FULLERTON
ENGINEERING · DESIGN

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July 6, 2016

RE:	**AT&T LTE 2C**
Prepared For:	Smartlink / AT&T
Site Number:	CTL02094
FA Location:	10035342
Site Name:	CANTON - COLLINSVILLE
Site Address:	2 Sunny Lane Westport, CT 06880

To Whom It May Concern,

This structural assessment is in regards to the adequacy of the existing low profile platform for the AT&T LTE 2C project. The purpose was to determine conformance of existing antenna mounting structure under 2003 International Building Code and the industry standard ANSI/TIA-222-F (Structural Standards for Steel Antenna Towers and Antenna Supporting Structures).

Based on collected information via a site visit dated 05/11/2016, technical data of the proposed equipment, structural calculations and engineering judgment, the existing low profile platform is **adequate** to support the proposed installation for the above referenced program provided that the following modifications are installed:

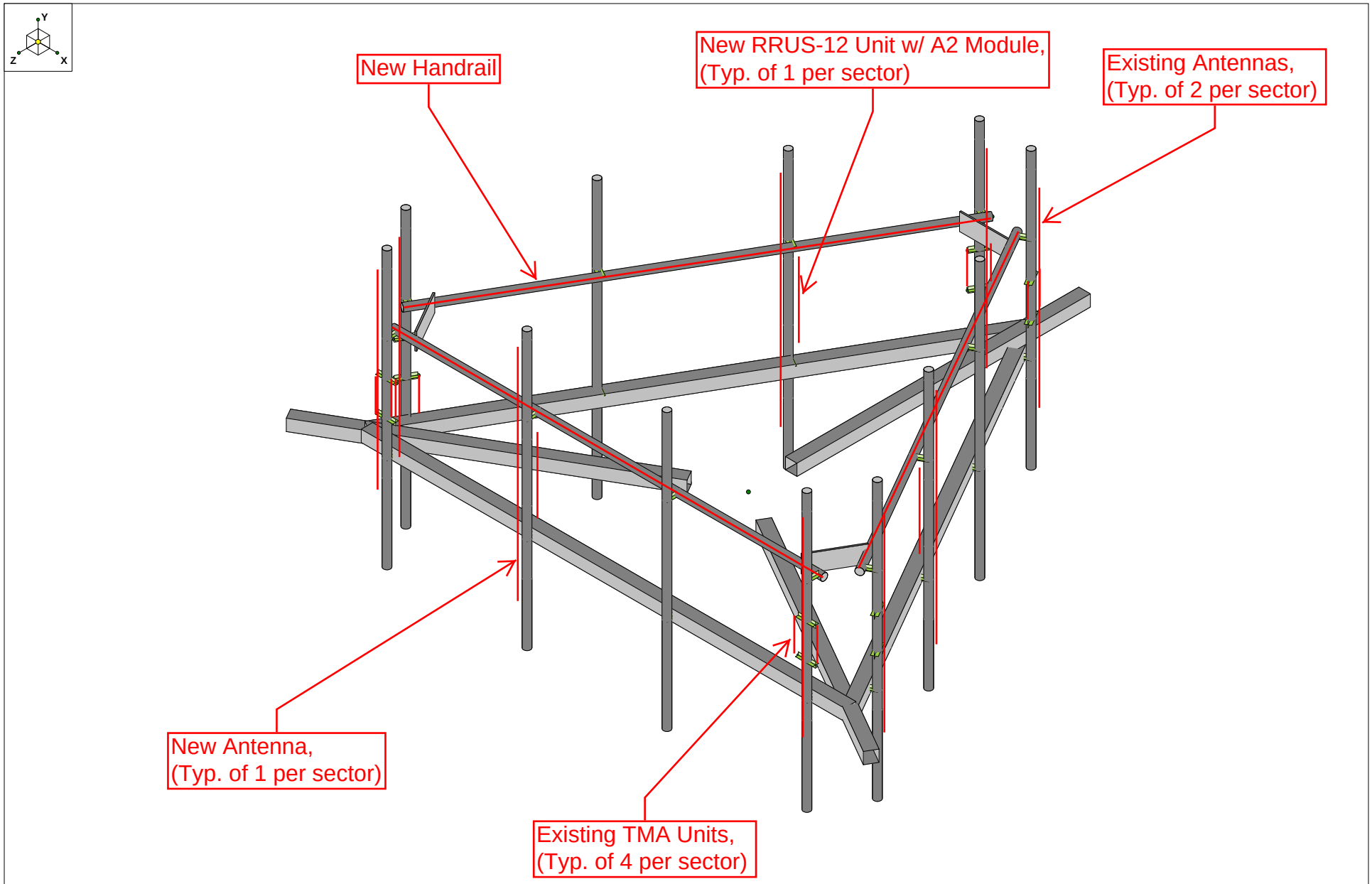
- Addition of new handrail. For installation details see latest construction drawings prepared by Fullerton Engineering.

This PE certification completed by Fullerton Engineering Consultants is inclusive of the existing antenna mounting structure that will support the existing and proposed loading provided by the client.

This certification assumes that all the existing structural members of the existing antenna mounting structure are in good condition and have not been altered from the manufacturer's original design. Prior to installation of new equipment, contractor shall inspect the condition of all relevant members and connectors. The contractor shall be responsible for the means and methods of construction.

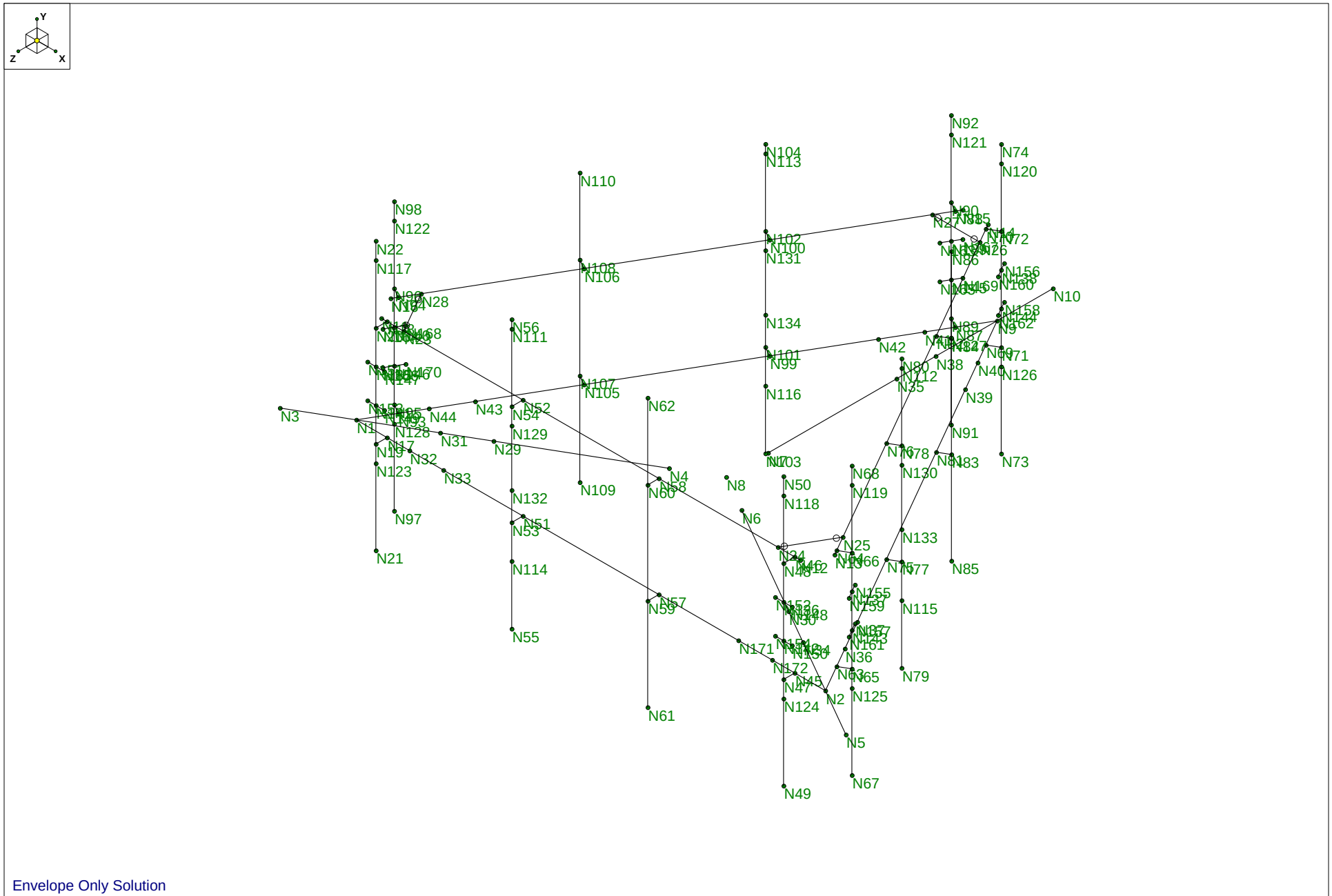
Respectfully,

Henry M. Bellagamba, P.E.



Envelope Only Solution

Fullerton Engineering Consultants, ...	Mount Analysis	SK - 1
THC		July 6, 2016 at 1:28 PM
CTL02094		CTL02094 - Mount Analysis.r3d



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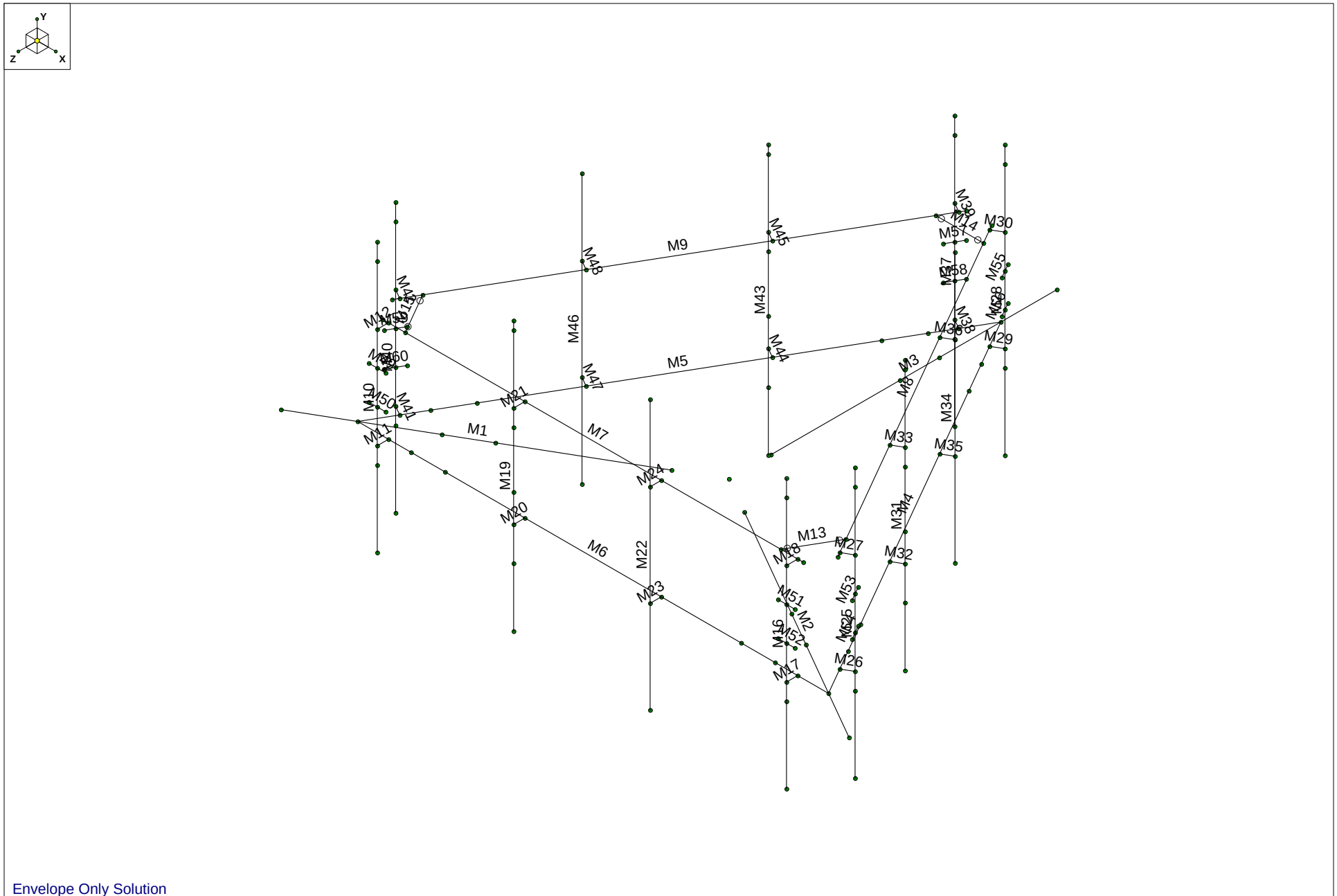

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THC		July 6, 2016 at 1:36 PM
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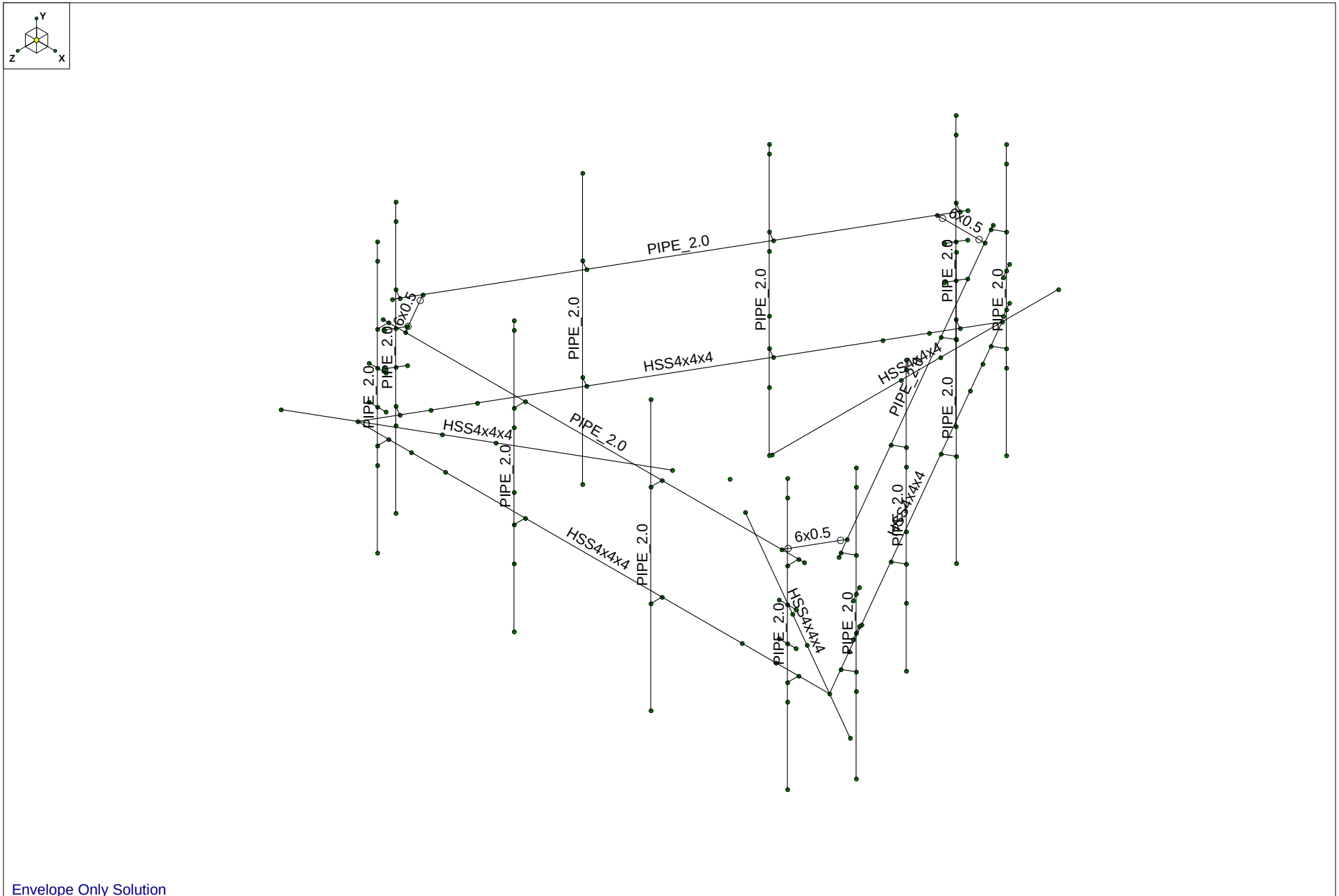

Envelope Only Solution

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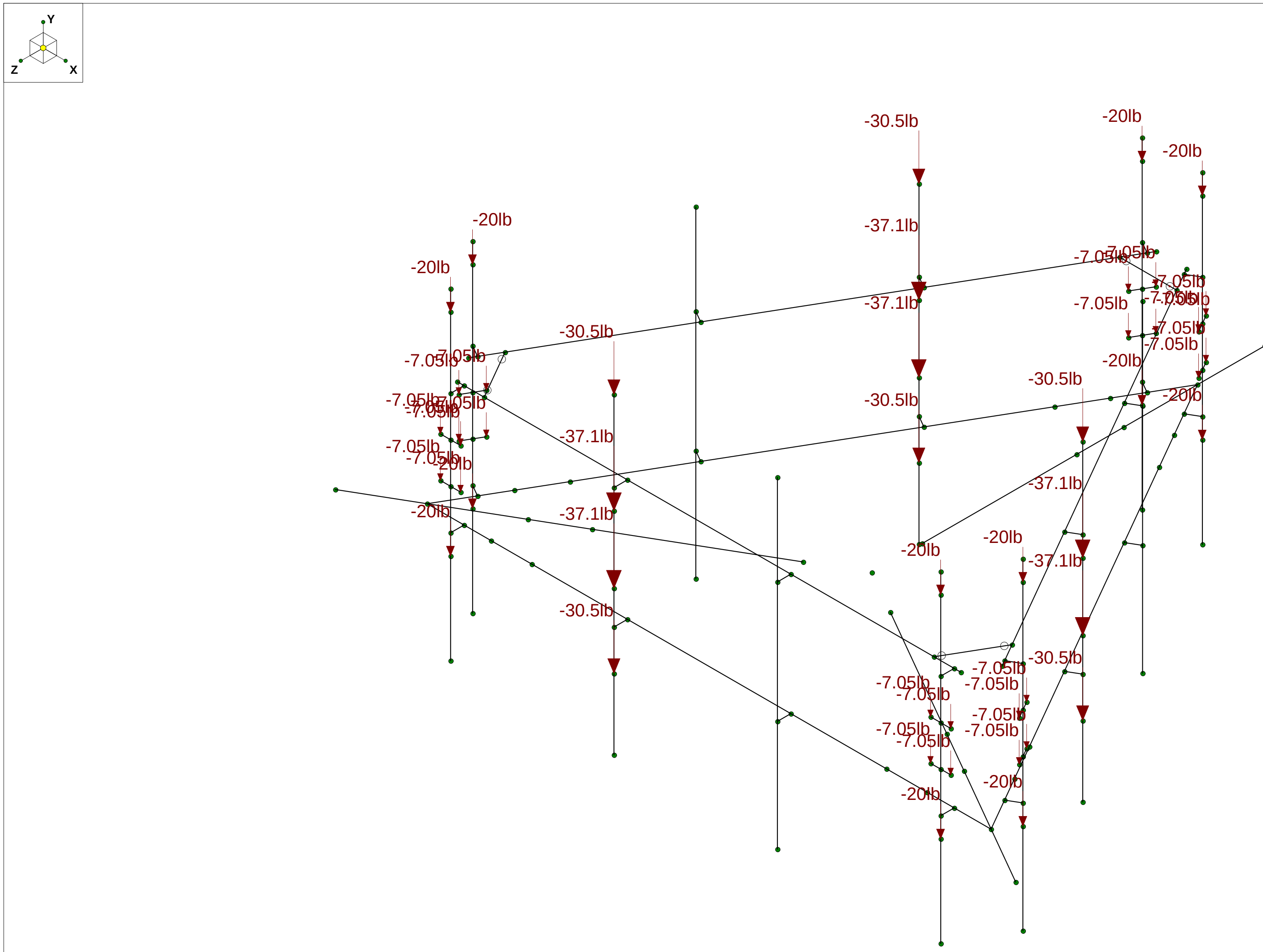

Loads: BLC 1, DL
Envelope Only Solution

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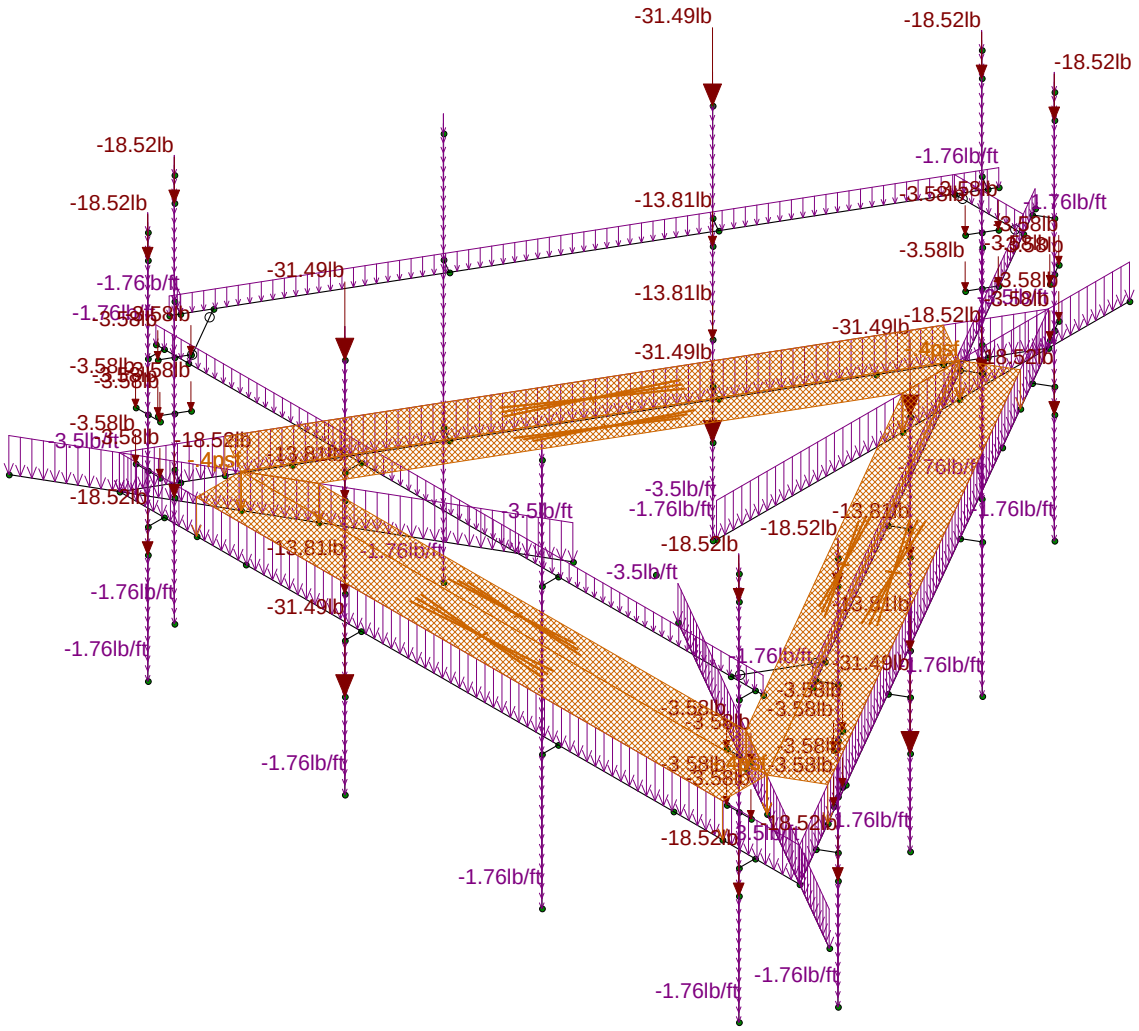

Loads: BLC 2, DLi
Envelope Only Solution

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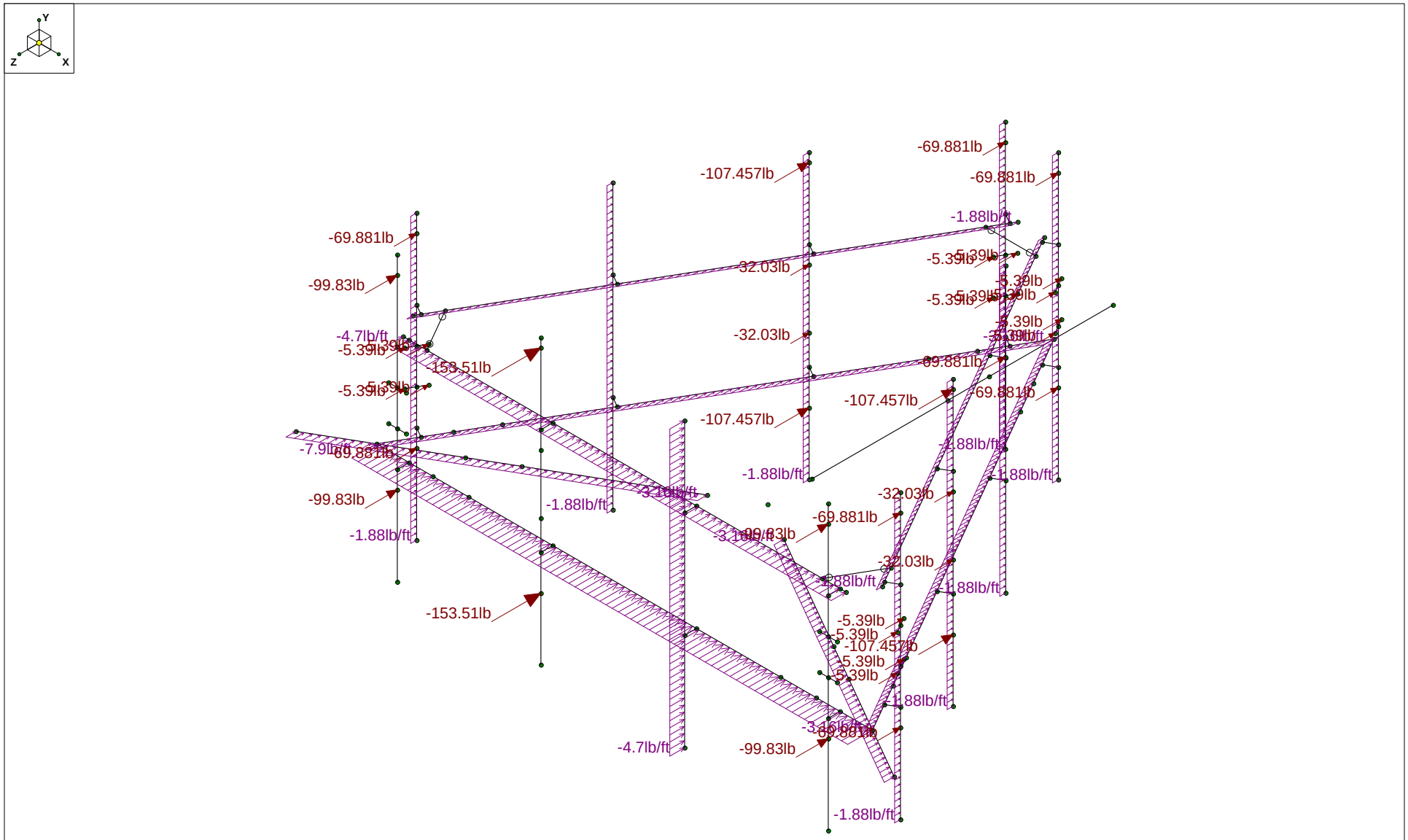
CTL02094		CTL02094 - Mount Analysis.r3d



Loads: BLC 4, WLz-
Envelope Only Solution

Fullerton Engineering Consultants, ...	Mount Analysis	SK - 7
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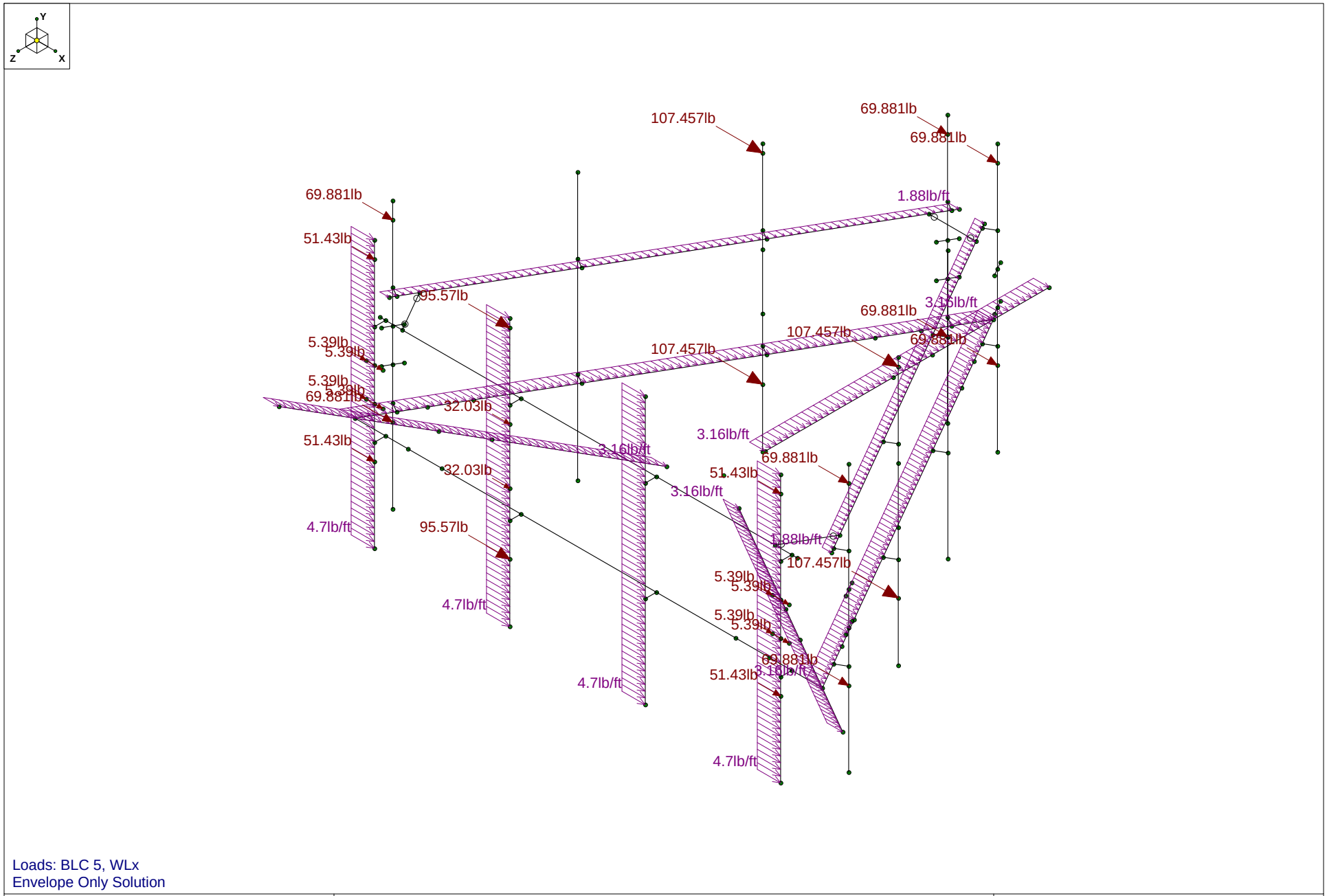
CTL02094		CTL02094 - Mount Analysis.r3d



Loads: BLC 5, WLx
Envelope Only Solution

Fullerton Engineering Consultants, ...	Mount Analysis	SK - 8
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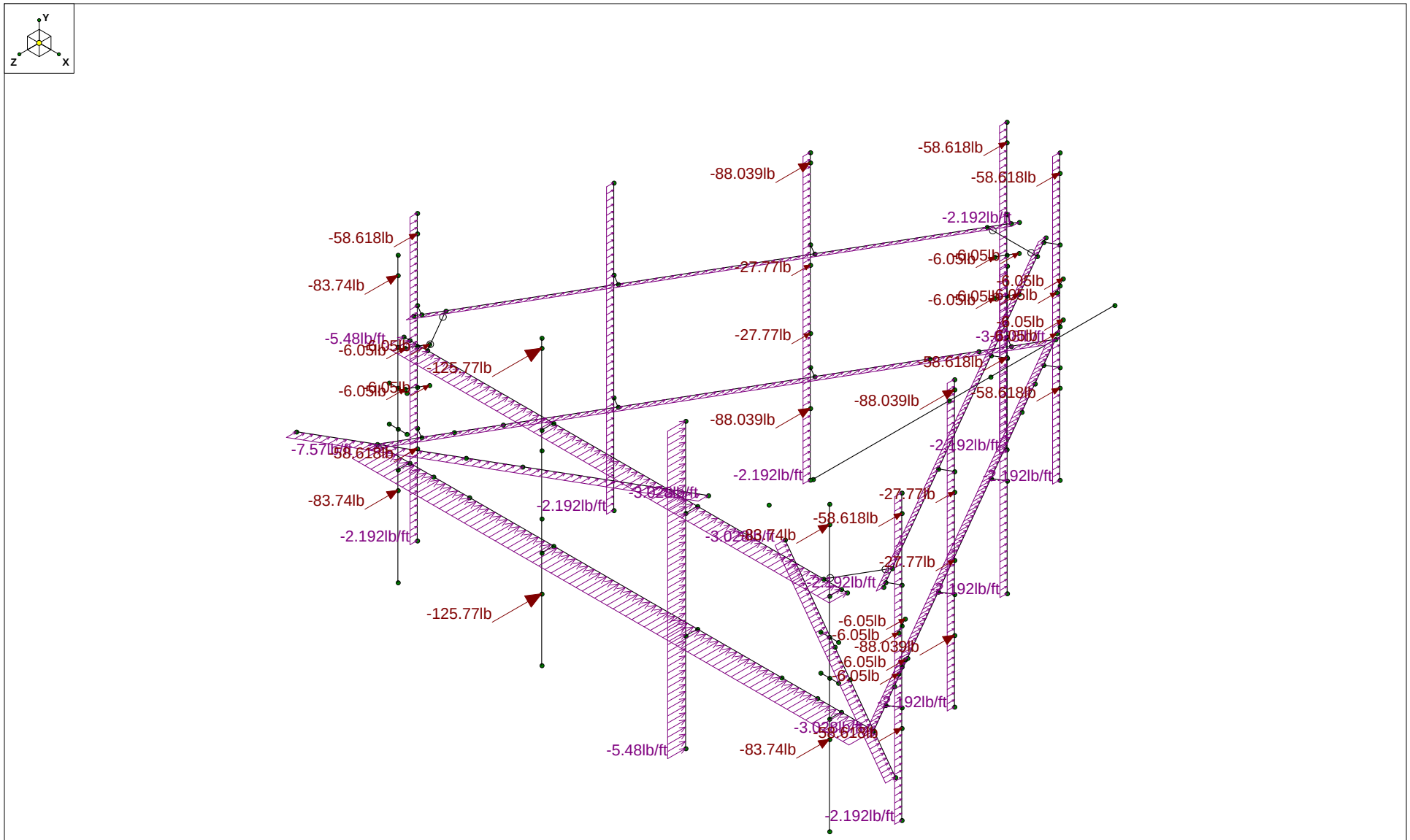
CTL02094		CTL02094 - Mount Analysis.r3d



Loads: BLC 8, WLzi-
Envelope Only Solution

Fullerton Engineering Consultants, ...	Mount Analysis	SK - 9
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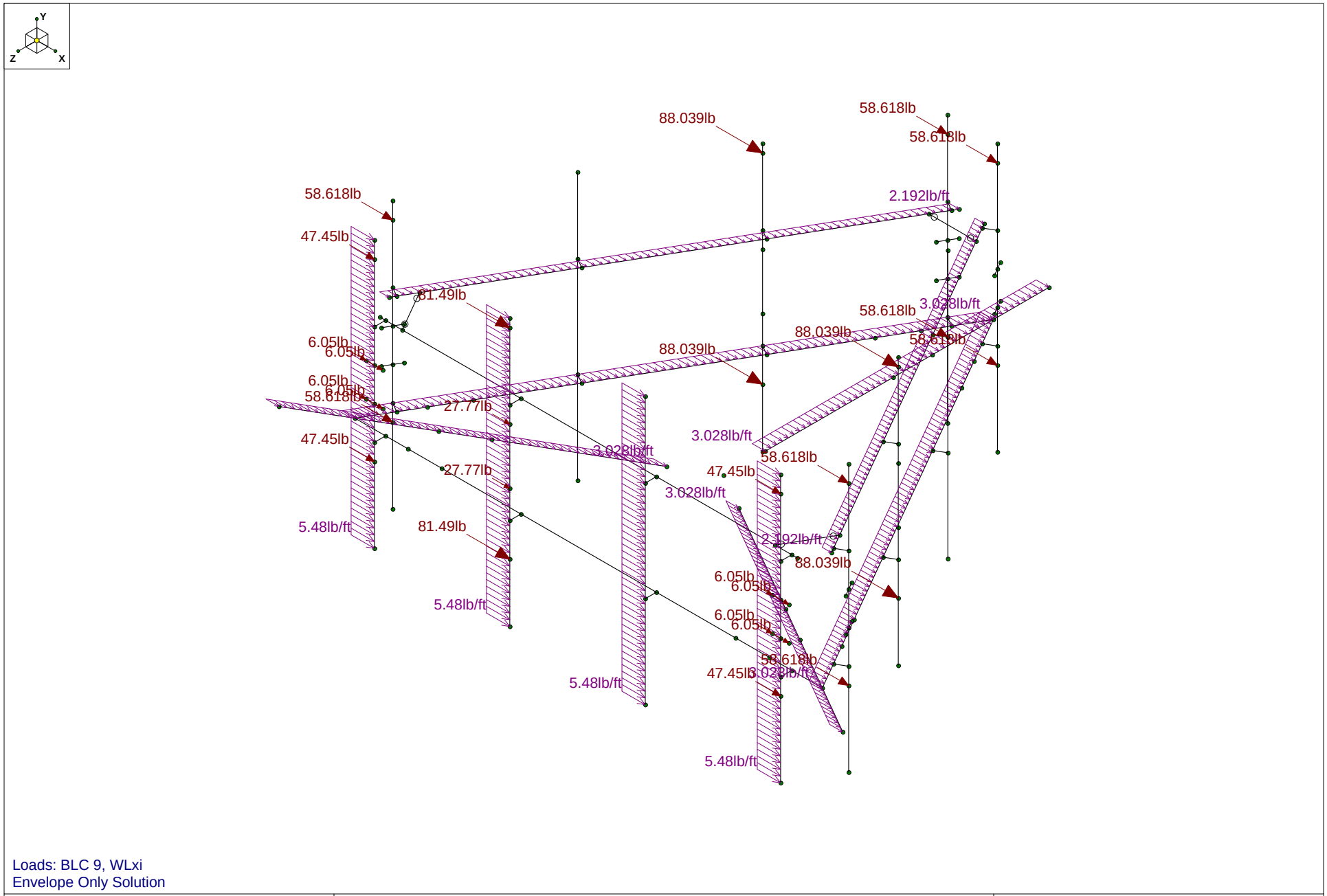
CTL02094		CTL02094 - Mount Analysis.r3d



Loads: BLC 9, WLxi
Envelope Only Solution

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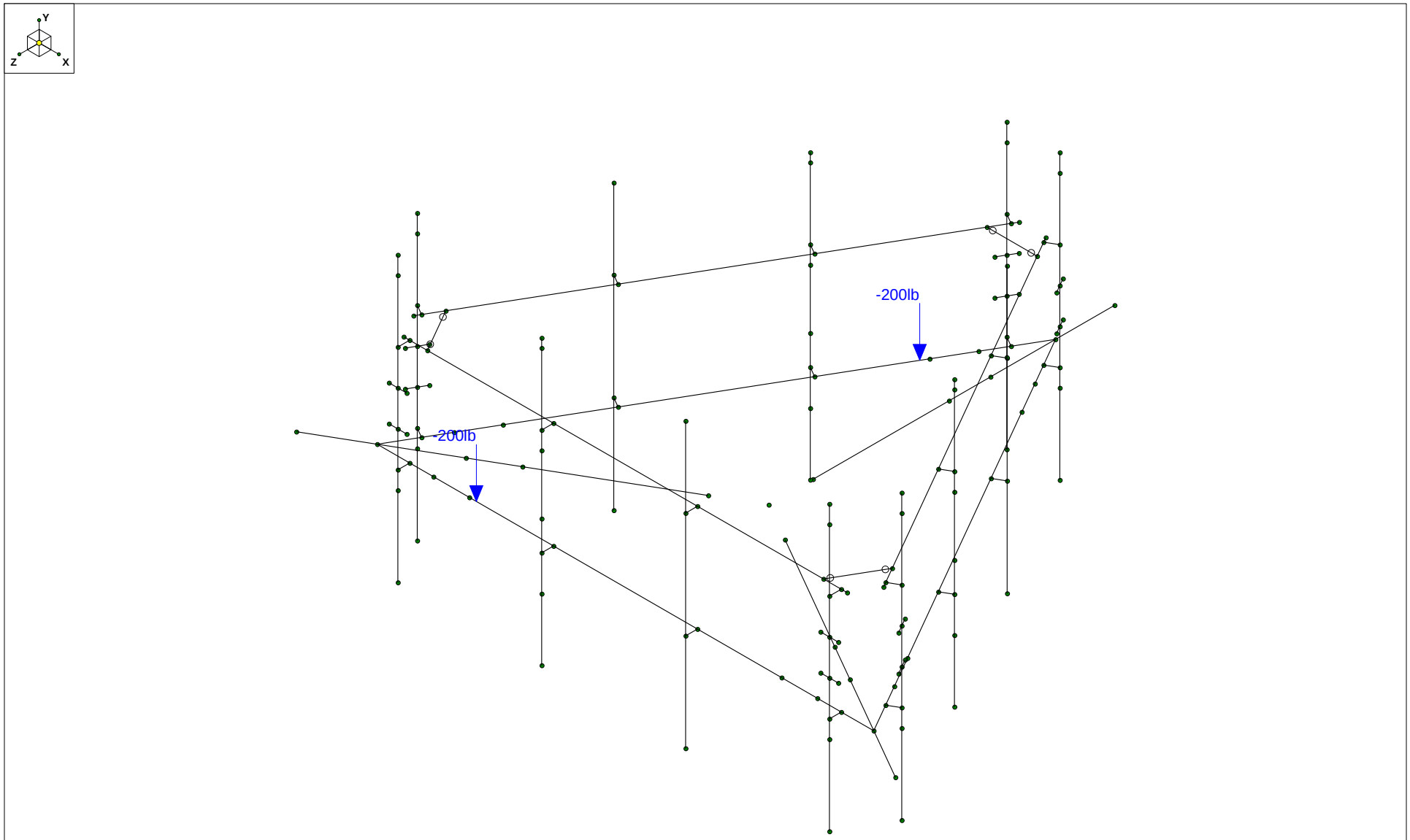
CTL02094		CTL02094 - Mount Analysis.r3d



Loads: BLC 11, LL
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Fullerton Engineering Consultants, ...	Mount Analysis	SK - 11
THC		July 6, 2016 at 1:40 PM
CTL02094		CTL02094 - Mount Analysis.r3d

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (in/sec^2)	386.4
Wall Mesh Size (in)	12
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 13th(360-05): ASD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	AISC 13th(360-05): ASD
Cold Formed Steel Code	None
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	None - Building

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	Yes
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	ASCE 7-10
Seismic Base Elevation (in)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Om Z	1
Om X	1
Rho Z	1
Rho X	1

Load Combinations

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.2*DL+1.6*WL(0)		Y		1	1.2	3	1.6																
2	1.2*DL+1.6*WL(90)		Y		1	1.2	5	1.6																
3	1.2*DL+1.6*WL(180)		Y		1	1.2	7	1.6																
4	1.2*DL+1.0*DLi+1.0*WL.i(0)+1.0*T		Y		1	1.2	2	1	11	1	19	1												
5	1.2*DL+1.0*DLi+1.0*WL.i(90)+1....		Y		1	1.2	2	1	13	1	19	1												
6	1.2*DL+1.0*DLi+1.0*WL.i(180)+1...		Y		1	1.2	2	1	15	1	19	1												
7	0.9*DL+1.6*WL(0)		Y		1	.9	3	1.6																
8	0.9*DL+1.6*WL(90)		Y		1	.9	5	1.6																
9	0.9*DL+1.6*WL(180)		Y		1	.9	7	1.6																
10			Y																					
11			Y																					
12	DL+WLz	Yes	Y		1	1	3	1																
13	DL + WLz-	Yes	Y		1	1	4	1																
14	DL + WLx	Yes	Y		1	1	5	1																
15	DL+WLx-	Yes	Y		1	1	6	1																
16	DL + DLi + 0.75 WLzi	Yes	Y		1	1	2	1	7	.75														
17	DL + DLi + 0.75 WLzi-	Yes	Y		1	1	2	1	8	.75														
18	DL + DLi + 0.75 WLxi	Yes	Y		1	1	2	1	9	.75														
19	DL + DLi + 0.75 WLxi-	Yes	Y		1	1	2	1	10	.75														
20	DL+LL	Yes	Y		1	1	11	1																

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	DL	None		-1		48				
2	DLi	None				48		23	6	
3	WLz	None				38		17		
4	WLz-	None				38		17		
5	WLx	None				28		11		
6	WLx-	None				28		11		
7	WLzi	None				38		17		
8	WLzi-	None				38		17		
9	WLxi	None				28		11		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
10	WLxi-	None				28		11		
11	LL	None					2			
12	BLC 2 Transient Area Loads	None						228		

Envelope AISC 13th(360-05): ASD Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[..	Dir	LC	Pnc/o...	Pnt/om...	Mnyy/o...	Mnzz/o...	Cb	Eqn
1	M3	HSS4x4x4	.494	0	17	.073	0	y	15	68604....	92826....	10.765	10.765	2..	H1-1b
2	M2	HSS4x4x4	.475	0	18	.077	0	y	12	68604....	92826....	10.765	10.765	2..	H1-1b
3	M1	HSS4x4x4	.472	0	19	.083	0	y	12	68604....	92826....	10.765	10.765	2..	H1-1b
4	M10	PIPE_2.0	.359	33	13	.039	69		12	9986.4...	21988....	1.281	1.281	3	H1-1b
5	M40	PIPE_2.0	.345	33	12	.052	33		12	9986.4...	21988....	1.281	1.281	2..	H1-1b
6	M19	PIPE_2.0	.333	33	13	.054	33		15	9986.4...	21988....	1.281	1.281	3	H1-1b
7	M16	PIPE_2.0	.333	33	13	.043	33		14	9986.4...	21988....	1.281	1.281	3	H1-1b
8	M25	PIPE_2.0	.320	33	12	.040	69		14	9986.4...	21988....	1.281	1.281	2..	H1-1b
9	M28	PIPE_2.0	.315	33	15	.044	69		13	9986.4...	21988....	1.281	1.281	1..	H1-1b
10	M37	PIPE_2.0	.308	33	14	.050	33		13	9986.4...	21988....	1.281	1.281	1..	H1-1b
11	M46	PIPE_2.0	.274	33	12	.040	33		15	9986.4...	21988....	1.281	1.281	2..	H1-1b
12	M31	PIPE_2.0	.272	33	12	.055	33		13	9986.4...	21988....	1.281	1.281	2..	H1-1b
13	M43	PIPE_2.0	.266	33	12	.058	33		13	9986.4...	21988....	1.281	1.281	2..	H1-1b
14	M22	PIPE_2.0	.260	33	13	.049	33		14	9986.4...	21988....	1.281	1.281	2..	H1-1b
15	M34	PIPE_2.0	.236	33	13	.063	33		13	9986.4...	21988....	1.281	1.281	3	H1-1b
16	M6	HSS4x4x4	.212	0	17	.079	0	z	13	40872....	92826....	10.765	10.765	3	H1-1b
17	M5	HSS4x4x4	.208	0	17	.067	168	y	12	40872....	92826....	10.765	10.765	3	H1-1b
18	M4	HSS4x4x4	.200	168	17	.065	168	y	15	40872....	92826....	10.765	10.765	3	H1-1b
19	M9	PIPE_2.0	.170	3.125	12	.090	146....		12	4188.5...	21988....	1.281	1.281	3	H1-1b
20	M8	PIPE_2.0	.155	50	13	.077	98.4...		13	4188.5...	21988....	1.281	1.281	2..	H1-1b
21	M7	PIPE_2.0	.149	50	14	.075	146....		14	4188.5...	21988....	1.281	1.281	2..	H1-1b
22	M15	6x0.5	.003	0	13	.171	0	y	13	31156....	64670....	.674	8.084	1..	H1-1b*
23	M14	6x0.5	.003	0	12	.132	0	y	14	31156....	64670....	.674	8.084	1..	H1-1b*
24	M13	6x0.5	.002	0	15	.151	0	y	13	31156....	64670....	.674	8.084	1..	H1-1b*

< 1.0 => Members are adequate