



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

[www.ct.gov/csc](http://www.ct.gov/csc)

### VIA ELECTRONIC MAIL

July 24, 2019

Anne Marie Zsamba  
Real Estate Specialist  
Crown Castle  
3 Corporate Park Drive, Suite 101  
Clifton Park, NY 12065  
[AnneMarie.Zsamba@crowncastle.com](mailto:AnneMarie.Zsamba@crowncastle.com)

RE: **EM-T-MOBILE-129-190719** – T-Mobile notice of intent to modify an existing telecommunications facility located at 126 Pioneer Heights Road, Somers, Connecticut.

Dear Ms. Zsamba:

The Connecticut Siting Council (Council) is in receipt of your correspondence of July 23, 2019 submitted in response to the Council's July 22, 2019 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,

Melanie A. Bachman  
Executive Director

MAB/RDM/laf

c: The Honorable C.G. 'Bud' Knorr, Jr., First Selectman, Town of Somers  
Jennifer Roy, Land Use Technician/Zoning Officer, Town of Somers

## Fontaine, Lisa

---

**From:** Zsamba, Anne Marie <AnneMarie.Zsamba@crowncastle.com>  
**Sent:** Tuesday, July 23, 2019 9:17 AM  
**To:** Fontaine, Lisa  
**Cc:** CSC-DL Siting Council; 'selectman@somersct.gov'; 'jroy@somersct.gov'  
**Subject:** RE: EM-T-MOBILE-129-190719 Pioneer Hgts. Rd., Somers - CSC Incomplete Letter  
**Attachments:** Digitally Signed MA\_126 Pioneer Heights Road\_806378\_482056\_Passing.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Good morning,

In response to the Council's notice of incomplete correspondence, dated July 22, 2019, attached please find an electronic copy of the Mount Analysis for this filing signed by Raphael Mohamed, a Connecticut Professional Engineer. Please note that this document is digitally signed and date stamped.

If possible, please confirm receipt of this email as well as your ability to view the signature on the attached document.

I will remit a hard copy of this report to the Council as well.

Thank you kindly.

### ANNE MARIE ZSAMBA

Real Estate Specialist  
T: (201) 236-9224  
F: (724) 416-6112

### CROWN CASTLE

3 Corporate Park Drive, Suite 101,  
Clifton Park, NY 12065  
[CrownCastle.com](http://CrownCastle.com)

**From:** Fontaine, Lisa <[Lisa.Fontaine@ct.gov](mailto:Lisa.Fontaine@ct.gov)>  
**Sent:** Monday, July 22, 2019 4:23 PM  
**To:** Zsamba, Anne Marie <AnneMarie.Zsamba@crowncastle.com>  
**Cc:** CSC-DL Siting Council <[Siting.Council@ct.gov](mailto:Siting.Council@ct.gov)>; 'selectman@somersct.gov' <[selectman@somersct.gov](mailto:selectman@somersct.gov)>; 'jroy@somersct.gov' <[jroy@somersct.gov](mailto:jroy@somersct.gov)>  
**Subject:** EM-T-MOBILE-129-190719 Pioneer Hgts. Rd., Somers - CSC Incomplete Letter

**CAUTION:** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please see the attached correspondence.

Lisa Fontaine  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06051  
(860) 827-2969



Date: **June 6, 2019**

Charles McGuirt  
Crown Castle  
3530 Toringdon Way Suite 300  
Charlotte, NC 28277

MasTec Network Solutions  
507 Airport Blvd, Suite 111  
Morrisville, NC 27560  
(919) 244-5207

**Subject:** **Mount Analysis**

**Carrier Designation:** **MetroPCS Equipment Change-Out**  
**Carrier Site Number:** CTHA534A  
**Carrier Site Name:** Crown Somers Lattice Tower

**Crown Castle Designation:** **Crown Castle BU Number:** 806378  
**Crown Castle Site Name:** HRT 086 943248  
**Crown Castle JDE Number:** 560995  
**Crown Castle Order Number:** 482056 Revision Rev 1

**Engineering Firm Designation:** **MasTec Network Solutions**  
**Project Number:** 18753-MNT2

**Site Data:** **126 Pioneer Heights Rd, Somers, Tolland County, CT 06071**  
**Latitude: 41° 56' 55.96" Longitude: -72° 29' 32"**

**Structure Information** **Tower Height & Type:** 160 ft Self Support  
**Mount Elevation:** 113 ft  
**Mount Width & Type:** 12.5 ft Sector Mount

Dear Charles McGuirt,

MasTec Network Solutions is pleased to submit this **"Mount Analysis Report"** to determine the structural integrity of MetroPCS's antenna mounting system with the proposed appurtenance and equipment addition on the above mentioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount stress level. Based on our analysis we have determined the mount stress level to be:

**VFA12-HD**

**Sufficient**

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Vladimir Blanchard

Respectfully Submitted by:

Raphael Mohamed, PE, Peng  
Senior Director of Engineering  
CT PE License No. 25112

Raphael Mohamed

Digitally signed by Raphael Mohamed  
DN:  
E=Raphael.Mohamed@mastec.com,  
CN=Raphael Mohamed, OU=Users,  
OU=MasTec Network Solutions,  
OU=Service Lines, DC=mastec,  
DC=local  
Date: 2019.06.06 14:09:13-04'00'



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## 1) INTRODUCTION

This is a 12.5 ft VFA12-HD Sector Mount designed by Site Pro 1.

## 2) ANALYSIS CRITERIA

<b>TIA-222 Revision:</b>	TIA-222-H
<b>Risk Category</b>	II
<b>Ultimate Wind Speed:</b>	125 mph
<b>Exposure Category:</b>	C
<b>Ice Thickness:</b>	2 in
<b>Wind Speed with Ice:</b>	50 mph
<b>Seismic Ss:</b>	0.176
<b>Seismic S1:</b>	0.064
<b>Live Loading Wind Speed:</b>	30 mph
<b>Live Loading at Mid/End-Points:</b>	250 lb
<b>Man Live Loading at Mount Pipes</b>	500 lb

**Table 1 - Proposed Loading Configuration**

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
113.0	114.0	3	ericsson	AIR 21 B4A B2P	(3) 12.5' Sector Frame [VFA12-HD]
		3	rfs/celwave	APXVAARR24_43-U-NA20	
		3	ericsson	AIR 32 B2A/B66AA	
		3	ericsson	RADIO 4449 B12/B71	

## 3) ANALYSIS PROCEDURE

**Table 3 - Documents Provided**

Document	Remarks	Reference	Source
4-ORDER INFORMATION	CROWN CASTLE	Order No. 482056, Rev. 1	CCIsites
4-MOUNT DRAWING	Site Pro 1	Part No. VFA12-HD	On File
4-STRUCTURAL ANALYSIS REPORT	Paul J. Ford & Company	Project No. 37518-1565.001.8800	CCIsites

### 3.1) Analysis Method

RISA-3D (Version No. 17.0.0), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Tower Mount Analysis* (Revision C).

### 3.2) Assumptions

- 1) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer's specifications.
- 2) The configuration of antennas, mounts, and other appurtenances are as specified in Tables 1 and the referenced drawings.

- 3) All 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.
- 4) Steel grades have been assumed as follows, unless noted otherwise:
 

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM 500 (GR B-46)
Pipe	ASTM A53 (GR B-35)
Connection Bolts	ASTM A325

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

#### 4) ANALYSIS RESULTS

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

Notes	Component	Beam No.	Centerline (ft)	% Capacity	Pass / Fail
1	Pipe Mounts	--	113	58.5	Pass
1	Horizontals	--	113	33.8	Pass
1	Standoffs	--	113	32.9	Pass
1	Diagonal Bracing	--	113	20.7	Pass
1	Vertical Bracing	--	113	25.9	Pass
1	Standoff Gusset Plate	--	113	66.6	Pass
1	Standoff Connection Plate	--	113	83.8	Pass
1	Stiff-Arm	--	113	14.7	Pass
1	Bolt Connection	--	113	9.4	Pass

<b>Structure Rating (max from all components) =</b>	<b>83.8%</b>
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Notes:

- 1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
- 2) All sectors are typical

**Table 4 - Tieback Connection Data Table**

Tower Connection Node No.	Existing / Proposed	Resultant End Reaction (lb)	Connected Member Type	Connected Member Size	Member Compressive Capacity (lb) <sup>3</sup>	Notes
N65B	Proposed	116	Leg	Pipe 3.5 x 0.300	77170	1
N66	Proposed	115	Leg	Pipe 3.5 x 0.300	77170	1

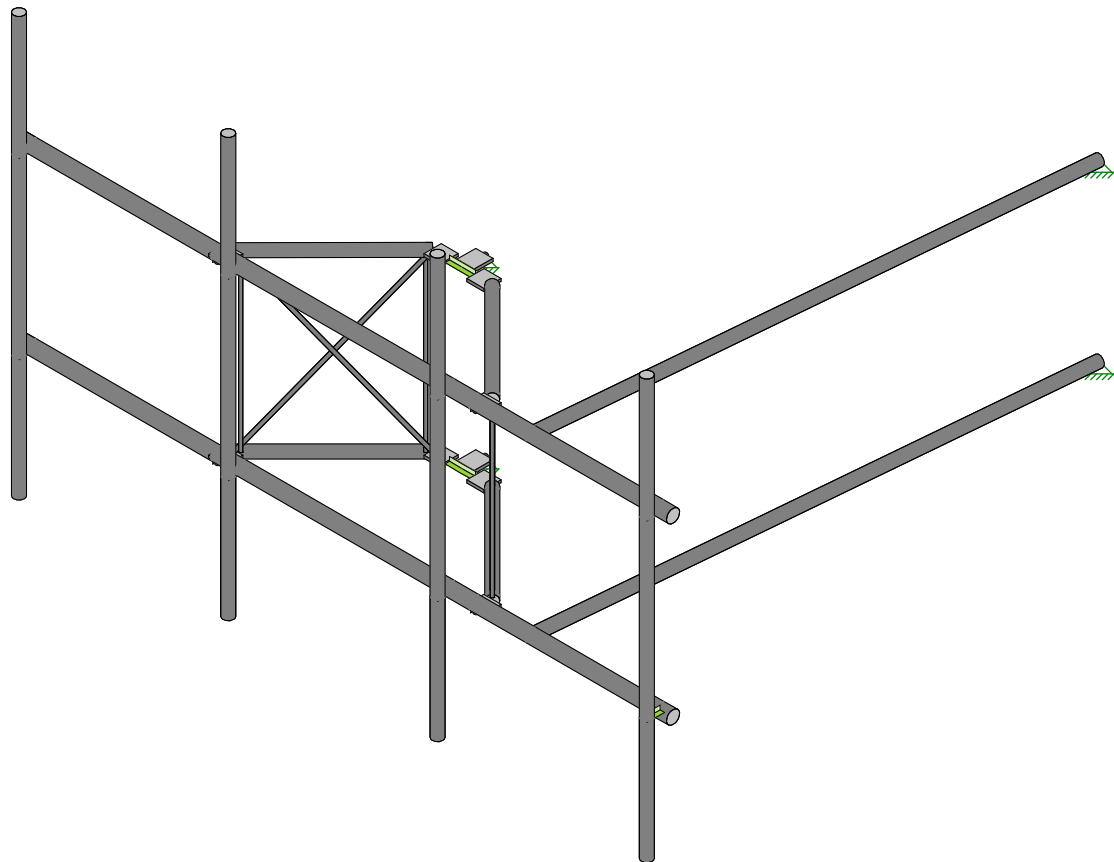
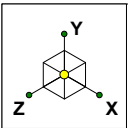
Notes:

- 1) Tieback connection point is within 25% of either end of the connected tower member
- 2) Tieback connection point is NOT within 25% of either end of the connected tower member
- 3) Reduced member compressive capacity according to CED-STD-10294 *Standard for Installation of Mounts and Appurtenances*

#### 4.1) Recommendations

The proposed mount has sufficient capacity to support the existing and proposed loading configuration.

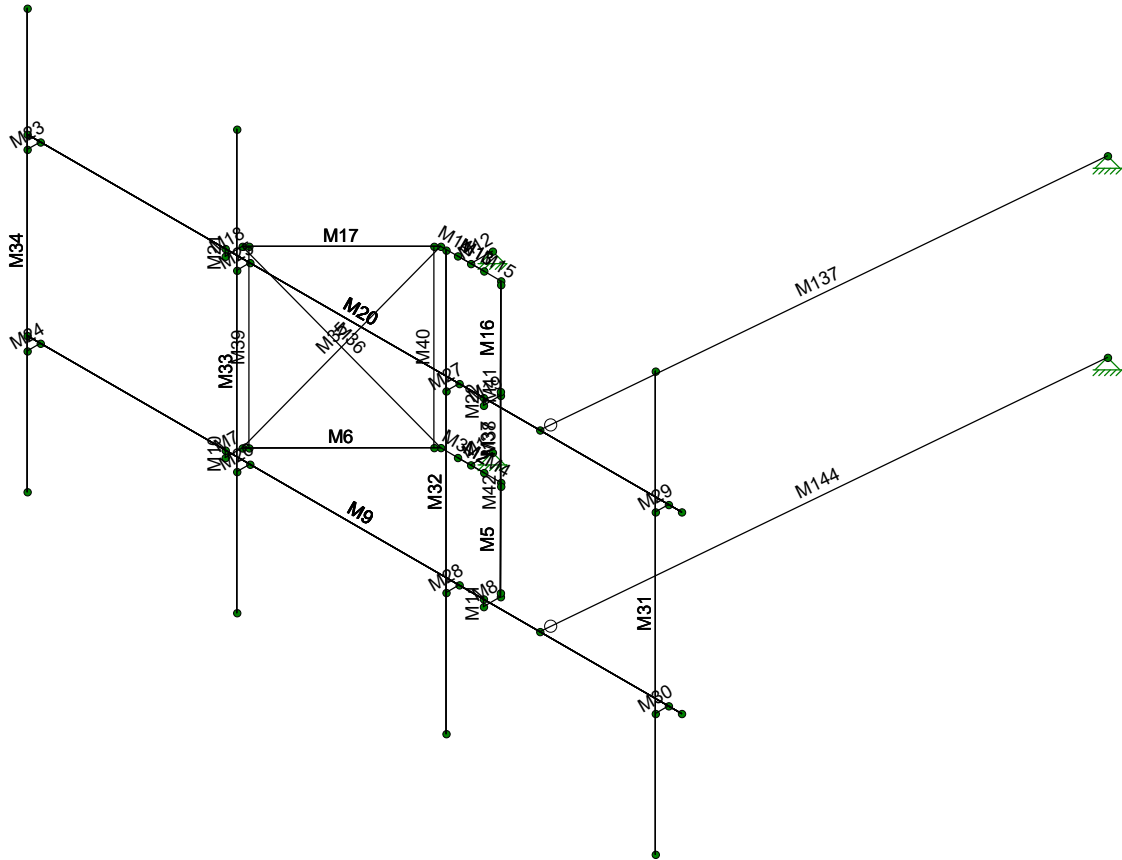
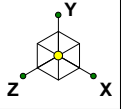
**APPENDIX A**  
**WIRE FRAME AND RENDERED MODELS**



Envelope Only Solution

Mastec Network Solutions	HRT 086 943248, App 482056	Rendered View
VB		May 16, 2019 at 10:13 AM
18753-MNT1		18753-MNT1_HRT 086 943248.r3d





Envelope Only Solution

Mastec Network Solutions

VB

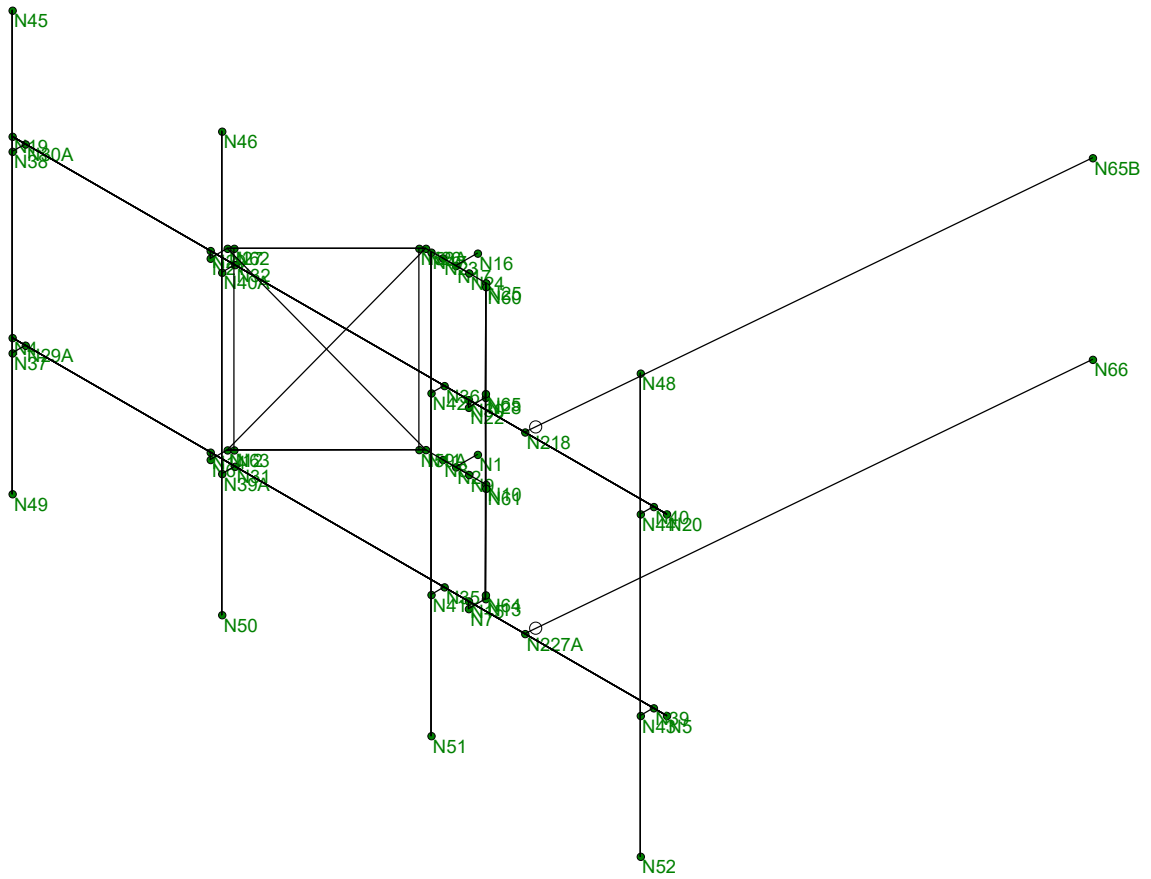
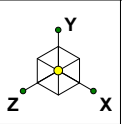
18753-MNT1

HRT 086 943248, App 482056

Member Labels

May 16, 2019 at 10:14 AM

18753-MNT1\_HRT 086 943248.r3d



Envelope Only Solution

Mastec Network Solutions

VB

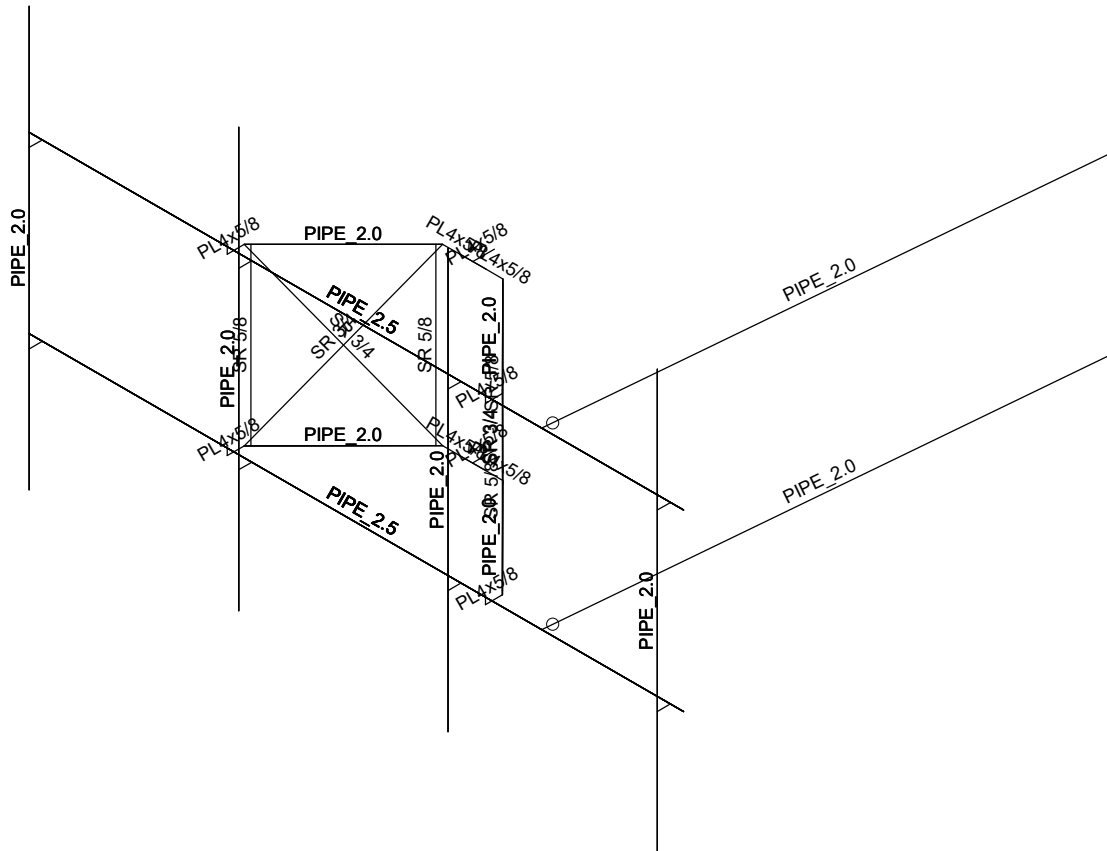
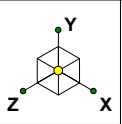
18753-MNT1

HRT 086 943248, App 482056

Node Labels

May 16, 2019 at 10:14 AM

18753-MNT1\_HRT 086 943248.r3d



Envelope Only Solution

Mastec Network Solutions

VB

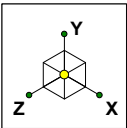
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HRT 086 943248, App 482056

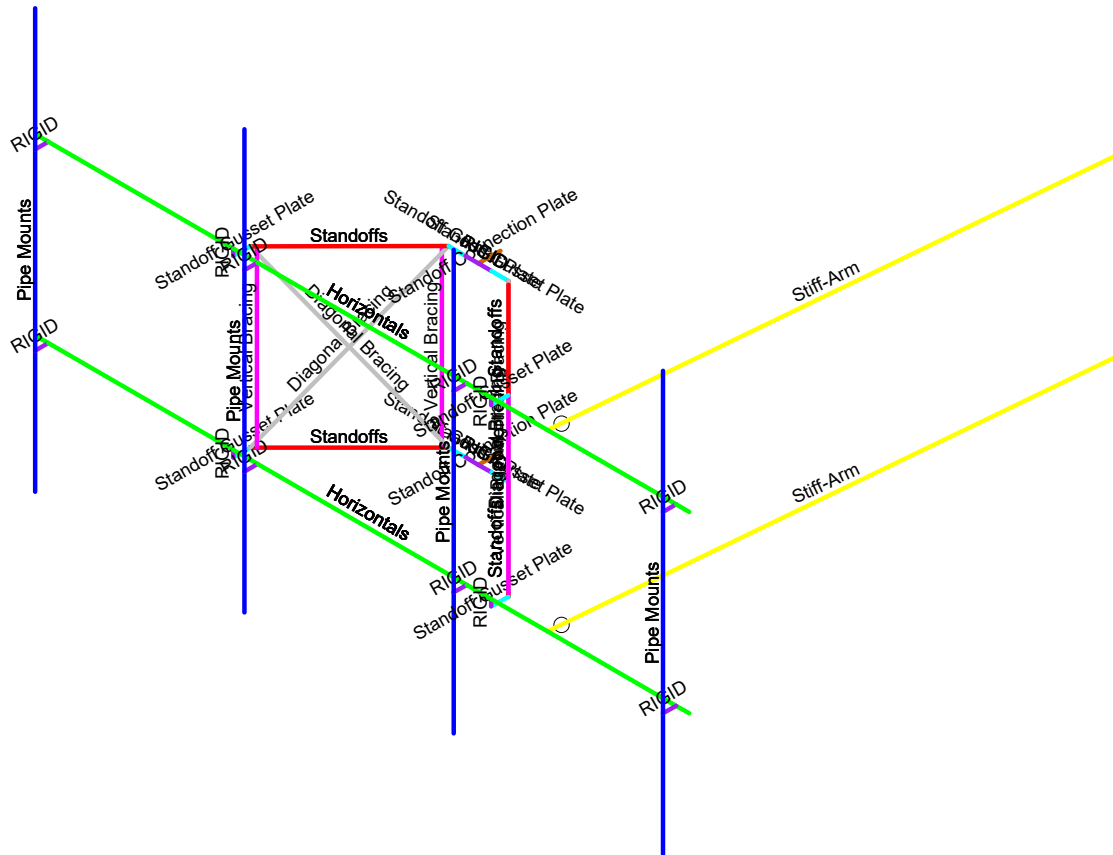
Member Shapes

May 16, 2019 at 10:14 AM

18753-MNT1\_HRT 086 943248.r3d

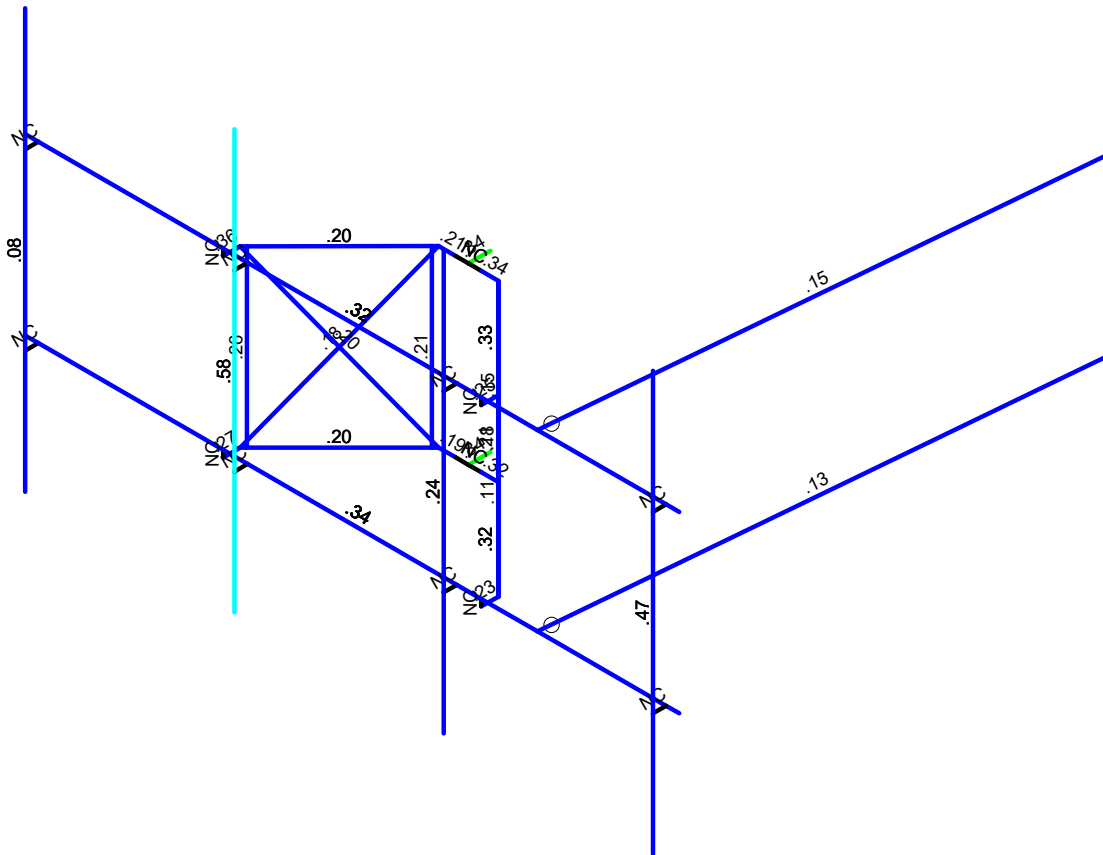
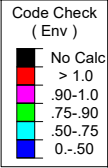
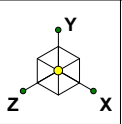


Section Sets	
<span style="color: blue;">■</span>	Pipe Mounts
<span style="color: green;">■</span>	Horizontals
<span style="color: red;">■</span>	Standoffs
<span style="color: grey;">■</span>	Diagonal Bracing
<span style="color: magenta;">■</span>	Vertical Bracing
<span style="color: cyan;">■</span>	Standoff Gusset Plate
<span style="color: brown;">■</span>	Standoff Connection Plate
<span style="color: yellow;">■</span>	Stiff-Arm
<span style="color: purple;">■</span>	RIGID



Envelope Only Solution

Mastec Network Solutions	HRT 086 943248, App 482056	Section Sets
VB		May 16, 2019 at 10:15 AM
18753-MNT1		18753-MNT1_HRT 086 943248.r3d



Member Code Checks Displayed (Enveloped)  
Envelope Only Solution

Mastec	HRT 086 943248, App 482056	Unity Check
VB		May 16, 2019 at 1:44 PM
18753-MNT1		18753-MNT1_HRT 086 943248.r3d

**APPENDIX B**  
**SOFTWARE INPUT CALCULATIONS**



Pipe Mount	Antenna	Elevation (ft)	Quantity	Orientation (deg)	Front Exposed (%)	Side Exposed (%)	Type	Height (in)	Width (in)	Depth (in)	Weight (lbs)	Front CaAa (ft <sup>2</sup> )	Side CaAa (ft <sup>2</sup> )	Front F <sub>x</sub> (kips)	Side F <sub>x</sub> (kips)	Top %	Bottom %
M31	Ericsson AIR 32 B2A/B66AA	114	1	0	100.0%	100.0%	Antenna	56.600	12.900	8.700	132.200	6.510	4.712	0.286	0.207	0.0%	74.7%
M31	Ericsson Radio 4449 B12/B71	114	1	0	0.0%	100.0%	RRU, TMA, Etc.	14.950	13.190	9.250	75.000	1.643	1.152	0.000	0.051	20.5%	43.1%
M31																	
M31																	
M31																	
M32	Ericsson AIR 21 B4A B2P	114	1	0	100.0%	100.0%	Antenna	55.900	12.100	7.870	91.500	6.079	4.288	0.267	0.188	0.0%	74.2%
M32	Ericsson Radio 4449 B12/B71	114	1	0	0.0%	100.0%	RRU, TMA, Etc.	14.950	13.190	9.250	75.000	1.643	1.152	0.000	0.051	20.5%	43.1%
M32																	
M32																	
M32																	
M33	Celwave APXVAARR24_43-U-H	114	1	0	100.0%	100.0%	Antenna	95.900	24.000	8.700	128.000	20.243	8.889	0.889	0.390	0.0%	80.0%
M33	Ericsson Radio 4449 B12/B71	114	1	0	0.0%	100.0%	RRU, TMA, Etc.	14.950	13.190	9.250	75.000	1.643	1.152	0.000	0.051	33.8%	46.2%
M33																	
M33																	
M33																	
M33																	



Pipe Mount	Antenna	Elevation (ft)	Quantity	Orientation (deg)	Front Exposed (%)	Side Exposed (%)	Type	Height (in)	Width (in)	Depth (in)	Ice Weight (lb)	Front CaAa (ft <sup>2</sup> )	Side CaAa (ft <sup>2</sup> )	Front F <sub>A</sub> (kips)	Side F <sub>A</sub> (kips)	Top %	Bottom %
M31	Ericsson AIR 32 B2A/B66AA	114	1	0	100.0%	100.0%	Antenna	56.600	12.900	8.700	232.296	9.207	7.265	0.065	0.051	0.0%	74.7%
M31	Ericsson Radio 4449 B12/B71	114	1	0	0.0%	100.0%	RRU, TMA, Etc.	14.950	13.190	9.250	63.253	2.875	2.235	0.000	0.016	20.5%	43.1%
M31																	
M31																	
M31																	
M32	Ericsson AIR 21 B4A B2P	114	1	0	100.0%	100.0%	Antenna	55.900	12.100	7.870	214.936	8.723	6.790	0.061	0.048	0.0%	74.2%
M32	Ericsson Radio 4449 B12/B71	114	1	0	0.0%	100.0%	RRU, TMA, Etc.	14.950	13.190	9.250	63.253	2.875	2.235	0.000	0.016	20.5%	43.1%
M32																	
M32																	
M32																	
M33	Celwave APXVAARR24_43-U-N	114	1	0	100.0%	100.0%	Antenna	95.900	24.000	8.700	613.749	24.773	13.094	0.174	0.092	0.0%	80.0%
M33	Ericsson Radio 4449 B12/B71	114	1	0	0.0%	100.0%	RRU, TMA, Etc.	14.950	13.190	9.250	63.253	2.875	2.235	0.000	0.016	33.8%	46.2%
M33																	
M33																	
M33																	
M33																	



**APPENDIX C**  
**SOFTWARE ANALYSIS OUTPUT**



### Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (1E...	Density[k/ft...	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

### Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Pipe Mounts	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	Horizontals	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
3	Standoffs	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
4	Diagonal Bracing	SR 3/4	Beam	BAR	A36 Gr.36	Typical	.442	.016	.016	.031
5	Vertical Bracing	SR 5/8	Beam	RECT	A36 Gr.36	Typical	.307	.007	.007	.015
6	Standoff Gusset Plate	PL4x5/8	Beam	RECT	A36 Gr.36	Typical	2.5	.081	3.333	.293
7	Standoff Connection...	PL4x5/8	Beam	RECT	A36 Gr.36	Typical	2.5	.081	3.333	.293
8	Stiff-Arm	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
9	Pipe Frame	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25

### Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0.	0	1.940383	0	
2	N2	0.	0	2.35705	0	
3	N4	-6.25	.125	4.578683	0	
4	N5	6.25	.125	4.578683	0	
5	N6	-2.466425	0	4.578683	0	
6	N7	2.466425	0	4.578683	0	
7	N8	-.25	0	2.35705	0	
8	N9	.25	0	2.35705	0	
9	N10	0.574242	0	2.35705	0	
10	N11	-0.574242	0	2.35705	0	
11	N12	-2.466425	0	4.254442	0	
12	N13	2.466425	0	4.254442	0	
13	N14	-2.466425	.125	4.578683	0	
14	N15	2.466425	.125	4.578683	0	
15	N16	0.	3.333333	1.940383	0	
16	N17	0.	3.333333	2.35705	0	
17	N19	-6.25	3.458333	4.578683	0	
18	N20	6.25	3.458333	4.578683	0	
19	N21	-2.466425	3.333333	4.578683	0	
20	N22	2.466425	3.333333	4.578683	0	
21	N23	-.25	3.333333	2.35705	0	
22	N24	.25	3.333333	2.35705	0	
23	N25	0.574242	3.333333	2.35705	0	
24	N26	-0.574242	3.333333	2.35705	0	
25	N27	-2.466425	3.333333	4.254442	0	
26	N28	2.466425	3.333333	4.254442	0	
27	N29	-2.466425	3.458333	4.578683	0	
28	N30	2.466425	3.458333	4.578683	0	
29	N29A	-6	.125	4.578683	0	
30	N30A	-6	3.458333	4.578683	0	
31	N31	-2	.125	4.578683	0	



Company : Mastec  
 Designer : VB  
 Job Number : 18753-MNT1  
 Model Name : HRT 086 943248, App 482056

May 16, 2019  
 1:44 PM  
 Checked By: \_\_\_\_\_

**Joint Coordinates and Temperatures (Continued)**

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
32	N32	-2	3.458333	4.578683	0	
33	N35	2	.125	4.578683	0	
34	N36	2	3.458333	4.578683	0	
35	N39	6	.125	4.578683	0	
36	N40	6	3.458333	4.578683	0	
37	N37	-6	.125	4.828683	0	
38	N38	-6	3.458333	4.828683	0	
39	N39A	-2	.125	4.828683	0	
40	N40A	-2	3.458333	4.828683	0	
41	N41	2	.125	4.828683	0	
42	N42	2	3.458333	4.828683	0	
43	N43	6	.125	4.828683	0	
44	N44	6	3.458333	4.828683	0	
45	N45	-6	5.791667	4.828683	0	
46	N46	-2	5.791667	4.828683	0	
47	N47	2	5.791667	4.828683	0	
48	N48	6	5.791667	4.828683	0	
49	N49	-6	-2.208333	4.828683	0	
50	N50	-2	-2.208333	4.828683	0	
51	N51	2	-2.208333	4.828683	0	
52	N52	6	-2.208333	4.828683	0	
53	N58A	-0.637676	3.333333	2.420659	0	
54	N59A	-0.637676	0	2.420659	0	
55	N60	0.637676	3.333333	2.420659	0	
56	N61	0.637676	0	2.420659	0	
57	N62	-2.403012	3.333333	4.190854	0	
58	N63	-2.403012	0	4.190854	0	
59	N64	2.403012	0	4.190854	0	
60	N65	2.403012	3.333333	4.190854	0	
61	N218	3.541667	3.458333	4.578683	0	
62	N227A	3.541667	0.125	4.578683	0	
63	N65B	4.30209	3.333333	-5.511047	0	
64	N66	4.30209	-0.	-5.511047	0	

**Joint Boundary Conditions**

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N1	Reaction	Reaction	Reaction			
2	N16	Reaction	Reaction	Reaction			
3	N65B	Reaction	Reaction	Reaction			
4	N66	Reaction	Reaction	Reaction			

**Member Primary Data**

	Label	I Joint	J Joint	K Joint	Rotate(de...)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2		90	Standoff Connection P..	Beam	RECT	A36 Gr.36	Typical
2	M2	N8	N9			RIGID	None	None	RIGID	Typical
3	M3	N8	N11		90	Standoff Gusset Plate	Beam	RECT	A36 Gr.36	Typical
4	M4	N9	N10		90	Standoff Gusset Plate	Beam	RECT	A36 Gr.36	Typical
5	M5	N10	N13			Standoffs	Beam	Pipe	A53 Gr.B	Typical
6	M6	N11	N12			Standoffs	Beam	Pipe	A53 Gr.B	Typical
7	M7	N12	N6		90	Standoff Gusset Plate	Beam	RECT	A36 Gr.36	Typical
8	M8	N13	N7		90	Standoff Gusset Plate	Beam	RECT	A36 Gr.36	Typical
9	M9	N4	N5			Horizontals	Beam	Pipe	A53 Gr.B	Typical
10	M10	N14	N6			RIGID	None	None	RIGID	Typical
11	M11	N15	N7			RIGID	None	None	RIGID	Typical



Company : Mastec  
 Designer : VB  
 Job Number : 18753-MNT1  
 Model Name : HRT 086 943248, App 482056

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**Member Primary Data (Continued)**

	Label	I Joint	J Joint	K Joint	Rotate(de...)	Section/Shape	Type	Design List	Material	Design Rules
12	M12	N16	N17		90	Standoff Connection P..	Beam	RECT	A36 Gr.36	Typical
13	M13	N23	N24			RIGID	None	None	RIGID	Typical
14	M14	N23	N26		90	Standoff Gusset Plate	Beam	RECT	A36 Gr.36	Typical
15	M15	N24	N25		90	Standoff Gusset Plate	Beam	RECT	A36 Gr.36	Typical
16	M16	N25	N28			Standoffs	Beam	Pipe	A53 Gr.B	Typical
17	M17	N26	N27			Standoffs	Beam	Pipe	A53 Gr.B	Typical
18	M18	N27	N21		90	Standoff Gusset Plate	Beam	RECT	A36 Gr.36	Typical
19	M19	N28	N22		90	Standoff Gusset Plate	Beam	RECT	A36 Gr.36	Typical
20	M20	N19	N20			Horizontals	Beam	Pipe	A53 Gr.B	Typical
21	M21	N29	N21			RIGID	None	None	RIGID	Typical
22	M22	N30	N22			RIGID	None	None	RIGID	Typical
23	M23	N30A	N38			RIGID	None	None	RIGID	Typical
24	M24	N29A	N37			RIGID	None	None	RIGID	Typical
25	M25	N32	N40A			RIGID	None	None	RIGID	Typical
26	M26	N31	N39A			RIGID	None	None	RIGID	Typical
27	M27	N36	N42			RIGID	None	None	RIGID	Typical
28	M28	N35	N41			RIGID	None	None	RIGID	Typical
29	M29	N40	N44			RIGID	None	None	RIGID	Typical
30	M30	N39	N43			RIGID	None	None	RIGID	Typical
31	M31	N48	N52			Pipe Mounts	Beam	Pipe	A53 Gr.B	Typical
32	M32	N47	N51			Pipe Mounts	Beam	Pipe	A53 Gr.B	Typical
33	M33	N46	N50			Pipe Mounts	Beam	Pipe	A53 Gr.B	Typical
34	M34	N45	N49			Pipe Mounts	Beam	Pipe	A53 Gr.B	Typical
35	M35	N26	N12			Diagonal Bracing	Beam	BAR	A36 Gr.36	Typical
36	M36	N27	N11			Diagonal Bracing	Beam	BAR	A36 Gr.36	Typical
37	M37	N28	N10			Diagonal Bracing	Beam	BAR	A36 Gr.36	Typical
38	M38	N25	N13			Diagonal Bracing	Beam	BAR	A36 Gr.36	Typical
39	M39	N62	N63			Vertical Bracing	Beam	RECT	A36 Gr.36	Typical
40	M40	N58A	N59A			Vertical Bracing	Beam	RECT	A36 Gr.36	Typical
41	M41	N60	N61			Vertical Bracing	Beam	RECT	A36 Gr.36	Typical
42	M42	N65	N64			Vertical Bracing	Beam	RECT	A36 Gr.36	Typical
43	M137	N218	N65B			Stiff-Arm	Beam	Pipe	A53 Gr.B	Typical
44	M144	N227A	N66			Stiff-Arm	Beam	Pipe	A53 Gr.B	Typical

**Joint Loads and Enforced Displacements (BLC 42 : Man 1 (500 lbs))**

	Joint Label	L,D,M	Direction	Magnitude((k.k-ft), (in.rad), (k*s^2/ft...
1				0

**Joint Loads and Enforced Displacements (BLC 43 : Man 2 (500 lbs))**

	Joint Label	L,D,M	Direction	Magnitude((k.k-ft), (in.rad), (k*s^2/ft...
1	N39	L	Y	-.5

**Joint Loads and Enforced Displacements (BLC 44 : Man 3 (500 lbs))**

	Joint Label	L,D,M	Direction	Magnitude((k.k-ft), (in.rad), (k*s^2/ft...
1				0

**Joint Loads and Enforced Displacements (BLC 45 : Man 4 (250 lbs))**

	Joint Label	L,D,M	Direction	Magnitude((k.k-ft), (in.rad), (k*s^2/ft...
1				0

**Joint Loads and Enforced Displacements (BLC 46 : Man 5 (250 lbs))**

	Joint Label	L,D,M	Direction	Magnitude((k.k-ft), (in.rad), (k*s^2/ft...
1				0



**Joint Loads and Enforced Displacements (BLC 47 : Man 6 (250 lbs))**

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in.rad), (k*s^2/ft...
1	N5	L	Y	-.25

**Member Point Loads (BLC 1 : Dead)**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M31	Y	-.132	%37.3
2	M31	Y	-.075	%31.8
3	M32	Y	-.092	%37.1
4	M32	Y	-.075	%31.8
5	M33	Y	-.128	%40
6	M33	Y	-.075	%40

**Member Point Loads (BLC 2 : Ice Dead)**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M31	Y	-.232	%37.3
2	M31	Y	-.063	%31.8
3	M32	Y	-.215	%37.1
4	M32	Y	-.063	%31.8
5	M33	Y	-.614	%40
6	M33	Y	-.063	%40

**Member Point Loads (BLC 3 : Full Wind Antenna (0 Deg))**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M31	Z	-.143	0
2	M32	Z	-.133	0
3	M33	Z	-.444	0
4	M31	Z	-.143	%74.7
5	M32	Z	-.133	%74.2
6	M33	Z	-.444	%80

**Member Point Loads (BLC 4 : Full Wind Antenna (30 Deg))**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M31	Z	-.115	0
2	M32	Z	-.107	0
3	M33	Z	-.331	0
4	M31	Z	-.115	%74.7
5	M32	Z	-.107	%74.2
6	M33	Z	-.331	%80
7	M31	X	.067	0
8	M31	X	.006	%31.8
9	M32	X	.062	0
10	M32	X	.006	%31.8
11	M33	X	.191	0
12	M33	X	.006	%40
13	M31	X	.067	%74.7
14	M32	X	.062	%74.2
15	M33	X	.191	%80

**Member Point Loads (BLC 5 : Full Wind Antenna (60 Deg))**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M31	Z	-.057	0
2	M32	Z	-.052	0
3	M33	Z	-.129	0
4	M31	Z	-.057	%74.7



**Member Point Loads (BLC 5 : Full Wind Antenna (60 Deg)) (Continued)**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
5	M32	Z	-.052	%74.2
6	M33	Z	-.129	%80
7	M31	X	.098	0
8	M31	X	.033	%31.8
9	M32	X	.09	0
10	M32	X	.033	%31.8
11	M33	X	.223	0
12	M33	X	.033	%40
13	M31	X	.098	%74.7
14	M32	X	.09	%74.2
15	M33	X	.223	%80

**Member Point Loads (BLC 6 : Full Wind Antenna (90 Deg))**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M31	Z	0	0
2	M32	Z	0	0
3	M33	Z	0	0
4	M31	Z	0	%74.7
5	M32	Z	0	%74.2
6	M33	Z	0	%80
7	M31	X	.103	0
8	M31	X	.051	%31.8
9	M32	X	.094	0
10	M32	X	.051	%31.8
11	M33	X	.195	0
12	M33	X	.051	%40
13	M31	X	.103	%74.7
14	M32	X	.094	%74.2
15	M33	X	.195	%80

**Member Point Loads (BLC 7 : Full Wind Antenna (120 Deg))**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M31	Z	.057	0
2	M32	Z	.052	0
3	M33	Z	.129	0
4	M31	Z	.057	%74.7
5	M32	Z	.052	%74.2
6	M33	Z	.129	%80
7	M31	X	.098	0
8	M31	X	.033	%31.8
9	M32	X	.09	0
10	M32	X	.033	%31.8
11	M33	X	.223	0
12	M33	X	.033	%40
13	M31	X	.098	%74.7
14	M32	X	.09	%74.2
15	M33	X	.223	%80

**Member Point Loads (BLC 8 : Full Wind Antenna (150 Deg))**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M31	Z	.115	0
2	M32	Z	.107	0
3	M33	Z	.331	0
4	M31	Z	.115	%74.7
5	M32	Z	.107	%74.2





**Member Point Loads (BLC 8 : Full Wind Antenna (150 Deg)) (Continued)**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
6	M33	Z	.331	%80
7	M31	X	.067	0
8	M31	X	.006	%31.8
9	M32	X	.062	0
10	M32	X	.006	%31.8
11	M33	X	.191	0
12	M33	X	.006	%40
13	M31	X	.067	%74.7
14	M32	X	.062	%74.2
15	M33	X	.191	%80

**Member Point Loads (BLC 15 : Ice Wind Antenna (0 Deg))**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M31	Z	-.032	0
2	M32	Z	-.031	0
3	M33	Z	-.087	0
4	M31	Z	-.032	%74.7
5	M32	Z	-.031	%74.2
6	M33	Z	-.087	%80

**Member Point Loads (BLC 16 : Ice Wind Antenna (30 Deg))**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M31	Z	-.027	0
2	M32	Z	-.025	0
3	M33	Z	-.066	0
4	M31	Z	-.027	%74.7
5	M32	Z	-.025	%74.2
6	M33	Z	-.066	%80
7	M31	X	.015	0
8	M31	X	.002	%31.8
9	M32	X	.014	0
10	M32	X	.002	%31.8
11	M33	X	.038	0
12	M33	X	.002	%40
13	M31	X	.015	%74.7
14	M32	X	.014	%74.2
15	M33	X	.038	%80

**Member Point Loads (BLC 17 : Ice Wind Antenna (60 Deg))**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M31	Z	-.014	0
2	M32	Z	-.013	0
3	M33	Z	-.028	0
4	M31	Z	-.014	%74.7
5	M32	Z	-.013	%74.2
6	M33	Z	-.028	%80
7	M31	X	.024	0
8	M31	X	.01	%31.8
9	M32	X	.022	0
10	M32	X	.01	%31.8
11	M33	X	.049	0
12	M33	X	.01	%40
13	M31	X	.024	%74.7
14	M32	X	.022	%74.2
15	M33	X	.049	%80



**Member Point Loads (BLC 18 : Ice Wind Antenna (90 Deg))**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M31	Z	0	0
2	M32	Z	0	0
3	M33	Z	0	0
4	M31	Z	0	%74.7
5	M32	Z	0	%74.2
6	M33	Z	0	%80
7	M31	X	.026	0
8	M31	X	.016	%31.8
9	M32	X	.024	0
10	M32	X	.016	%31.8
11	M33	X	.046	0
12	M33	X	.016	%40
13	M31	X	.026	%74.7
14	M32	X	.024	%74.2
15	M33	X	.046	%80

**Member Point Loads (BLC 19 : Ice Wind Antenna (120 Deg))**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M31	Z	.014	0
2	M32	Z	.013	0
3	M33	Z	.028	0
4	M31	Z	.014	%74.7
5	M32	Z	.013	%74.2
6	M33	Z	.028	%80
7	M31	X	.024	0
8	M31	X	.01	%31.8
9	M32	X	.022	0
10	M32	X	.01	%31.8
11	M33	X	.049	0
12	M33	X	.01	%40
13	M31	X	.024	%74.7
14	M32	X	.022	%74.2
15	M33	X	.049	%80

**Member Point Loads (BLC 20 : Ice Wind Antenna (150 Deg))**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M31	Z	.027	0
2	M32	Z	.013	0
3	M33	Z	.028	0
4	M31	Z	.027	%74.7
5	M32	Z	.013	%74.2
6	M33	Z	.028	%80
7	M31	X	.015	0
8	M31	X	.01	%31.8
9	M32	X	.022	0
10	M32	X	.01	%31.8
11	M33	X	.049	0
12	M33	X	.01	%40
13	M31	X	.015	%74.7
14	M32	X	.022	%74.2
15	M33	X	.049	%80

**Member Point Loads (BLC 27 : Seismic Antenna (0 Deg))**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	M31	Z	-.012	%37.3



**Member Point Loads (BLC 27 : Seismic Antenna (0 Deg)) (Continued)**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
2	M31	Z	-.007	%31.8
3	M32	Z	-.009	%37.1
4	M32	Z	-.007	%31.8
5	M33	Z	-.012	%40
6	M33	Z	-.007	%40

**Member Point Loads (BLC 28 : Seismic Antenna (90 Deg))**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M31	X	.012	%37.3
2	M31	X	.007	%31.8
3	M32	X	.009	%37.1
4	M32	X	.007	%31.8
5	M33	X	.012	%40
6	M33	X	.007	%40

**Member Point Loads (BLC 41 : Seismic Vertical Antennas)**

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M31	Y	-.026	%37.3
2	M31	Y	-.015	%31.8
3	M32	Y	-.018	%37.1
4	M32	Y	-.015	%31.8
5	M33	Y	-.026	%40
6	M33	Y	-.015	%40

**Member Distributed Loads (BLC 2 : Ice Dead)**

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F,...	Start Location[ft,%]	End Location[ft,%]
1	M1	Y	-.008	-.008	0	%100
2	M2	Y	-.006	-.006	0	%100
3	M3	Y	-.008	-.008	0	%100
4	M4	Y	-.008	-.008	0	%100
5	M5	Y	-.013	-.013	0	%100
6	M6	Y	-.013	-.013	0	%100
7	M7	Y	-.008	-.008	0	%100
8	M8	Y	-.008	-.008	0	%100
9	M9	Y	-.014	-.014	0	%100
10	M10	Y	-.006	-.006	0	%100
11	M11	Y	-.006	-.006	0	%100
12	M12	Y	-.008	-.008	0	%100
13	M13	Y	-.006	-.006	0	%100
14	M14	Y	-.008	-.008	0	%100
15	M15	Y	-.008	-.008	0	%100
16	M16	Y	-.013	-.013	0	%100
17	M17	Y	-.013	-.013	0	%100
18	M18	Y	-.008	-.008	0	%100
19	M19	Y	-.008	-.008	0	%100
20	M20	Y	-.014	-.014	0	%100
21	M21	Y	-.006	-.006	0	%100
22	M22	Y	-.006	-.006	0	%100
23	M23	Y	-.006	-.006	0	%100
24	M24	Y	-.006	-.006	0	%100
25	M25	Y	-.006	-.006	0	%100
26	M26	Y	-.006	-.006	0	%100
27	M27	Y	-.006	-.006	0	%100
28	M28	Y	-.006	-.006	0	%100



**Member Distributed Loads (BLC 2 : Ice Dead) (Continued)**

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F....	Start Location[ft.%]	End Location[ft.%]
29	M29	Y	-0.006	-0.006	0	%100
30	M30	Y	-0.006	-0.006	0	%100
31	M31	Y	-0.013	-0.013	0	%100
32	M32	Y	-0.013	-0.013	0	%100
33	M33	Y	-0.013	-0.013	0	%100
34	M34	Y	-0.013	-0.013	0	%100
35	M35	Y	-0.008	-0.008	0	%100
36	M36	Y	-0.008	-0.008	0	%100
37	M37	Y	-0.008	-0.008	0	%100
38	M38	Y	-0.008	-0.008	0	%100
39	M39	Y	-0.008	-0.008	0	%100
40	M40	Y	-0.008	-0.008	0	%100
41	M41	Y	-0.008	-0.008	0	%100
42	M42	Y	-0.008	-0.008	0	%100
43	M137	Y	-0.013	-0.013	0	%100
44	M144	Y	-0.013	-0.013	0	%100

**Member Distributed Loads (BLC 9 : Full Wind Members (0 Deg))**

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F....	Start Location[ft.%]	End Location[ft.%]
1	M1	Z	0	0	0	%100
2	M3	Z	-0.005	-0.005	0	%100
3	M4	Z	-0.005	-0.005	0	%100
4	M5	Z	-0.005	-0.005	0	%100
5	M6	Z	-0.005	-0.005	0	%100
6	M7	Z	0	0	0	%100
7	M8	Z	0	0	0	%100
8	M9	Z	-0.013	-0.013	0	%100
9	M12	Z	0	0	0	%100
10	M14	Z	-0.005	-0.005	0	%100
11	M15	Z	-0.005	-0.005	0	%100
12	M16	Z	-0.005	-0.005	0	%100
13	M17	Z	-0.005	-0.005	0	%100
14	M18	Z	0	0	0	%100
15	M19	Z	0	0	0	%100
16	M20	Z	-0.013	-0.013	0	%100
17	M33	Z	-0.01	-0.01	0	0
18	M34	Z	-0.01	-0.01	0	%100
19	M35	Z	-0.003	-0.003	0	%100
20	M36	Z	-0.003	-0.003	0	%100
21	M37	Z	-0.003	-0.003	0	%100
22	M38	Z	-0.003	-0.003	0	%100
23	M39	Z	-0.003	-0.003	0	%100
24	M40	Z	-0.003	-0.003	0	%100
25	M41	Z	-0.003	-0.003	0	%100
26	M42	Z	-0.003	-0.003	0	%100
27	M137	Z	0	0	0	%100
28	M144	Z	0	0	0	%100
29	M31	Z	-0.01	-0.01	%74.7	%100
30	M32	Z	-0.01	-0.01	%74.2	%100
31	M33	Z	-0.01	-0.01	%80	%100
32	M1	X	0	0	0	%100
33	M3	X	0	0	0	%100
34	M4	X	0	0	0	%100
35	M5	X	0	0	0	%100
36	M6	X	0	0	0	%100
37	M7	X	0	0	0	%100



Company : Mastec  
 Designer : VB  
 Job Number : 18753-MNT1  
 Model Name : HRT 086 943248, App 482056

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**Member Distributed Loads (BLC 9 : Full Wind Members (0 Deg)) (Continued)**

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft.F,...	Start Location[ft, %]	End Location[ft, %]
38	M8	X	0	0	0	%100
39	M9	X	0	0	0	%100
40	M12	X	0	0	0	%100
41	M14	X	0	0	0	%100
42	M15	X	0	0	0	%100
43	M16	X	0	0	0	%100
44	M17	X	0	0	0	%100
45	M18	X	0	0	0	%100
46	M19	X	0	0	0	%100
47	M20	X	0	0	0	%100
48	M31	X	0	0	0	%100
49	M32	X	0	0	0	%100
50	M33	X	0	0	0	%100
51	M34	X	0	0	0	%100
52	M35	X	0	0	0	%100
53	M36	X	0	0	0	%100
54	M37	X	0	0	0	%100
55	M38	X	0	0	0	%100
56	M39	X	0	0	0	%100
57	M40	X	0	0	0	%100
58	M41	X	0	0	0	%100
59	M42	X	0	0	0	%100
60	M137	X	0	0	0	%100
61	M144	X	0	0	0	%100

**Member Distributed Loads (BLC 10 : Full Wind Members (30 Deg))**

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft.F,...	Start Location[ft, %]	End Location[ft, %]
1	M1	Z	-.001	-.001	0	%100
2	M3	Z	-.003	-.003	0	%100
3	M4	Z	-.003	-.003	0	%100
4	M5	Z	-.008	-.008	0	%100
5	M6	Z	-.001	-.001	0	%100
6	M7	Z	-.001	-.001	0	%100
7	M8	Z	-.001	-.001	0	%100
8	M9	Z	-.008	-.008	0	%100
9	M12	Z	-.001	-.001	0	%100
10	M14	Z	-.003	-.003	0	%100
11	M15	Z	-.003	-.003	0	%100
12	M16	Z	-.008	-.008	0	%100
13	M17	Z	-.001	-.001	0	%100
14	M18	Z	-.001	-.001	0	%100
15	M19	Z	-.001	-.001	0	%100
16	M20	Z	-.008	-.008	0	%100
17	M33	Z	-.009	-.009	0	0
18	M34	Z	-.009	-.009	0	%100
19	M35	Z	-.002	-.002	0	%100
20	M36	Z	-.002	-.002	0	%100
21	M37	Z	-.003	-.003	0	%100
22	M38	Z	-.003	-.003	0	%100
23	M39	Z	-.002	-.002	0	%100
24	M40	Z	-.002	-.002	0	%100
25	M41	Z	-.002	-.002	0	%100
26	M42	Z	-.002	-.002	0	%100
27	M137	Z	-.002	-.002	0	%100
28	M144	Z	-.002	-.002	0	%100
29	M31	Z	-.009	-.009	%74.7	%100



**Member Distributed Loads (BLC 10 : Full Wind Members (30 Deg)) (Continued)**

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft.F,...	Start Location[ft, %]	End Location[ft, %]
30	M32	Z	-.009	-.009	%74.2	%100
31	M33	Z	-.009	-.009	%80	%100
32	M1	X	.001	.001	0	%100
33	M3	X	.002	.002	0	%100
34	M4	X	.002	.002	0	%100
35	M5	X	.005	.005	0	%100
36	M6	X	0	0	0	%100
37	M7	X	.001	.001	0	%100
38	M8	X	.001	.001	0	%100
39	M9	X	.005	.005	0	%100
40	M12	X	.001	.001	0	%100
41	M14	X	.002	.002	0	%100
42	M15	X	.002	.002	0	%100
43	M16	X	.005	.005	0	%100
44	M17	X	0	0	0	%100
45	M18	X	.001	.001	0	%100
46	M19	X	.001	.001	0	%100
47	M20	X	.005	.005	0	%100
48	M31	X	.005	.005	0	%100
49	M32	X	.005	.005	0	%100
50	M33	X	.005	.005	0	%100
51	M34	X	.005	.005	0	%100
52	M35	X	.001	.001	0	%100
53	M36	X	.001	.001	0	%100
54	M37	X	.002	.002	0	%100
55	M38	X	.002	.002	0	%100
56	M39	X	.001	.001	0	%100
57	M40	X	.001	.001	0	%100
58	M41	X	.001	.001	0	%100
59	M42	X	.001	.001	0	%100
60	M137	X	.001	.001	0	%100
61	M144	X	.001	.001	0	%100

**Member Distributed Loads (BLC 11 : Full Wind Members (60 Deg))**

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft.F,...	Start Location[ft, %]	End Location[ft, %]
1	M1	Z	-.002	-.002	0	%100
2	M3	Z	-.001	-.001	0	%100
3	M4	Z	-.001	-.001	0	%100
4	M5	Z	-.005	-.005	0	%100
5	M6	Z	0	0	0	%100
6	M7	Z	-.002	-.002	0	%100
7	M8	Z	-.002	-.002	0	%100
8	M9	Z	-.002	-.002	0	%100
9	M12	Z	-.002	-.002	0	%100
10	M14	Z	-.001	-.001	0	%100
11	M15	Z	-.001	-.001	0	%100
12	M16	Z	-.005	-.005	0	%100
13	M17	Z	0	0	0	%100
14	M18	Z	-.002	-.002	0	%100
15	M19	Z	-.002	-.002	0	%100
16	M20	Z	-.002	-.002	0	%100
17	M33	Z	-.005	-.005	0	0
18	M34	Z	-.005	-.005	0	%100
19	M35	Z	-.001	-.001	0	%100
20	M36	Z	-.001	-.001	0	%100
21	M37	Z	-.002	-.002	0	%100



**Member Distributed Loads (BLC 11 : Full Wind Members (60 Deg)) (Continued)**

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F....	Start Location[ft, %]	End Location[ft, %]
22	M38	Z	-.002	-.002	0	%100
23	M39	Z	-.001	-.001	0	%100
24	M40	Z	-.001	-.001	0	%100
25	M41	Z	-.001	-.001	0	%100
26	M42	Z	-.001	-.001	0	%100
27	M137	Z	-.004	-.004	0	%100
28	M144	Z	-.004	-.004	0	%100
29	M31	Z	-.005	-.005	%74.7	%100
30	M32	Z	-.005	-.005	%74.2	%100
31	M33	Z	-.005	-.005	%80	%100
32	M1	X	.003	.003	0	%100
33	M3	X	.001	.001	0	%100
34	M4	X	.001	.001	0	%100
35	M5	X	.008	.008	0	%100
36	M6	X	.001	.001	0	%100
37	M7	X	.003	.003	0	%100
38	M8	X	.003	.003	0	%100
39	M9	X	.003	.003	0	%100
40	M12	X	.003	.003	0	%100
41	M14	X	.001	.001	0	%100
42	M15	X	.001	.001	0	%100
43	M16	X	.008	.008	0	%100
44	M17	X	.001	.001	0	%100
45	M18	X	.003	.003	0	%100
46	M19	X	.003	.003	0	%100
47	M20	X	.003	.003	0	%100
48	M31	X	.009	.009	0	%100
49	M32	X	.009	.009	0	%100
50	M33	X	.009	.009	0	%100
51	M34	X	.009	.009	0	%100
52	M35	X	.002	.002	0	%100
53	M36	X	.002	.002	0	%100
54	M37	X	.003	.003	0	%100
55	M38	X	.003	.003	0	%100
56	M39	X	.002	.002	0	%100
57	M40	X	.002	.002	0	%100
58	M41	X	.002	.002	0	%100
59	M42	X	.002	.002	0	%100
60	M137	X	.006	.006	0	%100
61	M144	X	.006	.006	0	%100

**Member Distributed Loads (BLC 12 : Full Wind Members (90 Deg))**

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F....	Start Location[ft, %]	End Location[ft, %]
1	M1	Z	0	0	0	%100
2	M3	Z	0	0	0	%100
3	M4	Z	0	0	0	%100
4	M5	Z	0	0	0	%100
5	M6	Z	0	0	0	%100
6	M7	Z	0	0	0	%100
7	M8	Z	0	0	0	%100
8	M9	Z	0	0	0	%100
9	M12	Z	0	0	0	%100
10	M14	Z	0	0	0	%100
11	M15	Z	0	0	0	%100
12	M16	Z	0	0	0	%100
13	M17	Z	0	0	0	%100



**Member Distributed Loads (BLC 12 : Full Wind Members (90 Deg)) (Continued)**

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft.F,...	Start Location[ft, %]	End Location[ft, %]
14	M18	Z	0	0	0	%100
15	M19	Z	0	0	0	%100
16	M20	Z	0	0	0	%100
17	M33	Z	0	0	0	0
18	M34	Z	0	0	0	%100
19	M35	Z	0	0	0	%100
20	M36	Z	0	0	0	%100
21	M37	Z	0	0	0	%100
22	M38	Z	0	0	0	%100
23	M39	Z	0	0	0	%100
24	M40	Z	0	0	0	%100
25	M41	Z	0	0	0	%100
26	M42	Z	0	0	0	%100
27	M137	Z	0	0	0	%100
28	M144	Z	0	0	0	%100
29	M31	Z	0	0	%74.7	%100
30	M32	Z	0	0	%74.2	%100
31	M33	Z	0	0	%80	%100
32	M1	X	.005	.005	0	%100
33	M3	X	0	0	0	%100
34	M4	X	0	0	0	%100
35	M5	X	.005	.005	0	%100
36	M6	X	.005	.005	0	%100
37	M7	X	.005	.005	0	%100
38	M8	X	.005	.005	0	%100
39	M9	X	0	0	0	%100
40	M12	X	.005	.005	0	%100
41	M14	X	0	0	0	%100
42	M15	X	0	0	0	%100
43	M16	X	.005	.005	0	%100
44	M17	X	.005	.005	0	%100
45	M18	X	.005	.005	0	%100
46	M19	X	.005	.005	0	%100
47	M20	X	0	0	0	%100
48	M31	X	.01	.01	0	%100
49	M32	X	.01	.01	0	%100
50	M33	X	.01	.01	0	%100
51	M34	X	.01	.01	0	%100
52	M35	X	.003	.003	0	%100
53	M36	X	.003	.003	0	%100
54	M37	X	.003	.003	0	%100
55	M38	X	.003	.003	0	%100
56	M39	X	.003	.003	0	%100
57	M40	X	.003	.003	0	%100
58	M41	X	.003	.003	0	%100
59	M42	X	.003	.003	0	%100
60	M137	X	.01	.01	0	%100
61	M144	X	.01	.01	0	%100

**Member Distributed Loads (BLC 13 : Full Wind Members (120 Deg))**

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft.F,...	Start Location[ft, %]	End Location[ft, %]
1	M1	Z	.002	.002	0	%100
2	M3	Z	.001	.001	0	%100
3	M4	Z	.001	.001	0	%100
4	M5	Z	0	0	0	%100
5	M6	Z	.005	.005	0	%100





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 Designer : VB  
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**Member Distributed Loads (BLC 13 : Full Wind Members (120 Deg)) (Continued)**

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F....	Start Location[ft.%]	End Location[ft.%]
6	M7	Z	.002	.002	0	%100
7	M8	Z	.002	.002	0	%100
8	M9	Z	.002	.002	0	%100
9	M12	Z	.002	.002	0	%100
10	M14	Z	.001	.001	0	%100
11	M15	Z	.001	.001	0	%100
12	M16	Z	0	0	0	%100
13	M17	Z	.005	.005	0	%100
14	M18	Z	.002	.002	0	%100
15	M19	Z	.002	.002	0	%100
16	M20	Z	.002	.002	0	%100
17	M33	Z	.005	.005	0	0
18	M34	Z	.005	.005	0	%100
19	M35	Z	.002	.002	0	%100
20	M36	Z	.002	.002	0	%100
21	M37	Z	.001	.001	0	%100
22	M38	Z	.001	.001	0	%100
23	M39	Z	.001	.001	0	%100
24	M40	Z	.001	.001	0	%100
25	M41	Z	.001	.001	0	%100
26	M42	Z	.001	.001	0	%100
27	M137	Z	.004	.004	0	%100
28	M144	Z	.004	.004	0	%100
29	M31	Z	.005	.005	%74.7	%100
30	M32	Z	.005	.005	%74.2	%100
31	M33	Z	.005	.005	%80	%100
32	M1	X	.003	.003	0	%100
33	M3	X	.001	.001	0	%100
34	M4	X	.001	.001	0	%100
35	M5	X	.001	.001	0	%100
36	M6	X	.008	.008	0	%100
37	M7	X	.003	.003	0	%100
38	M8	X	.003	.003	0	%100
39	M9	X	.003	.003	0	%100
40	M12	X	.003	.003	0	%100
41	M14	X	.001	.001	0	%100
42	M15	X	.001	.001	0	%100
43	M16	X	.001	.001	0	%100
44	M17	X	.008	.008	0	%100
45	M18	X	.003	.003	0	%100
46	M19	X	.003	.003	0	%100
47	M20	X	.003	.003	0	%100
48	M31	X	.009	.009	0	%100
49	M32	X	.009	.009	0	%100
50	M33	X	.009	.009	0	%100
51	M34	X	.009	.009	0	%100
52	M35	X	.003	.003	0	%100
53	M36	X	.003	.003	0	%100
54	M37	X	.002	.002	0	%100
55	M38	X	.002	.002	0	%100
56	M39	X	.002	.002	0	%100
57	M40	X	.002	.002	0	%100
58	M41	X	.002	.002	0	%100
59	M42	X	.002	.002	0	%100
60	M137	X	.007	.007	0	%100
61	M144	X	.007	.007	0	%100



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**Member Distributed Loads (BLC 14 : Full Wind Members (150 Deg))**

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F....	Start Location[ft.%]	End Location[ft.%]
1	M1	Z	.001	.001	0	%100
2	M3	Z	.003	.003	0	%100
3	M4	Z	.003	.003	0	%100
4	M5	Z	.001	.001	0	%100
5	M6	Z	.008	.008	0	%100
6	M7	Z	.001	.001	0	%100
7	M8	Z	.001	.001	0	%100
8	M9	Z	.008	.008	0	%100
9	M12	Z	.001	.001	0	%100
10	M14	Z	.003	.003	0	%100
11	M15	Z	.003	.003	0	%100
12	M16	Z	.001	.001	0	%100
13	M17	Z	.008	.008	0	%100
14	M18	Z	.001	.001	0	%100
15	M19	Z	.001	.001	0	%100
16	M20	Z	.008	.008	0	%100
17	M33	Z	.009	.009	0	0
18	M34	Z	.009	.009	0	%100
19	M35	Z	.003	.003	0	%100
20	M36	Z	.003	.003	0	%100
21	M37	Z	.002	.002	0	%100
22	M38	Z	.002	.002	0	%100
23	M39	Z	.002	.002	0	%100
24	M40	Z	.002	.002	0	%100
25	M41	Z	.002	.002	0	%100
26	M42	Z	.002	.002	0	%100
27	M137	Z	.003	.003	0	%100
28	M144	Z	.003	.003	0	%100
29	M31	Z	.009	.009	%74.7	%100
30	M32	Z	.009	.009	%74.2	%100
31	M33	Z	.009	.009	%80	%100
32	M1	X	.001	.001	0	%100
33	M3	X	.002	.002	0	%100
34	M4	X	.002	.002	0	%100
35	M5	X	0	0	0	%100
36	M6	X	.005	.005	0	%100
37	M7	X	.001	.001	0	%100
38	M8	X	.001	.001	0	%100
39	M9	X	.005	.005	0	%100
40	M12	X	.001	.001	0	%100
41	M14	X	.002	.002	0	%100
42	M15	X	.002	.002	0	%100
43	M16	X	0	0	0	%100
44	M17	X	.005	.005	0	%100
45	M18	X	.001	.001	0	%100
46	M19	X	.001	.001	0	%100
47	M20	X	.005	.005	0	%100
48	M31	X	.005	.005	0	%100
49	M32	X	.005	.005	0	%100
50	M33	X	.005	.005	0	%100
51	M34	X	.005	.005	0	%100
52	M35	X	.002	.002	0	%100
53	M36	X	.002	.002	0	%100
54	M37	X	.001	.001	0	%100
55	M38	X	.001	.001	0	%100
56	M39	X	.001	.001	0	%100
57	M40	X	.001	.001	0	%100



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**Member Distributed Loads (BLC 14 : Full Wind Members (150 Deg)) (Continued)**

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft.F,...	Start Location[ft, %]	End Location[ft, %]
58	M41	X	.001	.001	0	%100
59	M42	X	.001	.001	0	%100
60	M137	X	.002	.002	0	%100
61	M144	X	.002	.002	0	%100

**Member Distributed Loads (BLC 21 : Ice Wind Members (0 Deg))**

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft.F,...	Start Location[ft, %]	End Location[ft, %]
1	M1	Z	0	0	0	%100
2	M2	Z	-.006	-.006	0	%100
3	M3	Z	-.008	-.008	0	%100
4	M4	Z	-.008	-.008	0	%100
5	M5	Z	-.003	-.003	0	%100
6	M6	Z	-.003	-.003	0	%100
7	M7	Z	0	0	0	%100
8	M8	Z	0	0	0	%100
9	M9	Z	-.005	-.005	0	%100
10	M10	Z	-.022	-.022	0	%100
11	M11	Z	-.022	-.022	0	%100
12	M12	Z	0	0	0	%100
13	M13	Z	-.006	-.006	0	%100
14	M14	Z	-.008	-.008	0	%100
15	M15	Z	-.008	-.008	0	%100
16	M16	Z	-.003	-.003	0	%100
17	M17	Z	-.003	-.003	0	%100
18	M18	Z	0	0	0	%100
19	M19	Z	0	0	0	%100
20	M20	Z	-.005	-.005	0	%100
21	M21	Z	-.022	-.022	0	%100
22	M22	Z	-.022	-.022	0	%100
23	M23	Z	0	0	0	%100
24	M24	Z	0	0	0	%100
25	M25	Z	0	0	0	%100
26	M26	Z	0	0	0	%100
27	M27	Z	0	0	0	%100
28	M28	Z	0	0	0	%100
29	M29	Z	0	0	0	%100
30	M30	Z	0	0	0	%100
31	M33	Z	-.005	-.005	0	0
32	M34	Z	-.005	-.005	0	%100
33	M35	Z	-.004	-.004	0	%100
34	M36	Z	-.004	-.004	0	%100
35	M37	Z	-.004	-.004	0	%100
36	M38	Z	-.004	-.004	0	%100
37	M39	Z	-.004	-.004	0	%100
38	M40	Z	-.004	-.004	0	%100
39	M41	Z	-.004	-.004	0	%100
40	M42	Z	-.004	-.004	0	%100
41	M137	Z	0	0	0	%100
42	M144	Z	0	0	0	%100
43	M31	Z	-.005	-.005	%74.7	%100
44	M32	Z	-.005	-.005	%74.2	%100
45	M33	Z	-.005	-.005	%80	%100
46	M1	X	0	0	0	%100
47	M2	X	0	0	0	%100
48	M3	X	0	0	0	%100
49	M4	X	0	0	0	%100



**Member Distributed Loads (BLC 21 : Ice Wind Members (0 Deg)) (Continued)**

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F....	Start Location[ft.%]	End Location[ft.%]
50	M5	X	0	0	0	%100
51	M6	X	0	0	0	%100
52	M7	X	0	0	0	%100
53	M8	X	0	0	0	%100
54	M9	X	0	0	0	%100
55	M10	X	0	0	0	%100
56	M11	X	0	0	0	%100
57	M12	X	0	0	0	%100
58	M13	X	0	0	0	%100
59	M14	X	0	0	0	%100
60	M15	X	0	0	0	%100
61	M16	X	0	0	0	%100
62	M17	X	0	0	0	%100
63	M18	X	0	0	0	%100
64	M19	X	0	0	0	%100
65	M20	X	0	0	0	%100
66	M21	X	0	0	0	%100
67	M22	X	0	0	0	%100
68	M23	X	0	0	0	%100
69	M24	X	0	0	0	%100
70	M25	X	0	0	0	%100
71	M26	X	0	0	0	%100
72	M27	X	0	0	0	%100
73	M28	X	0	0	0	%100
74	M29	X	0	0	0	%100
75	M30	X	0	0	0	%100
76	M31	X	0	0	0	%100
77	M32	X	0	0	0	%100
78	M33	X	0	0	0	%100
79	M34	X	0	0	0	%100
80	M35	X	0	0	0	%100
81	M36	X	0	0	0	%100
82	M37	X	0	0	0	%100
83	M38	X	0	0	0	%100
84	M39	X	0	0	0	%100
85	M40	X	0	0	0	%100
86	M41	X	0	0	0	%100
87	M42	X	0	0	0	%100
88	M137	X	0	0	0	%100
89	M144	X	0	0	0	%100

**Member Distributed Loads (BLC 22 : Ice Wind Members (30 Deg))**

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F....	Start Location[ft.%]	End Location[ft.%]
1	M1	Z	0	0	0	%100
2	M2	Z	-0.005	-0.005	0	%100
3	M3	Z	-0.007	-0.007	0	%100
4	M4	Z	-0.007	-0.007	0	%100
5	M5	Z	-0.003	-0.003	0	%100
6	M6	Z	-0.002	-0.002	0	%100
7	M7	Z	0	0	0	%100
8	M8	Z	0	0	0	%100
9	M9	Z	-0.004	-0.004	0	%100
10	M10	Z	-0.019	-0.019	0	%100
11	M11	Z	-0.019	-0.019	0	%100
12	M12	Z	0	0	0	%100
13	M13	Z	-0.005	-0.005	0	%100



Company : Mastec  
 Designer : VB  
 Job Number : 18753-MNT1  
 Model Name : HRT 086 943248, App 482056

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**Member Distributed Loads (BLC 22 : Ice Wind Members (30 Deg)) (Continued)**

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F....	Start Location[ft.%]	End Location[ft.%]
14	M14	Z	-0.07	-0.07	0	%100
15	M15	Z	-0.07	-0.07	0	%100
16	M16	Z	-0.03	-0.03	0	%100
17	M17	Z	-0.02	-0.02	0	%100
18	M18	Z	0	0	0	%100
19	M19	Z	0	0	0	%100
20	M20	Z	-0.04	-0.04	0	%100
21	M21	Z	-0.19	-0.19	0	%100
22	M22	Z	-0.19	-0.19	0	%100
23	M23	Z	0	0	0	%100
24	M24	Z	0	0	0	%100
25	M25	Z	0	0	0	%100
26	M26	Z	0	0	0	%100
27	M27	Z	0	0	0	%100
28	M28	Z	0	0	0	%100
29	M29	Z	0	0	0	%100
30	M30	Z	0	0	0	%100
31	M33	Z	-0.05	-0.05	0	0
32	M34	Z	-0.05	-0.05	0	%100
33	M35	Z	-0.03	-0.03	0	%100
34	M36	Z	-0.03	-0.03	0	%100
35	M37	Z	-0.04	-0.04	0	%100
36	M38	Z	-0.04	-0.04	0	%100
37	M39	Z	-0.04	-0.04	0	%100
38	M40	Z	-0.04	-0.04	0	%100
39	M41	Z	-0.04	-0.04	0	%100
40	M42	Z	-0.04	-0.04	0	%100
41	M137	Z	-0.01	-0.01	0	%100
42	M144	Z	-0.01	-0.01	0	%100
43	M31	Z	-0.05	-0.05	%74.7	%100
44	M32	Z	-0.05	-0.05	%74.2	%100
45	M33	Z	-0.05	-0.05	%80	%100
46	M1	X	0	0	0	%100
47	M2	X	.003	.003	0	%100
48	M3	X	.004	.004	0	%100
49	M4	X	.004	.004	0	%100
50	M5	X	.002	.002	0	%100
51	M6	X	.001	.001	0	%100
52	M7	X	0	0	0	%100
53	M8	X	0	0	0	%100
54	M9	X	.002	.002	0	%100
55	M10	X	.011	.011	0	%100
56	M11	X	.011	.011	0	%100
57	M12	X	0	0	0	%100
58	M13	X	.003	.003	0	%100
59	M14	X	.004	.004	0	%100
60	M15	X	.004	.004	0	%100
61	M16	X	.002	.002	0	%100
62	M17	X	.001	.001	0	%100
63	M18	X	0	0	0	%100
64	M19	X	0	0	0	%100
65	M20	X	.002	.002	0	%100
66	M21	X	.011	.011	0	%100
67	M22	X	.011	.011	0	%100
68	M23	X	0	0	0	%100
69	M24	X	0	0	0	%100
70	M25	X	0	0	0	%100



**Member Distributed Loads (BLC 22 : Ice Wind Members (30 Deg)) (Continued)**

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F....	Start Location[ft.%]	End Location[ft.%]
71	M26	X	0	0	0	%100
72	M27	X	0	0	0	%100
73	M28	X	0	0	0	%100
74	M29	X	0	0	0	%100
75	M30	X	0	0	0	%100
76	M31	X	.003	.003	0	%100
77	M32	X	.003	.003	0	%100
78	M33	X	.003	.003	0	%100
79	M34	X	.003	.003	0	%100
80	M35	X	.002	.002	0	%100
81	M36	X	.002	.002	0	%100
82	M37	X	.002	.002	0	%100
83	M38	X	.002	.002	0	%100
84	M39	X	.002	.002	0	%100
85	M40	X	.002	.002	0	%100
86	M41	X	.002	.002	0	%100
87	M42	X	.002	.002	0	%100
88	M137	X	.001	.001	0	%100
89	M144	X	.001	.001	0	%100

**Member Distributed Loads (BLC 23 : Ice Wind Members (60 Deg))**

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F....	Start Location[ft.%]	End Location[ft.%]
1	M1	Z	0	0	0	%100
2	M2	Z	-.003	-.003	0	%100
3	M3	Z	-.004	-.004	0	%100
4	M4	Z	-.004	-.004	0	%100
5	M5	Z	-.002	-.002	0	%100
6	M6	Z	-.001	-.001	0	%100
7	M7	Z	0	0	0	%100
8	M8	Z	0	0	0	%100
9	M9	Z	-.002	-.002	0	%100
10	M10	Z	-.011	-.011	0	%100
11	M11	Z	-.011	-.011	0	%100
12	M12	Z	0	0	0	%100
13	M13	Z	-.003	-.003	0	%100
14	M14	Z	-.004	-.004	0	%100
15	M15	Z	-.004	-.004	0	%100
16	M16	Z	-.002	-.002	0	%100
17	M17	Z	-.001	-.001	0	%100
18	M18	Z	0	0	0	%100
19	M19	Z	0	0	0	%100
20	M20	Z	-.002	-.002	0	%100
21	M21	Z	-.011	-.011	0	%100
22	M22	Z	-.011	-.011	0	%100
23	M23	Z	0	0	0	%100
24	M24	Z	0	0	0	%100
25	M25	Z	0	0	0	%100
26	M26	Z	0	0	0	%100
27	M27	Z	0	0	0	%100
28	M28	Z	0	0	0	%100
29	M29	Z	0	0	0	%100
30	M30	Z	0	0	0	%100
31	M33	Z	-.003	-.003	0	0
32	M34	Z	-.003	-.003	0	%100
33	M35	Z	-.002	-.002	0	%100
34	M36	Z	-.002	-.002	0	%100



**Member Distributed Loads (BLC 23 : Ice Wind Members (60 Deg)) (Continued)**

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F....	Start Location[ft.%]	End Location[ft.%]
35	M37	Z	-.002	-.002	0	%100
36	M38	Z	-.002	-.002	0	%100
37	M39	Z	-.002	-.002	0	%100
38	M40	Z	-.002	-.002	0	%100
39	M41	Z	-.002	-.002	0	%100
40	M42	Z	-.002	-.002	0	%100
41	M137	Z	-.002	-.002	0	%100
42	M144	Z	-.002	-.002	0	%100
43	M31	Z	-.003	-.003	%74.7	%100
44	M32	Z	-.003	-.003	%74.2	%100
45	M33	Z	-.003	-.003	%80	%100
46	M1	X	0	0	0	%100
47	M2	X	.005	.005	0	%100
48	M3	X	.007	.007	0	%100
49	M4	X	.007	.007	0	%100
50	M5	X	.003	.003	0	%100
51	M6	X	.002	.002	0	%100
52	M7	X	0	0	0	%100
53	M8	X	0	0	0	%100
54	M9	X	.003	.003	0	%100
55	M10	X	.019	.019	0	%100
56	M11	X	.019	.019	0	%100
57	M12	X	0	0	0	%100
58	M13	X	.005	.005	0	%100
59	M14	X	.007	.007	0	%100
60	M15	X	.007	.007	0	%100
61	M16	X	.003	.003	0	%100
62	M17	X	.002	.002	0	%100
63	M18	X	0	0	0	%100
64	M19	X	0	0	0	%100
65	M20	X	.003	.003	0	%100
66	M21	X	.019	.019	0	%100
67	M22	X	.019	.019	0	%100
68	M23	X	0	0	0	%100
69	M24	X	0	0	0	%100
70	M25	X	0	0	0	%100
71	M26	X	0	0	0	%100
72	M27	X	0	0	0	%100
73	M28	X	0	0	0	%100
74	M29	X	0	0	0	%100
75	M30	X	0	0	0	%100
76	M31	X	.005	.005	0	%100
77	M32	X	.005	.005	0	%100
78	M33	X	.005	.005	0	%100
79	M34	X	.005	.005	0	%100
80	M35	X	.003	.003	0	%100
81	M36	X	.003	.003	0	%100
82	M37	X	.004	.004	0	%100
83	M38	X	.004	.004	0	%100
84	M39	X	.004	.004	0	%100
85	M40	X	.004	.004	0	%100
86	M41	X	.004	.004	0	%100
87	M42	X	.004	.004	0	%100
88	M137	X	.003	.003	0	%100
89	M144	X	.003	.003	0	%100



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 Designer : VB  
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**Member Distributed Loads (BLC 24 : Ice Wind Members (90 Deg))**

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F....	Start Location[ft.%,]	End Location[ft.%,]
1	M1	Z	0	0	0	%100
2	M2	Z	0	0	0	%100
3	M3	Z	0	0	0	%100
4	M4	Z	0	0	0	%100
5	M5	Z	0	0	0	%100
6	M6	Z	0	0	0	%100
7	M7	Z	0	0	0	%100
8	M8	Z	0	0	0	%100
9	M9	Z	0	0	0	%100
10	M10	Z	0	0	0	%100
11	M11	Z	0	0	0	%100
12	M12	Z	0	0	0	%100
13	M13	Z	0	0	0	%100
14	M14	Z	0	0	0	%100
15	M15	Z	0	0	0	%100
16	M16	Z	0	0	0	%100
17	M17	Z	0	0	0	%100
18	M18	Z	0	0	0	%100
19	M19	Z	0	0	0	%100
20	M20	Z	0	0	0	%100
21	M21	Z	0	0	0	%100
22	M22	Z	0	0	0	%100
23	M23	Z	0	0	0	%100
24	M24	Z	0	0	0	%100
25	M25	Z	0	0	0	%100
26	M26	Z	0	0	0	%100
27	M27	Z	0	0	0	%100
28	M28	Z	0	0	0	%100
29	M29	Z	0	0	0	%100
30	M30	Z	0	0	0	%100
31	M33	Z	0	0	0	0
32	M34	Z	0	0	0	%100
33	M35	Z	0	0	0	%100
34	M36	Z	0	0	0	%100
35	M37	Z	0	0	0	%100
36	M38	Z	0	0	0	%100
37	M39	Z	0	0	0	%100
38	M40	Z	0	0	0	%100
39	M41	Z	0	0	0	%100
40	M42	Z	0	0	0	%100
41	M137	Z	0	0	0	%100
42	M144	Z	0	0	0	%100
43	M31	Z	0	0	%74.7	%100
44	M32	Z	0	0	%74.2	%100
45	M33	Z	0	0	%80	%100
46	M1	X	.001	.001	0	%100
47	M2	X	.006	.006	0	%100
48	M3	X	.007	.007	0	%100
49	M4	X	.007	.007	0	%100
50	M5	X	.003	.003	0	%100
51	M6	X	.003	.003	0	%100
52	M7	X	.001	.001	0	%100
53	M8	X	.001	.001	0	%100
54	M9	X	.003	.003	0	%100
55	M10	X	.022	.022	0	%100
56	M11	X	.022	.022	0	%100
57	M12	X	.001	.001	0	%100





**Member Distributed Loads (BLC 24 : Ice Wind Members (90 Deg)) (Continued)**

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft.F,...	Start Location[ft, %]	End Location[ft, %]
58	M13	X	.006	.006	0	%100
59	M14	X	.007	.007	0	%100
60	M15	X	.007	.007	0	%100
61	M16	X	.003	.003	0	%100
62	M17	X	.003	.003	0	%100
63	M18	X	.001	.001	0	%100
64	M19	X	.001	.001	0	%100
65	M20	X	.003	.003	0	%100
66	M21	X	.022	.022	0	%100
67	M22	X	.022	.022	0	%100
68	M23	X	0	0	0	%100
69	M24	X	0	0	0	%100
70	M25	X	0	0	0	%100
71	M26	X	0	0	0	%100
72	M27	X	0	0	0	%100
73	M28	X	0	0	0	%100
74	M29	X	0	0	0	%100
75	M30	X	0	0	0	%100
76	M31	X	.005	.005	0	%100
77	M32	X	.005	.005	0	%100
78	M33	X	.005	.005	0	%100
79	M34	X	.005	.005	0	%100
80	M35	X	.004	.004	0	%100
81	M36	X	.004	.004	0	%100
82	M37	X	.004	.004	0	%100
83	M38	X	.004	.004	0	%100
84	M39	X	.004	.004	0	%100
85	M40	X	.004	.004	0	%100
86	M41	X	.004	.004	0	%100
87	M42	X	.004	.004	0	%100
88	M137	X	.005	.005	0	%100
89	M144	X	.005	.005	0	%100

**Member Distributed Loads (BLC 25 : Ice Wind Members (120 Deg))**

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft.F,...	Start Location[ft, %]	End Location[ft, %]
1	M1	Z	0	0	0	%100
2	M2	Z	.003	.003	0	%100
3	M3	Z	.004	.004	0	%100
4	M4	Z	.004	.004	0	%100
5	M5	Z	.001	.001	0	%100
6	M6	Z	.002	.002	0	%100
7	M7	Z	0	0	0	%100
8	M8	Z	0	0	0	%100
9	M9	Z	.002	.002	0	%100
10	M10	Z	.011	.011	0	%100
11	M11	Z	.011	.011	0	%100
12	M12	Z	0	0	0	%100
13	M13	Z	.003	.003	0	%100
14	M14	Z	.004	.004	0	%100
15	M15	Z	.004	.004	0	%100
16	M16	Z	.001	.001	0	%100
17	M17	Z	.002	.002	0	%100
18	M18	Z	0	0	0	%100
19	M19	Z	0	0	0	%100
20	M20	Z	.002	.002	0	%100
21	M21	Z	.011	.011	0	%100



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**Member Distributed Loads (BLC 25 : Ice Wind Members (120 Deg)) (Continued)**

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F....	Start Location[ft.%]	End Location[ft.%]
22	M22	Z	.011	.011	0	%100
23	M23	Z	0	0	0	%100
24	M24	Z	0	0	0	%100
25	M25	Z	0	0	0	%100
26	M26	Z	0	0	0	%100
27	M27	Z	0	0	0	%100
28	M28	Z	0	0	0	%100
29	M29	Z	0	0	0	%100
30	M30	Z	0	0	0	%100
31	M33	Z	.003	.003	0	0
32	M34	Z	.003	.003	0	%100
33	M35	Z	.002	.002	0	%100
34	M36	Z	.002	.002	0	%100
35	M37	Z	.002	.002	0	%100
36	M38	Z	.002	.002	0	%100
37	M39	Z	.002	.002	0	%100
38	M40	Z	.002	.002	0	%100
39	M41	Z	.002	.002	0	%100
40	M42	Z	.002	.002	0	%100
41	M137	Z	.002	.002	0	%100
42	M144	Z	.002	.002	0	%100
43	M31	Z	.003	.003	%74.7	%100
44	M32	Z	.003	.003	%74.2	%100
45	M33	Z	.003	.003	%80	%100
46	M1	X	0	0	0	%100
47	M2	X	.005	.005	0	%100
48	M3	X	.007	.007	0	%100
49	M4	X	.007	.007	0	%100
50	M5	X	.002	.002	0	%100
51	M6	X	.003	.003	0	%100
52	M7	X	0	0	0	%100
53	M8	X	0	0	0	%100
54	M9	X	.003	.003	0	%100
55	M10	X	.019	.019	0	%100
56	M11	X	.019	.019	0	%100
57	M12	X	0	0	0	%100
58	M13	X	.005	.005	0	%100
59	M14	X	.007	.007	0	%100
60	M15	X	.007	.007	0	%100
61	M16	X	.002	.002	0	%100
62	M17	X	.003	.003	0	%100
63	M18	X	0	0	0	%100
64	M19	X	0	0	0	%100
65	M20	X	.003	.003	0	%100
66	M21	X	.019	.019	0	%100
67	M22	X	.019	.019	0	%100
68	M23	X	0	0	0	%100
69	M24	X	0	0	0	%100
70	M25	X	0	0	0	%100
71	M26	X	0	0	0	%100
72	M27	X	0	0	0	%100
73	M28	X	0	0	0	%100
74	M29	X	0	0	0	%100
75	M30	X	0	0	0	%100
76	M31	X	.005	.005	0	%100
77	M32	X	.005	.005	0	%100
78	M33	X	.005	.005	0	%100



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**Member Distributed Loads (BLC 25 : Ice Wind Members (120 Deg)) (Continued)**

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F,...	Start Location[ft, %]	End Location[ft, %]
79	M34	X	.005	.005	0	%100
80	M35	X	.004	.004	0	%100
81	M36	X	.004	.004	0	%100
82	M37	X	.003	.003	0	%100
83	M38	X	.003	.003	0	%100
84	M39	X	.004	.004	0	%100
85	M40	X	.004	.004	0	%100
86	M41	X	.004	.004	0	%100
87	M42	X	.004	.004	0	%100
88	M137	X	.004	.004	0	%100
89	M144	X	.004	.004	0	%100

**Member Distributed Loads (BLC 26 : Ice Wind Members (150 Deg))**

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F,...	Start Location[ft, %]	End Location[ft, %]
1	M1	Z	0	0	0	%100
2	M2	Z	.005	.005	0	%100
3	M3	Z	.007	.007	0	%100
4	M4	Z	.007	.007	0	%100
5	M5	Z	.002	.002	0	%100
6	M6	Z	.003	.003	0	%100
7	M7	Z	0	0	0	%100
8	M8	Z	0	0	0	%100
9	M9	Z	.004	.004	0	%100
10	M10	Z	.019	.019	0	%100
11	M11	Z	.019	.019	0	%100
12	M12	Z	0	0	0	%100
13	M13	Z	.005	.005	0	%100
14	M14	Z	.007	.007	0	%100
15	M15	Z	.007	.007	0	%100
16	M16	Z	.002	.002	0	%100
17	M17	Z	.003	.003	0	%100
18	M18	Z	0	0	0	%100
19	M19	Z	0	0	0	%100
20	M20	Z	.004	.004	0	%100
21	M21	Z	.019	.019	0	%100
22	M22	Z	.019	.019	0	%100
23	M23	Z	0	0	0	%100
24	M24	Z	0	0	0	%100
25	M25	Z	0	0	0	%100
26	M26	Z	0	0	0	%100
27	M27	Z	0	0	0	%100
28	M28	Z	0	0	0	%100
29	M29	Z	0	0	0	%100
30	M30	Z	0	0	0	%100
31	M33	Z	.005	.005	0	0
32	M34	Z	.005	.005	0	%100
33	M35	Z	.004	.004	0	%100
34	M36	Z	.004	.004	0	%100
35	M37	Z	.003	.003	0	%100
36	M38	Z	.003	.003	0	%100
37	M39	Z	.004	.004	0	%100
38	M40	Z	.004	.004	0	%100
39	M41	Z	.004	.004	0	%100
40	M42	Z	.004	.004	0	%100
41	M137	Z	.002	.002	0	%100
42	M144	Z	.002	.002	0	%100



**Member Distributed Loads (BLC 26 : Ice Wind Members (150 Deg)) (Continued)**

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F....	Start Location[ft.%]	End Location[ft.%]
43	M31	Z	.005	.005	%74.7	%100
44	M32	Z	.005	.005	%74.2	%100
45	M33	Z	.005	.005	%80	%100
46	M1	X	0	0	0	%100
47	M2	X	.003	.003	0	%100
48	M3	X	.004	.004	0	%100
49	M4	X	.004	.004	0	%100
50	M5	X	.001	.001	0	%100
51	M6	X	.002	.002	0	%100
52	M7	X	0	0	0	%100
53	M8	X	0	0	0	%100
54	M9	X	.002	.002	0	%100
55	M10	X	.011	.011	0	%100
56	M11	X	.011	.011	0	%100
57	M12	X	0	0	0	%100
58	M13	X	.003	.003	0	%100
59	M14	X	.004	.004	0	%100
60	M15	X	.004	.004	0	%100
61	M16	X	.001	.001	0	%100
62	M17	X	.002	.002	0	%100
63	M18	X	0	0	0	%100
64	M19	X	0	0	0	%100
65	M20	X	.002	.002	0	%100
66	M21	X	.011	.011	0	%100
67	M22	X	.011	.011	0	%100
68	M23	X	0	0	0	%100
69	M24	X	0	0	0	%100
70	M25	X	0	0	0	%100
71	M26	X	0	0	0	%100
72	M27	X	0	0	0	%100
73	M28	X	0	0	0	%100
74	M29	X	0	0	0	%100
75	M30	X	0	0	0	%100
76	M31	X	.003	.003	0	%100
77	M32	X	.003	.003	0	%100
78	M33	X	.003	.003	0	%100
79	M34	X	.003	.003	0	%100
80	M35	X	.002	.002	0	%100
81	M36	X	.002	.002	0	%100
82	M37	X	.002	.002	0	%100
83	M38	X	.002	.002	0	%100
84	M39	X	.002	.002	0	%100
85	M40	X	.002	.002	0	%100
86	M41	X	.002	.002	0	%100
87	M42	X	.002	.002	0	%100
88	M137	X	.001	.001	0	%100
89	M144	X	.001	.001	0	%100

**Member Area Loads**

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
No Data to Print ...						



### Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	Dead	None		-1			6			
2	Ice Dead	None					6	44		
3	Full Wind Antenna (0 Deg)	None					6			
4	Full Wind Antenna (30 Deg)	None					15			
5	Full Wind Antenna (60 Deg)	None					15			
6	Full Wind Antenna (90 Deg)	None					15			
7	Full Wind Antenna (120 Deg)	None					15			
8	Full Wind Antenna (150 Deg)	None					15			
9	Full Wind Members (0 Deg)	None						61		
10	Full Wind Members (30 Deg)	None						61		
11	Full Wind Members (60 Deg)	None						61		
12	Full Wind Members (90 Deg)	None						61		
13	Full Wind Members (120 Deg)	None						61		
14	Full Wind Members (150 Deg)	None						61		
15	Ice Wind Antenna (0 Deg)	None					6			
16	Ice Wind Antenna (30 Deg)	None					15			
17	Ice Wind Antenna (60 Deg)	None					15			
18	Ice Wind Antenna (90 Deg)	None					15			
19	Ice Wind Antenna (120 Deg)	None					15			
20	Ice Wind Antenna (150 Deg)	None					15			
21	Ice Wind Members (0 Deg)	None						89		
22	Ice Wind Members (30 Deg)	None						89		
23	Ice Wind Members (60 Deg)	None						89		
24	Ice Wind Members (90 Deg)	None						89		
25	Ice Wind Members (120 Deg)	None						89		
26	Ice Wind Members (150 Deg)	None						89		
27	Seismic Antenna (0 Deg)	None					6			
28	Seismic Antenna (90 Deg)	None					6			
29	Seismic Members (0 Deg)	None		-0.037	-0.093					
30	Seismic Members (30 Deg)	None	.047	-0.037	-0.081					
31	Seismic Members (60 Deg)	None	.081	-0.037	-0.047					
32	Seismic Members (90 Deg)	None	.093	-0.037	-5.728e-...					
33	Seismic Members (120 Deg)	None	.081	-0.037	.047					
34	Seismic Members (150 Deg)	None	.047	-0.037	.081					
35	Seismic Members (180 Deg)	None	1.146e-17	-0.037	.093					
36	Seismic Members (210 Deg)	None	-.047	-0.037	.081					
37	Seismic Members (240 Deg)	None	-.081	-0.037	.047					
38	Seismic Members (270 Deg)	None	-.093	-0.037	1.718e-17					
39	Seismic Members (300 Deg)	None	-.081	-0.037	-.047					
40	Seismic Members (330 Deg)	None	-.047	-0.037	-.081					
41	Seismic Vertical Antennas	None					6			
42	Man 1 (500 lbs)	None				1				
43	Man 2 (500 lbs)	None				1				
44	Man 3 (500 lbs)	None				1				
45	Man 4 (250 lbs)	None				1				
46	Man 5 (250 lbs)	None				1				
47	Man 6 (250 lbs)	None				1				

### Load Combinations

Description	Solve	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	
1	1.4D	Yes	Y		1	1.4														
2	1.2D + 1.0W 0°	Yes	Y		1	1.2	3	1	9	1										
3	1.2D + 1.0W 30°	Yes	Y		1	1.2	4	1	10	1										
4	1.2D + 1.0W 60°	Yes	Y		1	1.2	5	1	11	1										

**Load Combinations (Continued)**

Description	Solve	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
5 1.2D + 1.0W 90°	Yes	Y		1	1.2	6	1	12	1												
6 1.2D + 1.0W 120°	Yes	Y		1	1.2	7	1	13	1												
7 1.2D + 1.0W 150°	Yes	Y		1	1.2	8	1	14	1												
8 1.2D + 1.0W 180°	Yes	Y		1	1.2	3	-1	9	-1												
9 1.2D + 1.0W 210°	Yes	Y		1	1.2	4	-1	10	-1												
10 1.2D + 1.0W 240°	Yes	Y		1	1.2	5	-1	11	-1												
11 1.2D + 1.0W 270°	Yes	Y		1	1.2	6	-1	12	-1												
12 1.2D + 1.0W 300°	Yes	Y		1	1.2	7	-1	13	-1												
13 1.2D + 1.0W 330°	Yes	Y		1	1.2	8	-1	14	-1												
14 1.2D + 1.0Di + 1....	Yes	Y		1	1.2	2	1	15	1	21	1										
15 1.2D + 1.0Di + 1....	Yes	Y		1	1.2	2	1	16	1	22	1										
16 1.2D + 1.0Di + 1....	Yes	Y		1	1.2	2	1	17	1	23	1										
17 1.2D + 1.0Di + 1....	Yes	Y		1	1.2	2	1	18	1	24	1										
18 1.2D + 1.0Di + 1....	Yes	Y		1	1.2	2	1	19	1	25	1										
19 1.2D + 1.0Di + 1....	Yes	Y		1	1.2	2	1	20	1	26	1										
20 1.2D + 1.0Di + 1....	Yes	Y		1	1.2	2	1	15	-1	21	-1										
21 1.2D + 1.0Di + 1....	Yes	Y		1	1.2	2	1	16	-1	22	-1										
22 1.2D + 1.0Di + 1....	Yes	Y		1	1.2	2	1	17	-1	23	-1										
23 1.2D + 1.0Di + 1....	Yes	Y		1	1.2	2	1	18	-1	24	-1										
24 1.2D + 1.0Di + 1....	Yes	Y		1	1.2	2	1	19	-1	25	-1										
25 1.2D + 1.0Di + 1....	Yes	Y		1	1.2	2	1	20	-1	26	-1										
26 1.2D + 1.5Lm_1 +...	Yes	Y		1	1.2	3	.061	9	.061	42	1.5										
27 1.2D + 1.5Lm_1 +...	Yes	Y		1	1.2	4	.061	10	.061	42	1.5										
28 1.2D + 1.5Lm_1 +...	Yes	Y		1	1.2	5	.061	11	.061	42	1.5										
29 1.2D + 1.5Lm_1 +...	Yes	Y		1	1.2	6	.061	12	.061	42	1.5										
30 1.2D + 1.5Lm_1 +...	Yes	Y		1	1.2	7	.061	13	.061	42	1.5										
31 1.2D + 1.5Lm_1 +...	Yes	Y		1	1.2	8	.061	14	.061	42	1.5										
32 1.2D + 1.5Lm_1 +...	Yes	Y		1	1.2	3	-0...	9	-0...	42	1.5										
33 1.2D + 1.5Lm_1 +...	Yes	Y		1	1.2	4	-0...	10	-0...	42	1.5										
34 1.2D + 1.5Lm_1 +...	Yes	Y		1	1.2	5	-0...	11	-0...	42	1.5										
35 1.2D + 1.5Lm_1 +...	Yes	Y		1	1.2	6	-0...	12	-0...	42	1.5										
36 1.2D + 1.5Lm_1 +...	Yes	Y		1	1.2	7	-0...	13	-0...	42	1.5										
37 1.2D + 1.5Lm_1 +...	Yes	Y		1	1.2	8	-0...	14	-0...	42	1.5										
38 1.2D + 1.5Lm_2 +...	Yes	Y		1	1.2	3	.061	9	.061	43	1.5										
39 1.2D + 1.5Lm_2 +...	Yes	Y		1	1.2	4	.061	10	.061	43	1.5										
40 1.2D + 1.5Lm_2 +...	Yes	Y		1	1.2	5	.061	11	.061	43	1.5										
41 1.2D + 1.5Lm_2 +...	Yes	Y		1	1.2	6	.061	12	.061	43	1.5										
42 1.2D + 1.5Lm_2 +...	Yes	Y		1	1.2	7	.061	13	.061	43	1.5										
43 1.2D + 1.5Lm_2 +...	Yes	Y		1	1.2	8	.061	14	.061	43	1.5										
44 1.2D + 1.5Lm_2 +...	Yes	Y		1	1.2	3	-0...	9	-0...	43	1.5										
45 1.2D + 1.5Lm_2 +...	Yes	Y		1	1.2	4	-0...	10	-0...	43	1.5										
46 1.2D + 1.5Lm_2 +...	Yes	Y		1	1.2	5	-0...	11	-0...	43	1.5										
47 1.2D + 1.5Lm_2 +...	Yes	Y		1	1.2	6	-0...	12	-0...	43	1.5										
48 1.2D + 1.5Lm_2 +...	Yes	Y		1	1.2	7	-0...	13	-0...	43	1.5										
49 1.2D + 1.5Lm_2 +...	Yes	Y		1	1.2	8	-0...	14	-0...	43	1.5										
50 1.2D + 1.5Lm_3 +...	Yes	Y		1	1.2	3	.061	9	.061	44	1.5										
51 1.2D + 1.5Lm_3 +...	Yes	Y		1	1.2	4	.061	10	.061	44	1.5										
52 1.2D + 1.5Lm_3 +...	Yes	Y		1	1.2	5	.061	11	.061	44	1.5										
53 1.2D + 1.5Lm_3 +...	Yes	Y		1	1.2	6	.061	12	.061	44	1.5										
54 1.2D + 1.5Lm_3 +...	Yes	Y		1	1.2	7	.061	13	.061	44	1.5										
55 1.2D + 1.5Lm_3 +...	Yes	Y		1	1.2	8	.061	14	.061	44	1.5										
56 1.2D + 1.5Lm_3 +...	Yes	Y		1	1.2	3	-0...	9	-0...	44	1.5										
57 1.2D + 1.5Lm_3 +...	Yes	Y		1	1.2	4	-0...	10	-0...	44	1.5										
58 1.2D + 1.5Lm_3 +...	Yes	Y		1	1.2	5	-0...	11	-0...	44	1.5										
59 1.2D + 1.5Lm_3 +...	Yes	Y		1	1.2	6	-0...	12	-0...	44	1.5										
60 1.2D + 1.5Lm_3 +...	Yes	Y		1	1.2	7	-0...	13	-0...	44	1.5										
61 1.2D + 1.5Lm_3 +...	Yes	Y		1	1.2	8	-0...	14	-0...	44	1.5										



**Load Combinations (Continued)**

Description	Solve	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	
62	1.2D + 1.5Lv_1 0°	Yes	Y		1	1.2	45	1.5														
63	1.2D + 1.5Lv_1 3..	Yes	Y		1	1.2	45	1.5														
64	1.2D + 1.5Lv_1 6..	Yes	Y		1	1.2	45	1.5														
65	1.2D + 1.5Lv_1 9..	Yes	Y		1	1.2	45	1.5														
66	1.2D + 1.5Lv_1 1..	Yes	Y		1	1.2	45	1.5														
67	1.2D + 1.5Lv_1 1..	Yes	Y		1	1.2	45	1.5														
68	1.2D + 1.5Lv_1 1..	Yes	Y		1	1.2	45	1.5														
69	1.2D + 1.5Lv_1 2..	Yes	Y		1	1.2	45	1.5														
70	1.2D + 1.5Lv_1 2..	Yes	Y		1	1.2	45	1.5														
71	1.2D + 1.5Lv_1 2..	Yes	Y		1	1.2	45	1.5														
72	1.2D + 1.5Lv_1 3..	Yes	Y		1	1.2	45	1.5														
73	1.2D + 1.5Lv_1 3..	Yes	Y		1	1.2	45	1.5														
74	1.2D + 1.5Lv_2 0°	Yes	Y		1	1.2	46	1.5														
75	1.2D + 1.5Lv_2 3..	Yes	Y		1	1.2	46	1.5														
76	1.2D + 1.5Lv_2 6..	Yes	Y		1	1.2	46	1.5														
77	1.2D + 1.5Lv_2 9..	Yes	Y		1	1.2	46	1.5														
78	1.2D + 1.5Lv_2 1..	Yes	Y		1	1.2	46	1.5														
79	1.2D + 1.5Lv_2 1..	Yes	Y		1	1.2	46	1.5														
80	1.2D + 1.5Lv_2 1..	Yes	Y		1	1.2	46	1.5														
81	1.2D + 1.5Lv_2 2..	Yes	Y		1	1.2	46	1.5														
82	1.2D + 1.5Lv_2 2..	Yes	Y		1	1.2	46	1.5														
83	1.2D + 1.5Lv_2 2..	Yes	Y		1	1.2	46	1.5														
84	1.2D + 1.5Lv_2 3..	Yes	Y		1	1.2	46	1.5														
85	1.2D + 1.5Lv_2 3..	Yes	Y		1	1.2	46	1.5														
86	1.2D + 1.5Lv_3 0°	Yes	Y		1	1.2	47	1.5														
87	1.2D + 1.5Lv_3 3..	Yes	Y		1	1.2	47	1.5														
88	1.2D + 1.5Lv_3 6..	Yes	Y		1	1.2	47	1.5														
89	1.2D + 1.5Lv_3 9..	Yes	Y		1	1.2	47	1.5														
90	1.2D + 1.5Lv_3 1..	Yes	Y		1	1.2	47	1.5														
91	1.2D + 1.5Lv_3 1..	Yes	Y		1	1.2	47	1.5														
92	1.2D + 1.5Lv_3 1..	Yes	Y		1	1.2	47	1.5														
93	1.2D + 1.5Lv_3 2..	Yes	Y		1	1.2	47	1.5														
94	1.2D + 1.5Lv_3 2..	Yes	Y		1	1.2	47	1.5														
95	1.2D + 1.5Lv_3 2..	Yes	Y		1	1.2	47	1.5														
96	1.2D + 1.5Lv_3 3..	Yes	Y		1	1.2	47	1.5														
97	1.2D + 1.5Lv_3 3..	Yes	Y		1	1.2	47	1.5														
98	1.2D + 1.0EV +1....	Yes	Y		1	1.2	27	1	28		29	1	40	1								
99	1.2D + 1.0EV +1....	Yes	Y		1	1.2	27	.866	28	.5	30	1	40	1								
100	1.2D + 1.0EV +1....	Yes	Y		1	1.2	27	.5	28	.866	31	1	40	1								
101	1.2D + 1.0EV +1....	Yes	Y		1	1.2	27		28	1	32	1	40	1								
102	1.2D + 1.0EV +1....	Yes	Y		1	1.2	27	-.5	28	.866	33	1	40	1								
103	1.2D + 1.0EV +1....	Yes	Y		1	1.2	27	-.8...	28	.5	34	1	40	1								
104	1.2D + 1.0EV +1....	Yes	Y		1	1.2	27	-1	28		35	1	40	1								
105	1.2D + 1.0EV +1....	Yes	Y		1	1.2	27	-.8...	28	-.5	36	1	40	1								
106	1.2D + 1.0EV +1....	Yes	Y		1	1.2	27	-.5	28	-.8...	37	1	40	1								
107	1.2D + 1.0EV +1....	Yes	Y		1	1.2	27		28	-1	38	1	40	1								
108	1.2D + 1.0EV +1....	Yes	Y		1	1.2	27	.5	28	-.8...	39	1	40	1								
109	1.2D + 1.0EV +1....	Yes	Y		1	1.2	27	.866	28	-.5	40	1	40	1								

**Envelope Joint Reactions**

Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	1.806	47	1.83	14	3.512	25	0	109	0	109	0
2		min	.04	5	.512	8	.158	7	0	1	0	1	0
3	N16	max	.554	11	1.958	20	.503	13	0	109	0	109	0
4		min	-1.843	41	.527	2	-3.597	19	0	1	0	1	0



Company : Mastec  
 Designer : VB  
 Job Number : 18753-MNT1  
 Model Name : HRT 086 943248, App 482056

May 16, 2019  
 1:44 PM  
 Checked By: \_\_\_\_\_

**Envelope Joint Reactions (Continued)**

Joint	X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
5 N65B max	.092	11	.092	17	.817	4	0	109	0	109	0	109
6 min	-.107	5	.014	10	-.62	10	0	1	0	1	0	1
7 N66 max	.092	11	.087	17	.383	4	0	109	0	109	0	109
8 min	-.077	5	.014	10	-.581	10	0	1	0	1	0	1
9 Totals: max	1.615	11	3.912	16	2.133	2						
10 min	-1.615	5	1.202	9	-2.133	8						

**Envelope AISC 14th(360-10): LRFD Steel Code Checks**

Member	Shape	Code ...	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y...	phi*Mn ...	Cb	Eqn	
1	M1	PL4x5/8	.838	.417	24	.056	0	y	47	76.419	81	1.055	6.75	1.667	H1-1b
2	M3	PL4x5/8	.188	0	14	.490	0	y	25	79.041	81	1.055	6.75	1.619	H1-1b
3	M4	PL4x5/8	.323	.324	22	.660	0	y	14	79.041	81	1.055	6.75	1.807	H1-1b
4	M5	PIPE_...	.323	0	24	.086	.084		14	29.48	32.13	1.872	1.872	2.161	H1-1b
5	M6	PIPE_...	.197	0	24	.102	.084		14	29.48	32.13	1.872	1.872	2.119	H1-1b
6	M7	PL4x5/8	.269	.324	8	.248	0	y	18	79.041	81	1.055	6.75	1.471	H1-1b
7	M8	PL4x5/8	.229	.324	22	.343	0	y	22	79.041	81	1.055	6.75	1.408	H1-1b
8	M9	PIPE_...	.338	8.724	49	.158	3.906		8	38.92	50.715	3.596	3.596	2.486	H1-1b
9	M12	PL4x5/8	.838	.417	18	.057	0	y	41	76.419	81	1.055	6.75	1.667	H1-1b
10	M14	PL4x5/8	.207	0	20	.481	0	y	21	79.041	81	1.055	6.75	1.583	H1-1b
11	M15	PL4x5/8	.336	.324	17	.666	0	y	19	79.041	81	1.055	6.75	1.804	H1-1b
12	M16	PIPE_...	.329	0	18	.084	2.68		20	29.48	32.13	1.872	1.872	2.162	H1-1b
13	M17	PIPE_...	.197	0	25	.094	.084		20	29.48	32.13	1.872	1.872	2.095	H1-1b
14	M18	PL4x5/8	.362	.324	2	.260	0	y	21	79.041	81	1.055	6.75	1.749	H1-1b
15	M19	PL4x5/8	.254	.324	13	.373	0	y	18	79.041	81	1.055	6.75	1.322	H1-1b
16	M20	PIPE_...	.325	8.724	7	.180	3.906		2	38.92	50.715	3.596	3.596	2.775	H1-1b
17	M31	PIPE_...	.473	5.667	42	.062	2.333		38	24.093	32.13	1.872	1.872	4.815	H1-1b
18	M32	PIPE_...	.243	2.333	43	.036	2.333		42	24.093	32.13	1.872	1.872	4.663	H1-1b
19	M33	PIPE_...	.585	2.333	2	.055	5.667		8	24.093	32.13	1.872	1.872	2.955	H1-1b
20	M34	PIPE_...	.077	2.333	21	.023	2.333		20	24.093	32.13	1.872	1.872	4.135	H1-1b
21	M35	SR 3/4	.179	4.277	25	.015	4.277		25	9.437	14.314	.179	.179	2.098	H1-1b
22	M36	SR 3/4	.198	0	19	.016	0		19	9.437	14.314	.179	.179	2.153	H1-1b
23	M37	SR 3/4	.207	0	20	.011	0		19	9.437	14.314	.179	.179	2.201	H1-1b
24	M38	SR 3/4	.176	4.277	15	.011	4.277		13	9.437	14.314	.179	.179	2.129	H1-1b
25	M39	SR 5/8	.259	3.333	2	.006	0		19	2.503	9.94	.104	.104	2.211	H1-1a
26	M40	SR 5/8	.207	3.333	25	.008	0		19	2.503	9.94	.104	.104	2.334	H1-1b
27	M41	SR 5/8	.153	3.333	25	.004	0		21	2.503	9.94	.104	.104	2.599	H1-1b
28	M42	SR 5/8	.114	3.333	2	.005	0		21	2.503	9.94	.104	.104	2.006	H1-1b*
29	M137	PIPE_...	.147	5.06	17	.009	10.119		23	9.606	32.13	1.872	1.872	1.136	H1-1b
30	M144	PIPE_...	.129	5.06	23	.009	10.119		23	9.606	32.13	1.872	1.872	1.136	H1-1b



**APPENDIX D**  
**ADDITIONAL CALCUATIONS**

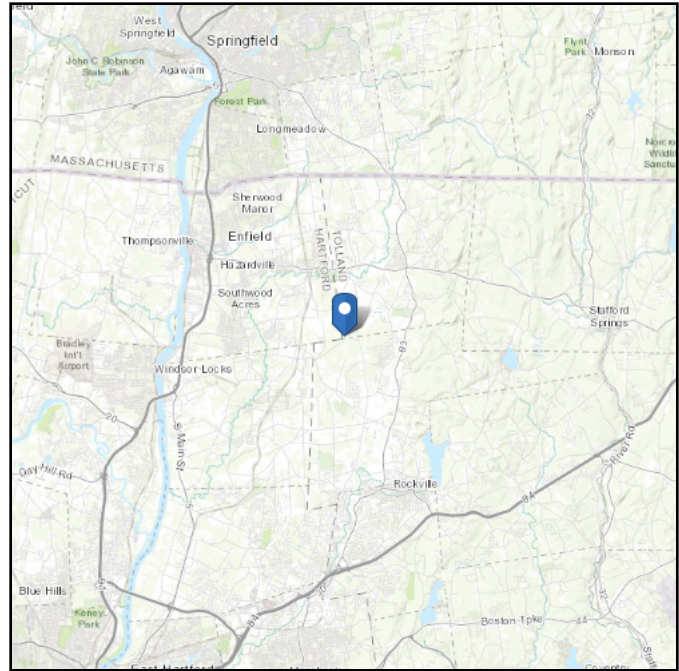


# ASCE 7 Hazards Report

**Address:**  
No Address at This Location

**Standard:** ASCE/SEI 7-10  
**Risk Category:** II  
**Soil Class:** D - Stiff Soil

**Elevation:** 396.55 ft (NAVD 88)  
**Latitude:** 41.9489  
**Longitude:** -72.4921



## Wind

### Results:

Wind Speed:	122 Vmph
10-year MRI	76 Vmph
25-year MRI	86 Vmph
50-year MRI	93 Vmph
100-year MRI	100 Vmph

Used 125 mph per 2018 Connecticut Building Code

**Data Source:** ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014

**Date Accessed:** Wed May 15 2019

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

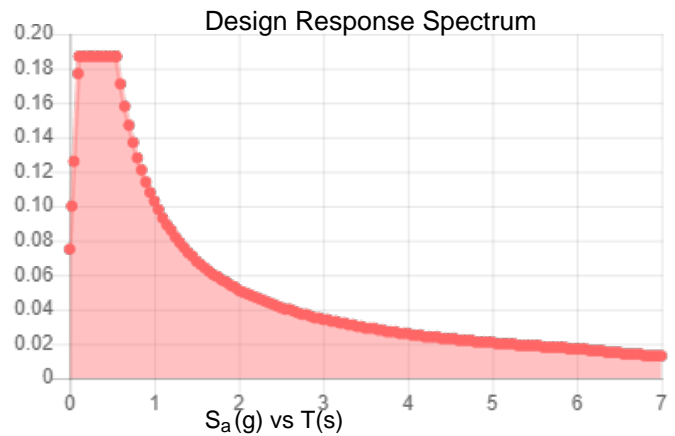
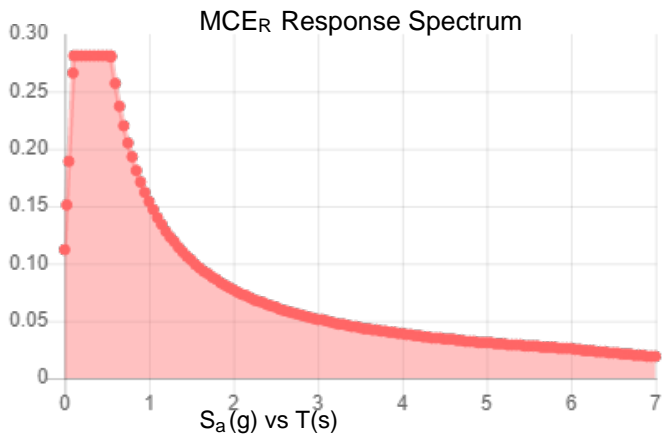
Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

**Site Soil Class:** D - Stiff Soil

**Results:**

$S_S$ :	0.176	$S_{DS}$ :	0.187
$S_1$ :	0.064	$S_{D1}$ :	0.103
$F_a$ :	1.6	$T_L$ :	6
$F_v$ :	2.4	PGA :	0.086
$S_{MS}$ :	0.281	PGA <sub>M</sub> :	0.138
$S_{M1}$ :	0.154	F <sub>PGA</sub> :	1.6
		$I_e$ :	1

**Seismic Design Category** B



**Data Accessed:**

Wed May 15 2019

**Date Source:**

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

## Ice

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**Results:**

Ice Thickness: 1.00 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 May 15 2019

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.

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