units are lb and k-ft

Ferrari Shields & Associates
D. O'Connor
08196

D10c (SS) - 2x1 TUBE x 36-1/2" HIGH RAIL W/ T2x1.5x0.25 W/O BTM RAIL

Dec 10, 2008 at 2:58 PM

D10css.R3D



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

Ferrari Shields & Associates

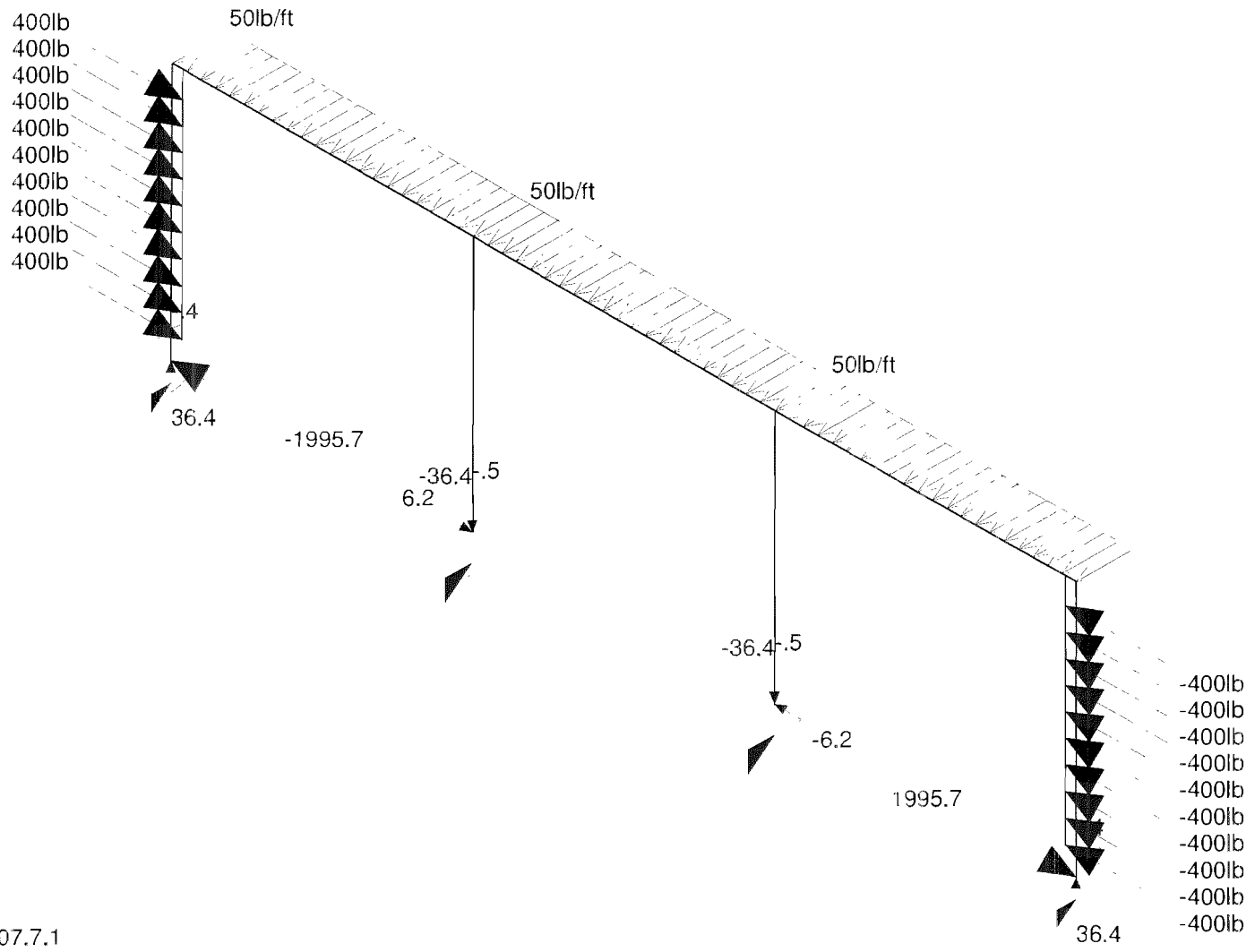
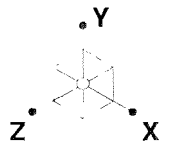
D. O'Connor

08196

D10c - 2x1 TUBE x 36-1/2" HIGH RAIL W/ T2x1.5x0.25 W/O BTM RAIL

Dec 10, 2008 at 2:53 PM

D10c.R3D

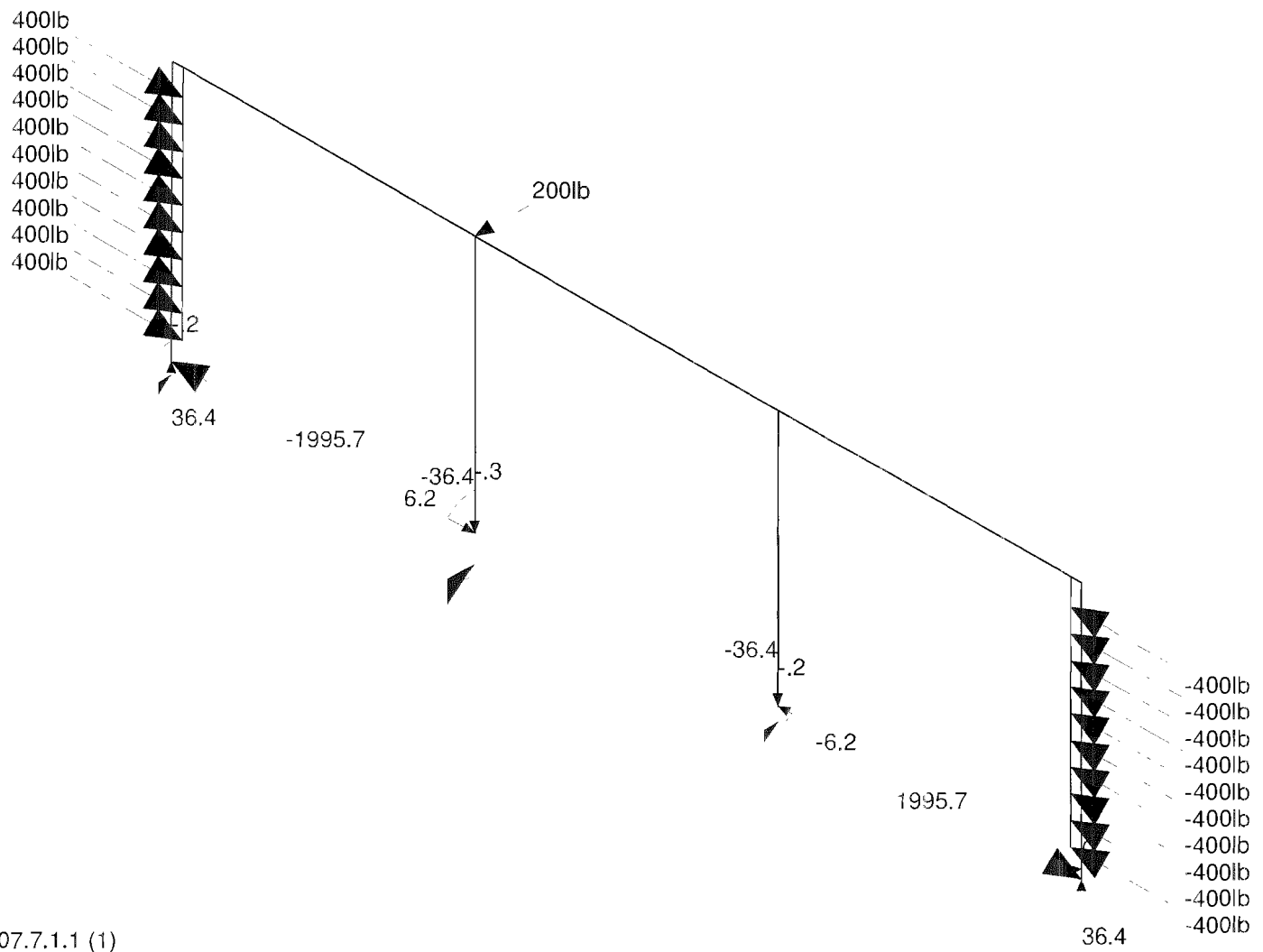
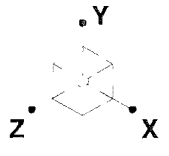


Loads: LC 3, 1607.7.1
 Results for LC 3, 1607.7.1
 Reaction units are lb and k-ft

Ferrari Shields & Associates
 D. O'Connor
 08196

D10c - 2x1 TUBE x 36-1/2" HIGH RAIL W/ T2x1.5x0.25 W/O BTM RAIL

Dec 10, 2008 at 2:54 PM
 D10c.R3D

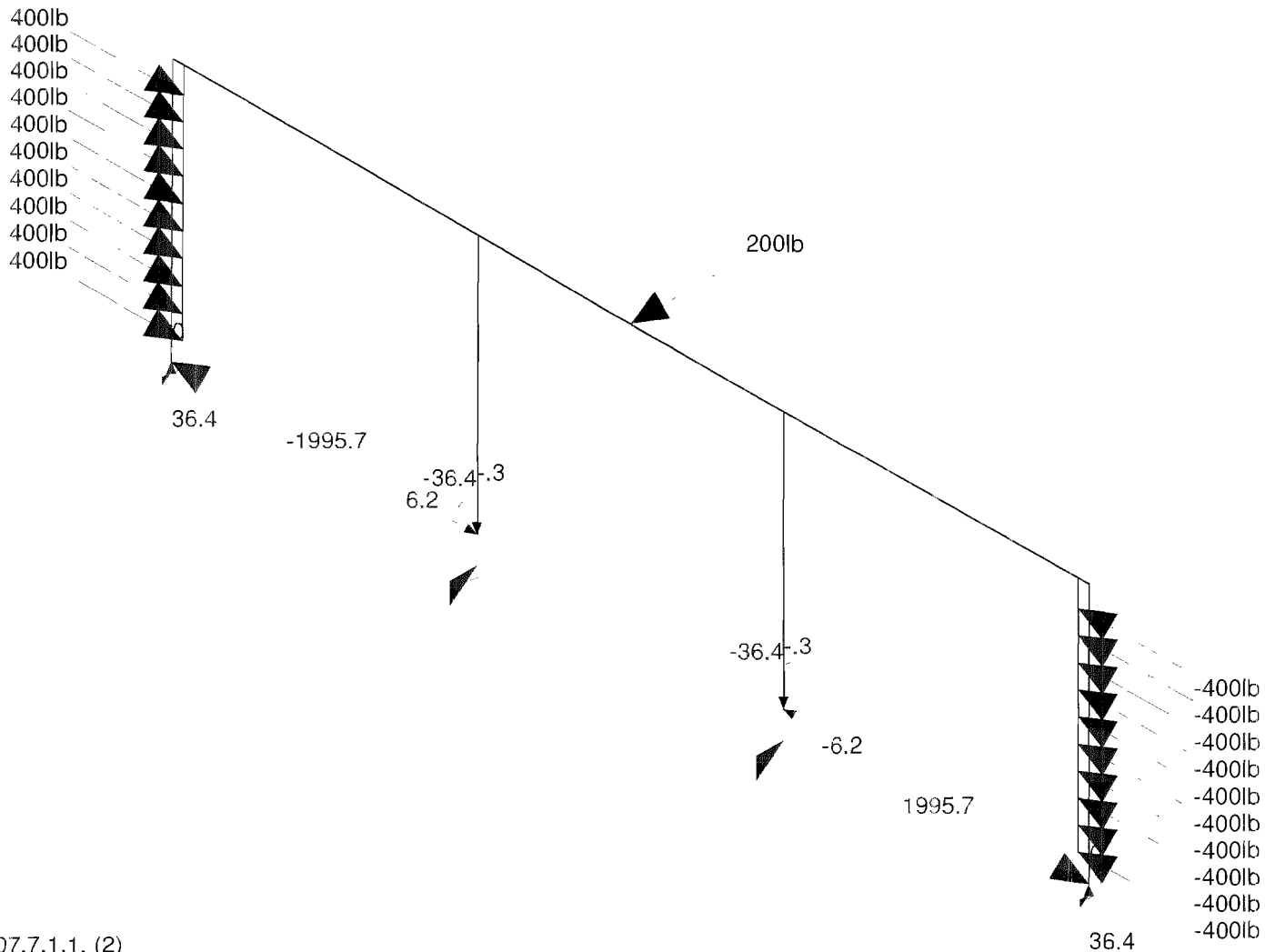
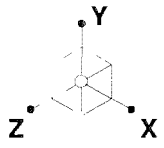


Loads: LC 4, 1607.7.1.1 (1)
 Results for LC 4, 1607.7.1.1 (1)
 Reaction units are lb and k-ft

Ferrari Shields & Associates
 D. O'Connor
 08196

D10c - 2x1 TUBE x 36-1/2" HIGH RAIL W/ T2x1.5x0.25 W/O BTM RAIL

Dec 10, 2008 at 2:54 PM
 D10c.R3D

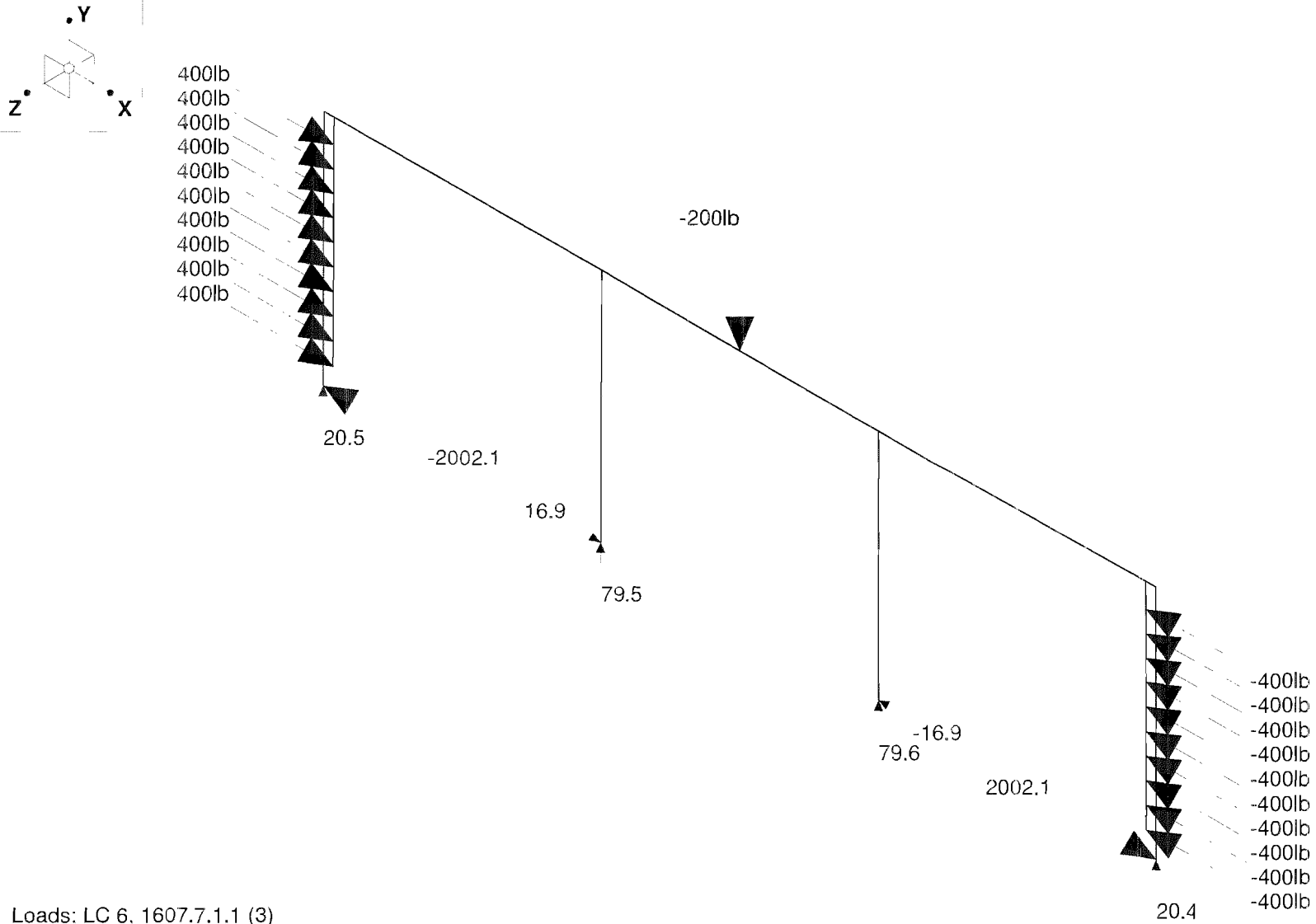


Loads: LC 5, 1607.7.1.1. (2)
 Results for LC 5, 1607.7.1.1. (2)
 Reaction units are lb and k-ft

Ferrari Shields & Associates
 D. O'Connor
 08196

D10c - 2x1 TUBE x 36-1/2" HIGH RAIL W/ T2x1.5x0.25 W/O BTM RAIL

Dec 10, 2008 at 2:54 PM
 D10c.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

Ferrari Shields & Associates

D. O'Connor

08196

D10c - 2x1 TUBE x 36-1/2" HIGH RAIL W/ T2x1.5x0.25 W/O BTM RAIL

Dec 10, 2008 at 2:54 PM

D10c.R3D

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	A500Gr42	29000	11154	.3	.65	.49	42
2	A36	29000	11154	.3	.65	.49	36
3	SS316	28000	11154	.3	.65	.49	30
4	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	HSS2X1X2	Beam	Tube	A500Gr42	Typical	.609	.092	.28	.238
2	ERAIL	HSS2X1X2	Beam	Tube	A500Gr42	Typical	.609	.092	.28	.238
3	POST	HSS2X1X2	Column	Tube	A500Gr42	Typical	.609	.092	.28	.238
4	EPOST	RE2x1	Column	Tube	A36	Typical	2	.167	.667	.457
5	TEE	WT2x3.4	Column	W_Tee	A36	Typical	.938	.169	.348	.018

General Material Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (1E5 F)	Density[k/ft^3]
1	GEN_RIGID	1e+6		.3	.65	0

General Section Sets

	Label	Shape	Type	Material	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	LINK	ARB_LINK_1	Beam	GEN_RIGID	1e+6	1e+6	1e+6	1

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		90	EPOST	Column	Tube	A36	Typical
2	M2	N3	N4		90	POST	Column	Tube	A500Gr42	Typical
3	M3	N2	N4		90	ERAIL	Beam	Tube	A500Gr42	Typical
4	M4	N4	N8		90	RAIL	Beam	Tube	A500Gr42	Typical
5	M5	N5	N6		90	EPOST	Column	Tube	A36	Typical
6	M6	N7	N8		90	POST	Column	Tube	A500Gr42	Typical
7	M7	N8	N6		90	ERAIL	Beam	Tube	A500Gr42	Typical
8	M8	N54	N10		180	TEE	Column	W Tee	A36	Typical
9	M9	N53	N9			TEE	Column	W Tee	A36	Typical
10	M10	N11	N13			LINK	Beam	None	GEN_RIGID	Typical
11	M11	N14	N12			LINK	Beam	None	GEN_RIGID	Typical
12	M12	N15	N17			LINK	Beam	None	GEN_RIGID	Typical
13	M13	N18	N16			LINK	Beam	None	GEN_RIGID	Typical
14	M14	N19	N21			LINK	Beam	None	GEN_RIGID	Typical
15	M15	N22	N20			LINK	Beam	None	GEN_RIGID	Typical
16	M16	N23	N25			LINK	Beam	None	GEN_RIGID	Typical
17	M17	N26	N24			LINK	Beam	None	GEN_RIGID	Typical
18	M18	N27	N29			LINK	Beam	None	GEN_RIGID	Typical
19	M19	N30	N28			LINK	Beam	None	GEN_RIGID	Typical
20	M20	N31	N33			LINK	Beam	None	GEN_RIGID	Typical
21	M21	N34	N32			LINK	Beam	None	GEN_RIGID	Typical
22	M22	N35	N37			LINK	Beam	None	GEN_RIGID	Typical
23	M23	N38	N36			LINK	Beam	None	GEN_RIGID	Typical
24	M24	N43	N45			LINK	Beam	None	GEN_RIGID	Typical
25	M25	N46	N44			LINK	Beam	None	GEN_RIGID	Typical
26	M26	N47	N49			LINK	Beam	None	GEN_RIGID	Typical
27	M27	N50	N48			LINK	Beam	None	GEN_RIGID	Typical
28	M28	N51	N53			LINK	Beam	None	GEN_RIGID	Typical
29	M29	N54	N52			LINK	Beam	None	GEN_RIGID	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	-1995.737	3	39.369	2	5.742	5	0	1	0	1	0	1
2		min	-2118.333	2	20.522	6	-82.282	3	-363	3	0	1	0	1
3	N3	max	16.901	6	79.469	6	0	1	0	1	0	1	0	1
4		min	6.168	1	-39.367	2	-180.217	3	-496	3	0	1	0	1
5	N5	max	2118.344	2	39.357	2	15.595	4	.027	4	0	1	0	1
6		min	1995.748	4	20.405	6	-82.285	3	-363	3	0	1	0	1
7	N7	max	-6.163	4	79.605	6	0	1	0	1	0	1	0	1
8		min	-16.872	6	-39.357	2	-180.217	3	-496	3	0	1	0	1
9	Totals:	max	.018	2	200.001	6	0	1						
10		min	.016	1	.001	4	-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	39.369	2	5.741	5	-1996.103	3	0	1	0	1	0	1
2			min	20.522	6	-82.302	3	-2118.76	2	0	1	0	1	-363	3
3		2	max	6782.657	2	4.148	5	-736.188	1	0	5	-173	1	0	1
4			min	6313.464	1	-86.661	3	-813.218	2	-.001	3	-187	2	-236	3
5		3	max	9941.066	2	1.975	5	1.279	2	0	5	-164	1	0	1
6			min	9087.509	1	-108.693	3	-2.888	6	-.002	3	-.18	2	-169	3
7		4	max	6760.562	2	1.65	5	816.872	2	0	5	-.14	1	0	1
8			min	6296.848	1	-104.944	3	735.583	6	-.002	2	-.151	2	-.096	3
9		5	max	653.109	6	0	1	958.26	2	.005	5	.081	2	0	2
10			min	616.405	4	-123.263	3	903.368	4	-.002	2	.075	6	-.017	3
11	M2	1	max	79.469	6	0	1	17.045	6	0	1	0	1	0	1
12			min	-39.367	2	-180.217	3	6.168	1	0	1	0	1	-496	3
13		2	max	79.469	6	0	1	17.045	6	0	1	.013	6	0	1
14			min	-39.367	2	-180.217	3	6.168	1	0	1	.005	1	-361	3
15		3	max	79.469	6	0	1	16.94	6	0	1	.026	6	0	2
16			min	-39.367	2	-180.217	3	6.168	1	0	1	.009	1	-226	3
17		4	max	79.469	6	1.984	2	16.715	6	0	1	.038	6	.003	2
18			min	-39.367	2	-180.217	3	6.168	1	0	1	.014	1	-.091	3
19		5	max	79.469	6	1.984	2	16.715	6	0	1	.051	6	.048	4
20			min	-39.367	2	-180.217	3	6.168	1	0	1	.019	1	0	1
21	M3	1	max	952.676	2	0	1	-609.944	4	0	2	.081	2	.002	2
22			min	898.477	4	-129.709	3	-646.496	6	-.017	3	.075	6	-.005	5
23		2	max	2128.935	2	0	1	-20.722	6	0	1	.072	2	.066	3
24			min	1997.929	6	-54.665	3	-39.568	2	-.044	3	.061	6	0	1
25		3	max	2128.935	2	0	1	-20.722	6	0	1	.043	6	.095	3
26			min	1997.929	6	-42.605	4	-39.568	2	-.044	3	.034	1	0	1
27		4	max	2128.935	2	32.835	3	-20.722	6	0	1	.025	6	.111	4
28			min	1997.929	6	-42.605	4	-39.568	2	-.044	3	.002	4	0	1
29		5	max	2128.935	2	76.585	3	-20.722	6	0	1	.007	6	.149	4
30			min	1997.929	6	-42.605	4	-39.568	2	-.044	3	-.032	2	0	1
31	M4	1	max	2135.61	2	49.834	4	0	1	.017	4	.058	6	.149	4
32			min	2010.493	1	-100	5	-99.99	6	0	3	-.012	2	0	1
33		2	max	2135.61	2	49.834	4	0	1	.017	4	-.011	4	.11	5
34			min	2010.493	1	-100	5	-99.99	6	0	3	-.03	6	0	1
35		3	max	2135.61	2	100	5	100.01	6	.017	4	-.011	1	.197	5
36			min	2010.493	1	0	1	-.001	2	0	3	-.117	6	0	1
37		4	max	2135.61	2	100	5	100.01	6	.017	4	-.011	1	.11	5

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	
38		min	2010.493	1	0	1	-0.01	2	0	3	-0.03	6	0	2	
39	5	max	2135.61	2	100	5	100.01	6	.017	4	.058	6	.038	3	
40		min	2010.493	1	0	1	-0.01	2	0	3	-0.012	2	-.026	4	
41	M5	1	max	39.357	2	15.596	4	2118.77	2	0	1	0	.027	4	
42		min	20.405	6	-82.306	3	1996.115	4	0	1	0	1	-.363	3	
43	2	max	6782.701	2	14.765	4	813.226	2	.001	3	.187	2	.011	4	
44		min	6313.505	1	-86.665	3	736.194	1	0	4	.173	1	-.236	3	
45	3	max	9941.165	2	15.697	4	2.983	6	.002	3	.18	2	.001	4	
46		min	9087.576	1	-108.698	3	-1.276	2	0	4	.164	1	-.169	3	
47	4	max	6760.707	2	14.926	4	-735.526	6	.002	3	.151	2	0	1	
48		min	6296.933	1	-104.945	3	-816.868	2	0	4	.14	1	-.096	3	
49	5	max	653.755	6	0	1	-903.384	1	0	1	-.075	6	0	1	
50		min	616.449	1	-123.261	3	-958.285	2	-.005	5	-.081	2	-.017	3	
51	M6	1	max	79.605	6	0	-6.163	4	0	1	0	1	0	1	
52		min	-39.357	2	-180.217	3	-16.862	6	0	1	0	1	-.496	3	
53	2	max	79.605	6	0	1	-6.163	4	0	1	-.005	4	0	1	
54		min	-39.357	2	-180.217	3	-16.862	6	0	1	-.013	6	-.361	3	
55	3	max	79.605	6	0	1	-6.163	4	0	1	-.009	4	0	1	
56		min	-39.357	2	-180.217	3	-16.862	6	0	1	-.025	6	-.226	3	
57	4	max	79.605	6	0	1	-6.163	4	0	1	-.014	4	0	1	
58		min	-39.357	2	-180.217	3	-16.862	6	0	1	-.038	6	-.091	3	
59	5	max	79.605	6	0	1	-6.163	4	0	1	-.018	4	.044	3	
60		min	-39.357	2	-180.217	3	-16.862	6	0	1	-.051	6	0	1	
61	M7	1	max	2128.942	2	6.624	5	39.556	2	.044	3	.007	6	.038	3
62		min	1997.958	6	-76.585	3	20.604	6	0	1	-.032	2	-.026	4	
63	2	max	2128.942	2	6.624	5	39.556	2	.044	3	.025	6	.085	3	
64		min	1997.958	6	-32.835	3	20.604	6	0	1	.002	1	-.019	4	
65	3	max	2128.942	2	10.915	3	39.556	2	.044	3	.043	6	.095	3	
66		min	1997.958	6	-7.191	4	20.604	6	0	1	.034	4	-.013	4	
67	4	max	2128.942	2	54.665	3	39.556	2	.044	3	.072	2	.066	3	
68		min	1997.958	6	-7.191	4	20.604	6	0	1	.061	6	-.007	4	
69	5	max	952.701	2	129.706	3	647.158	6	.017	3	.081	2	0	1	
70		min	898.496	3	0	1	609.991	1	0	1	.075	6	-.005	5	
71	M8	1	max	-4148.345	1	708.665	2	7.816	3	0	3	.004	4	-.069	4
72		min	-4423.647	2	657.168	1	-1.613	4	0	4	-.067	3	-.072	2	
73	2	max	-7813.59	1	387.707	2	11.519	3	0	3	.002	4	-.299	1	
74		min	-8471.965	2	335.569	1	-1.843	4	0	4	-.056	3	-.325	2	
75	3	max	-8737.109	1	-167.33	6	13.498	3	0	3	0	2	-.35	1	
76		min	-9538.164	2	-196.596	2	-1.893	4	0	4	-.038	3	-.384	2	
77	4	max	-6260.524	1	-498.303	6	12.713	3	0	3	0	1	-.222	1	
78		min	-6721.35	2	-553.41	2	-1.809	4	0	4	-.023	3	-.237	2	
79	5	max	-580.04	1	-1088.876	6	0	1	0	1	0	1	.101	2	
80		min	-633.35	6	-1176.24	2	-39.975	5	0	5	-.027	3	.082	6	
81	M9	1	max	-4148.314	1	708.657	2	.696	5	0	5	.067	3	-.069	3
82		min	-4423.616	2	657.162	1	-7.815	3	0	3	0	1	-.072	2	
83	2	max	-7813.531	1	387.703	2	.415	5	0	5	.056	3	-.299	1	
84		min	-8471.891	2	335.568	1	-11.517	3	0	3	0	1	-.325	2	
85	3	max	-8737.03	1	-167.395	6	8.117	2	0	5	.038	3	-.35	1	
86		min	-9538.037	2	-196.603	2	-13.497	3	0	3	0	1	-.384	2	
87	4	max	-6260.432	1	-498.342	6	12.091	2	0	5	.023	3	-.222	1	
88		min	-6721.193	2	-553.413	2	-12.709	3	0	2	0	1	-.237	2	
89	5	max	-579.987	4	-1089.089	6	39.975	5	0	5	.027	3	.101	2	
90		min	-632.588	6	-1176.259	2	0	1	0	2	0	1	.083	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	RE2x1	.747	3	3	.082	0	z	2	19013.305	43113.772	.898	1.796	1... H1-1b
2	M2	HSS2X1X2	.647	0	3	.031	0	y	3	9049.09	15307.164	.468	.768	1... H1-1b
3	M3	HSS2X1X2	.496	42	4	.320	0	z	3	7484.423	15307.164	.468	.768	1... H1-1a
4	M4	HSS2X1X2	.519	21	5	.053	0	z	4	7484.423	15307.164	.468	.768	1... H1-1a
5	M5	RE2x1	.747	3	3	.082	0	z	2	19013.305	43113.772	.898	1.796	1... H1-1b
6	M6	HSS2X1X2	.647	0	3	.031	0	y	3	9049.09	15307.164	.468	.768	1... H1-1b
7	M7	HSS2X1X2	.476	40.25	2	.320	40.688	z	3	7484.423	15307.164	.468	.768	1... H1-1a
8	M8	WT2x3.4	.960	12.983	2	.182	29.383	y	2	17346.727	20209.581	.486	.709	1 H1-1a
9	M9	WT2x3.4	.964	16.058	2	.183	29.383	y	2	17346.727	20209.581	.486	.709	1 H1-1a

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 [ksi]	G [ksi]	Nu	Therm (1E5 F)	Density[k/ft^3]	Yield[ksi]
1	A500Gr42	29000	11154	.3	.65	.49	42
2	A36	29000	11154	.3	.65	.49	36
3	SS316	28000	11154	.3	.65	.49	30
4	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	TU2x1x2	Beam	Tube	SS316	Typical	.662	.102	.321	.238
2	ERAIL	TU2x1x2	Beam	Tube	SS316	Typical	.662	.102	.321	.238
3	POST	TU2x1x2	Column	Tube	SS316	Typical	.662	.102	.321	.238
4	EPOST	RE2x1	Column	Tube	SS316	Typical	2	.167	.667	.457
5	TEE	WT2x3.4	Column	W_Tee	LDX2101	Typical	.938	.169	.348	.018

General Material Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (1E5 F)	Density[k/ft^3]
1	GEN_RIGID	1e+6		.3	.65	0

General Section Sets

	Label	Shape	Type	Material	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	LINK	ARB_LINK_1	Beam	GEN_RIGID	1e+6	1e+6	1e+6	1

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		90	EPOST	Column	Tube	SS316	Typical
2	M2	N3	N4		90	POST	Column	Tube	SS316	Typical
3	M3	N2	N4		90	ERAIL	Beam	Tube	SS316	Typical
4	M4	N4	N8		90	RAIL	Beam	Tube	SS316	Typical
5	M5	N5	N6		90	EPOST	Column	Tube	SS316	Typical
6	M6	N7	N8		90	POST	Column	Tube	SS316	Typical
7	M7	N8	N6		90	ERAIL	Beam	Tube	SS316	Typical
8	M8	N54	N10		180	TEE	Column	W Tee	LDX2101	Typical
9	M9	N53	N9			TEE	Column	W Tee	LDX2101	Typical
10	M10	N11	N13			LINK	Beam	None	GEN_RIGID	Typical
11	M11	N14	N12			LINK	Beam	None	GEN_RIGID	Typical
12	M12	N15	N17			LINK	Beam	None	GEN_RIGID	Typical
13	M13	N18	N16			LINK	Beam	None	GEN_RIGID	Typical
14	M14	N19	N21			LINK	Beam	None	GEN_RIGID	Typical
15	M15	N22	N20			LINK	Beam	None	GEN_RIGID	Typical
16	M16	N23	N25			LINK	Beam	None	GEN_RIGID	Typical
17	M17	N26	N24			LINK	Beam	None	GEN_RIGID	Typical
18	M18	N27	N29			LINK	Beam	None	GEN_RIGID	Typical
19	M19	N30	N28			LINK	Beam	None	GEN_RIGID	Typical
20	M20	N31	N33			LINK	Beam	None	GEN_RIGID	Typical
21	M21	N34	N32			LINK	Beam	None	GEN_RIGID	Typical
22	M22	N35	N37			LINK	Beam	None	GEN_RIGID	Typical
23	M23	N38	N36			LINK	Beam	None	GEN_RIGID	Typical
24	M24	N43	N45			LINK	Beam	None	GEN_RIGID	Typical
25	M25	N46	N44			LINK	Beam	None	GEN_RIGID	Typical
26	M26	N47	N49			LINK	Beam	None	GEN_RIGID	Typical
27	M27	N50	N48			LINK	Beam	None	GEN_RIGID	Typical
28	M28	N51	N53			LINK	Beam	None	GEN_RIGID	Typical
29	M29	N54	N52			LINK	Beam	None	GEN_RIGID	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	-1992.562	4	43.279	2	4.61	5	0	1	0	1	0	1
2		min	-2114.9	2	24.181	6	-83.253	3	-362	3	0	1	0	1
3	N3	max	17.519	6	75.799	6	0	1	0	1	0	1	0	1
4		min	6.783	4	-43.289	2	-179.263	3	-499	3	0	1	0	1
5	N5	max	2114.877	2	43.377	2	14.926	4	.027	4	0	1	0	1
6		min	1992.533	1	24.187	6	-83.236	3	-362	3	0	1	0	1
7	N7	max	-6.826	1	75.833	6	0	1	0	1	0	1	0	1
8		min	-17.552	6	-43.368	2	-179.262	3	-499	3	0	1	0	1
9	Totals:	max	-.071	1	200	6	0	1						
10		min	-.077	2	0	2	-525.014	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	43.279	2	4.609	5	-1992.978	4	0	1	0	1	0	1
2			min	24.181	6	-83.276	3	-2115.384	2	0	1	0	1	-362	3
3		2	max	6776.089	2	3.102	5	-729.517	1	0	5	-.172	1	0	1
4			min	6307.252	4	-87.891	3	-805.926	2	-.001	3	-.186	2	-.234	3
5		3	max	9922.419	2	.919	5	3.417	2	0	5	-.164	1	0	1
6			min	9069.891	1	-110.515	3	-.874	6	-.002	3	-.179	2	-.166	3
7		4	max	6722.361	2	.661	5	813.591	2	0	5	-.139	1	0	1
8			min	6261.317	1	-106.394	3	732.675	6	-.002	2	-.15	2	-.092	3
9		5	max	669.532	6	0	1	955.962	2	.004	5	.084	2	0	2
10			min	630.548	1	-118.278	3	901.255	1	-.002	2	.079	6	-.015	3
11	M2	1	max	75.799	6	0	1	17.652	6	0	1	0	1	0	1
12			min	-43.289	2	-179.263	3	6.783	4	0	1	0	1	-499	3
13		2	max	75.799	6	0	1	17.652	6	0	1	.013	6	0	1
14			min	-43.289	2	-179.263	3	6.783	4	0	1	.005	4	-.365	3
15		3	max	75.799	6	0	1	17.555	6	0	1	.026	6	0	2
16			min	-43.289	2	-179.263	3	6.783	4	0	1	.01	4	-.23	3
17		4	max	75.799	6	1.929	2	17.346	6	0	1	.04	6	.002	2
18			min	-43.289	2	-179.263	3	6.783	4	0	1	.015	4	-.096	3
19		5	max	75.799	6	1.929	2	17.346	6	0	1	.053	6	.044	4
20			min	-43.289	2	-179.263	3	6.783	4	0	1	.02	4	0	1
21	M3	1	max	950.083	2	0	1	-623.879	1	0	2	.084	2	.002	2
22			min	896.1	1	-123.227	3	-662.712	6	-.015	3	.079	6	-.004	5
23		2	max	2132.375	2	0	1	-24.387	6	0	1	.079	2	.065	3
24			min	2001.157	6	-53.502	3	-43.487	2	-.039	3	.068	6	0	1
25		3	max	2132.375	2	0	1	-24.387	6	0	1	.047	6	.093	3
26			min	2001.157	6	-42.279	4	-43.487	2	-.039	3	.038	4	0	1
27		4	max	2132.375	2	33.998	3	-24.387	6	0	1	.025	6	.111	4
28			min	2001.157	6	-42.279	4	-43.487	2	-.039	3	.002	1	0	1
29		5	max	2132.375	2	77.748	3	-24.387	6	0	1	.004	6	.148	4
30			min	2001.157	6	-42.279	4	-43.487	2	-.039	3	-.035	2	0	1
31	M4	1	max	2139.712	2	49.56	4	.01	2	.016	4	.057	6	.148	4
32			min	2014.29	1	-100	5	-99.98	6	0	1	-.013	2	0	1
33		2	max	2139.712	2	49.56	4	.01	2	.016	4	-.012	1	.11	5
34			min	2014.29	1	-100	5	-99.98	6	0	1	-.031	6	0	1
35		3	max	2139.712	2	100	5	100.02	6	.016	4	-.012	1	.197	5
36			min	2014.29	1	0	3	.007	1	0	1	-.118	6	0	1
37		4	max	2139.712	2	100	5	100.02	6	.016	4	-.012	4	.11	5

Envelope Member Section Forces (Continued)

Member	Sec		Axial[lb]	lc	y Shear[lb]	lc	z Shear[lb]	lc	Torque[k-ft]	lc	v-y Moment[...]	lc	z-z Moment[...]	lc	
38		min	2014.29	1	0	1	.007	1	0	1	-.031	6	0	2	
39	5	max	2139.712	2	100	5	100.02	6	.016	4	.057	6	.034	3	
40		min	2014.29	1	0	1	.007	1	0	1	-.013	2	-.026	4	
41	M5	1	max	43.377	2	14.927	4	2115.361	2	0	0	1	.027	4	
42		min	24.187	6	-83.26	3	1992.949	1	0	1	0	1	-.362	3	
43	2	max	6775.921	2	14.209	4	805.855	2	.001	3	.186	2	.012	4	
44		min	6307.09	1	-87.874	3	729.458	4	0	4	.172	4	-.234	3	
45	3	max	9921.659	2	15.248	4	.878	6	.002	3	.179	2	.002	4	
46		min	9069.264	4	-110.501	3	-3.494	2	0	4	.164	4	-.166	3	
47	4	max	6721.19	2	14.482	4	-732.658	6	.002	3	.15	2	0	1	
48		min	6260.384	4	-106.386	3	-813.618	2	0	4	.139	4	-.092	3	
49	5	max	669.54	6	0	1	-901.103	4	0	1	-.079	6	0	1	
50		min	630.117	4	-118.274	3	-955.771	2	-.004	5	-.084	2	-.015	3	
51	M6	1	max	75.833	6	0	1	-6.826	1	0	0	1	0	1	
52		min	-43.368	2	-179.262	3	-17.545	6	0	1	0	1	-.499	3	
53	2	max	75.833	6	0	1	-6.826	1	0	1	-.005	1	0	1	
54		min	-43.368	2	-179.262	3	-17.545	6	0	1	-.013	6	-.365	3	
55	3	max	75.833	6	0	1	-6.826	1	0	1	-.01	1	0	1	
56		min	-43.368	2	-179.262	3	-17.545	6	0	1	-.026	6	-.23	3	
57	4	max	75.833	6	0	1	-6.826	1	0	1	-.015	1	0	1	
58		min	-43.368	2	-179.262	3	-17.545	6	0	1	-.039	6	-.096	3	
59	5	max	75.833	6	0	1	-6.826	1	0	1	-.02	1	.039	3	
60		min	-43.368	2	-179.262	3	-17.545	6	0	1	-.053	6	0	1	
61	M7	1	max	2132.321	2	6.574	5	43.586	2	.039	3	.004	6	.034	3
62		min	2001.124	6	-77.748	3	24.393	6	0	1	-.036	2	-.026	4	
63	2	max	2132.321	2	6.574	5	43.586	2	.039	3	.025	6	.082	3	
64		min	2001.124	6	-33.998	3	24.393	6	0	1	.002	4	-.02	4	
65	3	max	2132.321	2	9.752	3	43.586	2	.039	3	.047	6	.093	3	
66		min	2001.124	6	-7.243	4	24.393	6	0	1	.038	1	-.013	4	
67	4	max	2132.321	2	53.502	3	43.586	2	.039	3	.079	2	.065	3	
68		min	2001.124	6	-7.243	4	24.393	6	0	1	.068	6	-.007	4	
69	5	max	949.888	2	123.225	3	662.722	6	.015	3	.084	2	0	1	
70		min	895.946	4	0	1	623.439	4	0	1	.079	6	-.004	5	
71	M8	1	max	-4141.57	1	715.402	2	8.034	3	0	.004	4	-.068	1	
72		min	-4416.382	2	663.398	4	-1.554	4	0	4	-.067	3	-.071	2	
73	2	max	-7800.104	4	390.931	2	11.794	3	0	3	.002	4	-.299	4	
74		min	-8457.62	2	338.279	4	-1.795	4	0	4	-.055	3	-.324	2	
75	3	max	-8709.527	4	-170.82	6	13.835	3	0	3	0	2	-.35	4	
76		min	-9508.554	2	-200.548	2	-1.856	4	0	4	-.038	3	-.383	2	
77	4	max	-6220.263	4	-505.532	6	12.996	3	0	3	0	1	-.22	4	
78		min	-6677.813	2	-561.394	2	-1.769	4	0	4	-.022	3	-.236	2	
79	5	max	-589.996	4	-1095.07	6	0	1	0	1	0	1	.109	2	
80		min	-645.353	6	-1182.433	2	-36.506	5	0	5	-.024	3	.09	6	
81	M9	1	max	-4141.678	4	715.439	2	.574	5	0	.067	3	-.068	4	
82		min	-4416.493	2	663.43	1	-8.036	3	0	3	0	1	-.071	2	
83	2	max	-7800.5	1	390.987	2	.289	5	0	5	.055	3	-.299	1	
84		min	-8458.079	2	338.323	1	-11.794	3	0	3	0	1	-.324	2	
85	3	max	-8710.363	1	-170.828	6	8.014	2	0	5	.038	3	-.35	1	
86		min	-9509.588	2	-200.505	2	-13.83	3	0	3	0	1	-.383	2	
87	4	max	-6221.274	1	-505.544	6	11.973	2	0	5	.022	3	-.22	1	
88		min	-6679.082	2	-561.376	2	-12.987	3	0	2	0	1	-.236	2	
89	5	max	-590.505	1	-1095.095	6	36.507	5	0	5	.024	3	.109	2	
90		min	-645.351	6	-1182.292	2	0	1	0	2	0	1	.09	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	RE2x1	.895	3	3	.098	0	z	2	17723.684	35928.144	.749	1.497	1...	H1-1b
2	M2	TU2x1x2	.813	0	3	.042	22.875	y	3	8114.96	11892.216	.368	.615	1...	H1-1b
3	M3	TU2x1x2	.576	42	4	.442	0	z	3	7068.776	11892.216	.368	.615	1...	H1-1a
4	M4	TU2x1x2	.600	21	5	.069	0	z	4	7068.776	11892.216	.368	.615	1...	H1-1a
5	M5	RE2x1	.895	3	3	.098	0	z	2	17723.684	35928.144	.749	1.497	1...	H1-1b
6	M6	TU2x1x2	.813	0	3	.042	0	y	3	8114.96	11892.216	.368	.615	1...	H1-1b
7	M7	TU2x1x2	.569	40.25	2	.441	40.688	z	3	7068.776	11892.216	.368	.615	1...	H1-1a
8	M8	WT2x3.4	.575	12.983	2	.110	29.383	y	2	25875.632	33682.635	.809	1.182	1	H1-1a
9	M9	WT2x3.4	.577	16.058	2	.110	29.383	y	2	25875.632	33682.635	.809	1.182	1	H1-1a

*** End of Calculations ***