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

November 22, 2019

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103

RE: **EM-VER-118-191115** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 76 East Ridge Road, Ridgefield, Connecticut.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) is in receipt of your correspondence of November 21, 2019 submitted in response to the Council's November 19, 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: Nwankwo, Ifeanyi
Sent: Thursday, November 21, 2019 11:29 AM
To: Cunliffe, Fred
Cc: Fontaine, Lisa; Robidoux, Evan
Subject: FW: EM-VER-118-191115 - 76 East Ridge Road, Ridgefield, CT - Additional Information
Attachments: Ridgefield_001.pdf

Hi Fred
The incomplete request for this EM was for Verizon to provide the MA referenced in the CD.
The attached response appears to satisfy the incomplete request pending receipt of hard copies.

Please advise for acknowledgment pending the receipt of hard copies.
Thanks.

Best Regards
Ifeanyichukwu Nwankwo
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051
P: 860.827.2941 | F: 860.827.2950 | E: Ifeanyi.Nwankwo@ct.gov

www.ct.gov/csc

Conserving, improving and protecting our natural resources and environment;
Ensuring a clean, affordable, reliable, and sustainable energy supply.

From: Robidoux, Evan
Sent: Thursday, November 21, 2019 11:22 AM
To: Nwankwo, Ifeanyi; Cunliffe, Fred
Cc: Fontaine, Lisa
Subject: FW: EM-VER-118-191115 - 76 East Ridge Road, Ridgefield, CT - Additional Information

Please review for completion. Thanks!

Sincerely,

Evan Robidoux

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

From: Dandeneau, Kathleen [mailto:KDANDENEAU@RC.com]
Sent: Thursday, November 21, 2019 11:02 AM
To: Bachman, Melanie <Melanie.Bachman@ct.gov>; CSC-DL Siting Council <Siting.Council@ct.gov>
Cc: Baldwin, Kenneth <KBALDWIN@RC.com>; Mayo, Rachel <rmayo@RC.com>
Subject: EM-VER-118-191115 - 76 East Ridge Road, Ridgefield, CT - Additional Information

The original is being hand delivered to the Siting Council.

Kathleen M. Dandeneau
Legal Administrative Assistant

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Also admitted in Massachusetts

November 21, 2019

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **EM-VER-118-191115 – Cellco Partnership d/b/a Verizon Wireless Notice of Intent to Modify an Existing Telecommunications Facility Located at 76 East Ridge Road, Ridgefield Connecticut**

Dear Attorney Bachman:

In response to your November 19, 2019 letter regarding the above-referenced notice of exempt modification filing, attached is a copy of the Mount Analysis referenced on the Infinigy construction drawings.

If you have any questions or need any additional information please do not hesitate to contact me.

Sincerely,

Kenneth C. Baldwin

KCB/kmd
Enclosure

INFINIGY
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1033 WATERVLIET SHAKER RD, ALBANY, NY 12205

Mount Analysis Report

September 23, 2019

Verizon Site Name	RIDGEFIELD CT
Verizon Site Number	468697
Client	Verizon
Carrier	Verizon
Infinigy Job Number	1126-D0001-B
Site Location	76 East Ridge Ave. Ridgefield, CT 6877 41.280917 N NAD83 73.492889 W NAD83
Mount Type	Platform
Mount Centerline E.L.	128.0 ft
Mount Usage	**66.6%**
Overall Result	**Contingent Pass**
Note	**Install SitePro1 PRK-1245L and attach 36" below current mount collar. Add a 2.375" O.D. 8ft long per sector for Samsung XXDWMM-12.5-65-8T-CBRS antennas.**

Upon reviewing the results of this analysis, it is our opinion that the proposed mount meets the specified TIA code requirements. The proposed mounts and connections for the proposed carrier are therefore deemed adequate to support the final loading configuration as listed in this report.

David Schwenker
Project Engineer I

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Introduction

Infinigy Engineering has been requested to perform a mount analysis on the existing Verizon mounts. All supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The mount was analyzed using RISA-3D Version 17.0.2 analysis software.

Supporting Documentation

RFDS	Verizon RFDS ID #106361, dated September 5, 2019
Previous Analysis	Infinigy Engineering Job #1080-Z0001-B, dated March 21, 2019
Mapping Report	Infinigy Mapping ETS# 184924, dated November 28, 2018

Analysis Code Requirements

Wind Speed	93 mph (3-Second Gust, V_{ASD}) / 120 mph (3-Second Gust, V_{ULT})
Wind Speed w/ ice	50 mph (3-Second Gust, V_{ASD}) w/ 0.75" ice
TIA Revision	ANSI/TIA-222-G
Adopted IBC	2015 IBC/ 2018 Connecticut Building Code
Structure Class	II
Exposure Category	B
Topographic Category	1
Calculated Crest Height	0 ft.

Conclusion

Upon reviewing the results of this analysis, it is our opinion that the proposed mount meets the specified TIA code requirements. The proposed mounts and connections for the proposed carrier are therefore deemed adequate to support the final loading configuration as listed in this report.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

David Schwenker
Project Engineer I | **INFINIGY**
1490 W 121st Ave, Suite 101, Westminster, CO 80234
(O) (303) 219-1178
dschwenker@infinigy.com | www.infinigy.com

Final Configuration Loading

Mount CL (ft)	Rad. HT (ft)	Horiz. O/S (ft) [1]	Qty	Appurtenance [2]	Carrier
128.0	128.0	0.0	2	Commscope SBNHH-1D65B	Verizon
		3.0	4	Commscope SBNHH-1D85B	
		7.0	3	Antel BXA-80080/4CF FP	
		11.0	3	Amphenol QUAD 656 C0000X	
		3.0	3	Samsung RRH-BR049 B2/66A	
		5.5	3	Samsung RRH-BR04C B5/B13	
		8.0	3	Commscope CBC78T-DS-43-2X	
		13.3	3	Samsung XXDWMM-12.5-65-8T-CBRS	
		13.3	3	Samsung CBRS RRH-RT4401-48A	

(1) Horizontal Offset is defined as the distance from the left most edge of the mount face horizontal when viewed facing the tower.
(2) Radios are mounted behind antennas at respective locations see appended documents for vertical locations.

Structure Usages

Mount Pipe	34.6%	Pass
Standoff	33.9%	Pass
Horizontal	39.5%	Pass
Hand Rail	66.6%	Pass
Corner Plates	34.4%	Pass
RATING =	**66.6%**	**Pass**

Mount Connection Reactions

Reaction Data	Design Reactions	Analysis Reactions	Result
Tension (kips)	12.154	4.639	38.2%
Shear (kips)	7.246	3.933	54.3%
Unity Check	--	--	44.0%

***Assumed (2) 5/8" A307 Bolts. Contractor to field to verify anchor diameters prior to proper installation.**

- Mount Connection reactions are acceptable per code calculate capacity.

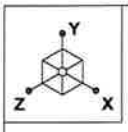
Assumptions and Limitations

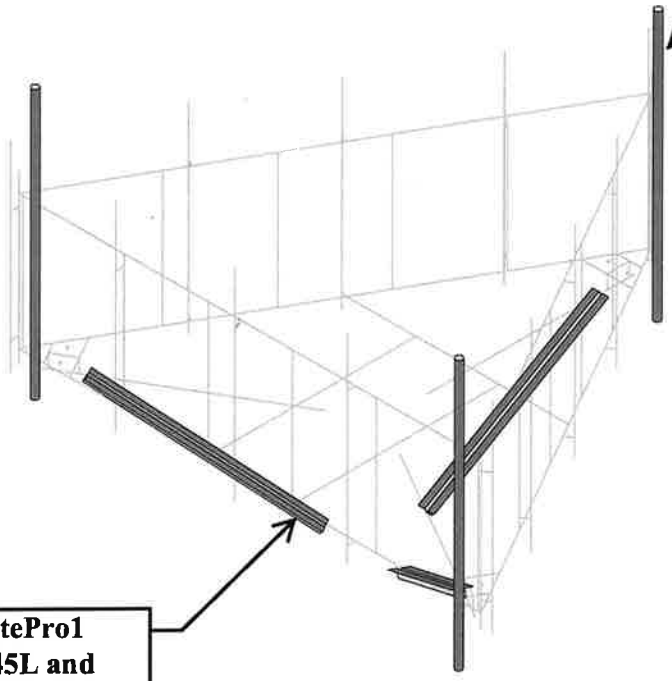
Our structural calculations are completed assuming all information provided to Infinigy Engineering is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition of "like new" and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure's condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report Infinigy Engineering should be notified immediately to complete a revised evaluation.

Our evaluation is completed using standard TIA, AISC, ACI, and ASCE methods and procedures. Our structural results are proprietary and should not be used by others as their own. Infinigy Engineering is not responsible for decisions made by others that are or are not based on our supplied assumptions and conclusions.

This report is an evaluation of the proposed carriers mount structure only and does not reflect adequacy of the existing tower, other mounts, or coax mounting attachments. These elements are assumed to be adequate for the purposes of this analysis and are assumed to have been installed per their manufacturer requirements.

Infinigy Engineering	CT11103A Ridgefield	Existing Configuration
DWS		Sept 17, 2019 at 1:42 PM
1126-D0001-B		Proposed_Ridgefield.r3d

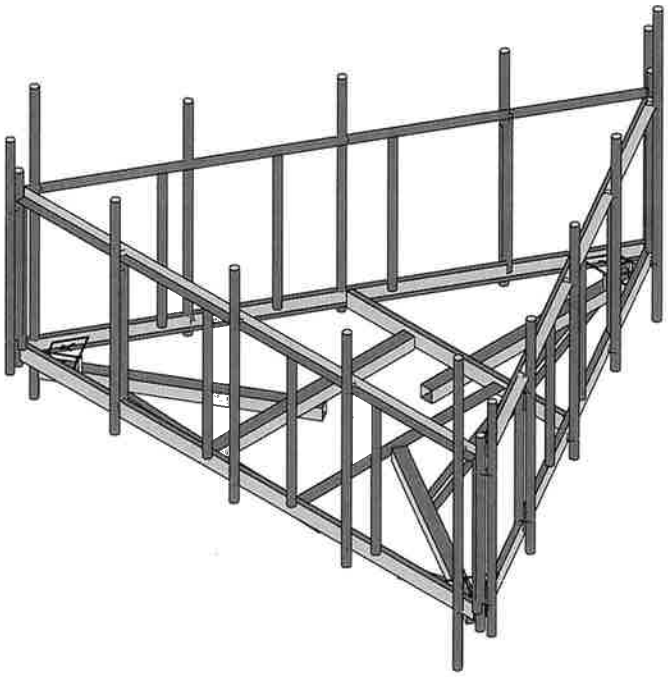




Add a 2.375" O.D. 8ft long per sector

Install SitePro1 PRK-1245L and attach 36" below current mount collar.

Infinigy Engineering	CT11103A Ridgefield	Modification
DWS		Sept 17, 2019 at 1:38 PM
1126-D0001-B		Proposed_Ridgefield.r3d



Infinigy Engineering	CT11103A Ridgefield	Proposed Configuration
DWS		Sept 17, 2019 at 1:31 PM
1126-D0001-B		Proposed_Ridgefield.r3d

Site Name:	Ridgefield CT
Client:	Verizon
Carrier:	Verizon
Engineer:	BDA
Date:	9/17/2019

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INFINIGY WIND LOAD CALCULATOR 3.0.2

Site Information Inputs:

Adopted Building Code:	2015 IBC
Structure Load Standard:	TIA-222-G
Antenna Load Standard:	TIA-222-G
Structure Risk Category:	II
Structure Type:	Mount - Platform
Number of Sectors:	3
Structure Shape 1:	Flat

Rooftop Inputs:

Rooftop Wind Speed-Up?:	No

Wind Loading Inputs:

Design Wind Velocity:	93	mph (nominal 3-second gust)
Wind Centerline 1 (z_1):	128.0	ft
Side Face Angle (θ):	60	degrees
Exposure Category:	B	
Topographic Category:	1	

Wind with No Ice		
q_z (psf)	Gh	F_{ST} (psf)
22.31	1.00	**44.61**

Wind with Ice		
q_z (psf)	Gh	F_{ST} (psf)
6.45	1.00	**17.19**

Ice Loading Inputs:

Is Ice Loading Needed?:	Yes	
Ice Wind Velocity:	50	mph (nominal 3-second gust)
Base Ice Thickness:	0.75	in

Input Appurtenance Information and Load Placements:

Appurtenance Name	Elevation (ft)	Total Quantity	Ka	Front Shape	Side Shape	q_z (psf)	EPA (ft^2)	Fz (lbs)	Fx (lbs)	Fz(60) (lbs)	Fx(30) (lbs)
Andrew SBNHH-1D65B	128.0	2	1.00	Flat	Flat	22.31	8.08	180.21	119.15	134.41	164.94
Andrew SBNHH-1D85B	128.0	4	1.00	Flat	Flat	22.31	8.20	182.91	120.98	136.46	167.43
Antel BXA-80080/4CF FP	128.0	3	1.00	Flat	Flat	22.31	4.80	107.05	63.39	74.30	96.13
Amphenol QUAD 656 C0000X	128.0	3	1.00	Flat	Flat	22.31	13.24	295.37	125.39	167.88	252.87
Samsung RRH-BR049 B2/66A	128.0	3	1.00	Flat	Flat	22.31	2.22	49.48	29.68	34.63	44.53
Samsung RRH-BR04C B5/B13	128.0	3	1.00	Flat	Flat	22.31	2.22	49.48	29.68	34.63	44.53
Commscope CBC78T-DS-43-2X	128.0	3	1.00	Flat	Flat	22.31	0.55	12.31	11.42	11.64	12.09
amsung XXDWMM-12.5-65-8T-CBR	128.0	3	1.00	Flat	Flat	22.31	1.53	34.21	16.65	21.04	29.82
Samsung CBRS RRH-RT4401-48A	128.0	3	1.00	Flat	Flat	22.31	0.86	19.12	9.38	11.81	16.68

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2		180	C5X6.7	Beam	Channel	A36 Gr.36	Typical
2	M2	N7	N2			C5X6.7	Beam	Channel	A36 Gr.36	Typical
3	M3	N1	N7			C5X6.7	Beam	Channel	A36 Gr.36	Typical
4	M4	N47	N46		180	C5X6.7	Beam	Channel	A36 Gr.36	Typical
5	M5	N45A	N49A		180	L4X4X4	Beam	Single Angle	A36 Gr.36	Typical
6	M6	N48A	N44A		180	L4X4X4	Beam	Single Angle	A36 Gr.36	Typical
7	M7	N50	N51			L3X3X4	Beam	Single Angle	A36 Gr.36	Typical
8	M8	N52	N51		270	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical
9	M9	N50	N52		270	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical
10	SP1	N59	N56A			P2.0	Beam	Pipe	A53 Gr.B	Typical
11	SP6	N60	N57A			P2.0	Beam	Pipe	A53 Gr.B	Typical
12	SP11	N61	N58			P2.0	Beam	Pipe	A53 Gr.B	Typical
13	SP2	N68	N66			P2.0	Beam	Pipe	A53 Gr.B	Typical
14	SP3	N60A	N45A			P2.0	Beam	Pipe	A53 Gr.B	Typical
15	M15	N59A	N44A			P2.0	Beam	Pipe	A53 Gr.B	Typical
16	M16	N63	N61A			P2.0	Beam	Pipe	A53 Gr.B	Typical
17	SP7	N73	N72			P2.0	Beam	Pipe	A53 Gr.B	Typical
18	SP8	N69	N67			P2.0	Beam	Pipe	A53 Gr.B	Typical
19	M19	N68A	N66A			P2.0	Beam	Pipe	A53 Gr.B	Typical
20	M20	N71	N70			P2.0	Beam	Pipe	A53 Gr.B	Typical
21	SP12	N82	N81			P2.0	Beam	Pipe	A53 Gr.B	Typical
22	SP13	N78	N76			P2.0	Beam	Pipe	A53 Gr.B	Typical
23	M23	N77	N75			P2.0	Beam	Pipe	A53 Gr.B	Typical
24	M24	N80	N79			P2.0	Beam	Pipe	A53 Gr.B	Typical
25	M25	N81A	N12			RIGID	None	None	RIGID	Typical
26	M26	N83	N82A			RIGID	None	None	RIGID	Typical
27	M27	N91	N87			RIGID	None	None	RIGID	Typical
28	M28	N89	N85			RIGID	None	None	RIGID	Typical
29	M29	N88	N84			RIGID	None	None	RIGID	Typical
30	M30	N90	N86			RIGID	None	None	RIGID	Typical
31	MP1	N96	N97			P2.0	Beam	Pipe	A53 Gr.B	Typical
32	MP2	N94	N95			P2.0	Beam	Pipe	A53 Gr.B	Typical
33	MP3	N92	N93			P2.0	Beam	Pipe	A53 Gr.B	Typical
34	M34	N75B	N74A			HSS4X4X4	Beam	Tube	A53 Gr.B	Typical
35	M35	N78A	N76A			RIGID	None	None	RIGID	Typical
36	M36	N79A	N77A			RIGID	None	None	RIGID	Typical
37	M37	N83A	N81B			RIGID	None	None	RIGID	Typical
38	M38	N84A	N82B			RIGID	None	None	RIGID	Typical
39	M39	N92A	N90A			RIGID	None	None	RIGID	Typical
40	M40	N93A	N91A			RIGID	None	None	RIGID	Typical
41	M41	N90B	N89B			HSS4X4X4	Beam	Tube	A53 Gr.B	Typical
42	M42	N93B	N92B			HSS4X4X4	Beam	Tube	A53 Gr.B	Typical
43	M45	N102	N98			RIGID	None	None	RIGID	Typical
44	M46	N100	N96A			RIGID	None	None	RIGID	Typical
45	M47	N99	N95A			RIGID	None	None	RIGID	Typical
46	M48	N101	N97A			RIGID	None	None	RIGID	Typical
47	MP6	N107	N108			P2.0	Beam	Pipe	A53 Gr.B	Typical
48	MP7	N105	N106			P2.0	Beam	Pipe	A53 Gr.B	Typical
49	M54	N121	N117			RIGID	None	None	RIGID	Typical
50	M55	N119	N115			RIGID	None	None	RIGID	Typical
51	M56	N118	N114			RIGID	None	None	RIGID	Typical
52	M57	N120	N116			RIGID	None	None	RIGID	Typical
53	MP11	N126	N127			P2.0	Beam	Pipe	A53 Gr.B	Typical
54	MP12	N124	N125			P2.0	Beam	Pipe	A53 Gr.B	Typical
55	M61	N138	N137			LL2.5x2.5x3x6	Beam	Double Angle (...	A36 Gr.36	Typical
56	M62	N141	N140			LL2.5x2.5x3x6	Beam	Double Angle (...	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
57	M63	N135	N134A			LL2.5x2.5x3x6	Beam	Double Angle (...	A36 Gr.36	Typical
58	M67	N147	N146			P2.0	Beam	Pipe	A53 Gr.B	Typical
59	M68	N150	N149			P2.0	Beam	Pipe	A53 Gr.B	Typical
60	M69	N153	N152			P2.0	Beam	Pipe	A53 Gr.B	Typical
61	M70	N153A	N152A			RIGID	None	None	RIGID	Typical
62	M71	N155	N154			RIGID	None	None	RIGID	Typical
63	MP4	N156	N157			P2.0	Beam	Pipe	A53 Gr.B	Typical
64	R76	N171A	N170A			RIGID	None	None	RIGID	Typical
65	R77	N173	N172			RIGID	None	None	RIGID	Typical
66	MP5	N174	N175			P2.0	Beam	Pipe	A53 Gr.B	Typical
67	R67	N154A	N152B			RIGID	None	None	RIGID	Typical
68	R68	N156A	N155A			RIGID	None	None	RIGID	Typical
69	MP8	N157A	N158			P2.0	Beam	Pipe	A53 Gr.B	Typical
70	R70	N160	N159			RIGID	None	None	RIGID	Typical
71	R71	N162	N161			RIGID	None	None	RIGID	Typical
72	MP9	N163	N164			P2.0	Beam	Pipe	A53 Gr.B	Typical
73	R73	N166	N165			RIGID	None	None	RIGID	Typical
74	R74	N168	N167			RIGID	None	None	RIGID	Typical
75	MP10	N169	N170			P2.0	Beam	Pipe	A53 Gr.B	Typical
76	R76A	N173A	N171			RIGID	None	None	RIGID	Typical
77	R77A	N175A	N174A			RIGID	None	None	RIGID	Typical
78	MP13	N176	N177			P2.0	Beam	Pipe	A53 Gr.B	Typical
79	R79	N179	N178			RIGID	None	None	RIGID	Typical
80	R80	N181	N180			RIGID	None	None	RIGID	Typical
81	MP14	N182	N183			P2.0	Beam	Pipe	A53 Gr.B	Typical
82	R82	N185	N184			RIGID	None	None	RIGID	Typical
83	R83	N187	N186			RIGID	None	None	RIGID	Typical
84	MP15	N188	N189			P2.0	Beam	Pipe	A53 Gr.B	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		36	120	0
3	Total General		36	120	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	C5X6.7	4	563.6	.315
7	A36 Gr.36	L3X3X4	3	486	.198
8	A36 Gr.36	L4X4X4	2	144	.079
9	A36 Gr.36	LL2.5x2.5x3x6	3	215.1	.11
10	A53 Gr.B	HSS4X4X4	3	222	.212
11	A53 Gr.B	PIPE 2.0	33	2052	.594
12	Total HR Steel		48	3682.6	1.508
13					
14	Plate Elements	Thickness (in)		Volume (yds^3)	
15	gen Steel	.5	6	0	.046
16	Total Plates		6	0	.046

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	Self Weight	DL		-1			42		4	
2	Wind Load AZI 000	WLZ					42		1	
3	Wind Load AZI 090	WLX					42		1	
4	Ice Weight	OL1					42	84	4	

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
5	Wind + Ice Load AZI 000	OL2					42		1	
6	Wind + Ice Load AZI 090	OL3					42		1	
7	Service Live 1	LL				3				
8	BLC 1 Transient Area Loads	None						39		
9	BLC 2 Transient Area Loads	None						71		
10	BLC 3 Transient Area Loads	None						81		
11	BLC 4 Transient Area Loads	None						39		
12	BLC 5 Transient Area Loads	None						71		
13	BLC 6 Transient Area Loads	None						81		

Load Combinations

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4D	Yes	Y		DL	1.4																				
2	1.2D + 1.6W AZI 000	Yes	Y		DL	1.2	W...	1.6																		
3	1.2D + 1.6W AZI 030	Yes	Y		DL	1.2	W...	1.3...	W...	.8																
4	1.2D + 1.6W AZI 060	Yes	Y		DL	1.2	W...	.8	W...	1.3...																
5	1.2D + 1.6W AZI 090	Yes	Y		DL	1.2			W...	1.6																
6	1.2D + 1.6W AZI 120	Yes	Y		DL	1.2	W...	-.8	W...	1.3...																
7	1.2D + 1.6W AZI 150	Yes	Y		DL	1.2	W...	-1....	W...	.8																
8	1.2D + 1.6W AZI 180	Yes	Y		DL	1.2	W...	-1.6																		
9	1.2D + 1.6W AZI 210	Yes	Y		DL	1.2	W...	-1....	W...	-.8																
10	1.2D + 1.6W AZI 240	Yes	Y		DL	1.2	W...	-.8	W...	-1....																
11	1.2D + 1.6W AZI 270	Yes	Y		DL	1.2			W...	-1.6																
12	1.2D + 1.6W AZI 300	Yes	Y		DL	1.2	W...	.8	W...	-1....																
13	1.2D + 1.6W AZI 330	Yes	Y		DL	1.2	W...	1.3...	W...	-.8																
14	0.9D + 1.6W AZI 000	Yes	Y		DL	.9	W...	1.6																		
15	0.9D + 1.6W AZI 030	Yes	Y		DL	.9	W...	1.3...	W...	.8																
16	0.9D + 1.6W AZI 060	Yes	Y		DL	.9	W...	.8	W...	1.3...																
17	0.9D + 1.6W AZI 090	Yes	Y		DL	.9			W...	1.6																
18	0.9D + 1.6W AZI 120	Yes	Y		DL	.9	W...	-.8	W...	1.3...																
19	0.9D + 1.6W AZI 150	Yes	Y		DL	.9	W...	-1....	W...	.8																
20	0.9D + 1.6W AZI 180	Yes	Y		DL	.9	W...	-1.6																		
21	0.9D + 1.6W AZI 210	Yes	Y		DL	.9	W...	-1....	W...	-.8																
22	0.9D + 1.6W AZI 240	Yes	Y		DL	.9	W...	-.8	W...	-1....																
23	0.9D + 1.6W AZI 270	Yes	Y		DL	.9			W...	-1.6																
24	0.9D + 1.6W AZI 300	Yes	Y		DL	.9	W...	.8	W...	-1....																
25	0.9D + 1.6W AZI 330	Yes	Y		DL	.9	W...	1.3...	W...	-.8																
26	1.2D + 1.0Di	Yes	Y		DL	1.2	O...	1																		
27	1.2D + 1.0Di + 1.0Wi AZI 000	Yes	Y		DL	1.2	O...	1	O...	1																
28	1.2D + 1.0Di + 1.0Wi AZI 030	Yes	Y		DL	1.2	O...	1	O...	.866	O...	.5														
29	1.2D + 1.0Di + 1.0Wi AZI 060	Yes	Y		DL	1.2	O...	1	O...	.5	O...	.866														
30	1.2D + 1.0Di + 1.0Wi AZI 090	Yes	Y		DL	1.2	O...	1			O...	1														
31	1.2D + 1.0Di + 1.0Wi AZI 120	Yes	Y		DL	1.2	O...	1	O...	-.5	O...	.866														
32	1.2D + 1.0Di + 1.0Wi AZI 150	Yes	Y		DL	1.2	O...	1	O...	-.8...	O...	.5														
33	1.2D + 1.0Di + 1.0Wi AZI 180	Yes	Y		DL	1.2	O...	1	O...	-1																
34	1.2D + 1.0Di + 1.0Wi AZI 210	Yes	Y		DL	1.2	O...	1	O...	-.8...	O...	-.5														
35	1.2D + 1.0Di + 1.0Wi AZI 240	Yes	Y		DL	1.2	O...	1	O...	-.5	O...	-.8...														
36	1.2D + 1.0Di + 1.0Wi AZI 270	Yes	Y		DL	1.2	O...	1			O...	-1														
37	1.2D + 1.0Di + 1.0Wi AZI 300	Yes	Y		DL	1.2	O...	1	O...	.5	O...	-.8...														
38	1.2D + 1.0Di + 1.0Wi AZI 330	Yes	Y		DL	1.2	O...	1	O...	.866	O...	-.5														
39	1.2D + 1.5L + 1.0WL (30 mph)..	Yes	Y		DL	1.2	LL	1.5	W...	.104																
40	1.2D + 1.5L + 1.0WL (30 mph)..	Yes	Y		DL	1.2	LL	1.5	W...	.09	W...	.052														
41	1.2D + 1.5L + 1.0WL (30 mph)..	Yes	Y		DL	1.2	LL	1.5	W...	.052	W...	.09														
42	1.2D + 1.5L + 1.0WL (30 mph)..	Yes	Y		DL	1.2	LL	1.5			W...	.104														
43	1.2D + 1.5L + 1.0WL (30 mph)..	Yes	Y		DL	1.2	LL	1.5	W...	-.0...	W...	.09														

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
44	1.2D + 1.5L + 1.0WL (30 mph)..	Yes	Y		DL	1.2	LL	1.5	W...	-.09	W...	.052														
45	1.2D + 1.5L + 1.0WL (30 mph)..	Yes	Y		DL	1.2	LL	1.5	W...	-.1...																
46	1.2D + 1.5L + 1.0WL (30 mph)..	Yes	Y		DL	1.2	LL	1.5	W...	-.09	W...	-.0...														
47	1.2D + 1.5L + 1.0WL (30 mph)..	Yes	Y		DL	1.2	LL	1.5	W...	-.0...	W...	-.09														
48	1.2D + 1.5L + 1.0WL (30 mph)..	Yes	Y		DL	1.2	LL	1.5			W...	-.1...														
49	1.2D + 1.5L + 1.0WL (30 mph)..	Yes	Y		DL	1.2	LL	1.5	W...	.052	W...	-.09														
50	1.2D + 1.5L + 1.0WL (30 mph)..	Yes	Y		DL	1.2	LL	1.5	W...	.09	W...	-.0...														

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N75B	max	808.75	5	801.524	8	9278.022	2	1.186	8	2.553	11	.314	23
2		min	-807.498	11	-737.769	14	-8237.848	20	-1.009	14	-2.556	5	-.337	5
3	N90B	max	7818.089	6	782.543	12	4135.127	24	.443	17	1.207	25	.904	18
4		min	-6872.867	24	-722.635	18	-4721.01	6	-.552	11	-1.219	7	-1.043	12
5	N93B	max	6924.676	16	783.903	4	4090.756	16	.531	23	.825	9	.998	4
6		min	-7832.95	10	-721.242	22	-4649.25	10	-.613	5	-.81	15	-.841	22
7	N135	max	40.096	17	4315.442	27	2198.3	20	0	50	0	3	0	21
8		min	-40.184	23	-1286.733	20	-7332.946	27	0	1	0	21	0	3
9	N138	max	1814.463	24	4325.98	31	3677.158	31	0	16	0	10	0	10
10		min	-6365.627	31	-1223.827	24	-1039.532	24	0	10	0	16	0	16
11	N141	max	6348.459	35	4314.378	35	3666.846	35	0	12	0	12	0	12
12		min	-1829.458	16	-1234.092	16	-1048.885	16	0	18	0	18	0	18
13	Totals:	max	7835.498	5	11455.253	33	7956.634	2						
14		min	-7835.497	23	3086.252	14	-7956.627	20						

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

	Member	Shape	Code ...	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc..	phi*Pnt...	phi*Mn ..	phi*Mn ..	Cb	Eqn
1	M8	L3X3X4	.666	162	12	.092	0	y	13	4242.1...	46656	1.688	2.593	1...	H2-1
2	M9	L3X3X4	.646	82.687	4	.094	0	y	5	4242.1...	46656	1.688	2.739	1...	H2-1
3	SP12	PIPE_2.0	.589	48	13	.153	48		2	26521....	32130	1.872	1.872	3...	H1-1b
4	M7	L3X3X4	.587	162	4	.091	162	z	9	4242.1...	46656	1.688	3.013	2...	H2-1
5	M4	C5X6.7	.556	23.427	12	.057	23.427	z	5	50436....	63828	1.604	9.304	1...	H1-1b
6	SP7	PIPE_2.0	.514	48	9	.172	48		11	26521....	32130	1.872	1.872	3...	H1-1b
7	SP2	PIPE_2.0	.501	48	5	.149	48		7	26521....	32130	1.872	1.872	3...	H1-1b
8	M2	C5X6.7	.395	0	11	.560	79.312	z	12	23653....	63828	1.604	9.585	2...	H1-1b
9	SP6	PIPE_2.0	.383	7.5	10	.226	55		12	23808....	32130	1.872	1.872	2...	H1-1b
10	SP11	PIPE_2.0	.378	55	5	.268	7.5		5	23808....	32130	1.872	1.872	3...	H3-6
11	SP13	PIPE_2.0	.377	48	13	.095	48		13	26521....	32130	1.872	1.872	2...	H1-1b
12	M1	C5X6.7	.376	94.5	5	.238	155.25	y	36	36764....	63828	1.604	9.585	2...	H1-1b
13	SP1	PIPE_2.0	.374	55	6	.200	7.5		9	23808....	32130	1.872	1.872	2...	H1-1b
14	M15	PIPE_2.0	.362	48	8	.087	48		10	26521....	32130	1.872	1.872	2...	H1-1b
15	SP3	PIPE_2.0	.355	48	3	.096	48		6	26521....	32130	1.872	1.872	2...	H1-1b
16	M3	C5X6.7	.354	6.75	32	.233	94.5	y	4	23653....	63828	1.604	6.07	1...	H1-1b
17	SP8	PIPE_2.0	.349	48	9	.077	48		11	26521....	32130	1.872	1.872	2...	H1-1b
18	MP13	PIPE_2.0	.346	66	12	.122	66		13	20866....	32130	1.872	1.872	2...	H1-1b
19	M6	L4X4X4	.339	0	4	.018	72	z	5	39977....	62532	3.138	6.321	1...	H2-1
20	MP8	PIPE_2.0	.336	66	9	.103	66		10	20866....	32130	1.872	1.872	1...	H1-1b
21	M23	PIPE_2.0	.334	48	7	.076	48		18	26521....	32130	1.872	1.872	2...	H1-1b
22	M19	PIPE_2.0	.333	48	3	.092	48		14	26521....	32130	1.872	1.872	2...	H1-1b
23	M20	PIPE_2.0	.330	48	3	.090	48		6	26521....	32130	1.872	1.872	2...	H1-1b
24	M24	PIPE_2.0	.329	48	7	.079	48		9	26521....	32130	1.872	1.872	2...	H1-1b
25	M5	L4X4X4	.329	72	12	.018	0	z	5	39977....	62532	3.138	6.315	1...	H2-1
26	MP9	PIPE_2.0	.326	66	3	.089	18		6	20866....	32130	1.872	1.872	1...	H1-1b
27	MP14	PIPE_2.0	.319	66	7	.070	18		10	20866....	32130	1.872	1.872	1...	H1-1b

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

	Member	Shape	Code ...	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc..	phi*Pnt...	phi*Mn ..	phi*Mn ..	Cb	Eqn
28	M42	HSS4X4X4	.313	61.667	11	.137	62.437	y	36	96962....	106155	12.311	12.311	1..	H1-1b
29	M16	PIPE_2.0	.311	48	11	.086	48		13	26521....	32130	1.872	1.872	2..	H1-1b
30	MP4	PIPE_2.0	.304	66	11	.092	18		2	20866....	32130	1.872	1.872	1..	H1-1b
31	M41	HSS4X4X4	.303	61.667	5	.140	62.438	y	32	96962....	106155	12.311	12.311	1..	H1-1b
32	M34	HSS4X4X4	.303	61.667	3	.147	71.688	z	11	96962....	106155	12.311	12.311	1..	H1-1b
33	MP3	PIPE_2.0	.297	66	5	.039	66		11	20866....	32130	1.872	1.872	1..	H1-1b
34	M68	PIPE_2.0	.281	48	13	.147	48		11	26521....	32130	1.872	1.872	2..	H1-1b
35	M67	PIPE_2.0	.272	48	9	.121	48		13	26521....	32130	1.872	1.872	2..	H1-1b
36	M69	PIPE_2.0	.270	48	5	.111	48		3	26521....	32130	1.872	1.872	2..	H1-1b
37	M61	LL2.5x2.5...	.258	35.847	31	.005	0	z	9	36993....	58320	4.643	2.541	1..	H1-1a
38	M62	LL2.5x2.5...	.258	35.847	35	.005	0	z	12	36993....	58320	4.643	2.541	1..	H1-1a
39	M63	LL2.5x2.5...	.257	35.847	27	.003	0	y	28	36993....	58320	4.643	2.541	1	H1-1a
40	MP12	PIPE_2.0	.229	61.5	13	.062	61.5		3	20866....	32130	1.872	1.872	2..	H1-1b
41	MP15	PIPE_2.0	.222	78	6	.119	78		9	14916....	32130	1.872	1.872	1..	H1-1b
42	MP10	PIPE_2.0	.209	78	2	.160	78		5	14916....	32130	1.872	1.872	2..	H1-1b
43	MP5	PIPE_2.0	.208	78	10	.128	78		13	14916....	32130	1.872	1.872	2..	H1-1b
44	MP7	PIPE_2.0	.205	61.5	9	.074	61.5		7	20866....	32130	1.872	1.872	1..	H1-1b
45	MP2	PIPE_2.0	.202	61.5	5	.058	61.5		3	20866....	32130	1.872	1.872	2..	H1-1b
46	MP6	PIPE_2.0	.149	61.5	10	.100	61.5		13	20866....	32130	1.872	1.872	1..	H1-1b
47	MP1	PIPE_2.0	.146	61.5	6	.090	61.5		3	20866....	32130	1.872	1.872	1..	H1-1b
48	MP11	PIPE_2.0	.146	61.5	2	.121	61.5		5	20866....	32130	1.872	1.872	2..	H1-1b

Plate Primary Data

	Label	A Joint	B Joint	C Joint	D Joint	Material	Thickness[in]
1	P1	N76A	N75A	N42	N77A	gen_Steel	.5
2	P2	N77A	N11	N74	N76A	gen_Steel	.5
3	P3	N81B	N80A	N5	N82B	gen_Steel	.5
4	P4	N82B	N16	N79B	N81B	gen_Steel	.5
5	P5	N90A	N89A	N23	N91A	gen_Steel	.5
6	P6	N91A	N28	N88A	N90A	gen_Steel	.5

Envelope Plate/Shell Principal Stresses

	Plate		Surf...	Sigma1 [ksi]	LC	Sigma2 [ksi]	LC	Tau Max [ksi]	LC	Angle [rad]	LC	Von Mises [ksi]	LC
1	P1	max	T	12.373	27	3.072	27	4.651	27	1.308	19	11.159	27
2		min		-.586	20	-2.646	20	.294	18	-.336	18	.607	7
3		max	B	3.701	20	.228	21	4.612	27	1.582	14	10.735	27
4		min		-2.577	28	-11.784	27	.651	10	.23	20	1.129	10
5	P3	max	T	12.288	31	3.048	32	4.631	31	2.331	3	11.09	31
6		min		-.405	24	-2.384	25	.315	11	-.727	15	.571	11
7		max	B	3.056	24	.357	25	4.563	31	2.337	24	10.63	31
8		min		-2.579	32	-11.671	31	.539	2	-.697	12	.961	2
9	P5	max	T	12.221	35	3.066	36	4.591	35	2.224	15	11.02	35
10		min		-.422	16	-2.516	17	.317	3	.77	14	.549	3
11		max	B	3.341	16	.442	17	4.535	35	2.329	47	10.583	35
12		min		-2.589	36	-11.627	35	.542	6	-.736	29	.978	6
13	P4	max	T	11.801	30	2.891	30	4.455	30	2.316	15	10.654	30
14		min		-.334	23	-2.674	23	.24	25	1.047	24	.416	25
15		max	B	3.127	23	.592	22	4.358	30	1.886	22	10.16	30
16		min		-2.442	30	-11.158	30	.393	21	.449	20	.682	21
17	P6	max	T	11.739	34	2.862	34	4.439	34	1.256	19	10.602	34
18		min		-.4	15	-2.706	15	.193	17	-.048	16	.343	17
19		max	B	3.194	15	.492	14	4.337	34	.857	14	10.104	34
20		min		-2.418	34	-11.093	34	.222	25	-.555	24	.389	25
21	P2	max	T	11.668	38	2.865	38	4.402	38	2.268	18	10.532	38

Envelope Plate/Shell Principal Stresses (Continued)

	Plate		Surf...	Sigma1 [ksi]	LC	Sigma2 [ksi]	LC	Tau Max [ksi]	LC	Angle [rad]	LC	Von Mises [ksi]	LC
22		min		-.39	19	-2.63	19	.129	21	-.712	6	.249	21
23		max	B	3.13	19	.454	18	4.324	27	2.277	22	10.044	38
24		min		-2.384	38	-11.021	38	.489	6	-.549	9	.916	17

Date:	9/17/2019
Client	Verizon
Carrier	Verizon
Engineer:	DWS
Site:	Ridgefield CT
Job #:	1126-D0001-B

Code:	LRFD
Bolt Diameter	0.675
Bolt Grade:	A307
Threads Excluded?:	N
Axial (lbs):	4639.46
Shear (lbs):	3932.60

Bolt Info:

Yield Strength (F_{yb})	36.0 kips
Ultimate Strength (F_{ub})	60.0 kips
Threads/in (n)	11
Gross Area (A_{gb})	0.358 in^2
Net Area (A_{nb})	0.270 in^2

Bolt Capacity (1/2" A307 Through Bolt), Total of (4) per Connection				
	Ult Load / Bolt	Factored Load (ϕ=0.75)	# of Bolts	Factor Joint Capacity
Axial (lb)	16205.8	12154.3	1	12154
Shear(lb)	9661.9	7246.4	1	7246

Interaction Check	
$T/\phi T_n$	38.2%
$V/\phi Vn$	54.3%
≤1.0	44.0%
	OK