

Steel Design Report

Project:: Lesson2 (c:\dce\Frame2012\projects\L2_Done)
 Description: Complete Lesson 2
 Date: 06/09/2011 10:54 AM

Company:
 User:
 Software: Digital Canal Frame Analysis & Design

Design Results (LRFD 13)

GROUP DESIGN SUMMARY

ID	Section Description	Section Name	Governing Criteria	Stress Ratio	Load Combination
9	Beam	W8x40	Axial-Bending	0.883	Comb1
9	"	W10x33	Axial-Bending	0.93	Comb1
9	"	W12x30 ✓	Axial-Bending	0.905	Comb1
9	"	W14x30	Axial-Bending	0.865	Comb2
14	"	W16x36	Axial-Bending	0.71	Comb1
14	"	W18x35	Axial-Bending	0.944	Comb1
14	"	W21x44	Axial-Bending	0.746	Comb1
14	"	W24x55	Axial-Bending	0.571	Comb1
14	"	W27x84	Axial-Bending	0.23	Comb1
13	"	W30x90	Axial-Bending	0.219	Comb1
13	"	W33x118	Axial-Bending	0.149	Comb1
13	"	W36x135	Axial-Bending	0.128	Comb1
13	"	W40x149	Axial-Bending	0.123	Comb1
13	"	W44x230	Axial-Bending	0.0492	Comb1
8	Column	W8x31 ✓	Axial-Bending	0.97	Comb2
8	"	W10x33	Axial-Bending	0.854	Comb2
8	"	W12x35	Axial-Bending	0.949	Comb2
8	"	W14x34	Axial-Bending	0.962	Comb1
8	"	W16x36	Axial-Bending	0.886	Comb1
8	"	W18x46	Axial-Bending	0.848	Comb1
8	"	W21x44	Axial-Bending	0.906	Comb1
8	"	W24x55	Axial-Bending	0.635	Comb1
8	"	W27x84	Axial-Bending	0.163	Comb1
8	"	W30x90	Axial-Bending	0.146	Comb1
8	"	W33x118	Axial-Bending	0.0944	Comb1
8	"	W36x135	Axial-Bending	0.078	Comb1
8	"	W40x149	Axial-Bending	0.0713	Comb1
8	"	W44x230	Axial-Bending	0.032	Comb1

CRITICAL STRESS SUMMARY

ID	Ref. #	Section Name	Governing Criteria	Stress Ratio	Load Combination	Distance (ft)
1	1	W8x31	Axial-Bending	0.8395	Comb1	12.000
1	2	W10x33	Axial-Bending	0.7396	Comb1	12.000
1	3	W12x30 ✓	Axial-Bending	0.9944	Comb1	12.000
1	4	W14x30	Axial-Bending	0.9899	Comb1	12.000
1	5	W16x36	Axial-Bending	0.7645	Comb1	12.000
1	6	W18x40	Axial-Bending	0.8619	Comb1	12.000
1	7	W21x44	Axial-Bending	0.7757	Comb1	12.000
1	8	W24x55	Axial-Bending	0.5448	Comb1	12.000
1	9	W27x84	Axial-Bending	0.1452	Comb1	12.000
1	10	W30x90	Axial-Bending	0.1301	Comb1	12.000
1	11	W33x118	Axial-Bending	0.0846	Comb1	12.000
1	12	W36x135	Axial-Bending	0.0700	Comb1	12.000
1	13	W40x149	Axial-Bending	0.0639	Comb1	12.000
1	14	W44x230	Axial-Bending	0.0287	Comb1	12.000
2	1	W8x35	Axial-Bending	0.9835	Comb1	10.048
2	2	W10x30	Axial-Bending	0.9846	Comb1	10.048
2	3	W12x26 ✓	Axial-Bending	0.9715	Comb1	10.048
2	4	W14x30	Axial-Bending	0.7738	Comb1	10.048
2	5	W16x36	Axial-Bending	0.5782	Comb1	11.000
2	6	W18x35	Axial-Bending	0.6499	Comb2	10.000

2	7	W21x44	Axial-Bending	0.4227	Comb1	11.000
2	8	W24x55	Axial-Bending	0.3030	Comb1	11.000
2	9	W27x84	Axial-Bending	0.1530	Comb1	11.000
2	10	W30x90	Axial-Bending	0.1338	Comb1	11.000
2	11	W33x118	Axial-Bending	0.0908	Comb1	11.000
2	12	W36x135	Axial-Bending	0.0746	Comb1	11.000
2	13	W40x149	Axial-Bending	0.0649	Comb1	11.000
2	14	W44x230	Shear Y	0.0436	Comb1	0.0000
3	1	W8x31	Axial-Bending	0.8419	Comb2	0.0000
3	2	W10x33	Axial-Bending	0.7400	Comb2	0.0000
3	3	W12x30 ✓	Axial-Bending	0.9915	Comb2	0.0000
3	4	W14x30	Axial-Bending	0.9856	Comb2	0.0000
3	5	W16x36	Axial-Bending	0.7603	Comb2	0.0000
3	6	W18x40	Axial-Bending	0.8568	Comb2	0.0000
3	7	W21x44	Axial-Bending	0.7699	Comb2	0.0000
3	8	W24x55	Axial-Bending	0.5401	Comb2	0.0000
3	9	W27x84	Axial-Bending	0.1424	Comb2	0.0000
3	10	W30x90	Axial-Bending	0.1273	Comb2	0.0000
3	11	W33x118	Axial-Bending	0.0826	Comb2	0.0000
3	12	W36x135	Axial-Bending	0.0683	Comb2	0.0000
3	13	W40x149	Axial-Bending	0.0622	Comb2	0.0000
3	14	W44x230	Axial-Bending	0.0280	Comb2	0.0000
8	1	W8x31 ✓	Axial-Bending	0.9700	Comb2	0.0000
8	2	W10x33	Axial-Bending	0.8538	Comb2	0.0000
8	3	W12x35	Axial-Bending	0.9494	Comb2	0.0000
8	4	W14x34	Axial-Bending	0.9622	Comb1	0.0000
8	5	W16x36	Axial-Bending	0.8863	Comb1	0.0000
8	6	W18x46	Axial-Bending	0.8479	Comb1	0.0000
8	7	W21x44	Axial-Bending	0.9057	Comb1	0.0000
8	8	W24x55	Axial-Bending	0.6352	Comb1	0.0000
8	9	W27x84	Axial-Bending	0.1627	Comb1	0.0000
8	10	W30x90	Axial-Bending	0.1456	Comb1	0.0000
8	11	W33x118	Axial-Bending	0.0944	Comb1	0.0000
8	12	W36x135	Axial-Bending	0.0780	Comb1	0.0000
8	13	W40x149	Axial-Bending	0.0713	Comb1	0.0000
8	14	W44x230	Axial-Bending	0.0320	Comb1	0.0000
9	1	W8x40	Axial-Bending	0.8827	Comb1	10.000
9	2	W10x33	Axial-Bending	0.9299	Comb1	10.000
9	3	W12x30 ✓	Axial-Bending	0.9053	Comb1	11.000
9	4	W14x30	Axial-Bending	0.8646	Comb2	20.000
9	5	W16x36	Axial-Bending	0.6675	Comb2	20.000
9	6	W18x35	Axial-Bending	0.8454	Comb2	20.000
9	7	W21x44	Axial-Bending	0.5986	Comb2	20.000
9	8	W24x55	Axial-Bending	0.4334	Comb2	20.000
9	9	W27x84	Axial-Bending	0.1845	Comb1	20.000
9	10	W30x90	Axial-Bending	0.1686	Comb1	20.000
9	11	W33x118	Axial-Bending	0.1141	Comb1	20.000
9	12	W36x135	Axial-Bending	0.0958	Comb1	20.000
9	13	W40x149	Axial-Bending	0.0879	Comb1	20.000
9	14	W44x230	Shear Y	0.0452	Comb1	20.000
10	1	W8x28 ✓	Axial-Bending	0.9936	Comb1	12.000
10	2	W10x33	Axial-Bending	0.6350	Comb1	12.000
10	3	W12x30	Axial-Bending	0.8838	Comb1	12.000
10	4	W14x30	Axial-Bending	0.8864	Comb1	12.000
10	5	W16x36	Axial-Bending	0.6891	Comb1	12.000
10	6	W18x35	Axial-Bending	0.9854	Comb1	12.000
10	7	W21x44	Axial-Bending	0.7156	Comb1	12.000
10	8	W24x55	Axial-Bending	0.5045	Comb1	12.000
10	9	W27x84	Axial-Bending	0.1295	Comb1	12.000
10	10	W30x90	Axial-Bending	0.1169	Comb1	12.000
10	11	W33x118	Axial-Bending	0.0760	Comb1	12.000
10	12	W36x135	Axial-Bending	0.0632	Comb1	12.000
10	13	W40x149	Axial-Bending	0.0582	Comb1	12.000
10	14	W44x230	Axial-Bending	0.0257	Comb1	12.000
11	1	W4x13	Axial-Bending	0.3522	Comb1	20.000
11	2	W5x16	Axial-Bending	0.2276	Comb1	20.000
11	3	W6x9 ✓	Axial-Bending	0.4942	Comb1	20.000
11	4	W8x10	Axial-Bending	0.4684	Comb1	20.000
11	5	W10x15	Axial-Bending	0.3149	Comb1	20.000
11	6	W12x19	Axial-Bending	0.2358	Comb1	20.000
11	7	W14x22	Axial-Bending	0.1627	Comb1	20.000

11	8	W16x26	Axial-Bending	0.1290	Comb1	20.000
11	9	W18x35	Axial-Bending	0.0874	Comb1	20.000
11	10	W21x44	Axial-Bending	0.0679	Comb1	20.000
11	11	W24x55	Axial-Bending	0.0515	Comb1	20.000
11	12	W27x84	Axial-Bending	0.0217	Comb1	20.000
11	13	W30x90	Axial-Bending	0.0204	Comb1	20.000
11	14	W33x118	Axial-Bending	0.0138	Comb1	20.000
11	15	W36x135	Axial-Bending	0.0118	Comb1	20.000
11	16	W40x149	Axial-Bending	0.0111	Comb1	20.000
11	17	W44x230	Axial-Bending	0.0047	Comb1	20.000
12	1	W5x16	Axial-Bending	0.9145	Comb1	20.000
12	2	W6x15 ✓	Axial-Bending	0.9526	Comb1	20.000
12	3	W8x18	Axial-Bending	0.8744	Comb1	20.000
12	4	W10x22	Axial-Bending	0.6620	Comb1	20.000
12	5	W12x26	Axial-Bending	0.4915	Comb1	20.000
12	6	W14x30	Axial-Bending	0.4447	Comb1	20.000
12	7	W16x36	Axial-Bending	0.3688	Comb1	20.000
12	8	W18x35	Axial-Bending	0.4930	Comb1	20.000
12	9	W21x44	Axial-Bending	0.3890	Comb1	20.000
12	10	W24x55	Axial-Bending	0.2972	Comb1	20.000
12	11	W27x84	Axial-Bending	0.1189	Comb1	20.000
12	12	W30x90	Axial-Bending	0.1135	Comb1	20.000
12	13	W33x118	Axial-Bending	0.0768	Comb1	20.000
12	14	W36x135	Axial-Bending	0.0659	Comb1	20.000
12	15	W40x149	Axial-Bending	0.0633	Comb1	20.000
12	16	W44x230	Axial-Bending	0.0251	Comb1	20.000
13	1	W6x25	Axial-Bending	0.9630	Comb1	0.0000
13	2	W8x24 ✓	Axial-Bending	0.9407	Comb1	0.0000
13	3	W10x30	Axial-Bending	0.8772	Comb1	0.0000
13	4	W12x26	Axial-Bending	0.9440	Comb1	0.0000
13	5	W14x30	Axial-Bending	0.8500	Comb1	0.0000
13	6	W16x36	Axial-Bending	0.7035	Comb1	5.0000
13	7	W18x35	Axial-Bending	0.9380	Comb1	5.0000
13	8	W21x44	Axial-Bending	0.7426	Comb1	5.0000
13	9	W24x55	Axial-Bending	0.5692	Comb1	5.0000
13	10	W27x84	Axial-Bending	0.2296	Comb1	5.0000
13	11	W30x90	Axial-Bending	0.2195	Comb1	5.0000
13	12	W33x118	Axial-Bending	0.1488	Comb1	5.0000
13	13	W36x135	Axial-Bending	0.1279	Comb1	5.0000
13	14	W40x149	Axial-Bending	0.1228	Comb1	5.0000
13	15	W44x230	Axial-Bending	0.0492	Comb1	5.0000
14	1	W6x25	Axial-Bending	0.9374	Comb1	0.0000
14	2	W8x24 ✓	Axial-Bending	0.9243	Comb1	0.0000
14	3	W10x30	Axial-Bending	0.8779	Comb1	0.0000
14	4	W12x26	Axial-Bending	0.9466	Comb1	0.0000
14	5	W14x30	Axial-Bending	0.8562	Comb1	0.0000
14	6	W16x36	Axial-Bending	0.7102	Comb1	0.0000
14	7	W18x35	Axial-Bending	0.9442	Comb1	0.0000
14	8	W21x44	Axial-Bending	0.7461	Comb1	0.0000
14	9	W24x55	Axial-Bending	0.5710	Comb1	0.0000
14	10	W27x84	Axial-Bending	0.2299	Comb1	0.0000
14	11	W30x90	Axial-Bending	0.2194	Comb1	0.0000
14	12	W33x118	Axial-Bending	0.1485	Comb1	0.0000
14	13	W36x135	Axial-Bending	0.1275	Comb1	0.0000
14	14	W40x149	Axial-Bending	0.1223	Comb1	0.0000
14	15	W44x230	Axial-Bending	0.0487	Comb1	0.0000

SELECTED LOAD COMBINATIONS

Load Combination	Code Check	Total	Live	Dependent	Conditional
Comb1	x			-	-
Comb2	x			-	-