STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950A
E-Mail: siting.council@ct.gov
Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL

March 24, 2021

Victoria Masse
Northeast Site Solutions
420 Main Street #2
Sturbridge, MA 01566

RE: **EM-T-MOBILE-131-210222** – T-Mobile notice of intent to modify an existing telecommunications facility located at 435 Mill Street, Southington, Connecticut.

Dear Ms. Masse:

The Connecticut Siting Council (Council) is in receipt of your correspondence of March 23, 2021 submitted in response to the Council's March 22, 2021 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

The submission renders the request for exempt modification complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

s/ Melanie A. Bachman

Melanie A. Bachman
Executive Director

MAB/IN/emr

From: Deborah Chase <deborah@northeastsitesolutions.com>
Sent: Tuesday, March 23, 2021 11:06 AM
To: CSC-DL Siting Council <Siting.Council@ct.gov>; Bachman, Melanie <Melanie.Bachman@ct.gov>; Mathews, Lisa A <Lisa.A.Mathews@ct.gov>
Cc: Sheldon Freincle <sheldon@northeastsitesolutions.com>; victoria@northeastsitesolutions.com
Subject: EM-T-MOBILE-131-210222 Mill St, Southington (CT11239A-ANCHOR)

Good morning,

Please find the attached signed and stamped mount analysis, and correct original zoning for EM-T-MOBILE-131-210222 Mill St, Southington.

Thank you

Deborah Chase
Senior Project Coordinator & Analyst
Mobile: 860-490-8839

Save a tree. Refuse.Reduce. Reuse. Recycle.

Tectonic
PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

Date: **November 19, 2020**

Mount Analysis Report

Tower Owner: To□n of Southington
Carrier: T□Mobi□e

Site ID: C T1123 9A
Site Name: Southington/I□84
Site Data: 435 Mi□St.□Southington, Hartford □ount□, □T 0648 9
□atitude *41° 36' 16.53"*, □ongitude *-72° 53' 39.61"*
12.5 ft Se□tor Frame Mount

Tectonic Project Number: □0473 .C T112 □9A

Tectonic Engineering & Surveying Consultants P.C. is p□eased to submit this **"Mount Analysis Report"** to determine the stru□tura□integrit□of the abo□e mentioned mount.

The purpose of the ana□sis is to determine a□□eptabi□it□of the mount stress □e□e□. Based on our ana□sis □e ha□e determined the mount stress □e□e□to be:

Se□tor Frame: **Sufficient Capacity – 90%**

This ana□sis has been performed in a□□ordan□e □ith the □018 □onne□ti□ut State Bui□ding □ode based upon an u□timate 3□se□ond gust □ind speed of 125 mph □on□erted to a nomina□3□se□ond gust □ind speed of 97 mph per Se□tion 1□09.3 and □ppendix N as required for use in the TI□-222 □G Standard per □x□eption #5 of Se□tion 1609.1.1. □xposure □ategor□B □ith a maximum topographi□fa□tor, Kz :, of 1.0 and Stru□ture □□ass 2 □ere used in this ana□sis.

All modifi□ations and equipment proposed in this report sha□be insta□ed in a□□ordan□e □ith this ana□sis for the determined a□ai□ab□e stru□tura□□apa□it□to be effe□ti□e.

□ e at Te□toni□appre□iate the opportunit□of pro□iding our □ontinuing professiona□ser□i□es to □ou and T□Mobi□e. If □ou ha□e an□questions or need further assistan□e on this or an□other pro□e□ts p□ease gi□e us a □a□l

Stru□tura□ana□sis prepared b□: □ohn□Frit□□u□ien / Ian Marina□□io

Respe□tfu□□□submitted b□:
Tectonic Engineering & Surveying Consultants P.C.

□d□ard N. Iami□e□i, P.□.
Managing Dire□tor - Stru□tura□

STATE OF CONNECTICUT
EDWARD N. IAMICELI
PEN.0028473
LICENSED
PROFESSIONAL ENGINEER

Project Contact Info

1279 Route 300 | Newburgh, NY 12550
845.567.6656 Tel | 845.567.8703 Fax

tectonicengineering.com
Equal Opportunity Employer

TABLE OF CONTENTS

1) INTRODUCTION

The existing mount is a □□.□ ft se□tor frame mount designed b□ SitePro□ □P□□ □□F□□□□RR□□.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TI□□□□□G
Structure Class:	□
Wind Speed:	9□ mph
Exposure Category:	B
Topographic Factor:	□.0
Ice Thickness:	0.□□ in
Wind Speed with Ice:	□0 mph
Service Wind Speed:	□0 mph

Table 1 - Proposed Equipment Loading Information

Mounting Level (ft)	Carrier Designation	Number of Antennas	Antenna Manufacturer	Antenna Model	Proposed Mount Type	Note
□□0.0	T□Mobi□e	□	eri□sson	□IR □□□9 B□□	□	□
		□	□omms□ope	SDX□9□□Q□□□		
		□	eri□sson	RR□S □□□□ B□□		

□ote□
□□ Proposed equipment to be insta□ed on the existing se□tor frame mount.

Table 2 - Existing Equipment Loading Information

Mounting Level (ft)	Carrier Designation	Number of Antennas	Antenna Manufacturer	Antenna Model	Existing Mount Type	Note
□□0.0	T□Mobi□e	□	rfs	□PX□□□RR□□□□□□□□ □□ □□0	SitePro□ □F□□□□RR□	□
		□	eri□sson	□IR □□ B□□□ B□□		
		□	eri□sson	R□DIO □□□9 B□□ □B8□		
		□	eri□sson	R□DIO □□□□ B□□a		

□ote□
□□ □xisting equipment to remain.

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Dated
□SS□MB□□ DR□□ I□GS □□F□□□□RR□□	SitePro□	08□□□□8
MO□□T □□□□□□TIO□ R□PORT	Te□toni□	0□□□0□□0
RFDS	T□Mobi□e	□0□□□□0

3.1) Analysis Method

□ too□ interna□□ de□e□oped□ using Mi□rosoft □xce□□ □as used to □a□□u□ate □ind □oading on a□□ appurtenan□es and mount members. This information □as then used in □on□un□tion □ith another program□RIS□□□D□□hi□h is a □ommer□ia□□ a□ai□ab□e ana□□sis soft□are pa□□age□used to □he□□ the supporting bui□ding framing and □a□□u□ate member stresses for □arious □oading □ases. The se□e□ted output from the ana□□sis is in□uded in □ppendi□es B and □.

3.2) Assumptions

- The antenna mounting system was properly fabricated installed and maintained in good condition in accordance with its original design, TIA Standards, and/or manufacturer's specifications.
- The configuration of antennas mounts and other appurtenances are as specified in Tables and .
- member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
- Steel grades have been assumed as follows unless noted otherwise

Channel Solid Round Angle Plate	STM GR
HSS Rectangular	STM 00 GR B
Pipe	STM GR
Connection Bolts	STM

This analysis may be affected if any assumptions are not valid or have been made in error. Tetoni should be notified to determine the effect on the structural integrity of the mount.

4) ANALYSIS RESULTS

Table 4 - Mount Component Stresses vs. Capacity (Sector Mount)

Notes	Component	Mount Centerline (ft)	% Capacity	Pass / Fail
	Face Horizontal		90	Pass
	Sector Horizontal		9	Pass
	Mount Pipe	0.0		Pass
	Sector Brace			Pass
	Stiffarm Pipe			Pass

Structure Rating (max from all components) =	90%

Note

See additional documentation in "ppendix nalysis Output" for calculations supporting the % capacity consumed.

4.1) Results / Conclusions

The sector frame mount has sufficient capacity to carry the proposed TMobile load configurations. No modification is required at this time.

This structural analysis only includes evaluation of the antenna sector mounts and not the self support tower. The self support tower is to be analyzed under a separate structural analysis by Tetoni Engineering Surveying Consultants P.C.

Contractor shall verify existing conditions and recommendations as noted on the construction drawings and notify the design engineer of any discrepancies prior to construction. Any further changes to the antenna and/or appurtenance configuration should be reviewed with respect to their effect on structural loads prior to implementation.

APPENDIX A

SOFTWARE INPUT CALCULATIONS

Tectonic	Job No.	10473.CT11239A		
	Sheet No.	1	of	3
	Calculated By	JJ	Date :	11/19/2020
	Checked By	IM	Date :	11/19/2020

WIND AND ICE LOADS PER TIA-222-G

W.O.	10473.CT11239A
Project Name	Southington/ I-84
Location	435 Mill St, Southington, CT 06489
County	Hartford

Tower Type	SST	Self-Supporting (lattice)
Structure Class	2	Substantial hazard
Exposure Category	B	Suburban/wooded/obstructed
Topo Category	1	Flat or rolling terrain
Height of crest	0	ft

Basic Wind Speed (3-sec gust):		
Without ice	97	mph*
With ice	50	mph
Service	60	mph
Ice thickness	0.75	in

Importance Factor	
Wind only	1.00
Wind with ice	1.00
Ice thickness	1.00
Supporting Data:	
K_e	0.90
K_t	N/A
f	N/A
z_g	1200
α	7
$K_{z,min}$	0.7
K_d	0.95
G_h	1.00

Height	z (ft)	110
	Kh	N/A
	Kzt	1.00
	Kz	1.02
	Kiz	1.13
Wind Pressure, qz (psf)	No Ice	23.24
	With Ice	6.17
	Service	8.89
(tiz)	Ice Thk	1.69
Appurtenances (qzGh)	No Ice	23.24
	With Ice	6.17
	Service	8.89

*Ultimate 3-second gust wind speed of 125 mph converted to a nominal 3-second wind gust speed of 97 mph per Section 1609.3 and Appendix N, as required for use in the TIA-222-G Standard.

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Job No.	10473.CT11239A		
Sheet No.	2	of	3
Calculated By	JJ	Date :	11/19/20
Checked By	IM	Date :	11/19/20

Appurtenance Information

Effective Projected Area for Appurtenance $(EPA)_A=Max((EPA)_N,(EPA)_T)$

$(EPA)_T=\sum(C_aA_A)_T$ | $(EPA)_N=\sum(C_aA_A)_N$

Reduction Factor = 1

Wind Only Load Combinations

Antenna Configuration	(E) or (P)	Qty	z (ft)	Length or Diameter (ft)	Width (in)	Depth (in)	Flat or Cylindrical?	Antenna $(Ca)_T$	Antenna $(Ca)_N$	Side Face $(Aa)_T$ (ft^2)	Wind ward Side Face (CaAa)T (ft^2)	Face Normal $(A_a)_N$ (ft^2)	Windward face Normal $(C_aA_a)_N$ (ft^2)	Normal Antenna Wind Load Each (lb)	Transverse Antenna Wind Load Each (lb)	Antenna Weight (lb)	Total Weight (lb)
AIR 6449 B41	**P**	**3**	110	2.76	20.50	8.30	Flat	1.27	1.20	1.91	7.25	4.71	16.96	131	56	103.0	309.0
SDX1926Q-43	**P**	**3**	110	0.35	6.93	2.91	Flat	1.20	1.20	0.08	0.30	0.20	0.72	6	2	6.2	18.5
RRUS 4415 B25	**P**	**3**	110	1.24	13.20	5.40	Flat	1.21	1.20	0.56	2.03	1.37	4.92	38	16	46.3	138.9
RADIO 4449 B71 + B85	E	3	110	1.25	13.19	10.51	Flat	1.20	1.20	1.09	3.93	1.37	4.93	38	30	75.0	224.9
RADIO 4415 B66a	E	3	110	1.38	13.46	5.87	Flat	1.21	1.20	0.67	2.45	1.55	5.57	43	19	47.4	142.2
APXVAARR24_43-U-NA20	E	3	110	7.99	24.00	8.70	Flat	1.53	1.27	5.79	26.67	15.98	60.73	470	207	153.3	459.9
AIR-32 B2A/B66A	E	3	110	4.72	12.90	8.70	Flat	1.38	1.28	3.42	14.14	5.07	19.53	151	110	132.2	396.6
										$\sum(CaA_A)_T$	56.77	$\sum(CaA_A)_N$	113.36				1690

Note: Appurtenances listed above are to be installed along three (3) sector mounts.

Wind with Ice Load Combinations **Ice Thk=** 1.69 in

Antenna Configuration	(E), (R) or (P)	Qty	z (ft)	Length or Diameter (ft)	Width (in)	Depth (in)	Flat or Cylindrical?	Antenna $(Ca)_T$	Antenna $(Ca)_N$	Side Face $(A_a)_T$ (ft^2)	Windward Side Face (CaAa)T (ft^2)	Face Normal $(A_a)_N$ (ft^2)	Windward Face Normal $(C_aA_a)_N$ (ft^2)	Normal Antenna Wind Load Each (lb)	Transverse Antenna Wind Load Each (lb)	Ice Area for Weight (ft^2)	Ice Weight Alone (lbs)
AIR 6449 B41	P	3	110	3.04	23.88	11.68	Cylindrical	1.23	1.20	2.96	10.90	6.05	21.78	45	22	13.2	104.5
SDX1926Q-43	P	3	110	0.63	10.31	6.30	Cylindrical	1.20	1.20	0.33	1.19	0.54	1.95	4	2	0.6	4.5
RRUS 4415 B25	P	3	110	1.52	16.58	8.78	Cylindrical	1.20	1.20	1.12	4.02	2.11	7.58	16	8	3.8	30.4
RADIO 4449 B71 + B85	E	3	110	1.53	16.57	13.89	Cylindrical	1.20	1.20	1.77	6.37	2.11	7.60	16	13	4.9	38.9
RADIO 4415 B66a	E	3	110	1.66	16.85	9.25	Cylindrical	1.20	1.20	1.28	4.61	2.33	8.39	17	9	4.4	35.1
APXVAARR24_43-U-NA20	E	3	110	8.27	27.38	12.08	Cylindrical	1.44	1.25	8.33	36.01	18.88	70.80	146	74	43.6	343.9
AIR-32 B2A/B66A	E	3	110	5.00	16.28	12.08	Cylindrical	1.31	1.25	5.03	19.77	6.78	25.49	52	41	17.0	134.1
										$\sum(CaA_A)_T$	82.87	$\sum(CaA_A)_N$	143.60				691

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Job No.	10473.CT11239A		
Sheet No.	3	of	3
Calculated By	JJ	Date :	11/19/20
Checked By	IM	Date :	11/19/20

Existing Sector Mount

Mount Center Line=	110 ft

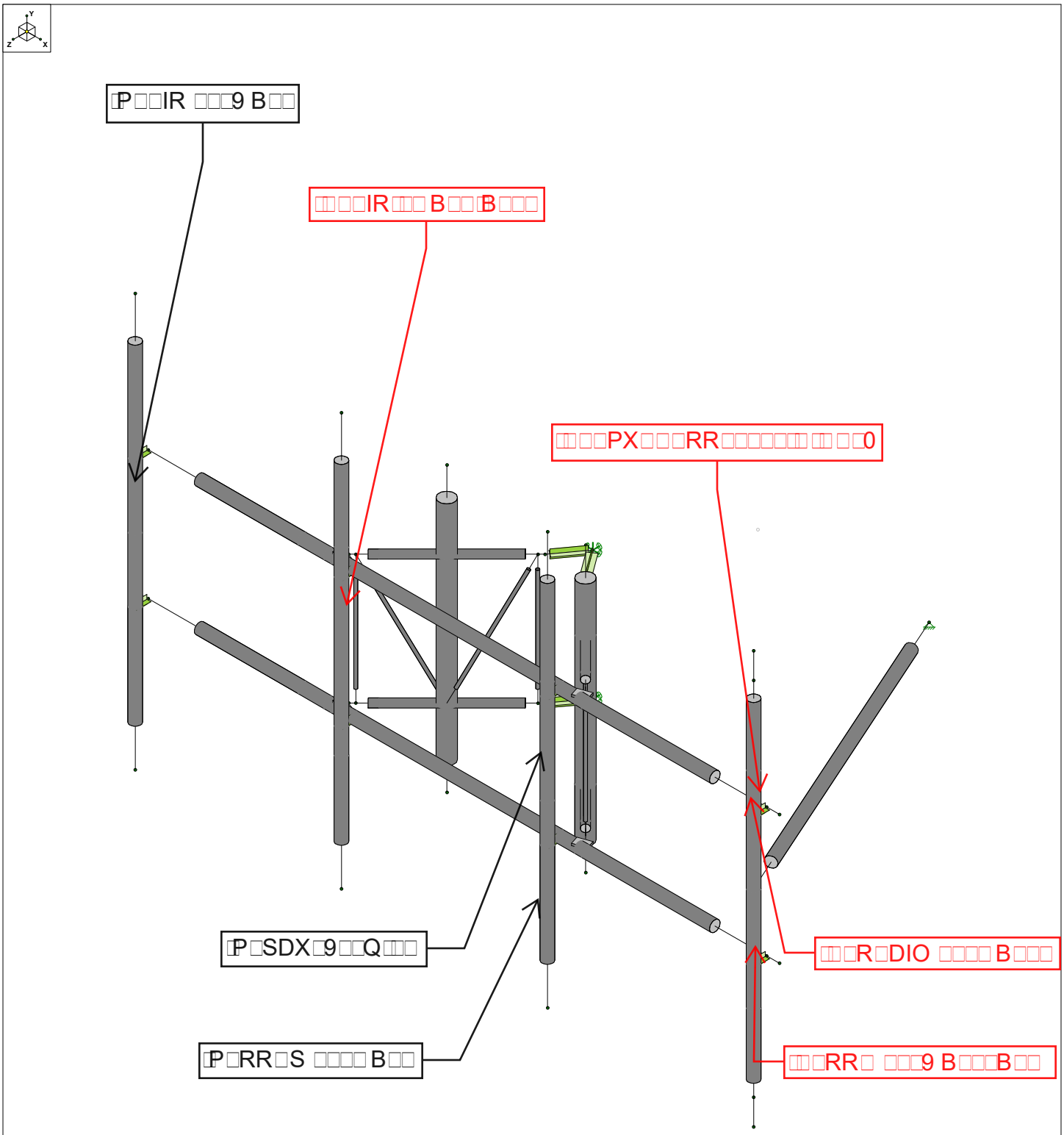
Member sizes and lengths are based on the assembly drawing by SitePro1 VFA12-RRU

Reduction Factor = 1

Mount Part	Quantity	Length (ft)	Projected Width (in)	Depth (in)	Flat or Cylindrical?	Drag Factor	Projected Area (ft^2)	Wind Force (lbs/ft)	Ice Weight Area (ft^2)	Ice Weight (lbs/ft)	Projected Area with Ice (ft^2)	Wind Force Ice (lbs/ft)	Service Wind Force (lbs/ft)
Face Horizontal_2.0" STD Pipe	2	12.50	2.38	2.38	Cylindrical	1.2	5.95	5.5	15.57	4.9	14.41	3.6	2.1
Sector Horizontal_1.25" STD Pipe	4	3.50	1.66	1.66	Cylindrical	1.2	2.32	3.9	6.08	3.4	7.06	3.1	1.5
Sector Vertical_5/8" SR	4	2.50	0.63	0.63	Cylindrical	1.2	0.63	1.5	1.64	1.3	4.01	2.5	0.6
Sector Diagonal_5/8" SR	4	2.50	0.63	0.63	Cylindrical	1.2	0.63	1.5	1.64	1.3	4.01	2.5	0.6
Mount Pipe_2.0" STD	4	8.00	2.38	2.38	Cylindrical	1.2	7.60	5.5	19.89	4.9	18.43	3.6	2.1
Vertical Pipe_HSS3.5x1/8	2	6.00	3.50	3.50	Cylindrical	1.2	4.20	8.1	10.99	7.2	8.26	4.3	3.1
Stiffarm_2.0" STD Pipe	1	7.00	2.38	2.38	Cylindrical	1.2	1.66	5.5	4.35	4.9	4.03	3.6	2.1

APPENDIX B

WIRE FRAME AND RENDERED MODELS



□P□PROPOS□D
□□ □□XISTI□G

□OT□S□
□□□XISTI□G □□D PROPOS□D □□T□□□□S □□D MO□□TI□G PIP□S H□□□ B□□□ □□RTI□□□□□ □□□T□R□D □□O□G TH□ □XISTI□G MO□□T □□O OFFS□T□ □□□IST□D □PP□RT□□□□□□S □BO□□ □R□ T□PI□□□ FOR □□□S□□TORS.
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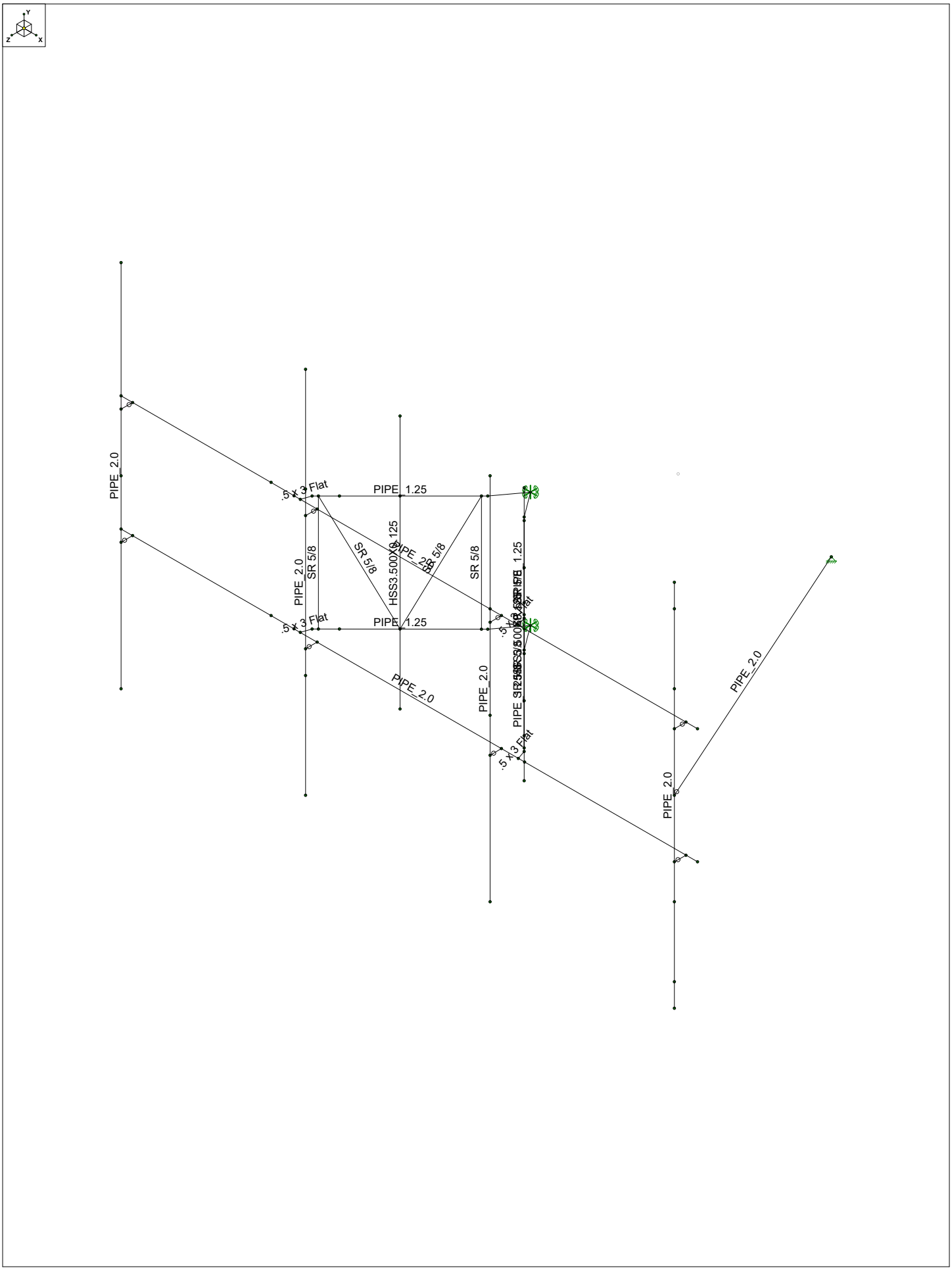
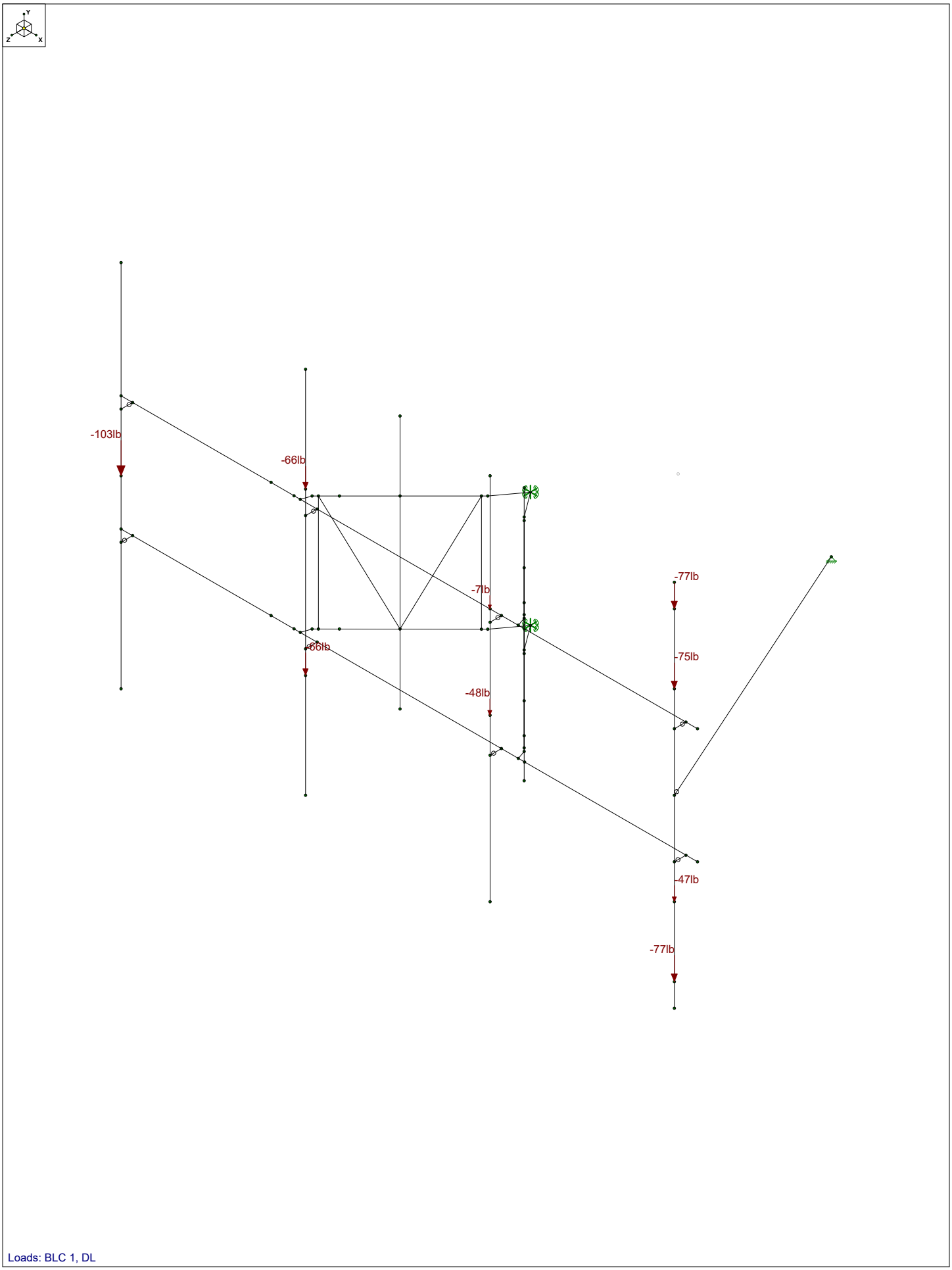
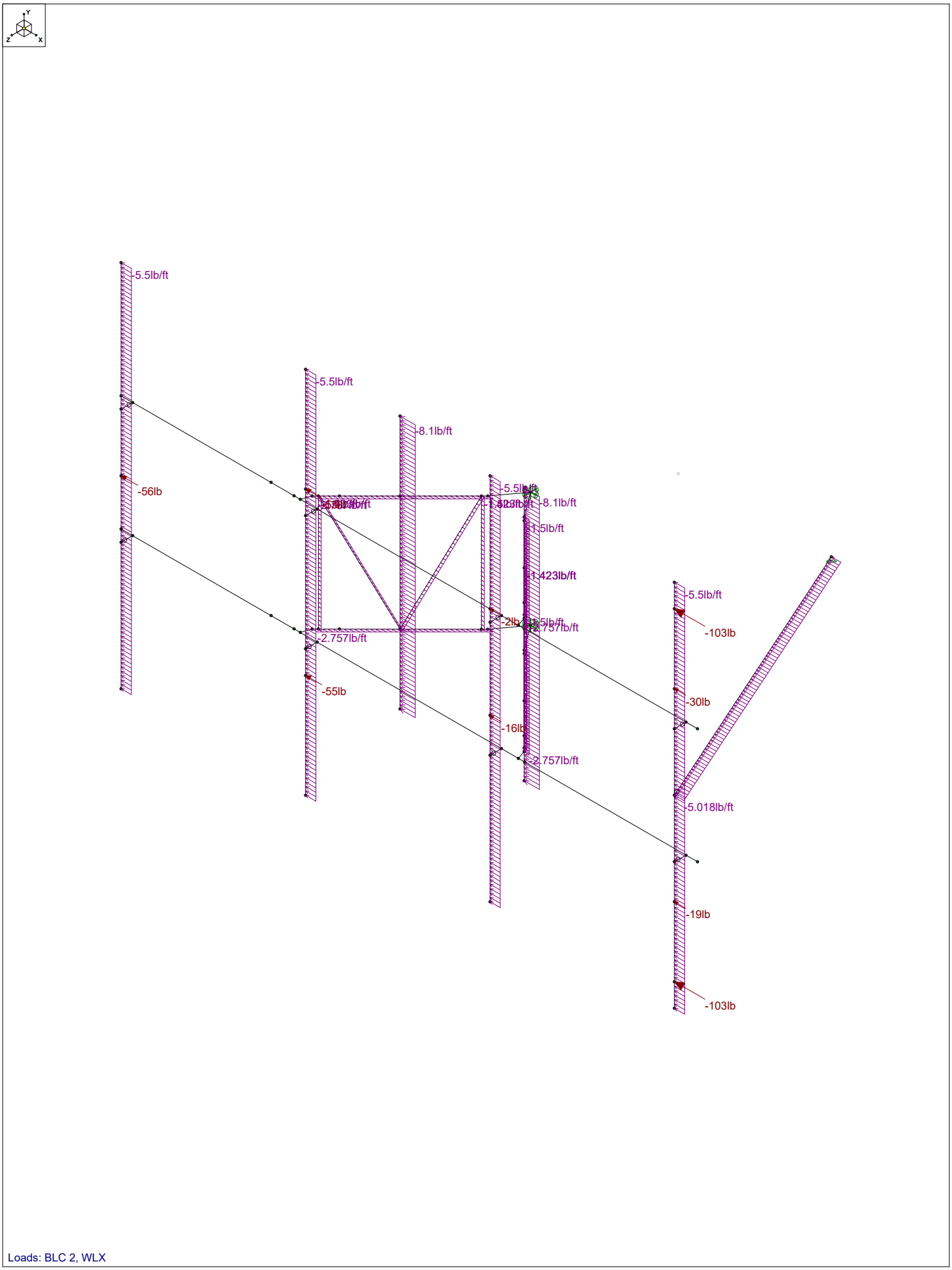
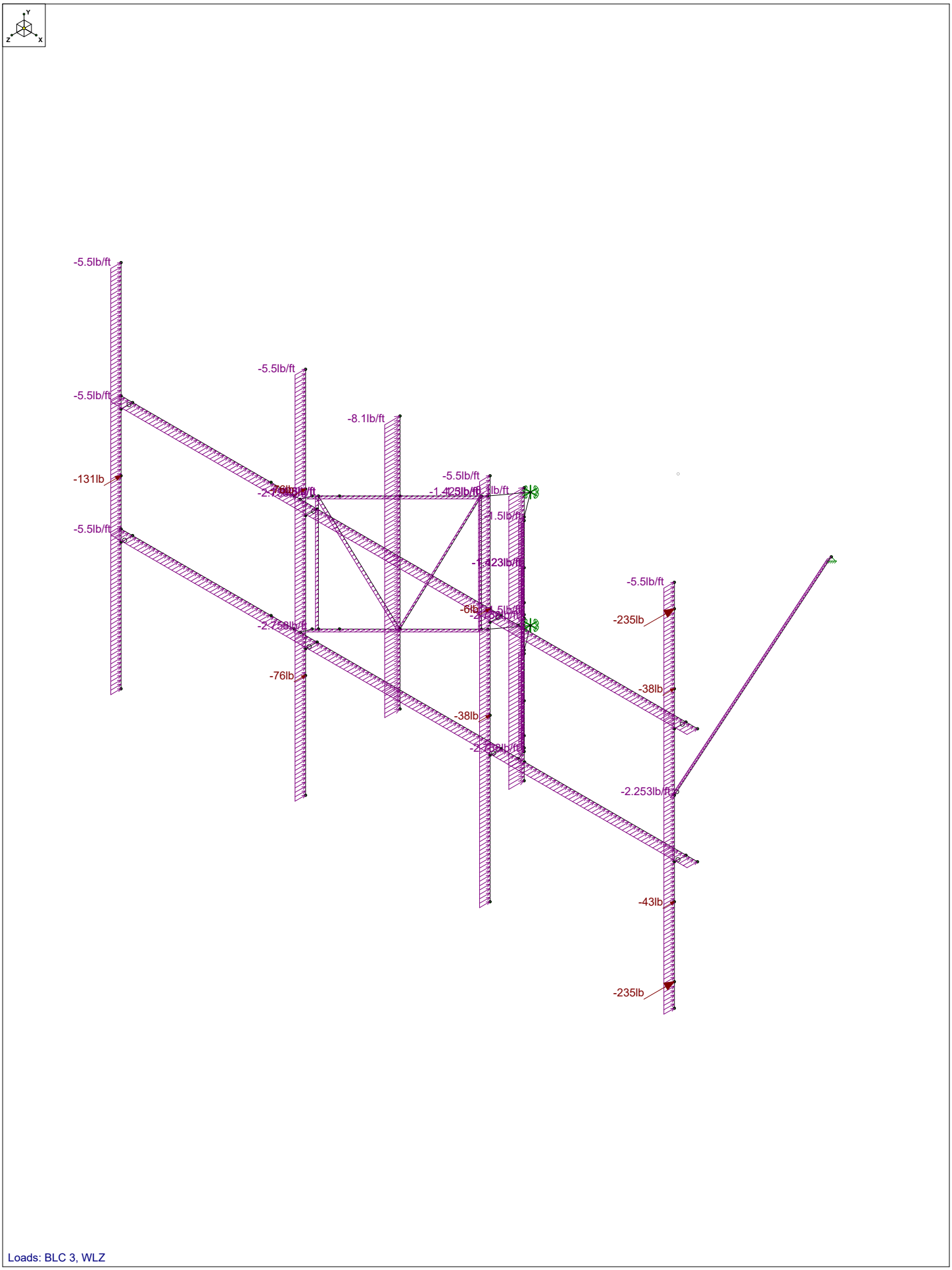

Y
Z
X
PIPE_2.0
.5 X 3 Flat
PIPE_1.25
SR 5/8
HSS3.500X0.125
PIPE_2.0
PIPE_2.0
PIPE_2.0
PIPE_2.0



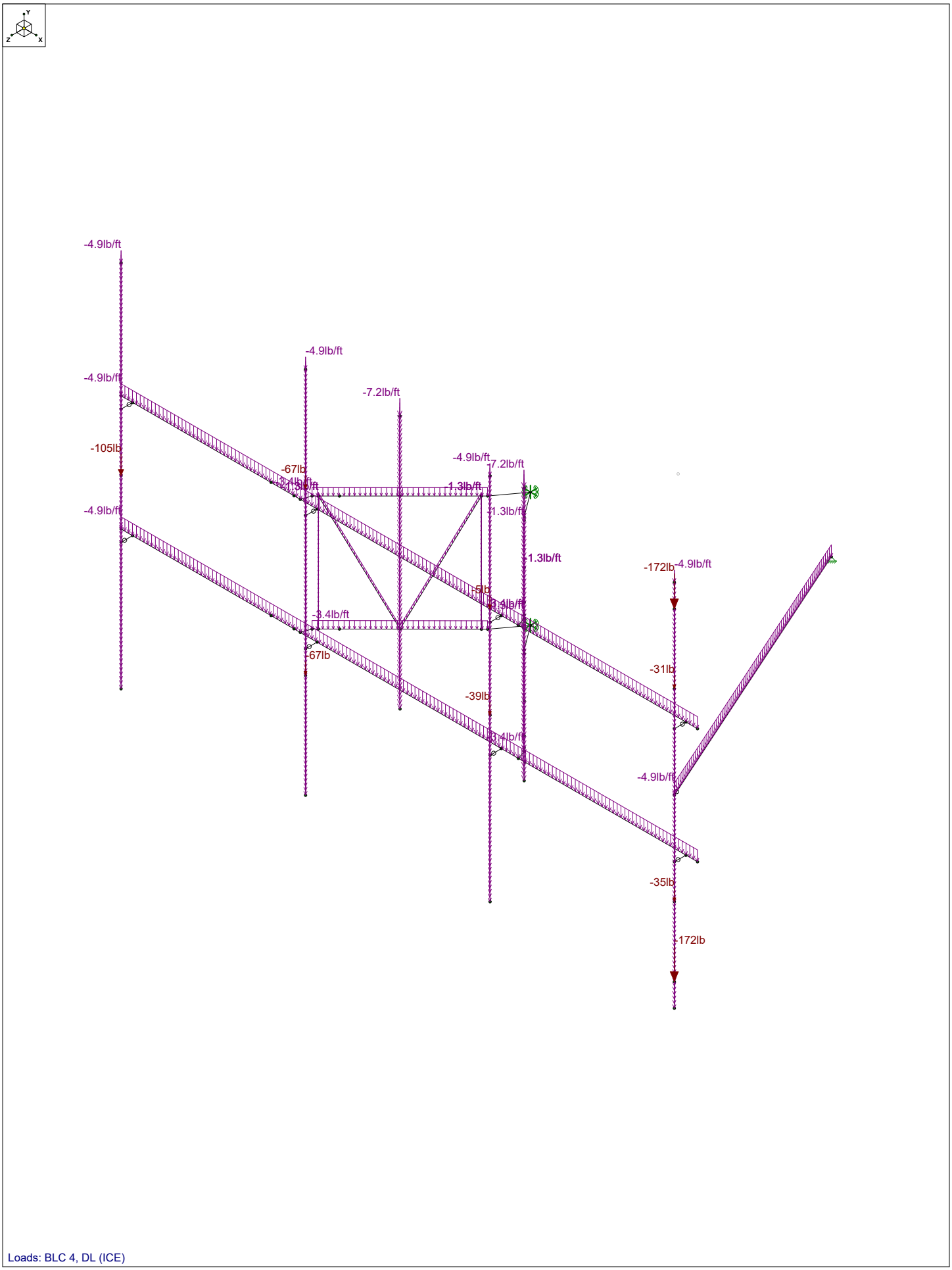
Loads: BLC 1, DL



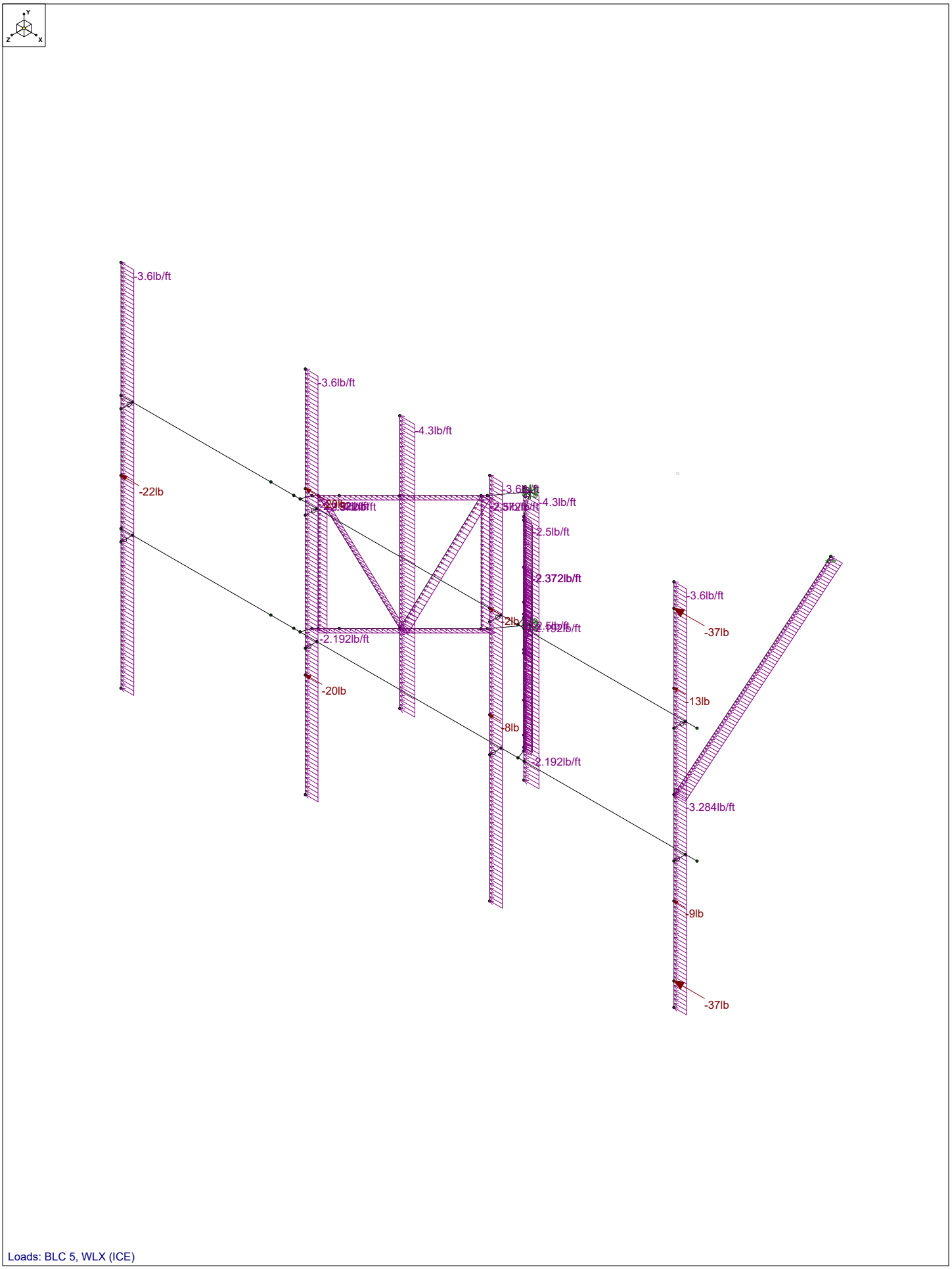
Loads: BLC 2, WLX



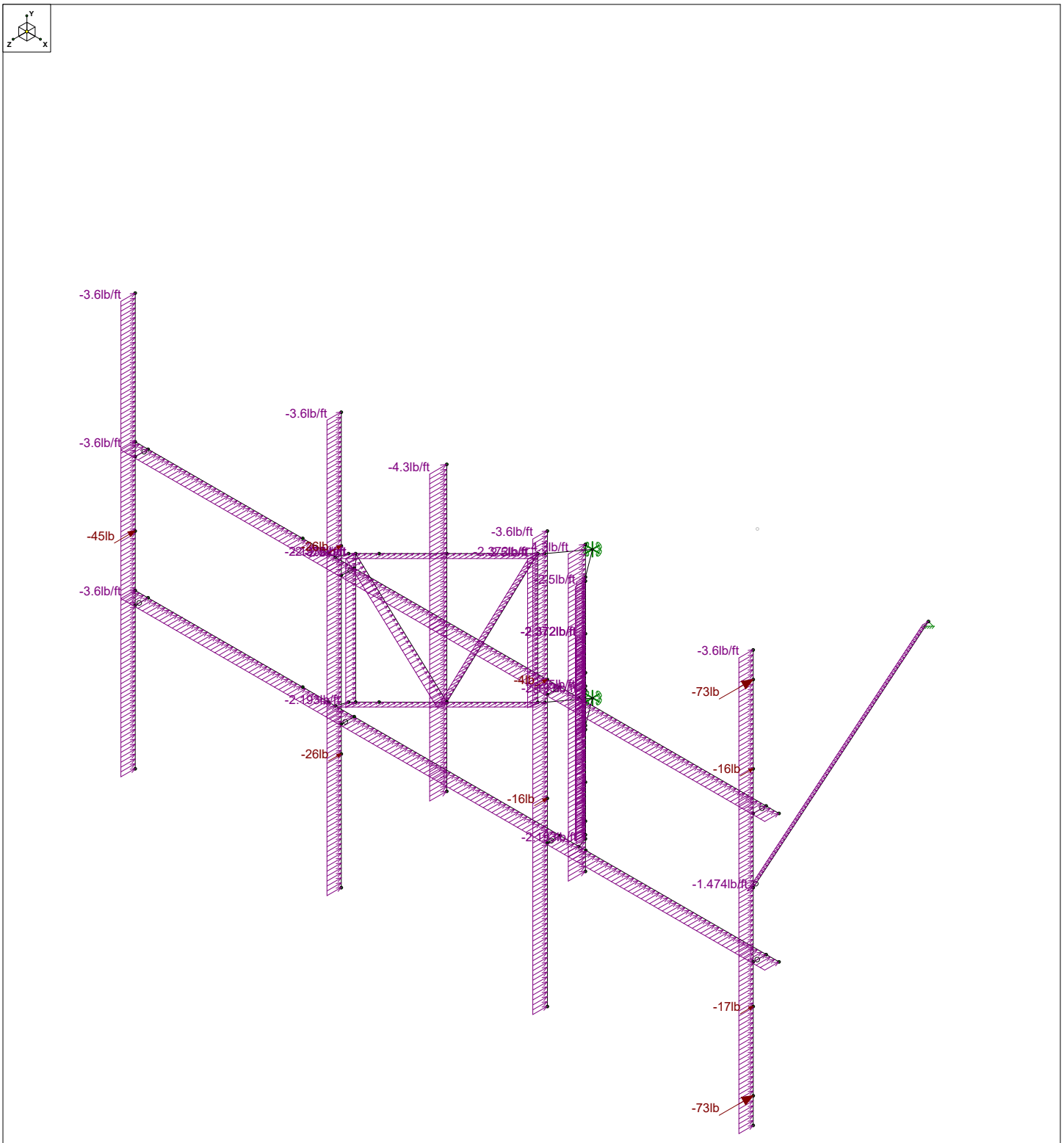
Loads: BLC 3, WLZ



Loads: BLC 4, DL (ICE)



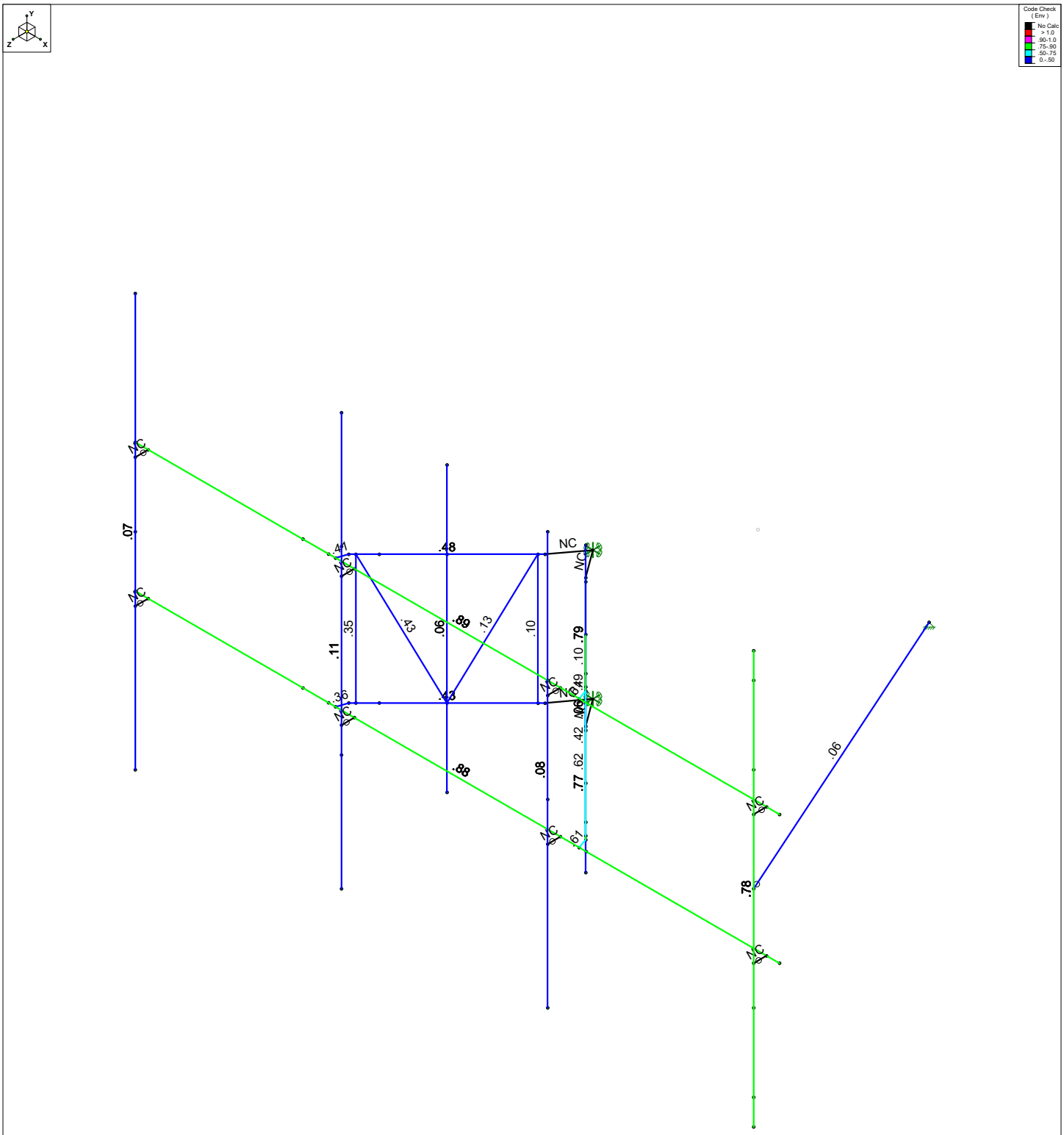
Loads: BLC 5, WLX (ICE)



Loads: BLC 6, WLZ (ICE)

APPENDIX C

SOFTWARE ANALYSIS OUTPUT



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[k/...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3
8	A500 Gr.42	29000	11154	.3	.65	.49	42	1.3	58	1.1
9	A500 Gr.46	29000	11154	.3	.65	.49	46	1.2	58	1.1
10	A53-b	29000	11154	.3	.65	.49	35	1.5	58	1.2

Basic Load Cases

	BLC Description	Category	X Grav...	Y Grav...	Z Gravity	Joint	Point	Distrib...	Area(Memb...	Surface(...
1	DL	None		-1.05		9				
2	WLX	None				9		21		
3	WLZ	None				9		21		
4	DL (ICE)	None				9		21		
5	WLX (ICE)	None				9		21		
6	WLZ (ICE)	None				9		21		

Load Combinations

	Description	So...	P...	SRSS	BLC	Fa...	B...	Factor	BLC	Factor	B...	Fact...	B...	Fa...	B...	Fa...
1	1.4D	Yes	Y		1	1.4										
2	1.2D+1.6(WLX+WLZ) - 0 Deg	Yes	Y		1	1.2	2	1.6								
3	1.2D+1.6(WLX+WLZ) - 30 Deg	Yes	Y		1	1.2	2	1.385	3	.8						
4	1.2D+1.6(WLX+WLZ) - 60 Deg	Yes	Y		1	1.2	2	.8	3	1.385						
5	1.2D+1.6(WLX+WLZ) - 90 Deg	Yes	Y		1	1.2	2		3	1.6						
6	1.2D+1.6(WLX+WLZ) - 120 Deg	Yes	Y		1	1.2	2	-.8	3	1.385						
7	1.2D+1.6(WLX+WLZ) - 150 Deg	Yes	Y		1	1.2	2	-1.385	3	.8						
8	1.2D+1.6(WLX+WLZ) - 180 Deg	Yes	Y		1	1.2	2	-1.6	3							
9	1.2D+1.6(WLX+WLZ) - 210 Deg	Yes	Y		1	1.2	2	-1.385	3	-.8						
10	1.2D+1.6(WLX+WLZ) - 240 Deg	Yes	Y		1	1.2	2	-.8	3	-1.385						
11	1.2D+1.6(WLX+WLZ) - 270 Deg	Yes	Y		1	1.2	2		3	-1.6						
12	1.2D+1.6(WLX+WLZ) - 300 Deg	Yes	Y		1	1.2	2	.8	3	-1.385						
13	1.2D+1.6(WLX+WLZ) - 330 Deg	Yes	Y		1	1.2	2	1.385	3	-.8						
14	**Wind Load with Ice**															
15	1.2D+1.0Di+1.0(WLXi+WLZi) - 0 Deg	Yes	Y		1	1.2	4	1	5	1	6					
16	1.2D+1.0Di+1.0(WLXi+WLZi) - 30 Deg	Yes	Y		1	1.2	4	1	5	.87	6	.5				
17	1.2D+1.0Di+1.0(WLXi+WLZi) - 60 Deg	Yes	Y		1	1.2	4	1	5	.5	6	.87				
18	1.2D+1.0Di+1.0(WLXi+WLZi) - 90 Deg	Yes	Y		1	1.2	4	1	5		6	1				
19	1.2D+1.0Di+1.0(WLXi+WLZi) - 120 Deg	Yes	Y		1	1.2	4	1	5	-.5	6	.87				
20	1.2D+1.0Di+1.0(WLXi+WLZi) - 150 Deg	Yes	Y		1	1.2	4	1	5	-.87	6	.5				
21	1.2D+1.0Di+1.0(WLXi+WLZi) - 180 Deg	Yes	Y		1	1.2	4	1	5	-1	6					
22	1.2D+1.0Di+1.0(WLXi+WLZi) - 210 Deg	Yes	Y		1	1.2	4	1	5	-.87	6	-.5				
23	1.2D+1.0Di+1.0(WLXi+WLZi) - 240 Deg	Yes	Y		1	1.2	4	1	5	-.5	6	-.87				
24	1.2D+1.0Di+1.0(WLXi+WLZi) - 270 Deg	Yes	Y		1	1.2	4	1	5		6	-1				
25	1.2D+1.0Di+1.0(WLXi+WLZi) - 300 Deg	Yes	Y		1	1.2	4	1	5	.5	6	-.87				
26	1.2D+1.0Di+1.0(WLXi+WLZi) - 330 Deg	Yes	Y		1	1.2	4	1	5	.87	6	-.5				

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design...	A [in2]	Iyy [in...	Izz [in...	J [in4]
1	Sector Horizontal_1.25" STD ...	PIPE_1.25	None	None	A53 Gr.B	Typical	.625	.184	.184	.368
2	Face Horizontal_2.0" STD Pipe	PIPE_2.0	None	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
3	Sector Vertical_5/8" SR	SR 5/8	None	None	A36 Gr.36	Typical	.307	.007	.007	.015
4	Sector Diagonal_5/8" SR	SR 5/8	None	None	A36 Gr.36	Typical	.307	.007	.007	.015
5	Vertical Pipe_HSS3.5x1/8	HSS3.500X0.125	None	None	A500 Gr.B R...	Typical	1.23	1.77	1.77	3.53
6	Mount Pipe_2.0" STD	PIPE_2.0	None	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
7	Stiffarm_2.0" STD Pipe	PIPE_2.0	None	None	A53 Gr.B	Typical	1.02	.627	.627	1.25

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N6	max	553.983	2	750.919	26	-135.584	4	-131.093	7	0	26	94.692	2
2		min	-1244.076	7	190.779	7	-2053.227	23	-489.857	15	0	1	-142.086	7
3	N5_1	max	1122.247	15	1553.652	20	2066.488	17	-285.288	2	0	26	716.519	15
4		min	-330.152	8	450.393	2	106.282	10	-958.303	20	0	1	214.778	7
5	N78	max	473.754	6	37.669	26	1052.069	6	0	26	0	26	0	26
6		min	-446.475	12	-4.343	6	-1048.352	12	0	1	0	1	0	1
7	N79	max	0	26	0	26	0	26	0	26	0	26	0	26
8		min	0	1	0	1	0	1	0	1	0	1	0	1
9	Totals:	max	1277.897	2	2231.283	19	2170.403	5						
10		min	-1277.902	8	1082.416	13	-2170.406	11						

B□S□D O□ TH□ □□RR□□T R□□□TIO□S □□D STR□SS R□TIO□S I□ TH□ FR□M□ M□MB□RS□□ □ □XP□□T TH□ □O□□□□TIO□S TO B□ □D□Q□□T□ TO S□PPORT TH□ PROPOS□D □PGR□D□.

Envelope AISC 15th(360-16): LRFD Steel Code Checks

	Member	Shape	Code Ch...	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt ...	phi*Mn y-y [l...	phi*M.....	Eqn
1	M11	PIPE_2.0	.895	8.724	21	.071	8.594		21	24514.617	32130	1871.625	1871.....	H1-1b
2	M12	PIPE_2.0	.880	8.724	20	.119	8.724		21	24514.617	32130	1871.625	1871.....	H1-1b
3	M19_1	PIPE_1.25	.787	.084	21	.422	.084		20	19685.566	19687.5	800.625	800.6.....	H3-6
4	M24	PIPE_2.0	.784	4	12	.093	5.25		13	14916.096	32130	1871.625	1871.....	H1-1b
5	M18_1	PIPE_1.25	.770	.084	8	.397	.084		20	19685.566	19687.5	800.625	800.6.....	H3-6
6	M27_1	SR 5/8	.618	0	20	.085	0		2	4378.243	9940.196	103.544	103.5.....	H1-1a
7	M6	.5 x 3 Flat	.611	.203	21	1.039	0	y	20	46960.835	47250	492.188	2953.....	H1-1b
8	M8	.5 x 3 Flat	.609	.203	16	.969	0	y	20	46960.835	47250	492.188	2953.....	H1-1b
9	M29_1	SR 5/8	.488	2.795	20	.031	0		13	3560.267	9940.196	103.544	103.5.....	H1-1a
10	M16	PIPE_1.25	.481	1.346	2	.340	2.692		2	19364.92	19687.5	800.625	800.6.....	H3-6
11	M17_1	PIPE_1.25	.433	2.692	2	.263	1.346		2	19685.566	19687.5	800.625	800.6.....	H3-6
12	M31	SR 5/8	.431	0	15	.048	0		13	3560.267	9940.196	103.544	103.5.....	H1-1a
13	M28_1	SR 5/8	.419	2.795	20	.050	0		5	3560.267	9940.196	103.544	103.5.....	H1-1a
14	M2_1	.5 x 3 Flat	.412	.203	22	.692	0	y	15	46960.835	47250	492.188	2953.....	H1-1b
15	M4_1	.5 x 3 Flat	.364	.203	16	.697	0	y	16	46960.835	47250	492.188	2953.....	H1-1b
16	M24_1	SR 5/8	.348	0	2	.091	0		2	4378.243	9940.196	103.544	103.5.....	H1-1b
17	M30	SR 5/8	.126	0	2	.014	0		9	3560.267	9940.196	103.544	103.5.....	H1-1b
18	M25	PIPE_2.0	.106	5.25	8	.015	2.75		11	14916.096	32130	1871.625	1871.....	H1-1b
19	M25_1	SR 5/8	.102	0	2	.072	0		2	4378.243	9940.196	103.544	103.5.....	H1-1b
20	M26_1	SR 5/8	.097	0	2	.073	0		2	4378.243	9940.196	103.544	103.5.....	H1-1b
21	M29	PIPE_2.0	.076	2.75	13	.009	5.25		3	14916.096	32130	1871.625	1871.....	H1-1b
22	M26	PIPE_2.0	.065	2.75	3	.016	5.25		3	14916.096	32130	1871.625	1871.....	H1-1b
23	M36	HSS3.500X0.125	.064	1.547	7	.124	1.547		2	42981.654	46494	4189.5	4189.5...	H1-1b
24	M35A	HSS3.500X0.125	.064	1.547	2	.123	1.547		2	42981.654	46494	4189.5	4189.5...	H1-1b
25	M39A	PIPE_2.0	.062	6.772	6	.003	0		21	18538.987	32130	1871.625	1871.....	H1-...

The maximum member stress is at 90% of its design strength and is adequate to support the proposed upgrade.

CONNECTICUT DESIGN CRITERIA - STATE

Revison:

CT is NOT a Home Rule State; Tab added only for Design Criteria

(APPENDIX N) MUNICIPALITY - SPECIFIC STRUCTURAL DESIGN PARAMETERS

Municipality	Ground Snow Load	*Wind Design Parameters*							
		MCE Spectral Accelerations (%g)		Ultimate Design Wind Speeds, V_{ult} (mph)			Nominal Design Wind Speeds, V_{asd} (mph)		
		S_s	S_1	Risk Cat.I	Risk Cat.II	Risk Cat III-IV	Risk Cat. I	Risk Cat. II	Risk Cat. III-IV
Andover	30	0.176	0.063	120	130	140	93	101	108
Ansonia	30	0.195	0.064	115	125	135	89	97	105
Ashford	35	0.173	0.063	120	130	140	93	101	108
Avon	35	0.181	0.064	110	120	130	85	93	101
Barkhamsted	40	0.177	0.065	110	120	125	85	93	97
Beacon Falls	30	0.192	0.064	115	125	135	89	97	105
Berlin	30	0.183	0.063	115	125	135	89	97	105
Bethany	30	0.189	0.063	115	125	135	89	97	105
Bethel	30	0.215	0.066	110	120	125	85	93	97
Bethlehem	35	0.190	0.065	110	120	125	85	93	97
Bloomfield	35	0.180	0.064	115	125	130	89	97	101
Bolton	30	0.177	0.063	115	125	135	89	97	105
Bozrah	30	0.170	0.061	120	135	145	93	105	112
Branford	30	0.180	0.061	120	130	140	93	101	108
Bridgeport	30	0.209	0.064	115	125	135	89	97	105
Bridgewater	35	0.201	0.066	110	120	125	85	93	97
Bristol	35	0.185	0.064	110	120	130	85	93	101
Brookfield	35	0.208	0.066	110	120	125	85	93	97
Brooklyn	35	0.171	0.062	120	130	140	93	101	108
Burlington	35	0.182	0.064	110	120	130	85	93	101
Canaan	40	0.173	0.065	105	115	120	81	89	93
Canterbury	35	0.171	0.061	120	130	140	93	101	108
Canton	35	0.180	0.064	110	120	130	85	93	101
Chaplin	35	0.173	0.062	120	130	140	93	101	108
Cheshire	30	0.186	0.063	115	125	135	89	97	105
Chester	30	0.172	0.060	120	130	140	93	101	108
Clinton	30	0.169	0.059	120	135	140	93	105	108
Colchester	30	0.174	0.061	120	130	140	93	101	108
Colebrook	40	0.174	0.065	105	115	125	81	89	97
Columbia	30	0.175	0.062	120	130	140	93	101	108
Cornwall	40	0.180	0.065	105	115	120	81	89	93
Coventry	30	0.176	0.063	120	130	140	93	101	108
Cromwell	30	0.181	0.063	115	125	135	89	97	105
Danbury	30	0.217	0.067	110	120	125	85	93	97
Darien	30	0.242	0.068	110	120	130	85	93	101
Deep River	30	0.170	0.060	120	130	140	93	101	108
Derby	30	0.195	0.064	115	125	135	89	97	105
Durham	30	0.179	0.062	115	130	140	89	101	108
Eastford	40	0.172	0.063	120	130	140	93	101	108
East Granby	35	0.177	0.065	110	120	130	85	93	101
East Haddam	30	0.172	0.061	120	130	140	93	101	108
Southington	30	0.185	0.064	115	125	135	89	97	105

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Wed Nov 04 2020

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.