Alex Murshteyn, Site Acquisition Consultant
c/o Cellco Partnership d/b/a Verizon Wireless
Centerline Communications, LLC
750 West Center Street, Floor 3
West Bridgewater, MA 02379
Mobile: (508) 821-0159
AMurshteyn@centerlinecommunications.com

July 1, 2019

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification // Site: Killingly CT (ATC: 311014)
202 R North Wawecus Hill Road, Norwich, CT 06360
N 41.5271 // W 72.1226

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless currently maintains 9 antennas at the 116-foot mount on the existing 140-foot monopole tower, located at 202 (R) North Wawecus Hill Road, CT. The Council approved Verizon Wireless use of the existing tower in 2014. The property is owned by John J. Polanski, Jr. The tower is owned by American Tower. Verizon Wireless now intends to remove 7 of its existing antennas to replace with 4 and install them on side-by-side mounts for the LTE (700/850/1900/2100 MHz) replacements for its PCS/AWS/LTE upgrade. Additionally, Verizon Wireless will replace 6 of its remote radio head units (RRUs) with 3 new RRUs, install 3 mount reinforcement pipes and remove and upgrade certain cabling; altogether updating leased equipment rights, as reflected by the final configuration outlined in the structural analysis and proposed hereby.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Peter Nystrom, Mayor for the City of Norwich, its Director of Planning and Neighborhood Services Deanna Rhodes, American Tower, the tower owner, and to the ground owner John J. Polaski, Jr.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Enclosed to accommodate this filing are construction drawings dated June 27, 2019 by A.T. Engineering Service, PLLC, a structural analysis dated May 7, 2019 by Tower Engineering Professionals, Inc.a structural mount analysis by Trylon

Engineering Services dated January 29, 2019 and radio frequency (RF) analysis table showing worst-case RF emission calculation by Verizon Wireless RF Design Engineering.

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the new antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading, as shown in the attached structural analyses by Tower Engineering Professionals, Inc., dated May 7, 2019 and Trylon, dated January 29, 2019.

For the foregoing reasons, Verizon Wireless respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Alex Murshteyn, Site Acquisition Consultant
c/o Cellco Partnership d/b/a Verizon Wireless
Centerline Communications, LLC
750 West Center Street, Floor 3
West Bridgewater, MA 02379
Mobile: (508) 821-0159
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Attachments

cc: Peter Nystrom, Mayor - as chief elected official
Deanna Rhodes, Director of Planning and Neighborhood Services - as P&Z official
American Tower Corporation - as tower owner
John J. Polaski, Jr. - as property owner

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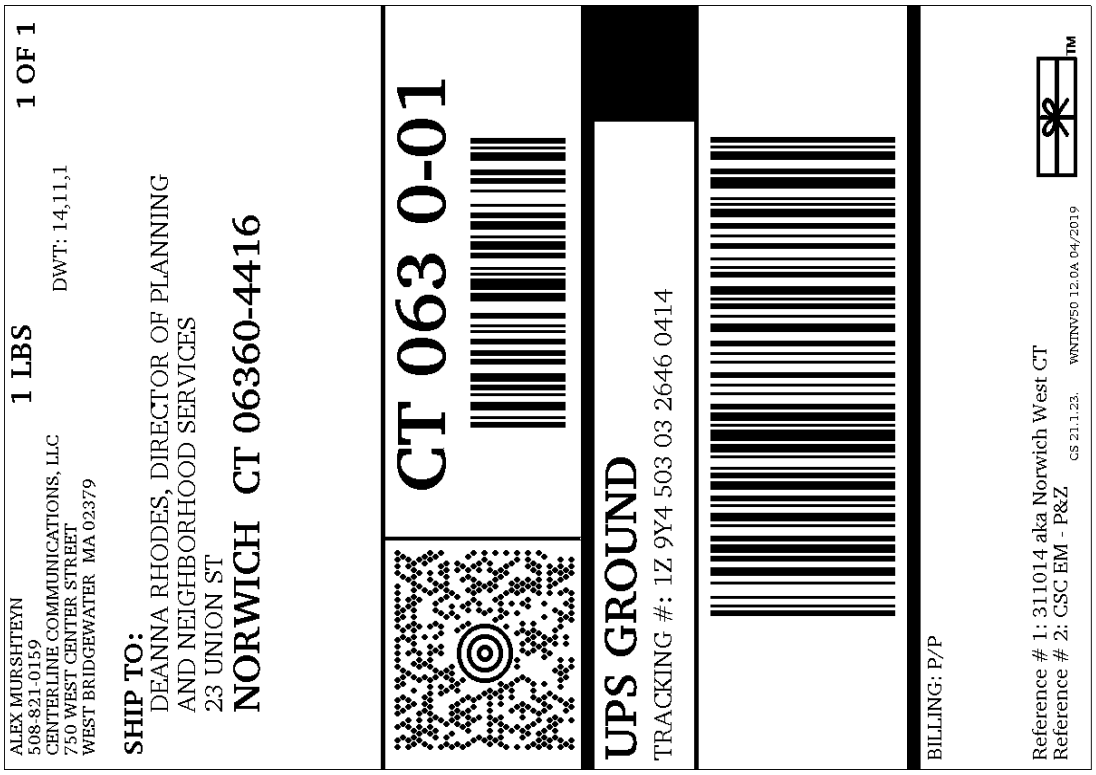

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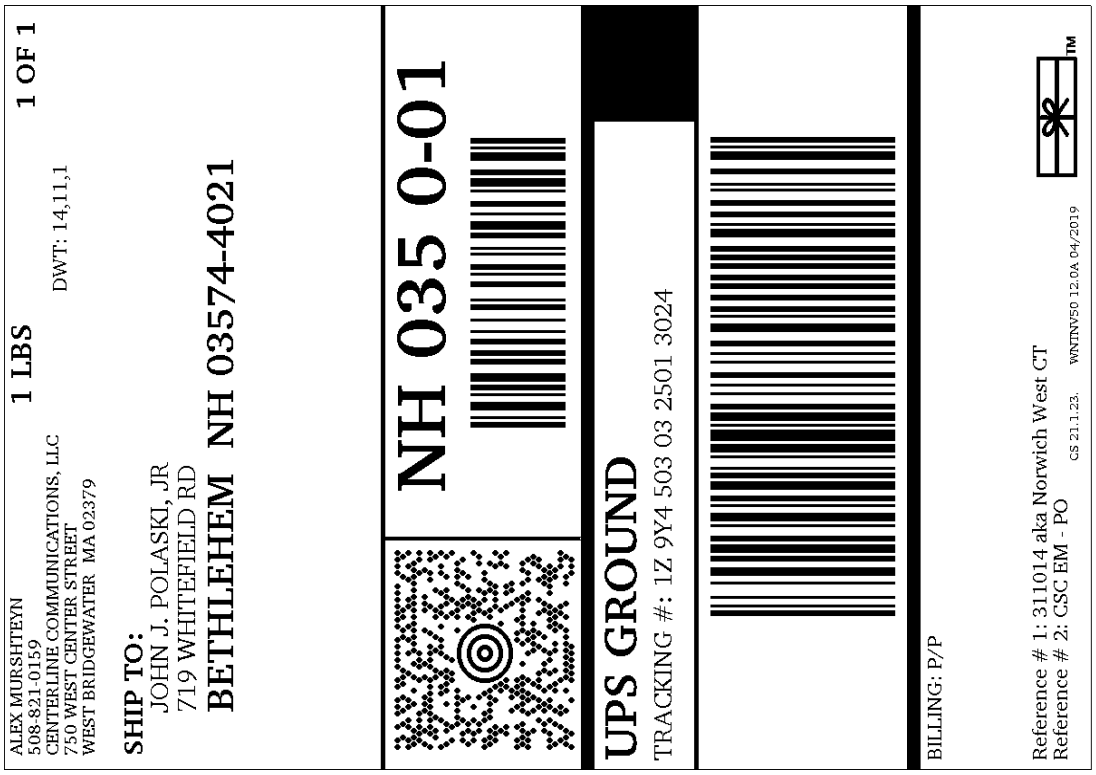


AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

TOWER ENGINEERING PROFESSIONALS

Structural Analysis Report

Structure	:	**140 ft Monopole**
ATC Site Name	:	**Norwich CT, CT**
ATC Site Number	:	**311014**
Engineering Number	:	**12638416_C3_01**
Proposed Carrier	:	**Verizon Wireless**
Carrier Site Name	:	**Norwich West CT**
Carrier Site Number	:	**15365943**
Site Location	:	**202 N Wawecus Hill Rd** **Norwich, CT 06360-4071** **41.527100,-72.122600**
County	:	**New London**
Date	:	**May 7, 2019**
Max Usage	:	**39%**
Result	:	**Pass**

Prepared By:
Aaron T. Rucker
TEP

Reviewed By:

STATE OF CONNECTICUT
AARON THOMAS RUCKER
32608
LICENSED
PROFESSIONAL ENGINEER

05/07/2019

COA: PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 140 ft monopole to reflect the change in loading by VERIZON WIRELESS.

Supporting Documents

Tower Drawings	Summit, PJF Job #29205-0119, dated June 1, 2005
Foundation Drawing	Summit, PJF Job #29205-0119, dated June 1, 2005
Geotechnical Report	Clarence Welt Assoc. Geotechnical Study Report for Cell Tower 202 North Wawecus Hill Rd., dated October 3, 2005

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:	105 mph (3-Second Gust, V_{asd}) / 135 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.17, S_1 = 0.06
Site Class:	D - Stiff Soil

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

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
137.0	3	Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs)	Low Profile Platform	(1) 1 1/4" (1.25"-31.8mm) Fiber (6) 1 5/8" Coax (2) 1 5/8" Hybriflex (1) 1 1/4" Hybriflex Cable	T-MOBILE
	3	Ericsson AIR 21			
	3	Ericsson Radio 4449 B12,B71			
136.0	3	RFS APXVAARR24_43-U-NA20			
124.0	3	Kathrein Scala 800 10504	Low Profile Platform	(1) 3/8" Coax (6) 1 5/8" Coax	UNKNOWN
	3	Generic RCU (Remote Control Unit)			
116.0	2	Commscope SBNHH-1D65B (40.6 lbs)	Platform with Handrails	(6) 1 5/8" Coax (1) 1 5/8" Hybriflex	VERIZON WIRELESS

Equipment to be Removed

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
116.0	3	Alcatel-Lucent RRH2X60-1900A-4R	-	(6) 1 5/8" Coax (1) 1 5/8" Hybriflex	VERIZON WIRELESS
	3	Alcatel-Lucent RRH2x60 700			
	4	Commscope SBNHH-1D65B (40.6 lbs)			
	2	RFS DB-T1-6Z-8AB-0Z			
	3	Amphenol Antel BXA-70063-6CF-EDIN-X			
	3	Alcatel-Lucent B66A RRH4x45-4R w/ Solar Shield			

Proposed Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
116.0	3	Samsung B5/B13 RRH-BR04C	Platform with Handrails + Proposed Mods	(2) 1 1/4" (1.25"-31.8mm) Fiber	VERIZON WIRELESS
	3	Alcatel-Lucent B25 RRH4x30			
	3	Alcatel-Lucent RRH4X45-B66 w/ Solar Shield			
	2	Raycap RCMDC-6627-PF-48			
	4	Commscope NHH-45B-R2B			

[1]Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	25%	Pass
Shaft	32%	Pass
Base Plate	17%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	5,050.0	6,817.5	2,116.6	31%
Shear (Kips)	43.0	58.1	22.6	39%

*** 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 and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
116.0	Samsung B5/B13 RRH-BR04C	VERIZON WIRELESS	0.372	0.346
	Alcatel-Lucent B25 RRH4x30			
	Alcatel-Lucent RRH4X45-B66 w/ Solar Shield			
	Raycap RCMDC-6627-PF-48			
	Commscope NHH-45B-R2B			

***Deflection 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 performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

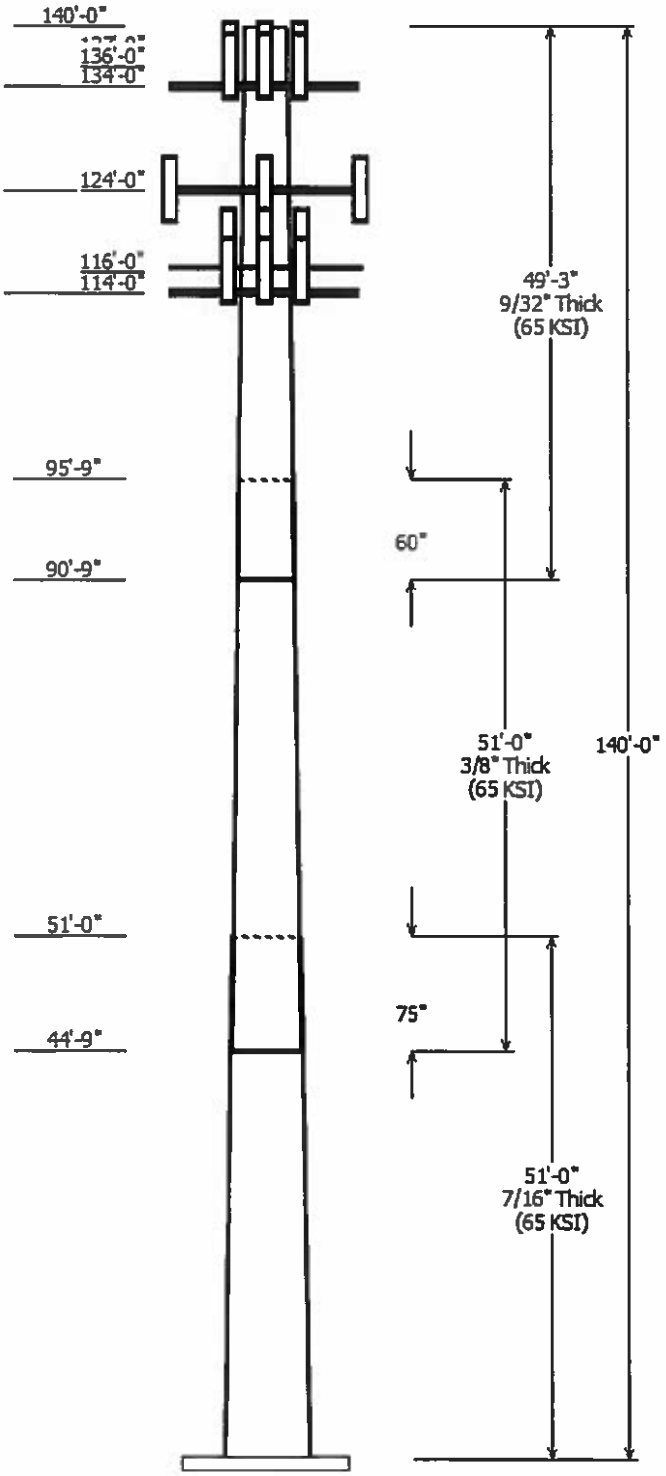
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



Job Information

Pole : 311014		Code: ANSI/TIA-222-G	
Location : NORWICH CT, CT			
Description : 140 ft PennSummit Monopole			
Client : VERIZON WIRELESS		Struct Class : II	
Shape : 18 Sides		Exposure : B	
Height : 140.00 (ft)		Topo : 1	
Base Elev (ft): 0.00			
Taper: 0.234203 in/ft)			

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	51.000	48.21	60.16	0.438		0.000	18 Sides	65
2	51.000	38.48	50.42	0.375	Slip Joint	75.000	18 Sides	65
3	49.250	28.68	40.21	0.281	Slip Joint	60.000	18 Sides	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
137.000	137.000	3	Ericsson AIR 21
137.000	137.000	3	Ericsson AIR 21, 1.3M, B2A B4P
137.000	137.000	3	Ericsson Radio 4449 B12,B71
136.000	136.000	3	RFS APXVAARR24_43-U-NA20
134.000	134.000	1	Flat Low Profile Platform
124.000	124.000	1	Flat Low Profile Platform
124.000	124.000	3	Kathrein Scala 800 10504
124.000	124.000	3	Generic RCU (Remote Control
116.000	116.000	4	Commscope NHH-45B-R2B
116.000	117.000	2	Commscope SBNHH-1D65B
116.000	116.000	2	Raycap RCMDC-6627-PF-48
116.000	116.000	3	Alcatel-Lucent RRH4X45-B66
116.000	116.000	3	Alcatel-Lucent B25 RRH4x30
116.000	116.000	3	Samsung B5/B13 RRH-BR04C
114.000	114.000	1	Round Platform w/ Handrails

Linear Appurtenance

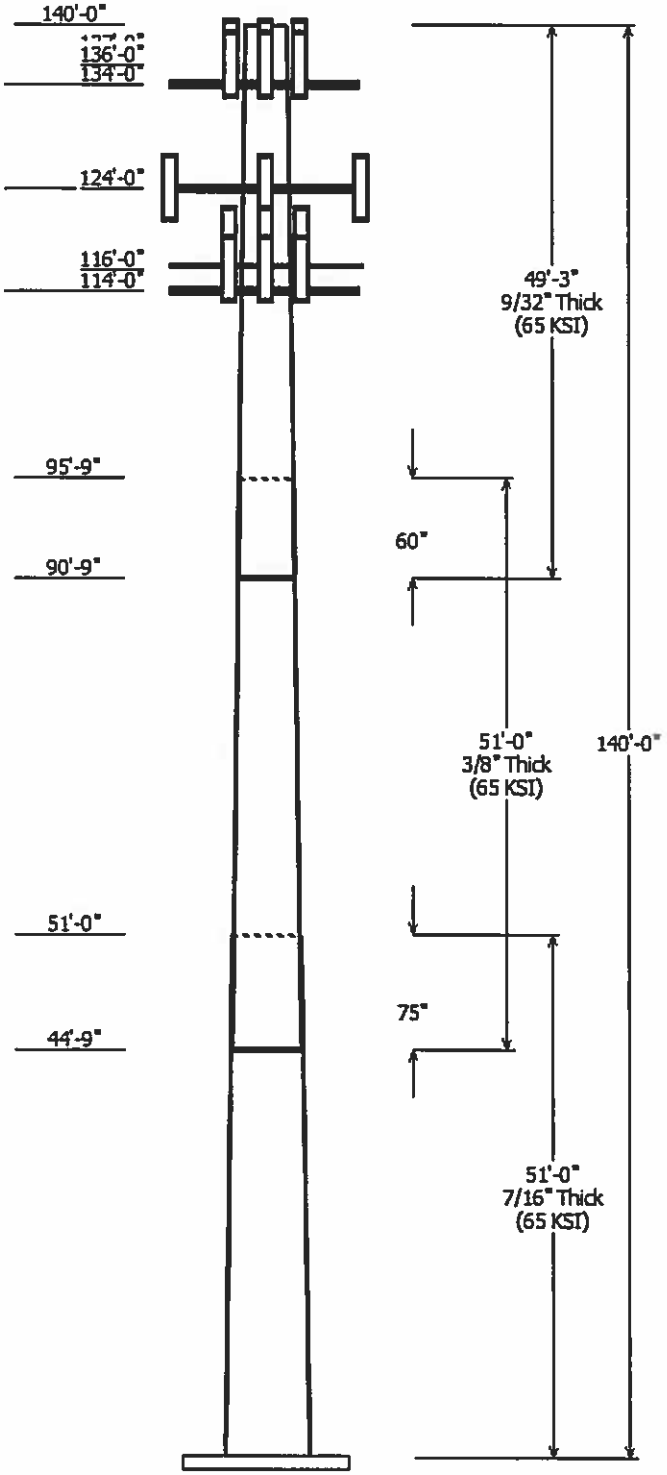
Elev (ft) From	To	Description	Exposed To Wind
0.000	116.0	1 1/4" (1.25"-	No
0.000	116.0	1 5/8" Coax	No
0.000	116.0	1 5/8" Hybriflex	No
0.000	124.0	1 5/8" Coax	No
0.000	124.0	3/8" Coax	No
0.000	134.0	1 1/4" Hybriflex	No
0.000	136.0	1 5/8" Hybriflex	No
0.000	137.0	1 1/4" (1.25"-	No
0.000	137.0	1 5/8" Coax	No

Load Cases

1.2D + 1.6W	105 mph with No Ice
0.9D + 1.6W	105 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

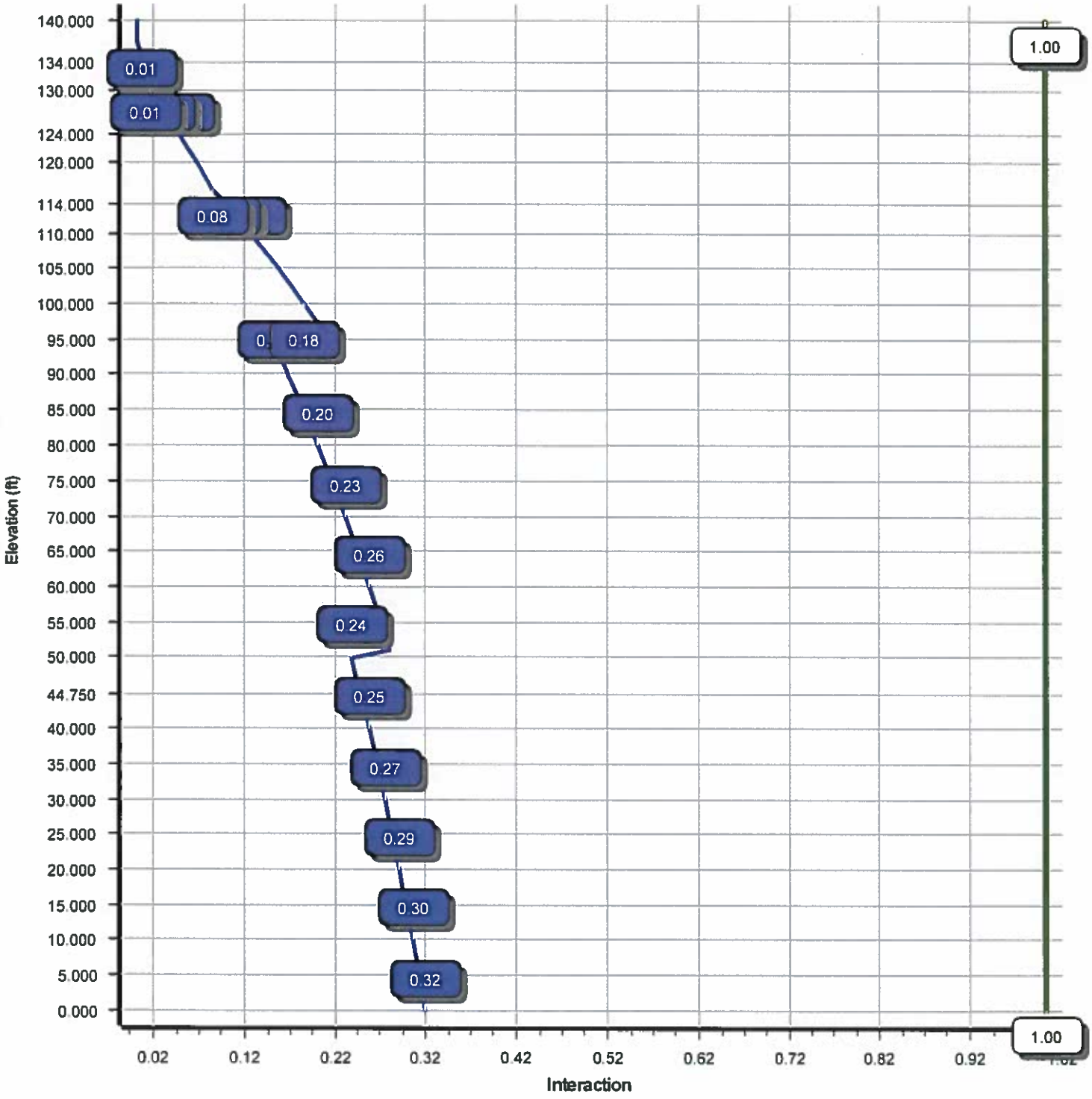
Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	2116.61	22.60	44.71
0.9D + 1.6W	2105.92	22.59	33.53
1.2D + 1.0Di + 1.0Wi	522.92	5.74	61.80
(1.2 + 0.2Sds) * DL + E ELFM	165.51	1.59	44.21
(1.2 + 0.2Sds) * DL + E EMAM	166.60	1.59	44.21
(0.9 - 0.2Sds) * DL + E ELFM	164.53	1.59	30.89
(0.9 - 0.2Sds) * DL + E EMAM	165.54	1.58	30.89
1.0D + 1.0W	430.40	4.61	37.27

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000



Load Case : 1.2D + 1.6W

Max Ratio 31.75% at 0.0 ft



Site Number: 311014
Site Name: NORWICH CT, CT
Customer: VERIZON WIRELESS

Code: ANSI/TIA-222-G
Engineering Number:12638416_C3_01

5/7/2019 11:12:19 AM

Analysis Parameters

Location :	New London County, CT	Height (ft) :	140
Code :	ANSI/TIA-222-G	Base Diameter (in) :	60.16
Shape :	18 Sides	Top Diameter (in) :	28.68
Pole Type :	Taper	Taper (in/ft) :	0.234
Pole Manfacturer :	PennSummit Tub	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	105 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method: Equivalent Modal Analysis & Equivalent Lateral Force Methods
Site Class: D - Stiff Soil
Period Based on Rayleigh Method (sec): 1.50

T_L (sec):	6	p:	1	C_s:	0.043
S_s:	0.170	S_1:	0.060	C_s Max:	0.043
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.181	S_{d1}:	0.096		

Load Cases

1.2D + 1.6W	105 mph with No Ice
0.9D + 1.6W	105 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 311014 Code: ANSI/TIA-222-G

Site Name: NORWICH CT, CT Engineering Number:12638416_C3_01 5/7/2019 11:12:19 AM

Customer: VERIZON WIRELESS

Shaft Section Properties

							Bottom						Top						
Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Dia (in)	Elev (ft)	Area (in²)	Ix (in⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in²)	Ix (in⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	51.000	0.4375	65		0.00	12,952	60.16	0.00	82.93	37371.0	22.84	137.51	48.21	51.00	66.34	19134.1	18.02	110.21	0.234203
2-18	51.000	0.3750	65	Slip	75.00	9,105	50.42	44.75	59.58	18858.2	22.30	134.48	38.48	95.75	45.36	8323.2	16.69	102.63	0.234203
3-18	49.250	0.2813	65	Slip	60.00	5,112	40.21	90.75	35.65	7184.1	23.80	143.00	28.68	140.00	25.35	2584.2	16.57	101.99	0.234203
				Shaft Weight		27,169													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
137.00	Ericsson Radio 4449 B12,B71	3	0.80	0.000	74.00	1.640	0.50	129.57	2.478	0.50
137.00	Ericsson AIR 21, 1.3M, B2A B4P	3	0.80	0.000	91.50	6.040	0.70	236.02	8.170	0.70
137.00	Ericsson AIR 21	3	0.80	0.000	91.00	6.050	0.70	235.11	8.196	0.70
136.00	RFS APXVAARR24_43-U-NA20	3	0.80	0.000	127.90	20.240	0.63	517.31	23.918	0.63
134.00	Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	2,140.97	44.988	1.00
124.00	Generic RCU (Remote Control	3	0.80	0.000	1.00	0.140	1.00	6.43	0.469	1.00
124.00	Kathrein Scala 800 10504	3	0.80	0.000	17.60	3.340	0.66	79.24	5.117	0.66
124.00	Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	2,135.94	44.840	1.00
116.00	Samsung B5/B13 RRH-BR04C	3	0.75	0.000	70.30	1.880	0.50	126.14	2.763	0.50
116.00	Alcatel-Lucent B25 RRH4x30	3	0.75	0.000	53.00	2.120	0.67	111.93	3.089	0.67
116.00	Alcatel-Lucent RRH4X45-B66 w/	3	0.75	0.000	64.00	2.660	0.67	133.25	3.782	0.67
116.00	Raycap RCMDC-6627-PF-48	2	0.75	0.000	32.00	4.060	0.79	156.07	5.394	0.79
116.00	Commscope SBNHH-1D65B	2	0.75	1.000	40.60	8.080	0.69	210.79	10.800	0.69
116.00	Commscope NHH-45B-R2B	4	0.75	0.000	73.60	11.400	0.63	296.64	14.121	0.63
114.00	Round Platform w/ Handrails	1	1.00	0.000	2,000.00	27.200	1.00	3,261.06	50.989	1.00
Totals	Num Loadings:15	38			7,210.50			14,183.29		

Linear Appurtenance Properties

Load Case Azimuth (deg) :

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax / Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	137.00	1	1 1/4" (1.25"- 31.8mm)	1.25	1.05	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	137.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	136.00	2	1 5/8" Hybriflex	1.98	1.30	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	134.00	1	1 1/4" Hybriflex Cable	1.54	1.00	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	124.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	UNKNOWN
0.00	124.00	1	3/8" Coax	0.44	0.08	N	0	0.00	0.00	0	0.00	N	Other
0.00	116.00	2	1 1/4" (1.25"- 31.8mm)	1.25	1.05	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	116.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	116.00	1	1 5/8" Hybriflex	1.98	1.30	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS

Segment Properties (Max Len : 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.4375	60.160	82.929	37,371.0	22.84	137.51	74.5	1223.	0.0	0.0
5.00		0.4375	58.989	81.303	35,215.5	22.36	134.83	75.1	1175.	0.0	1,397.1
10.00		0.4375	57.818	79.677	33,144.6	21.89	132.16	75.7	1129.	0.0	1,369.4
15.00		0.4375	56.647	78.051	31,156.5	21.42	129.48	76.2	1083.	0.0	1,341.8
20.00		0.4375	55.476	76.425	29,249.5	20.95	126.80	76.8	1038.	0.0	1,314.1
25.00		0.4375	54.305	74.799	27,422.0	20.48	124.13	77.3	994.6	0.0	1,286.5
30.00		0.4375	53.134	73.173	25,672.2	20.00	121.45	77.9	951.6	0.0	1,258.8
35.00		0.4375	51.963	71.547	23,998.5	19.53	118.77	78.4	909.6	0.0	1,231.1
40.00		0.4375	50.792	69.921	22,399.2	19.06	116.10	79.0	868.6	0.0	1,203.5
44.75	Bot - Section 2	0.4375	49.679	68.376	20,947.1	18.61	113.55	79.5	830.5	0.0	1,117.7
45.00		0.4375	49.621	68.295	20,872.5	18.59	113.42	79.5	828.5	0.0	108.8
50.00		0.4375	48.450	66.669	19,416.8	18.12	110.74	80.1	789.3	0.0	2,148.7
51.00	Top - Section 1	0.3750	48.966	57.833	17,251.7	21.61	130.57	76.0	693.9	0.0	423.6
55.00		0.3750	48.029	56.718	16,273.0	21.17	128.08	76.5	667.3	0.0	779.6
60.00		0.3750	46.858	55.324	15,102.6	20.62	124.95	77.1	634.8	0.0	953.1
65.00		0.3750	45.687	53.930	13,989.7	20.07	121.83	77.8	603.1	0.0	929.4
70.00		0.3750	44.516	52.537	12,932.8	19.52	118.71	78.4	572.2	0.0	905.7
75.00		0.3750	43.345	51.143	11,930.6	18.97	115.59	79.1	542.1	0.0	882.0
80.00		0.3750	42.174	49.749	10,981.5	18.42	112.46	79.7	512.9	0.0	858.3
85.00		0.3750	41.003	48.355	10,084.2	17.87	109.34	80.4	484.4	0.0	834.6
90.00		0.3750	39.832	46.962	9,237.1	17.32	106.22	81.0	456.8	0.0	810.9
90.75	Bot - Section 3	0.3750	39.656	46.753	9,114.3	17.24	105.75	81.1	452.7	0.0	119.6
95.00		0.3750	38.661	45.568	8,438.8	16.77	103.10	81.7	429.9	0.0	1,176.7
95.75	Top - Section 2	0.2813	39.047	34.605	6,570.5	23.07	138.84	74.3	331.4	0.0	204.5
100.0		0.2813	38.052	33.716	6,077.3	22.45	135.30	75.0	314.6	0.0	494.0
105.0		0.2813	36.881	32.671	5,529.4	21.71	131.13	75.9	295.3	0.0	564.8
110.0		0.2813	35.710	31.626	5,015.4	20.98	126.97	76.7	276.6	0.0	547.0
114.0		0.2813	34.773	30.789	4,628.0	20.39	123.64	77.4	262.1	0.0	424.8
115.0		0.2813	34.539	30.580	4,534.4	20.24	122.81	77.6	258.6	0.0	104.4
116.0		0.2813	34.305	30.371	4,442.0	20.10	121.97	77.8	255.0	0.0	103.7
120.0		0.2813	33.368	29.535	4,085.1	19.51	118.64	78.5	241.1	0.0	407.7
124.0		0.2813	32.431	28.699	3,747.8	18.92	115.31	79.1	227.6	0.0	396.3
125.0		0.2813	32.197	28.490	3,666.5	18.78	114.48	79.3	224.3	0.0	97.3
130.0		0.2813	31.026	27.444	3,277.6	18.04	110.31	80.2	208.1	0.0	475.8
134.0		0.2813	30.089	26.608	2,987.0	17.45	106.98	80.9	195.5	0.0	367.9
135.0		0.2813	29.855	26.399	2,917.1	17.31	106.15	81.0	192.5	0.0	90.2
136.0		0.2813	29.621	26.190	2,848.4	17.16	105.32	81.2	189.4	0.0	89.5
137.0		0.2813	29.387	25.981	2,780.7	17.01	104.49	81.4	186.4	0.0	88.8
140.0		0.2813	28.684	25.354	2,584.2	16.57	101.99	81.9	177.4	0.0	262.0
											27,169.4

Load Case: 1.2D + 1.6W 105 mph with No Ice 21 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.20
Wind Load Factor :1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		270.6	0.0					0.0	0.0	270.6	0.0	0.0	0.0
5.00		535.9	1,676.5					0.0	137.3	535.9	1,813.9	0.0	0.0
10.00		525.2	1,643.3					0.0	137.3	525.2	1,780.7	0.0	0.0
15.00		514.6	1,610.1					0.0	137.3	514.6	1,747.5	0.0	0.0
20.00		504.0	1,576.9					0.0	137.3	504.0	1,714.3	0.0	0.0
25.00		493.3	1,543.7					0.0	137.3	493.3	1,681.1	0.0	0.0
30.00		488.4	1,510.5					0.0	137.3	488.4	1,647.9	0.0	0.0
35.00		493.4	1,477.3					0.0	137.3	493.4	1,614.7	0.0	0.0
40.00		488.4	1,444.1					0.0	137.3	488.4	1,581.5	0.0	0.0
44.75	Bot - Section 2	252.3	1,341.2					0.0	130.5	252.3	1,471.7	0.0	0.0
45.00		270.9	130.5					0.0	6.9	270.9	137.4	0.0	0.0
50.00		309.9	2,578.4					0.0	137.3	309.9	2,715.8	0.0	0.0
51.00	Top - Section 1	259.3	508.3					0.0	27.5	259.3	535.8	0.0	0.0
55.00		467.3	935.5					0.0	109.9	467.3	1,045.4	0.0	0.0
60.00		519.2	1,143.8					0.0	137.3	519.2	1,281.1	0.0	0.0
65.00		517.9	1,115.3					0.0	137.3	517.9	1,252.6	0.0	0.0
70.00		515.5	1,086.8					0.0	137.3	515.5	1,224.2	0.0	0.0
75.00		511.9	1,058.4					0.0	137.3	511.9	1,195.7	0.0	0.0
80.00		507.4	1,029.9					0.0	137.3	507.4	1,167.3	0.0	0.0
85.00		501.9	1,001.5					0.0	137.3	501.9	1,138.8	0.0	0.0
90.00		286.6	973.0					0.0	137.3	286.6	1,110.4	0.0	0.0
90.75	Bot - Section 3	249.1	143.5					0.0	20.6	249.1	164.1	0.0	0.0
95.00		249.1	1,412.0					0.0	116.7	249.1	1,528.8	0.0	0.0
95.75	Top - Section 2	246.0	245.4					0.0	20.6	246.0	266.0	0.0	0.0
100.00		450.8	592.8					0.0	116.7	450.8	709.6	0.0	0.0
105.00		479.6	677.7					0.0	137.3	479.6	815.0	0.0	0.0
110.00		424.4	656.4					0.0	137.3	424.4	793.7	0.0	0.0
114.00	Appurtenance(s)	232.9	509.7	1,316.9	0.0	0.0	2,400.0	0.0	109.9	1,549.8	3,019.6	0.0	0.0
115.00		92.2	125.3					0.0	27.5	92.2	152.8	0.0	0.0
116.00	Appurtenance(s)	228.0	124.4	2,143.8	0.0	407.9	1,201.8	0.0	27.5	2,371.8	1,353.7	0.0	0.0
120.00		360.6	489.2					0.0	69.9	360.6	559.2	0.0	0.0
124.00	Appurtenance(s)	222.8	475.6	1,573.4	0.0	0.0	1,867.0	0.0	69.9	1,796.1	2,412.5	0.0	0.0
125.00		261.4	116.8					0.0	11.5	261.4	128.2	0.0	0.0
130.00		387.0	571.0					0.0	57.4	387.0	628.4	0.0	0.0
134.00	Appurtenance(s)	211.5	441.4	1,323.3	0.0	0.0	1,800.0	0.0	45.9	1,534.9	2,287.4	0.0	0.0
135.00		83.4	108.2					0.0	10.3	83.4	118.5	0.0	0.0
136.00	Appurtenance(s)	83.0	107.4	1,558.2	0.0	0.0	460.4	0.0	10.3	1,641.2	578.1	0.0	0.0
137.00	Appurtenance(s)	164.0	106.5	1,136.8	0.0	0.0	923.4	0.0	7.2	1,300.7	1,037.1	0.0	0.0
140.00		122.6	314.4					0.0	0.0	122.6	314.4	0.0	0.0
								Totals:		22,834.6	44,724.6	0.00	0.00

Site Number: 311014 Code: ANSI/TIA-222-G

Site Name: NORWICH CT, CT Engineering Number:12638416_C3_01 5/7/2019 11:12:21 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W 105 mph with No Ice 21 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-44.71	-22.60	0.00	-2,116.61	0.00	2,116.61	5,563.50	2,781.75	13,660.1	6,840.21	0.00	0.00	0.318
5.00	-42.86	-22.12	0.00	-2,003.64	0.00	2,003.64	5,495.04	2,747.52	13,225.5	6,622.59	0.04	-0.08	0.310
10.00	-41.06	-21.64	0.00	-1,893.06	0.00	1,893.06	5,424.94	2,712.47	12,793.7	6,406.38	0.17	-0.16	0.303
15.00	-39.28	-21.18	0.00	-1,784.84	0.00	1,784.84	5,353.22	2,676.61	12,365.0	6,191.70	0.37	-0.24	0.296
20.00	-37.54	-20.72	0.00	-1,678.95	0.00	1,678.95	5,279.88	2,639.94	11,939.5	5,978.66	0.66	-0.32	0.288
25.00	-35.83	-20.26	0.00	-1,575.36	0.00	1,575.36	5,204.91	2,602.46	11,517.6	5,767.39	1.04	-0.39	0.280
30.00	-34.16	-19.81	0.00	-1,474.05	0.00	1,474.05	5,128.32	2,564.16	11,099.4	5,557.99	1.49	-0.47	0.272
35.00	-32.53	-19.35	0.00	-1,375.00	0.00	1,375.00	5,050.10	2,525.05	10,685.3	5,350.59	2.03	-0.55	0.263
40.00	-30.92	-18.88	0.00	-1,278.27	0.00	1,278.27	4,970.26	2,485.13	10,275.3	5,145.31	2.65	-0.63	0.255
44.75	-29.44	-18.63	0.00	-1,188.58	0.00	1,188.58	4,892.90	2,446.45	9,890.02	4,952.36	3.32	-0.71	0.246
45.00	-29.30	-18.38	0.00	-1,183.92	0.00	1,183.92	4,888.79	2,444.40	9,869.86	4,942.27	3.36	-0.71	0.246
50.00	-26.57	-18.06	0.00	-1,092.01	0.00	1,092.01	4,805.70	2,402.85	9,469.07	4,741.57	4.14	-0.79	0.236
51.00	-26.03	-17.81	0.00	-1,073.95	0.00	1,073.95	3,954.70	1,977.35	7,897.06	3,954.40	4.31	-0.80	0.278
55.00	-24.97	-17.36	0.00	-1,002.72	0.00	1,002.72	3,904.91	1,952.45	7,646.13	3,828.75	5.01	-0.86	0.268
60.00	-23.67	-16.85	0.00	-915.92	0.00	915.92	3,841.19	1,920.60	7,335.11	3,673.01	5.96	-0.95	0.256
65.00	-22.40	-16.35	0.00	-831.66	0.00	831.66	3,775.86	1,887.93	7,027.24	3,518.84	7.00	-1.03	0.242
70.00	-21.17	-15.84	0.00	-749.93	0.00	749.93	3,708.90	1,854.45	6,722.77	3,366.38	8.12	-1.11	0.229
75.00	-19.96	-15.33	0.00	-670.75	0.00	670.75	3,640.31	1,820.16	6,421.93	3,215.74	9.33	-1.19	0.214
80.00	-18.78	-14.82	0.00	-594.11	0.00	594.11	3,570.10	1,785.05	6,124.95	3,067.03	10.61	-1.26	0.199
85.00	-17.64	-14.31	0.00	-520.01	0.00	520.01	3,498.27	1,749.13	5,832.07	2,920.37	11.98	-1.34	0.183
90.00	-16.53	-14.01	0.00	-448.44	0.00	448.44	3,424.81	1,712.40	5,543.53	2,775.89	13.42	-1.41	0.166
90.75	-16.36	-13.77	0.00	-437.94	0.00	437.94	3,413.65	1,706.82	5,500.64	2,754.41	13.64	-1.42	0.164
95.00	-14.83	-13.49	0.00	-379.42	0.00	379.42	3,349.72	1,674.86	5,259.57	2,633.69	14.92	-1.47	0.149
95.75	-14.57	-13.24	0.00	-369.31	0.00	369.31	2,312.98	1,156.49	3,686.59	1,846.04	15.15	-1.48	0.206
100.00	-13.85	-12.79	0.00	-313.02	0.00	313.02	2,275.87	1,137.93	3,533.62	1,769.44	16.49	-1.53	0.183
105.00	-13.04	-12.30	0.00	-249.08	0.00	249.08	2,230.70	1,115.35	3,355.32	1,680.15	18.13	-1.59	0.154
110.00	-12.25	-11.86	0.00	-187.58	0.00	187.58	2,183.90	1,091.95	3,179.03	1,591.88	19.83	-1.65	0.124
114.00	-9.27	-10.23	0.00	-140.12	0.00	140.12	2,145.30	1,072.65	3,039.61	1,522.06	21.23	-1.69	0.096
115.00	-9.12	-10.13	0.00	-129.89	0.00	129.89	2,135.49	1,067.74	3,004.99	1,504.73	21.59	-1.70	0.091
116.00	-7.84	-7.73	0.00	-119.35	0.00	119.35	2,125.61	1,062.80	2,970.48	1,487.45	21.94	-1.70	0.084
120.00	-7.28	-7.35	0.00	-88.45	0.00	88.45	2,085.44	1,042.72	2,833.45	1,418.83	23.38	-1.73	0.066
124.00	-4.93	-5.48	0.00	-59.04	0.00	59.04	2,044.24	1,022.12	2,698.16	1,351.09	24.84	-1.75	0.046
125.00	-4.81	-5.22	0.00	-53.55	0.00	53.55	2,033.77	1,016.89	2,664.63	1,334.29	25.21	-1.76	0.043
130.00	-4.19	-4.81	0.00	-27.45	0.00	27.45	1,980.48	990.24	2,498.77	1,251.24	27.06	-1.77	0.024
134.00	-1.95	-3.21	0.00	-8.19	0.00	8.19	1,936.68	968.34	2,368.37	1,185.94	28.55	-1.78	0.008
135.00	-1.83	-3.12	0.00	-4.98	0.00	4.98	1,925.56	962.78	2,336.10	1,169.79	28.92	-1.78	0.005
136.00	-1.31	-1.46	0.00	-1.86	0.00	1.86	1,914.39	957.19	2,303.98	1,153.70	29.29	-1.78	0.002
137.00	-0.31	-0.13	0.00	-0.40	0.00	0.40	1,903.14	951.57	2,271.99	1,137.68	29.66	-1.78	0.001
140.00	0.00	-0.12	0.00	0.00	0.00	0.00	1,869.02	934.51	2,176.88	1,090.06	30.78	-1.78	0.000

Site Number: 311014	Code: ANSI/TIA-222-G		
Site Name: NORWICH CT, CT	Engineering Number: 12638416_C3_01	5/7/2019 11:12:21 AM	
Customer: VERIZON WIRELESS			

Load Case: 0.9D + 1.6W — 105 mph with No Ice (Reduced DL) — 21 Iterations

Gust Response Factor: 1.10 — Wind Importance Factor: 1.00
Dead Load Factor: 0.90
Wind Load Factor: 1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		270.6	0.0					0.0	0.0	270.6	0.0	0.0	0.0
5.00		535.9	1,257.4					0.0	103.0	535.9	1,360.4	0.0	0.0
10.00		525.2	1,232.5					0.0	103.0	525.2	1,335.5	0.0	0.0
15.00		514.6	1,207.6					0.0	103.0	514.6	1,310.6	0.0	0.0
20.00		504.0	1,182.7					0.0	103.0	504.0	1,285.7	0.0	0.0
25.00		493.3	1,157.8					0.0	103.0	493.3	1,260.8	0.0	0.0
30.00		488.4	1,132.9					0.0	103.0	488.4	1,235.9	0.0	0.0
35.00		493.4	1,108.0					0.0	103.0	493.4	1,211.0	0.0	0.0
40.00		488.4	1,083.1					0.0	103.0	488.4	1,186.1	0.0	0.0
44.75	Bot - Section 2	252.3	1,005.9					0.0	97.9	252.3	1,103.7	0.0	0.0
45.00		270.9	97.9					0.0	5.2	270.9	103.1	0.0	0.0
50.00		309.9	1,933.8					0.0	103.0	309.9	2,036.8	0.0	0.0
51.00	Top - Section 1	259.3	381.2					0.0	20.6	259.3	401.8	0.0	0.0
55.00		467.3	701.6					0.0	82.4	467.3	784.0	0.0	0.0
60.00		519.2	857.8					0.0	103.0	519.2	960.8	0.0	0.0
65.00		517.9	836.5					0.0	103.0	517.9	939.5	0.0	0.0
70.00		515.5	815.1					0.0	103.0	515.5	918.1	0.0	0.0
75.00		511.9	793.8					0.0	103.0	511.9	896.8	0.0	0.0
80.00		507.4	772.5					0.0	103.0	507.4	875.5	0.0	0.0
85.00		501.9	751.1					0.0	103.0	501.9	854.1	0.0	0.0
90.00		286.6	729.8					0.0	103.0	286.6	832.8	0.0	0.0
90.75	Bot - Section 3	249.1	107.6					0.0	15.5	249.1	123.1	0.0	0.0
95.00		249.1	1,059.0					0.0	87.6	249.1	1,146.6	0.0	0.0
95.75	Top - Section 2	246.0	184.1					0.0	15.5	246.0	199.5	0.0	0.0
100.00		450.8	444.6					0.0	87.6	450.8	532.2	0.0	0.0
105.00		479.6	508.3					0.0	103.0	479.6	611.3	0.0	0.0
110.00		424.4	492.3					0.0	103.0	424.4	595.3	0.0	0.0
114.00	Appurtenance(s)	232.9	382.3	1,316.9	0.0	0.0	1,800.0	0.0	82.4	1,549.8	2,264.7	0.0	0.0
115.00		92.2	94.0					0.0	20.6	92.2	114.6	0.0	0.0
116.00	Appurtenance(s)	228.0	93.3	2,143.8	0.0	407.9	901.3	0.0	20.6	2,371.8	1,015.3	0.0	0.0
120.00		360.6	366.9					0.0	52.5	360.6	419.4	0.0	0.0
124.00	Appurtenance(s)	222.8	356.7	1,573.4	0.0	0.0	1,400.2	0.0	52.5	1,796.1	1,809.4	0.0	0.0
125.00		261.4	87.6					0.0	8.6	261.4	96.2	0.0	0.0
130.00		387.0	428.2					0.0	43.1	387.0	471.3	0.0	0.0
134.00	Appurtenance(s)	211.5	331.1	1,323.3	0.0	0.0	1,350.0	0.0	34.5	1,534.9	1,715.5	0.0	0.0
135.00		83.4	81.2					0.0	7.7	83.4	88.9	0.0	0.0
136.00	Appurtenance(s)	83.0	80.5	1,558.2	0.0	0.0	345.3	0.0	7.7	1,641.2	433.6	0.0	0.0
137.00	Appurtenance(s)	164.0	79.9	1,136.8	0.0	0.0	692.5	0.0	5.4	1,300.7	777.8	0.0	0.0
140.00		122.6	235.8					0.0	0.0	122.6	235.8	0.0	0.0
								Totals:		22,834.6	33,543.4	0.00	0.00

Site Number: 311014 Code: ANSI/TIA-222-G

Site Name: NORWICH CT, CT Engineering Number: 12638416_C3_01 5/7/2019 11:12:23 AM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W — 105 mph with No Ice (Reduced DL) — 21 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60
Wind Importance Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-33.53	-22.59	0.00	-2,105.92	0.00	2,105.92	5,563.50	2,781.75	13,660.1	6,840.21	0.00	0.00	0.314
5.00	-32.14	-22.09	0.00	-1,992.99	0.00	1,992.99	5,495.04	2,747.52	13,225.5	6,622.59	0.04	-0.08	0.307
10.00	-30.77	-21.61	0.00	-1,882.52	0.00	1,882.52	5,424.94	2,712.47	12,793.7	6,406.38	0.17	-0.16	0.300
15.00	-29.44	-21.13	0.00	-1,774.48	0.00	1,774.48	5,353.22	2,676.61	12,365.0	6,191.70	0.37	-0.23	0.292
20.00	-28.12	-20.66	0.00	-1,668.83	0.00	1,668.83	5,279.88	2,639.94	11,939.5	5,978.66	0.66	-0.31	0.285
25.00	-26.84	-20.19	0.00	-1,565.54	0.00	1,565.54	5,204.91	2,602.46	11,517.6	5,767.39	1.03	-0.39	0.277
30.00	-25.58	-19.73	0.00	-1,464.57	0.00	1,464.57	5,128.32	2,564.16	11,099.4	5,557.99	1.49	-0.47	0.269
35.00	-24.35	-19.26	0.00	-1,365.92	0.00	1,365.92	5,050.10	2,525.05	10,685.3	5,350.59	2.02	-0.55	0.260
40.00	-23.14	-18.79	0.00	-1,269.62	0.00	1,269.62	4,970.26	2,485.13	10,275.3	5,145.31	2.64	-0.63	0.251
44.75	-22.03	-18.54	0.00	-1,180.37	0.00	1,180.37	4,892.90	2,446.45	9,890.02	4,952.36	3.30	-0.70	0.243
45.00	-21.91	-18.28	0.00	-1,175.73	0.00	1,175.73	4,888.79	2,444.40	9,869.86	4,942.27	3.34	-0.71	0.242
50.00	-19.87	-17.96	0.00	-1,084.31	0.00	1,084.31	4,805.70	2,402.85	9,469.07	4,741.57	4.12	-0.78	0.233
51.00	-19.46	-17.71	0.00	-1,066.35	0.00	1,066.35	3,954.70	1,977.35	7,897.06	3,954.40	4.28	-0.80	0.275
55.00	-18.66	-17.26	0.00	-995.50	0.00	995.50	3,904.91	1,952.45	7,646.13	3,828.75	4.98	-0.86	0.265
60.00	-17.68	-16.75	0.00	-909.22	0.00	909.22	3,841.19	1,920.60	7,335.11	3,673.01	5.92	-0.94	0.252
65.00	-16.73	-16.24	0.00	-825.48	0.00	825.48	3,775.86	1,887.93	7,027.24	3,518.84	6.96	-1.02	0.239
70.00	-15.80	-15.73	0.00	-744.30	0.00	744.30	3,708.90	1,854.45	6,722.77	3,366.38	8.07	-1.10	0.225
75.00	-14.89	-15.22	0.00	-665.66	0.00	665.66	3,640.31	1,820.16	6,421.93	3,215.74	9.27	-1.18	0.211
80.00	-14.01	-14.71	0.00	-589.58	0.00	589.58	3,570.10	1,785.05	6,124.95	3,067.03	10.55	-1.26	0.196
85.00	-13.15	-14.20	0.00	-516.03	0.00	516.03	3,498.27	1,749.13	5,832.07	2,920.37	11.90	-1.33	0.181
90.00	-12.31	-13.91	0.00	-445.01	0.00	445.01	3,424.81	1,712.40	5,543.53	2,775.89	13.33	-1.40	0.164
90.75	-12.19	-13.66	0.00	-434.59	0.00	434.59	3,413.65	1,706.82	5,500.64	2,754.41	13.55	-1.41	0.161
95.00	-11.04	-13.39	0.00	-376.53	0.00	376.53	3,349.72	1,674.86	5,259.57	2,633.69	14.83	-1.46	0.146
95.75	-10.84	-13.14	0.00	-366.49	0.00	366.49	2,312.98	1,156.49	3,686.59	1,846.04	15.06	-1.47	0.203
100.00	-10.31	-12.69	0.00	-310.63	0.00	310.63	2,275.87	1,137.93	3,533.62	1,769.44	16.39	-1.52	0.180
105.00	-9.70	-12.20	0.00	-247.18	0.00	247.18	2,230.70	1,115.35	3,355.32	1,680.15	18.02	-1.58	0.152
110.00	-9.11	-11.77	0.00	-186.16	0.00	186.16	2,183.90	1,091.95	3,179.03	1,591.88	19.71	-1.64	0.121
114.00	-6.88	-10.16	0.00	-139.08	0.00	139.08	2,145.30	1,072.65	3,039.61	1,522.06	21.10	-1.68	0.095
115.00	-6.77	-10.06	0.00	-128.92	0.00	128.92	2,135.49	1,067.74	3,004.99	1,504.73	21.45	-1.68	0.089
116.00	-5.82	-7.66	0.00	-118.45	0.00	118.45	2,125.61	1,062.80	2,970.48	1,487.45	21.80	-1.69	0.082
120.00	-5.41	-7.29	0.00	-87.79	0.00	87.79	2,085.44	1,042.72	2,833.45	1,418.83	23.23	-1.72	0.065
124.00	-3.66	-5.44	0.00	-58.62	0.00	58.62	2,044.24	1,022.12	2,698.16	1,351.09	24.68	-1.74	0.045
125.00	-3.57	-5.18	0.00	-53.17	0.00	53.17	2,033.77	1,016.89	2,664.63	1,334.29	25.05	-1.74	0.042
130.00	-3.11	-4.78	0.00	-27.27	0.00	27.27	1,980.48	990.24	2,498.77	1,251.24	26.88	-1.76	0.023
134.00	-1.44	-3.19	0.00	-8.14	0.00	8.14	1,936.68	968.34	2,368.37	1,185.94	28.36	-1.76	0.008
135.00	-1.35	-3.11	0.00	-4.95	0.00	4.95	1,925.56	962.78	2,336.10	1,169.79	28.73	-1.77	0.005
136.00	-0.97	-1.45	0.00	-1.84	0.00	1.84	1,914.39	957.19	2,303.98	1,153.70	29.10	-1.77	0.002
137.00	-0.23	-0.13	0.00	-0.39	0.00	0.39	1,903.14	951.57	2,271.99	1,137.68	29.47	-1.77	0.000
140.00	0.00	-0.12	0.00	0.00	0.00	0.00	1,869.02	934.51	2,176.88	1,090.06	30.58	-1.77	0.000

Site Number: 311014 Code: ANSI/TIA-222-G
Site Name: NORWICH CT, CT Engineering Number: 12638416_C3_01 5/7/2019 11:12:23 AM
Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 0.75 in Radial Ice 20 Iterations
Gust Response Factor : 1.10 Ice Dead Load Factor : 1.00 Wind Importance Factor : 1.00
Dead Load Factor : 1.20 Ice Importance Factor : 1.00
Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		73.5	0.0					0.0	0.0	73.5	0.0	0.0	0.0
5.00		146.0	2,113.2					0.0	137.3	146.0	2,250.6	0.0	0.0
10.00		143.6	2,122.3					0.0	137.3	143.6	2,259.6	0.0	0.0
15.00		141.1	2,104.8					0.0	137.3	141.1	2,242.1	0.0	0.0
20.00		138.5	2,078.6					0.0	137.3	138.5	2,215.9	0.0	0.0
25.00		135.9	2,047.9					0.0	137.3	135.9	2,185.2	0.0	0.0
30.00		134.8	2,014.4					0.0	137.3	134.8	2,151.7	0.0	0.0
35.00		136.5	1,978.9					0.0	137.3	136.5	2,116.2	0.0	0.0
40.00		135.4	1,942.0					0.0	137.3	135.4	2,079.3	0.0	0.0
44.75	Bot - Section 2	70.0	1,809.9					0.0	130.5	70.0	1,940.4	0.0	0.0
45.00		75.2	155.7					0.0	6.9	75.2	162.6	0.0	0.0
50.00		86.1	3,073.0					0.0	137.3	86.1	3,210.3	0.0	0.0
51.00	Top - Section 1	72.2	607.4					0.0	27.5	72.2	634.8	0.0	0.0
55.00		130.2	1,326.4					0.0	109.9	130.2	1,436.3	0.0	0.0
60.00		144.9	1,624.9					0.0	137.3	144.9	1,762.2	0.0	0.0
65.00		144.9	1,588.9					0.0	137.3	144.9	1,726.2	0.0	0.0
70.00		144.5	1,552.4					0.0	137.3	144.5	1,689.7	0.0	0.0
75.00		143.9	1,515.5					0.0	137.3	143.9	1,652.8	0.0	0.0
80.00		142.9	1,478.2					0.0	137.3	142.9	1,615.5	0.0	0.0
85.00		141.7	1,440.6					0.0	137.3	141.7	1,577.9	0.0	0.0
90.00		81.1	1,402.7					0.0	137.3	81.1	1,540.0	0.0	0.0
90.75	Bot - Section 3	70.6	207.9					0.0	20.6	70.6	228.5	0.0	0.0
95.00		70.6	1,774.1					0.0	116.7	70.6	1,890.9	0.0	0.0
95.75	Top - Section 2	69.8	309.2					0.0	20.6	69.8	329.8	0.0	0.0
100.00		128.2	946.5					0.0	116.7	128.2	1,063.2	0.0	0.0
105.00		136.8	1,083.4					0.0	137.3	136.8	1,220.7	0.0	0.0
110.00		121.4	1,051.7					0.0	137.3	121.4	1,189.0	0.0	0.0
114.00	Appurtenance(s)	66.7	819.4	349.9	0.0	0.0	3,261.1	0.0	109.9	416.6	4,190.3	0.0	0.0
115.00		26.5	202.4					0.0	27.5	26.5	229.9	0.0	0.0
116.00	Appurtenance(s)	65.5	201.1	398.2	0.0	77.3	2,636.7	0.0	27.5	463.8	2,865.3	0.0	0.0
120.00		103.9	788.6					0.0	69.9	103.9	858.5	0.0	0.0
124.00	Appurtenance(s)	64.3	768.0	380.0	0.0	0.0	2,345.4	0.0	69.9	444.3	3,183.2	0.0	0.0
125.00		75.7	189.5					0.0	11.5	75.7	201.0	0.0	0.0
130.00		112.3	923.0					0.0	57.4	112.3	980.5	0.0	0.0
134.00	Appurtenance(s)	61.5	716.0	323.3	0.0	0.0	2,141.0	0.0	45.9	384.8	2,902.9	0.0	0.0
135.00		24.3	176.5					0.0	10.3	24.3	186.8	0.0	0.0
136.00	Appurtenance(s)	24.2	175.2	261.0	0.0	0.0	1,290.9	0.0	10.3	285.2	1,476.4	0.0	0.0
137.00	Appurtenance(s)	47.9	173.9	220.3	0.0	0.0	1,658.5	0.0	7.2	268.3	1,839.6	0.0	0.0
140.00		35.8	512.3					0.0	0.0	35.8	512.3	0.0	0.0
								Totals:		5,801.53	61,798.3	0.00	0.00

Site Number: 311014 Code: ANSI/TIA-222-G

Site Name: NORWICH CT, CT Engineering Number: 12638416_C3_01 5/7/2019 11:12:25 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 0.75 in Radial Ice 20 Iterations

Gust Response Factor : 1.10 Ice Dead Load Factor : 1.00 Wind Importance Factor : 1.00

Dead Load Factor : 1.20 Ice Importance Factor : 1.00

Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-61.80	-5.74	0.00	-522.92	0.00	522.92	5,563.50	2,781.75	13,660.1	6,840.21	0.00	0.00	0.088
5.00	-59.54	-5.61	0.00	-494.23	0.00	494.23	5,495.04	2,747.52	13,225.5	6,622.59	0.01	-0.02	0.085
10.00	-57.28	-5.49	0.00	-466.17	0.00	466.17	5,424.94	2,712.47	12,793.7	6,406.38	0.04	-0.04	0.083
15.00	-55.04	-5.36	0.00	-438.74	0.00	438.74	5,353.22	2,676.61	12,365.0	6,191.70	0.09	-0.06	0.081
20.00	-52.82	-5.24	0.00	-411.93	0.00	411.93	5,279.88	2,639.94	11,939.5	5,978.66	0.16	-0.08	0.079
25.00	-50.64	-5.12	0.00	-385.73	0.00	385.73	5,204.91	2,602.46	11,517.6	5,767.39	0.26	-0.10	0.077
30.00	-48.48	-4.99	0.00	-360.15	0.00	360.15	5,128.32	2,564.16	11,099.4	5,557.99	0.37	-0.12	0.074
35.00	-46.36	-4.87	0.00	-335.18	0.00	335.18	5,050.10	2,525.05	10,685.3	5,350.59	0.50	-0.14	0.072
40.00	-44.28	-4.74	0.00	-310.84	0.00	310.84	4,970.26	2,485.13	10,275.3	5,145.31	0.65	-0.15	0.069
44.75	-42.34	-4.67	0.00	-288.31	0.00	288.31	4,892.90	2,446.45	9,890.02	4,952.36	0.82	-0.17	0.067
45.00	-42.18	-4.61	0.00	-287.14	0.00	287.14	4,888.79	2,444.40	9,869.86	4,942.27	0.83	-0.17	0.067
50.00	-38.97	-4.52	0.00	-264.11	0.00	264.11	4,805.70	2,402.85	9,469.07	4,741.57	1.02	-0.19	0.064
51.00	-38.33	-4.45	0.00	-259.60	0.00	259.60	3,954.70	1,977.35	7,897.06	3,954.40	1.06	-0.20	0.075
55.00	-36.90	-4.32	0.00	-241.80	0.00	241.80	3,904.91	1,952.45	7,646.13	3,828.75	1.23	-0.21	0.073
60.00	-35.13	-4.19	0.00	-220.18	0.00	220.18	3,841.19	1,920.60	7,335.11	3,673.01	1.46	-0.23	0.069
65.00	-33.41	-4.04	0.00	-199.25	0.00	199.25	3,775.86	1,887.93	7,027.24	3,518.84	1.71	-0.25	0.065
70.00	-31.72	-3.90	0.00	-179.03	0.00	179.03	3,708.90	1,854.45	6,722.77	3,366.38	1.99	-0.27	0.062
75.00	-30.06	-3.76	0.00	-159.51	0.00	159.51	3,640.31	1,820.16	6,421.93	3,215.74	2.28	-0.29	0.058
80.00	-28.45	-3.62	0.00	-140.71	0.00	140.71	3,570.10	1,785.05	6,124.95	3,067.03	2.59	-0.31	0.054
85.00	-26.87	-3.48	0.00	-122.62	0.00	122.62	3,498.27	1,749.13	5,832.07	2,920.37	2.93	-0.32	0.050
90.00	-25.33	-3.39	0.00	-105.25	0.00	105.25	3,424.81	1,712.40	5,543.53	2,775.89	3.27	-0.34	0.045
90.75	-25.10	-3.32	0.00	-102.70	0.00	102.70	3,413.65	1,706.82	5,500.64	2,754.41	3.33	-0.34	0.045
95.00	-23.21	-3.24	0.00	-88.59	0.00	88.59	3,349.72	1,674.86	5,259.57	2,633.69	3.64	-0.36	0.041
95.75	-22.88	-3.17	0.00	-86.16	0.00	86.16	2,312.98	1,156.49	3,686.59	1,846.04	3.69	-0.36	0.057
100.00	-21.82	-3.04	0.00	-72.68	0.00	72.68	2,275.87	1,137.93	3,533.62	1,769.44	4.02	-0.37	0.051
105.00	-20.60	-2.90	0.00	-57.46	0.00	57.46	2,230.70	1,115.35	3,355.32	1,680.15	4.41	-0.38	0.043
110.00	-19.41	-2.78	0.00	-42.95	0.00	42.95	2,183.90	1,091.95	3,179.03	1,591.88	4.82	-0.40	0.036
114.00	-15.22	-2.33	0.00	-31.84	0.00	31.84	2,145.30	1,072.65	3,039.61	1,522.06	5.16	-0.41	0.028
115.00	-14.99	-2.30	0.00	-29.51	0.00	29.51	2,135.49	1,067.74	3,004.99	1,504.73	5.24	-0.41	0.027
116.00	-12.13	-1.82	0.00	-27.13	0.00	27.13	2,125.61	1,062.80	2,970.48	1,487.45	5.33	-0.41	0.024
120.00	-11.27	-1.71	0.00	-19.84	0.00	19.84	2,085.44	1,042.72	2,833.45	1,418.83	5.68	-0.42	0.019
124.00	-8.09	-1.25	0.00	-12.99	0.00	12.99	2,044.24	1,022.12	2,698.16	1,351.09	6.03	-0.42	0.014
125.00	-7.89	-1.17	0.00	-11.74	0.00	11.74	2,033.77	1,016.89	2,664.63	1,334.29	6.11	-0.42	0.013
130.00	-6.91	-1.05	0.00	-5.90	0.00	5.90	1,980.48	990.24	2,498.77	1,251.24	6.56	-0.42	0.008
134.00	-4.01	-0.64	0.00	-1.70	0.00	1.70	1,936.68	968.34	2,368.37	1,185.94	6.91	-0.43	0.004
135.00	-3.82	-0.62	0.00	-1.06	0.00	1.06	1,925.56	962.78	2,336.10	1,169.79	7.00	-0.43	0.003
136.00	-2.35	-0.32	0.00	-0.44	0.00	0.44	1,914.39	957.19	2,303.98	1,153.70	7.09	-0.43	0.002
137.00	-0.51	-0.04	0.00	-0.12	0.00	0.12	1,903.14	951.57	2,271.99	1,137.68	7.18	-0.43	0.000
140.00	0.00	-0.04	0.00	0.00	0.00	0.00	1,869.02	934.51	2,176.88	1,090.06	7.45	-0.43	0.000

Site Number: 311014 Code: ANSI/TIA-222-G
Site Name: NORWICH CT, CT Engineering Number: 12638416_C3_01 5/7/2019 11:12:26 AM
Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W Serviceability 60 mph 19 Iterations
Gust Response Factor : 1.10 Wind Importance Factor : 1.00
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		55.2	0.0					0.0	0.0	55.2	0.0	0.0	0.0
5.00		109.4	1,397.1					0.0	114.5	109.4	1,511.6	0.0	0.0
10.00		107.2	1,369.4					0.0	114.5	107.2	1,483.9	0.0	0.0
15.00		105.0	1,341.8					0.0	114.5	105.0	1,456.2	0.0	0.0
20.00		102.9	1,314.1					0.0	114.5	102.9	1,428.6	0.0	0.0
25.00		100.7	1,286.5					0.0	114.5	100.7	1,400.9	0.0	0.0
30.00		99.7	1,258.8					0.0	114.5	99.7	1,373.2	0.0	0.0
35.00		100.7	1,231.1					0.0	114.5	100.7	1,345.6	0.0	0.0
40.00		99.7	1,203.5					0.0	114.5	99.7	1,317.9	0.0	0.0
44.75	Bot - Section 2	51.5	1,117.7					0.0	108.7	51.5	1,226.4	0.0	0.0
45.00		55.3	108.8					0.0	5.7	55.3	114.5	0.0	0.0
50.00		63.2	2,148.7					0.0	114.5	63.2	2,263.1	0.0	0.0
51.00	Top - Section 1	52.9	423.6					0.0	22.9	52.9	446.5	0.0	0.0
55.00		95.4	779.6					0.0	91.6	95.4	871.1	0.0	0.0
60.00		106.0	953.1					0.0	114.5	106.0	1,067.6	0.0	0.0
65.00		105.7	929.4					0.0	114.5	105.7	1,043.9	0.0	0.0
70.00		105.2	905.7					0.0	114.5	105.2	1,020.2	0.0	0.0
75.00		104.5	882.0					0.0	114.5	104.5	996.4	0.0	0.0
80.00		103.5	858.3					0.0	114.5	103.5	972.7	0.0	0.0
85.00		102.4	834.6					0.0	114.5	102.4	949.0	0.0	0.0
90.00		58.5	810.9					0.0	114.5	58.5	925.3	0.0	0.0
90.75	Bot - Section 3	50.8	119.6					0.0	17.2	50.8	136.8	0.0	0.0
95.00		50.8	1,176.7					0.0	97.3	50.8	1,274.0	0.0	0.0
95.75	Top - Section 2	50.2	204.5					0.0	17.2	50.2	221.7	0.0	0.0
100.00		92.0	494.0					0.0	97.3	92.0	591.3	0.0	0.0
105.00		97.9	564.8					0.0	114.5	97.9	679.2	0.0	0.0
110.00		86.6	547.0					0.0	114.5	86.6	661.4	0.0	0.0
114.00	Appurtenance(s)	47.5	424.8	268.7	0.0	0.0	2,000.0	0.0	91.6	316.3	2,516.3	0.0	0.0
115.00		18.8	104.4					0.0	22.9	18.8	127.3	0.0	0.0
116.00	Appurtenance(s)	46.5	103.7	437.5	0.0	83.2	1,001.5	0.0	22.9	484.0	1,128.1	0.0	0.0
120.00		73.6	407.7					0.0	58.3	73.6	466.0	0.0	0.0
124.00	Appurtenance(s)	45.5	396.3	321.1	0.0	0.0	1,555.8	0.0	58.3	366.6	2,010.4	0.0	0.0
125.00		53.3	97.3					0.0	9.6	53.3	106.9	0.0	0.0
130.00		79.0	475.8					0.0	47.9	79.0	523.7	0.0	0.0
134.00	Appurtenance(s)	43.2	367.9	270.1	0.0	0.0	1,500.0	0.0	38.3	313.2	1,906.1	0.0	0.0
135.00		17.0	90.2					0.0	8.6	17.0	98.8	0.0	0.0
136.00	Appurtenance(s)	16.9	89.5	318.0	0.0	0.0	383.7	0.0	8.6	334.9	481.7	0.0	0.0
137.00	Appurtenance(s)	33.5	88.8	232.0	0.0	0.0	769.5	0.0	6.0	265.5	864.2	0.0	0.0
140.00		25.0	262.0					0.0	0.0	25.0	262.0	0.0	0.0
								Totals:		4,660.14	37,270.5	0.00	0.00

Site Number: 311014 Code: ANSI/TIA-222-G

Site Name: NORWICH CT, CT Engineering Number: 12638416_C3_01 5/7/2019 11:12:28 AM

Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W Serviceability 60 mph 19 Iterations

Gust Response Factor : 1.10 Wind Importance Factor : 1.00

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-37.27	-4.61	0.00	-430.40	0.00	430.40	5,563.50	2,781.75	13,660.1	6,840.21	0.00	0.00	0.070
5.00	-35.76	-4.51	0.00	-407.36	0.00	407.36	5,495.04	2,747.52	13,225.5	6,622.59	0.01	-0.02	0.068
10.00	-34.27	-4.41	0.00	-384.81	0.00	384.81	5,424.94	2,712.47	12,793.7	6,406.38	0.03	-0.03	0.066
15.00	-32.81	-4.31	0.00	-362.76	0.00	362.76	5,353.22	2,676.61	12,365.0	6,191.70	0.08	-0.05	0.065
20.00	-31.38	-4.22	0.00	-341.19	0.00	341.19	5,279.88	2,639.94	11,939.5	5,978.66	0.14	-0.06	0.063
25.00	-29.98	-4.12	0.00	-320.10	0.00	320.10	5,204.91	2,602.46	11,517.6	5,767.39	0.21	-0.08	0.061
30.00	-28.61	-4.03	0.00	-299.47	0.00	299.47	5,128.32	2,564.16	11,099.4	5,557.99	0.30	-0.10	0.059
35.00	-27.26	-3.94	0.00	-279.32	0.00	279.32	5,050.10	2,525.05	10,685.3	5,350.59	0.41	-0.11	0.058
40.00	-25.94	-3.84	0.00	-259.64	0.00	259.64	4,970.26	2,485.13	10,275.3	5,145.31	0.54	-0.13	0.056
44.75	-24.72	-3.79	0.00	-241.40	0.00	241.40	4,892.90	2,446.45	9,890.02	4,952.36	0.67	-0.14	0.054
45.00	-24.60	-3.74	0.00	-240.46	0.00	240.46	4,888.79	2,444.40	9,869.86	4,942.27	0.68	-0.14	0.054
50.00	-22.34	-3.67	0.00	-221.77	0.00	221.77	4,805.70	2,402.85	9,469.07	4,741.57	0.84	-0.16	0.051
51.00	-21.89	-3.62	0.00	-218.10	0.00	218.10	3,954.70	1,977.35	7,897.06	3,954.40	0.88	-0.16	0.061
55.00	-21.02	-3.53	0.00	-203.62	0.00	203.62	3,904.91	1,952.45	7,646.13	3,828.75	1.02	-0.18	0.059
60.00	-19.95	-3.42	0.00	-185.98	0.00	185.98	3,841.19	1,920.60	7,335.11	3,673.01	1.21	-0.19	0.056
65.00	-18.91	-3.32	0.00	-168.86	0.00	168.86	3,775.86	1,887.93	7,027.24	3,518.84	1.42	-0.21	0.053
70.00	-17.89	-3.22	0.00	-152.26	0.00	152.26	3,708.90	1,854.45	6,722.77	3,366.38	1.65	-0.23	0.050
75.00	-16.89	-3.11	0.00	-136.18	0.00	136.18	3,640.31	1,820.16	6,421.93	3,215.74	1.90	-0.24	0.047
80.00	-15.92	-3.01	0.00	-120.62	0.00	120.62	3,570.10	1,785.05	6,124.95	3,067.03	2.16	-0.26	0.044
85.00	-14.97	-2.91	0.00	-105.58	0.00	105.58	3,498.27	1,749.13	5,832.07	2,920.37	2.43	-0.27	0.040
90.00	-14.04	-2.84	0.00	-91.05	0.00	91.05	3,424.81	1,712.40	5,543.53	2,775.89	2.73	-0.29	0.037
90.75	-13.91	-2.79	0.00	-88.91	0.00	88.91	3,413.65	1,706.82	5,500.64	2,754.41	2.77	-0.29	0.036
95.00	-12.63	-2.74	0.00	-77.04	0.00	77.04	3,349.72	1,674.86	5,259.57	2,633.69	3.03	-0.30	0.033
95.75	-12.41	-2.69	0.00	-74.98	0.00	74.98	2,312.98	1,156.49	3,686.59	1,846.04	3.08	-0.30	0.046
100.00	-11.82	-2.60	0.00	-63.55	0.00	63.55	2,275.87	1,137.93	3,533.62	1,769.44	3.35	-0.31	0.041
105.00	-11.14	-2.50	0.00	-50.57	0.00	50.57	2,230.70	1,115.35	3,355.32	1,680.15	3.68	-0.32	0.035
110.00	-10.48	-2.41	0.00	-38.09	0.00	38.09	2,183.90	1,091.95	3,179.03	1,591.88	4.03	-0.34	0.029
114.00	-7.96	-2.08	0.00	-28.45	0.00	28.45	2,145.30	1,072.65	3,039.61	1,522.06	4.31	-0.34	0.022
115.00	-7.84	-2.06	0.00	-26.38	0.00	26.38	2,135.49	1,067.74	3,004.99	1,504.73	4.39	-0.34	0.021
116.00	-6.71	-1.57	0.00	-24.23	0.00	24.23	2,125.61	1,062.80	2,970.48	1,487.45	4.46	-0.35	0.019
120.00	-6.24	-1.49	0.00	-17.96	0.00	17.96	2,085.44	1,042.72	2,833.45	1,418.83	4.75	-0.35	0.016
124.00	-4.24	-1.11	0.00	-11.99	0.00	11.99	2,044.24	1,022.12	2,698.16	1,351.09	5.05	-0.36	0.011
125.00	-4.13	-1.06	0.00	-10.88	0.00	10.88	2,033.77	1,016.89	2,664.63	1,334.29	5.12	-0.36	0.010
130.00	-3.61	-0.98	0.00	-5.58	0.00	5.58	1,980.48	990.24	2,498.77	1,251.24	5.50	-0.36	0.006
134.00	-1.70	-0.65	0.00	-1.67	0.00	1.67	1,936.68	968.34	2,368.37	1,185.94	5.80	-0.36	0.002
135.00	-1.60	-0.64	0.00	-1.01	0.00	1.01	1,925.56	962.78	2,336.10	1,169.79	5.88	-0.36	0.002
136.00	-1.12	-0.30	0.00	-0.38	0.00	0.38	1,914.39	957.19	2,303.98	1,153.70	5.95	-0.36	0.001
137.00	-0.26	-0.03	0.00	-0.08	0.00	0.08	1,903.14	951.57	2,271.99	1,137.68	6.03	-0.36	0.000
140.00	0.00	-0.02	0.00	0.00	0.00	0.00	1,869.02	934.51	2,176.88	1,090.06	6.25	-0.36	0.000

Equivalent Lateral Forces Method Analysis

(Based on ASCE7-10 Chapters 11, 12, 15)

Spectral Response Acceleration for Short Period (S_s):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coeffiecient F_v:	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.18
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.04
Upper Limit C_s	0.04
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	1.50
Redundancy Factor (p):	1.00
Seismic Force Distribution Exponent (k):	1.50
Total Unfactored Dead Load:	37.27 k
Seismic Base Shear (E):	1.59 k

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
38	138.50	262	429	0.017	27	324
37	136.50	95	152	0.006	10	117
36	135.50	98	155	0.006	10	121
35	134.50	99	155	0.006	10	122
34	132.00	406	618	0.025	39	502
33	127.50	524	756	0.030	48	647
32	124.50	107	149	0.006	9	132
31	122.00	455	615	0.024	39	562
30	118.00	466	599	0.024	38	576
29	115.50	127	158	0.006	10	157
28	114.50	127	156	0.006	10	157
27	112.00	516	614	0.024	39	638
26	107.50	661	740	0.029	47	818
25	102.50	679	707	0.028	45	840
24	97.88	591	574	0.023	36	731
23	95.38	222	207	0.008	13	274
22	92.88	1,274	1,144	0.046	72	1,575
21	90.38	137	118	0.005	7	169
20	87.50	925	760	0.030	48	1,144
19	82.50	949	713	0.028	45	1,173
18	77.50	973	666	0.027	42	1,203
17	72.50	996	617	0.025	39	1,232
16	67.50	1,020	567	0.023	36	1,261

15	62.50	1,044	517	0.021	33	1,291
14	57.50	1,068	467	0.019	30	1,320
13	53.00	871	337	0.013	21	1,077
12	50.50	446	161	0.006	10	552
11	47.50	2,263	743	0.030	47	2,798
10	44.88	115	35	0.001	2	142
9	42.38	1,226	339	0.014	21	1,516
8	37.50	1,318	303	0.012	19	1,629
7	32.50	1,346	250	0.010	16	1,663
6	27.50	1,373	198	0.008	13	1,698
5	22.50	1,401	150	0.006	9	1,732
4	17.50	1,429	105	0.004	7	1,766
3	12.50	1,456	64	0.003	4	1,800
2	7.50	1,484	31	0.001	2	1,834
1	2.50	1,512	6	0.000	0	1,869
Ericsson Radio 4449	137.00	222	357	0.014	23	274
Ericsson AIR 21, 1.3	137.00	275	442	0.018	28	339
Ericsson AIR 21	137.00	273	439	0.017	28	338
RFS APXVAARR24_43-U-	136.00	384	611	0.024	39	474
Flat Low Profile Pla	134.00	1,500	2,334	0.093	148	1,854
Generic RCU (Remote	124.00	3	4	0.000	0	4
Kathrein Scala 800 1	124.00	53	73	0.003	5	65
Flat Low Profile Pla	124.00	1,500	2,078	0.083	131	1,854
Samsung B5/B13 RRH-B	116.00	211	264	0.011	17	261
Alcatel-Lucent B25 R	116.00	159	199	0.008	13	197
Alcatel-Lucent RRH4X	116.00	192	241	0.010	15	237
Raycap RCMDC-6627-PF	116.00	64	80	0.003	5	79
Commscope SBNHH-1D65	116.00	81	102	0.004	6	100
Commscope NHH-45B-R2	116.00	294	369	0.015	23	364
Round Platform w/ Ha	114.00	2,000	2,442	0.097	155	2,473
		37,271	25,108	1.000	1,589	46,076

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
38	138.50	262	429	0.017	27	226
37	136.50	95	152	0.006	10	82
36	135.50	98	155	0.006	10	85
35	134.50	99	155	0.006	10	85
34	132.00	406	618	0.025	39	351
33	127.50	524	756	0.030	48	452
32	124.50	107	149	0.006	9	92
31	122.00	455	615	0.024	39	393
30	118.00	466	599	0.024	38	402
29	115.50	127	158	0.006	10	109
28	114.50	127	156	0.006	10	110
27	112.00	516	614	0.024	39	446
26	107.50	661	740	0.029	47	571
25	102.50	679	707	0.028	45	587
24	97.88	591	574	0.023	36	511
23	95.38	222	207	0.008	13	191
22	92.88	1,274	1,144	0.046	72	1,100
21	90.38	137	118	0.005	7	118
20	87.50	925	760	0.030	48	799
19	82.50	949	713	0.028	45	820
18	77.50	973	666	0.027	42	840
17	72.50	996	617	0.025	39	861
16	67.50	1,020	567	0.023	36	881
15	62.50	1,044	517	0.021	33	902

14	57.50	1,068	467	0.019	30	922
13	53.00	871	337	0.013	21	752
12	50.50	446	161	0.006	10	386
11	47.50	2,263	743	0.030	47	1,955
10	44.88	115	35	0.001	2	99
9	42.38	1,226	339	0.014	21	1,059
8	37.50	1,318	303	0.012	19	1,138
7	32.50	1,346	250	0.010	16	1,162
6	27.50	1,373	198	0.008	13	1,186
5	22.50	1,401	150	0.006	9	1,210
4	17.50	1,429	105	0.004	7	1,234
3	12.50	1,456	64	0.003	4	1,258
2	7.50	1,484	31	0.001	2	1,282
1	2.50	1,512	6	0.000	0	1,306
Ericsson Radio 4449	137.00	222	357	0.014	23	192
Ericsson AIR 21, 1.3	137.00	275	442	0.018	28	237
Ericsson AIR 21	137.00	273	439	0.017	28	236
RFS APXVAARR24_43-U-	136.00	384	611	0.024	39	331
Flat Low Profile Pla	134.00	1,500	2,334	0.093	148	1,296
Generic RCU (Remote	124.00	3	4	0.000	0	3
Kathrein Scala 800 1	124.00	53	73	0.003	5	46
Flat Low Profile Pla	124.00	1,500	2,078	0.083	131	1,296
Samsung B5/B13 RRH-B	116.00	211	264	0.011	17	182
Alcatel-Lucent B25 R	116.00	159	199	0.008	13	137
Alcatel-Lucent RRH4X	116.00	192	241	0.010	15	166
Raycap RCMDC-6627-PF	116.00	64	80	0.003	5	55
Commscope SBNHH-1D65	116.00	81	102	0.004	6	70
Commscope NHH-45B-R2	116.00	294	369	0.015	23	254
Round Platform w/ Ha	114.00	2,000	2,442	0.097	155	1,727
		37,271	25,108	1.000	1,589	32,192

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-44.21	-1.59	0.00	-165.51	0.00	165.51	5,563.50	2,781.75	13,660.1	6,840.21	0.00	0.00	0.032
5.00	-42.37	-1.59	0.00	-157.56	0.00	157.56	5,495.04	2,747.52	13,225.5	6,622.59	0.00	-0.01	0.032
10.00	-40.57	-1.59	0.00	-149.60	0.00	149.60	5,424.94	2,712.47	12,793.7	6,406.38	0.01	-0.01	0.031
15.00	-38.81	-1.59	0.00	-141.64	0.00	141.64	5,353.22	2,676.61	12,365.0	6,191.70	0.03	-0.02	0.030
20.00	-37.07	-1.58	0.00	-133.69	0.00	133.69	5,279.88	2,639.94	11,939.5	5,978.66	0.05	-0.02	0.029
25.00	-35.38	-1.57	0.00	-125.77	0.00	125.77	5,204.91	2,602.46	11,517.6	5,767.39	0.08	-0.03	0.029
30.00	-33.71	-1.56	0.00	-117.89	0.00	117.89	5,128.32	2,564.16	11,099.4	5,557.99	0.12	-0.04	0.028
35.00	-32.08	-1.54	0.00	-110.09	0.00	110.09	5,050.10	2,525.05	10,685.3	5,350.59	0.16	-0.04	0.027
40.00	-30.57	-1.53	0.00	-102.37	0.00	102.37	4,970.26	2,485.13	10,275.3	5,145.31	0.21	-0.05	0.026
44.75	-30.43	-1.52	0.00	-95.12	0.00	95.12	4,892.90	2,446.45	9,890.02	4,952.36	0.26	-0.06	0.025
45.00	-27.63	-1.48	0.00	-94.74	0.00	94.74	4,888.79	2,444.40	9,869.86	4,942.27	0.27	-0.06	0.025
50.00	-27.08	-1.47	0.00	-87.36	0.00	87.36	4,805.70	2,402.85	9,469.07	4,741.57	0.33	-0.06	0.024
51.00	-26.00	-1.45	0.00	-85.89	0.00	85.89	3,954.70	1,977.35	7,897.06	3,954.40	0.34	-0.06	0.028
55.00	-24.68	-1.42	0.00	-80.11	0.00	80.11	3,904.91	1,952.45	7,646.13	3,828.75	0.40	-0.07	0.027
60.00	-23.39	-1.39	0.00	-73.02	0.00	73.02	3,841.19	1,920.60	7,335.11	3,673.01	0.47	-0.08	0.026
65.00	-22.13	-1.35	0.00	-66.09	0.00	66.09	3,775.86	1,887.93	7,027.24	3,518.84	0.56	-0.08	0.025
70.00	-20.89	-1.31	0.00	-59.34	0.00	59.34	3,708.90	1,854.45	6,722.77	3,366.38	0.65	-0.09	0.023
75.00	-19.69	-1.27	0.00	-52.77	0.00	52.77	3,640.31	1,820.16	6,421.93	3,215.74	0.74	-0.09	0.022
80.00	-18.52	-1.23	0.00	-46.42	0.00	46.42	3,570.10	1,785.05	6,124.95	3,067.03	0.84	-0.10	0.020
85.00	-17.37	-1.18	0.00	-40.30	0.00	40.30	3,498.27	1,749.13	5,832.07	2,920.37	0.95	-0.11	0.019
90.00	-17.21	-1.17	0.00	-34.42	0.00	34.42	3,424.81	1,712.40	5,543.53	2,775.89	1.07	-0.11	0.017
90.75	-15.63	-1.09	0.00	-33.54	0.00	33.54	3,413.65	1,706.82	5,500.64	2,754.41	1.08	-0.11	0.017
95.00	-15.36	-1.08	0.00	-28.88	0.00	28.88	3,349.72	1,674.86	5,259.57	2,633.69	1.19	-0.12	0.016
95.75	-14.63	-1.04	0.00	-28.07	0.00	28.07	2,312.98	1,156.49	3,686.59	1,846.04	1.20	-0.12	0.022
100.00	-13.79	-1.00	0.00	-23.63	0.00	23.63	2,275.87	1,137.93	3,533.62	1,769.44	1.31	-0.12	0.019
105.00	-12.97	-0.95	0.00	-18.64	0.00	18.64	2,230.70	1,115.35	3,355.32	1,680.15	1.44	-0.13	0.017
110.00	-12.33	-0.91	0.00	-13.88	0.00	13.88	2,183.90	1,091.95	3,179.03	1,591.88	1.57	-0.13	0.014
114.00	-9.70	-0.74	0.00	-10.23	0.00	10.23	2,145.30	1,072.65	3,039.61	1,522.06	1.68	-0.13	0.011
115.00	-9.54	-0.73	0.00	-9.49	0.00	9.49	2,135.49	1,067.74	3,004.99	1,504.73	1.71	-0.13	0.011
116.00	-7.73	-0.61	0.00	-8.75	0.00	8.75	2,125.61	1,062.80	2,970.48	1,487.45	1.74	-0.13	0.010
120.00	-7.17	-0.57	0.00	-6.31	0.00	6.31	2,085.44	1,042.72	2,833.45	1,418.83	1.85	-0.14	0.008
124.00	-5.11	-0.42	0.00	-4.03	0.00	4.03	2,044.24	1,022.12	2,698.16	1,351.09	1.97	-0.14	0.005
125.00	-4.47	-0.37	0.00	-3.61	0.00	3.61	2,033.77	1,016.89	2,664.63	1,334.29	2.00	-0.14	0.005
130.00	-3.96	-0.33	0.00	-1.76	0.00	1.76	1,980.48	990.24	2,498.77	1,251.24	2.14	-0.14	0.003
134.00	-1.99	-0.17	0.00	-0.43	0.00	0.43	1,936.68	968.34	2,368.37	1,185.94	2.26	-0.14	0.001
135.00	-1.87	-0.16	0.00	-0.27	0.00	0.27	1,925.56	962.78	2,336.10	1,169.79	2.29	-0.14	0.001
136.00	-1.27	-0.11	0.00	-0.11	0.00	0.11	1,914.39	957.19	2,303.98	1,153.70	2.31	-0.14	0.001
137.00	0.00	0.00	0.00	0.00	0.00	0.00	1,903.14	951.57	2,271.99	1,137.68	2.34	-0.14	0.000
140.00	0.00	0.00	0.00	0.00	0.00	0.00	1,869.02	934.51	2,176.88	1,090.06	2.43	-0.14	0.000

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-30.89	-1.59	0.00	-164.53	0.00	164.53	5,563.50	2,781.75	13,660.1	6,840.21	0.00	0.00	0.030
5.00	-29.60	-1.59	0.00	-156.58	0.00	156.58	5,495.04	2,747.52	13,225.5	6,622.59	0.00	-0.01	0.029
10.00	-28.35	-1.59	0.00	-148.63	0.00	148.63	5,424.94	2,712.47	12,793.7	6,406.38	0.01	-0.01	0.028
15.00	-27.11	-1.59	0.00	-140.68	0.00	140.68	5,353.22	2,676.61	12,365.0	6,191.70	0.03	-0.02	0.028
20.00	-25.90	-1.58	0.00	-132.75	0.00	132.75	5,279.88	2,639.94	11,939.5	5,978.66	0.05	-0.02	0.027
25.00	-24.72	-1.57	0.00	-124.86	0.00	124.86	5,204.91	2,602.46	11,517.6	5,767.39	0.08	-0.03	0.026
30.00	-23.55	-1.55	0.00	-117.02	0.00	117.02	5,128.32	2,564.16	11,099.4	5,557.99	0.12	-0.04	0.026
35.00	-22.41	-1.54	0.00	-109.25	0.00	109.25	5,050.10	2,525.05	10,685.3	5,350.59	0.16	-0.04	0.025
40.00	-21.36	-1.52	0.00	-101.57	0.00	101.57	4,970.26	2,485.13	10,275.3	5,145.31	0.21	-0.05	0.024
44.75	-21.26	-1.52	0.00	-94.37	0.00	94.37	4,892.90	2,446.45	9,890.02	4,952.36	0.26	-0.06	0.023
45.00	-19.30	-1.47	0.00	-93.99	0.00	93.99	4,888.79	2,444.40	9,869.86	4,942.27	0.26	-0.06	0.023
50.00	-18.92	-1.46	0.00	-86.65	0.00	86.65	4,805.70	2,402.85	9,469.07	4,741.57	0.33	-0.06	0.022
51.00	-18.16	-1.44	0.00	-85.19	0.00	85.19	3,954.70	1,977.35	7,897.06	3,954.40	0.34	-0.06	0.026
55.00	-17.24	-1.41	0.00	-79.44	0.00	79.44	3,904.91	1,952.45	7,646.13	3,828.75	0.39	-0.07	0.025
60.00	-16.34	-1.38	0.00	-72.40	0.00	72.40	3,841.19	1,920.60	7,335.11	3,673.01	0.47	-0.07	0.024
65.00	-15.46	-1.34	0.00	-65.52	0.00	65.52	3,775.86	1,887.93	7,027.24	3,518.84	0.55	-0.08	0.023
70.00	-14.60	-1.30	0.00	-58.82	0.00	58.82	3,708.90	1,854.45	6,722.77	3,366.38	0.64	-0.09	0.021
75.00	-13.76	-1.26	0.00	-52.31	0.00	52.31	3,640.31	1,820.16	6,421.93	3,215.74	0.74	-0.09	0.020
80.00	-12.94	-1.21	0.00	-46.01	0.00	46.01	3,570.10	1,785.05	6,124.95	3,067.03	0.84	-0.10	0.019
85.00	-12.14	-1.17	0.00	-39.94	0.00	39.94	3,498.27	1,749.13	5,832.07	2,920.37	0.94	-0.11	0.017
90.00	-12.02	-1.16	0.00	-34.10	0.00	34.10	3,424.81	1,712.40	5,543.53	2,775.89	1.06	-0.11	0.016
90.75	-10.92	-1.09	0.00	-33.23	0.00	33.23	3,413.65	1,706.82	5,500.64	2,754.41	1.08	-0.11	0.015
95.00	-10.73	-1.07	0.00	-28.62	0.00	28.62	3,349.72	1,674.86	5,259.57	2,633.69	1.18	-0.12	0.014
95.75	-10.22	-1.04	0.00	-27.82	0.00	27.82	2,312.98	1,156.49	3,686.59	1,846.04	1.19	-0.12	0.019
100.00	-9.63	-0.99	0.00	-23.42	0.00	23.42	2,275.87	1,137.93	3,533.62	1,769.44	1.30	-0.12	0.017
105.00	-9.06	-0.94	0.00	-18.46	0.00	18.46	2,230.70	1,115.35	3,355.32	1,680.15	1.43	-0.12	0.015
110.00	-8.61	-0.90	0.00	-13.75	0.00	13.75	2,183.90	1,091.95	3,179.03	1,591.88	1.56	-0.13	0.013
114.00	-6.78	-0.74	0.00	-10.14	0.00	10.14	2,145.30	1,072.65	3,039.61	1,522.06	1.67	-0.13	0.010
115.00	-6.67	-0.73	0.00	-9.40	0.00	9.40	2,135.49	1,067.74	3,004.99	1,504.73	1.70	-0.13	0.009
116.00	-5.40	-0.60	0.00	-8.67	0.00	8.67	2,125.61	1,062.80	2,970.48	1,487.45	1.73	-0.13	0.008
120.00	-5.01	-0.57	0.00	-6.26	0.00	6.26	2,085.44	1,042.72	2,833.45	1,418.83	1.84	-0.13	0.007
124.00	-3.57	-0.42	0.00	-3.99	0.00	3.99	2,044.24	1,022.12	2,698.16	1,351.09	1.95	-0.14	0.005
125.00	-3.12	-0.37	0.00	-3.58	0.00	3.58	2,033.77	1,016.89	2,664.63	1,334.29	1.98	-0.14	0.004
130.00	-2.77	-0.33	0.00	-1.74	0.00	1.74	1,980.48	990.24	2,498.77	1,251.24	2.12	-0.14	0.003
134.00	-1.39	-0.17	0.00	-0.43	0.00	0.43	1,936.68	968.34	2,368.37	1,185.94	2.24	-0.14	0.001
135.00	-1.30	-0.16	0.00	-0.26	0.00	0.26	1,925.56	962.78	2,336.10	1,169.79	2.27	-0.14	0.001
136.00	-0.89	-0.11	0.00	-0.11	0.00	0.11	1,914.39	957.19	2,303.98	1,153.70	2.30	-0.14	0.001
137.00	0.00	0.00	0.00	0.00	0.00	0.00	1,903.14	951.57	2,271.99	1,137.68	2.33	-0.14	0.000
140.00	0.00	0.00	0.00	0.00	0.00	0.00	1,869.02	934.51	2,176.88	1,090.06	2.41	-0.14	0.000

Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.18
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	1.50
Redundancy Factor (p):	1.00

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
38	138.50	262	1.850	1.774	1.065	0.333	58	324
37	136.50	95	1.797	1.523	0.972	0.303	19	117
36	135.50	98	1.770	1.408	0.927	0.288	19	121
35	134.50	99	1.744	1.298	0.885	0.273	18	122
34	132.00	406	1.680	1.049	0.784	0.239	65	502
33	127.50	524	1.568	0.682	0.627	0.183	64	647
32	124.50	107	1.495	0.488	0.536	0.150	11	132
31	122.00	455	1.435	0.354	0.469	0.125	38	562
30	118.00	466	1.343	0.184	0.375	0.090	28	576
29	115.50	127	1.286	0.102	0.324	0.071	6	157
28	114.50	127	1.264	0.074	0.305	0.064	5	157
27	112.00	516	1.210	0.014	0.262	0.048	17	638
26	107.50	661	1.114	-0.061	0.196	0.025	11	818
25	102.50	679	1.013	-0.106	0.138	0.007	3	840
24	97.88	591	0.924	-0.121	0.097	-0.002	-1	731
23	95.38	222	0.877	-0.121	0.079	-0.005	-1	274
22	92.88	1,274	0.832	-0.117	0.063	-0.006	-5	1,575
21	90.38	137	0.788	-0.110	0.050	-0.005	0	169
20	87.50	925	0.738	-0.098	0.038	-0.003	-2	1,144
19	82.50	949	0.656	-0.073	0.022	0.004	3	1,173
18	77.50	973	0.579	-0.045	0.012	0.013	8	1,203
17	72.50	996	0.507	-0.019	0.007	0.022	15	1,232
16	67.50	1,020	0.439	0.005	0.006	0.030	20	1,261
15	62.50	1,044	0.377	0.025	0.007	0.036	25	1,291
14	57.50	1,068	0.319	0.041	0.011	0.040	28	1,320
13	53.00	871	0.271	0.051	0.015	0.041	24	1,077
12	50.50	446	0.246	0.056	0.018	0.042	12	552
11	47.50	2,263	0.218	0.060	0.021	0.042	63	2,798
10	44.88	115	0.194	0.063	0.024	0.041	3	142
9	42.38	1,226	0.173	0.066	0.027	0.041	33	1,516
8	37.50	1,318	0.136	0.069	0.032	0.039	35	1,629
7	32.50	1,346	0.102	0.071	0.037	0.038	34	1,663
6	27.50	1,373	0.073	0.072	0.040	0.036	33	1,698
5	22.50	1,401	0.049	0.071	0.042	0.034	32	1,732

4	17.50	1,429	0.030	0.068	0.040	0.032	30	1,766
3	12.50	1,456	0.015	0.061	0.036	0.028	27	1,800
2	7.50	1,484	0.005	0.046	0.026	0.022	22	1,834
1	2.50	1,512	0.001	0.019	0.010	0.010	10	1,869
Ericsson Radio 4449	137.00	222	1.810	1.584	0.994	0.310	46	274
Ericsson AIR 21, 1.3	137.00	275	1.810	1.584	0.994	0.310	57	339
Ericsson AIR 21	137.00	273	1.810	1.584	0.994	0.310	56	338
RFS APXVAARR24_43-U-	136.00	384	1.784	1.465	0.949	0.295	76	474
Flat Low Profile Pla	134.00	1,500	1.731	1.245	0.864	0.266	266	1,854
Generic RCU (Remote	124.00	3	1.483	0.459	0.522	0.145	0	4
Kathrein Scala 800 1	124.00	53	1.483	0.459	0.522	0.145	5	65
Flat Low Profile Pla	124.00	1,500	1.483	0.459	0.522	0.145	145	1,854
Samsung B5/B13 RRH-B	116.00	211	1.298	0.117	0.334	0.075	10	261
Alcatel-Lucent B25 R	116.00	159	1.298	0.117	0.334	0.075	8	197
Alcatel-Lucent RRH4X	116.00	192	1.298	0.117	0.334	0.075	10	237
Raycap RCMDC-6627-PF	116.00	64	1.298	0.117	0.334	0.075	3	79
Commscope SBNHH-	116.00	81	1.298	0.117	0.334	0.075	4	100
Commscope NHH-45B-	116.00	294	1.298	0.117	0.334	0.075	15	364
Round Platform w/ Ha	114.00	2,000	1.253	0.061	0.296	0.061	81	2,473
		37,271	51.548	18.525	17.290	5.206	1,593	46,076

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
38	138.50	262	1.850	1.774	1.065	0.333	58	226
37	136.50	95	1.797	1.523	0.972	0.303	19	82
36	135.50	98	1.770	1.408	0.927	0.288	19	85
35	134.50	99	1.744	1.298	0.885	0.273	18	85
34	132.00	406	1.680	1.049	0.784	0.239	65	351
33	127.50	524	1.568	0.682	0.627	0.183	64	452
32	124.50	107	1.495	0.488	0.536	0.150	11	92
31	122.00	455	1.435	0.354	0.469	0.125	38	393
30	118.00	466	1.343	0.184	0.375	0.090	28	402
29	115.50	127	1.286	0.102	0.324	0.071	6	109
28	114.50	127	1.264	0.074	0.305	0.064	5	110
27	112.00	516	1.210	0.014	0.262	0.048	17	446
26	107.50	661	1.114	-0.061	0.196	0.025	11	571
25	102.50	679	1.013	-0.106	0.138	0.007	3	587
24	97.88	591	0.924	-0.121	0.097	-0.002	-1	511
23	95.38	222	0.877	-0.121	0.079	-0.005	-1	191
22	92.88	1,274	0.832	-0.117	0.063	-0.006	-5	1,100
21	90.38	137	0.788	-0.110	0.050	-0.005	0	118
20	87.50	925	0.738	-0.098	0.038	-0.003	-2	799
19	82.50	949	0.656	-0.073	0.022	0.004	3	820
18	77.50	973	0.579	-0.045	0.012	0.013	8	840
17	72.50	996	0.507	-0.019	0.007	0.022	15	861
16	67.50	1,020	0.439	0.005	0.006	0.030	20	881
15	62.50	1,044	0.377	0.025	0.007	0.036	25	902
14	57.50	1,068	0.319	0.041	0.011	0.040	28	922
13	53.00	871	0.271	0.051	0.015	0.041	24	752
12	50.50	446	0.246	0.056	0.018	0.042	12	386
11	47.50	2,263	0.218	0.060	0.021	0.042	63	1,955
10	44.88	115	0.194	0.063	0.024	0.041	3	99
9	42.38	1,226	0.173	0.066	0.027	0.041	33	1,059
8	37.50	1,318	0.136	0.069	0.032	0.039	35	1,138
7	32.50	1,346	0.102	0.071	0.037	0.038	34	1,162
6	27.50	1,373	0.073	0.072	0.040	0.036	33	1,186
5	22.50	1,401	0.049	0.071	0.042	0.034	32	1,210

4	17.50	1,429	0.030	0.068	0.040	0.032	30	1,234
3	12.50	1,456	0.015	0.061	0.036	0.028	27	1,258
2	7.50	1,484	0.005	0.046	0.026	0.022	22	1,282
1	2.50	1,512	0.001	0.019	0.010	0.010	10	1,306
Ericsson Radio 4449	137.00	222	1.810	1.584	0.994	0.310	46	192
Ericsson AIR 21, 1.3	137.00	275	1.810	1.584	0.994	0.310	57	237
Ericsson AIR 21	137.00	273	1.810	1.584	0.994	0.310	56	236
RFS APXVAARR24_43-U-	136.00	384	1.784	1.465	0.949	0.295	76	331
Flat Low Profile Pla	134.00	1,500	1.731	1.245	0.864	0.266	266	1,296
Generic RCU (Remote	124.00	3	1.483	0.459	0.522	0.145	0	3
Kathrein Scala 800 1	124.00	53	1.483	0.459	0.522	0.145	5	46
Flat Low Profile Pla	124.00	1,500	1.483	0.459	0.522	0.145	145	1,296
Samsung B5/B13 RRH-B	116.00	211	1.298	0.117	0.334	0.075	10	182
Alcatel-Lucent B25 R	116.00	159	1.298	0.117	0.334	0.075	8	137
Alcatel-Lucent RRH4X	116.00	192	1.298	0.117	0.334	0.075	10	166
Raycap RCMDC-6627-PF	116.00	64	1.298	0.117	0.334	0.075	3	55
Commscope SBNHH-	116.00	81	1.298	0.117	0.334	0.075	4	70
Commscope NHH-45B-	116.00	294	1.298	0.117	0.334	0.075	15	254
Round Platform w/ Ha	114.00	2,000	1.253	0.061	0.296	0.061	81	1,727
		37,271	51.548	18.525	17.290	5.206	1,593	32,192

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-44.21	-1.59	0.00	-166.60	0.00	166.60	5,563.50	2,781.75	13,660.1	6,840.21	0.00	0.00	0.032
5.00	-42.37	-1.57	0.00	-158.67	0.00	158.67	5,495.04	2,747.52	13,225.5	6,622.59	0.00	-0.01	0.032
10.00	-40.57	-1.54	0.00	-150.83	0.00	150.83	5,424.94	2,712.47	12,793.7	6,406.38	0.01	-0.01	0.031
15.00	-38.81	-1.52	0.00	-143.11	0.00	143.11	5,353.22	2,676.61	12,365.0	6,191.70	0.03	-0.02	0.030
20.00	-37.07	-1.49	0.00	-135.52	0.00	135.52	5,279.88	2,639.94	11,939.5	5,978.66	0.05	-0.03	0.030
25.00	-35.38	-1.46	0.00	-128.07	0.00	128.07	5,204.91	2,602.46	11,517.6	5,767.39	0.08	-0.03	0.029
30.00	-33.71	-1.43	0.00	-120.77	0.00	120.77	5,128.32	2,564.16	11,099.4	5,557.99	0.12	-0.04	0.028
35.00	-32.08	-1.40	0.00	-113.63	0.00	113.63	5,050.10	2,525.05	10,685.3	5,350.59	0.16	-0.04	0.028
40.00	-30.57	-1.37	0.00	-106.65	0.00	106.65	4,970.26	2,485.13	10,275.3	5,145.31	0.21	-0.05	0.027
44.75	-30.43	-1.36	0.00	-100.16	0.00	100.16	4,892.90	2,446.45	9,890.02	4,952.36	0.27	-0.06	0.026
45.00	-27.63	-1.30	0.00	-99.82	0.00	99.82	4,888.79	2,444.40	9,869.86	4,942.27	0.27	-0.06	0.026
50.00	-27.08	-1.29	0.00	-93.32	0.00	93.32	4,805.70	2,402.85	9,469.07	4,741.57	0.33	-0.06	0.025
51.00	-26.00	-1.26	0.00	-92.03	0.00	92.03	3,954.70	1,977.35	7,897.06	3,954.40	0.35	-0.07	0.030
55.00	-24.68	-1.24	0.00	-86.97	0.00	86.97	3,904.91	1,952.45	7,646.13	3,828.75	0.40	-0.07	0.029
60.00	-23.39	-1.21	0.00	-80.78	0.00	80.78	3,841.19	1,920.60	7,335.11	3,673.01	0.48	-0.08	0.028
65.00	-22.13	-1.19	0.00	-74.71	0.00	74.71	3,775.86	1,887.93	7,027.24	3,518.84	0.57	-0.09	0.027
70.00	-20.89	-1.18	0.00	-68.74	0.00	68.74	3,708.90	1,854.45	6,722.77	3,366.38	0.66	-0.09	0.026
75.00	-19.69	-1.17	0.00	-62.84	0.00	62.84	3,640.31	1,820.16	6,421.93	3,215.74	0.76	-0.10	0.025
80.00	-18.52	-1.17	0.00	-56.97	0.00	56.97	3,570.10	1,785.05	6,124.95	3,067.03	0.87	-0.11	0.024
85.00	-17.37	-1.17	0.00	-51.12	0.00	51.12	3,498.27	1,749.13	5,832.07	2,920.37	0.99	-0.11	0.022
90.00	-17.21	-1.17	0.00	-45.26	0.00	45.26	3,424.81	1,712.40	5,543.53	2,775.89	1.11	-0.12	0.021
90.75	-15.63	-1.18	0.00	-44.38	0.00	44.38	3,413.65	1,706.82	5,500.64	2,754.41	1.13	-0.12	0.021
95.00	-15.36	-1.18	0.00	-39.39	0.00	39.39	3,349.72	1,674.86	5,259.57	2,633.69	1.24	-0.13	0.020
95.75	-14.63	-1.18	0.00	-38.51	0.00	38.51	2,312.98	1,156.49	3,686.59	1,846.04	1.26	-0.13	0.027
100.00	-13.79	-1.17	0.00	-33.50	0.00	33.50	2,275.87	1,137.93	3,533.62	1,769.44	1.38	-0.13	0.025
105.00	-12.97	-1.16	0.00	-27.64	0.00	27.64	2,230.70	1,115.35	3,355.32	1,680.15	1.52	-0.14	0.022
110.00	-12.33	-1.14	0.00	-21.83	0.00	21.83	2,183.90	1,091.95	3,179.03	1,591.88	1.67	-0.15	0.019
114.00	-9.70	-1.05	0.00	-17.25	0.00	17.25	2,145.30	1,072.65	3,039.61	1,522.06	1.80	-0.15	0.016
115.00	-9.54	-1.05	0.00	-16.20	0.00	16.20	2,135.49	1,067.74	3,004.99	1,504.73	1.83	-0.15	0.015
116.00	-7.73	-0.96	0.00	-15.15	0.00	15.15	2,125.61	1,062.80	2,970.48	1,487.45	1.86	-0.15	0.014
120.00	-7.17	-0.92	0.00	-11.30	0.00	11.30	2,085.44	1,042.72	2,833.45	1,418.83	1.99	-0.16	0.011
124.00	-5.11	-0.76	0.00	-7.60	0.00	7.60	2,044.24	1,022.12	2,698.16	1,351.09	2.13	-0.16	0.008
125.00	-4.46	-0.69	0.00	-6.84	0.00	6.84	2,033.77	1,016.89	2,664.63	1,334.29	2.16	-0.16	0.007
130.00	-3.96	-0.63	0.00	-3.38	0.00	3.38	1,980.48	990.24	2,498.77	1,251.24	2.33	-0.16	0.005
134.00	-1.99	-0.34	0.00	-0.87	0.00	0.87	1,936.68	968.34	2,368.37	1,185.94	2.46	-0.16	0.002
135.00	-1.87	-0.32	0.00	-0.54	0.00	0.54	1,925.56	962.78	2,336.10	1,169.79	2.50	-0.16	0.001
136.00	-1.27	-0.22	0.00	-0.22	0.00	0.22	1,914.39	957.19	2,303.98	1,153.70	2.53	-0.16	0.001
137.00	0.00	0.00	0.00	0.00	0.00	0.00	1,903.14	951.57	2,271.99	1,137.68	2.57	-0.16	0.000
140.00	0.00	0.00	0.00	0.00	0.00	0.00	1,869.02	934.51	2,176.88	1,090.06	2.67	-0.16	0.000

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-30.89	-1.58	0.00	-165.54	0.00	165.54	5,563.50	2,781.75	13,660.1	6,840.21	0.00	0.00	0.030
5.00	-29.60	-1.57	0.00	-157.62	0.00	157.62	5,495.04	2,747.52	13,225.5	6,622.59	0.00	-0.01	0.029
10.00	-28.35	-1.54	0.00	-149.79	0.00	149.79	5,424.94	2,712.47	12,793.7	6,406.38	0.01	-0.01	0.029
15.00	-27.11	-1.51	0.00	-142.09	0.00	142.09	5,353.22	2,676.61	12,365.0	6,191.70	0.03	-0.02	0.028
20.00	-25.90	-1.48	0.00	-134.52	0.00	134.52	5,279.88	2,639.94	11,939.5	5,978.66	0.05	-0.02	0.027
25.00	-24.72	-1.45	0.00	-127.10	0.00	127.10	5,204.91	2,602.46	11,517.6	5,767.39	0.08	-0.03	0.027
30.00	-23.55	-1.42	0.00	-119.83	0.00	119.83	5,128.32	2,564.16	11,099.4	5,557.99	0.12	-0.04	0.026
35.00	-22.42	-1.39	0.00	-112.73	0.00	112.73	5,050.10	2,525.05	10,685.3	5,350.59	0.16	-0.04	0.026
40.00	-21.36	-1.36	0.00	-105.79	0.00	105.79	4,970.26	2,485.13	10,275.3	5,145.31	0.21	-0.05	0.025
44.75	-21.26	-1.35	0.00	-99.34	0.00	99.34	4,892.90	2,446.45	9,890.02	4,952.36	0.26	-0.06	0.024
45.00	-19.30	-1.29	0.00	-99.01	0.00	99.01	4,888.79	2,444.40	9,869.86	4,942.27	0.27	-0.06	0.024
50.00	-18.92	-1.28	0.00	-92.55	0.00	92.55	4,805.70	2,402.85	9,469.07	4,741.57	0.33	-0.06	0.023
51.00	-18.16	-1.26	0.00	-91.27	0.00	91.27	3,954.70	1,977.35	7,897.06	3,954.40	0.34	-0.07	0.028
55.00	-17.24	-1.23	0.00	-86.25	0.00	86.25	3,904.91	1,952.45	7,646.13	3,828.75	0.40	-0.07	0.027
60.00	-16.34	-1.20	0.00	-80.11	0.00	80.11	3,841.19	1,920.60	7,335.11	3,673.01	0.48	-0.08	0.026
65.00	-15.46	-1.18	0.00	-74.09	0.00	74.09	3,775.86	1,887.93	7,027.24	3,518.84	0.56	-0.08	0.025
70.00	-14.60	-1.17	0.00	-68.17	0.00	68.17	3,708.90	1,854.45	6,722.77	3,366.38	0.66	-0.09	0.024
75.00	-13.76	-1.16	0.00	-62.32	0.00	62.32	3,640.31	1,820.16	6,421.93	3,215.74	0.76	-0.10	0.023
80.00	-12.94	-1.16	0.00	-56.51	0.00	56.51	3,570.10	1,785.05	6,124.95	3,067.03	0.86	-0.11	0.022
85.00	-12.14	-1.16	0.00	-50.72	0.00	50.72	3,498.27	1,749.13	5,832.07	2,920.37	0.98	-0.11	0.021
90.00	-12.02	-1.16	0.00	-44.91	0.00	44.91	3,424.81	1,712.40	5,543.53	2,775.89	1.10	-0.12	0.020
90.75	-10.92	-1.17	0.00	-44.04	0.00	44.04	3,413.65	1,706.82	5,500.64	2,754.41	1.12	-0.12	0.019
95.00	-10.73	-1.17	0.00	-39.09	0.00	39.09	3,349.72	1,674.86	5,259.57	2,633.69	1.23	-0.13	0.018
95.75	-10.22	-1.17	0.00	-38.21	0.00	38.21	2,312.98	1,156.49	3,686.59	1,846.04	1.25	-0.13	0.025
100.00	-9.63	-1.16	0.00	-33.26	0.00	33.26	2,275.87	1,137.93	3,533.62	1,769.44	1.37	-0.13	0.023
105.00	-9.06	-1.15	0.00	-27.44	0.00	27.44	2,230.70	1,115.35	3,355.32	1,680.15	1.51	-0.14	0.020
110.00	-8.61	-1.14	0.00	-21.68	0.00	21.68	2,183.90	1,091.95	3,179.03	1,591.88	1.66	-0.15	0.018
114.00	-6.78	-1.04	0.00	-17.14	0.00	17.14	2,145.30	1,072.65	3,039.61	1,522.06	1.78	-0.15	0.014
115.00	-6.67	-1.04	0.00	-16.10	0.00	16.10	2,135.49	1,067.74	3,004.99	1,504.73	1.82	-0.15	0.014
116.00	-5.40	-0.96	0.00	-15.06	0.00	15.06	2,125.61	1,062.80	2,970.48	1,487.45	1.85	-0.15	0.013
120.00	-5.01	-0.92	0.00	-11.23	0.00	11.23	2,085.44	1,042.72	2,833.45	1,418.83	1.98	-0.16	0.010
124.00	-3.57	-0.75	0.00	-7.56	0.00	7.56	2,044.24	1,022.12	2,698.16	1,351.09	2.11	-0.16	0.007
125.00	-3.12	-0.69	0.00	-6.80	0.00	6.80	2,033.77	1,016.89	2,664.63	1,334.29	2.14	-0.16	0.007
130.00	-2.77	-0.62	0.00	-3.36	0.00	3.36	1,980.48	990.24	2,498.77	1,251.24	2.31	-0.16	0.004
134.00	-1.39	-0.33	0.00	-0.87	0.00	0.87	1,936.68	968.34	2,368.37	1,185.94	2.45	-0.16	0.001
135.00	-1.30	-0.32	0.00	-0.54	0.00	0.54	1,925.56	962.78	2,336.10	1,169.79	2.48	-0.16	0.001
136.00	-0.89	-0.22	0.00	-0.22	0.00	0.22	1,914.39	957.19	2,303.98	1,153.70	2.51	-0.16	0.001
137.00	0.00	0.00	0.00	0.00	0.00	0.00	1,903.14	951.57	2,271.99	1,137.68	2.55	-0.16	0.000
140.00	0.00	0.00	0.00	0.00	0.00	0.00	1,869.02	934.51	2,176.88	1,090.06	2.65	-0.16	0.000

Analysis Summary

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	22.60	0.00	44.71	0.00	0.00	2116.61	0.00	0.32
0.9D + 1.6W	22.59	0.00	33.53	0.00	0.00	2105.92	0.00	0.31
1.2D + 1.0Di + 1.0Wi	5.74	0.00	61.80	0.00	0.00	522.92	0.00	0.09
(1.2 + 0.2Sds) * DL + E ELFM	1.59	0.00	44.21	0.00	0.00	165.51	0.00	0.03
(1.2 + 0.2Sds) * DL + E EMAM	1.59	0.00	44.21	0.00	0.00	166.60	0.00	0.03
(0.9 - 0.2Sds) * DL + E ELFM	1.59	0.00	30.89	0.00	0.00	164.53	0.00	0.03
(0.9 - 0.2Sds) * DL + E EMAM	1.58	0.00	30.89	0.00	0.00	165.54	0.00	0.03
1.0D + 1.0W	4.61	0.00	37.27	0.00	0.00	430.40	0.00	0.07

Base Plate & Anchor Rod Analysis

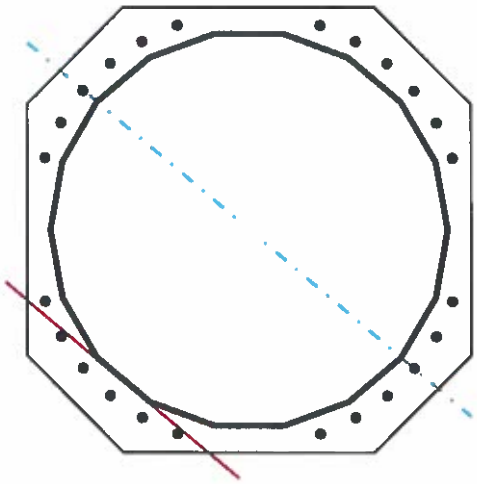
Pole Dimensions		
Number of Sides	18	-
Diameter	60.16	in
Thickness	0.4375	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	2116.6	k-ft
Axial, Pu	44.7	k
Shear, Vu	22.6	k
Neutral Axis	140	°

Report Capacities		
Component	Capacity	Result
Base Plate	17%	Pass
Anchor Rods	25%	Pass
Dwyidag	-	-

Base Plate		
Shape	Square	-
Width	69	in
Thickness	3	in
Grade	A572-50	-
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Clip	15	in
Orientation Offset	0	°
Anchor Rod Detail	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	670.6	k
Bending Stress, ϕMn	3940.7	k

Original Anchor Rods		
Arrangement	Cluster	-
Quantity	24	-
Diameter, ø	2 1/4	in
Bolt Circle	67	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset	0	°
Applied Force, Pu	65.0	k
Anchor Rods, ϕPn	259.8	k



Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	22.6	2116.6	1.00
Anchor Rod Forces	22.6	2116.6	1.00
Additional Bolt (Grp1) Forces			
Additional Bolt (Grp2) Forces			
Dywidag Forces			
Stiffener Forces			

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in^2	in^2	in^4	#	in^4
Pole	81.6693	4.5372	0.2905		36417.25
Bolt	3.9761	3.2477	0.8393	4.5	43756.78
Bolt1					
Bolt2					
Dywidag					
Stiffener					

Base Plate		
Shape	Square	-
Width, W	69	in
Thickness, t	3	in
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Base Plate Chord	33.790	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods		
Anchor Rod Quantity, N	24	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	67	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	65.0	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	259.8	k
Tensile Capacity, ϕRnt	0.250	OK
Interaction Capacity	0.250	OK

External Base Plate

Chord Length AA	36.921	in
Additional AA	2.000	in
Section Modulus, Z	87.572	in^3
Applied Moment, Mu	670.6	k-ft
Bending Capacity, ϕMn	3940.7	k-ft
Capacity, Mu/ϕMn	0.170	OK
Chord Length AB	35.985	in
Additional AB	2.000	in
Section Modulus, Z	85.466	in^3
Applied Moment, Mu	523.2	k-ft
Bending Capacity, ϕMn	3846.0	k-ft
Capacity, Mu/ϕMn	0.136	OK
Bend Line Length	0.000	in
Additional Bend Line	0.000	in
Section Modulus, Z	0.000	in^3
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

Internal Base Plate

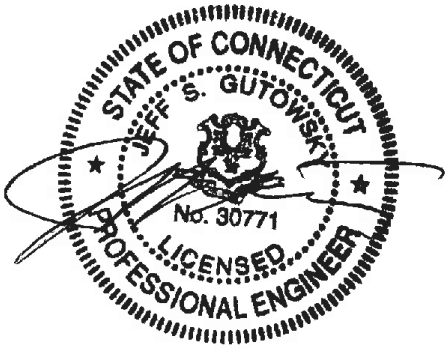
Arc Length	0.000	in
Section Modulus, Z	0.000	in^3
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

Trylon

Prepared For

AMERICAN TOWER®

Mount Analysis



01/29/19 EXP 01/31/20

NORWICH WEST CT

ATC ASSET #3011014

01/29/2018

PASS (48%)

MOUNT ANALYSIS REPORT

American Tower Corporation
10 Presidential Way
Woburn, MA 01801

Attention: **Mr. Blake Paynter**

Reference: Analysis of the existing Verizon **14.9-ft**. Platform installed at **116-ft** elevation.

TRYLON Job Number:	145918
ATC Asset Number:	3011014
ATC Site Name:	NORWICH CT
Verizon Site ID:	1780681
Verizon Site Name:	NORWICH WEST CT
Site Address:	202 North Wawecus Hill rd, Norwich city, New London County, CT_06360.
Tower Profile:	Monopole Tower

Dear Sir:

We have been provided with RF information, photos and sketches of the structure for above-referenced site. Verizon is proposing to change the equipment configuration on the existing mounting hardware.

A revised antenna, coax and miscellaneous equipment schematic has been provided to us. We have been asked to evaluate this information to determine whether or not the existing mounting apparatus are adequate to safely support the proposed loading change. The structural evaluation refers to the existing Platform installed at **116-ft** elevation on the Monopole tower located 202 North Wawecus Hill rd, Norwich city, New London County, CT_06360.

The proposed changes were provided to us in a RFDS package dated **11/13/2018**. The antennas are located at **116-ft** elevation on all sectors according to the RFDS document.

The final configuration consists of:
Alpha & Beta sector:

- **(1) New Commscope_NHH-45B-R2B antenna (72" x 18" x 7" – 73.60lbs.)** on each sector in position #1 and #2.

Gamma Sector:

- (1) Commscope _ SBNHH-1D65B antenna (72.72" x 11.85" x 7.1" – 50.71lbs.) in position #1 and #2.

Additional equipment:

- (1) Nokia_B66A RRH4X45 on each sector in position #1.
- (1) Nokia_B25 RRH4X30 on each sector in position #2.

- **(2)** Samsung B5/B13 RRH –BR04C on each sector in position #3.
- (2) Raycap_RRFDC-3315-PF-48 on platform mount for all sectors.

The members dimensions that we considered in our evaluation are as per sketches and pictures provided by the site visit crew. The structural members that we considered in our analysis are presented in the attached model sketches.

Steel grades have been assumed as follows, unless noted otherwise:

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

CONCLUSIONS AND RECOMMENDATIONS

Based on information provided, our calculations conclude that the existing Verizon Platform, located at **116-ft** elevation on the existing Monopole Tower at the specified address, are **ADEQUATE** to safely support the proposed equipment, subject to the attached Standard Conditions on page 3.

RECOMMENDATIONS:

- Install new pipe of **2.5" O.D, 0.188" Thickness and 84'' long** at a distance of **42"** from position #2 to install Proposed RRU's as per scope of work.

MOUNT CLASSIFICATION:

Category	Classification
Mount Classification (w/ Ice, w/ Vertical Offset):	M1400R(700) - 3[5]

Should you have any questions, comments or require additional information, please do not hesitate to call.

Sincerely,

Analysis performed by: Reviewed by:

Archana Koukuntla Kirk R. Hall, P.E.

Trylon

Standard Conditions for Providing Structural Consulting Services on Existing Structures

1. Mounting hardware is analyzed to the best of our ability using all information that is provided or can be obtained during fieldwork (if authorizes by client). If the existing conditions are not as we have represented in this analysis, we should be contacted to evaluate the significance of the deviation and revise the assessment accordingly.

2. The structural analysis has been performed assuming that hardware is in "like new" condition. No allowance was made for excessive corrosion, damaged or missing structural members, loose bolts, misaligned parts, or any reduction in strength due to the age or fatigue of the product.

3. The structural analysis provided is an assessment of the primary load carrying capacity of the hardware. We provide a limited scope of service. In some cases we cannot verify the capacity of every weld, plate, connection detail, etc. In some cases, structural fabrication details are unknown at the time of our analysis, and the detailed field measurement of some of the required details may not be possible. In instances where we cannot perform connection capacity calculations, it is assumed that the existing manufactured connections develop the full capacity of the primary members being connected.

4. We cannot be held responsible for mounting hardware that is installed improperly or hardware that is loose or has a tendency of working loose over the lifetime of the mounting hardware. Our analysis has been performed assuming fully tightened connections, and proper installation and symmetry of the mounting hardware per manufacturer's instructions.

5. The structural analysis has been performed using information currently provided by the client and potentially field verified. We have been provided with a mounting arrangement for all telecommunications equipment, including antennas RRH's, TMA's, RRU's, diplexers, surge protection devices, etc. Our analysis has been based upon a particular mounting arrangement. We are not responsible for deviations in the mounting arrangement that may occur over time. If deviations in equipment type or mounting arrangements are proposed, then we should be contacted to revise the recommendations of this structural report.

6. We cannot be held responsible for temporary and unbalanced loads on mounting hardware. Our analysis is based on a particular mounting arrangement or as-built field condition. We are not responsible for the methods and means of how the mounting arrangement is accomplished by the contractor. These methods and means may include rigging of equipment or hardware to lift and locate, temporary hanging of equipment in locations other than the final arrangement, movement and tie off of tower riggers, personnel, and their equipment, etc.

7. Steel grade and strength is unknown and cannot be field tested. We cannot be held responsible for equipment manufactured from inferior steel or bolts. Our analysis assumes that standard structural grade steel has been used by the equipment manufacturer for all assembled parts of the mounting apparatus. Acceptable steels and connection components are specified by the American Institute of Steel Construction. It is assumed all welded connections are performed in the shop under the latest American Welding Society Code. No field welds are permitted or assumed for the existing pre-manufactured equipment.

⚠ This is a beta release of the new ATC Hazards by Location website. Please contact us with feedback.

ATC Hazards by Location

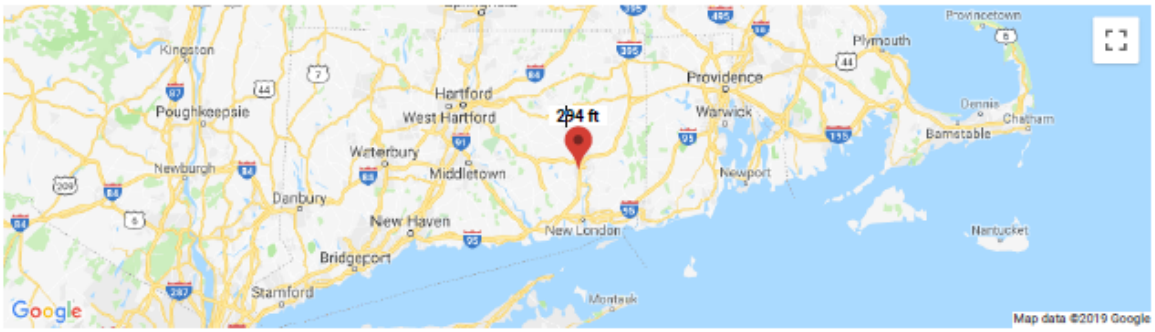
Search Information

Coordinates: 41.527069, -72.122594

Timestamp: 2019-01-28T08:50:33.576Z

Hazard Type: Wind

Map Results



Text Results

ASCE 7-16

MRI 10-Year	76 mph
MRI 25-Year	86 mph
MRI 50-Year	96 mph
MRI 100-Year	102 mph
Risk Category I	115 mph
Risk Category II	124 mph
Risk Category III	⚠ 133 mph

If the structure under consideration is a healthcare facility, you are in a wind-borne debris region. If other occupancy, use the Risk Category II basic wind speed contours to determine if you are in a wind-borne debris region.

Risk Category IV	⚠ 137 mph

You are in a wind-borne debris region if you are also within 1 mile of the coastal mean high water line.

ASCE 7-10

MRI 10-Year	79 mph
MRI 25-Year	89 mph
MRI 50-Year	98 mph
MRI 100-Year	107 mph
Risk Category I	122 mph
Risk Category II	⚠ 132 mph

Trylon

General Info

Site Code :	**1780681**
Site Name :	**NORWICH WEST CT**
State	**Connecticut**
County	**New London**
Trylon job number:	**145918**
Design by:	**AK**

Trylon
1825 W. Walnut Hill Lane Suite 302
Irving, TX 75038

Analysis Criteria

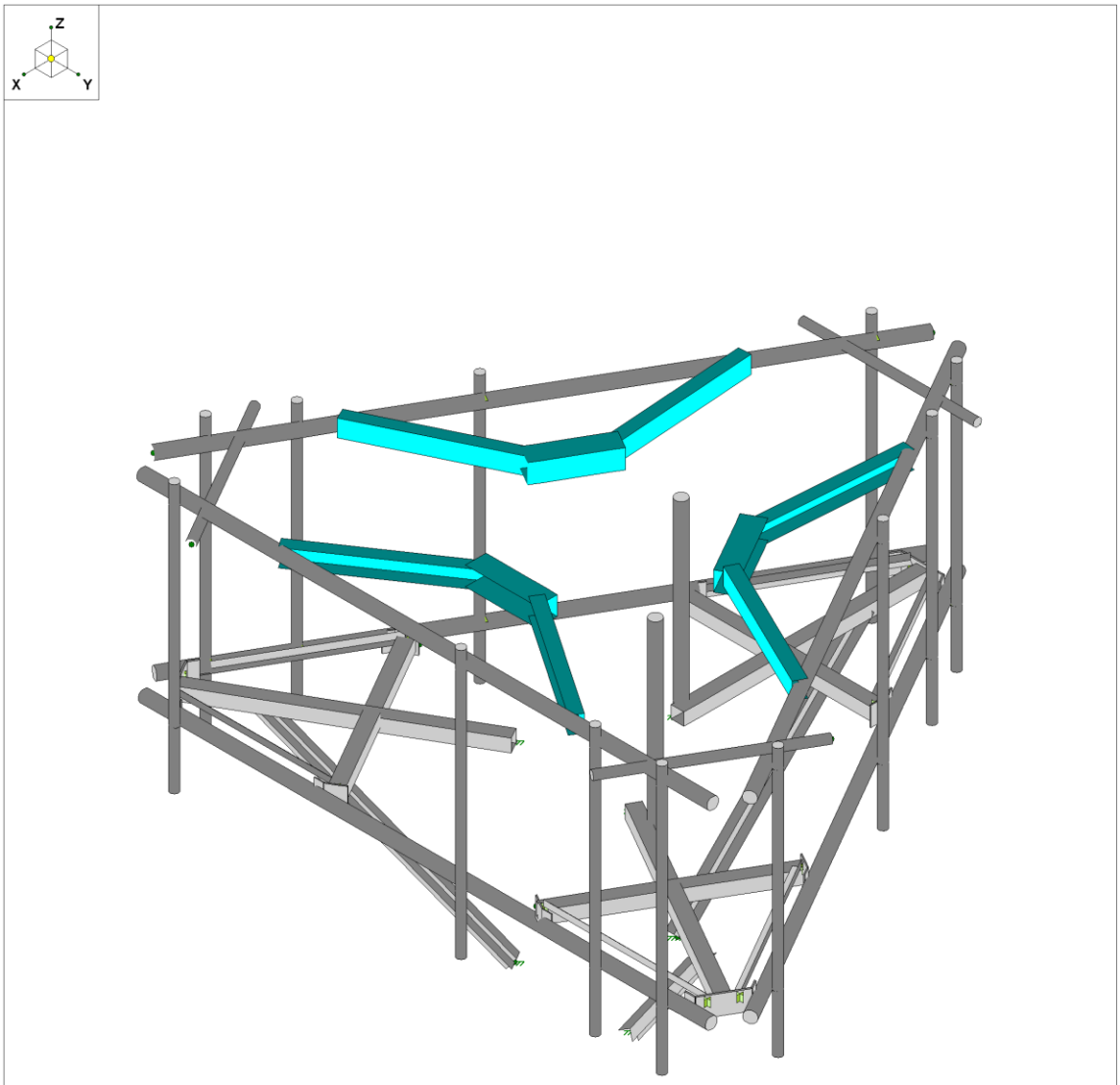
Standard 2015 IBC / ASCE 7-10 / TIA-222-G

The mount structural analysis was performed in accordance with the requirements of TIA-222-G Structural Standards for Steel Antenna Supporting structure using a 3-second gust wind speed of 102.2 mph with no ice, 50.0 mph with 0.75 inch escalated ice thickness, Exposure Category C and Topographic Category 1 with a crest height of 0 ft.

In addition, the platform has been analysed for various live loading conditions consisting of a 250-pound man live load applied individually at the midpoint and cantilevered ends of horizontal members as well as a 500-pound man live load applied individually at mount pipe locations using a 3-second gust wind speed of 30 mph.

Design Loads

Appurtenances			Dimensions					Wind Forces without ice				Wind Forces with ice			
			Height	Width	Thk.	Weight	ICE Weight	0°	30°	60°	90°	0°	30°	60°	90°
No.	Manufacturer	Model	[in]	[in]	[in]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]
4	Commscope	NHH-45B-R2B	72.0	18.0	7.0	73.6	262.0	378.5	327.7	226.2	175.4	110.8	98.3	73.4	60.9
2	Commscope	SBNHH-1D65B	72.7	11.9	7.1	50.7	195.4	202.3	179.5	202.3	247.8	67.5	62.1	67.5	78.4
3	Alcatel	B66A RRH4X45	28.0	15.0	10.0	85.0	95.7	116.2	106.7	87.8	78.3	38.2	35.6	30.4	27.8
3	Alcatel	B25 RRH4X30	28.0	15.0	10.0	85.0	95.7	87.8	78.3	87.8	106.7	30.4	27.8	30.4	35.6
6	Nokia	AIRSCALE DUAL RRH 4T4R B5/13 3	22.1	12.1	7.4	73.0	60.8	67.0	74.0	67.0	53.1	24.2	26.2	24.2	20.2
2	Raycap	RRFDC-3315-PF-48	25.7	15.7	10.3	32.0	91.0	82.5	101.9	111.7	101.9	28.9	34.2	36.8	34.2



Envelope Only Solution

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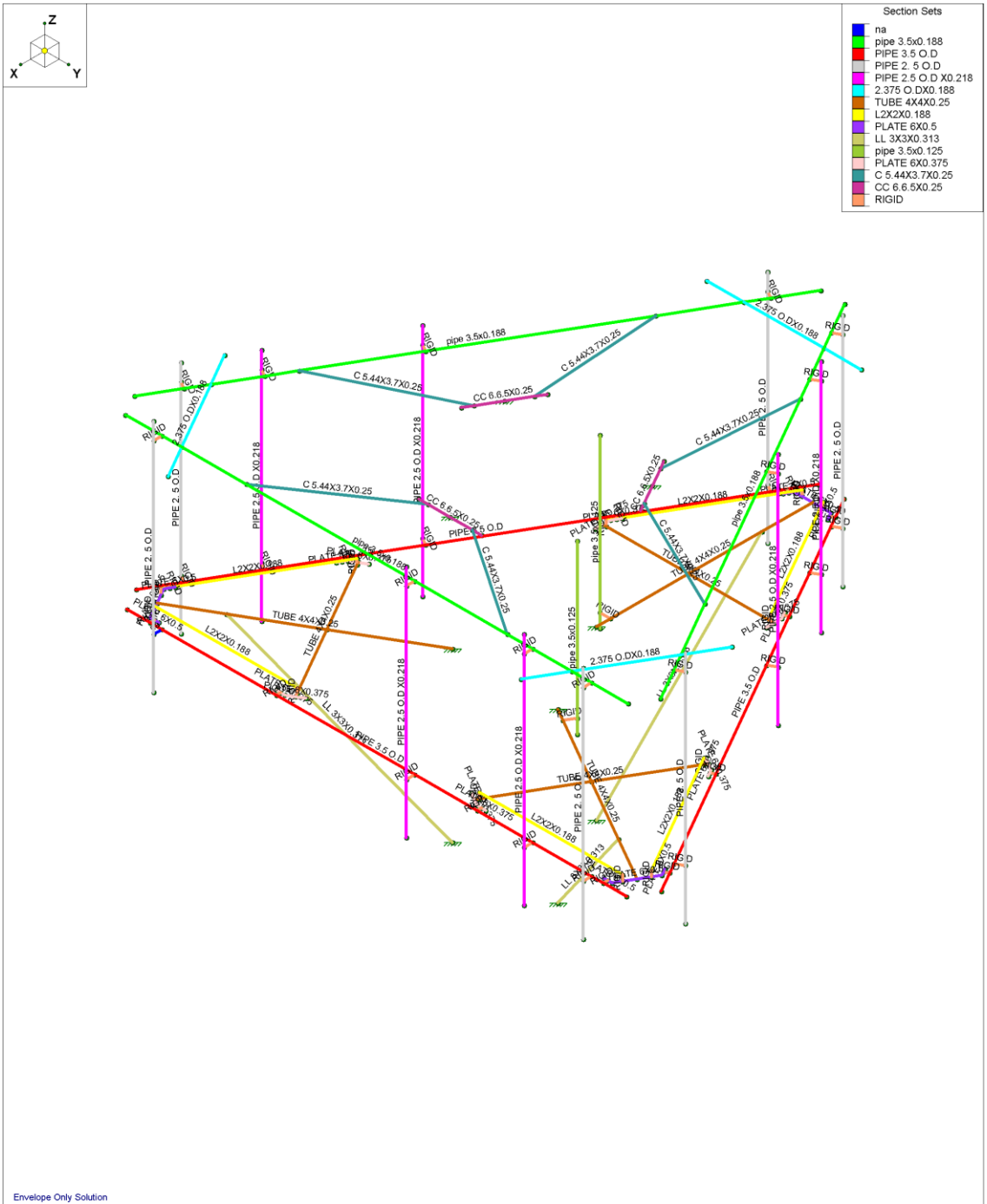
145918		1780681_NORWICH WEST CT_Mo...



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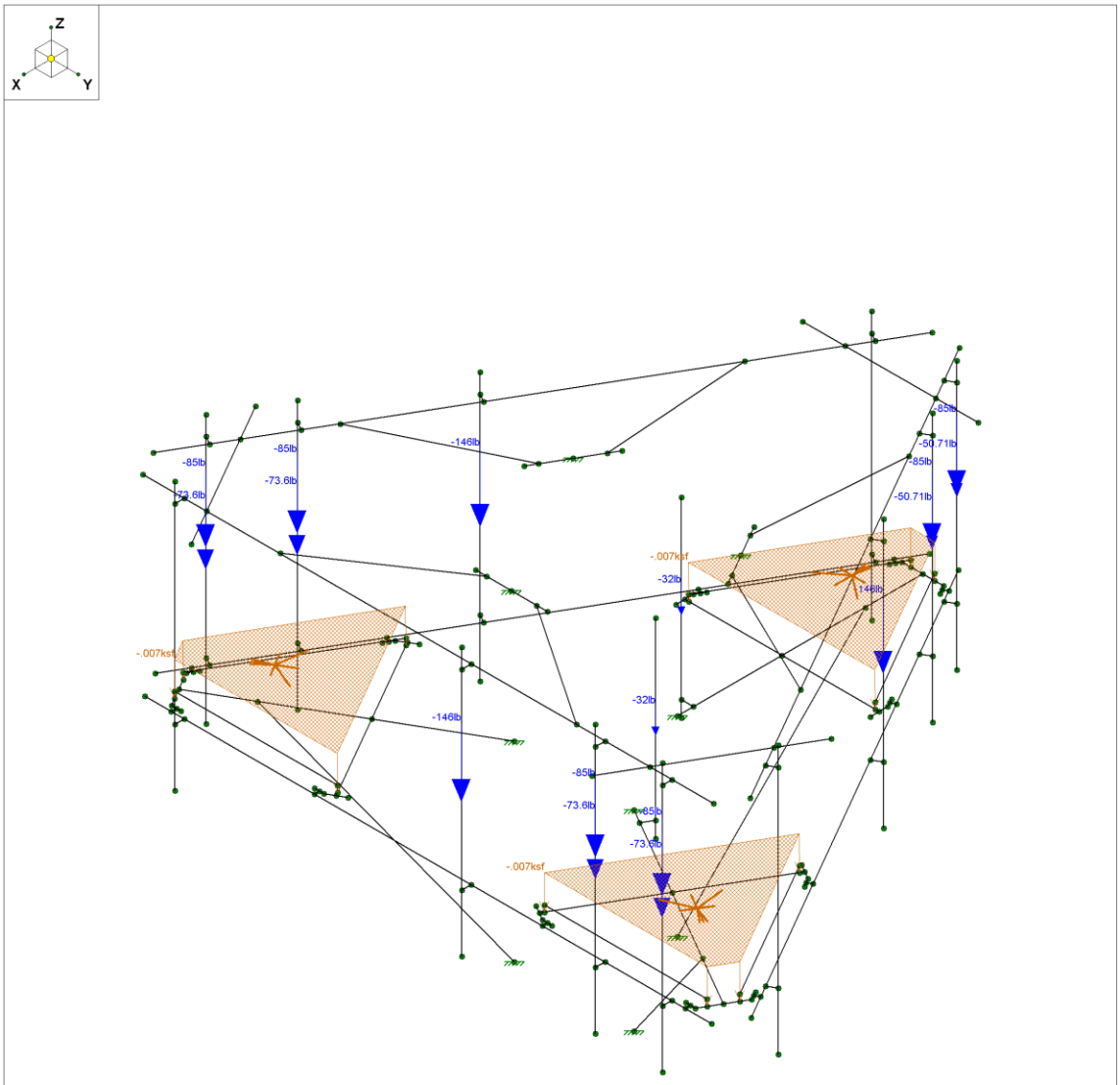

Loads: BLC 2, Weights
Envelope Only Solution

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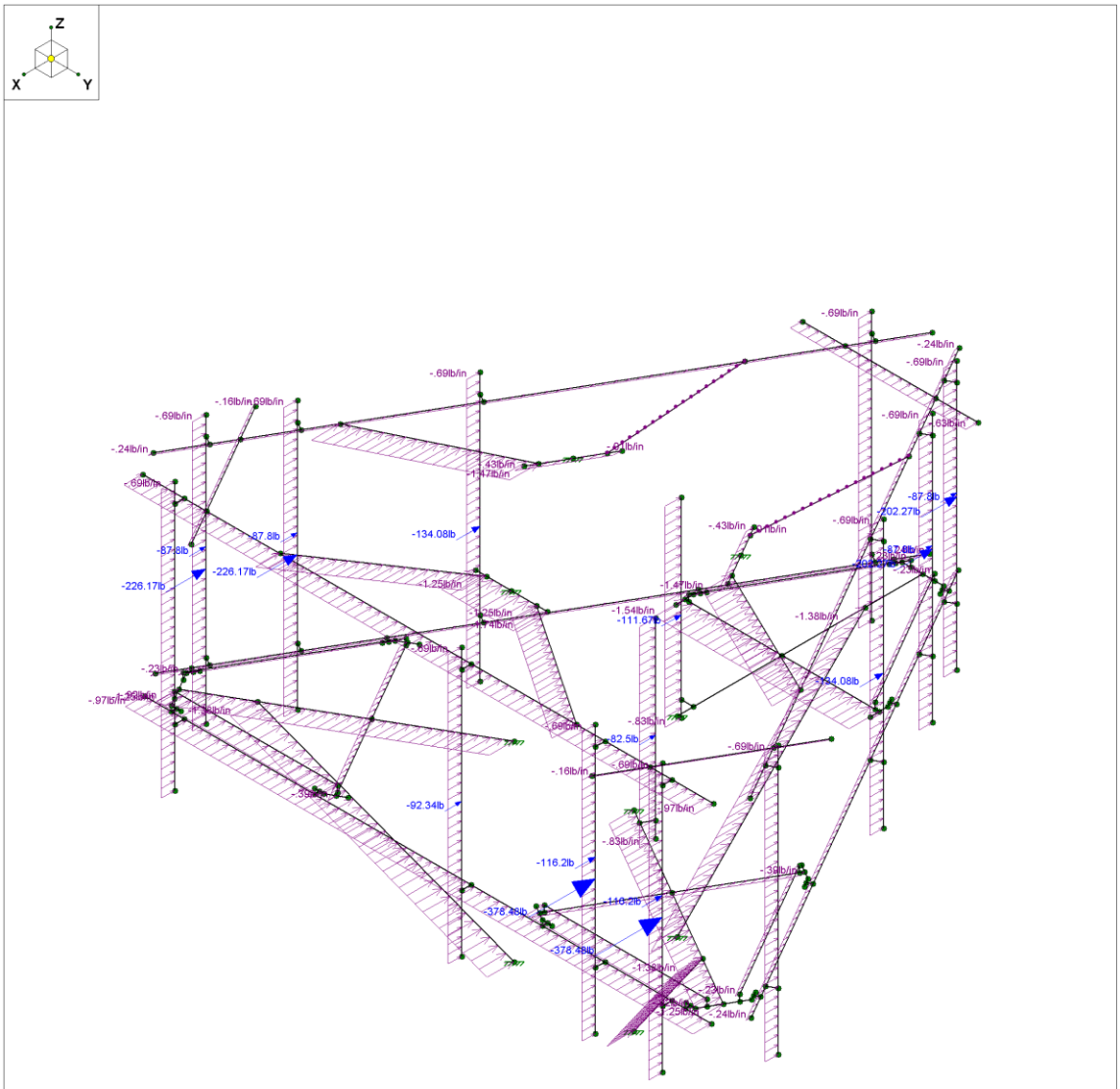

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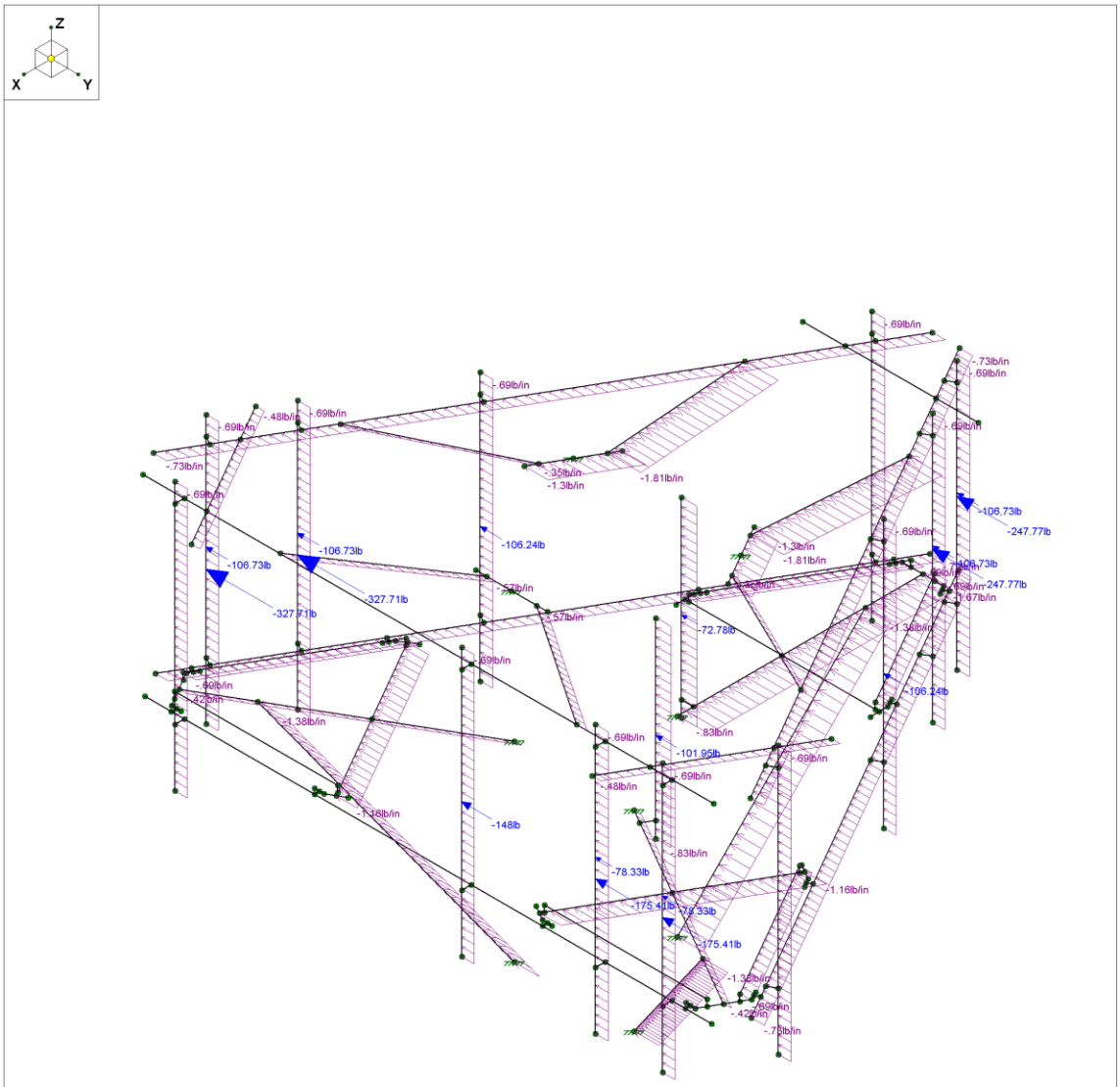

Loads: BLC 7, Wind 90°
Envelope Only Solution

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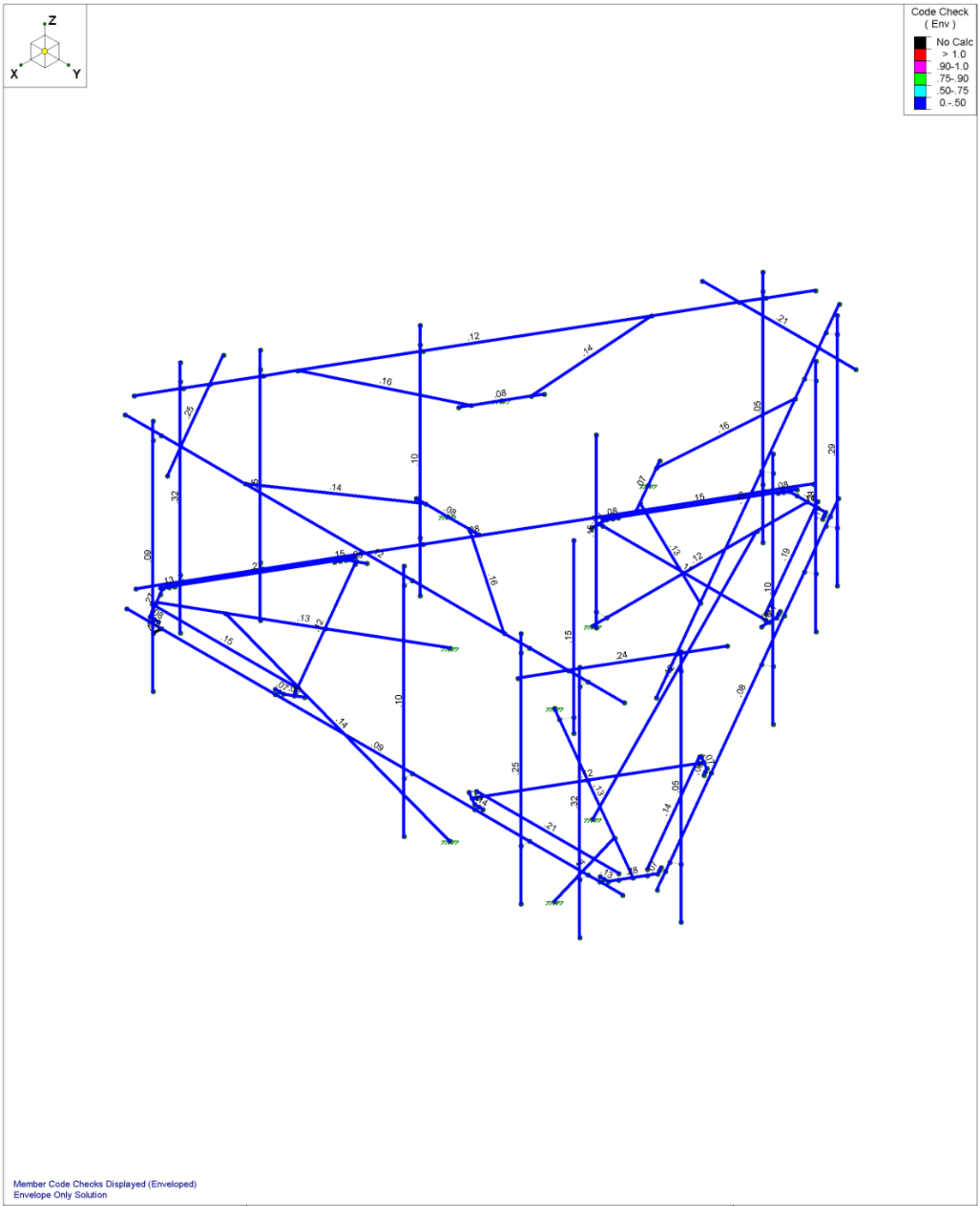

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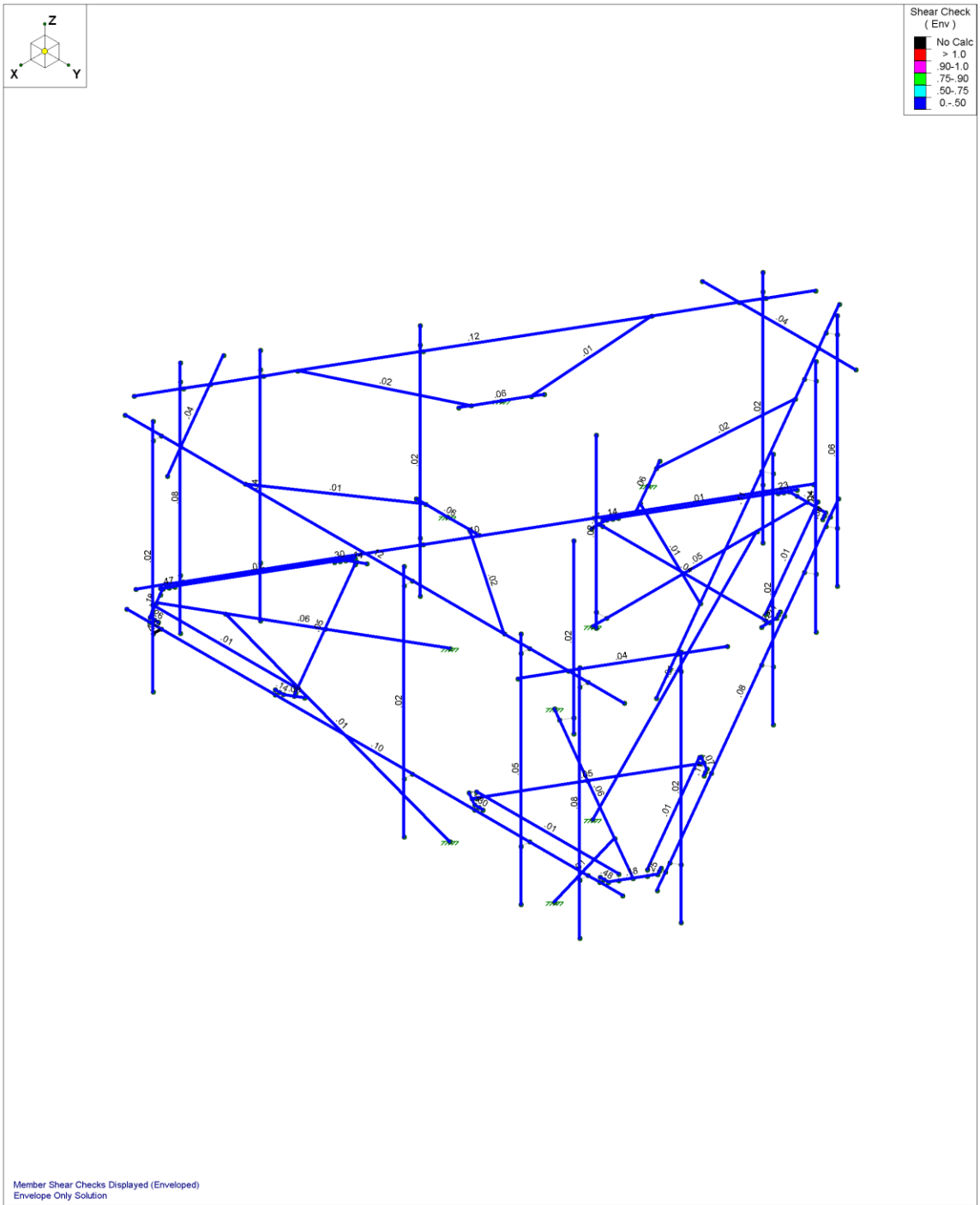


Trylon	NORWICH WEST CT_145918	SK - 7
AK		Jan 29, 2019 at 10:27 AM
145918		1780681_NORWICH WEST CT_Mo...

Site Name: NORWICH WEST CT
Cumulative Power Density

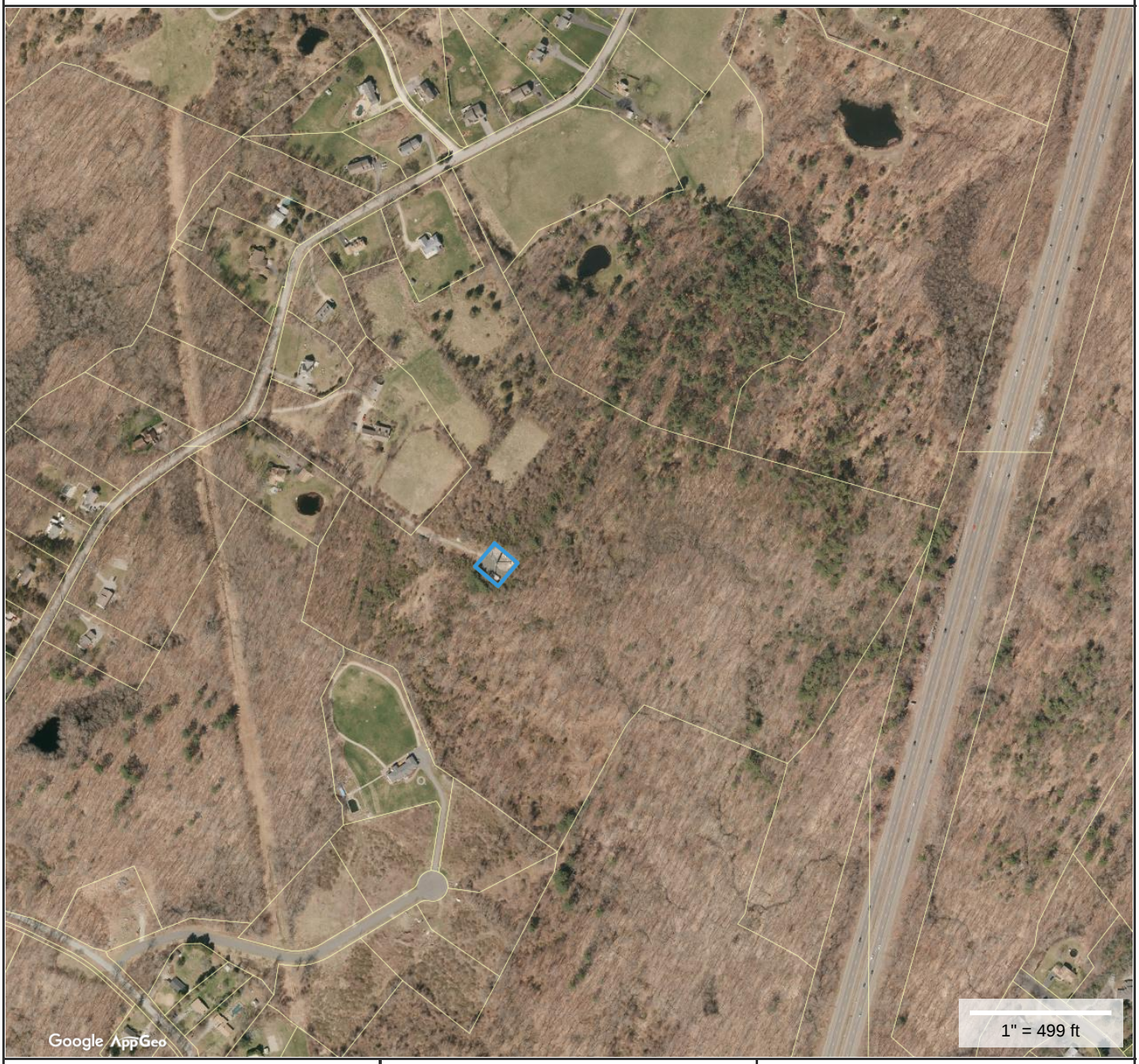
Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW PCS	1970	1	7150.512	7150.512	116	0.1911	1.0	19.11%
VZW Cellular	869	1	5486.257	5486.257	116	0.1466	0.579333333	25.31%
VZW AWS	2145	1	11760.59	11760.59	116	0.3143	1.0	31.43%
VZW 700	746	1	3502.169	3502.169	116	0.0936	0.497333333	18.82%

Total Percentage of Maximum Permissible Exposure 94.67%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case maximum values used, including the following assumptions:
1. closest accessible point is distance from antenna to base of pole;
2. continuous transmission from all available channels at full power for indefinite time period; and,
3. all RF energy is assumed to be directed solely to the base of the pole.



Property Information

Property ID	098-001-003.000-000R
Location	202 R NORTH WAWECUS HILL RD
Owner	POLASKI JOHN J JR

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Norwich, CT makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 1/22/2019
Data updated 1/22/2019

202 R NORTH WAWECUS HILL RD

Location	202 R NORTH WAWECUS HILL RD	**Mblu**	98/ 1/ 3/ R/
		Acct#	0980010003
Owner	POLASKI JOHN J JR	**Assessment**	$672,400
Appraisal	$960,400	**PID**	111087
Building Count	1		

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$810,400	$150,000	$960,400
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$567,400	$105,000	$672,400

Parcel Addreses

Additional Addresses		
Address	**City, State Zip**	**Type**
202 R NORTH WAWECUS HILL RD		Primary

Owner of Record

Owner	POLASKI JOHN J JR %SPRECTRASITE COMMUNICATIONS I	**Sale Price**	$0
		Certificate	
Address	PO BOX 723597 ATLANTA, GA 31139	**Book & Page**	3076/0135
		Sale Date	07/02/2018
		Instrument	1N

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
POLASKI JOHN J JR	$0		3076/0135	1N	07/02/2018
POLASKI JOHN J JR	$0		590/ 144		01/03/1983

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Attributes	
Field	**Description**
Style	Outbuildings
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Fireplace (s)	
Whirlpool	
FPLG Gas	
FPLW Wood	
FPO	
park	

Building Photo

(http://images.vgsi.com/photos/NorwichCTPhotos//\00\02\05/73

Building Layout

Building Layout
(http://images.vgsi.com/photos/NorwichCTPhotos//Sketches/111

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend

No Data for Extra Features

Land

Land Use

Use Code	431V
Description	TEL REL TW M-00
Zone	R-80
Neighborhood	
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.23
Frontage	
Depth	
Assessed Value	$105,000
Appraised Value	$150,000

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FN4	Fence Chain 8'			380 L.F.	$5,800	1
SHD5	Shed Comm Mas			360 S.F.	$8,100	1
TWR	CELL TOWER			140 UNITS	$94,500	1
	ARRAYS			3	$702,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$810,400	$150,000	$960,400
2017	$102,714	$150,000	$252,714
2016	$102,700	$150,000	$252,700

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$567,400	$105,000	$672,400
2017	$71,900	$105,000	$176,900
2016	$71,900	$105,000	$176,900

Property Information

Property ID	098-001-003.000-0002
Location	202 NORTH WAWECUS HILL RD
Owner	GENTILE MICAH N +

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Norwich, CT makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 1/22/2019
Data updated 1/22/2019

202 NORTH WAWECUS HILL RD

Location	202 NORTH WAWECUS HILL RD	**Mblu**	98/ 1/ 3/ 2/
		Acct#	0089200001
Owner	GENTILE MICAH N +	**Assessment**	$235,300
Appraisal	$336,100	**PID**	8789
Building Count	1		

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$226,500	$109,600	$336,100

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$158,600	$76,700	$235,300

Parcel Addreses

Additional Addresses		
Address	**City, State Zip**	**Type**
202 NORTH WAWECUS HILL RD		Primary

Owner of Record

Owner	GENTILE MICAH N + GENTILE TASHA N	**Sale Price**	$340,000
		Certificate	
Address	202 NORTH WAWECUS HILL RD NORWICH, CT 06360	**Book & Page**	3030/0110
		Sale Date	08/17/2017
		Instrument	28

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
GENTILE MICAH N +	$340,000		3030/0110	28	08/17/2017
POLASKI JOHN J JR	$0		2964/0083	1N	06/06/2016
POLASKI JOHN J JR	$0		0590/0144		01/03/1983

Building Information

Building 1 : Section 1

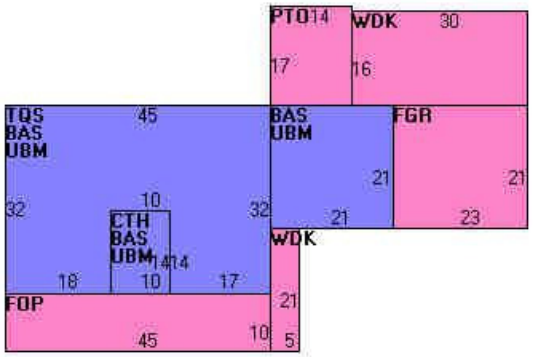
Year Built: 1979
Living Area: 2,921
Replacement Cost: $285,684
Building Percent Good: 72
Replacement Cost Less Depreciation: $205,700

Building Attributes	
Field	**Description**
Style	Cape Cod
Model	Residential
Grade:	B
Stories:	1.75
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asphalt Shingl
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Flr 1	Carpet
Interior Flr 2	Hardwood
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	5 Bedrooms
Total Bthrms:	2
Total Half Baths:	1
Total Xtra Fixtrs:	
Total Rooms:	9 Rooms
Bath Style:	Average
Kitchen Style:	Average
Fireplace (s)	2
Whirlpool	
FPLG Gas	
FPLW Wood	
FPO	
park	

Building Photo

(http://images.vgsi.com/photos/NorwichCTPhotos//\00\01\06/03

Building Layout



(http://images.vgsi.com/photos/NorwichCTPhotos//Sketches/878

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,881	1,881
TQS	Three Quarter Story	1,300	1,040
CTH	Cath. Ceiling	140	0
FGR	Garage, Finished	483	0
FOP	Porch, Open, Finished	450	0
PTO	Patio	238	0
UBM	Basement, Unfinished	1,881	0
WDK	Deck, Wood	585	0
		6,958	2,921

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	1010
Description	Single Family
Zone	R80
Neighborhood	0040
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	5.17
Frontage	0
Depth	0
Assessed Value	$76,700
Appraised Value	$109,600

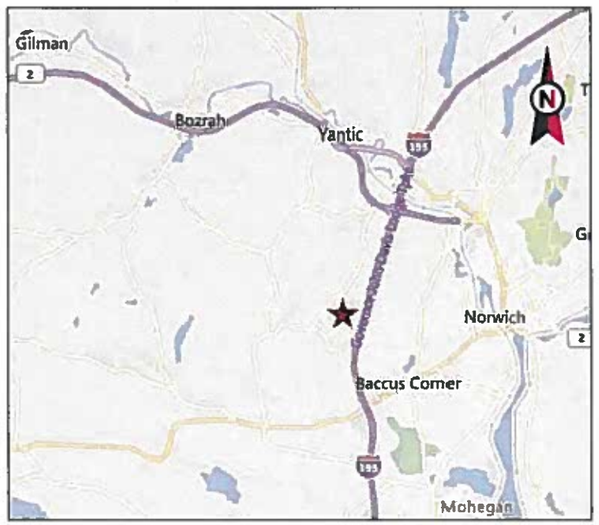
Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
BRN3	Barn 1 St. w Lft			1887 S.F.	$20,800	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$226,500	$109,600	$336,100
2017	$209,143	$102,714	$311,857
2016	$209,100	$102,700	$311,800

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$158,600	$76,700	$235,300
2017	$146,400	$71,900	$218,300
2016	$146,400	$48,600	$195,000



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: NORWICH CT
ATC SITE NUMBER: 311014
VERIZON SITE NAME: NORWICH WEST CT
VERIZON SITE NUMBER:467571
SITE ADDRESS: 202 N WAWECUS HILL RD NORWICH, CT 06360

VERIZON WIRELESS
ANTENNA AMENDMENT DRAWINGS

LOCATION MAP

COMPLIANCE CODE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. INTERNATIONAL BUILDING CODE (IBC)
2. NATIONAL ELECTRIC CODE (NEC)
3. LOCAL BUILDING CODE
4. CITY/COUNTY ORDINANCES

UTILITY COMPANIES

POWER COMPANY: NORWICH PUBLIC UTILITIES
PHONE: (860) 887-2555

TELEPHONE COMPANY: AT&T
PHONE: (800) 288-2020

811
Know what's below.
Call before you dig.

PROJECT SUMMARY

SITE ADDRESS:

202 N WAWECUS HILL RD
NORWICH, CT 06360
COUNTY: NEW LONDON

GEOGRAPHIC COORDINATES:

LATITUDE: 41.52706944
LONGITUDE: -72.12259444
GROUND ELEVATION: 296' AMSL

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

ENGINEER:

ATC TOWER SERVICES, LLC
3500 REGENCY PKWY STE 100
CARY, NC 27518

PROPERTY OWNER:

POLASKI JOHN J JR
202 N. WAWECUS HILL RD
NORWICH, CT 06360

APPLICANT:

VERIZON WIRELESS
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:

REMOVE (7) PANELS, (6) RRUs, (6) 1-5/8" COAX CABLES AND (1) 1-5/8" HYBRID CABLES

INSTALL (4) NEW PANELS, (3) RRUs, (3) MOUNTING PIPES AND (1) SIDE BY SIDE MOUNT

EXISTING (2) PANELS, (6) RRUS , (2) OVP (6) 1-5/8" COAX CABLES, AND (2) 1-5/8" HYBRID CABLES

PROJECT NOTES

1. THE FACILITY IS UNMANNED.
2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
5. HANDICAP ACCESS IS NOT REQUIRED.

PROJECT LOCATION DIRECTIONS

FROM HARTFORD CT TAKE RT EAST TOWARDS NORWICH. FROM RT 2 EAST TAKE I-395 SOUTH TO EXIT 80. TURN LEFT AT END OF RAMP. FOLLOW TO THE THIRD LIGHT AND TURN LEFT ONTO WAWECUS HILL ROAD. FOLLOW TO N. WAWECUS HILL ROAD AND TURN RIGHT. GO ABOUT 1/3 MILE AND LOOK FOR '202' SIGN ON TREE ON RIGHT. THERE ARE TWO GRAVEL DRIVES RIGHT NEXT TO EACH OTHER, TAKE THE DRIVEWAY ON THE RIGHT AND FOLLOW TO THE TOWER.

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	COVER SHEET	1	06/27/19	EB
G-002	GENERAL NOTES	0	06/25/19	CA
C-101	DETAILED SITE PLAN AND TOWER ELEVATION	0	06/25/19	CA
C-501	RF SCHEDULE AND ANTENNA INSTALLATION	1	06/27/19	EB
C-502	CONSTRUCTION DETAILS	0	06/25/19	CA
R-601	SUPPLEMENTAL			

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

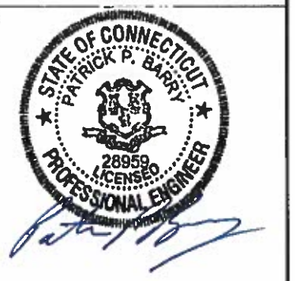
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	CA	06/25/19
1	REV OVP MODEL	EB	06/27/19

ATC SITE NUMBER:
311014

ATC SITE NAME:
NORWICH CT

SITE ADDRESS:
202 N WAWECUS HILL RD
NORWICH, CT 06360

SEAL:



Authorized by "EOR"
Jun[illegible]

verizon cosign

DRAWN BY:	CA
APPROVED BY:	PPB
DATE DRAWN:	06/25/19
ATC JOB NO:	12954875
CUSTOMER ID:	NORWICH WEST CT
CUSTOMER #:	467571

COVER SHEET

SHEET NUMBER:	REVISION:
G-001	1

GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC MASTER SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
4. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
5. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
6. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
7. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE VERIZON WIRELESS REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE VERIZON WIRELESS REP PRIOR TO PROCEEDING.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE VERIZON WIRELESS REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
12. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE VERIZON WIRELESS CONSTRUCTION MANAGER.
13. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
14. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE VERIZON WIRELESS REP IMMEDIATELY.
15. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
16. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
17. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
18. CONTRACTOR SHALL FURNISH VERIZON WIRELESS WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
19. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON WIRELESS REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
20. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON WIRELESS REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY VERIZON WIRELESS MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
21. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH VERIZON WIRELESS SPECIFICATIONS AND REQUIREMENTS.
22. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO VERIZON WIRELESS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
23. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO VERIZON WIRELESS SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
24. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
25. CONTRACTOR SHALL NOTIFY VERIZON WIRELESS REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
27. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
28. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE VERIZON WIRELESS REP. ANY WORK FOUND BY THE VERIZON WIRELESS REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
29. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
   A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
   B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
   C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
   D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
   E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
   A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
   B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
   C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
   D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
   E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
   F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
   G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING ½" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

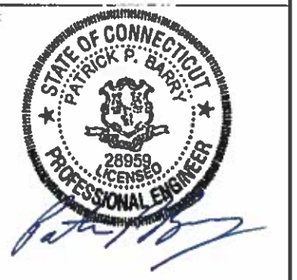
REV	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	CA	06/25/19

ATC SITE NUMBER:
311014

ATC SITE NAME:
NORWICH CT

SITE ADDRESS:
202 N WAWECUS HILL RD
NORWICH, CT 06360

SEAL:



Authorized by "EOR"
Jurisdiction

verizon design

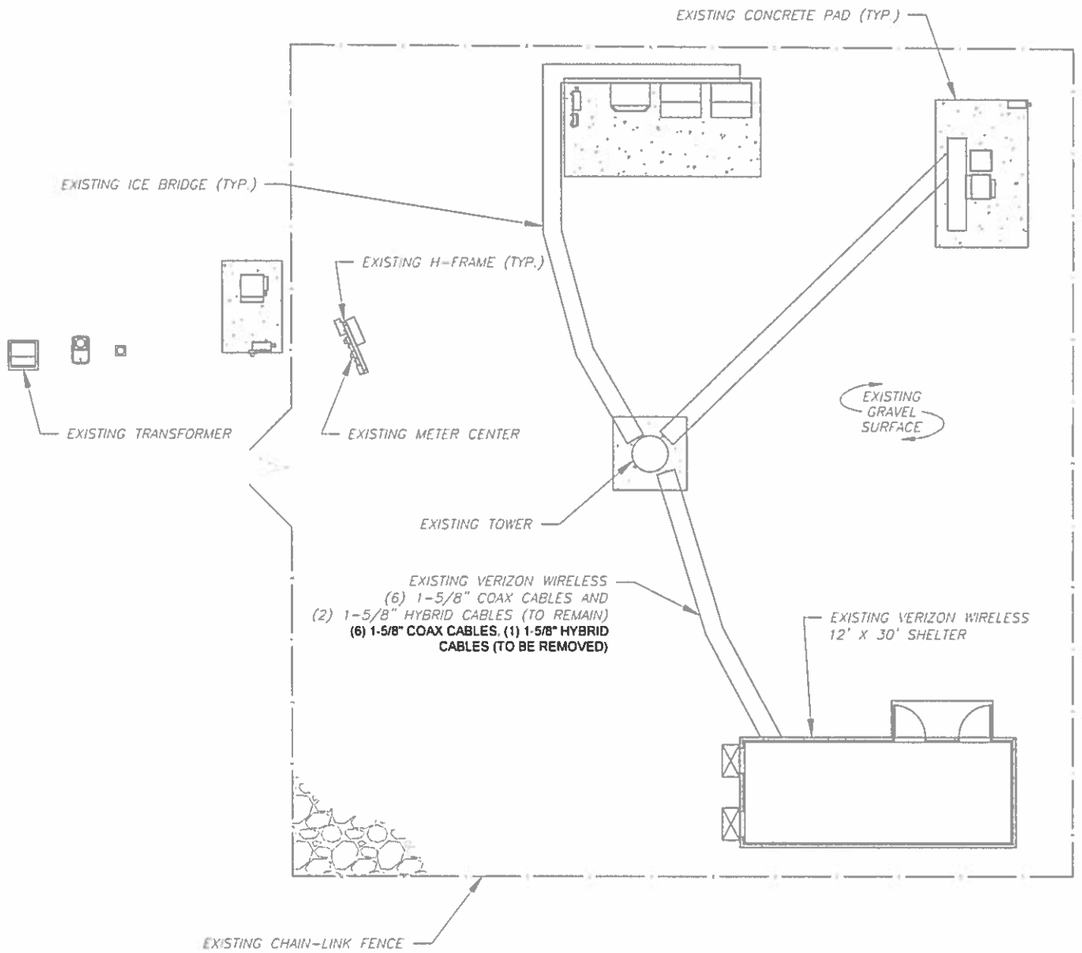
DRAWN BY:	CA
APPROVED BY:	PPB
DATE DRAWN:	06/25/19
ATC JOB NO:	12954875
CUSTOMER ID:	NORWICH WEST CT
CUSTOMER #:	467571

GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	0

SITE PLAN NOTES:

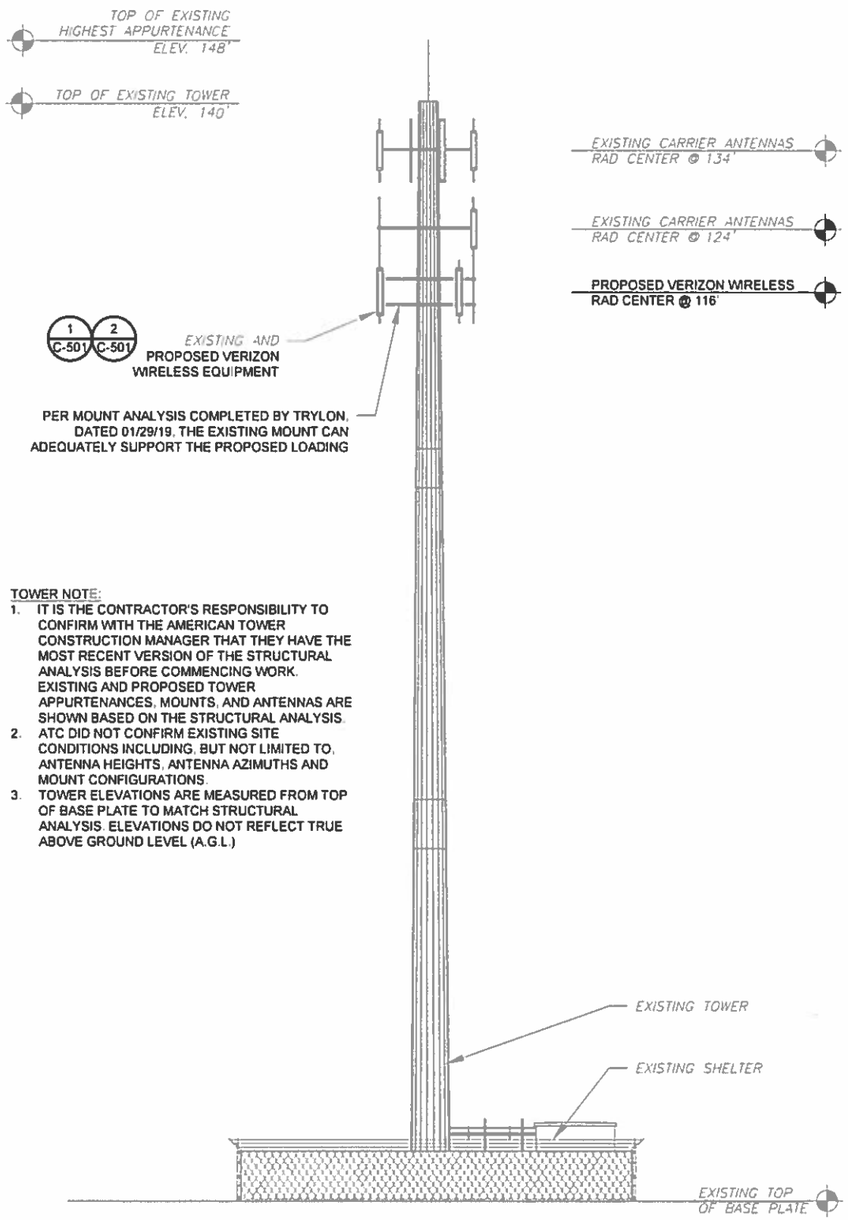
1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, CABLE SUPPORTS, AND CABLES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN, BEFORE INSTALLING NEW CABLE SUPPORT STRUCTURES, COAX PORTS, OR ANY OTHER EQUIPMENT. CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE ATC CONSTRUCTION MANAGER AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.



1 DETAILED SITE PLAN

0 10' 20'

SCALE: 1"=10' (11X17)
1"=5' (22X34)



TOWER NOTE:
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
2. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS AND MOUNT CONFIGURATIONS.
3. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

2 TOWER ELEVATION
SCALE: NOT TO SCALE

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

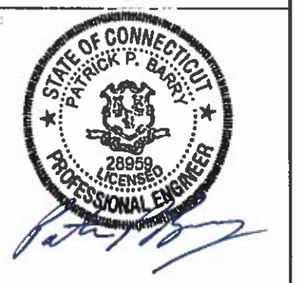
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	CA	06/25/19

ATC SITE NUMBER:
311014

ATC SITE NAME:
NORWICH CT

SITE ADDRESS:
202 N WAWECUS HILL RD
NORWICH, CT 06360

SEAL:



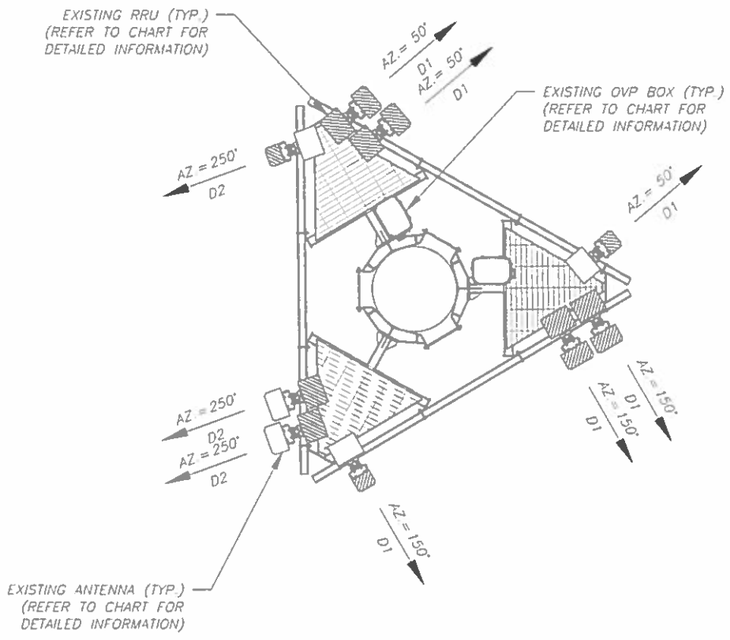
Authorized by "EOR"
Jun

verizon design

DRAWN BY:	CA
APPROVED BY:	PPB
DATE DRAWN:	06/25/19
ATC JOB NO:	12954875
CUSTOMER ID:	NORWICH WEST CT
CUSTOMER #:	467571

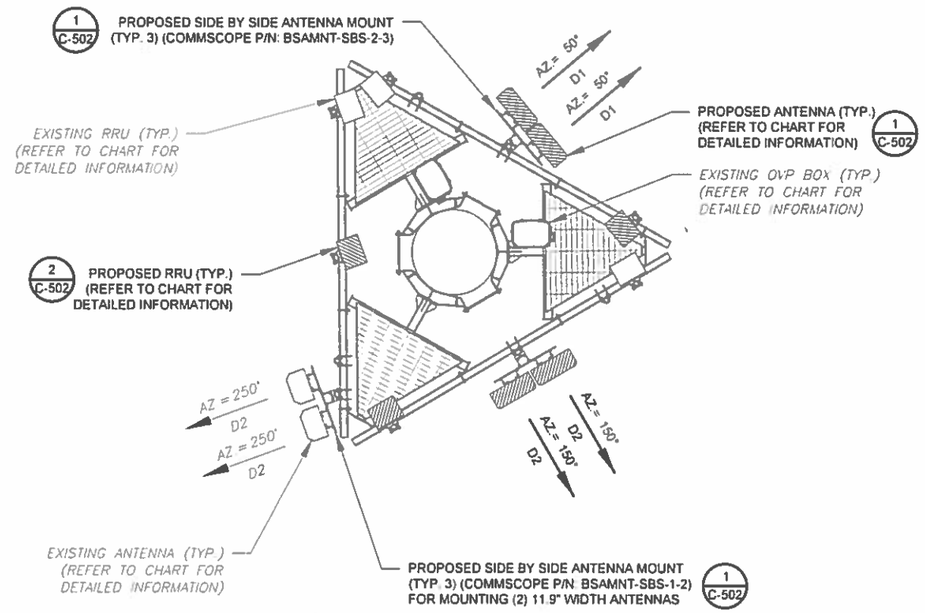
DETAILED SITE PLAN AND TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-101	0



1 CURRENT ANTENNA PLAN

PER MOUNT ANALYSIS COMPLETED BY TRYLON, DATED 01/29/19, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



2 FINAL ANTENNA PLAN

EXISTING ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
D1	116'	50°	A1	SBNHH-1D65B	700/1900/2100 LTE	RMV	RRH2X60 700 RRH4X30-B25	RMV RMN
			A2	SBNHH-1D65B	700/1900/2100 LTE	RMV	RRH2X60-1900A-4R	RMV
			A3	BXA-70063-6CF-EDIN-X	-	RMV	B66A RRH4X45-4R	REL
D2	116'	150°	B1	SBNHH-1D65B	700/1900/2100 LTE	RMV	RRH2X60 700 RRH4X30-B25	RMV RMN
			B2	SBNHH-1D65B	700/1900/2100 LTE	RMV	RRH2X60-1900A-4R	RMV
			B3	BXA-70063-6CF-EDIN-X	-	RMV	B66A RRH4X45-4R	REL
D3	116'	250°	C1	SBNHH-1D65B	700/1900/2100 LTE	RMN	RRH2X60 700 RRH4X30-B25	RMV REL
			C2	SBNHH-1D65B	700/1900/2100 LTE	RMN	RRH2X60-1900A-4R	RMV
			C3	BXA-70063-6CF-EDIN-X	-	RMV	B66A RRH4X45-4R	REL

NOTES

1. BASED ON APPROVED ATC APPLICATION 12638416, DATED 04/23/19. CONFIRM WITH VERIZON WIRELESS REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
2. ATC HAS NOT YET VERIFIED ANY EXISTING ANTENNA CONFIG OR MOUNT CONFIG. CONTRACTOR TO VERIFY MOUNT CONFIG HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (EQUIP) (I.E. CLEARANCES, MOUNT PIPE, SUFFICIENT LENGTH, ETC.) ATC DID NOT ANALYZE ANTENNA MOUNT TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR ANY LESSEE LOADING.
3. ALL PROPOSED EQUIP INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH ATC'S CM.
4. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
5. POSITIONS START WITH FIRST PIPE ON THE LEFT SIDE (AS VIEWED FROM BEHIND THE MOUNT).

FINAL ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
D1	116'	50°	A1	-	-	-	RRH4X30-B25 B66A RRH4X45-4R	RMN REL
			A2	NHH-45B-R2B NHH-45B-R2B	700/850/1900/2100 LTE	ADD	-	-
			A3	-	-	-	B5/B13 RRH-BR04C	ADD
D2	116'	150°	B1	-	-	-	RRH4X30-B25 B66A RRH4X45-4R	RMN REL
			B2	NHH-45B-R2B NHH-45B-R2B	700/850/1900/2100 LTE	ADD	-	-
			B3	-	-	-	B5/B13 RRH-BR04C	ADD
D3	116'	250°	C1	SBNHH-1D65B SBNHH-1D65B	700/1900/2100 LTE 700/1900/2100 LTE	RMN RMN	-	-
			C2	-	-	-	B5/B13 RRH-BR04C B66A RRH4X45-4R	ADD REL
			C3	-	-	-	RRH4X30-B25	REL

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
(2) RCMDC-6627-PF-48	RMN	(6) 1-5/8"	(1) 1-5/8"	RMN
-	-	(6) 1-5/8"	(1) 1-5/8"	RMV

STATUS ABBREVIATIONS
RMV: TO BE REMOVED
RMN: TO REMAIN
REL: TO BE RELOCATED
DSC: TO BE DISCONNECTED & REMAIN
ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS
FIBER DISTRIBUTION/OVP TO RRU: 15'
RRU TO ANTENNA: 10'

FINAL FIBER DISTRIBUTION/OVP BOX		FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
(2) RCMDC-6627-PF-48	RMN	(6) 1-5/8"	(2) 1-5/8"	RMN
-	-	-	-	-

3 EQUIPMENT SCHEDULES

AMERICAN TOWER®
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3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

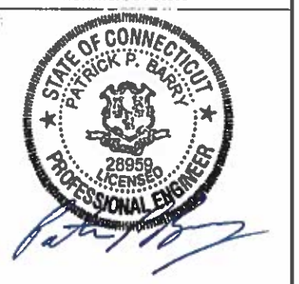
REV	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	CA	06/25/19
1	REV OVP MODEL	EB	06/27/19

ATC SITE NUMBER:
311014

ATC SITE NAME:
NORWICH CT

SITE ADDRESS:
202 N WAWECUS HILL RD
NORWICH, CT 06360

SEAL:



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Jun [illegible] 2019

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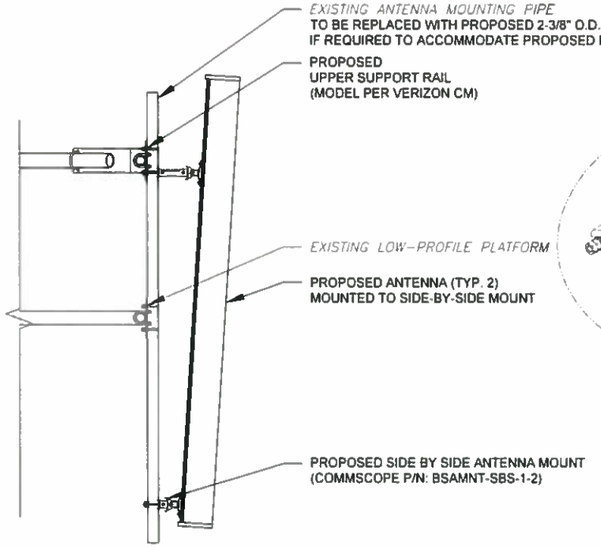
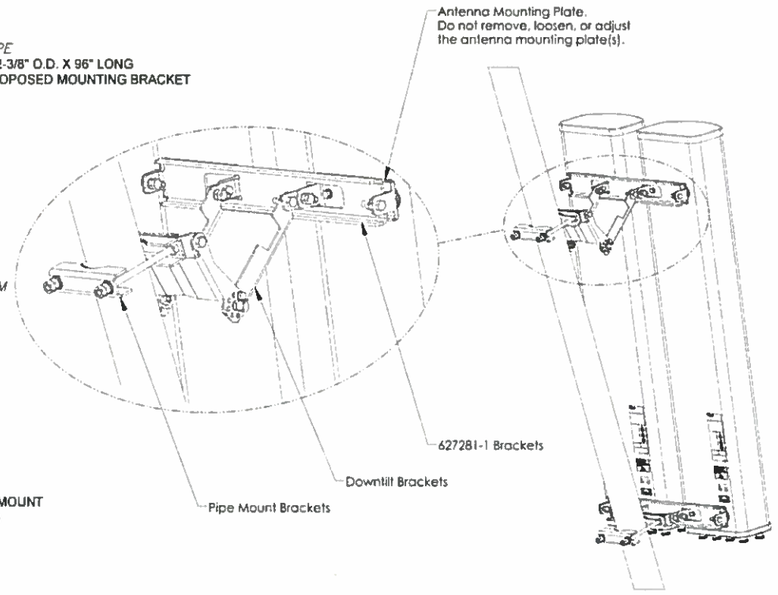
DRAWN BY:	CA
APPROVED BY:	PPB
DATE DRAWN:	06/25/19
ATC JOB NO:	12954875
CUSTOMER ID:	NORWICH WEST CT
CUSTOMER #:	467571

RF SCHEDULE AND ANTENNA INSTALLATION

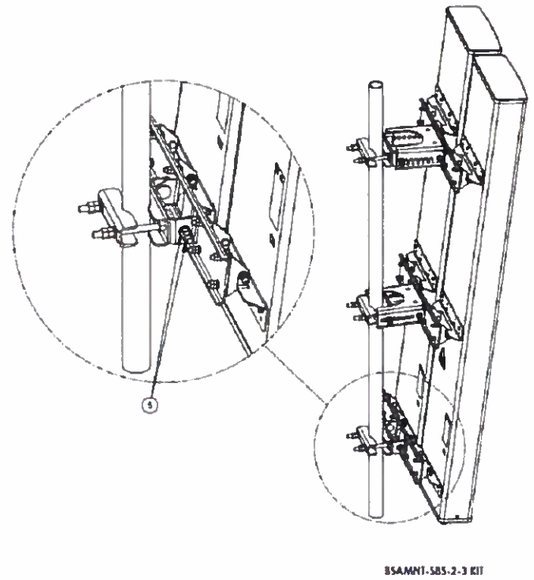
SHEET NUMBER:	REVISION:
C-501	1



PROFILE VIEW

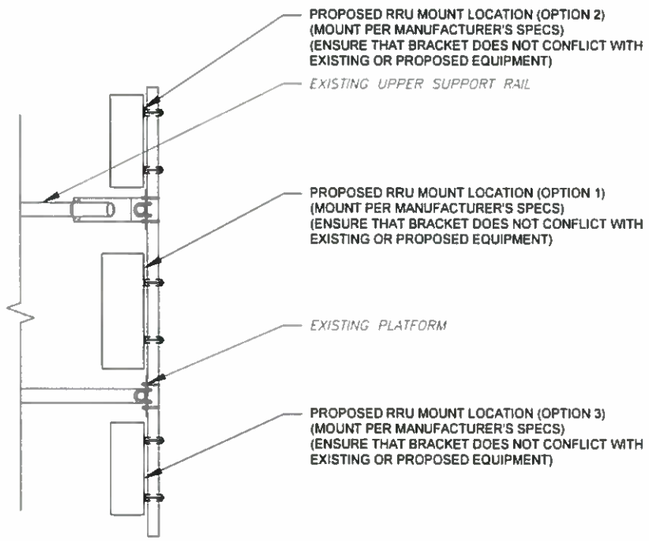


ISOMETRIC VIEW (BY MANUFACTURER)



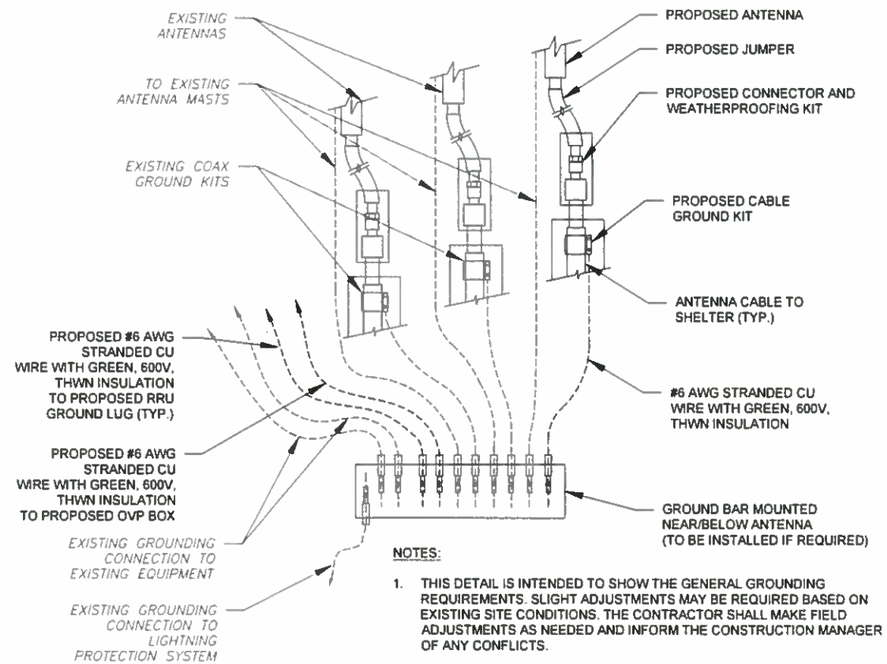
1 PROPOSED SIDE-BY-SIDE MOUNT

SCALE: NOT TO SCALE



2 PROPOSED RRU MOUNTING DETAIL - TYPICAL

SCALE: NOT TO SCALE



NOTES:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH VERIZON WIRELESS GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH VERIZON WIRELESS GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

3 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: NOT TO SCALE

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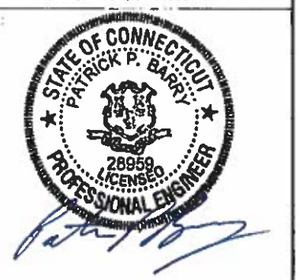

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Jun[illegible]

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DRAWN BY:	CA
APPROVED BY:	PPB
DATE DRAWN:	06/25/19
ATC JOB NO:	12954875
CUSTOMER ID:	NORWICH WEST CT
CUSTOMER #:	467571

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-502	0