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
www.ct.gov/csc

VIA ELECTRONIC MAIL

December 16, 2019

Jake Shappy
Transcend Wireless
10 Industrial Avenue, Suite 3
Mahwah, NJ 07430

RE: **EM-CLEARWIRE-044-191030** – Clearwire notice of intent to modify an existing telecommunications facility located at 75 Saltonstall Place, East Haven, Connecticut.

Dear Mr. Shappy:

The Connecticut Siting Council (Council) is in receipt of your correspondence of December 4, 2019 submitted in response to the Council's November 12, 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/IN/emr

Robidoux, Evan

From: jshappy@transcendwireless.com
Sent: Wednesday, December 04, 2019 3:19 PM
To: Robidoux, Evan
Cc: CSC-DL Siting Council
Subject: RE: Council Incomplete Letter for EM-CLEARWIRE-044-191030 (75 Saltonstall Place, East Haven)
Attachments: CT52XC125 _MIMO_Mount Analysis-PASS MODS_11.18.2019.pdf; CT52XC125 Original CSC Filing Not Found.pdf

Evan,

Please see the attached mount analysis and confirmation from the Town of East Haven that the only available CSC filing for this site was the towershare already provided. If these are acceptable and hard copies are needed I will send them via UPS once confirmed.

Jake Shappy
10 Industrial Ave, Suite 3
Mahwah, NJ 07430
Cell: 845-553-3330
jshappy@transcendwireless.com

From: Robidoux, Evan <Evan.Robidoux@ct.gov>
Sent: Tuesday, November 12, 2019 11:27 AM
To: 'jshappy@transcendwireless.com' <jshappy@transcendwireless.com>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>
Subject: Council Incomplete Letter for EM-CLEARWIRE-044-191030 (75 Saltonstall Place, East Haven)

Please see the attached correspondence.

Evan Robidoux
Clerk Typist
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RAMAKER & ASSOCIATES, INC.
100% EMPLOYEE-OWNED

November 18, 2019

Mike Kithcart
Transcend Wireless
10 Industrial Avenue, Suite 3
Mahwah, NJ 07430

Ramaker & Associates, Inc.
855 Community Drive
Sauk City, WI 53583

SUBJECT: **MOUNT ASSESSMENT**

CARRIER: **SPRINT**

SITE: **SALTONSTALL PLACE (CT52XC125)**
12 SALTONSTALL PLACE
EAST HAVEN, NEW HAVEN COUNTY, CONNECTICUT 06512
RAMAKER & ASSOCIATES PROJECT NUMBER: 37621

RESULTS: **MOUNT:** **PASS WITH REPLACEMENT** **36.0%**

Dear Mike Kithcart:

Ramaker & Associates, Inc. (RAMAKER) respectfully submits this mount assessment for the above-mentioned site. The purpose of this report is to determine the structural integrity of the mounting structure with the proposed loading configurations. Engineering recommendations regarding the analysis results are provided in the following pages.

RAMAKER developed a finite element model of the mount(s) using RISA analysis software. All information contained herein is valid only for the described structure configuration and loading conditions. RAMAKER reserves the right to modify our recommendations should alterations to the mount loading occur.

If you have any questions or comments, please do not hesitate to contact our office.

Sincerely,

RAMAKER & ASSOCIATES, INC.

Tucker Schwab
Structural Designer

James R. Skowronski, P.E.
Supervising Engineer

ANALYSIS CRITERIA

State Building Code	2018 CT State Building Code
Adopted Building Code	2015 IBC
Referenced Standard	TIA-222-G
Risk Category	II
Ultimate Design Wind Speed, V_{ult}	130 mph (3 sec. gust)
Nominal Design Wind Speed, V_{asd}	101 mph (3 sec. gust)
Design Wind Speed w/ Ice	50 mph (3 sec. gust)
Ice Thickness	3/4 inch
Exposure Category	C
Topographic Feature	None

SUPPORTING DOCUMENTATION

- Construction drawings by RAMAKER, project number 37621
- Site visit(s) conducted by RAMAKER
- Other pertinent data procured or assumed by RAMAKER during site due diligence activities

MOUNT LOADING

RAMAKER understands that the loading to be used for this analysis will consist of the antennas and equipment configurations as shown in the following chart(s):

Antenna Mount – Alpha Sector				
Elevation	**Position**	**Appurtenance**	**Mount Type**	**Status**
85	1	**(1) Clearwire WiMax**	**Site Pro 1 VFA8-HD-S**	**Remove**
		(1) Nokia AAHC		**Proposed**
	2	**(1) Commscope NNVV-65B-R4**		**Proposed**
	3	--		--
	--	**(2) ALU 800 MHz 2x50W RRH**		**Proposed**
	--	**(1) ALU 1900 MHz 4x45W RRH**		**Proposed**

Antenna Mount – Beta Sector				
Elevation	**Position**	**Appurtenance**	**Mount Type**	**Status**
85	1	**(1) Clearwire WiMax**	**Site Pro 1 VFA8-HD-S**	**Remove**
		(1) Nokia AAHC		**Proposed**
	2	**(1) Commscope NNVV-65B-R4**		**Proposed**
	3	(1) 2' MW Dish		Existing
	--	**(2) ALU 800 MHz 2x50W RRH**		**Proposed**
	--	**(1) ALU 1900 MHz 4x45W RRH**		**Proposed**

Antenna Mount – Gamma Sector				
Elevation	**Position**	**Appurtenance**	**Mount Type**	**Status**
85	1	**(1) Clearwire WiMax**	**Site Pro 1 VFA8-HD-S**	**Remove**
		(1) 2' MW Dish		Existing
	2	**(1) Nokia AAHC**		**Proposed**
	3	**(1) Commscope NNVV-65B-R4**		**Proposed**
	--	**(2) ALU 800 MHz 2x50W RRH**		**Proposed**
	--	**(1) ALU 1900 MHz 4x45W RRH**		**Proposed**

MOUNT RESULTS

The maximum mount member stress capacities under the loading conditions previously described are as follows:

Component Type	Percent Capacity	Pass/Fail
Mount Pipe	32.5	Pass
Diagonal	36.0	Pass
Face Horizontal	34.3	Pass
Standoff Arm	30.1	Pass
Tie-back Arm	5.3	Pass
RATING	**36.0**	**PASS**

Note: A rating of 105% or less is within engineering tolerances and considered acceptable.

By engineering calculation and inspection, the ***proposed*** antenna and equipment mounting structure(s) are capable of supporting the proposed loading configurations without causing an overstress condition in the antenna and equipment mounting structure(s). ***The existing antenna and equipment mounting structure(s) shall be removed and replaced with the proposed antenna and equipment mounting structure(s) prior to antenna and equipment installation. See the associated construction drawings by RAMAKER for the proposed mounting structures.***

LIMITATIONS

The recommendations contained within this report were developed using the supporting documentation as previously described. All recommendations pertain only to the proposed antenna installation activities as described in this report. RAMAKER assumes no responsibility for failures caused by factors beyond our control. These include but are not limited to the following:

- Missing, corroding, and/or deteriorating members
- Improper manufacturing and/or construction
- Improper maintenance
- Member grades less than assumed grades show below:

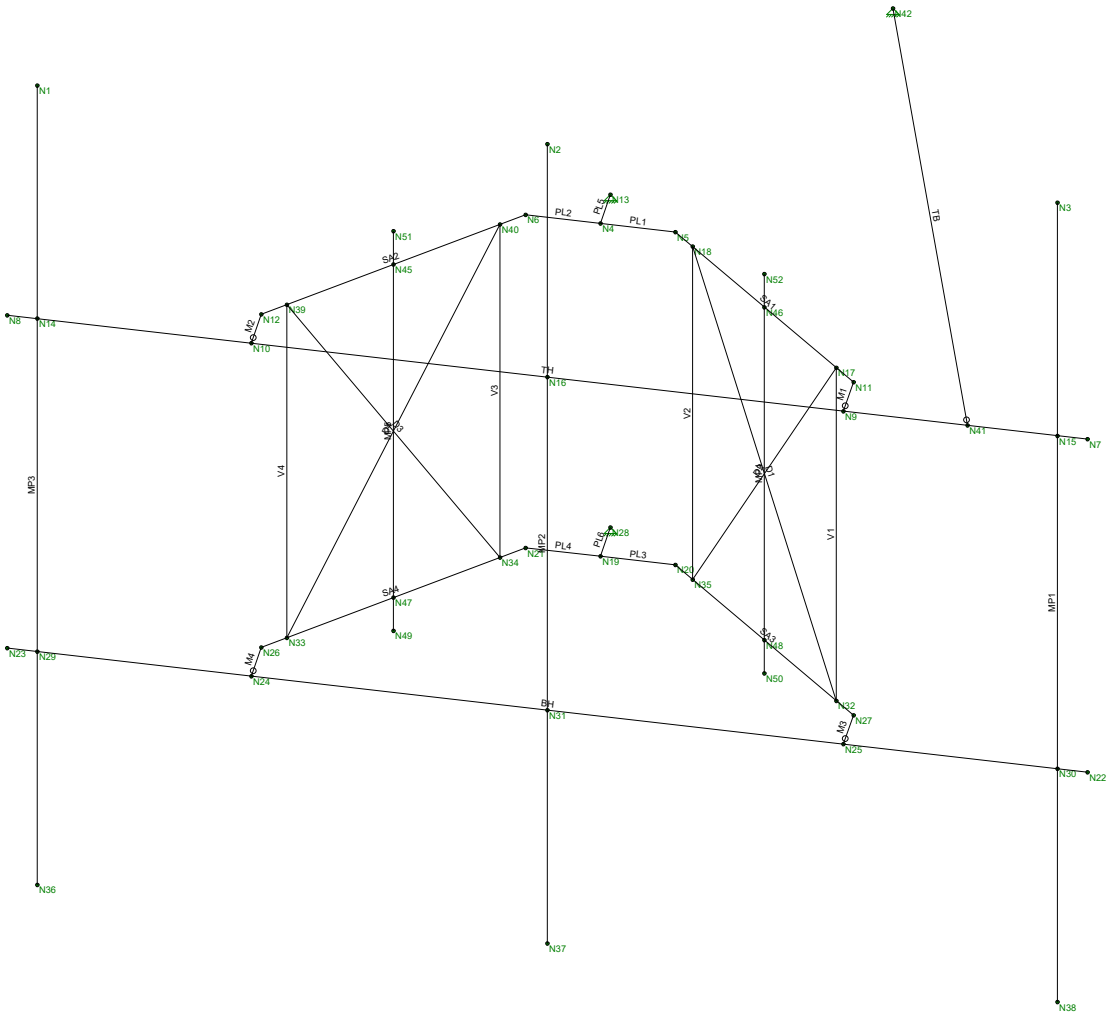
Assumed Steel Member Grades	
Angles/Plates/Channels/Solid Rods	ASTM A36, 36 ksi
Pipes	ASTM A53 Gr. B, 35 ksi

RAMAKER is not responsible for verifying that the loading on the structure is consistent with the loading applied to the structure within this report. If there is any information contrary to that contained herein, or if there are any defects arising from the original design, material, fabrication and erection deficiencies, this report should be disregarded and RAMAKER should be contacted immediately. RAMAKER is not liable for any representation, recommendation, or conclusion not expressly stated herein.

This analysis pertains only to the mounting structure, and no analyses or conclusions were made regarding the supporting structure. Analysis and certification of the supporting structure is performed and submitted separately.

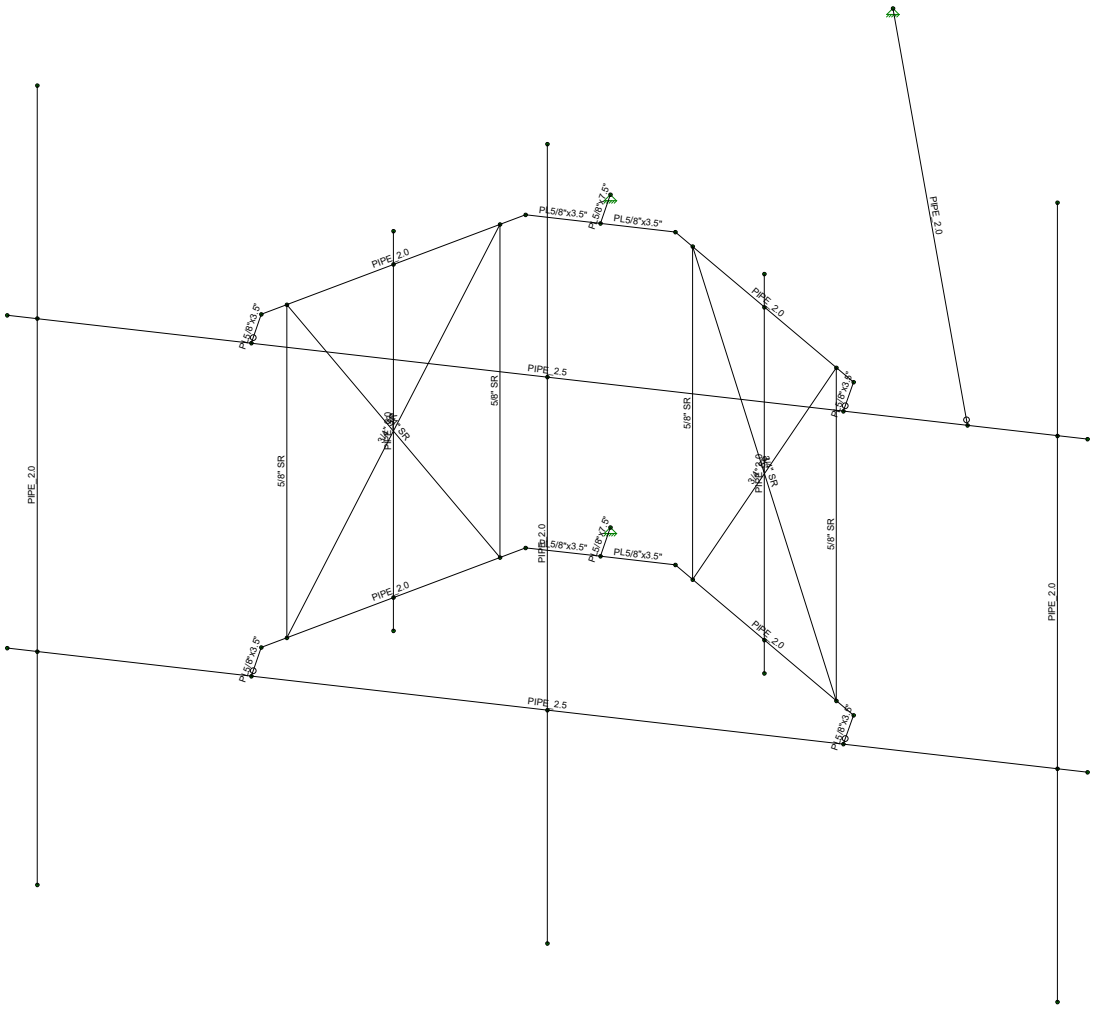
ATTACHMENTS

- Analysis Figures
- Analysis Calculations



Envelope Only Solution

Ramaker & Associates	CT52XC125	SK - 1
TJS		Nov 18, 2019 at 12:19 PM
37621		37621 Mount Rev1.r3d



Envelope Only Solution

Ramaker & Associates	CT52XC125	SK - 2
TJS		Nov 18, 2019 at 12:19 PM
37621		37621 Mount Rev1.r3d

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E..Density[k/f...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65 .49	36	1.5	58	1.2
2	Gr. 33	29000	11154	.3	.65 .49	33	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65 .49	50	1.1	65	1.1
4	A992	29000	11154	.3	.65 .49	50	1.1	65	1.1
5	A500 Gr.B RND	29000	11154	.3	.65 .49	42	1.4	58	1.3
6	A500 Gr.B Rect	29000	11154	.3	.65 .49	46	1.4	58	1.3
7	A53 Gr.B	29000	11154	.3	.65 .49	35	1.6	60	1.2
8	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 2.5	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
2	PL5/8"x3.5"	PL5/8"x3.5"	Beam	RECT	A36 Gr.36	Typical	2.188	.071	2.233	.253
3	PL5/8"x7.5"	PL5/8"x7.5"	Beam	RECT	A36 Gr.36	Typical	4.688	.153	21.973	.578
4	Pipe 2.0	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
5	SR3/4"	3/4" SR	Beam	BAR	A36 Gr.36	Typical	.442	.016	.016	.031
6	SR5/8"	5/8" SR	Beam	BAR	A36 Gr.36	Typical	.307	.007	.007	.015

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	TH	N7	N8			Pipe 2.5	Beam	Pipe	A53 Gr.B	Typical
2	BH	N22	N23			Pipe 2.5	Beam	Pipe	A53 Gr.B	Typical
3	PL5	N4	N13		90	PL5/8"x7.5"	Beam	RECT	A36 Gr.36	Typical
4	PL6	N19	N28		90	PL5/8"x7.5"	Beam	RECT	A36 Gr.36	Typical
5	PL2	N6	N4		90	PL5/8"x3.5"	Beam	RECT	A36 Gr.36	Typical
6	PL1	N4	N5		90	PL5/8"x3.5"	Beam	RECT	A36 Gr.36	Typical
7	PL4	N21	N19		90	PL5/8"x3.5"	Beam	RECT	A36 Gr.36	Typical
8	PL3	N19	N20		90	PL5/8"x3.5"	Beam	RECT	A36 Gr.36	Typical
9	SA4	N26	N21			Pipe 2.0	Beam	Pipe	A53 Gr.B	Typical
10	SA1	N11	N5			Pipe 2.0	Beam	Pipe	A53 Gr.B	Typical
11	SA3	N27	N20			Pipe 2.0	Beam	Pipe	A53 Gr.B	Typical
12	M2	N10	N12		90	PL5/8"x3.5"	Beam	RECT	A36 Gr.36	Typical
13	M4	N24	N26		90	PL5/8"x3.5"	Beam	RECT	A36 Gr.36	Typical
14	M1	N9	N11		90	PL5/8"x3.5"	Beam	RECT	A36 Gr.36	Typical
15	M3	N25	N27		90	PL5/8"x3.5"	Beam	RECT	A36 Gr.36	Typical
16	V4	N39	N33			SR5/8"	Beam	BAR	A36 Gr.36	Typical
17	V3	N40	N34			SR5/8"	Beam	BAR	A36 Gr.36	Typical
18	V1	N17	N32			SR5/8"	Beam	BAR	A36 Gr.36	Typical
19	V2	N18	N35			SR5/8"	Beam	BAR	A36 Gr.36	Typical
20	D3	N39	N34			SR3/4"	Beam	BAR	A36 Gr.36	Typical
21	D4	N40	N33			SR3/4"	Beam	BAR	A36 Gr.36	Typical
22	D1	N18	N32			SR3/4"	Beam	BAR	A36 Gr.36	Typical
23	D2	N17	N35			SR3/4"	Beam	BAR	A36 Gr.36	Typical
24	MP3	N36	N1			Pipe 2.0	Beam	Pipe	A53 Gr.B	Typical
25	MP2	N37	N2			Pipe 2.0	Beam	Pipe	A53 Gr.B	Typical
26	MP1	N38	N3			Pipe 2.0	Beam	Pipe	A53 Gr.B	Typical
27	SA2	N12	N6			Pipe 2.0	Beam	Pipe	A53 Gr.B	Typical
28	TB	N41	N42			Pipe 2.0	Beam	Pipe	A53 Gr.B	Typical
29	MP5	N49	N51			Pipe 2.0	Beam	Pipe	A53 Gr.B	Typical
30	MP4	N50	N52			Pipe 2.0	Beam	Pipe	A53 Gr.B	Typical

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribu...	Area(M...	Surface(...
1	Antenna Dead	None					8			
2	Antenna Wind 0	None					16			
3	Antenna Wind 30	None					16			
4	Antenna Wind 45	None					16			
5	Antenna Wind 60	None					16			
6	Antenna Wind 90	None					16			
7	Antenna Wind 120	None					16			
8	Antenna Wind 135	None					16			
9	Antenna Wind 150	None					16			
10	Antenna Wind 180	None					16			
11	Antenna Wind 210	None					16			
12	Antenna Wind 225	None					16			
13	Antenna Wind 240	None					16			
14	Antenna Wind 270	None					16			
15	Antenna Wind 300	None					16			
16	Antenna Wind 315	None					16			
17	Antenna Wind 330	None					16			
18	Antenna Ice Dead	None					8			
19	Antenna Wind w/Ice 0	None					16			
20	Antenna Wind w/Ice 30	None					16			
21	Antenna Wind w/Ice 45	None					16			
22	Antenna Wind w/Ice 60	None					16			
23	Antenna Wind w/Ice 90	None					16			
24	Antenna Wind w/Ice 120	None					16			
25	Antenna Wind w/Ice 135	None					16			
26	Antenna Wind w/Ice 150	None					16			
27	Antenna Wind w/Ice 180	None					16			
28	Antenna Wind w/Ice 210	None					16			
29	Antenna Wind w/Ice 225	None					16			
30	Antenna Wind w/Ice 240	None					16			
31	Antenna Wind w/Ice 270	None					16			
32	Antenna Wind w/Ice 300	None					16			
33	Antenna Wind w/Ice 315	None					16			
34	Antenna Wind w/Ice 330	None					16			
35	Member Dead	None		-1						
36	Member Wind 0	None						40		
37	Member Wind 30	None						40		
38	Member Wind 45	None						40		
39	Member Wind 60	None						40		
40	Member Wind 90	None						40		
41	Member Wind 120	None						40		
42	Member Wind 135	None						40		
43	Member Wind 150	None						40		
44	Member Wind 180	None						40		
45	Member Wind 210	None						40		
46	Member Wind 225	None						40		
47	Member Wind 240	None						40		
48	Member Wind 270	None						40		
49	Member Wind 300	None						40		
50	Member Wind 315	None						40		
51	Member Wind 330	None						40		
52	Member Ice Dead	None						20		
53	Member Wind w/Ice 0	None						40		
54	Member Wind w/Ice 30	None						40		
55	Member Wind w/Ice 45	None						40		
56	Member Wind w/Ice 60	None						40		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribu...	Area(M...	Surface(...
57	Member Wind w/Ice 90	None						40		
58	Member Wind w/Ice 120	None						40		
59	Member Wind w/Ice 135	None						40		
60	Member Wind w/Ice 150	None						40		
61	Member Wind w/Ice 180	None						40		
62	Member Wind w/Ice 210	None						40		
63	Member Wind w/Ice 225	None						40		
64	Member Wind w/Ice 240	None						40		
65	Member Wind w/Ice 270	None						40		
66	Member Wind w/Ice 300	None						40		
67	Member Wind w/Ice 315	None						40		
68	Member Wind w/Ice 330	None						40		
69	LV-1	None					1			
70	LV-2	None					1			
71	LV-3	None					1			
72	LV-4	None					1			
73	LV-5	None					1			
74	LV-6	None								
75	LV-7	None								
76	LV-8	None								
77	LV-9	None								
78	LV-10	None								
79	LV-11	None								
80	LV-12	None								
81	LV-13	None								
82	LV-14	None								
83	LV-15	None					1			
84	LM-1	None					1			
85	LM-2	None					1			
86	LM-3	None								
87	LM-4	None								
88	LM-5	None								
89	LM-6	None								
90	LM-7	None								
91	LM-8	None								
92	LM-9	None								
93	LM-10	None								
94	LM-11	None								
95	LM-12	None								
96	LM-13	None								
97	LM-14	None								
98	LM-15	None								

Load Combinations

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4D	Yes	Y		1	1.4	35	1.4																
2	0.9D + 1.6 (0-Wind)	Yes	Y		1	.9	35	.9	2	1.6	36	1.6												
3	0.9D + 1.6 (30-Wind)	Yes	Y		1	.9	35	.9	3	1.6	37	1.6												
4	0.9D + 1.6 (45-Wind)	Yes	Y		1	.9	35	.9	4	1.6	38	1.6												
5	0.9D + 1.6 (60-Wind)	Yes	Y		1	.9	35	.9	5	1.6	39	1.6												
6	0.9D + 1.6 (90-Wind)	Yes	Y		1	.9	35	.9	6	1.6	40	1.6												
7	0.9D + 1.6 (120-Wind)	Yes	Y		1	.9	35	.9	7	1.6	41	1.6												
8	0.9D + 1.6 (135-Wind)	Yes	Y		1	.9	35	.9	8	1.6	42	1.6												
9	0.9D + 1.6 (150-Wind)	Yes	Y		1	.9	35	.9	9	1.6	43	1.6												
10	0.9D + 1.6 (180-Wind)	Yes	Y		1	.9	35	.9	10	1.6	44	1.6												

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
11	0.9D + 1.6 (210-Wind)	Yes	Y		1	.9	35	.9	11	1.6	45	1.6												
12	0.9D + 1.6 (225-Wind)	Yes	Y		1	.9	35	.9	12	1.6	46	1.6												
13	0.9D + 1.6 (240-Wind)	Yes	Y		1	.9	35	.9	13	1.6	47	1.6												
14	0.9D + 1.6 (270-Wind)	Yes	Y		1	.9	35	.9	14	1.6	48	1.6												
15	0.9D + 1.6 (300-Wind)	Yes	Y		1	.9	35	.9	15	1.6	49	1.6												
16	0.9D + 1.6 (315-Wind)	Yes	Y		1	.9	35	.9	16	1.6	50	1.6												
17	0.9D + 1.6 (330-Wind)	Yes	Y		1	.9	35	.9	17	1.6	51	1.6												
18	1.2D + 1.6 (0-Wind)	Yes	Y		1	1.2	35	1.2	2	1.6	36	1.6												
19	1.2D + 1.6 (30-Wind)	Yes	Y		1	1.2	35	1.2	3	1.6	37	1.6												
20	1.2D + 1.6 (45-Wind)	Yes	Y		1	1.2	35	1.2	4	1.6	38	1.6												
21	1.2D + 1.6 (60-Wind)	Yes	Y		1	1.2	35	1.2	5	1.6	39	1.6												
22	1.2D + 1.6 (90-Wind)	Yes	Y		1	1.2	35	1.2	6	1.6	40	1.6												
23	1.2D + 1.6 (120-Wind)	Yes	Y		1	1.2	35	1.2	7	1.6	41	1.6												
24	1.2D + 1.6 (135-Wind)	Yes	Y		1	1.2	35	1.2	8	1.6	42	1.6												
25	1.2D + 1.6 (150-Wind)	Yes	Y		1	1.2	35	1.2	9	1.6	43	1.6												
26	1.2D + 1.6 (180-Wind)	Yes	Y		1	1.2	35	1.2	10	1.6	44	1.6												
27	1.2D + 1.6 (210-Wind)	Yes	Y		1	1.2	35	1.2	11	1.6	45	1.6												
28	1.2D + 1.6 (225-Wind)	Yes	Y		1	1.2	35	1.2	12	1.6	46	1.6												
29	1.2D + 1.6 (240-Wind)	Yes	Y		1	1.2	35	1.2	13	1.6	47	1.6												
30	1.2D + 1.6 (270-Wind)	Yes	Y		1	1.2	35	1.2	14	1.6	48	1.6												
31	1.2D + 1.6 (300-Wind)	Yes	Y		1	1.2	35	1.2	15	1.6	49	1.6												
32	1.2D + 1.6 (315-Wind)	Yes	Y		1	1.2	35	1.2	16	1.6	50	1.6												
33	1.2D + 1.6 (330-Wind)	Yes	Y		1	1.2	35	1.2	17	1.6	51	1.6												
34	1.2D + 1.0Di + 1.0 (0-Wind Ice)	Yes	Y		1	1.2	35	1.2	18	1	52	1	19	1	53	1								
35	1.2D + 1.0Di + 1.0 (30-Wind I...	Yes	Y		1	1.2	35	1.2	18	1	52	1	20	1	54	1								
36	1.2D + 1.0Di + 1.0 (45-Wind I...	Yes	Y		1	1.2	35	1.2	18	1	52	1	21	1	55	1								
37	1.2D + 1.0Di + 1.0 (60-Wind I...	Yes	Y		1	1.2	35	1.2	18	1	52	1	22	1	56	1								
38	1.2D + 1.0Di + 1.0 (90-Wind I...	Yes	Y		1	1.2	35	1.2	18	1	52	1	23	1	57	1								
39	1.2D + 1.0Di + 1.0 (120-Wind ...	Yes	Y		1	1.2	35	1.2	18	1	52	1	24	1	58	1								
40	1.2D + 1.0Di + 1.0 (135-Wind ...	Yes	Y		1	1.2	35	1.2	18	1	52	1	25	1	59	1								
41	1.2D + 1.0Di + 1.0 (150-Wind ...	Yes	Y		1	1.2	35	1.2	18	1	52	1	26	1	60	1								
42	1.2D + 1.0Di + 1.0 (180-Wind ...	Yes	Y		1	1.2	35	1.2	18	1	52	1	27	1	61	1								
43	1.2D + 1.0Di + 1.0 (210-Wind ...	Yes	Y		1	1.2	35	1.2	18	1	52	1	28	1	62	1								
44	1.2D + 1.0Di + 1.0 (225-Wind ...	Yes	Y		1	1.2	35	1.2	18	1	52	1	29	1	63	1								
45	1.2D + 1.0Di + 1.0 (240-Wind ...	Yes	Y		1	1.2	35	1.2	18	1	52	1	30	1	64	1								
46	1.2D + 1.0Di + 1.0 (270-Wind ...	Yes	Y		1	1.2	35	1.2	18	1	52	1	31	1	65	1								
47	1.2D + 1.0Di + 1.0 (300-Wind ...	Yes	Y		1	1.2	35	1.2	18	1	52	1	32	1	66	1								
48	1.2D + 1.0Di + 1.0 (315-Wind ...	Yes	Y		1	1.2	35	1.2	18	1	52	1	33	1	67	1								
49	1.2D + 1.0Di + 1.0 (330-Wind ...	Yes	Y		1	1.2	35	1.2	18	1	52	1	34	1	68	1								
50	1.2D + 1.5LV-1	Yes	Y		1	1.2	35	1.2	69	1.5														
51	1.2D + 1.5LV-2	Yes	Y		1	1.2	35	1.2	70	1.5														
52	1.2D + 1.5LV-3	Yes	Y		1	1.2	35	1.2	71	1.5														
53	1.2D + 1.5LV-4	Yes	Y		1	1.2	35	1.2	72	1.5														
54	1.2D + 1.5LV-5	Yes	Y		1	1.2	35	1.2	73	1.5														
55	1.2D + 1.5LV-6	Yes	Y		1	1.2	35	1.2	74	1.5														
56	1.2D + 1.5LV-7	Yes	Y		1	1.2	35	1.2	75	1.5														
57	1.2D + 1.5LV-8	Yes	Y		1	1.2	35	1.2	76	1.5														
58	1.2D + 1.5LV-9	Yes	Y		1	1.2	35	1.2	77	1.5														
59	1.2D + 1.5LV-10	Yes	Y		1	1.2	35	1.2	78	1.5														
60	1.2D + 1.5LV-11	Yes	Y		1	1.2	35	1.2	79	1.5														
61	1.2D + 1.5LV-12	Yes	Y		1	1.2	35	1.2	80	1.5														
62	1.2D + 1.5LV-13	Yes	Y		1	1.2	35	1.2	81	1.5														
63	1.2D + 1.5LV-14	Yes	Y		1	1.2	35	1.2	82	1.5														
64	1.2D + 1.5LV-15	Yes	Y		1	1.2	35	1.2	83	1.5														
65	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	2	.088	36	.088										
66	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	3	.088	37	.088										
67	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	4	.088	38	.088										

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
68	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	5	.088	39	.088										
69	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	6	.088	40	.088										
70	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	7	.088	41	.088										
71	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	8	.088	42	.088										
72	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	9	.088	43	.088										
73	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	10	.088	44	.088										
74	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	11	.088	45	.088										
75	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	12	.088	46	.088										
76	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	13	.088	47	.088										
77	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	14	.088	48	.088										
78	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	15	.088	49	.088										
79	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	16	.088	50	.088										
80	1.2D + 1.5LM-1 + Maintenanc...	Yes	Y		1	1.2	35	1.2	84	1.5	17	.088	51	.088										
81	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	2	.088	36	.088										
82	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	3	.088	37	.088										
83	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	4	.088	38	.088										
84	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	5	.088	39	.088										
85	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	6	.088	40	.088										
86	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	7	.088	41	.088										
87	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	8	.088	42	.088										
88	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	9	.088	43	.088										
89	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	10	.088	44	.088										
90	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	11	.088	45	.088										
91	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	12	.088	46	.088										
92	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	13	.088	47	.088										
93	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	14	.088	48	.088										
94	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	15	.088	49	.088										
95	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	16	.088	50	.088										
96	1.2D + 1.5LM-2 + Maintenanc...	Yes	Y		1	1.2	35	1.2	85	1.5	17	.088	51	.088										
97	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	2	.088	36	.088										
98	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	3	.088	37	.088										
99	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	4	.088	38	.088										
100	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	5	.088	39	.088										
101	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	6	.088	40	.088										
102	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	7	.088	41	.088										
103	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	8	.088	42	.088										
104	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	9	.088	43	.088										
105	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	10	.088	44	.088										
106	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	11	.088	45	.088										
107	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	12	.088	46	.088										
108	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	13	.088	47	.088										
109	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	14	.088	48	.088										
110	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	15	.088	49	.088										
111	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	16	.088	50	.088										
112	1.2D + 1.5LM-3 + Maintenanc...	Yes	Y		1	1.2	35	1.2	86	1.5	17	.088	51	.088										
113	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	2	.088	36	.088										
114	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	3	.088	37	.088										
115	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	4	.088	38	.088										
116	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	5	.088	39	.088										
117	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	6	.088	40	.088										
118	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	7	.088	41	.088										
119	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	8	.088	42	.088										
120	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	9	.088	43	.088										
121	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	10	.088	44	.088										
122	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	11	.088	45	.088										
123	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	12	.088	46	.088										
124	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	13	.088	47	.088										

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
125	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	14	.088	48	.088										
126	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	15	.088	49	.088										
127	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	16	.088	50	.088										
128	1.2D + 1.5LM-4 + Maintenanc...	Yes	Y		1	1.2	35	1.2	87	1.5	17	.088	51	.088										
129	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	2	.088	36	.088										
130	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	3	.088	37	.088										
131	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	4	.088	38	.088										
132	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	5	.088	39	.088										
133	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	6	.088	40	.088										
134	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	7	.088	41	.088										
135	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	8	.088	42	.088										
136	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	9	.088	43	.088										
137	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	10	.088	44	.088										
138	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	11	.088	45	.088										
139	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	12	.088	46	.088										
140	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	13	.088	47	.088										
141	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	14	.088	48	.088										
142	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	15	.088	49	.088										
143	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	16	.088	50	.088										
144	1.2D + 1.5LM-5 + Maintenanc...	Yes	Y		1	1.2	35	1.2	88	1.5	17	.088	51	.088										
145	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	2	.088	36	.088										
146	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	3	.088	37	.088										
147	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	4	.088	38	.088										
148	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	5	.088	39	.088										
149	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	6	.088	40	.088										
150	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	7	.088	41	.088										
151	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	8	.088	42	.088										
152	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	9	.088	43	.088										
153	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	10	.088	44	.088										
154	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	11	.088	45	.088										
155	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	12	.088	46	.088										
156	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	13	.088	47	.088										
157	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	14	.088	48	.088										
158	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	15	.088	49	.088										
159	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	16	.088	50	.088										
160	1.2D + 1.5LM-6 + Maintenanc...	Yes	Y		1	1.2	35	1.2	89	1.5	17	.088	51	.088										
161	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	2	.088	36	.088										
162	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	3	.088	37	.088										
163	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	4	.088	38	.088										
164	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	5	.088	39	.088										
165	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	6	.088	40	.088										
166	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	7	.088	41	.088										
167	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	8	.088	42	.088										
168	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	9	.088	43	.088										
169	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	10	.088	44	.088										
170	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	11	.088	45	.088										
171	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	12	.088	46	.088										
172	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	13	.088	47	.088										
173	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	14	.088	48	.088										
174	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	15	.088	49	.088										
175	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	16	.088	50	.088										
176	1.2D + 1.5LM-7 + Maintenanc...	Yes	Y		1	1.2	35	1.2	90	1.5	17	.088	51	.088										
177	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	2	.088	36	.088										
178	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	3	.088	37	.088										
179	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	4	.088	38	.088										
180	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	5	.088	39	.088										
181	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	6	.088	40	.088										

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
182	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	7	.088	41	.088										
183	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	8	.088	42	.088										
184	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	9	.088	43	.088										
185	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	10	.088	44	.088										
186	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	11	.088	45	.088										
187	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	12	.088	46	.088										
188	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	13	.088	47	.088										
189	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	14	.088	48	.088										
190	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	15	.088	49	.088										
191	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	16	.088	50	.088										
192	1.2D + 1.5LM-8 + Maintenanc...	Yes	Y		1	1.2	35	1.2	91	1.5	17	.088	51	.088										
193	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	2	.088	36	.088										
194	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	3	.088	37	.088										
195	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	4	.088	38	.088										
196	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	5	.088	39	.088										
197	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	6	.088	40	.088										
198	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	7	.088	41	.088										
199	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	8	.088	42	.088										
200	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	9	.088	43	.088										
201	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	10	.088	44	.088										
202	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	11	.088	45	.088										
203	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	12	.088	46	.088										
204	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	13	.088	47	.088										
205	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	14	.088	48	.088										
206	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	15	.088	49	.088										
207	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	16	.088	50	.088										
208	1.2D + 1.5LM-9 + Maintenanc...	Yes	Y		1	1.2	35	1.2	92	1.5	17	.088	51	.088										
209	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	2	.088	36	.088										
210	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	3	.088	37	.088										
211	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	4	.088	38	.088										
212	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	5	.088	39	.088										
213	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	6	.088	40	.088										
214	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	7	.088	41	.088										
215	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	8	.088	42	.088										
216	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	9	.088	43	.088										
217	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	10	.088	44	.088										
218	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	11	.088	45	.088										
219	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	12	.088	46	.088										
220	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	13	.088	47	.088										
221	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	14	.088	48	.088										
222	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	15	.088	49	.088										
223	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	16	.088	50	.088										
224	1.2D + 1.5LM-10 + Maintenan...	Yes	Y		1	1.2	35	1.2	93	1.5	17	.088	51	.088										
225	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	2	.088	36	.088										
226	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	3	.088	37	.088										
227	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	4	.088	38	.088										
228	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	5	.088	39	.088										
229	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	6	.088	40	.088										
230	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	7	.088	41	.088										
231	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	8	.088	42	.088										
232	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	9	.088	43	.088										
233	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	10	.088	44	.088										
234	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	11	.088	45	.088										
235	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	12	.088	46	.088										
236	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	13	.088	47	.088										
237	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	14	.088	48	.088										
238	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	15	.088	49	.088										

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
239	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	16	.088	50	.088										
240	1.2D + 1.5LM-11 + Maintenan...	Yes	Y		1	1.2	35	1.2	94	1.5	17	.088	51	.088										
241	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	2	.088	36	.088										
242	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	3	.088	37	.088										
243	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	4	.088	38	.088										
244	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	5	.088	39	.088										
245	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	6	.088	40	.088										
246	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	7	.088	41	.088										
247	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	8	.088	42	.088										
248	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	9	.088	43	.088										
249	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	10	.088	44	.088										
250	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	11	.088	45	.088										
251	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	12	.088	46	.088										
252	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	13	.088	47	.088										
253	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	14	.088	48	.088										
254	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	15	.088	49	.088										
255	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	16	.088	50	.088										
256	1.2D + 1.5LM-12 + Maintenan...	Yes	Y		1	1.2	35	1.2	95	1.5	17	.088	51	.088										
257	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	2	.088	36	.088										
258	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	3	.088	37	.088										
259	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	4	.088	38	.088										
260	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	5	.088	39	.088										
261	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	6	.088	40	.088										
262	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	7	.088	41	.088										
263	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	8	.088	42	.088										
264	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	9	.088	43	.088										
265	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	10	.088	44	.088										
266	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	11	.088	45	.088										
267	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	12	.088	46	.088										
268	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	13	.088	47	.088										
269	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	14	.088	48	.088										
270	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	15	.088	49	.088										
271	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	16	.088	50	.088										
272	1.2D + 1.5LM-13 + Maintenan...	Yes	Y		1	1.2	35	1.2	96	1.5	17	.088	51	.088										
273	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	2	.088	36	.088										
274	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	3	.088	37	.088										
275	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	4	.088	38	.088										
276	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	5	.088	39	.088										
277	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	6	.088	40	.088										
278	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	7	.088	41	.088										
279	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	8	.088	42	.088										
280	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	9	.088	43	.088										
281	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	10	.088	44	.088										
282	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	11	.088	45	.088										
283	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	12	.088	46	.088										
284	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	13	.088	47	.088										
285	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	14	.088	48	.088										
286	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	15	.088	49	.088										
287	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	16	.088	50	.088										
288	1.2D + 1.5LM-14 + Maintenan...	Yes	Y		1	1.2	35	1.2	97	1.5	17	.088	51	.088										
289	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	2	.088	36	.088										
290	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	3	.088	37	.088										
291	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	4	.088	38	.088										
292	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	5	.088	39	.088										
293	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	6	.088	40	.088										
294	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	7	.088	41	.088										
295	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	8	.088	42	.088										

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
296	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	9	.088	43	.088										
297	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	10	.088	44	.088										
298	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	11	.088	45	.088										
299	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	12	.088	46	.088										
300	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	13	.088	47	.088										
301	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	14	.088	48	.088										
302	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	15	.088	49	.088										
303	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	16	.088	50	.088										
304	1.2D + 1.5LM-15 + Maintenan...	Yes	Y		1	1.2	35	1.2	98	1.5	17	.088	51	.088										

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	N13	max	1285.394	30	1138.836	41	1803.591	17	0	304	0	304	0	304
2		min	-1224.033	6	319.071	17	-2732.067	25	0	1	0	1	0	1
3	N28	max	930.101	64	1108.538	49	1548.353	34	0	304	0	304	0	304
4		min	-1002.603	85	317.134	10	-36.755	10	0	1	0	1	0	1
5	N42	max	323.637	24	36.875	46	1062.397	21	0	304	0	304	0	304
6		min	-302.339	32	8.691	5	-1066.959	30	0	1	0	1	0	1
7	Totals:	max	1340.308	30	2272.751	49	1940.447	18						
8		min	-1340.308	6	669.066	2	-1896.002	10						

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

	Member	Shape	Code Che...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-...	phi*Mn z-...	Cb	Eqn
1	TH	PIPE_2.5	.343	2.063	33	.123	1.969		32	26137.193	50715	3596.25	3596.25	1....	H1-1b
2	BH	PIPE_2.5	.139	4.5	25	.067	1.969		24	26137.193	50715	3596.25	3596.25	1....	H1-1b
3	PL5	PL5/8"x7.5"	.247	0	45	.021	0	y	30	145857.0...	151875	1977.539	23730.47	1....	H1-1b
4	PL6	PL5/8"x7.5"	.246	0	36	.017	0	y	85	145857.0...	151875	1977.539	23730.47	1....	H1-1b
5	PL2	PL5/8"x3.5"	.348	.625	42	.401	0	y	40	64718.403	70875	922.852	5167.97	1....	H1-1b
6	PL1	PL5/8"x3.5"	.349	0	41	.374	0	y	42	64718.403	70875	922.852	5167.97	1....	H1-1b
7	PL4	PL5/8"x3.5"	.325	.625	35	.398	0	y	36	64718.403	70875	922.852	5167.97	1....	H1-1b
8	PL3	PL5/8"x3.5"	.311	0	49	.382	0	y	48	64718.403	70875	922.852	5167.97	1....	H1-1b
9	SA4	PIPE_2.0	.278	2.336	86	.111	.242		95	29670.214	32130	1871.625	1871.625	2....	H1-1b
10	SA1	PIPE_2.0	.301	0	17	.102	.242		64	29670.214	32130	1871.625	1871.625	1....	H1-1b
11	SA3	PIPE_2.0	.277	2.336	64	.101	.242		64	29670.214	32130	1871.625	1871.625	1....	H1-1b
12	M2	PL5/8"x3.5"	.270	.417	89	.187	0	y	93	68062.221	70875	922.852	5167.97	1....	H1-1b
13	M4	PL5/8"x3.5"	.267	.417	96	.187	0	y	91	68062.221	70875	922.852	5167.97	1....	H1-1b
14	M1	PL5/8"x3.5"	.250	.417	64	.181	0	y	64	68062.221	70875	922.852	5167.97	1....	H1-1b
15	M3	PL5/8"x3.5"	.248	.417	64	.181	0	y	64	68062.221	70875	922.852	5167.97	1....	H1-1b
16	V4	5/8" SR	.056	0	24	.015	0		89	2503.582	9940.19	103.542	103.542	2....	H1-1b
17	V3	5/8" SR	.079	3.333	35	.010	3.333		31	2503.582	9940.19	103.542	103.542	2....	H1-1b
18	V1	5/8" SR	.043	3.333	37	.013	0		64	2503.582	9940.19	103.542	103.542	2....	H1-1b
19	V2	5/8" SR	.084	0	41	.017	0		24	2503.582	9940.19	103.542	103.542	2....	H1-1b
20	D3	3/4" SR	.360	0	88	.011	0		90	3739.506	14313.866	178.929	178.929	2....	H1-1a
21	D4	3/4" SR	.094	3.927	34	.011	3.927		85	3739.506	14313.866	178.929	178.929	2.1	H1-1b
22	D1	3/4" SR	.082	3.927	35	.014	0		24	3739.506	14313.866	178.929	178.929	1....	H1-1b
23	D2	3/4" SR	.349	0	64	.012	0		96	3739.506	14313.866	178.929	178.929	1....	H1-1a
24	MP3	PIPE_2.0	.325	5.667	26	.062	5.583		18	14916.096	32130	1871.625	1871.625	4....	H1-1b
25	MP2	PIPE_2.0	.232	5.583	18	.036	5.583		25	14916.096	32130	1871.625	1871.625	4....	H1-1b
26	MP1	PIPE_2.0	.204	2.333	64	.107	2.333		16	14916.096	32130	1871.625	1871.625	4....	H1-1b
27	SA2	PIPE_2.0	.277	2.336	89	.112	.242		87	29670.214	32130	1871.625	1871.625	2....	H1-1b
28	TB	PIPE_2.0	.053	2.966	21	.004	5.932		45	21071.405	32130	1871.625	1871.625	1....	H1-1b
29	MP5	PIPE_2.0	.074	.333	64	.039	.333		64	26522.441	32130	1871.625	1871.625	2....	H1-1b
30	MP4	PIPE_2.0	.070	3.666	93	.042	.333		25	26522.441	32130	1871.625	1871.625	2....	H1-1b

RAMAKER & ASSOCIATES, INC.
100% EMPLOYEE-OWNED

Job	Saltonstall Place (CT52XC125)
Project	37621
By	TJS
Date	11/18/19

Wind Load on Antennas TIA-222-G

$q_z = 0.00256\ K_z\ K_{zt}\ K_d\ V^2\ I$

$F = q_z\ G_h\ C_a\ A_a$

Occupancy :	II		Classification of Structures (Table 2-1)
Exposure :	C		Exposure Category
V :	101	mph	Basic Wind Speed (Annex B)
z :	85	ft	Height above ground level to the center of the antenna
I :	1.00		Importance Factor (Table 2-3)
K_z :	1.22		Velocity Pressure Coefficient (2.6.5.2)
K_{zt} :	1.00		Topographic Factor (2.6.6.4)
K_d :	0.95		Wind Direction Probability Factor (Table 2-2)
q_z :	30.3	psf	Velocity Pressure at Height z
G_h :	1.00		Strength Design of Appurtenances and their Connections

Mount & Antenna Wind Loads

Appurtenance	Height	Width	h/D	Shape	C_a	A_a	Force	Force
	in	*in*				*sq ft*	*lb*	*plf*
AAHC	25.6	19.7	1.3	Flat	1.200	3.51	127.8	
NNVV-65B-R4	72.0	19.6	3.7	Flat	1.252	9.80	372.3	
VHLP2	26.1	0.0	1.0	Generic	1.262	3.72	142.3	
1900MHz 4x45W RRH	25.1	11.1	2.3	Flat	1.200	1.93	70.4	
800MHz 2x50W RRH	19.0	13.0	1.5	Flat	1.200	1.72	62.5	
Pipe2-1/2STD x 9 ft	108.0	2.9	37.6	Round	1.200	2.16	78.5	8.7
Pipe2STD x 8 ft	96.0	2.4	40.4	Round	1.200	1.58	57.7	7.2
Pipe2STD x 2.58 ft	31.0	2.4	13.0	Round	0.934	0.51	14.5	5.6
Pipe2STD x 5.932 ft	71.2	2.4	30.0	Round	1.200	1.17	42.7	7.2
SR 3/4 x 3.9 ft	46.8	0.8	62.4	Round	1.200	0.24	8.9	2.3
SR 5/8 x 3.33 ft	40.0	0.6	63.9	Round	1.200	0.17	6.3	1.9
Pipe2STD x 4 ft	48.0	2.4	20.2	Round	1.094	0.79	26.3	6.6
Pipe2STD x 4 ft	48.0	2.4	20.2	Round	1.094	0.79	26.3	6.6

RAMAKER & ASSOCIATES, INC.
100% EMPLOYEE-OWNED

Job	Saltonstall Place (CT52XC125)
Project	37621
By	TJS
Date	11/18/19

Wind Load on Antennas TIA-222-G

$q_z = 0.00256\ K_z\ K_{zt}\ K_d\ V^2\ I$

$F = q_z\ G_h\ C_a\ A_a$

Occupancy :	II		Classification of Structures (Table 2-1)
Exposure :	C		Exposure Category
V :	101	mph	Basic Wind Speed (Annex B)
z :	85	ft	Height above ground level to the center of the antenna
I :	1.00		Importance Factor (Table 2-3)
K_z :	1.22		Velocity Pressure Coefficient (2.6.5.2)
K_{zt} :	1.00		Topographic Factor (2.6.6.4)
K_d :	0.95		Wind Direction Probability Factor (Table 2-2)
q_z :	30.3	psf	Velocity Pressure at Height z
G_h :	1.00		Strength Design of Appurtenances and their Connections

Mount & Antenna Wind Loads

Appurtenance	Height	Depth	h/D	Shape	C_a	A_a	Force	Force
	in	*in*				*sq ft*	*lb*	*plf*
AAHC	25.6	9.7	2.7	Flat	1.207	1.72	62.9	
NNVV-65B-R4	72.0	7.8	9.2	Flat	1.474	3.90	174.5	
VHLP2	26.1	0.0	1.0	Generic	0.625	3.72	70.5	
1900MHz 4x45W RRH	25.1	10.7	2.3	Flat	1.200	1.86	67.8	
800MHz 2x50W RRH	19.0	12.2	1.6	Flat	1.200	1.61	58.6	
Pipe2-1/2STD x 9 ft	108.0	2.9	37.6	Round	1.200	2.16	78.5	8.7
Pipe2STD x 8 ft	96.0	2.4	40.4	Round	1.200	1.58	57.7	7.2
Pipe2STD x 2.58 ft	31.0	2.4	13.0	Round	0.934	0.51	14.5	5.6
Pipe2STD x 5.932 ft	71.2	2.4	30.0	Round	1.200	1.17	42.7	7.2
SR 3/4 x 3.9 ft	46.8	0.8	62.4	Round	1.200	0.24	8.9	2.3
SR 5/8 x 3.33 ft	40.0	0.6	63.9	Round	1.200	0.17	6.3	1.9
Pipe2STD x 4 ft	48.0	2.4	20.2	Round	1.094	0.79	26.3	6.6
Pipe2STD x 4 ft	48.0	2.4	20.2	Round	1.094	0.79	26.3	6.6

RAMAKER & ASSOCIATES, INC.
100% EMPLOYEE-OWNED

Job	Saltonstall Place (CT52XC125)
Project	37621
By	TJS
Date	11/18/19

Ice Wind Load on Antennas TIA-222-G

$q_z = 0.00256\ K_z\ K_{zt}\ K_d\ V^2\ I$

$F = q_z\ G_h\ C_a\ A_a$

Occupancy :	II		Classification of Structures (Table 2-1)
Exposure :	C		Exposure Category
V_i :	50	mph	Basic Wind Speed (Annex B)
z :	85	ft	Height above ground level to the center of the antenna
I :	1.00		Importance Factor (Table 2-3)
K_z :	1.22		Velocity Pressure Coefficient (2.6.5.2)
K_{zt} :	1.00		Topographic Factor (2.6.6.4)
K_d :	0.95		Wind Direction Probability Factor (Table 2-2)
q_z :	7.44	psf	Velocity Pressure at Height z
G_h :	1.00		Strength Design of Appurtenances and their Connections
t_{iz} :	1.65	in	Design Thickness of Radial Ice at Height z (2.6.8)

Mount & Antenna Ice Wind Loads

Appurtenance	Height	Width	h/D	Shape	C_a	A_a	Force	Force
	in	*in*				*sq ft*	*lb*	*plf*
AAHC	28.9	23.0	1.3	Flat	1.200	4.62	41.3	
NNVV-65B-R4	75.3	22.9	3.3	Flat	1.235	11.97	110.0	
VHLP2	29.4	3.3	1.0	Generic	1.262	4.71	44.2	
1900MHz 4x45W RRH	28.4	14.4	2.0	Flat	1.200	2.84	25.3	
800MHz 2x50W RRH	22.3	16.3	1.4	Flat	1.200	2.52	22.5	
Pipe2-1/2STD x 9 ft	111.3	6.2	18.0	Round	1.045	4.77	37.1	4.0
Pipe2STD x 8 ft	99.3	5.7	17.5	Round	1.033	3.91	30.1	3.6
Pipe2STD x 2.58 ft	34.3	5.7	6.0	Round	0.779	1.35	7.8	2.7
Pipe2STD x 5.932 ft	74.5	5.7	13.1	Round	0.936	2.93	20.4	3.3
SR 3/4 x 3.9 ft	50.1	4.0	12.4	Round	0.919	1.41	9.6	2.3
SR 5/8 x 3.33 ft	43.3	3.9	11.0	Round	0.890	1.18	7.8	2.2
Pipe2STD x 4 ft	51.3	5.7	9.0	Round	0.845	2.02	12.7	3.0
Pipe2STD x 4 ft	51.3	5.7	9.0	Round	0.845	2.02	12.7	3.0

RAMAKER & ASSOCIATES, INC.
100% EMPLOYEE-OWNED

Job	Saltonstall Place (CT52XC125)
Project	37621
By	TJS
Date	11/18/19

Ice Wind Load on Antennas TIA-222-G

$q_z = 0.00256\ K_z\ K_{zt}\ K_d\ V^2\ I$

$F = q_z\ G_h\ C_a\ A_a$

Occupancy :	II		Classification of Structures (Table 2-1)
Exposure :	C		Exposure Category
V_i :	50	mph	Basic Wind Speed (Annex B)
z :	85	ft	Height above ground level to the center of the antenna
I :	1.00		Importance Factor (Table 2-3)
K_z :	1.22		Velocity Pressure Coefficient (2.6.5.2)
K_{zt} :	1.00		Topographic Factor (2.6.6.4)
K_d :	0.95		Wind Direction Probability Factor (Table 2-2)
q_z :	7.44	psf	Velocity Pressure at Height z
G_h :	1.00		Strength Design of Appurtenances and their Connections
t_{iz} :	1.65	in	Design Thickness of Radial Ice at Height z (2.6.8)

Mount & Antenna Ice Wind Loads

Appurtenance	Height	Depth	h/D	Shape	C_a	A_a	Force	Force
	in	*in*				*sq ft*	*lb*	*plf*
AAHC	28.9	12.9	2.2	Flat	1.200	2.60	23.2	
NNVV-65B-R4	75.3	11.1	6.8	Flat	1.390	5.80	60.0	
VHLP2	29.4	3.3	1.0	Generic	0.625	4.71	21.9	
1900MHz 4x45W RRH	28.4	14.0	2.0	Flat	1.200	2.76	24.6	
800MHz 2x50W RRH	22.3	15.5	1.4	Flat	1.200	2.40	21.4	
Pipe2-1/2STD x 9 ft	111.3	6.2	18.0	Round	1.045	4.77	37.1	4.0
Pipe2STD x 8 ft	99.3	5.7	17.5	Round	1.033	3.91	30.1	3.6
Pipe2STD x 2.58 ft	34.3	5.7	6.0	Round	0.779	1.35	7.8	2.7
Pipe2STD x 5.932 ft	74.5	5.7	13.1	Round	0.936	2.93	20.4	3.3
SR 3/4 x 3.9 ft	50.1	4.0	12.4	Round	0.919	1.41	9.6	2.3
SR 5/8 x 3.33 ft	43.3	3.9	11.0	Round	0.890	1.18	7.8	2.2
Pipe2STD x 4 ft	51.3	5.7	9.0	Round	0.845	2.02	12.7	3.0
Pipe2STD x 4 ft	51.3	5.7	9.0	Round	0.845	2.02	12.7	3.0

RAMAKER & ASSOCIATES, INC.
100% EMPLOYEE-OWNED

Job	Saltonstall Place (CT52XC125)
Project	37621
By	TJS
Date	11/18/19

Ice Load on Antennas TIA-222-G

Ice Weight :	56	pcf	Ice Density
t_i :	0.75		Design Ice Thickness
Occupancy :	II		Classification of Structures (Table 2-1)
Exposure :	C		Exposure Category
V_i :	50	mph	Basic Wind Speed (Annex B)
z :	85	ft	Height above ground level to the center of the antenna
I :	1.00		Importance Factor (Table 2-3)
K_{iz} :	1.10		Height Escalation Factor for Ice Thickness
K_{zt} :	1.00		Topographic Factor (2.6.6.4)
t_{iz} :	1.65	in	Design Thickness of Radial Ice at Height z (2.6.8)

Platform Grating :	None	
Ice Load :		psf

Mount & Antenna Ice Wind Loads

Appurtenance	Height	Width	Depth	Diam.	Area	Perim.	Ice Weight	
	in	*in*	*in*	*in*	*sq in*	*in*	*lb*	*plf*
AAHC	28.9	23.0	12.9	21.95	122.27	65.34	101.6	
NNVV-65B-R4	75.3	22.9	11.1	21.10	117.81	61.40	274.9	
VHLP2	-	-	-	-	-	-	116.0	
1900MHz 4x45W RRH	28.4	14.4	14.0	15.41	88.37	50.18	71.9	
800MHz 2x50W RRH	22.3	16.3	15.5	17.83	100.89	57.00	62.1	
Pipe2-1/2STD x 9 ft	111.3	6.2	6.2	2.88	23.43	14.21	82.0	9.1
Pipe2STD x 8 ft	99.3	5.7	5.7	2.38	20.84	12.64	64.8	8.1
Pipe2STD x 2.58 ft	34.3	5.7	5.7	2.38	20.84	12.64	20.9	8.1
Pipe2STD x 5.932 ft	74.5	5.7	5.7	2.38	20.84	12.64	48.1	8.1
SR 3/4 x 3.9 ft	50.1	4.0	4.0	0.75	12.43	7.54	18.8	4.8
SR 5/8 x 3.33 ft	43.3	3.9	3.9	0.63	11.78	7.14	15.3	4.6
Pipe2STD x 4 ft	51.3	5.7	5.7	2.38	20.84	12.64	32.4	8.1
Pipe2STD x 4 ft	51.3	5.7	5.7	2.38	20.84	12.64	32.4	8.1

jshappy@transcendwireless.com

From: Giovanna Berardesca <gberardesca.pandz@gmail.com>
Sent: Wednesday, December 4, 2019 2:23 PM
To: jshappy@transcendwireless.com
Subject: Re: Bldg Dept 45 Saltonstall Place CT52XC125

Hi Jake,

Jim and I checked the file, and we don't have any documentation other than what we provided.

Sincerely,

Giovanna Berardesca

Administrative Assistant
Town of East Haven
Planning and Zoning Department

On Fri, Nov 15, 2019 at 9:47 AM <jshappy@transcendwireless.com> wrote:

> Giovanna,
>
> I sent in the Tower Share approval you provided me to the CSC and they told me they wanted the original CSC approval for the tower itself for this location or confirmation from East Haven that they don't have it on file, are you able to assist with this?
>
> Jake Shappy
>
> 10 Industrial Ave, Suite 3
>
> Mahwah, NJ 07430
>
> Cell: 845-553-3330
>
> jshappy@transcendwireless.com
>
> **From:** Giovanna Berardesca <gberardesca.pandz@gmail.com>
> **Sent:** Thursday, November 7, 2019 9:03 AM
> **To:** jshappy@transcendwireless.com
> **Subject:** Re: Bldg Dept 45 Saltonstall Place

You're welcome.

Giovanna Berardesca

Administrative Assistant

Town of East Haven

Planning and Zoning Department

On Thu, Nov 7, 2019 at 9:01 AM <jshappy@transcendwireless.com> wrote:

> Thank you very much!
>
> Jake Shappy
>
> 10 Industrial Ave, Suite 3
>
> Mahwah, NJ 07430
>
> Cell: 845-553-3330
>
> jshappy@transcendwireless.com
>
> **From:** Giovanna Berardesca <gberardesca.pandz@gmail.com>
> **Sent:** Thursday, November 7, 2019 8:59 AM
> **To:** jshappy@transcendwireless.com
> **Subject:** Bldg Dept 45 Saltonstall Place
>
> Hi,
>
> Jim from Building asked me to send this to you.
>
> *Giovanna Berardesca*
>
> Administrative Assistant

Town of East Haven

Planning and Zoning Department