

March 6, 2017

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

Re: **EM-VER-166-140710 – Cellco Partnership d/b/a Verizon Wireless
1192 Wolcott Road, Wolcott, Connecticut**

Dear Ms. Bachman:

On July 28, 2014, the Siting Council acknowledged receipt of Cellco's notice of intent to modify its existing telecommunications facility at 1192 Wolcott Road in Wolcott, Connecticut. The modifications involved the replacement of antennas and the installation of new remote radio heads at the above-referenced facility.

As a condition of the acknowledgement, Cellco was required to provide the Council with a "PE letter" stating that the installation complied with the recommendations of the Structural Analysis, dated May 28, 2014, prepared by Centek Engineering (the "Centek Structural"). The Centek Structural concluded that certain tower reinforcement was necessary to accommodate Cellco's modifications. It has come to our attention that, subsequent to the submission of the EM-VER-166-140710 filing, Semaan Engineering, on behalf of American Tower Corporation ("ATC"), prepared a second Structural Report dated May 15, 2015, taking into consideration Cellco's proposed modifications (the "ATC Structural"). The ATC Structural confirmed that the ATC tower is structurally capable of supporting the proposed modifications approved in EM-VER-166-140710. Attached is a copy of the ATC Structural.

Cellco respectfully submits, therefore, that the PE letter requested in the Council's July 28, 2014 acknowledgement is not necessary. Construction activity described in the ATC Structural and approved in EM-VER-166-140710 is now complete.

Robinson+Cole

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If you have any questions please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth C. Baldwin". The signature is fluid and cursive, with a long horizontal stroke at the end.

Kenneth C. Baldwin

Attachment
Copy to:
Tim Parks



AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by



Structural Analysis Report

Structure : 180 ft Self Supported Tower
ATC Site Name : Wolcott Rd CT, CT
ATC Site Number : 274848
Engineering Number : 61747821
Proposed Carrier : Verizon Wireless
Carrier Site Name : Wolcott North
Carrier Site Number : NHV 2042
Site Location : 1192 Wolcott Rd.
Wolcott, CT 06716-1548
41.61803, -72.97124
County : New haven
Date : May 13, 2015
Max Usage : 100%
Result : Pass

Kyle Klabunde
Structural Engineer I





AMERICAN TOWER®
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Structure : 180 ft Self Supported Tower
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Kyle Klabunde
Structural Engineer I

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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 180 ft self supported tower to reflect the change in loading by Verizon Wireless.

Supporting Documents

Tower Drawings	Rohn Eng. File #23963DB, Dwg. #B881302 R1, dated December 5, 1988
Foundation Drawing	Rohn Eng. File #23963DB, Dwg. #A881602-1, dated December 5, 1988
Geotechnical Report	Heynen Report #HE-88-718, dated November 22, 1988

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	95 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2003 IBC w/ 2005 CT Supplement & 2009 CT Amendment
Structure Class:	II
Exposure Category:	B
Topographic Category:	1

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
180.0	184.0	1	8' Omni	Leg	(1) 7/8" Coax	American Medical Response
177.0	187.0	1	20' Omni	Side Arms	(2) 7/8" Coax (1) 1 1/4" Coax	
	183.0	1	12' Dipole			
		1	12' Omni			
145.0	151.0	1	12' Omni	Side Arms	(2) 7/8" Coax	Campion Ambulance Service
	155.0	1	20' Omni			
131.0	-	-	-	Sector Frames	(12) 1 5/8" Coax Stacked (5/7)	Verizon Wireless
120.0	126.0	1	12' Omni	Side Arm	(1) 1/2" Coax	American Medical Response
116.0	121.0	1	10' Omni	Side Arm	(1) 1/2" Coax	Unknown

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
No loading considered as to be removed						

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
133.0		6	RFS FD9R6004/3C-3L	Leg	(1) 1 5/8" Fiber	Verizon Wireless
		3	Alcatel-Lucent RRH2x40-AWS			
		1	RFS DB-T1-6Z-8AB-0Z			
131.0	135.0	3	Commscope HBXX-6517DS-VTM	Existing Sector Frames	-	
		2	Commscope LNX-8513DS-VTM			
		1	Commscope LNX-6514DS-VTM			
		3	Antel BXA-70063/6CF			
		2	RFS APX18-206516L-CT0			
		1	Amphenol Antel BXA-171063-8BF-EDIN-X			

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Install proposed coax alongside existing Verizon Wireless coax.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	99%	Pass
Diagonals	100%	Pass
Horizontals	15%	Pass
Anchor Bolts	50%	Pass
Leg Bolts	55%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	109.8	148.2	118.4	80%
Axial (Kips)	122.5	165.4	141.7	86%
Total Shear (Kips)	20.7	27.9	25.2	90%

* The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
133.0	Alcatel-Lucent RRH2x40-AWS	Verizon Wireless	0.213	0.198	0.187
	RFS DB-T1-6Z-8AB-OZ				
	RFS FD9R6004/3C-3L				
131.0	Amphenol Antel BXA-171063-8BF-EDIN-X		0.196	0.206	0.260
	Antel BXA-70063/6CF				
	Commscope HBXX-6517DS-VTM				
	Commscope LNX-6514DS-VTM				
	Commscope LNX-8513DS-VTM				
	RFS APX18-206516L-CTO				

*Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G



Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

- Information from drawings in the possession of Semaan Engineering Solutions, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to Semaan Engineering Solutions Holdings and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and Semaan Engineering Solutions, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Semaan Engineering Solutions Holdings is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

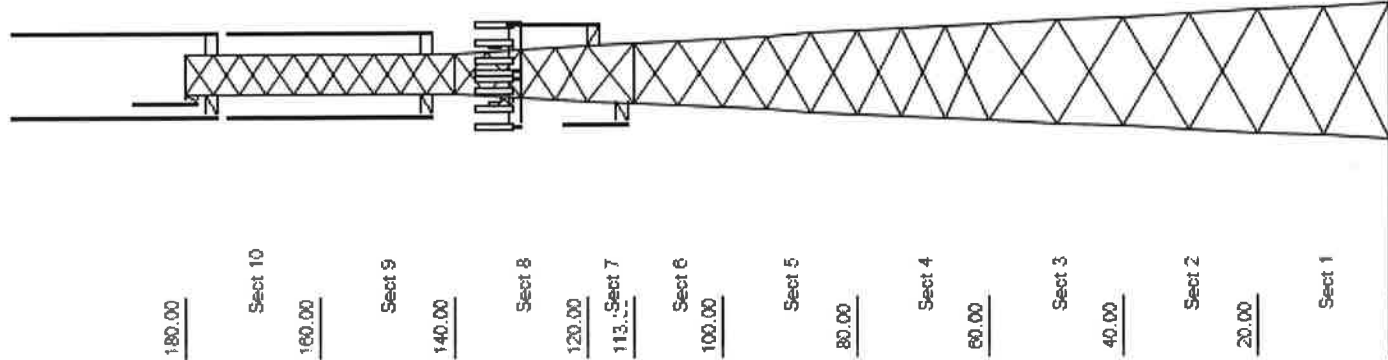
Job Information

Tower : 274848
 Location : Wolcott RD CT
 Code : ANSI/TIA-222-G
 Shape : Triangle
 Client : U.S. Coast Guard

Base Width : 20.78 ft
 Top Width : 6.54 ft

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Loads: 95 mph no. ice
 50 mph w/ 3/4" radial ice
 60 mph Serviceability



Section	Leg Members	Diagonal Members	Horizontal Members
1	PST 50 ksi	SAE 50 ksi 3.5X3.5X0.25	ksi
2	PX 50 ksi	SAE 50 ksi 3X3X0.1875	ksi
3	PX 50 ksi	SAE 50 ksi 3X3X0.1875	
4 - 5	PX 50 ksi	SAE 36 ksi 2.5X2.5X0.1875	ksi
6	PX 50 ksi	SAE 36 ksi 2X2X0.1875	SAE 36 ksi 2.5X2.5X0.1875
7	PX 50 ksi	SAE 36 ksi 2X2X0.1875	
8	PST 50 ksi	SAE 36 ksi 1.5X1.5X0.125	SAE 36 ksi 2X2X0.125
9	PST 50 ksi	SAE 36 ksi 1.5X1.5X0.125	
10	PST 50 ksi	SAE 36 ksi 1.5X1.5X0.125	SAE 36 ksi 2X2X0.125

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
180.00	Whip	1	8' Omni
177.00	Straight Arm	3	Round Side Arm
177.00	Whip	1	20' Omni
177.00	Whip	1	12' Dipole
177.00	Whip	1	12' Omni
145.00	Whip	1	20' Omni
145.00	Whip	1	12' Omni
145.00	Straight Arm	3	Round Side Arm
133.00	Panel	6	RFS FD9R6004/3C-3L
133.00	Panel	3	Alcatel-Lucent RRR2x40-AWS
133.00	Panel	1	RFS DB-T1-6Z-8AB-0Z
131.00	Panel	3	Commscope HBXX-6517DS-VTM
131.00	Panel	2	Commscope LNX-8513DS-VTM
131.00	Panel	1	Commscope LNX-6514DS-VTM
131.00	Panel	3	Antel BXA70063/6CF
131.00	Panel	2	RFS APX18-206516L-C70
131.00	Panel	1	Antel BXA-171063-8BF-EDIN-X
120.00	Mounting Frame	3	Round Sector Frame
120.00	Straight Arm	1	Side Arm
116.00	Whip	1	12' Omni
116.00	Straight Arm	1	Side Arm
116.00	Whip	1	10' Omni

Linear Appurtenance

Elev (ft)	From	To	Qty	Description
0.000	180.00	180.00	1	Waveguide
0.000	180.00	180.00	1	7/8" Coax
0.000	177.00	177.00	2	7/8" Coax
0.000	177.00	177.00	1	1/4" Coax
0.000	145.00	145.00	1	7/8" Coax
0.000	145.00	145.00	1	7/8" Coax
0.000	133.00	133.00	2	Waveguide
0.000	133.00	133.00	1	5/8" Fiber
0.000	131.00	131.00	12	1 5/8" Coax
0.000	120.00	120.00	1	1/2" Coax
0.000	116.00	116.00	1	1/2" Coax

Uplift 118.35 k Moment 2,418.98 k Moment Ice 831.31 k-ft
 Vert 141.65 k Tot Down Ice 63.01 k
 Horiz 15.38 k Tot Shear 25.20 k Tot Shear Ice 8.38 k

Site Number: 274848
Site Name: Wolcott RD CT
Customer: U.S. Coast Guard

Code: ANSI/TIA-222-G
Engineering Number: 61747821

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Analysis Parameters

Location:	New haven County, CT		
Code:	ANSI/TIA-222-G	Height (ft):	180
Shape:	Triangle	Base Elevation (ft):	0.00
Tower Manufacturer:	Rohn	Bottom Face Width (ft):	20.78
Tower Type:	Self Support	Top Face Width (ft):	6.54

Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	95 m ph
Exposure Category:	B	Design Windspeed With Ice:	50 m ph
Topographic Catagory:	1	Operational Windspeed:	60 m ph
Crest Height:	0.0 ft	Design Ice Thickness:	0.75 in

Load Cases

1.2D + 1.6W Normal	95.00 mph Normal to Face with No Ice
1.2D + 1.6W 60 deg	95.00 mph 60 deg with No Ice
1.2D + 1.6W 90 deg	95.00 mph 90 deg with No Ice
0.9D + 1.6W Normal	95.00 mph Normal to Face with No Ice (Reduced DL)
0.9D + 1.6W 60 deg	95.00 mph 60 deg with No Ice (Reduced DL)
0.9D + 1.6W 90 deg	95.00 mph 90 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	50.00 mph Normal with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 60 deg	50.00 mph 60 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	50.00 mph 90 deg with 0.75 in Radial Ice
1.0D + 1.0W Service Normal	Serviceability - 60.00 Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60.00 Wind 60 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60.00 Wind 90 deg

Site Number: 274848
 Site Name: Wolcott RD CT
 Customer: U.S. Coast Guard

Code: ANSI/TIA-222-G
 Engineering Number: 61747821

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Tower Loading

Discrete Appurtenance Properties 1.2D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
180.0	8' Omni	1	25	2.4	8.0	3.0	3.0	1.00	1.00	4.0	301.6	23.10	75	36
177.0	12' Dipole	1	40	4.5	12.0	3.0	3.0	1.00	1.00	6.0	848.8	23.06	141	58
177.0	12' Omni	1	40	3.6	12.0	3.0	3.0	1.00	1.00	6.0	677.6	23.06	113	58
177.0	20' Omni	1	55	6.0	29.0	3.0	3.0	1.00	1.00	10.0	1893.8	23.21	189	79
177.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	22.85	325	648
145.0	12' Omni	1	40	3.6	12.0	3.0	3.0	1.00	1.00	6.0	641.3	21.83	107	58
145.0	20' Omni	1	55	6.0	29.0	3.0	3.0	1.00	1.00	10.0	1794.9	22.00	179	79
145.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	21.58	307	648
133.0	Alcatel-Lucent	3	44	2.2	2.0	10.6	6.7	1.00	0.67	2.0	249.7	21.14	125	190
133.0	RFS DB-T1-6Z-8AB-	1	44	4.8	2.0	24.0	10.0	1.00	1.00	2.0	276.1	21.14	138	63
133.0	RFS FD9R6004/3C-3L	6	3	0.4	0.5	6.5	1.5	1.00	0.67	2.0	85.5	21.14	43	22
131.0	Antel BXA-171063-	1	9	2.9	4.0	6.1	4.1	0.80	0.87	4.0	233.8	21.14	58	13
131.0	Antel BXA-70063/6CF	3	17	7.6	5.9	11.2	4.5	0.80	0.74	4.0	1546.5	21.14	387	73
131.0	Commscope HBXX-	3	43	8.5	6.2	12.0	6.5	0.80	0.80	4.0	1883.9	21.14	471	186
131.0	Commscope LNX-	1	39	8.2	6.1	11.9	7.1	0.80	0.82	4.0	616.5	21.14	154	56
131.0	Commscope LNX-	2	39	8.2	6.1	11.9	7.1	0.80	0.82	4.0	1233.0	21.14	308	113
131.0	RFS APX18-206516L-	2	19	3.5	4.4	6.9	3.2	0.80	0.79	4.0	513.2	21.14	128	54
131.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	20.96	693	1296
120.0	12' Omni	1	40	3.6	12.0	3.0	3.0	1.00	1.00	6.0	609.0	20.73	102	58
120.0	Side Arm	1	200	3.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	20.45	97	288
116.0	10' Omni	1	25	3.0	8.0	3.0	3.0	1.00	1.00	5.0	418.1	20.49	84	36
116.0	Side Arm	1	200	3.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	20.25	96	288
Totals		41	3055	210.4										

Discrete Appurtenance Properties 0.9D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
180.0	8' Omni	1	25	2.4	8.0	3.0	3.0	1.00	1.00	4.0	301.6	23.10	75	20
177.0	12' Dipole	1	40	4.5	12.0	3.0	3.0	1.00	1.00	6.0	848.8	23.06	141	32
177.0	12' Omni	1	40	3.6	12.0	3.0	3.0	1.00	1.00	6.0	677.6	23.06	113	32
177.0	20' Omni	1	55	6.0	29.0	3.0	3.0	1.00	1.00	10.0	1893.8	23.21	189	45
177.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	22.85	325	365
145.0	12' Omni	1	40	3.6	12.0	3.0	3.0	1.00	1.00	6.0	641.3	21.83	107	32
145.0	20' Omni	1	55	6.0	29.0	3.0	3.0	1.00	1.00	10.0	1794.9	22.00	179	45
145.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	21.58	307	365
133.0	Alcatel-Lucent	3	44	2.2	2.0	10.6	6.7	1.00	0.67	2.0	249.7	21.14	125	107
133.0	RFS DB-T1-6Z-8AB-	1	44	4.8	2.0	24.0	10.0	1.00	1.00	2.0	276.1	21.14	138	36
133.0	RFS FD9R6004/3C-3L	6	3	0.4	0.5	6.5	1.5	1.00	0.67	2.0	85.5	21.14	43	13
131.0	Antel BXA-171063-	1	9	2.9	4.0	6.1	4.1	0.80	0.87	4.0	233.8	21.14	58	7
131.0	Antel BXA-70063/6CF	3	17	7.6	5.9	11.2	4.5	0.80	0.74	4.0	1546.5	21.14	387	41
131.0	Commscope HBXX-	3	43	8.5	6.2	12.0	6.5	0.80	0.80	4.0	1883.9	21.14	471	104
131.0	Commscope LNX-	1	39	8.2	6.1	11.9	7.1	0.80	0.82	4.0	616.5	21.14	154	31
131.0	Commscope LNX-	2	39	8.2	6.1	11.9	7.1	0.80	0.82	4.0	1233.0	21.14	308	64
131.0	RFS APX18-206516L-	2	19	3.5	4.4	6.9	3.2	0.80	0.79	4.0	513.2	21.14	128	30
131.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	20.96	693	729
120.0	12' Omni	1	40	3.6	12.0	3.0	3.0	1.00	1.00	6.0	609.0	20.73	102	32
120.0	Side Arm	1	200	3.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	20.45	97	162
116.0	10' Omni	1	25	3.0	8.0	3.0	3.0	1.00	1.00	5.0	418.1	20.49	84	20
116.0	Side Arm	1	200	3.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	20.25	96	162

Site Number: 274848

Code: ANSI/TIA-222-G

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Site Name: Wolcott RD CT

Engineering Number: 61747821

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Customer: U.S. Coast Guard

Tower Loading

Totals 41 3055 210.4

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
180.0	8' Omni	1	135	4.4	8.0	3.0	3.0	1.00	1.00	4.0	96.6	6.40	24	168
177.0	12' Dipole	1	132	10.0	12.0	3.0	3.0	1.00	1.00	6.0	324.9	6.39	54	168
177.0	12' Omni	1	132	8.0	12.0	3.0	3.0	1.00	1.00	6.0	259.3	6.39	43	168
177.0	20' Omni	1	440	19.1	29.0	3.0	3.0	1.00	1.00	10.0	1046.0	6.43	105	541
177.0	Round Side Arm	3	224	8.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	6.33	86	915
145.0	12' Omni	1	131	7.9	12.0	3.0	3.0	1.00	1.00	6.0	243.8	6.05	41	167
145.0	20' Omni	1	433	19.0	29.0	3.0	3.0	1.00	1.00	10.0	984.6	6.09	98	533
145.0	Round Side Arm	3	223	7.9	0.0	0.0	0.0	1.00	0.67	0.0	0.0	5.98	81	912
133.0	Alcatel-Lucent	3	116	2.8	2.0	10.6	6.7	1.00	0.67	2.0	55.9	5.86	28	450
133.0	RFS DB-T1-6Z-8AB-	1	185	5.7	2.0	24.0	10.0	1.00	1.00	2.0	56.4	5.86	28	233
133.0	RFS FD9R6004/3C-3L	6	15	0.6	0.5	6.5	1.5	1.00	0.67	2.0	23.0	5.86	12	115
131.0	Antel BXA-171063-	1	91	3.8	4.0	6.1	4.1	0.80	0.87	4.0	52.6	5.86	13	111
131.0	Antel BXA-70063/6CF	3	181	8.8	5.9	11.2	4.5	0.80	0.74	4.0	311.2	5.86	78	665
131.0	Commscope HBXX-	3	217	11.4	6.2	12.0	6.5	0.80	0.80	4.0	435.9	5.86	109	811
131.0	Commscope LNX-	1	239	9.5	6.1	11.9	7.1	0.80	0.82	4.0	123.5	5.86	31	296
131.0	Commscope LNX-	2	239	9.5	6.1	11.9	7.1	0.80	0.82	4.0	247.1	5.86	62	593
131.0	RFS APX18-206516L-	2	106	4.5	4.4	6.9	3.2	0.80	0.79	4.0	114.4	5.86	29	264
131.0	Round Sector Frame	3	663	30.8	0.0	0.0	0.0	0.75	0.75	0.0	0.0	5.81	256	2604
120.0	12' Omni	1	129	7.8	12.0	3.0	3.0	1.00	1.00	6.0	228.4	5.74	38	164
120.0	Side Arm	1	540	7.1	0.0	0.0	0.0	1.00	1.00	0.0	0.0	5.66	34	696
116.0	10' Omni	1	128	4.4	8.0	3.0	3.0	1.00	1.00	5.0	105.2	5.68	21	159
116.0	Side Arm	1	537	7.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	5.61	34	693
Totals		41	8912	353.9										

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
180.0	8' Omni	1	25	2.4	8.0	3.0	3.0	1.00	1.00	4.0	75.2	9.21	19	25
177.0	12' Dipole	1	40	4.5	12.0	3.0	3.0	1.00	1.00	6.0	211.6	9.20	35	40
177.0	12' Omni	1	40	3.6	12.0	3.0	3.0	1.00	1.00	6.0	168.9	9.20	28	40
177.0	20' Omni	1	55	6.0	29.0	3.0	3.0	1.00	1.00	10.0	472.1	9.26	47	55
177.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	9.11	81	450
145.0	12' Omni	1	40	3.6	12.0	3.0	3.0	1.00	1.00	6.0	159.9	8.71	27	40
145.0	20' Omni	1	55	6.0	29.0	3.0	3.0	1.00	1.00	10.0	447.5	8.77	45	55
145.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	8.61	76	450
133.0	Alcatel-Lucent	3	44	2.2	2.0	10.6	6.7	1.00	0.67	2.0	62.3	8.43	31	132
133.0	RFS DB-T1-6Z-8AB-	1	44	4.8	2.0	24.0	10.0	1.00	1.00	2.0	68.8	8.43	34	44
133.0	RFS FD9R6004/3C-3L	6	3	0.4	0.5	6.5	1.5	1.00	0.67	2.0	21.3	8.43	11	16
131.0	Antel BXA-171063-	1	9	2.9	4.0	6.1	4.1	0.80	0.87	4.0	58.3	8.43	15	9
131.0	Antel BXA-70063/6CF	3	17	7.6	5.9	11.2	4.5	0.80	0.74	4.0	385.5	8.43	96	51
131.0	Commscope HBXX-	3	43	8.5	6.2	12.0	6.5	0.80	0.80	4.0	469.7	8.43	117	129
131.0	Commscope LNX-	1	39	8.2	6.1	11.9	7.1	0.80	0.82	4.0	153.7	8.43	38	39
131.0	Commscope LNX-	2	39	8.2	6.1	11.9	7.1	0.80	0.82	4.0	307.4	8.43	77	78
131.0	RFS APX18-206516L-	2	19	3.5	4.4	6.9	3.2	0.80	0.79	4.0	128.0	8.43	32	37
131.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	8.36	173	900
120.0	12' Omni	1	40	3.6	12.0	3.0	3.0	1.00	1.00	6.0	151.8	8.27	25	40
120.0	Side Arm	1	200	3.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.16	24	200

Site Number: 274848
Site Name: Wolcott RD CT
Customer: U.S. Coast Guard

Code: ANSI/TIA-222-G
Engineering Number: 61747821

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Tower Loading

116.0 10' Omni	1	25	3.0	8.0	3.0	3.0	1.00	1.00	5.0	104.2	8.17	21	25
116.0 Side Arm	1	200	3.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.08	24	200
Totals	41	3055	210.4										

Site Number: 274848
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Tower Loading

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	180.0	7/8" Coax	1	1.09	0.33	100	3	Individual	0.00	N	1.00	1.00	0.00
0.00	180.0	Waveguide	1	1.50	3.00	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	177.0	1 1/4" Coax	1	1.55	0.63	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	177.0	7/8" Coax	2	1.09	0.33	100	3	Individual	0.00	N	1.00	1.00	0.00
0.00	145.0	7/8" Coax	1	1.09	0.33	100	3	Individual	0.00	N	1.00	1.00	0.00
0.00	145.0	7/8" Coax	1	1.09	0.33	100	1	Individual	0.00	N	1.00	1.00	0.00
0.00	133.0	1 5/8" Fiber	1	1.63	1.61	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	133.0	Waveguide	2	1.50	3.00	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	131.0	1 5/8" Coax	12	1.98	0.82	55	1,2	Block	0.00	N	0.00	1.00	0.00
0.00	120.0	1/2" Coax	1	0.63	0.15	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	116.0	1/2" Coax	1	0.63	0.15	0	3	Individual	0.00	N	1.00	1.00	0.00

Site Number: 274848
 Site Name: Wolcott RD CT
 Customer: U.S. Coast Guard

Code: ANSI/TIA-222-G
 Engineering Number: 61747821

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Section Forces

LoadCase 1.2D + 1.6W Normal

95.00 mph Normal to Face with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (s.i)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)													
10	170.0	22.58	10.67	9.58	0.00	0.15	2.77	1.00	1.00	0.0	16.11	9.60	0.00	901	0	1372	249	1621													
9	150.0	21.79	9.58	9.58	0.00	0.14	2.80	1.00	1.00	0.0	15.01	11.44	0.00	871	0	1247	280	1527													
8	130.0	20.92	10.14	9.60	0.00	0.13	2.86	1.00	1.00	0.0	15.57	31.89	0.00	1152	0	1266	797	2063													
7	116.6	20.28	3.70	3.20	0.00	0.11	2.91	1.00	1.00	0.0	5.51	15.48	0.00	563	0	442	379	821													
6	106.6	19.77	9.89	6.40	0.00	0.12	2.88	1.00	1.00	0.0	13.51	31.39	0.00	1259	0	1048	747	1794													
5	90.00	18.83	16.79	11.69	0.00	0.12	2.89	1.00	1.00	0.0	23.39	47.08	0.00	2183	0	1730	1067	2797													
4	70.00	17.53	19.00	11.68	0.00	0.11	2.92	1.00	1.00	0.0	25.60	47.08	0.00	2300	0	1784	993	2777													
3	50.00	15.92	18.61	15.03	0.00	0.10	2.95	1.00	1.00	0.0	24.59	47.08	0.00	2628	0	1568	902	2470													
2	30.00	13.76	20.39	15.02	0.00	0.10	2.97	1.00	1.00	0.0	28.86	47.08	0.00	2722	0	1606	779	2386													
1	10.00	13.75	25.85	18.57	0.00	0.11	2.93	1.00	1.00	0.0	33.74	47.08	0.00	3458	0	1845	779	2624													
														18037	0																20880

LoadCase 1.2D + 1.6W 60 deg

95.00 mph 60 deg with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (s.i)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)													
10	170.0	22.58	10.67	9.58	0.00	0.15	2.77	0.80	1.00	0.0	13.97	9.60	0.00	901	0	1190	249	1439													
9	150.0	21.79	9.58	9.58	0.00	0.14	2.80	0.80	1.00	0.0	13.09	11.44	0.00	871	0	1088	280	1368													
8	130.0	20.92	10.14	9.60	0.00	0.13	2.86	0.80	1.00	0.0	13.54	31.89	0.00	1152	0	1101	797	1898													
7	116.6	20.28	3.70	3.20	0.00	0.11	2.91	0.80	1.00	0.0	4.77	15.48	0.00	563	0	383	379	762													
6	106.6	19.77	9.89	6.40	0.00	0.12	2.88	0.80	1.00	0.0	11.53	31.39	0.00	1259	0	894	747	1641													
5	90.00	18.83	16.79	11.69	0.00	0.12	2.89	0.80	1.00	0.0	20.03	47.08	0.00	2183	0	1482	1067	2549													
4	70.00	17.53	19.00	11.68	0.00	0.11	2.92	0.80	1.00	0.0	21.80	47.08	0.00	2300	0	1519	993	2512													
3	50.00	15.92	18.61	15.03	0.00	0.10	2.95	0.80	1.00	0.0	20.86	47.08	0.00	2628	0	1331	902	2233													
2	30.00	13.76	20.39	15.02	0.00	0.10	2.97	0.80	1.00	0.0	24.79	47.08	0.00	2722	0	1379	779	2159													
1	10.00	13.75	25.85	18.57	0.00	0.11	2.93	0.80	1.00	0.0	28.57	47.08	0.00	3458	0	1562	779	2341													
														18037	0																18901

LoadCase 1.2D + 1.6W 90 deg

95.00 mph 90 deg with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (s.i)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	170.0	22.58	10.67	9.58	0.00	0.15	2.77	0.85	1.00	0.0	14.51	9.60	0.00	901	0	1236	249	1485
9	150.0	21.79	9.58	9.58	0.00	0.14	2.80	0.85	1.00	0.0	13.57	11.44	0.00	871	0	1128	280	1407
8	130.0	20.92	10.14	9.60	0.00	0.13	2.86	0.85	1.00	0.0	14.05	31.89	0.00	1152	0	1142	797	1939
7	116.6	20.28	3.70	3.20	0.00	0.11	2.91	0.85	1.00	0.0	4.95	15.48	0.00	563	0	398	379	777
6	106.6	19.77	9.89	6.40	0.00	0.12	2.88	0.85	1.00	0.0	12.03	31.39	0.00	1259	0	933	747	1679
5	90.00	18.83	16.79	11.69	0.00	0.12	2.89	0.85	1.00	0.0	20.87	47.08	0.00	2183	0	1544	1067	2611
4	70.00	17.53	19.00	11.68	0.00	0.11	2.92	0.85	1.00	0.0	22.75	47.08	0.00	2300	0	1586	993	2579
3	50.00	15.92	18.61	15.03	0.00	0.10	2.95	0.85	1.00	0.0	21.80	47.08	0.00	2628	0	1390	902	2292
2	30.00	13.76	20.39	15.02	0.00	0.10	2.97	0.85	1.00	0.0	25.81	47.08	0.00	2722	0	1436	779	2215
1	10.00	13.75	25.85	18.57	0.00	0.11	2.93	0.85	1.00	0.0	29.86	47.08	0.00	3458	0	1633	779	2412

Site Number: 274848
 Site Name: Wolcott RD CT
 Customer: U.S. Coast Guard

Code: ANSI/TIA-222-G
 Engineering Number: 61747821

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Section Forces

18037 0 19395

LoadCase 0.9D + 1.6W Normal

95.00 mph Normal to Face with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (s.i.)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	170.0	22.58	10.67	9.58	0.00	0.15	2.77	1.00	1.00	0.0	16.11	9.60	0.00	676	0	1372	249	1621
9	150.0	21.79	9.58	9.58	0.00	0.14	2.80	1.00	1.00	0.0	15.01	11.44	0.00	653	0	1247	280	1527
8	130.0	20.92	10.14	9.60	0.00	0.13	2.86	1.00	1.00	0.0	15.57	31.89	0.00	864	0	1266	797	2063
7	116.6	20.28	3.70	3.20	0.00	0.11	2.91	1.00	1.00	0.0	5.51	15.48	0.00	422	0	442	379	821
6	106.6	19.77	9.89	6.40	0.00	0.12	2.88	1.00	1.00	0.0	13.51	31.39	0.00	944	0	1048	747	1794
5	90.00	18.83	16.79	11.69	0.00	0.12	2.89	1.00	1.00	0.0	23.39	47.08	0.00	1637	0	1730	1067	2797
4	70.00	17.53	19.00	11.68	0.00	0.11	2.92	1.00	1.00	0.0	25.60	47.08	0.00	1725	0	1784	993	2777
3	50.00	15.92	18.61	15.03	0.00	0.10	2.95	1.00	1.00	0.0	24.59	47.08	0.00	1971	0	1568	902	2470
2	30.00	13.76	20.39	15.02	0.00	0.10	2.97	1.00	1.00	0.0	28.86	47.08	0.00	2042	0	1606	779	2386
1	10.00	13.75	25.85	18.57	0.00	0.11	2.93	1.00	1.00	0.0	33.74	47.08	0.00	2593	0	1845	779	2624
														13527	0			20880

LoadCase 0.9D + 1.6W 60 deg

95.00 mph 60 deg with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (s.i.)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	170.0	22.58	10.67	9.58	0.00	0.15	2.77	0.80	1.00	0.0	13.97	9.60	0.00	676	0	1190	249	1439
9	150.0	21.79	9.58	9.58	0.00	0.14	2.80	0.80	1.00	0.0	13.09	11.44	0.00	653	0	1088	280	1368
8	130.0	20.92	10.14	9.60	0.00	0.13	2.86	0.80	1.00	0.0	13.54	31.89	0.00	864	0	1101	797	1898
7	116.6	20.28	3.70	3.20	0.00	0.11	2.91	0.80	1.00	0.0	4.77	15.48	0.00	422	0	383	379	762
6	106.6	19.77	9.89	6.40	0.00	0.12	2.88	0.80	1.00	0.0	11.53	31.39	0.00	944	0	894	747	1641
5	90.00	18.83	16.79	11.69	0.00	0.12	2.89	0.80	1.00	0.0	20.03	47.08	0.00	1637	0	1482	1067	2549
4	70.00	17.53	19.00	11.68	0.00	0.11	2.92	0.80	1.00	0.0	21.80	47.08	0.00	1725	0	1519	993	2512
3	50.00	15.92	18.61	15.03	0.00	0.10	2.95	0.80	1.00	0.0	20.86	47.08	0.00	1971	0	1331	902	2233
2	30.00	13.76	20.39	15.02	0.00	0.10	2.97	0.80	1.00	0.0	24.79	47.08	0.00	2042	0	1379	779	2159
1	10.00	13.75	25.85	18.57	0.00	0.11	2.93	0.80	1.00	0.0	28.57	47.08	0.00	2593	0	1562	779	2341
														13527	0			18901

LoadCase 0.9D + 1.6W 90 deg

95.00 mph 90 deg with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (s.i.)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	170.0	22.58	10.67	9.58	0.00	0.15	2.77	0.85	1.00	0.0	14.51	9.60	0.00	676	0	1236	249	1485
9	150.0	21.79	9.58	9.58	0.00	0.14	2.80	0.85	1.00	0.0	13.57	11.44	0.00	653	0	1128	280	1407
8	130.0	20.92	10.14	9.60	0.00	0.13	2.86	0.85	1.00	0.0	14.05	31.89	0.00	864	0	1142	797	1939
7	116.6	20.28	3.70	3.20	0.00	0.11	2.91	0.85	1.00	0.0	4.95	15.48	0.00	422	0	398	379	777
6	106.6	19.77	9.89	6.40	0.00	0.12	2.88	0.85	1.00	0.0	12.03	31.39	0.00	944	0	933	747	1679
5	90.00	18.83	16.79	11.69	0.00	0.12	2.89	0.85	1.00	0.0	20.87	47.08	0.00	1637	0	1544	1067	2611
4	70.00	17.53	19.00	11.68	0.00	0.11	2.92	0.85	1.00	0.0	22.75	47.08	0.00	1725	0	1586	993	2579
3	50.00	15.92	18.61	15.03	0.00	0.10	2.95	0.85	1.00	0.0	21.80	47.08	0.00	1971	0	1390	902	2292

Site Number: 274848
 Site Name: Wolcott RD CT
 Customer: U.S. Coast Guard

Code: ANSI/TIA-222-G
 Engineering Number: 61747821

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Section Forces

2	30.00	13.76	20.39	15.02	0.00	0.10	2.97	0.85	1.00	0.0	25.81	47.08	0.00	2042	0	1436	779	2215
1	10.00	13.75	25.85	18.57	0.00	0.11	2.93	0.85	1.00	0.0	29.86	47.08	0.00	2593	0	1633	779	2412
														13527	0	19395		

LoadCase 1.2D + 1.0Di + 1.0Wi Normal

50.00 mph Normal with 0.75 in Radial Ice

Gust Response Factor (Gh): 0.85 Ice Dead Load Factor : 1.00 Ice Importance Factor : 1.00
 Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _f	D _r	T _{iz} (in)	A _e (s.)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	170.0	6.26	10.67	45.86	36.28	0.40	2.06	1.00	1.00	1.8	39.84	15.49	20.91	3760	2859	437	161	598
9	150.0	6.04	9.58	43.51	33.92	0.38	2.11	1.00	1.00	1.7	36.81	17.26	26.18	3645	2774	399	186	586
8	130.0	5.79	10.14	43.72	34.12	0.33	2.21	1.00	1.00	1.7	36.82	44.50	38.14	4629	3477	401	363	764
7	116.6	5.62	3.70	13.29	10.09	0.27	2.38	1.00	1.00	1.7	11.55	21.16	15.88	1865	1302	131	166	297
6	106.6	5.48	9.89	29.95	23.55	0.29	2.33	1.00	1.00	1.7	27.71	42.63	33.73	4187	2928	301	328	629
5	90.00	5.22	16.79	45.03	33.34	0.25	2.43	1.00	1.00	1.7	43.16	63.67	49.75	6696	4514	465	476	941
4	70.00	4.86	19.00	47.06	35.38	0.23	2.49	1.00	1.00	1.6	46.34	63.25	48.51	6926	4626	476	443	920
3	50.00	4.41	18.61	44.88	29.85	0.19	2.61	1.00	1.00	1.6	44.35	62.72	46.91	7033	4405	435	406	841
2	30.00	3.81	20.39	45.14	30.11	0.18	2.67	1.00	1.00	1.5	46.16	61.94	44.57	7022	4300	399	345	744
1	10.00	3.81	25.85	47.13	28.56	0.18	2.67	1.00	1.00	1.3	52.76	60.40	39.94	7722	4264	456	324	780
														53486	35449	7099		

LoadCase 1.2D + 1.0Di + 1.0Wi 60 deg

50.00 mph 60 deg with 0.75 in Radial Ice

Gust Response Factor (Gh): 0.85 Ice Dead Load Factor : 1.00 Ice Importance Factor : 1.00
 Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _f	D _r	T _{iz} (in)	A _e (s.)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	170.0	6.26	10.67	45.86	36.28	0.40	2.06	0.80	1.00	1.8	37.71	15.49	20.91	3760	2859	414	161	575
9	150.0	6.04	9.58	43.51	33.92	0.38	2.11	0.80	1.00	1.7	34.90	17.26	26.18	3645	2774	379	186	565
8	130.0	5.79	10.14	43.72	34.12	0.33	2.21	0.80	1.00	1.7	34.79	44.50	38.14	4629	3477	379	363	742
7	116.6	5.62	3.70	13.29	10.09	0.27	2.38	0.80	1.00	1.7	10.81	21.16	15.88	1865	1302	123	166	288
6	106.6	5.48	9.89	29.95	23.55	0.29	2.33	0.80	1.00	1.7	25.73	42.63	33.73	4187	2928	279	328	608
5	90.00	5.22	16.79	45.03	33.34	0.25	2.43	0.80	1.00	1.7	39.81	63.67	49.75	6696	4514	429	476	905
4	70.00	4.86	19.00	47.06	35.38	0.23	2.49	0.80	1.00	1.6	42.54	63.25	48.51	6926	4626	437	443	881
3	50.00	4.41	18.61	44.88	29.85	0.19	2.61	0.80	1.00	1.6	40.63	62.72	46.91	7033	4405	398	406	804
2	30.00	3.81	20.39	45.14	30.11	0.18	2.67	0.80	1.00	1.5	42.08	61.94	44.57	7022	4300	364	345	709
1	10.00	3.81	25.85	47.13	28.56	0.18	2.67	0.80	1.00	1.3	47.59	60.40	39.94	7722	4264	411	324	735
														53486	35449	6811		

LoadCase 1.2D + 1.0Di + 1.0Wi 90 deg

50.00 mph 90 deg with 0.75 in Radial Ice

Gust Response Factor (Gh): 0.85 Ice Dead Load Factor : 1.00 Ice Importance Factor : 1.00
 Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _f	D _r	T _{iz} (in)	A _e (s.)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	170.0	6.26	10.67	45.86	36.28	0.40	2.06	0.85	1.00	1.8	38.24	15.49	20.91	3760	2859	420	161	581
9	150.0	6.04	9.58	43.51	33.92	0.38	2.11	0.85	1.00	1.7	35.38	17.26	26.18	3645	2774	384	186	570
8	130.0	5.79	10.14	43.72	34.12	0.33	2.21	0.85	1.00	1.7	35.30	44.50	38.14	4629	3477	384	363	747
7	116.6	5.62	3.70	13.29	10.09	0.27	2.38	0.85	1.00	1.7	10.99	21.16	15.88	1865	1302	125	166	290
6	106.6	5.48	9.89	29.95	23.55	0.29	2.33	0.85	1.00	1.7	26.22	42.63	33.73	4187	2928	285	328	613
5	90.00	5.22	16.79	45.03	33.34	0.25	2.43	0.85	1.00	1.7	40.64	63.67	49.75	6696	4514	438	476	914

Site Number: 274848
 Site Name: Wolcott RD CT
 Customer: U.S. Coast Guard

Code: ANS/TIA-222-G
 Engineering Number: 61747821

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Section Forces

4	70.00	4.86	19.00	47.06	35.38	0.23	2.49	0.85	1.00	1.6	43.49	63.25	48.51	6926	4626	447	443	891
3	50.00	4.41	18.61	44.88	29.85	0.19	2.61	0.85	1.00	1.6	41.56	62.72	46.91	7033	4405	407	406	813
2	30.00	3.81	20.39	45.14	30.11	0.18	2.67	0.85	1.00	1.5	43.10	61.94	44.57	7022	4300	373	345	717
1	10.00	3.81	25.85	47.13	28.56	0.18	2.67	0.85	1.00	1.3	48.89	60.40	39.94	7722	4264	422	324	746
														53486	35449			6883

LoadCase 1.0D + 1.0W Service Normal

Serviceability - 60.00 Wind Normal

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (s.i.)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	170.0	9.01	10.67	9.58	0.00	0.15	2.77	1.00	1.00	0.0	16.11	9.60	0.00	751	0	342	62	404
9	150.0	8.69	9.58	9.58	0.00	0.14	2.80	1.00	1.00	0.0	15.01	11.44	0.00	726	0	311	70	381
8	130.0	8.34	10.14	9.60	0.00	0.13	2.86	1.00	1.00	0.0	15.57	31.89	0.00	960	0	316	199	514
7	116.6	8.09	3.70	3.20	0.00	0.11	2.91	1.00	1.00	0.0	5.51	15.48	0.00	469	0	110	94	205
6	106.6	7.89	9.89	6.40	0.00	0.12	2.88	1.00	1.00	0.0	13.51	31.39	0.00	1049	0	261	186	447
5	90.00	7.51	16.79	11.69	0.00	0.12	2.89	1.00	1.00	0.0	23.39	47.08	0.00	1819	0	431	266	697
4	70.00	6.99	19.00	11.68	0.00	0.11	2.92	1.00	1.00	0.0	25.60	47.08	0.00	1917	0	445	248	692
3	50.00	6.35	18.61	15.03	0.00	0.10	2.95	1.00	1.00	0.0	27.10	47.08	0.00	2190	0	431	225	656
2	30.00	5.49	20.39	15.02	0.00	0.10	2.97	1.00	1.00	0.0	28.86	47.08	0.00	2268	0	400	194	595
1	10.00	5.48	25.85	18.57	0.00	0.11	2.93	1.00	1.00	0.0	36.34	47.08	0.00	2882	0	495	194	690
														15030	0			5281

LoadCase 1.0D + 1.0W Service 60 deg

Serviceability - 60.00 Wind 60 deg

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (s.i.)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	170.0	9.01	10.67	9.58	0.00	0.15	2.77	0.80	1.00	0.0	13.97	9.60	0.00	751	0	297	62	359
9	150.0	8.69	9.58	9.58	0.00	0.14	2.80	0.80	1.00	0.0	13.09	11.44	0.00	726	0	271	70	341
8	130.0	8.34	10.14	9.60	0.00	0.13	2.86	0.80	1.00	0.0	13.54	31.89	0.00	960	0	274	199	473
7	116.6	8.09	3.70	3.20	0.00	0.11	2.91	0.80	1.00	0.0	4.77	15.48	0.00	469	0	95	94	190
6	106.6	7.89	9.89	6.40	0.00	0.12	2.88	0.80	1.00	0.0	11.53	31.39	0.00	1049	0	223	186	409
5	90.00	7.51	16.79	11.69	0.00	0.12	2.89	0.80	1.00	0.0	20.03	47.08	0.00	1819	0	369	266	635
4	70.00	6.99	19.00	11.68	0.00	0.11	2.92	0.80	1.00	0.0	21.80	47.08	0.00	1917	0	379	248	626
3	50.00	6.35	18.61	15.03	0.00	0.10	2.95	0.80	1.00	0.0	23.37	47.08	0.00	2190	0	372	225	596
2	30.00	5.49	20.39	15.02	0.00	0.10	2.97	0.80	1.00	0.0	24.79	47.08	0.00	2268	0	344	194	538
1	10.00	5.48	25.85	18.57	0.00	0.11	2.93	0.80	1.00	0.0	31.17	47.08	0.00	2882	0	425	194	619
														15030	0			4787

LoadCase 1.0D + 1.0W Service 90 deg

Serviceability - 60.00 Wind 90 deg

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (s.i.)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	170.0	9.01	10.67	9.58	0.00	0.15	2.77	0.85	1.00	0.0	14.51	9.60	0.00	751	0	308	62	370
9	150.0	8.69	9.58	9.58	0.00	0.14	2.80	0.85	1.00	0.0	13.57	11.44	0.00	726	0	281	70	351
8	130.0	8.34	10.14	9.60	0.00	0.13	2.86	0.85	1.00	0.0	14.05	31.89	0.00	960	0	285	199	483
7	116.6	8.09	3.70	3.20	0.00	0.11	2.91	0.85	1.00	0.0	4.95	15.48	0.00	469	0	99	94	194

Site Number: 274848
Site Name: Wolcott RD CT
Customer: U.S. Coast Guard

Code: ANSI/TIA-222-G
Engineering Number: 61747821

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Section Forces

6	106.6	7.89	9.89	6.40	0.00	0.12	2.88	0.85	1.00	0.0	12.03	31.39	0.00	1049	0	232	186	419
5	90.00	7.51	16.79	11.69	0.00	0.12	2.89	0.85	1.00	0.0	20.87	47.08	0.00	1819	0	385	266	651
4	70.00	6.99	19.00	11.68	0.00	0.11	2.92	0.85	1.00	0.0	22.75	47.08	0.00	1917	0	395	248	643
3	50.00	6.35	18.61	15.03	0.00	0.10	2.95	0.85	1.00	0.0	24.30	47.08	0.00	2190	0	386	225	611
2	30.00	5.49	20.39	15.02	0.00	0.10	2.97	0.85	1.00	0.0	25.81	47.08	0.00	2268	0	358	194	552
1	10.00	5.48	25.85	18.57	0.00	0.11	2.93	0.85	1.00	0.0	32.46	47.08	0.00	2882	0	443	194	637
														15030	0			4911

Site Number: 274848
 Site Name: Wolcott RD CT
 Customer: U.S. Coast Guard

Code: ANSI/TIA-222-G
 Engineering Number: 61747821

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Force/Stress Summary

Section: 1		14N-2		Bot Elev (ft): 0.00				Height (ft): 20.000								
		Pu	Len	Bracing %			Fy	Phic	Pn	Num	Shear		Bear	Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PST - 5" DIA PIPE	-137.47	1.2D + 1.6W	10.02	100	100	100	63.9	50.0	143.50	0	0	0.00	0.00	95	Member X
	HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3.5X3.5X0.25	-4.66	1.2D + 1.6W 90	22.61	47	47	47	183.7	42.0	11.31	1	1	12.43	19.50	41	Member Z

		Pu	Len	Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Use	Controls
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls	
LEG	PST - 5" DIA PIPE	115.25	0.9D + 1.6W 60	50	65	193.50	0	0	0.00	0.00	59	Member	
	HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0		
DIAG	SAE - 3.5X3.5X0.25	4.45	1.2D + 1.6W 90	50	65	54.94	1	1	12.43	11.70	38	Bolt Bear	

Max Splice Forces		Pu	Load Case	phiRnt	Use	Num	Bolt Type
		(kip)		(kip)	%	Bolts	
Top Tension		104.96	0.9D + 1.6W 60	0.00	0	0	
Top Compression		125.78	1.2D + 1.6W	0.00	0		
Bot Tension		119.20	0.9D + 1.6W 60	242.28	49	4	1" A354-BC
Bot Compression		141.90	1.2D + 1.6W	0.00	0		

Section: 2		13N-3		Bot Elev (ft): 20.00				Height (ft): 20.000								
		Pu	Len	Bracing %			Fy	Phic	Pn	Num	Shear		Bear	Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PX - 4" DIA PIPE	-121.52	1.2D + 1.6W	10.02	100	100	100	81.2	50.0	122.52	0	0	0.00	0.00	99	Member X
	HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3X3X0.1875	-4.63	1.2D + 1.6W 90	20.82	47	47	47	197.0	44.0	6.34	1	1	12.43	14.63	73	Member Z

		Pu	Len	Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Use	Controls
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls	
LEG	PX - 4" DIA PIPE	101.78	0.9D + 1.6W 60	50	65	198.45	0	0	0.00	0.00	51	Member	
	HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0		
DIAG	SAE - 3X3X0.1875	4.50	1.2D + 1.6W 90	50	65	34.71	1	1	12.43	8.77	51	Bolt Bear	

Max Splice Forces		Pu	Load Case	phiRnt	Use	Num	Bolt Type
		(kip)		(kip)	%	Bolts	
Top Tension		90.66	0.9D + 1.6W 60	0.00	0	0	
Top Compression		108.83	1.2D + 1.6W	0.00	0		
Bot Tension		104.96	0.9D + 1.6W 60	218.08	48	4	1 A325
Bot Compression		125.78	1.2D + 1.6W	0.00	0		

Site Number: 274848
 Site Name: Wolcott RD CT
 Customer: U.S. Coast Guard

Code: ANSI/TIA-222-G
 Engineering Number: 61747821

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Force/Stress Summary

Section: 3		12N	Bot Elev (ft): 40.00				Height (ft): 20.000									
		Pu	Len	Bracing %			Fy	Phic Pn Num	Shear		Bear		Use			
		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	Boles	Num	phiRnv	phiRn	%	Controls		
		Load Case					KL/R		Holes		(kip)	(kip)				
Max Compression Member																
LEG	PX - 4" DIA PIPE	-104.72	10.02	100	100	100	81.2	50.0	122.49	0	0	0.00	0.00	85	Member X	
	HORIZ	0.00	0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0		
DIAG	SAE - 3X3X0.1875	-4.19	19.06	47	47	47	180.4	44.0	7.57	1	1	12.43	14.63	55	Member Z	
Max Tension Member																
		Pu		Fy	Fu	Phit Pn	Num	Num	Shear		Bear	Use				
		(kip)		(ksi)	(ksi)	(kip)	Boles	Holes	phiRnv		phiRn	%	Controls			
		Load Case							(kip)		(kip)					
LEG	PX - 4" DIA PIPE	87.65	50	65	198.45	0	0	0	0.00		0.00	44	Member			
	HORIZ	0.00	0	0	0.00	0	0	0	0.00		0.00	0				
DIAG	SAE - 3X3X0.1875	4.13	50	65	34.71	1	1	1	12.43		8.77	47	Bolt Bear			
Max Splice Forces																
		Pu		phiRnt	Use	Num										
		(kip)		(kip)	%	Boles	Bolt Type									
		Load Case														
Top Tension		76.47	0.00	0	0	0										
Top Compression		92.05	0.00	0	0	0										
Bot Tension		90.66	166.24	55	4	7/8 A325										
Bot Compression		108.83	0.00	0	0											

Section: 4		11N11	Bot Elev (ft): 60.00				Height (ft): 20.000									
		Pu	Len	Bracing %			Fy	Phic Pn Num	Shear		Bear		Use			
		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	Boles	Num	phiRnv	phiRn	%	Controls		
		Load Case					KL/R		Holes		(kip)	(kip)				
Max Compression Member																
LEG	PX - 3" DIA PIPE	-88.93	6.68	100	100	100	70.3	50.0	94.70	0	0	0.00	0.00	93	Member X	
	HORIZ	0.00	0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0		
DIAG	SAE - 2.5X2.5X0.1875	-3.81	15.78	47	47	47	179.8	36.0	6.30	1	1	7.95	10.44	60	Member Z	
Max Tension Member																
		Pu		Fy	Fu	Phit Pn	Num	Num	Shear		Bear	Use				
		(kip)		(ksi)	(ksi)	(kip)	Boles	Holes	phiRnv		phiRn	%	Controls			
		Load Case							(kip)		(kip)					
LEG	PX - 3" DIA PIPE	73.39	50	65	135.90	0	0	0	0.00		0.00	54	Member			
	HORIZ	0.00	0	0	0.00	0	0	0	0.00		0.00	0				
DIAG	SAE - 2.5X2.5X0.1875	3.75	36	58	25.60	1	1	1	7.95		6.20	60	Bolt Bear			
Max Splice Forces																
		Pu		phiRnt	Use	Num										
		(kip)		(kip)	%	Boles	Bolt Type									
		Load Case														
Top Tension		60.82	0.00	0	0	0										
Top Compression		73.71	0.00	0	0	0										
Bot Tension		76.47	166.24	46	4	7/8 A325										
Bot Compression		92.05	0.00	0	0											

Site Number: 274848
 Site Name: Wolcott RD CT
 Customer: U.S. Coast Guard

Code: ANSI/TIA-222-G
 Engineering Number: 61747821

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Force/Stress Summary

Section: 5		10N-5		Bot Elev (ft): 80.00				Height (ft): 20.000						
		Pu	Len	Bracing %			Fy	Phic Pn Num	Shear		Bear		Use	
Max Compression Member		(kip) Load Case	(ft)	X	Y	Z	KL/R (ksi)	(kip) Bolts	Holes	phiRnv (kip)	phiRn (kip)	%	Controls	
LEG	PX - 3" DIA PIPE	-70.86 1.2D + 1.6W	6.68	100	100	100	70.3	50.0	94.69	0	0	0.00	0.00	74 Member X
	HORIZ	0.00	0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 2.5X2.5X0.1875	-3.34 1.2D + 1.6W 90	14.03	47	47	47	159.9	36.0	7.97	1	1	7.95	10.44	42 Bolt Shear

		Pu	Fy	Fu	Phit Pn Num	Num	Shear	Bear	Use	Controls
Max Tension Member		(kip) Load Case	(ksi)	(ksi)	(kip) Bolts	Holes	phiRnv (kip)	phiRn (kip)	%	
LEG	PX - 3" DIA PIPE	58.58 0.9D + 1.6W 60	50	65	135.90	0	0	0.00	0.00	43 Member
	HORIZ	0.00	0	0	0.00	0	0	0.00	0	
DIAG	SAE - 2.5X2.5X0.1875	3.29 1.2D + 1.6W 90	36	58	25.60	1	1	7.95	6.20	53 Bolt Bear

Max Splice Forces		Pu	phiRnt	Use	Num	Bolt Type
		(kip) Load Case	(kip)	%	Bolts	
Top Tension		45.18 0.9D + 1.6W 60	0.00	0	0	
Top Compression		56.04 1.2D + 1.6W	0.00	0		
Bot Tension		60.82 0.9D + 1.6W 60	166.24	37	4	7/8 A325
Bot Compression		73.71 1.2D + 1.6W	0.00	0		

Section: 6		9N240		Bot Elev (ft): 100.0				Height (ft): 13.333						
		Pu	Len	Bracing %			Fy	Phic Pn Num	Shear		Bear		Use	
Max Compression Member		(kip) Load Case	(ft)	X	Y	Z	KL/R (ksi)	(kip) Bolts	Holes	phiRnv (kip)	phiRn (kip)	%	Controls	
LEG	PX - 2-1/2" DIA PIPE	-53.14 1.2D + 1.6W	6.68	100	100	100	86.7	50.0	58.41	0	0	0.00	0.00	90 Member X
	HORIZ SAE - 2.5X2.5X0.1875	-0.63 1.2D + 1.6W	9.229	100	100	100	223.7	36.0	4.07	1	1	7.95	10.44	15 Member Z
DIAG	SAE - 2X2X0.1875	-3.05 1.2D + 1.6W 90	12.24	47	47	47	175.3	36.0	5.26	1	1	7.95	10.44	58 Member Z

		Pu	Fy	Fu	Phit Pn Num	Num	Shear	Bear	Use	Controls
Max Tension Member		(kip) Load Case	(ksi)	(ksi)	(kip) Bolts	Holes	phiRnv (kip)	phiRn (kip)	%	
LEG	PX - 2-1/2" DIA PIPE	42.82 0.9D + 1.6W 60	50	65	101.25	0	0	0.00	0.00	42 Member
	HORIZ SAE - 2.5X2.5X0.1875	0.51 1.2D + 1.6W 60	36	58	25.60	1	1	7.95	6.20	8 Bolt Bear
DIAG	SAE - 2X2X0.1875	3.04 1.2D + 1.6W 90	36	58	19.50	1	1	7.95	6.20	49 Bolt Bear

Max Splice Forces		Pu	phiRnt	Use	Num	Bolt Type
		(kip) Load Case	(kip)	%	Bolts	
Top Tension		34.19 0.9D + 1.6W 60	0.00	0	0	
Top Compression		43.90 1.2D + 1.6W	0.00	0		
Bot Tension		45.18 0.9D + 1.6W 60	120.40	38	4	3/4 A325
Bot Compression		56.04 1.2D + 1.6W	0.00	0		

Site Number: 274848
 Site Name: Wolcott RD CT
 Customer: U.S. Coast Guard

Code: ANSI/TIA-222-G
 Engineering Number: 61747821

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Force/Stress Summary

Section: 7 9N240 Bot Elev (ft): 113.3 Height (ft): 6.667

	Pu (kip)	Load Case	Len (ft)	Bracing %			Fy (ksi)	Phic (kip)	Pn Bolts	Num Holes	Shear		Use %	Controls
				X	Y	Z					phiRnv (kip)	phiRn (kip)		
Max Compression Member														
LEG PX - 2-1/2" DIA PIPE	-40.31	1.2D + 1.6W	6.68	100	100	100	86.7	50.0	58.41	0	0	0.00	0.00	69 Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG SAE - 2X2X0.1875	-2.92	1.2D + 1.6W	11.10	47	47	47	159.0	36.0	6.39	1	1	7.95	10.44	45 Member Z

	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 2-1/2" DIA PIPE	31.50	0.9D + 1.6W 60	50	65	101.25	0	0	0.00	0.00	31	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2X2X0.1875	2.74	1.2D + 1.6W 90	36	58	19.50	1	1	7.95	6.20	44	Bolt Bear

	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	28.72	0.9D + 1.6W 60	0.00	0	0	
Top Compression	37.62	1.2D + 1.6W	0.00	0		
Bot Tension	34.19	0.9D + 1.6W 60	0.00	0		
Bot Compression	43.90	1.2D + 1.6W	0.00	0		

Section: 8 8N-95-8 Bot Elev (ft): 120.0 Height (ft): 20.000

	Pu (kip)	Load Case	Len (ft)	Bracing %			Fy (ksi)	Phic (kip)	Pn Bolts	Num Holes	Shear		Use %	Controls
				X	Y	Z					KL/R	phiRnv (kip)		
Max Compression Member														
LEG PST - 2-1/2" DIA PIP	-35.54	1.2D + 1.6W	5.01	100	100	100	63.5	50.0	57.12	0	0	0.00	0.00	62 Member X
HORIZ SAE - 2X2X0.125	-0.30	1.2D + 1.6W 90	6.536	100	100	100	197.1	36.0	2.79	1	1	7.95	6.96	10 Member Z
DIAG SAE - 1.5X1.5X0.125	-2.51	1.2D + 1.6W 90	9.679	46	46	46	180.5	36.0	2.50	1	1	7.95	6.96	100 Member Z

	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 2-1/2" DIA PIP	27.03	0.9D + 1.6W 60	50	65	76.68	0	0	0.00	0.00	35	Member
HORIZ SAE - 2X2X0.125	0.31	1.2D + 1.6W 60	36	58	13.11	1	1	7.95	4.13	7	Bolt Bear
DIAG SAE - 1.5X1.5X0.125	2.56	1.2D + 1.6W 90	36	58	9.20	1	1	7.95	4.13	61	Bolt Bear

	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	15.48	0.9D + 1.6W 60	0.00	0	0	
Top Compression	20.69	1.2D + 1.6W	0.00	0		
Bot Tension	28.72	0.9D + 1.6W 60	81.36	35	4	5/8 A325
Bot Compression	37.62	1.2D + 1.6W	0.00	0		

Site Number: 274848
 Site Name: Wolcott RD CT
 Customer: U.S. Coast Guard

Code: ANSI/TIA-222-G
 Engineering Number: 61747821

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Force/Stress Summary

Section: 9		7N433		Bot Elev (ft): 140.0				Height (ft): 20.000							
		Pu	Len	Bracing %			Fy	Phic Pn Num	Shear Bear		Use				
Max Compression Member		(kip) Load Case	(ft)	X	Y	Z	KL/R (ksi)	(kip) Bolts	Holes	phiRnv (kip)	phiRn (kip)	%	Controls		
LEG	PST - 2-1/2" DIA PIP	-18.70 1.2D + 1.6W	4.00	100	100	100	50.7	50.0	63.55	0	0	0.00	0.00	29 Member X	
HORIZ		0.00	0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 1.5X1.5X0.125	-1.85 1.2D + 1.6W	7.663	47	47	47	146.0	36.0	3.82	1	1	7.95	6.96	48 Member Z	

Max Tension Member		Pu	Fy	Fu	Phit Pn Num	Num	Shear	Bear	Use		
		(kip) Load Case	(ksi)	(ksi)	(kip) Bolts	Holes	phiRnv (kip)	phiRn (kip)	%	Controls	
LEG	PST - 2-1/2" DIA PIP	13.86 1.2D + 1.6W 60	50	65	76.68	0	0	0.00	0.00	18	Member
HORIZ		0.00	0	0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 1.5X1.5X0.125	1.61 1.2D + 1.6W	36	58	9.20	1	1	7.95	4.13	38	Bolt Bear

Max Splice Forces		Pu	phiRnt	Use	Num		
		(kip) Load Case	(kip)	%	Bolts	Bolt Type	
Top Tension		4.76 0.9D + 1.6W 60	0.00	0	0		
Top Compression		7.18 1.2D + 1.6W	0.00	0			
Bot Tension		15.48 0.9D + 1.6W 60	81.36	19	4	5/8 A325	
Bot Compression		20.69 1.2D + 1.6W	0.00	0			

Section: 10		7N433		Bot Elev (ft): 160.0				Height (ft): 20.000							
		Pu	Len	Bracing %			Fy	Phic Pn Num	Shear Bear		Use				
Max Compression Member		(kip) Load Case	(ft)	X	Y	Z	KL/R (ksi)	(kip) Bolts	Holes	phiRnv (kip)	phiRn (kip)	%	Controls		
LEG	PST - 2-1/2" DIA PIP	-6.25 1.2D + 1.6W	4.00	100	100	100	50.7	50.0	63.55	0	0	0.00	0.00	9 Member X	
HORIZ	SAE - 2X2X0.125	-0.06 1.2D + 1.6W 60	6.536	100	100	100	197.1	36.0	2.79	1	1	7.95	6.96	2 Member Z	
DIAG	SAE - 1.5X1.5X0.125	-0.92 1.2D + 1.6W 90	7.663	47	47	47	146.0	36.0	3.82	1	1	7.95	6.96	24 Member Z	

Max Tension Member		Pu	Fy	Fu	Phit Pn Num	Num	Shear	Bear	Use		
		(kip) Load Case	(ksi)	(ksi)	(kip) Bolts	Holes	phiRnv (kip)	phiRn (kip)	%	Controls	
LEG	PST - 2-1/2" DIA PIP	3.84 1.2D + 1.6W 60	50	65	76.68	0	0	0.00	0.00	5	Member
HORIZ	SAE - 2X2X0.125	0.05 1.2D + 1.6W 60	36	58	13.11	1	1	7.95	4.13	1	Bolt Bear
DIAG	SAE - 1.5X1.5X0.125	0.92 1.2D + 1.6W 90	36	58	9.20	1	1	7.95	4.13	22	Bolt Bear

Max Splice Forces		Pu	phiRnt	Use	Num		
		(kip) Load Case	(kip)	%	Bolts	Bolt Type	
Top Tension		0.00	0.00	0	0		
Top Compression		0.30 1.2D + 1.0Di +	0.00	0			
Bot Tension		4.76 0.9D + 1.6W 60	81.36	6	4	5/8 A325	
Bot Compression		7.18 1.2D + 1.6W	0.00	0			

Site Number: 274848
 Site Name: Wolcott RD CT
 Customer: U.S. Coast Guard

Code: ANSI/TIA-222-G
 Engineering Number: 61747821

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Support Forces Summary

Load Case	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
0.9D + 1.6W 60 deg	1b	-11.66	-118.35	-6.72	
	1a	-6.95	66.73	2.29	
	1	-1.51	67.89	-7.18	
0.9D + 1.6W 90 deg	1b	-10.70	-103.45	-5.19	
	1a	-11.26	114.30	5.46	
	1	-1.75	5.43	-0.27	
0.9D + 1.6W Normal	1b	-5.44	-61.71	-4.97	
	1a	5.44	-61.71	-4.97	
	1	0.00	139.70	-15.27	
1.0D + 1.0W Service 60 deg	1b	-2.66	-24.78	-1.53	
	1a	-2.01	21.29	0.73	
	1	-0.38	21.57	-2.11	
1.0D + 1.0W Service 90 deg	1b	-2.43	-21.07	-1.14	
	1a	-3.09	33.13	1.52	
	1	-0.45	6.03	-0.38	
1.0D + 1.0W Service Normal	1b	-1.09	-10.67	-1.10	
	1a	1.09	-10.67	-1.10	
	1	0.00	39.43	-4.13	
1.2D + 1.0Di + 1.0Wi 60 deg	1b	-3.75	-23.33	-2.16	
	1a	-2.76	42.97	1.04	
	1	-0.49	43.37	-2.92	
1.2D + 1.0Di + 1.0Wi 90 deg	1b	-3.36	-17.69	-1.62	
	1a	-4.24	59.69	2.12	
	1	-0.56	21.00	-0.50	
1.2D + 1.0Di + 1.0Wi Normal	1b	-1.49	-2.09	-1.43	
	1a	1.49	-2.09	-1.43	
	1	0.00	67.19	-5.52	
1.2D + 1.6W 60 deg	1b	-11.56	-116.66	-6.66	
	1a	-7.05	68.60	2.35	
	1	-1.51	69.77	-7.30	
1.2D + 1.6W 90 deg	1b	-10.60	-101.75	-5.14	
	1a	-11.36	116.22	5.52	
	1	-1.75	7.24	-0.38	
1.2D + 1.6W Normal	1b	-5.34	-59.97	-4.91	
	1a	5.34	-59.97	-4.91	
	1	0.00	141.65	-15.38	

Max Uplift:	118.35 (kip)	Moment:	2,418.98 (kip-ft)	1.2D + 1.6W Normal
Max Down:	141.65 (kip)	Total Down:	21.70 (kip)	
Max Shear:	15.38 (kip)	Total Shear:	25.20 (kip)	

Site Number: 274848

Code:

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Site Name: Wolcott RD CT

Engineering Number: 61747821

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Customer: U.S. Coast Guard

Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
Serviceability - 60.00 Wind 60 deg	113.33	0.1400	0.1481	0.1443
	120.00	0.1574	0.1704	0.1527
	130.00	0.1864	0.2059	0.1571
	135.00	0.2015	0.1986	0.1812
	144.00	0.2301	0.1776	0.1790
	176.00	0.3395	0.1438	0.1857
	180.00	0.3533	0.1431	0.2029
Serviceability - 60.00 Wind 90 deg	113.33	0.1417	0.0832	0.1419
	120.00	0.1594	0.0952	0.1443
	130.00	0.1884	0.1142	0.1029
	135.00	0.2036	0.1099	0.1830
	144.00	0.2323	0.0975	0.1672
	176.00	0.3419	0.0762	0.1663
	180.00	0.3557	0.0757	0.2079
Serviceability - 60.00 Wind Normal	113.33	0.1522	0.1320	0.1690
	120.00	0.1716	0.1524	0.1882
	130.00	0.2033	0.1844	0.2652
	135.00	0.2203	0.1765	0.1965
	144.00	0.2521	0.1549	0.2319
	176.00	0.3746	0.1205	0.2561
	180.00	0.3901	0.1197	0.2124
50.00 mph 60 deg with 0.75 in Radial Ice	113.33	0.2052	0.1424	0.2135
	120.00	0.2306	0.1637	0.2256
	130.00	0.2735	0.1947	0.2355
	135.00	0.2961	0.1882	0.2686
	144.00	0.3390	0.1717	0.2645
	176.00	0.5038	0.1494	0.2756
	180.00	0.5246	0.1490	0.3097
50.00 mph 90 deg with 0.75 in Radial Ice	113.33	0.2061	0.0807	0.2111
	120.00	0.2315	0.0917	0.2154
	130.00	0.2745	0.1075	0.1970
	135.00	0.2970	0.1033	0.2678
	144.00	0.3399	0.0929	0.2374
	176.00	0.5039	0.0758	0.2344
	180.00	0.5244	0.0754	0.3187
50.00 mph Normal with 0.75 in Radial Ice	113.33	0.2141	0.1226	0.2349
	120.00	0.2408	0.1411	0.2630
	130.00	0.2867	0.1669	0.3348
	135.00	0.3107	0.1590	0.2865
	144.00	0.3569	0.1406	0.3494
	176.00	0.5351	0.1138	0.3887
	180.00	0.5577	0.1132	0.3008
95.00 mph 60 deg with No Ice (Reduced DL)	113.33	0.5649	1.3152	0.5924
	120.00	0.6358	1.5053	0.6343
	130.00	0.7523	1.8247	0.6825
	135.00	0.8139	1.8629	0.7411
	144.00	0.9297	1.8923	0.7276
	176.00	1.3728	1.9972	0.7570
	180.00	1.4287	2.0003	0.8211
95.00 mph 60 deg with No Ice	113.33	0.5656	1.3159	0.5935
	120.00	0.6366	1.5061	0.6353

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	130.00	0.7534	1.8256	0.6835
	135.00	0.8151	1.8639	0.7426
	144.00	0.9311	1.8934	0.7290
	176.00	1.3751	1.9985	0.7585
	180.00	1.4311	2.0016	0.8226
95.00 mph 90 deg with No Ice (Reduced DL)	113.33	0.5716	0.5540	0.5669
	120.00	0.6426	0.6314	0.5775
	130.00	0.7603	0.7588	0.4114
	135.00	0.8216	0.7645	0.7291
	144.00	0.9381	0.7548	0.6796
	176.00	1.3821	0.7485	0.6749
	180.00	1.4379	0.7484	0.8416
95.00 mph 90 deg with No Ice	113.33	0.5724	0.5540	0.5680
	120.00	0.6435	0.6315	0.5785
	130.00	0.7614	0.7588	0.4125
	135.00	0.8228	0.7646	0.7305
	144.00	0.9395	0.7548	0.6810
	176.00	1.3844	0.7485	0.6764
	180.00	1.4403	0.7484	0.8432
95.00 mph Normal to Face with No Ice (Reduced DL)	113.33	0.6137	0.8866	0.7018
	120.00	0.6914	1.0159	0.7828
	130.00	0.8203	1.2261	1.0953
	135.00	0.8885	1.2315	0.8258
	144.00	1.0174	1.2090	0.9376
	176.00	1.5137	1.1980	1.0356
	180.00	1.5765	1.1979	0.8605
95.00 mph Normal to Face with No Ice	113.33	0.6146	0.8865	0.7030
	120.00	0.6924	1.0158	0.7839
	130.00	0.8215	1.2260	1.0966
	135.00	0.8898	1.2313	0.8272
	144.00	1.0190	1.2089	0.9392
	176.00	1.5162	1.1979	1.0373
	180.00	1.5791	1.1978	0.8622

