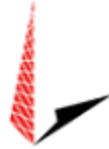




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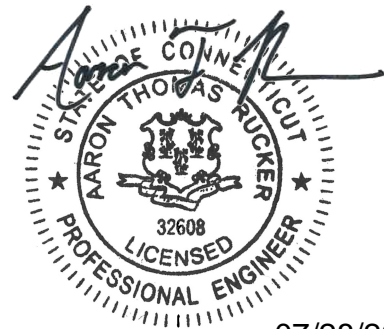
**TOWER
ENGINEERING
PROFESSIONALS**

Structural Analysis Report

Structure : 150 ft Monopole
ATC Site Name : MIDDLEFIELD CT, CT
ATC Asset Number : 411260
Engineering Number : 13701308_C3_02
Proposed Carrier : VERIZON WIRELESS
Carrier Site Name : MIDDLEFIELD
Carrier Site Number : 469410
Site Location : 484 Meriden Rd.
Middlefield, CT 06455-1013
41.535500,-72.732100
County : Middlesex
Date : July 28, 2021
Max Usage : 53%
Result : Pass

Prepared By:
Ayoub Sabor
TEP

Reviewed By:



07/28/2021

COA: PEC.0001553



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Calculations Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 150 ft monopole to reflect the change in loading by VERIZON WIRELESS.

Supporting Documents

Tower Drawings	EEI Project #11121, dated September 17, 2002
Foundation Drawing	EEI Project #11121, dated September 19, 2002
Geotechnical Report	Clarence Welti Project #Tower at Guidas Drive-In, dated September 12, 2002

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:	119 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Spectral Response:	$S_s = 0.21, S_1 = 0.06$
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	Equipment	Mount Type	Lines	Carrier
150.0	3	Samsung B2/B66A RRH-BR049	Low Profile Platform	(6) 1 5/8" Coax (1) 2.02 (51.2mm) Hybrid	VERIZON WIRELESS
	3	Samsung B5/B13 RRH-BR04C			
	1	RFS DB-C1-12C-24AB-0Z			
	6	Antel LPA-80063/6CF			
	4	Commscope NHH-45B-R2B			
140.0	3	Ericsson AIR 21, 1.3 M, B2A B4P	T-Arms	(3) 1 5/8" (1.63"- 41.3mm) Fiber (6) 1 5/8" Coax	T-MOBILE
	3	Ericsson Radio 4449 B71 B85A			
	3	Ericsson KRY 112 144/1			
	3	Ericsson AIR 21, 1.3M, B4A B2P			
	3	RFS APXVAARR24_43-U-NA20			
138.0	3	Generic 6.7" x 10.7" TTA			
130.0	6	Powerwave Allgon LGP 21902	Low Profile Platform	(1) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6 (12) 1 5/8" Hybriflex (1) 3" conduit	AT&T MOBILITY
	6	Powerwave Allgon LGP21401			
	3	Spinner 756529			
	1	Raycap DC6-48-60-18-8F			
	6	Ericsson RRUS-11 (50 lbs.)			
	6	Powerwave Allgon 7770.00 (27 lbs)			
	3	KMW AM-X-CD-16-65-00T-RET			
90.0	1	Generic GPS	Stand-Off	(1) 1 5/8" Coax	VERIZON WIRELESS

Equipment to be Removed

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
No loading was considered as removed as part of this analysis.					

Proposed Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
150.0	3	Samsung MT6407-77A	Low Profile Platform	(1) 2.02 (51.2mm) Hybrid	VERIZON WIRELESS
	2	Commscope NHH-65B-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	47%	Pass
Shaft	53%	Pass
Base Plate	27%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	3,405.8	4,597.8	2,328.5	51%
Shear (Kips)	31.3	42.2	21.4	51%

* The design reactions are factored by 1.35 per ANSI/TIA-222-H, Sec. 15.6.2

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) (°)
150.0	Samsung MT6407-77A	VERIZON WIRELESS	1.318	1.017
	Commscope NHH-65B-R2B			

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



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:

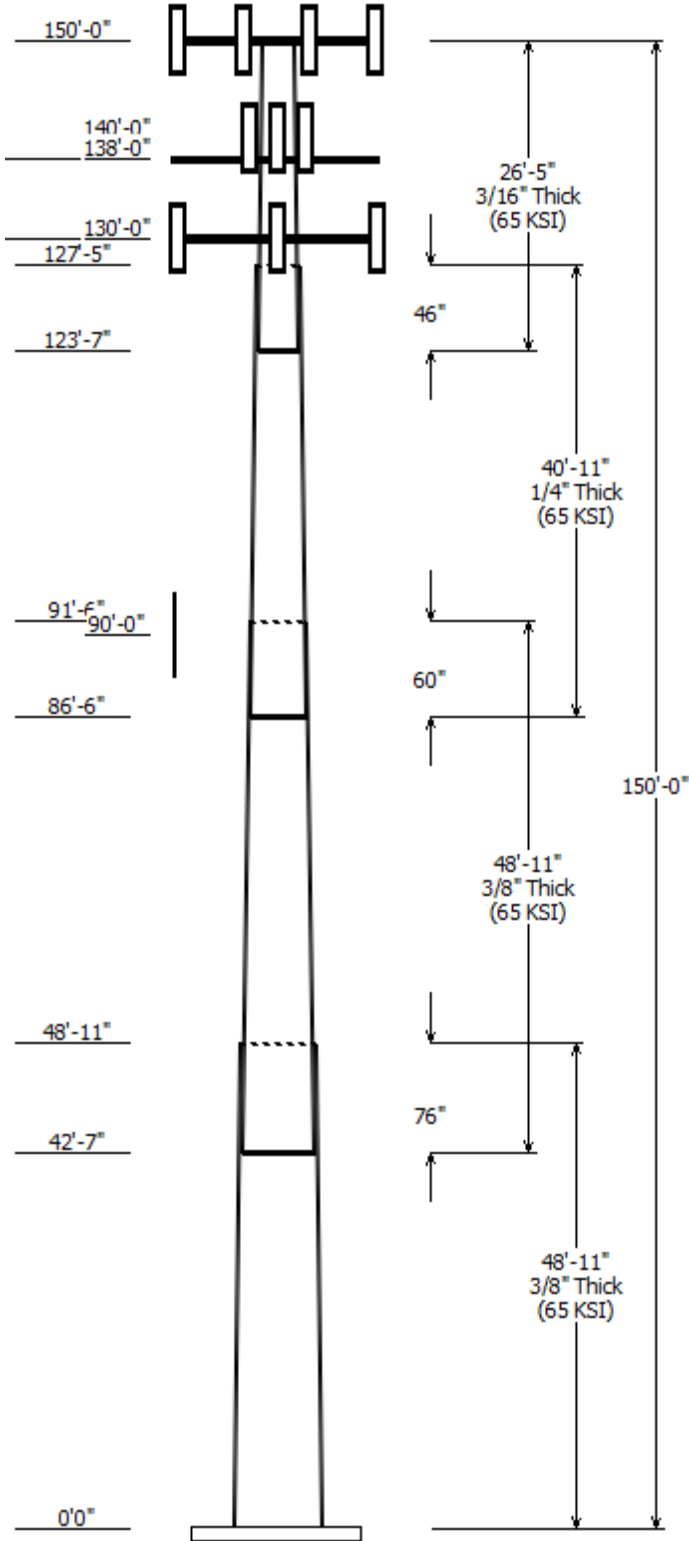
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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	
Client : VERIZON WIRELESS	Code: ANSI/TIA-222-H
Pole : 411260	
Location : MIDDLEFIELD CT, CT	
Description :	Risk Category : II
Shape : 18 Sides	Exposure : B
Height : 150.00 (ft)	Topo Method : Method 1
Base Elev (ft): 0.00	Topographic Category : 1
Taper: 0.25747(in/ft)	

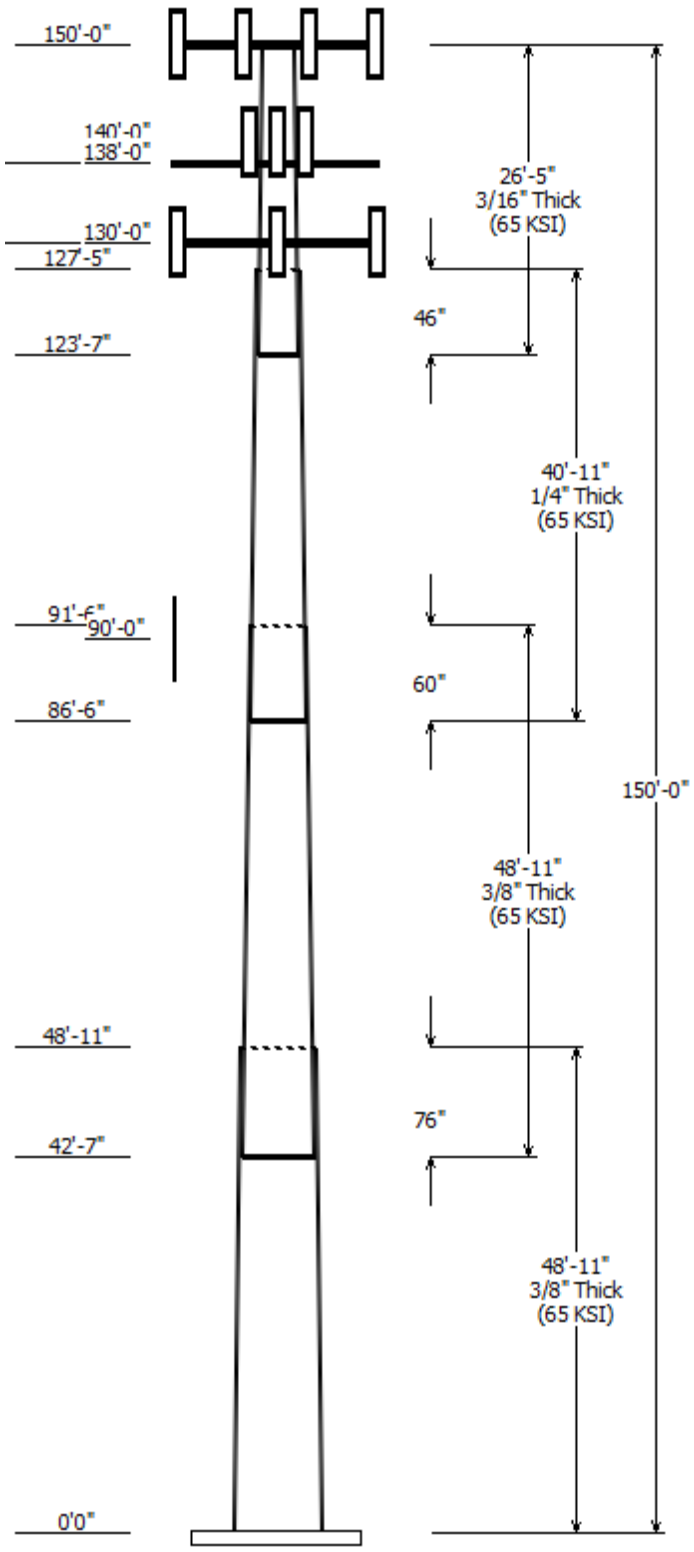
Sections Properties							
Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap Length (in)	Steel Grade
		Across Flats Top	Across Flats Bottom				
1	48.917	43.90	56.49	0.375		0.000	18 Sides 65
2	48.917	33.68	46.28	0.375	Slip Joint	76.000	18 Sides 65
3	40.917	24.94	35.47	0.250	Slip Joint	60.000	18 Sides 65
4	26.417	19.50	26.30	0.188	Slip Joint	46.000	18 Sides 65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
150.000	150.000	1	Generic Flat Low Profile Platf
150.000	150.000	4	Commscope NHH-45B-R2B
150.000	150.000	6	Antel LPA-80063/6CF
150.000	150.000	2	Commscope NHH-65B-R2B
150.000	150.000	3	Samsung MT6407-77A
150.000	150.000	1	RFS DB-C1-12C-24AB-0Z
150.000	150.000	3	Samsung B2/B66A RRR-BR049
150.000	150.000	3	Samsung B5/B13 RRR-BR04C
140.000	140.000	3	RFS APXVAARR24_43-U-NA20
140.000	140.000	3	Ericsson AIR 21, 1.3M, B4A B2P
140.000	140.000	3	Ericsson AIR 21, 1.3 M, B2A B4
140.000	140.000	3	Ericsson Radio 4449 B71 B85A
140.000	140.000	3	Ericsson KRY 112 144/1
138.000	138.000	4	Generic Round T-Arm
138.000	138.000	3	Generic 6.7" x 10.7" TTA
130.000	130.000	1	Generic Round Low Profile
130.000	130.000	3	KMW AM-X-CD-16-65-00T-RET
130.000	130.000	6	Powerwave Allgon 7770.00 (27
130.000	130.000	6	Ericsson RRUS-11 (50 lbs.)
130.000	130.000	1	Raycap DC6-48-60-18-8F
130.000	130.000	6	Powerwave Allgon LGP21401
130.000	130.000	6	Powerwave Allgon LGP 21902
130.000	130.000	3	Spinner 756529
90.000	90.000	1	Generic GPS

Linear Appurtenance			
Elev From	Elev To	Description	Exposed To Wind
0.000	90.000	1 5/8" Coax	No
0.000	130.0	0.39" (10mm)	No
0.000	130.0	0.78" (19.7mm) 8	No
0.000	130.0	1 5/8" Hybriflex	No
0.000	130.0	3" conduit	No
0.000	140.0	1 5/8" (1.63"-	No
0.000	140.0	1 5/8" Coax	No
0.000	150.0	1 5/8" Coax	Yes
0.000	150.0	2.02 (51.2mm)	No
0.000	150.0	2.02 (51.2mm)	No

Load Cases

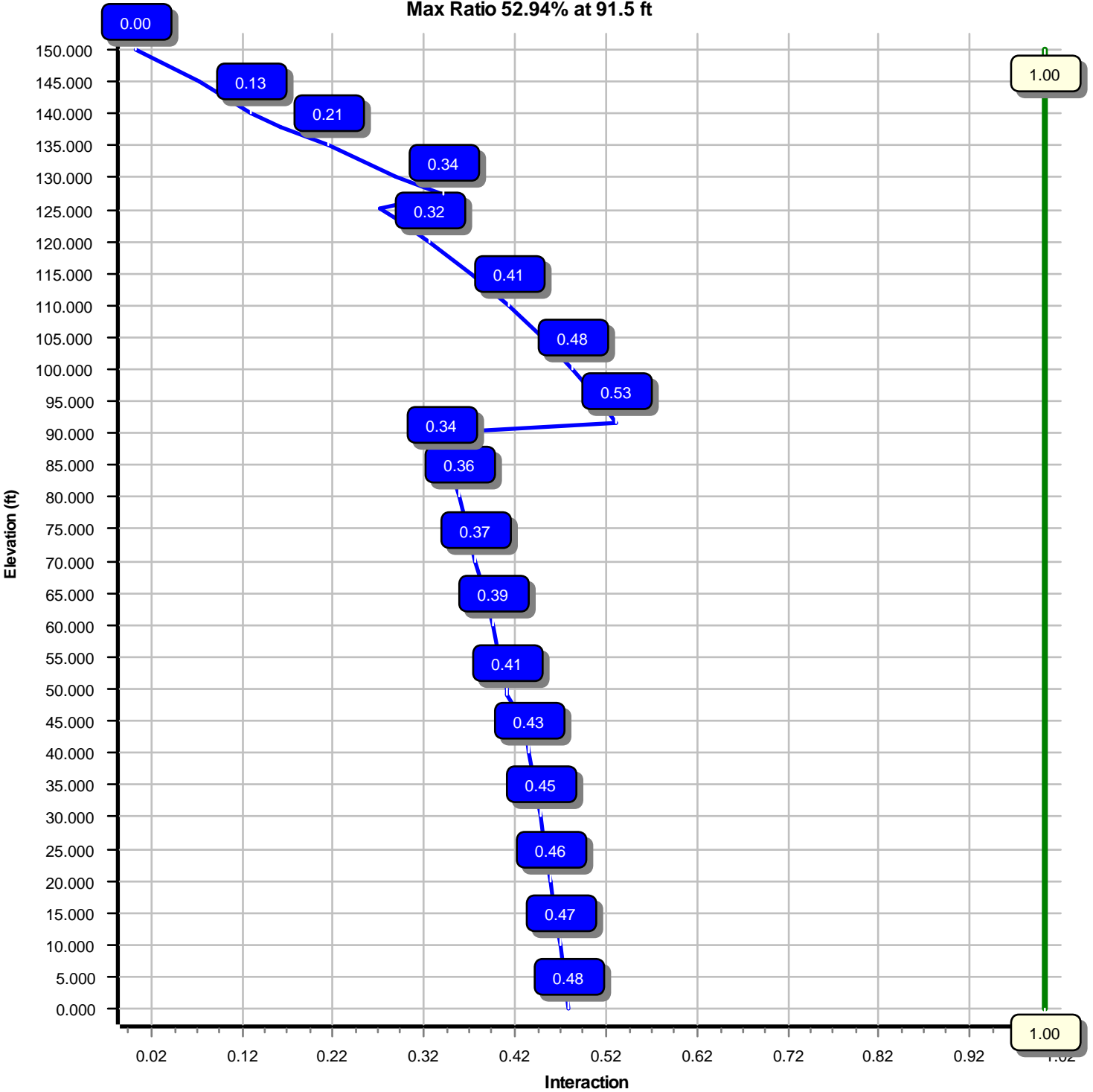
1.2D + 1.0W	119 mph with No Ice
0.9D + 1.0W	119 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	Serviceability 60 mph



Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.0W	2328.51	21.35	44.03
0.9D + 1.0W	2304.24	21.34	33.02
1.2D + 1.0Di + 1.0Wi	599.84	5.68	59.54
1.2D + 1.0Ev + 1.0Eh	177.54	1.43	44.00
0.9D - 1.0Ev + 1.0Eh	175.22	1.43	30.26
1.0D + 1.0W	526.28	4.85	36.71

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

Load Case : 1.2D + 1.0W
Max Ratio 52.94% at 91.5 ft



Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

7/28/2021 5:42:22 AM

Customer: VERIZON WIRELESS

Analysis Parameters

Location :	Middlesex County, CT	Height (ft) :	150
Code :	ANSI/TIA-222-H	Base Diameter (in) :	56.50
Shape :	18 Sides	Top Diameter (in) :	19.50
Pole Type :	Taper	Taper (in/ft) :	0.257
Pole Manufacturer :	EEI	Rotation (deg) :	0.00
Kd (non-service) :	0.95	Ke :	0.98

Ice & Wind Parameters

Exposure Category:	B	Design Wind Speed Without Ice:	119 mph
Risk Category:	II	Design Wind Speed With Ice:	50 mph
Topographic Factor Procedure:	Method 1	Operational Wind Speed:	60 mph
Topographic Category:	1	Design Ice Thickness:	1.00 in
Crest Height:	0 ft	HMSL:	427.00 ft

Seismic Parameters

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	2.25		
T _L (sec):	6	p:	1.3
S _s :	0.207	S ₁ :	0.055
F _a :	1.600	F _v :	2.400
S _{ds} :	0.221	S _{d1} :	0.088
		C _s :	0.030
		C _s Max:	0.030
		C _s Min:	0.030

Load Cases

1.2D + 1.0W	119 mph with No Ice
0.9D + 1.0W	119 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	Serviceability 60 mph

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

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Customer: VERIZON WIRELESS

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Bottom					Top							
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	48.917	0.3750	65		0.00	9,871	56.49	0.00	66.80	26580.7	25.15	150.66	43.90	48.92	51.81	12400.6	19.23	117.07	0.257477
2-18	48.917	0.3750	65	Slip	76.00	7,847	46.28	42.58	54.64	14548.7	20.35	123.42	33.68	91.50	39.65	5559.0	14.43	89.83	0.257477
3-18	40.917	0.2500	65	Slip	60.00	3,310	35.47	86.50	27.95	4381.6	23.61	141.90	24.94	127.42	19.59	1508.8	16.18	99.76	0.257477
4-18	26.417	0.1875	65	Slip	46.00	1,215	26.30	123.58	15.54	1339.0	23.32	140.28	19.50	150.00	11.49	541.6	16.93	104.00	0.257477
Shaft Weight						22,243													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor	Weight (lb)	Ice EPAa (sf)	Orientation Factor
150.00	Samsung B5/B13 RRH-BR04C	3	0.80	0.000	70.30	1.875	0.50	108.45	2.477	0.50
150.00	Samsung B2/B66A RRH-BR049	3	0.80	0.000	84.40	1.875	0.50	126.95	2.477	0.50
150.00	RFS DB-C1-12C-24AB-0Z	1	0.80	0.000	32.00	4.056	0.67	116.76	4.966	0.67
150.00	Samsung MT6407-77A	3	0.80	0.000	81.60	4.709	0.61	149.58	5.722	0.61
150.00	Commscope NHH-65B-R2B	2	0.80	0.000	43.70	8.079	0.77	159.98	9.937	0.77
150.00	Antel LPA-80063/6CF	6	0.80	0.000	27.00	9.593	0.76	209.50	10.480	0.76
150.00	Commscope NHH-45B-R2B	4	0.80	0.000	73.60	11.400	0.63	225.97	13.259	0.63
150.00	Generic Flat Low Profile Platform	1	1.00	0.000	1,875.00	26.100	1.00	2,415.11	38.833	1.00
140.00	Ericsson KRY 112 144/1	3	0.80	0.000	11.00	0.351	0.50	18.13	0.620	0.50
140.00	Ericsson Radio 4449 B71 B85A	3	0.80	0.000	75.00	1.650	0.50	114.87	2.213	0.50
140.00	Ericsson AIR 21, 1.3 M, B2A B4P	3	0.80	0.000	83.00	6.049	0.71	179.76	7.482	0.71
140.00	Ericsson AIR 21, 1.3M, B4A B2P	3	0.80	0.000	81.50	6.092	0.70	177.90	7.527	0.70
140.00	RFS APXVAARR24_43-U-NA20	3	0.80	0.000	127.90	20.243	0.63	388.17	22.702	0.63
138.00	Generic 6.7" x 10.7" TTA	3	0.80	0.000	9.90	0.597	0.50	15.78	0.950	0.50
138.00	Generic Round T-Arm	4	0.75	0.000	312.50	9.700	0.67	485.38	15.156	0.67
130.00	Spinner 756529	3	0.80	0.000	1.50	0.142	0.50	5.07	0.333	0.50
130.00	Powerwave Allgon LGP 21902	6	0.80	0.000	5.50	0.231	0.50	11.02	0.454	0.50
130.00	Powerwave Allgon LGP21401	6	0.80	0.000	14.10	1.104	0.50	30.51	1.574	0.50
130.00	Raycap DC6-48-60-18-8F	1	0.80	0.000	20.00	1.260	1.00	54.64	1.693	1.00
130.00	Ericsson RRUS-11 (50 lbs.)	6	0.80	0.000	50.00	2.566	0.67	94.85	3.255	0.67
130.00	Powerwave Allgon 7770.00 (27	6	0.80	0.000	27.00	5.508	0.65	101.78	6.907	0.65
130.00	KMW AM-X-CD-16-65-00T-RET	3	0.80	0.000	48.50	8.024	0.67	155.04	9.859	0.67
130.00	Generic Round Low Profile	1	1.00	0.000	1,875.00	21.700	1.00	2,407.80	34.331	1.00
90.00	Generic GPS	1	1.00	0.000	10.00	0.900	1.00	28.54	1.305	1.00
Totals	Num Loadings:24	78			8,209.20			15,193.27		

Linear Appurtenance Properties

Load Case Azimuth (deg) :

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Max Coax / Flat Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind Carrier
0.00	150.00	6	1 5/8" Coax	1.98	0.82	N 6	1.00	1.00	270	1.00	Y VERIZON WIRELESS
0.00	150.00	1	2.02 (51.2mm) Hybrid	2.02	3.04	N 0	0.00	0.00	0	0.00	N VERIZON WIRELESS
0.00	150.00	1	2.02 (51.2mm) Hybrid	2.02	3.04	N 1	0.00	0.00	0	0.00	N VERIZON WIRELESS
0.00	140.00	3	1 5/8" (1.63"-41.3mm)	1.63	1.61	N 0	0.00	0.00	0	0.00	N T-MOBILE
0.00	140.00	6	1 5/8" Coax	1.98	0.82	N 0	0.00	0.00	0	0.00	N T-MOBILE
0.00	130.00	1	0.39" (10mm) Fiber	0.39	0.06	N 0	0.00	0.00	0	0.00	N AT&T MOBILITY
0.00	130.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N 0	0.00	0.00	0	0.00	N AT&T MOBILITY
0.00	130.00	12	1 5/8" Hybriflex	1.98	1.30	N 0	0.00	0.00	0	0.00	N AT&T MOBILITY
0.00	130.00	1	3" conduit	3.50	7.58	N 0	0.00	0.00	0	0.00	N AT&T MOBILITY
0.00	90.00	1	1 5/8" Coax	1.98	0.82	N 0	0.00	0.00	0	0.00	N VERIZON WIRELESS

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

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Customer: VERIZON WIRELESS

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

7/28/2021 5:42:22 AM

Customer: 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		0.3750	56.497	66.796	26,580.7	25.15	150.66	71.8	926.7	0.0	0.0
5.00		0.3750	55.209	65.264	24,793.1	24.55	147.22	72.5	884.5	0.0	1,123.4
10.00		0.3750	53.922	63.732	23,087.5	23.94	143.79	73.2	843.3	0.0	1,097.4
15.00		0.3750	52.634	62.200	21,462.0	23.34	140.36	74.0	803.1	0.0	1,071.3
20.00		0.3750	51.347	60.667	19,914.6	22.73	136.93	74.7	763.9	0.0	1,045.2
25.00		0.3750	50.060	59.135	18,443.5	22.13	133.49	75.4	725.7	0.0	1,019.2
30.00		0.3750	48.772	57.603	17,046.6	21.52	130.06	76.1	688.4	0.0	993.1
35.00		0.3750	47.485	56.071	15,722.2	20.92	126.63	76.8	652.1	0.0	967.0
40.00		0.3750	46.198	54.538	14,468.1	20.31	123.19	77.5	616.8	0.0	940.9
42.58	Bot - Section 2	0.3750	45.532	53.747	13,847.2	20.00	121.42	77.9	599.0	0.0	475.9
45.00		0.3750	44.910	53.006	13,282.6	19.71	119.76	78.2	582.5	0.0	885.2
48.92	Top - Section 1	0.3750	44.652	52.698	13,052.7	19.58	119.07	78.4	575.8	0.0	1,408.8
50.00		0.3750	44.373	52.366	12,807.6	19.45	118.33	78.5	568.5	0.0	193.7
55.00		0.3750	43.085	50.834	11,715.9	18.85	114.89	79.2	535.6	0.0	877.9
60.00		0.3750	41.798	49.302	10,688.1	18.24	111.46	79.9	503.6	0.0	851.9
65.00		0.3750	40.511	47.770	9,722.2	17.64	108.03	80.7	472.7	0.0	825.8
70.00		0.3750	39.223	46.237	8,816.3	17.03	104.60	81.4	442.7	0.0	799.7
75.00		0.3750	37.936	44.705	7,968.6	16.43	101.16	82.1	413.7	0.0	773.6
80.00		0.3750	36.648	43.173	7,177.0	15.82	97.73	82.6	385.7	0.0	747.6
85.00		0.3750	35.361	41.641	6,439.6	15.22	94.30	82.6	358.7	0.0	721.5
86.50	Bot - Section 3	0.3750	34.975	41.181	6,228.7	15.03	93.27	82.6	350.8	0.0	211.4
90.00		0.3750	34.074	40.108	5,754.6	14.61	90.86	82.6	332.6	0.0	812.7
91.50	Top - Section 2	0.2500	34.187	26.928	3,918.5	22.70	136.75	74.7	225.8	0.0	341.8
95.00		0.2500	33.286	26.213	3,614.6	22.07	133.15	75.4	213.9	0.0	316.5
100.0		0.2500	31.999	25.192	3,208.3	21.16	128.00	76.5	197.5	0.0	437.3
105.0		0.2500	30.711	24.170	2,833.6	20.25	122.85	77.6	181.7	0.0	419.9
110.0		0.2500	29.424	23.149	2,489.3	19.34	117.70	78.7	166.6	0.0	402.5
115.0		0.2500	28.137	22.127	2,174.1	18.43	112.55	79.7	152.2	0.0	385.2
120.0		0.2500	26.849	21.106	1,886.7	17.53	107.40	80.8	138.4	0.0	367.8
123.5	Bot - Section 4	0.2500	25.927	20.374	1,697.1	16.88	103.71	81.6	128.9	0.0	252.9
125.0		0.2500	25.562	20.084	1,625.8	16.62	102.25	81.9	125.3	0.0	171.9
127.4	Top - Section 3	0.1875	25.315	14.953	1,192.8	22.40	135.01	75.1	92.8	0.0	287.6
130.0		0.1875	24.650	14.557	1,100.6	21.77	131.46	75.8	87.9	0.0	129.7
135.0		0.1875	23.362	13.791	935.8	20.56	124.60	77.2	78.9	0.0	241.2
138.0		0.1875	22.590	13.332	845.3	19.83	120.48	78.1	73.7	0.0	138.4
140.0		0.1875	22.075	13.025	788.4	19.35	117.73	78.6	70.3	0.0	89.7
145.0		0.1875	20.787	12.259	657.3	18.14	110.87	80.1	62.3	0.0	215.1
150.0		0.1875	19.500	11.493	541.6	16.93	104.00	81.5	54.7	0.0	202.1
											22,242.6

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

7/28/2021 5:42:22 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0W

119 mph with No Ice

23 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.20

Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		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		225.2	0.0					0.0	0.0	225.2	0.0	0.0	0.0
5.00		445.3	1,348.1					0.0	275.9	445.3	1,624.1	0.0	0.0
10.00		434.9	1,316.8					0.0	275.9	434.9	1,592.8	0.0	0.0
15.00		424.5	1,285.5					0.0	275.9	424.5	1,561.5	0.0	0.0
20.00		414.1	1,254.3					0.0	275.9	414.1	1,530.2	0.0	0.0
25.00		403.7	1,223.0					0.0	275.9	403.7	1,498.9	0.0	0.0
30.00		398.0	1,191.7					0.0	275.9	398.0	1,467.6	0.0	0.0
35.00		400.2	1,160.4					0.0	275.9	400.2	1,436.4	0.0	0.0
40.00		306.3	1,129.1					0.0	275.9	306.3	1,405.1	0.0	0.0
42.58	Bot - Section 2	204.7	571.1					0.0	142.6	204.7	713.7	0.0	0.0
45.00		262.2	1,062.2					0.0	133.4	262.2	1,195.6	0.0	0.0
48.92	Top - Section 1	207.2	1,690.5					0.0	216.2	207.2	1,906.7	0.0	0.0
50.00		252.0	232.4					0.0	59.8	252.0	292.2	0.0	0.0
55.00		413.4	1,053.5					0.0	275.9	413.4	1,329.4	0.0	0.0
60.00		411.1	1,022.2					0.0	275.9	411.1	1,298.2	0.0	0.0
65.00		407.7	990.9					0.0	275.9	407.7	1,266.9	0.0	0.0
70.00		403.2	959.7					0.0	275.9	403.2	1,235.6	0.0	0.0
75.00		397.7	928.4					0.0	275.9	397.7	1,204.3	0.0	0.0
80.00		391.4	897.1					0.0	275.9	391.4	1,173.0	0.0	0.0
85.00		251.5	865.8					0.0	275.9	251.5	1,141.7	0.0	0.0
86.50	Bot - Section 3	192.2	253.6					0.0	82.8	192.2	336.4	0.0	0.0
90.00	Appurtenance(s)	191.8	975.2	32.2	0.0	0.0	12.0	0.0	193.2	224.0	1,180.4	0.0	0.0
91.50	Top - Section 2	188.9	410.1					0.0	81.3	188.9	491.4	0.0	0.0
95.00		316.3	379.7					0.0	189.7	316.3	569.5	0.0	0.0
100.00		364.3	524.8					0.0	271.0	364.3	795.8	0.0	0.0
105.00		354.5	503.9					0.0	271.0	354.5	774.9	0.0	0.0
110.00		344.2	483.0					0.0	271.0	344.2	754.1	0.0	0.0
115.00		337.6	462.2					0.0	271.0	337.6	733.2	0.0	0.0
120.00		287.9	441.3					0.0	271.0	287.9	712.4	0.0	0.0
123.58	Bot - Section 4	167.7	303.5					0.0	194.2	167.7	497.7	0.0	0.0
125.00		129.4	206.3					0.0	76.8	129.4	283.1	0.0	0.0
127.42	Top - Section 3	167.5	345.1					0.0	131.0	167.5	476.1	0.0	0.0
130.00	Appurtenance(s)	251.5	155.6	2,559.7	0.0	0.0	3,149.5	0.0	140.0	2,811.2	3,445.2	0.0	0.0
135.00		264.2	289.4					0.0	124.5	264.2	413.9	0.0	0.0
138.00	Appurtenance(s)	164.3	166.1	817.0	0.0	0.0	1,535.6	0.0	74.7	981.2	1,776.5	0.0	0.0
140.00	Appurtenance(s)	228.6	107.6	2,173.3	0.0	0.0	1,362.2	0.0	49.8	2,401.8	1,519.7	0.0	0.0
145.00		324.9	258.1					0.0	66.0	324.9	324.1	0.0	0.0
150.00	Appurtenance(s)	161.8	242.5	4,453.6	0.0	0.0	3,791.6	0.0	66.0	4,615.5	4,100.1	0.0	0.0
Totals:										21,527.1	44,058.2	0.00	0.00

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

7/28/2021 5:42:24 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0W

119 mph with No Ice

23 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.20

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	-44.03	-21.35	0.00	-2,328.51	0.00	2,328.51	4,317.26	1,172.28	5,942.11	4,991.14	0.00	0.00	0.477
5.00	-42.37	-20.99	0.00	-2,221.77	0.00	2,221.77	4,260.05	1,145.38	5,672.65	4,811.27	0.07	-0.12	0.472
10.00	-40.73	-20.64	0.00	-2,116.81	0.00	2,116.81	4,200.87	1,118.49	5,409.44	4,632.29	0.26	-0.25	0.467
15.00	-39.13	-20.30	0.00	-2,013.59	0.00	2,013.59	4,139.73	1,091.60	5,152.48	4,454.35	0.59	-0.37	0.462
20.00	-37.55	-19.96	0.00	-1,912.11	0.00	1,912.11	4,076.62	1,064.71	4,901.78	4,277.62	1.05	-0.50	0.457
25.00	-36.01	-19.62	0.00	-1,812.32	0.00	1,812.32	4,011.55	1,037.82	4,657.33	4,102.25	1.65	-0.64	0.451
30.00	-34.50	-19.29	0.00	-1,714.20	0.00	1,714.20	3,944.52	1,010.93	4,419.13	3,928.40	2.39	-0.77	0.445
35.00	-33.03	-18.95	0.00	-1,617.75	0.00	1,617.75	3,875.52	984.04	4,187.18	3,756.23	3.27	-0.91	0.440
40.00	-31.59	-18.68	0.00	-1,523.00	0.00	1,523.00	3,804.56	957.15	3,961.49	3,585.89	4.30	-1.05	0.433
42.58	-30.86	-18.50	0.00	-1,474.74	0.00	1,474.74	3,767.13	943.25	3,847.33	3,498.65	4.89	-1.13	0.430
45.00	-29.64	-18.26	0.00	-1,430.03	0.00	1,430.03	3,731.63	930.26	3,742.04	3,417.54	5.48	-1.20	0.427
48.92	-27.71	-18.05	0.00	-1,358.49	0.00	1,358.49	3,716.76	924.86	3,698.74	3,383.99	6.52	-1.32	0.409
50.00	-27.40	-17.84	0.00	-1,338.94	0.00	1,338.94	3,700.61	919.03	3,652.29	3,347.89	6.82	-1.35	0.408
55.00	-26.04	-17.46	0.00	-1,249.76	0.00	1,249.76	3,624.90	892.14	3,441.71	3,182.63	8.32	-1.50	0.400
60.00	-24.70	-17.07	0.00	-1,162.48	0.00	1,162.48	3,547.23	865.25	3,237.39	3,019.74	9.96	-1.64	0.392
65.00	-23.41	-16.69	0.00	-1,077.12	0.00	1,077.12	3,467.60	838.36	3,039.31	2,859.38	11.76	-1.79	0.384
70.00	-22.14	-16.30	0.00	-993.68	0.00	993.68	3,386.00	811.47	2,847.49	2,701.71	13.72	-1.94	0.375
75.00	-20.91	-15.92	0.00	-912.16	0.00	912.16	3,302.44	784.58	2,661.91	2,546.88	15.84	-2.10	0.365
80.00	-19.71	-15.54	0.00	-832.55	0.00	832.55	3,207.53	757.68	2,482.60	2,388.06	18.12	-2.25	0.355
85.00	-18.55	-15.27	0.00	-754.86	0.00	754.86	3,093.69	730.79	2,309.53	2,220.73	20.56	-2.41	0.346
86.50	-18.20	-15.09	0.00	-731.95	0.00	731.95	3,059.54	722.73	2,258.83	2,171.71	21.33	-2.46	0.343
90.00	-17.01	-14.84	0.00	-679.12	0.00	679.12	2,979.85	703.90	2,142.72	2,059.47	23.17	-2.57	0.336
91.50	-16.51	-14.66	0.00	-656.85	0.00	656.85	1,810.37	472.59	1,448.63	1,264.77	23.99	-2.62	0.529
95.00	-15.91	-14.36	0.00	-605.56	0.00	605.56	1,779.94	460.04	1,372.72	1,210.25	25.95	-2.73	0.510
100.00	-15.08	-14.02	0.00	-533.76	0.00	533.76	1,734.79	442.12	1,267.83	1,133.24	28.93	-2.96	0.481
105.00	-14.27	-13.67	0.00	-463.68	0.00	463.68	1,687.67	424.19	1,167.11	1,057.41	32.15	-3.18	0.448
110.00	-13.49	-13.34	0.00	-395.31	0.00	395.31	1,638.60	406.26	1,070.56	982.92	35.60	-3.40	0.411
115.00	-12.74	-13.00	0.00	-328.62	0.00	328.62	1,587.56	388.33	978.17	909.92	39.27	-3.60	0.370
120.00	-12.01	-12.70	0.00	-263.62	0.00	263.62	1,534.56	370.41	889.95	838.58	43.14	-3.80	0.323
123.58	-11.50	-12.52	0.00	-218.11	0.00	218.11	1,495.36	357.56	829.29	788.55	46.04	-3.93	0.286
125.00	-11.22	-12.38	0.00	-200.37	0.00	200.37	1,479.59	352.48	805.90	769.04	47.21	-3.98	0.269
127.42	-10.74	-12.20	0.00	-170.45	0.00	170.45	1,010.15	262.43	595.59	522.46	49.25	-4.05	0.339
130.00	-7.48	-9.16	0.00	-138.94	0.00	138.94	993.05	255.48	564.48	499.92	51.46	-4.13	0.287
135.00	-7.07	-8.88	0.00	-93.13	0.00	93.13	958.46	242.04	506.64	456.92	55.87	-4.28	0.213
138.00	-5.37	-7.77	0.00	-66.49	0.00	66.49	936.76	233.97	473.43	431.57	58.58	-4.35	0.161
140.00	-4.03	-5.27	0.00	-50.94	0.00	50.94	921.91	228.59	451.92	414.89	60.41	-4.39	0.128
145.00	-3.73	-4.92	0.00	-24.61	0.00	24.61	883.39	215.15	400.33	373.97	65.05	-4.46	0.071
150.00	0.00	-4.62	0.00	0.00	0.00	0.00	842.91	201.70	351.86	334.33	69.73	-4.49	0.001

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

7/28/2021 5:42:25 AM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.0W

119 mph with No Ice (Reduced DL)

23 Iterations

Gust Response Factor :1.10

Dead Load Factor :0.90

Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		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		225.2	0.0					0.0	0.0	225.2	0.0	0.0	0.0
5.00		445.3	1,011.1					0.0	207.0	445.3	1,218.0	0.0	0.0
10.00		434.9	987.6					0.0	207.0	434.9	1,194.6	0.0	0.0
15.00		424.5	964.2					0.0	207.0	424.5	1,171.1	0.0	0.0
20.00		414.1	940.7					0.0	207.0	414.1	1,147.7	0.0	0.0
25.00		403.7	917.2					0.0	207.0	403.7	1,124.2	0.0	0.0
30.00		398.0	893.8					0.0	207.0	398.0	1,100.7	0.0	0.0
35.00		400.2	870.3					0.0	207.0	400.2	1,077.3	0.0	0.0
40.00		306.3	846.8					0.0	207.0	306.3	1,053.8	0.0	0.0
42.58	Bot - Section 2	204.7	428.3					0.0	106.9	204.7	535.3	0.0	0.0
45.00		262.2	796.7					0.0	100.0	262.2	896.7	0.0	0.0
48.92	Top - Section 1	207.2	1,267.9					0.0	162.1	207.2	1,430.0	0.0	0.0
50.00		252.0	174.3					0.0	44.8	252.0	219.1	0.0	0.0
55.00		413.4	790.1					0.0	207.0	413.4	997.1	0.0	0.0
60.00		411.1	766.7					0.0	207.0	411.1	973.6	0.0	0.0
65.00		407.7	743.2					0.0	207.0	407.7	950.2	0.0	0.0
70.00		403.2	719.7					0.0	207.0	403.2	926.7	0.0	0.0
75.00		397.7	696.3					0.0	207.0	397.7	903.2	0.0	0.0
80.00		391.4	672.8					0.0	207.0	391.4	879.8	0.0	0.0
85.00		251.5	649.4					0.0	207.0	251.5	856.3	0.0	0.0
86.50	Bot - Section 3	192.2	190.2					0.0	62.1	192.2	252.3	0.0	0.0
90.00	Appurtenance(s)	191.8	731.4	32.2	0.0	0.0	9.0	0.0	144.9	224.0	885.3	0.0	0.0
91.50	Top - Section 2	188.9	307.6					0.0	61.0	188.9	368.6	0.0	0.0
95.00		316.3	284.8					0.0	142.3	316.3	427.1	0.0	0.0
100.00		364.3	393.6					0.0	203.3	364.3	596.8	0.0	0.0
105.00		354.5	377.9					0.0	203.3	354.5	581.2	0.0	0.0
110.00		344.2	362.3					0.0	203.3	344.2	565.6	0.0	0.0
115.00		337.6	346.6					0.0	203.3	337.6	549.9	0.0	0.0
120.00		287.9	331.0					0.0	203.3	287.9	534.3	0.0	0.0
123.58	Bot - Section 4	167.7	227.6					0.0	145.7	167.7	373.3	0.0	0.0
125.00		129.4	154.7					0.0	57.6	129.4	212.3	0.0	0.0
127.42	Top - Section 3	167.5	258.9					0.0	98.2	167.5	357.1	0.0	0.0
130.00	Appurtenance(s)	251.5	116.7	2,559.7	0.0	0.0	2,362.1	0.0	105.0	2,811.2	2,583.9	0.0	0.0
135.00		264.2	217.0					0.0	93.4	264.2	310.4	0.0	0.0
138.00	Appurtenance(s)	164.3	124.6	817.0	0.0	0.0	1,151.7	0.0	56.0	981.2	1,332.4	0.0	0.0
140.00	Appurtenance(s)	228.6	80.7	2,173.3	0.0	0.0	1,021.7	0.0	37.3	2,401.8	1,139.7	0.0	0.0
145.00		324.9	193.6					0.0	49.5	324.9	243.1	0.0	0.0
150.00	Appurtenance(s)	161.8	181.9	4,453.6	0.0	0.0	2,843.7	0.0	49.5	4,615.5	3,075.1	0.0	0.0
Totals:										21,527.1	33,043.6	0.00	0.00

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

7/28/2021 5:42:27 AM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.0W

119 mph with No Ice (Reduced DL)

23 Iterations

Gust Response Factor :1.10

Dead Load Factor :0.90

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	-33.02	-21.34	0.00	-2,304.24	0.00	2,304.24	4,317.26	1,172.28	5,942.11	4,991.14	0.00	0.00	0.470
5.00	-31.76	-20.96	0.00	-2,197.56	0.00	2,197.56	4,260.05	1,145.38	5,672.65	4,811.27	0.06	-0.12	0.465
10.00	-30.52	-20.59	0.00	-2,092.77	0.00	2,092.77	4,200.87	1,118.49	5,409.44	4,632.29	0.26	-0.24	0.459
15.00	-29.31	-20.22	0.00	-1,989.85	0.00	1,989.85	4,139.73	1,091.60	5,152.48	4,454.35	0.58	-0.37	0.454
20.00	-28.12	-19.86	0.00	-1,888.75	0.00	1,888.75	4,076.62	1,064.71	4,901.78	4,277.62	1.04	-0.50	0.449
25.00	-26.95	-19.51	0.00	-1,789.45	0.00	1,789.45	4,011.55	1,037.82	4,657.33	4,102.25	1.63	-0.63	0.443
30.00	-25.81	-19.16	0.00	-1,691.91	0.00	1,691.91	3,944.52	1,010.93	4,419.13	3,928.40	2.36	-0.76	0.438
35.00	-24.69	-18.80	0.00	-1,596.12	0.00	1,596.12	3,875.52	984.04	4,187.18	3,756.23	3.23	-0.90	0.432
40.00	-23.61	-18.52	0.00	-1,502.10	0.00	1,502.10	3,804.56	957.15	3,961.49	3,585.89	4.25	-1.04	0.425
42.58	-23.06	-18.34	0.00	-1,454.26	0.00	1,454.26	3,767.13	943.25	3,847.33	3,498.65	4.84	-1.12	0.422
45.00	-22.14	-18.09	0.00	-1,409.94	0.00	1,409.94	3,731.63	930.26	3,742.04	3,417.54	5.42	-1.19	0.419
48.92	-20.69	-17.88	0.00	-1,339.08	0.00	1,339.08	3,716.76	924.86	3,698.74	3,383.99	6.44	-1.30	0.402
50.00	-20.45	-17.66	0.00	-1,319.71	0.00	1,319.71	3,700.61	919.03	3,652.29	3,347.89	6.74	-1.34	0.400
55.00	-19.42	-17.27	0.00	-1,231.43	0.00	1,231.43	3,624.90	892.14	3,441.71	3,182.63	8.22	-1.48	0.393
60.00	-18.41	-16.88	0.00	-1,145.09	0.00	1,145.09	3,547.23	865.25	3,237.39	3,019.74	9.84	-1.62	0.385
65.00	-17.43	-16.49	0.00	-1,060.71	0.00	1,060.71	3,467.60	838.36	3,039.31	2,859.38	11.62	-1.77	0.376
70.00	-16.48	-16.10	0.00	-978.28	0.00	978.28	3,386.00	811.47	2,847.49	2,701.71	13.55	-1.92	0.367
75.00	-15.55	-15.71	0.00	-897.80	0.00	897.80	3,302.44	784.58	2,661.91	2,546.88	15.64	-2.07	0.358
80.00	-14.64	-15.32	0.00	-819.26	0.00	819.26	3,207.53	757.68	2,482.60	2,388.06	17.89	-2.22	0.348
85.00	-13.77	-15.06	0.00	-742.64	0.00	742.64	3,093.69	730.79	2,309.53	2,220.73	20.30	-2.38	0.339
86.50	-13.50	-14.88	0.00	-720.04	0.00	720.04	3,059.54	722.73	2,258.83	2,171.71	21.05	-2.43	0.336
90.00	-12.61	-14.63	0.00	-667.97	0.00	667.97	2,979.85	703.90	2,142.72	2,059.47	22.87	-2.54	0.329
91.50	-12.23	-14.45	0.00	-646.01	0.00	646.01	1,810.37	472.59	1,448.63	1,264.77	23.68	-2.58	0.518
95.00	-11.78	-14.15	0.00	-595.45	0.00	595.45	1,779.94	460.04	1,372.72	1,210.25	25.61	-2.70	0.500
100.00	-11.14	-13.80	0.00	-524.73	0.00	524.73	1,734.79	442.12	1,267.83	1,133.24	28.55	-2.92	0.470
105.00	-10.53	-13.45	0.00	-455.75	0.00	455.75	1,687.67	424.19	1,167.11	1,057.41	31.72	-3.13	0.438
110.00	-9.94	-13.11	0.00	-388.50	0.00	388.50	1,638.60	406.26	1,070.56	982.92	35.12	-3.35	0.402
115.00	-9.37	-12.77	0.00	-322.95	0.00	322.95	1,587.56	388.33	978.17	909.92	38.73	-3.55	0.362
120.00	-8.82	-12.48	0.00	-259.08	0.00	259.08	1,534.56	370.41	889.95	838.58	42.55	-3.74	0.316
123.58	-8.44	-12.30	0.00	-214.38	0.00	214.38	1,495.36	357.56	829.29	788.55	45.41	-3.87	0.279
125.00	-8.22	-12.16	0.00	-196.96	0.00	196.96	1,479.59	352.48	805.90	769.04	46.56	-3.92	0.263
127.42	-7.86	-11.98	0.00	-167.57	0.00	167.57	1,010.15	262.43	595.59	522.46	48.57	-3.99	0.331
130.00	-5.46	-9.01	0.00	-136.61	0.00	136.61	993.05	255.48	564.48	499.92	50.75	-4.07	0.280
135.00	-5.16	-8.73	0.00	-91.58	0.00	91.58	958.46	242.04	506.64	456.92	55.09	-4.21	0.207
138.00	-3.89	-7.66	0.00	-65.40	0.00	65.40	936.76	233.97	473.43	431.57	57.76	-4.29	0.157
140.00	-2.93	-5.18	0.00	-50.08	0.00	50.08	921.91	228.59	451.92	414.89	59.56	-4.33	0.124
145.00	-2.71	-4.84	0.00	-24.19	0.00	24.19	883.39	215.15	400.33	373.97	64.13	-4.39	0.068
150.00	0.00	-4.62	0.00	0.00	0.00	0.00	842.91	201.70	351.86	334.33	68.74	-4.42	0.001

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

7/28/2021 5:42:27 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

22 Iterations

Gust Response Factor :1.10

Ice Dead Load 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		Discrete Forces			Linear Forces		Sum of Forces				
		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		67.1	0.0					0.0	0.0	67.1	0.0	0.0	0.0
5.00		133.0	1,619.1					0.0	338.6	133.0	1,957.7	0.0	0.0
10.00		130.3	1,612.8					0.0	342.8	130.3	1,955.6	0.0	0.0
15.00		127.4	1,590.0					0.0	345.0	127.4	1,934.9	0.0	0.0
20.00		124.6	1,561.7					0.0	346.5	124.6	1,908.2	0.0	0.0
25.00		121.6	1,530.6					0.0	347.6	121.6	1,878.2	0.0	0.0
30.00		120.1	1,497.8					0.0	348.5	120.1	1,846.3	0.0	0.0
35.00		121.0	1,463.7					0.0	349.3	121.0	1,813.0	0.0	0.0
40.00		92.7	1,428.7					0.0	350.0	92.7	1,778.7	0.0	0.0
42.58	Bot - Section 2	62.0	725.2					0.0	181.1	62.0	906.3	0.0	0.0
45.00		79.5	1,207.7					0.0	169.6	79.5	1,377.2	0.0	0.0
48.92	Top - Section 1	62.8	1,922.8					0.0	275.1	62.8	2,197.9	0.0	0.0
50.00		76.6	296.6					0.0	76.1	76.6	372.7	0.0	0.0
55.00		125.7	1,343.1					0.0	351.7	125.7	1,694.8	0.0	0.0
60.00		125.3	1,306.0					0.0	352.2	125.3	1,658.2	0.0	0.0
65.00		124.5	1,268.6					0.0	352.6	124.5	1,621.2	0.0	0.0
70.00		123.3	1,230.8					0.0	353.0	123.3	1,583.8	0.0	0.0
75.00		121.9	1,192.8					0.0	353.4	121.9	1,546.2	0.0	0.0
80.00		120.3	1,154.5					0.0	353.8	120.3	1,508.3	0.0	0.0
85.00		77.4	1,116.1					0.0	354.1	77.4	1,470.2	0.0	0.0
86.50	Bot - Section 3	59.2	328.2					0.0	106.3	59.2	434.5	0.0	0.0
90.00	Appurtenance(s)	59.1	1,147.8	8.2	0.0	0.0	26.3	0.0	248.1	67.4	1,422.3	0.0	0.0
91.50	Top - Section 2	58.3	483.5					0.0	104.9	58.3	588.4	0.0	0.0
95.00		97.9	547.1					0.0	244.9	97.9	791.9	0.0	0.0
100.00		113.0	755.9					0.0	350.1	113.0	1,106.0	0.0	0.0
105.00		110.3	727.2					0.0	350.3	110.3	1,077.6	0.0	0.0
110.00		107.4	698.4					0.0	350.6	107.4	1,049.0	0.0	0.0
115.00		104.4	669.4					0.0	350.9	104.4	1,020.3	0.0	0.0
120.00		87.3	640.3					0.0	351.1	87.3	991.4	0.0	0.0
123.58	Bot - Section 4	50.0	441.9					0.0	251.8	50.0	693.7	0.0	0.0
125.00		37.9	261.2					0.0	99.6	37.9	360.7	0.0	0.0
127.42	Top - Section 3	48.8	436.7					0.0	169.9	48.8	606.6	0.0	0.0
130.00	Appurtenance(s)	72.0	251.3	623.0	0.0	0.0	4,515.5	0.0	181.7	695.1	4,948.4	0.0	0.0
135.00		74.4	465.8					0.0	205.3	74.4	671.0	0.0	0.0
138.00	Appurtenance(s)	45.2	268.9	225.5	0.0	0.0	2,091.0	0.0	123.3	270.7	2,483.2	0.0	0.0
140.00	Appurtenance(s)	61.2	174.8	452.2	0.0	0.0	2,538.5	0.0	82.2	513.4	2,795.5	0.0	0.0
145.00		84.8	417.2					0.0	147.2	84.8	564.3	0.0	0.0
150.00	Appurtenance(s)	41.4	392.7	972.0	0.0	0.0	6,387.8	0.2	147.4	1,013.7	6,928.0	0.0	0.0
Totals:										5,731.07	59,542.3	0.00	0.00

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

7/28/2021 5:42:30 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

22 Iterations

Gust Response Factor :1.10

Ice Dead Load 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	-59.54	-5.68	0.00	-599.84	0.00	599.84	4,317.26	1,172.28	5,942.11	4,991.14	0.00	0.00	0.134
5.00	-57.58	-5.58	0.00	-571.44	0.00	571.44	4,260.05	1,145.38	5,672.65	4,811.27	0.02	-0.03	0.132
10.00	-55.62	-5.48	0.00	-543.55	0.00	543.55	4,200.87	1,118.49	5,409.44	4,632.29	0.07	-0.06	0.131
15.00	-53.68	-5.38	0.00	-516.16	0.00	516.16	4,139.73	1,091.60	5,152.48	4,454.35	0.15	-0.10	0.129
20.00	-51.77	-5.28	0.00	-489.27	0.00	489.27	4,076.62	1,064.71	4,901.78	4,277.62	0.27	-0.13	0.127
25.00	-49.89	-5.18	0.00	-462.87	0.00	462.87	4,011.55	1,037.82	4,657.33	4,102.25	0.42	-0.16	0.125
30.00	-48.04	-5.09	0.00	-436.95	0.00	436.95	3,944.52	1,010.93	4,419.13	3,928.40	0.61	-0.20	0.123
35.00	-46.23	-4.99	0.00	-411.52	0.00	411.52	3,875.52	984.04	4,187.18	3,756.23	0.84	-0.23	0.122
40.00	-44.45	-4.91	0.00	-386.58	0.00	386.58	3,804.56	957.15	3,961.49	3,585.89	1.10	-0.27	0.120
42.58	-43.54	-4.86	0.00	-373.89	0.00	373.89	3,767.13	943.25	3,847.33	3,498.65	1.25	-0.29	0.118
45.00	-42.16	-4.79	0.00	-362.16	0.00	362.16	3,731.63	930.26	3,742.04	3,417.54	1.41	-0.31	0.117
48.92	-39.96	-4.73	0.00	-343.40	0.00	343.40	3,716.76	924.86	3,698.74	3,383.99	1.67	-0.34	0.112
50.00	-39.59	-4.66	0.00	-338.28	0.00	338.28	3,700.61	919.03	3,652.29	3,347.89	1.75	-0.35	0.112
55.00	-37.89	-4.55	0.00	-314.97	0.00	314.97	3,624.90	892.14	3,441.71	3,182.63	2.13	-0.38	0.109
60.00	-36.23	-4.44	0.00	-292.22	0.00	292.22	3,547.23	865.25	3,237.39	3,019.74	2.55	-0.42	0.107
65.00	-34.61	-4.32	0.00	-270.03	0.00	270.03	3,467.60	838.36	3,039.31	2,859.38	3.01	-0.46	0.104
70.00	-33.02	-4.21	0.00	-248.42	0.00	248.42	3,386.00	811.47	2,847.49	2,701.71	3.50	-0.49	0.102
75.00	-31.47	-4.09	0.00	-227.37	0.00	227.37	3,302.44	784.58	2,661.91	2,546.88	4.04	-0.53	0.099
80.00	-29.96	-3.98	0.00	-206.90	0.00	206.90	3,207.53	757.68	2,482.60	2,388.06	4.62	-0.57	0.096
85.00	-28.49	-3.90	0.00	-187.00	0.00	187.00	3,093.69	730.79	2,309.53	2,220.73	5.24	-0.61	0.093
86.50	-28.06	-3.85	0.00	-181.15	0.00	181.15	3,059.54	722.73	2,258.83	2,171.71	5.43	-0.62	0.093
90.00	-26.63	-3.77	0.00	-167.69	0.00	167.69	2,979.85	703.90	2,142.72	2,059.47	5.90	-0.65	0.090
91.50	-26.05	-3.72	0.00	-162.04	0.00	162.04	1,810.37	472.59	1,448.63	1,264.77	6.10	-0.66	0.143
95.00	-25.25	-3.63	0.00	-149.03	0.00	149.03	1,779.94	460.04	1,372.72	1,210.25	6.60	-0.69	0.137
100.00	-24.14	-3.52	0.00	-130.89	0.00	130.89	1,734.79	442.12	1,267.83	1,133.24	7.35	-0.75	0.129
105.00	-23.07	-3.42	0.00	-113.27	0.00	113.27	1,687.67	424.19	1,167.11	1,057.41	8.16	-0.80	0.121
110.00	-22.01	-3.32	0.00	-96.17	0.00	96.17	1,638.60	406.26	1,070.56	982.92	9.03	-0.85	0.111
115.00	-20.99	-3.22	0.00	-79.59	0.00	79.59	1,587.56	388.33	978.17	909.92	9.95	-0.90	0.101
120.00	-20.00	-3.13	0.00	-63.51	0.00	63.51	1,534.56	370.41	889.95	838.58	10.92	-0.95	0.089
123.58	-19.31	-3.07	0.00	-52.31	0.00	52.31	1,495.36	357.56	829.29	788.55	11.64	-0.98	0.079
125.00	-18.95	-3.03	0.00	-47.96	0.00	47.96	1,479.59	352.48	805.90	769.04	11.94	-0.99	0.075
127.42	-18.34	-2.98	0.00	-40.63	0.00	40.63	1,010.15	262.43	595.59	522.46	12.44	-1.01	0.096
130.00	-13.40	-2.20	0.00	-32.93	0.00	32.93	993.05	255.48	564.48	499.92	13.00	-1.03	0.079
135.00	-12.73	-2.12	0.00	-21.92	0.00	21.92	958.46	242.04	506.64	456.92	14.09	-1.06	0.061
138.00	-10.26	-1.81	0.00	-15.56	0.00	15.56	936.76	233.97	473.43	431.57	14.77	-1.08	0.047
140.00	-7.47	-1.24	0.00	-11.95	0.00	11.95	921.91	228.59	451.92	414.89	15.22	-1.09	0.037
145.00	-6.91	-1.15	0.00	-5.74	0.00	5.74	883.39	215.15	400.33	373.97	16.37	-1.11	0.023
150.00	0.00	-1.01	0.00	0.00	0.00	0.00	842.91	201.70	351.86	334.33	17.54	-1.11	0.000

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

7/28/2021 5:42:30 AM

Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W	Serviceability 60 mph	22 Iterations
Gust Response Factor :1.10		
Dead Load Factor :1.00		
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		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		51.2	0.0					0.0	0.0	51.2	0.0	0.0	0.0
5.00		101.3	1,123.4					0.0	230.0	101.3	1,353.4	0.0	0.0
10.00		98.9	1,097.4					0.0	230.0	98.9	1,327.3	0.0	0.0
15.00		96.6	1,071.3					0.0	230.0	96.6	1,301.2	0.0	0.0
20.00		94.2	1,045.2					0.0	230.0	94.2	1,275.2	0.0	0.0
25.00		91.8	1,019.2					0.0	230.0	91.8	1,249.1	0.0	0.0
30.00		90.5	993.1					0.0	230.0	90.5	1,223.0	0.0	0.0
35.00		91.0	967.0					0.0	230.0	91.0	1,197.0	0.0	0.0
40.00		69.7	940.9					0.0	230.0	69.7	1,170.9	0.0	0.0
42.58	Bot - Section 2	46.6	475.9					0.0	118.8	46.6	594.7	0.0	0.0
45.00		59.6	885.2					0.0	111.1	59.6	996.3	0.0	0.0
48.92	Top - Section 1	47.1	1,408.8					0.0	180.1	47.1	1,588.9	0.0	0.0
50.00		57.3	193.7					0.0	49.8	57.3	243.5	0.0	0.0
55.00		94.0	877.9					0.0	230.0	94.0	1,107.9	0.0	0.0
60.00		93.5	851.9					0.0	230.0	93.5	1,081.8	0.0	0.0
65.00		92.7	825.8					0.0	230.0	92.7	1,055.7	0.0	0.0
70.00		91.7	799.7					0.0	230.0	91.7	1,029.7	0.0	0.0
75.00		90.5	773.6					0.0	230.0	90.5	1,003.6	0.0	0.0
80.00		89.0	747.6					0.0	230.0	89.0	977.5	0.0	0.0
85.00		57.2	721.5					0.0	230.0	57.2	951.5	0.0	0.0
86.50	Bot - Section 3	43.7	211.4					0.0	69.0	43.7	280.4	0.0	0.0
90.00	Appurtenance(s)	43.6	812.7	7.3	0.0	0.0	10.0	0.0	161.0	50.9	983.6	0.0	0.0
91.50	Top - Section 2	43.0	341.8					0.0	67.8	43.0	409.5	0.0	0.0
95.00		71.9	316.5					0.0	158.1	71.9	474.5	0.0	0.0
100.00		82.9	437.3					0.0	225.9	82.9	663.2	0.0	0.0
105.00		80.6	419.9					0.0	225.9	80.6	645.8	0.0	0.0
110.00		78.3	402.5					0.0	225.9	78.3	628.4	0.0	0.0
115.00		76.8	385.2					0.0	225.9	76.8	611.0	0.0	0.0
120.00		65.5	367.8					0.0	225.9	65.5	593.6	0.0	0.0
123.58	Bot - Section 4	38.1	252.9					0.0	161.9	38.1	414.7	0.0	0.0
125.00		29.4	171.9					0.0	64.0	29.4	235.9	0.0	0.0
127.42	Top - Section 3	38.1	287.6					0.0	109.2	38.1	396.8	0.0	0.0
130.00	Appurtenance(s)	57.2	129.7	582.2	0.0	0.0	2,624.6	0.0	116.7	639.4	2,871.0	0.0	0.0
135.00		60.1	241.2					0.0	103.8	60.1	344.9	0.0	0.0
138.00	Appurtenance(s)	37.4	138.4	185.8	0.0	0.0	1,279.7	0.0	62.3	223.2	1,480.4	0.0	0.0
140.00	Appurtenance(s)	52.0	89.7	494.3	0.0	0.0	1,135.2	0.0	41.5	546.3	1,266.4	0.0	0.0
145.00		73.9	215.1					0.0	55.0	73.9	270.1	0.0	0.0
150.00	Appurtenance(s)	36.8	202.1	1,013.0	0.0	0.0	3,159.7	0.0	55.0	1,049.8	3,416.8	0.0	0.0
Totals:										4,896.54	36,715.2	0.00	0.00

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

7/28/2021 5:42:33 AM

Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W

Serviceability 60 mph

22 Iterations

Gust Response Factor :1.10

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	-36.71	-4.85	0.00	-526.28	0.00	526.28	4,317.26	1,172.28	5,942.11	4,991.14	0.00	0.00	0.114
5.00	-35.36	-4.77	0.00	-502.01	0.00	502.01	4,260.05	1,145.38	5,672.65	4,811.27	0.01	-0.03	0.113
10.00	-34.03	-4.69	0.00	-478.17	0.00	478.17	4,200.87	1,118.49	5,409.44	4,632.29	0.06	-0.06	0.111
15.00	-32.73	-4.60	0.00	-454.74	0.00	454.74	4,139.73	1,091.60	5,152.48	4,454.35	0.13	-0.08	0.110
20.00	-31.45	-4.52	0.00	-431.71	0.00	431.71	4,076.62	1,064.71	4,901.78	4,277.62	0.24	-0.11	0.109
25.00	-30.20	-4.45	0.00	-409.09	0.00	409.09	4,011.55	1,037.82	4,657.33	4,102.25	0.37	-0.14	0.107
30.00	-28.97	-4.37	0.00	-386.86	0.00	386.86	3,944.52	1,010.93	4,419.13	3,928.40	0.54	-0.17	0.106
35.00	-27.77	-4.29	0.00	-365.02	0.00	365.02	3,875.52	984.04	4,187.18	3,756.23	0.74	-0.21	0.104
40.00	-26.60	-4.23	0.00	-343.58	0.00	343.58	3,804.56	957.15	3,961.49	3,585.89	0.97	-0.24	0.103
42.58	-26.00	-4.18	0.00	-332.66	0.00	332.66	3,767.13	943.25	3,847.33	3,498.65	1.11	-0.26	0.102
45.00	-25.01	-4.13	0.00	-322.55	0.00	322.55	3,731.63	930.26	3,742.04	3,417.54	1.24	-0.27	0.101
48.92	-23.42	-4.08	0.00	-306.38	0.00	306.38	3,716.76	924.86	3,698.74	3,383.99	1.47	-0.30	0.097
50.00	-23.17	-4.03	0.00	-301.96	0.00	301.96	3,700.61	919.03	3,652.29	3,347.89	1.54	-0.31	0.096
55.00	-22.06	-3.94	0.00	-281.81	0.00	281.81	3,624.90	892.14	3,441.71	3,182.63	1.88	-0.34	0.095
60.00	-20.98	-3.85	0.00	-262.10	0.00	262.10	3,547.23	865.25	3,237.39	3,019.74	2.25	-0.37	0.093
65.00	-19.92	-3.77	0.00	-242.82	0.00	242.82	3,467.60	838.36	3,039.31	2,859.38	2.66	-0.40	0.091
70.00	-18.89	-3.68	0.00	-223.99	0.00	223.99	3,386.00	811.47	2,847.49	2,701.71	3.10	-0.44	0.089
75.00	-17.89	-3.59	0.00	-205.60	0.00	205.60	3,302.44	784.58	2,661.91	2,546.88	3.58	-0.47	0.086
80.00	-16.91	-3.50	0.00	-187.64	0.00	187.64	3,207.53	757.68	2,482.60	2,388.06	4.09	-0.51	0.084
85.00	-15.95	-3.44	0.00	-170.12	0.00	170.12	3,093.69	730.79	2,309.53	2,220.73	4.64	-0.54	0.082
86.50	-15.67	-3.40	0.00	-164.95	0.00	164.95	3,059.54	722.73	2,258.83	2,171.71	4.81	-0.55	0.081
90.00	-14.69	-3.35	0.00	-153.04	0.00	153.04	2,979.85	703.90	2,142.72	2,059.47	5.23	-0.58	0.079
91.50	-14.28	-3.30	0.00	-148.02	0.00	148.02	1,810.37	472.59	1,448.63	1,264.77	5.41	-0.59	0.125
95.00	-13.80	-3.24	0.00	-136.45	0.00	136.45	1,779.94	460.04	1,372.72	1,210.25	5.86	-0.62	0.121
100.00	-13.14	-3.16	0.00	-120.27	0.00	120.27	1,734.79	442.12	1,267.83	1,133.24	6.53	-0.67	0.114
105.00	-12.49	-3.08	0.00	-104.48	0.00	104.48	1,687.67	424.19	1,167.11	1,057.41	7.26	-0.72	0.106
110.00	-11.86	-3.00	0.00	-89.07	0.00	89.07	1,638.60	406.26	1,070.56	982.92	8.03	-0.77	0.098
115.00	-11.25	-2.93	0.00	-74.05	0.00	74.05	1,587.56	388.33	978.17	909.92	8.86	-0.81	0.089
120.00	-10.65	-2.86	0.00	-59.41	0.00	59.41	1,534.56	370.41	889.95	838.58	9.74	-0.86	0.078
123.58	-10.24	-2.82	0.00	-49.16	0.00	49.16	1,495.36	357.56	829.29	788.55	10.39	-0.89	0.069
125.00	-10.00	-2.79	0.00	-45.17	0.00	45.17	1,479.59	352.48	805.90	769.04	10.66	-0.90	0.066
127.42	-9.61	-2.75	0.00	-38.43	0.00	38.43	1,010.15	262.43	595.59	522.46	11.11	-0.91	0.083
130.00	-6.75	-2.07	0.00	-31.33	0.00	31.33	993.05	255.48	564.48	499.92	11.61	-0.93	0.070
135.00	-6.40	-2.00	0.00	-21.00	0.00	21.00	958.46	242.04	506.64	456.92	12.61	-0.97	0.053
138.00	-4.92	-1.75	0.00	-15.00	0.00	15.00	936.76	233.97	473.43	431.57	13.22	-0.98	0.040
140.00	-3.67	-1.19	0.00	-11.49	0.00	11.49	921.91	228.59	451.92	414.89	13.63	-0.99	0.032
145.00	-3.40	-1.11	0.00	-5.55	0.00	5.55	883.39	215.15	400.33	373.97	14.68	-1.01	0.019
150.00	0.00	-1.05	0.00	0.00	0.00	0.00	842.91	201.70	351.86	334.33	15.74	-1.01	0.000

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number: 13701308_C3_02

7/28/2021 5:42:34 AM

Customer: VERIZON WIRELESS

Equivalent Lateral Forces Method Analysis

Spectral Response Acceleration for Short Period (S_s):	0.21
Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.05
Long-Period Transition Period (T_L):	6
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}):	0.22
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	2.25
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.87
Total Unfactored Dead Load:	36.72 k
Seismic Base Shear (E):	1.43 k

Load Case 1.2D + 1.0Ev + 1.0Eh

Seismic

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
37	147.50	257	2,965	0.018	25	320
36	142.50	270	2,921	0.018	25	336
35	139.00	131	1,354	0.008	12	163
34	136.50	201	2,002	0.012	17	250
33	132.50	345	3,255	0.020	28	429
32	128.71	246	2,202	0.013	19	307
31	126.21	397	3,418	0.021	29	494
30	124.29	236	1,975	0.012	17	293
29	121.79	415	3,342	0.020	29	516
28	117.50	594	4,473	0.027	38	739
27	112.50	611	4,244	0.025	36	760
26	107.50	628	4,008	0.024	34	782
25	102.50	646	3,768	0.023	32	803
24	97.50	663	3,523	0.021	30	825
23	93.25	475	2,319	0.014	20	590
22	90.75	410	1,902	0.011	16	510
21	88.25	974	4,292	0.026	37	1,211
20	85.75	280	1,171	0.007	10	349
19	82.50	951	3,697	0.022	32	1,184
18	77.50	978	3,378	0.020	29	1,216
17	72.50	1,004	3,061	0.018	26	1,249
16	67.50	1,030	2,747	0.016	24	1,281
15	62.50	1,056	2,439	0.015	21	1,314
14	57.50	1,082	2,138	0.013	18	1,346
13	52.50	1,108	1,846	0.011	16	1,378

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

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Customer: VERIZON WIRELESS

12	49.46	243	363	0.002	3	303
11	46.96	1,589	2,149	0.013	18	1,977
10	43.79	996	1,182	0.007	10	1,240
9	41.29	595	632	0.004	5	740
8	37.50	1,171	1,039	0.006	9	1,457
7	32.50	1,197	812	0.005	7	1,489
6	27.50	1,223	607	0.004	5	1,522
5	22.50	1,249	426	0.003	4	1,554
4	17.50	1,275	271	0.002	2	1,587
3	12.50	1,301	148	0.001	1	1,619
2	7.50	1,327	58	0.000	0	1,651
1	2.50	1,353	8	0.000	0	1,684
Samsung B5/B13 RRH-B	150.00	211	2,511	0.015	22	262
Samsung B2/B66A RRH-	150.00	253	3,014	0.018	26	315
RFS DB-C1-12C-24AB-0	150.00	32	381	0.002	3	40
Samsung MT6407-77A	150.00	245	2,914	0.017	25	305
Commscope NHH-65B-R2	150.00	87	1,040	0.006	9	109
Antel LPA-80063/6CF	150.00	162	1,929	0.012	17	202
Commscope NHH-45B-R2	150.00	294	3,505	0.021	30	366
Generic Flat Low Pro	150.00	1,875	22,322	0.134	192	2,333
Ericsson KRY 112 144	140.00	33	345	0.002	3	41
Ericsson Radio 4449	140.00	225	2,354	0.014	20	280
Ericsson AIR 21, 1.3	140.00	249	2,605	0.016	22	310
Ericsson AIR 21, 1.3	140.00	244	2,558	0.015	22	304
RFS APXVAARR24_43-U-	140.00	384	4,014	0.024	35	477
Generic 6.7" x 10.7"	138.00	30	302	0.002	3	37
Generic Round T-Arm	138.00	1,250	12,730	0.076	109	1,555
Spinner 756529	130.00	4	41	0.000	0	6
Powerwave Allgon LGP	130.00	33	300	0.002	3	41
Powerwave Allgon LGP	130.00	85	770	0.005	7	105
Raycap DC6-48-60-18-	130.00	20	182	0.001	2	25
Ericsson RRUS-11 (50	130.00	300	2,732	0.016	23	373
Powerwave Allgon 777	130.00	162	1,475	0.009	13	202
KMW AM-X-CD-16-65-00	130.00	146	1,325	0.008	11	181
Generic Round Low Pr	130.00	1,875	17,074	0.102	147	2,333
Generic GPS	90.00	10	46	0.000	0	12
		36,715	166,606	1.000	1,432	45,680

Load Case 0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
37	147.50	257	2,965	0.018	25	220
36	142.50	270	2,921	0.018	25	231
35	139.00	131	1,354	0.008	12	112
34	136.50	201	2,002	0.012	17	172
33	132.50	345	3,255	0.020	28	295
32	128.71	246	2,202	0.013	19	211
31	126.21	397	3,418	0.021	29	340
30	124.29	236	1,975	0.012	17	202
29	121.79	415	3,342	0.020	29	355
28	117.50	594	4,473	0.027	38	508
27	112.50	611	4,244	0.025	36	523
26	107.50	628	4,008	0.024	34	538
25	102.50	646	3,768	0.023	32	553
24	97.50	663	3,523	0.021	30	568
23	93.25	475	2,319	0.014	20	406
22	90.75	410	1,902	0.011	16	350
21	88.25	974	4,292	0.026	37	833
20	85.75	280	1,171	0.007	10	240
19	82.50	951	3,697	0.022	32	814

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

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Customer: VERIZON WIRELESS

18	77.50	978	3,378	0.020	29	837
17	72.50	1,004	3,061	0.018	26	859
16	67.50	1,030	2,747	0.016	24	881
15	62.50	1,056	2,439	0.015	21	904
14	57.50	1,082	2,138	0.013	18	926
13	52.50	1,108	1,846	0.011	16	948
12	49.46	243	363	0.002	3	208
11	46.96	1,589	2,149	0.013	18	1,360
10	43.79	996	1,182	0.007	10	853
9	41.29	595	632	0.004	5	509
8	37.50	1,171	1,039	0.006	9	1,002
7	32.50	1,197	812	0.005	7	1,024
6	27.50	1,223	607	0.004	5	1,047
5	22.50	1,249	426	0.003	4	1,069
4	17.50	1,275	271	0.002	2	1,091
3	12.50	1,301	148	0.001	1	1,114
2	7.50	1,327	58	0.000	0	1,136
1	2.50	1,353	8	0.000	0	1,158
Samsung B5/B13 RRH-B	150.00	211	2,511	0.015	22	180
Samsung B2/B66A RRH-	150.00	253	3,014	0.018	26	217
RFS DB-C1-12C-24AB-0	150.00	32	381	0.002	3	27
Samsung MT6407-77A	150.00	245	2,914	0.017	25	210
Commscope NHH-65B-R2	150.00	87	1,040	0.006	9	75
Antel LPA-80063/6CF	150.00	162	1,929	0.012	17	139
Commscope NHH-45B-R2	150.00	294	3,505	0.021	30	252
Generic Flat Low Pro	150.00	1,875	22,322	0.134	192	1,605
Ericsson KRY 112 144	140.00	33	345	0.002	3	28
Ericsson Radio 4449	140.00	225	2,354	0.014	20	193
Ericsson AIR 21, 1.3	140.00	249	2,605	0.016	22	213
Ericsson AIR 21, 1.3	140.00	244	2,558	0.015	22	209
RFS APXVAARR24_43-U-	140.00	384	4,014	0.024	35	328
Generic 6.7" x 10.7"	138.00	30	302	0.002	3	25
Generic Round T-Arm	138.00	1,250	12,730	0.076	109	1,070
Spinner 756529	130.00	4	41	0.000	0	4
Powerwave Allgon LGP	130.00	33	300	0.002	3	28
Powerwave Allgon LGP	130.00	85	770	0.005	7	72
Raycap DC6-48-60-18-	130.00	20	182	0.001	2	17
Ericsson RRUS-11 (50	130.00	300	2,732	0.016	23	257
Powerwave Allgon 777	130.00	162	1,475	0.009	13	139
KMW AM-X-CD-16-65-00	130.00	146	1,325	0.008	11	125
Generic Round Low Pr	130.00	1,875	17,074	0.102	147	1,605
Generic GPS	90.00	10	46	0.000	0	9
		36,715	166,606	1.000	1,432	31,422

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

7/28/2021 5:42:34 AM

Customer: VERIZON WIRELESS

Load Case 1.2D + 1.0Ev + 1.0Eh

Seismic

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	-44.00	-1.43	0.00	-177.54	0.00	177.54	4,317.26	1,172.28	5,942.11	4,991.14	0.00	0.00	0.046
5.00	-42.34	-1.44	0.00	-170.36	0.00	170.36	4,260.05	1,145.38	5,672.65	4,811.27	0.00	-0.01	0.045
10.00	-40.72	-1.45	0.00	-163.16	0.00	163.16	4,200.87	1,118.49	5,409.44	4,632.29	0.02	-0.02	0.045
15.00	-39.14	-1.45	0.00	-155.93	0.00	155.93	4,139.73	1,091.60	5,152.48	4,454.35	0.04	-0.03	0.044
20.00	-37.58	-1.45	0.00	-148.68	0.00	148.68	4,076.62	1,064.71	4,901.78	4,277.62	0.08	-0.04	0.044
25.00	-36.06	-1.45	0.00	-141.41	0.00	141.41	4,011.55	1,037.82	4,657.33	4,102.25	0.13	-0.05	0.043
30.00	-34.57	-1.45	0.00	-134.15	0.00	134.15	3,944.52	1,010.93	4,419.13	3,928.40	0.18	-0.06	0.043
35.00	-33.12	-1.45	0.00	-126.90	0.00	126.90	3,875.52	984.04	4,187.18	3,756.23	0.25	-0.07	0.042
40.00	-32.38	-1.44	0.00	-119.67	0.00	119.67	3,804.56	957.15	3,961.49	3,585.89	0.33	-0.08	0.042
42.58	-31.14	-1.44	0.00	-115.94	0.00	115.94	3,767.13	943.25	3,847.33	3,498.65	0.38	-0.09	0.041
45.00	-29.16	-1.42	0.00	-112.47	0.00	112.47	3,731.63	930.26	3,742.04	3,417.54	0.42	-0.09	0.041
48.92	-28.86	-1.42	0.00	-106.91	0.00	106.91	3,716.76	924.86	3,698.74	3,383.99	0.50	-0.10	0.039
50.00	-27.48	-1.40	0.00	-105.38	0.00	105.38	3,700.61	919.03	3,652.29	3,347.89	0.53	-0.11	0.039
55.00	-26.13	-1.39	0.00	-98.36	0.00	98.36	3,624.90	892.14	3,441.71	3,182.63	0.64	-0.12	0.038
60.00	-24.82	-1.37	0.00	-91.43	0.00	91.43	3,547.23	865.25	3,237.39	3,019.74	0.77	-0.13	0.037
65.00	-23.54	-1.35	0.00	-84.59	0.00	84.59	3,467.60	838.36	3,039.31	2,859.38	0.91	-0.14	0.036
70.00	-22.29	-1.32	0.00	-77.86	0.00	77.86	3,386.00	811.47	2,847.49	2,701.71	1.07	-0.15	0.035
75.00	-21.07	-1.29	0.00	-71.25	0.00	71.25	3,302.44	784.58	2,661.91	2,546.88	1.23	-0.16	0.034
80.00	-19.89	-1.26	0.00	-64.79	0.00	64.79	3,207.53	757.68	2,482.60	2,388.06	1.41	-0.18	0.033
85.00	-19.54	-1.25	0.00	-58.47	0.00	58.47	3,093.69	730.79	2,309.53	2,220.73	1.60	-0.19	0.033
86.50	-18.33	-1.22	0.00	-56.59	0.00	56.59	3,059.54	722.73	2,258.83	2,171.71	1.66	-0.19	0.032
90.00	-17.80	-1.20	0.00	-52.34	0.00	52.34	2,979.85	703.90	2,142.72	2,059.47	1.80	-0.20	0.031
91.50	-17.21	-1.18	0.00	-50.54	0.00	50.54	1,810.37	472.59	1,448.63	1,264.77	1.87	-0.20	0.049
95.00	-16.39	-1.15	0.00	-46.42	0.00	46.42	1,779.94	460.04	1,372.72	1,210.25	2.02	-0.21	0.048
100.00	-15.58	-1.12	0.00	-40.67	0.00	40.67	1,734.79	442.12	1,267.83	1,133.24	2.25	-0.23	0.045
105.00	-14.80	-1.08	0.00	-35.08	0.00	35.08	1,687.67	424.19	1,167.11	1,057.41	2.50	-0.25	0.042
110.00	-14.04	-1.05	0.00	-29.66	0.00	29.66	1,638.60	406.26	1,070.56	982.92	2.77	-0.26	0.039
115.00	-13.30	-1.01	0.00	-24.42	0.00	24.42	1,587.56	388.33	978.17	909.92	3.06	-0.28	0.035
120.00	-12.79	-0.98	0.00	-19.37	0.00	19.37	1,534.56	370.41	889.95	838.58	3.36	-0.29	0.031
123.58	-12.49	-0.96	0.00	-15.85	0.00	15.85	1,495.36	357.56	829.29	788.55	3.58	-0.30	0.028
125.00	-12.00	-0.93	0.00	-14.48	0.00	14.48	1,479.59	352.48	805.90	769.04	3.67	-0.31	0.027
127.42	-11.69	-0.91	0.00	-12.23	0.00	12.23	1,010.15	262.43	595.59	522.46	3.83	-0.31	0.035
130.00	-8.00	-0.66	0.00	-9.86	0.00	9.86	993.05	255.48	564.48	499.92	4.00	-0.32	0.028
135.00	-7.75	-0.64	0.00	-6.56	0.00	6.56	958.46	242.04	506.64	456.92	4.34	-0.33	0.022
138.00	-6.00	-0.51	0.00	-4.62	0.00	4.62	936.76	233.97	473.43	431.57	4.54	-0.33	0.017
140.00	-4.25	-0.37	0.00	-3.60	0.00	3.60	921.91	228.59	451.92	414.89	4.68	-0.34	0.013
145.00	-3.93	-0.35	0.00	-1.73	0.00	1.73	883.39	215.15	400.33	373.97	5.04	-0.34	0.009
150.00	0.00	-0.32	0.00	0.00	0.00	0.00	842.91	201.70	351.86	334.33	5.40	-0.34	0.000

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

7/28/2021 5:42:34 AM

Customer: VERIZON WIRELESS

Load Case 0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

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	-30.26	-1.43	0.00	-175.22	0.00	175.22	4,317.26	1,172.28	5,942.11	4,991.14	0.00	0.00	0.042
5.00	-29.13	-1.44	0.00	-168.05	0.00	168.05	4,260.05	1,145.38	5,672.65	4,811.27	0.00	-0.01	0.042
10.00	-28.01	-1.44	0.00	-160.87	0.00	160.87	4,200.87	1,118.49	5,409.44	4,632.29	0.02	-0.02	0.041
15.00	-26.92	-1.44	0.00	-153.66	0.00	153.66	4,139.73	1,091.60	5,152.48	4,454.35	0.04	-0.03	0.041
20.00	-25.85	-1.44	0.00	-146.45	0.00	146.45	4,076.62	1,064.71	4,901.78	4,277.62	0.08	-0.04	0.041
25.00	-24.81	-1.44	0.00	-139.23	0.00	139.23	4,011.55	1,037.82	4,657.33	4,102.25	0.12	-0.05	0.040
30.00	-23.78	-1.44	0.00	-132.03	0.00	132.03	3,944.52	1,010.93	4,419.13	3,928.40	0.18	-0.06	0.040
35.00	-22.78	-1.43	0.00	-124.84	0.00	124.84	3,875.52	984.04	4,187.18	3,756.23	0.25	-0.07	0.039
40.00	-22.27	-1.43	0.00	-117.68	0.00	117.68	3,804.56	957.15	3,961.49	3,585.89	0.33	-0.08	0.039
42.58	-21.42	-1.42	0.00	-113.98	0.00	113.98	3,767.13	943.25	3,847.33	3,498.65	0.37	-0.09	0.038
45.00	-20.06	-1.40	0.00	-110.55	0.00	110.55	3,731.63	930.26	3,742.04	3,417.54	0.42	-0.09	0.038
48.92	-19.85	-1.40	0.00	-105.06	0.00	105.06	3,716.76	924.86	3,698.74	3,383.99	0.50	-0.10	0.036
50.00	-18.90	-1.39	0.00	-103.54	0.00	103.54	3,700.61	919.03	3,652.29	3,347.89	0.52	-0.10	0.036
55.00	-17.97	-1.37	0.00	-96.62	0.00	96.62	3,624.90	892.14	3,441.71	3,182.63	0.64	-0.11	0.035
60.00	-17.07	-1.35	0.00	-89.77	0.00	89.77	3,547.23	865.25	3,237.39	3,019.74	0.76	-0.13	0.035
65.00	-16.19	-1.33	0.00	-83.03	0.00	83.03	3,467.60	838.36	3,039.31	2,859.38	0.90	-0.14	0.034
70.00	-15.33	-1.30	0.00	-76.39	0.00	76.39	3,386.00	811.47	2,847.49	2,701.71	1.05	-0.15	0.033
75.00	-14.49	-1.27	0.00	-69.88	0.00	69.88	3,302.44	784.58	2,661.91	2,546.88	1.21	-0.16	0.032
80.00	-13.68	-1.24	0.00	-63.52	0.00	63.52	3,207.53	757.68	2,482.60	2,388.06	1.39	-0.17	0.031
85.00	-13.44	-1.23	0.00	-57.31	0.00	57.31	3,093.69	730.79	2,309.53	2,220.73	1.58	-0.18	0.030
86.50	-12.61	-1.19	0.00	-55.46	0.00	55.46	3,059.54	722.73	2,258.83	2,171.71	1.63	-0.19	0.030
90.00	-12.25	-1.18	0.00	-51.28	0.00	51.28	2,979.85	703.90	2,142.72	2,059.47	1.78	-0.20	0.029
91.50	-11.84	-1.16	0.00	-49.51	0.00	49.51	1,810.37	472.59	1,448.63	1,264.77	1.84	-0.20	0.046
95.00	-11.27	-1.13	0.00	-45.46	0.00	45.46	1,779.94	460.04	1,372.72	1,210.25	1.99	-0.21	0.044
100.00	-10.72	-1.10	0.00	-39.81	0.00	39.81	1,734.79	442.12	1,267.83	1,133.24	2.22	-0.23	0.041
105.00	-10.18	-1.06	0.00	-34.33	0.00	34.33	1,687.67	424.19	1,167.11	1,057.41	2.46	-0.24	0.039
110.00	-9.66	-1.03	0.00	-29.01	0.00	29.01	1,638.60	406.26	1,070.56	982.92	2.73	-0.26	0.035
115.00	-9.15	-0.99	0.00	-23.88	0.00	23.88	1,587.56	388.33	978.17	909.92	3.01	-0.27	0.032
120.00	-8.80	-0.96	0.00	-18.93	0.00	18.93	1,534.56	370.41	889.95	838.58	3.30	-0.29	0.028
123.58	-8.59	-0.94	0.00	-15.49	0.00	15.49	1,495.36	357.56	829.29	788.55	3.52	-0.30	0.025
125.00	-8.25	-0.91	0.00	-14.16	0.00	14.16	1,479.59	352.48	805.90	769.04	3.61	-0.30	0.024
127.42	-8.04	-0.89	0.00	-11.95	0.00	11.95	1,010.15	262.43	595.59	522.46	3.76	-0.31	0.031
130.00	-5.50	-0.65	0.00	-9.65	0.00	9.65	993.05	255.48	564.48	499.92	3.93	-0.31	0.025
135.00	-5.33	-0.63	0.00	-6.41	0.00	6.41	958.46	242.04	506.64	456.92	4.26	-0.32	0.020
138.00	-4.12	-0.50	0.00	-4.52	0.00	4.52	936.76	233.97	473.43	431.57	4.47	-0.33	0.015
140.00	-2.92	-0.37	0.00	-3.52	0.00	3.52	921.91	228.59	451.92	414.89	4.60	-0.33	0.012
145.00	-2.70	-0.34	0.00	-1.70	0.00	1.70	883.39	215.15	400.33	373.97	4.95	-0.33	0.008
150.00	0.00	-0.32	0.00	0.00	0.00	0.00	842.91	201.70	351.86	334.33	5.30	-0.34	0.000

Site Number: 411260

Code: ANSI/TIA-222-H

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Site Name: MIDDLEFIELD CT, CT

Engineering Number:13701308_C3_02

7/28/2021 5:42:34 AM

Customer: VERIZON WIRELESS

Analysis Summary

Load Case	Reactions						Max Usage	
	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 + 1.0W	21.35	0.00	44.03	0.00	0.00	2328.51	91.50	0.53
0.9D + 1.0W	21.34	0.00	33.02	0.00	0.00	2304.24	91.50	0.52
1.2D + 1.0Di + 1.0Wi	5.68	0.00	59.54	0.00	0.00	599.84	91.50	0.14
1.2D + 1.0Ev + 1.0Eh	1.43	0.00	44.00	0.00	0.00	177.54	91.50	0.05
0.9D - 1.0Ev + 1.0Eh	1.43	0.00	30.26	0.00	0.00	175.22	91.50	0.05
1.0D + 1.0W	4.85	0.00	36.71	0.00	0.00	526.28	91.50	0.12

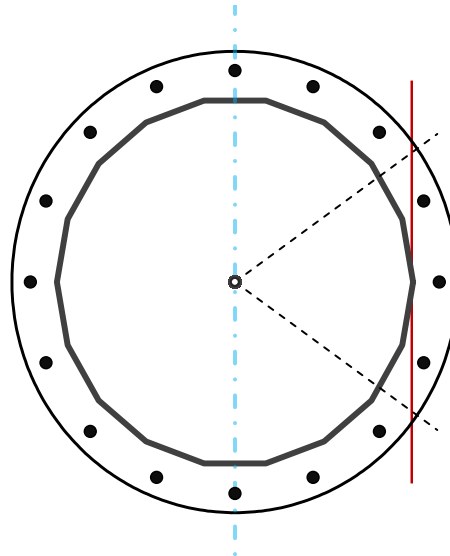
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	18	-
Diameter	56.5	in
Thickness	3/8	in
Orientation Offset		°

Base Reactions		
Moment, Mu	2,328.5	k-ft
Axial, Pu	44.0	k
Shear, Vu	21.4	k
Neutral Axis	270	°

Report Capacities		
Component	Capacity	Result
Base Plate	27%	Pass
Anchor Rods	47%	Pass
Dwyidag	-	-

Base Plate		
Shape	Round	-
Diameter, ϕ	72	in
Thickness	2	in
Grade	A572-60	
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	N/A	in
Orientation Offset		°
Anchor Rod Detail	d	$\eta=0.5$
Clear Distance	3	in
Applied Moment, Mu	618.3	k
Bending Stress, ϕMn	2264.7	k



Original Anchor Rods		
Arrangement	Radial	-
Quantity	16	-
Diameter, ϕ	2 1/4	in
Bolt Circle	66	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	13.0	in
Orientation Offset		°
Applied Force, Pu	112.5	k
Anchor Rods, ϕPn	243.6	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	21.4	2328.5	1.00
Anchor Rod Forces	21.4	2328.5	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in ²	in ²	in ⁴	#	in ⁴
Pole	65.7855	3.6548	0.1719		25906.27
Bolt	3.9761	3.2477	0.8393	4.5	26307.64
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate

Shape	Round	-
Diameter, D	72	in
Thickness, t	2	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	44.629	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods

Anchor Rod Quantity, N	16	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	66	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	112.5	k
Applied Shear, Vu	0.8	k
Compressive Capacity, ϕP_n	243.6	k
Tensile Capacity, $\phi R_n t$	0.462	OK
Interaction Capacity	0.468	OK

External Base Plate

Chord Length AA	38.547	in
Additional AA	4.000	in
Section Modulus, Z	42.547	in ³
Applied Moment, Mu	618.3	k-ft
Bending Capacity, ϕM_n	2297.5	k-ft
Capacity, Mu/ ϕM_n	0.269	OK

Chord Length AB	37.231	in
Additional AB	4.000	in
Section Modulus, Z	41.231	in ³
Applied Moment, Mu	478.2	k-ft
Bending Capacity, ϕM_n	2226.5	k-ft
Capacity, Mu/ ϕM_n	0.215	OK

Bend Line Length	41.938	in
Additional Bend Line	0.000	in
Section Modulus, Z	41.938	in ³
Applied Moment, Mu	618.3	k-ft
Bending Capacity, ϕM_n	2264.7	k-ft
Capacity, Mu/ ϕM_n	0.273	OK

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, ϕM_n	0.0	k-ft
Capacity, Mu/ ϕM_n		