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Structural Analysis Report

Structure : 148.5 ft Monopole
ATC Site Name : Salisbury CT, CT
ATC Site Number : 370630
Engineering Number : OAA686579_C3_03
Proposed Carrier : T-Mobile
Carrier Site Name : ROB9
Carrier Site Number : CTNH547A
Site Location : 52 Library St.
Salisbury, CT 06068-0000
41.980528,-73.418056
County : Litchfield
Date : October 5, 2016
Max Usage : 22%
Result : Pass

Reviewed by:
Scott Wirgau, PE
Structural Team Leader



Prepared By:
Spencer Collins
CLS

Reviewed By:

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cosign

COA: PEC.0001553



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 148.5 ft monopole to reflect the change in loading by T-Mobile.

Supporting Documents

Tower Drawings	Paul J. Ford Job #29206-0003, dated January 9, 2006
Foundation Drawing	Paul J. Ford Job #29206-0003, dated January 9, 2006
Geotechnical Report	JGI Eastern, Inc. Project #05463G, dated August 11, 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:	90 mph (3-Second Gust, V_{asd}) / 115 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	40 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.17$, $S_1 = 0.06$
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

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
146.0	150.0	1	RFS Celwave PD220	T-Arms	(1) 1/2" Coax	Salisbury Volunteer Ambulance
	146.0	1	RFS Celwave PD220			Town Of Salisbury
141.0	141.0	6	Powerwave LGP21401	T-Arms	(6) 1/2" Coax (12) 1 5/8" Coax (2) 0.78" 8 AWG 6 (1) 0.39" Fiber Trunk	AT&T Mobility
		1	Raycap DCG-48-60-18-8F			
		6	Ericsson RRUS 11 (Band 12) (55 lb)			
		9	Powerwave 7770.00			
		3	KMW AM-X-CD-16-65-00T-RET			
134.0	134.0	3	Antel BXA-185085/12CF	T-Arms	(18) 1 5/8" Coax	Verizon
		3	Antel BXA-70063/6CF			
		6	Antel LPA-80080/6CF			

Equipment to be Removed

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

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
123.0	123.0	1	Symmetricom 58532A	T-Arms	(2) 1 5/8" Hybriflex (1) 1/2" Coax	T-Mobile
		3	Ericsson RRUS 11 B12			
		3	Ericsson RRUS 11 B2			
		3	Ericsson RRUS 11 B4			
		3	RFS APX16DWV-16DWVS-E-A20			
		3	Commscope LNX-6515DS-A1M			

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

Install proposed coax inside the pole shaft.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	18%	Pass
Shaft	22%	Pass
Base Plate	19%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	7,150.0	9,652.5	2,042.3	21%
Shear (Kips)	62.0	83.7	20.5	25%

* 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) (°)
123.0	Symmetrcom 58532A	T-Mobile	0.324	0.333
	Ericsson RRUS 11 B12			
	Ericsson RRUS 11 B4			
	Ericsson RRUS 11 B2			
	RFS APX16DWV-16DWVS-E-A20			
	Commscope LNX-6515DS-A1M			

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

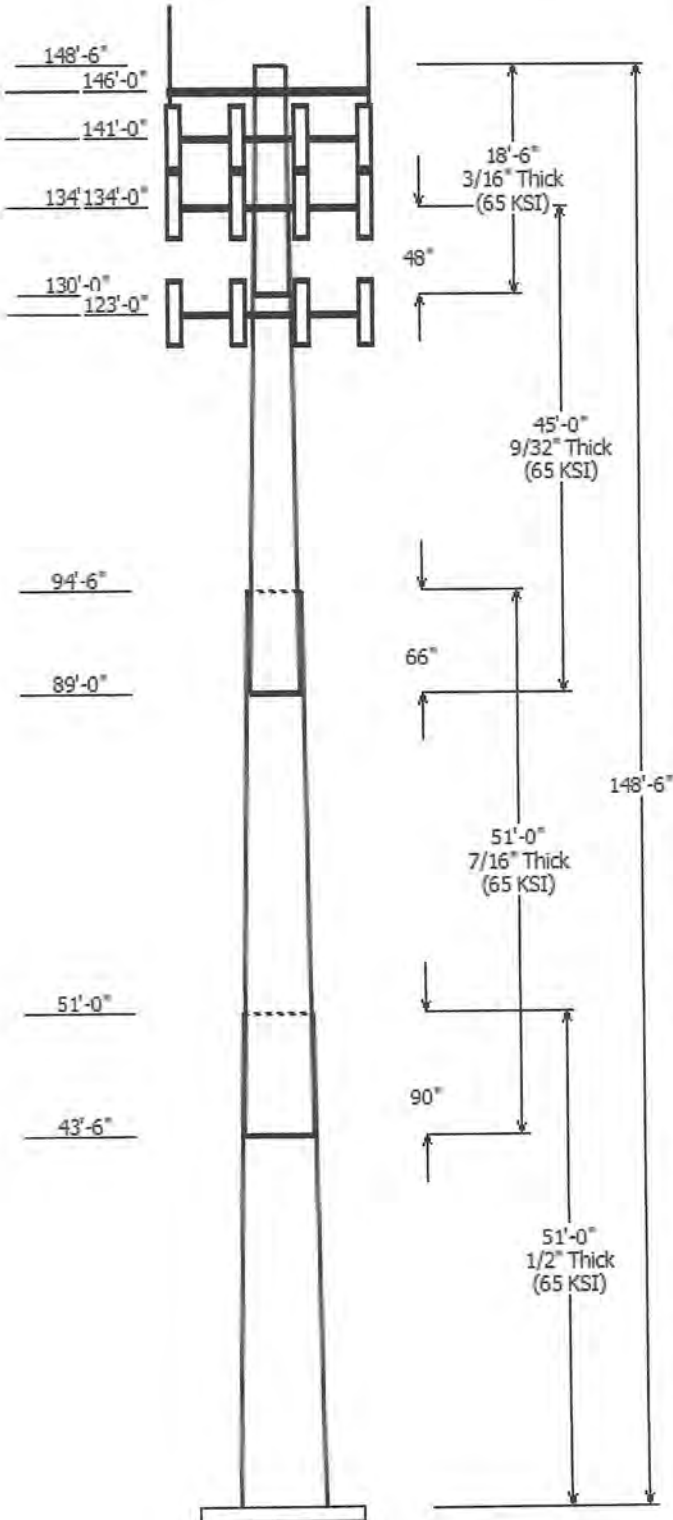
- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

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. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

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

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

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Job Information	
Pole :	370630
Description :	149 ft Monopole
Client :	T- Mobile
Location :	Salisbury CT, CT
Shape :	18 Sides
Height :	148.50 (ft)
Base Elev (ft):	0.00
Taper:	0.34001 in/ft
Code:	ANSI/TIA-222-G
Struct Class :	II
Exposure :	B
Topo :	1

Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Type	Overlap Length (in)	Steel Taper (in/ft)	Steel Grade (ksi)
		Across Flats Top	Across Flats Bottom					
1	51.000	55.73	73.08	0.500		0.000	0.340000	65
2	51.000	41.82	59.16	0.438	Slip Joint	90.000	0.340000	65
3	45.000	28.95	44.25	0.281	Slip Joint	66.000	0.340000	65
4	18.500	24.40	30.69	0.188	Slip Joint	48.000	0.340000	65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
146.000	146.000	3	Flat T-Arm
146.000	146.000	1	RFS Celwave PD220
146.000	150.000	1	RFS Celwave PD220
141.000	141.000	3	Flat T-Arm
141.000	141.000	3	KMW AM-X-CD-16-65-00T-RET
141.000	141.000	9	Powerwave 7770.00
141.000	141.000	6	Ericsson RRUS 11 (Band 12) (55
141.000	141.000	1	Raycap DC6-48-60-18-8F
141.000	141.000	6	Powerwave Allgon LGP21401
134.000	134.750	3	Round T-Arm
134.000	134.000	6	Antel LPA-80080/6CF
134.000	134.000	3	Antel BXA-70063/6CF
134.000	134.000	3	Antel BXA-185085/12CF
123.000	123.000	3	Flat T-Arm
123.000	123.000	3	Commscope LNX-6515DS-A1M
123.000	123.000	3	RFS APX16DWV-16DWVS-E-A20
123.000	123.000	3	Ericsson RRUS 11 B2
123.000	123.000	3	Ericsson RRUS 11 B4
123.000	123.000	3	Ericsson RRUS 11 B12
123.000	123.000	1	Symmetricom 58532A

Linear Appurtenance			
Elev (ft) From	To	Description	Exposed To Wind
0.000	123.0	1 5/8" Hybriflex	No
0.000	123.0	1/2" Coax	No
0.000	134.0	1 5/8" Coax	No
0.000	141.0	0.39" Fiber Trunk	No
0.000	141.0	0.78" 8 AWG 6	No
0.000	141.0	1 5/8" Coax	No
0.000	141.0	1/2" Coax	No
0.000	146.0	1/2" Coax	No

Load Cases	
1.2D + 1.6W	90 mph with No Ice
0.9D + 1.6W	90 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	40 mph with 1.00 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

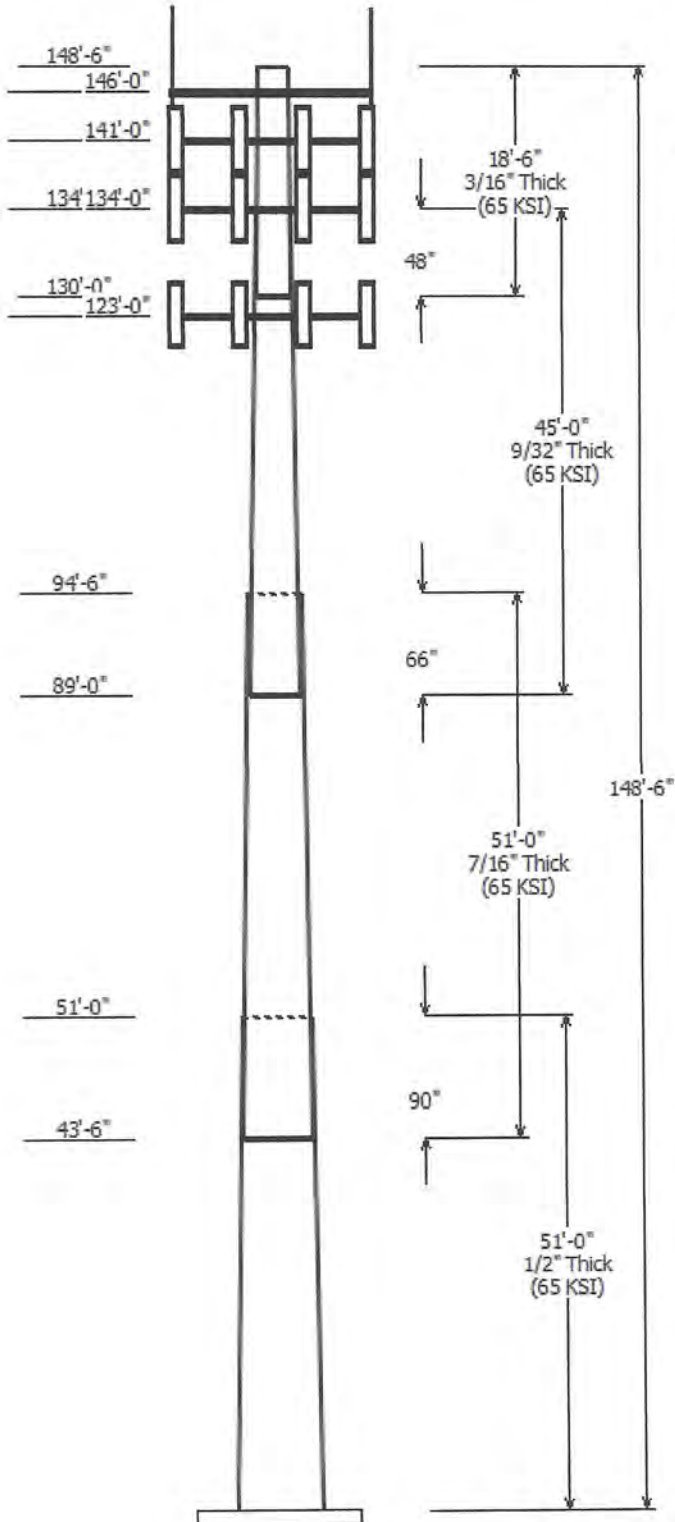
$(0.9 - 0.2Sds) * DL + E$ Seismic (Reduced DL) Equivalent Lateral
 $(0.9 - 0.2Sds) * DL + E$ Seismic (Reduced DL) Equivalent Modal
 $1.0D + 1.0W$ Serviceability 60 mph

Reactions

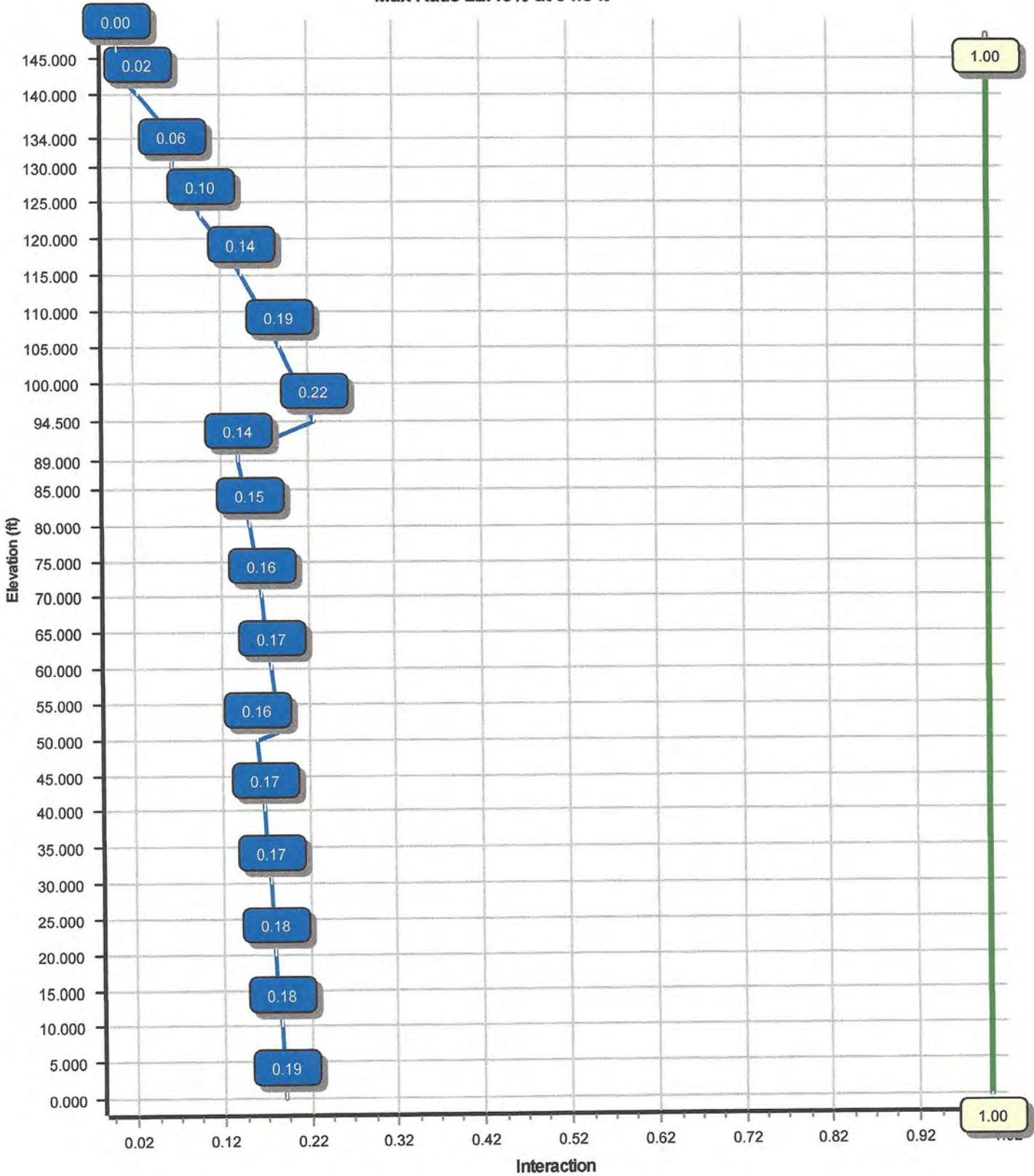
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	2042.30	20.53	53.50
0.9D + 1.6W	2035.98	20.53	40.12
1.2D + 1.0Di + 1.0Wi	431.54	4.47	85.34
$(1.2 + 0.2Sds) * DL + E$ ELFM	341.18	3.45	52.58
$(1.2 + 0.2Sds) * DL + E$ EMAM	246.77	2.40	52.58
$(0.9 - 0.2Sds) * DL + E$ ELFM	340.02	3.45	36.67
$(0.9 - 0.2Sds) * DL + E$ EMAM	245.87	2.40	36.67
1.0D + 1.0W	566.10	5.70	44.59

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 22.43% at 94.5 ft



Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

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Customer: T- Mobile

Analysis Parameters

Location:	Litchfield County, CT		
Code:	ANSI/TIA-222-G	Height (ft):	148.
Shape:	18 Sides	Base Diameter (in):	73.08
Pole Type:	Taper	Top Diameter (in):	24.40
Pole Manufacturer:	PennSummit Tub	Taper (in/ft) :	0.340

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	90 mph
Exposure Category:	B	Design Wind Speed With Ice:	40 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0.0 ft	Design Ice Thickness:	0.50 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	1.17		
T _L (sec):	6	p:	1.3
S _s :	0.174	S ₁ :	0.065
F _a :	1.600	F _v :	2.400
S _{ds} :	0.186	S _{d1} :	0.104
		C _s :	0.059
		C _s Max:	0.059
		C _s Min:	0.030

Load Cases

1.2D + 1.6W	90 mph with No Ice
0.9D + 1.6W	90 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	40 mph with 1.00 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: 370630

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

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Customer: T-Mobile

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip		Weight (lb)	Bottom					Top					Taper (in/ft)		
				Joint Type	Joint Len (in)		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
1-18	51.000	0.5000	65		0.00	17,601	73.08	0.00	115.18	76659.4	24.36	146.16	55.73	51.00	87.66	33795.1	18.25	111.48	0.340018
2-18	51.000	0.4375	65	Slip	90.00	12,062	59.16	43.50	81.55	35532.9	22.43	135.23	41.82	94.50	57.47	12435.9	15.45	95.60	0.340018
3-18	45.000	0.2813	65	Slip	66.00	4,966	44.25	89.00	39.26	9592.3	26.33	157.33	28.95	134.00	25.60	2659.4	16.74	102.93	0.340018
4-18	18.500	0.1875	65	Slip	48.00	1,025	30.69	130.00	18.15	2133.9	27.45	163.68	24.40	148.50	14.41	1067.2	21.54	130.13	0.340018
Shaft Weight						35,654													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Weight (lb)	No Ice EPAa (sf)	Orientation Factor	Weight (lb)	Ice EPAa (sf)	Orientation Factor	Distance From Face (ft)	Vert Ecc (ft)
146.00	Flat T-Arm	3	250.00	12.900	0.67	528.39	23.793	0.67	0.000	0.000
146.00	RFS Celwave PD220	1	25.00	5.500	1.00	395.40	14.963	1.00	0.000	4.000
146.00	RFS Celwave PD220	1	25.00	5.500	1.00	395.40	14.963	1.00	0.000	0.000
141.00	Ericsson RRUS 11 (Band 12)	6	55.00	2.520	0.67	170.01	3.401	0.67	0.000	0.000
141.00	Flat T-Arm	3	250.00	12.900	0.67	527.41	23.755	0.67	0.000	0.000
141.00	KMW AM-X-CD-16-65-00T-	3	48.50	8.020	0.79	315.23	9.772	0.79	0.000	0.000
141.00	Powerwave 7770.00	9	35.00	5.510	0.77	227.49	6.941	0.77	0.000	0.000
141.00	Powerwave Allgon LGP21401	6	14.10	1.100	0.50	64.50	1.738	0.50	0.000	0.000
141.00	Raycap DC6-48-60-18-8F	1	32.80	1.280	1.00	165.12	3.091	1.00	0.000	0.000
134.00	Antel BXA-185085/12CF	3	13.00	4.790	0.88	186.15	6.418	0.88	0.000	0.000
134.00	Antel BXA-70063/6CF	3	17.00	7.570	0.75	253.07	9.273	0.75	0.000	0.000
134.00	Antel LPA-80080/6CF	6	21.00	8.630	0.75	293.75	5.931	0.75	0.000	0.000
134.00	Round T-Arm	3	250.00	9.700	0.67	525.69	20.575	0.67	0.000	0.750
123.00	Commscope LNX-6515DS-	3	50.30	11.450	0.84	413.85	13.628	0.84	0.000	0.000
123.00	Ericsson RRUS 11 B12	3	50.70	2.790	0.67	171.70	3.701	0.67	0.000	0.000
123.00	Ericsson RRUS 11 B2	3	50.70	2.790	0.67	171.70	3.701	0.67	0.000	0.000
123.00	Ericsson RRUS 11 B4	3	50.70	2.790	0.67	171.70	3.701	0.67	0.000	0.000
123.00	Flat T-Arm	3	250.00	12.900	0.67	523.41	23.599	0.67	0.000	0.000
123.00	RFS APX16DWV-16DWVS-E-	3	40.70	6.590	0.66	233.95	8.082	0.66	0.000	0.000
123.00	Symmetricom 58532A	1	0.40	0.220	0.50	10.84	0.703	0.50	0.000	0.000
Totals		67	4903.60			18,250.47			Number of Loadings : 20	

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Projected Width (in)	Exposed To Wind	Carrier
0.00	146.00	1	1/2" Coax	0.63	0.15	N	0.00	Town of Salisbury
0.00	141.00	1	0.39" Fiber Trunk	0.39	0.07	N	0.00	AT&T Mobility
0.00	141.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	AT&T Mobility
0.00	141.00	12	1 5/8" Coax	1.98	0.82	N	0.00	AT&T Mobility
0.00	141.00	6	1/2" Coax	0.63	0.15	N	0.00	AT&T Mobility
0.00	134.00	18	1 5/8" Coax	1.98	0.82	N	0.00	Verizon
0.00	123.00	2	1 5/8" Hybriflex	1.98	1.30	N	0.00	T-Mobile
0.00	123.00	1	1/2" Coax	0.63	0.15	N	0.00	T-Mobile

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

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Customer: T-Mobile

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		0.5000	73.080	115.180	76,659.4	24.36	146.16	72.7	2066.	0.0	0.0
5.00		0.5000	71.380	112.482	71,397.6	23.76	142.76	73.5	1970.	0.0	1,936.7
10.00		0.5000	69.680	109.784	66,382.4	23.16	139.36	74.2	1876.	0.0	1,890.8
15.00		0.5000	67.980	107.086	61,607.6	22.56	135.96	74.9	1785.	0.0	1,844.9
20.00		0.5000	66.280	104.389	57,067.5	21.96	132.56	75.6	1695.	0.0	1,799.0
25.00		0.5000	64.580	101.691	52,756.1	21.36	129.16	76.3	1609.	0.0	1,753.1
30.00		0.5000	62.879	98.993	48,667.6	20.76	125.76	77.0	1524.	0.0	1,707.2
35.00		0.5000	61.179	96.295	44,795.9	20.16	122.36	77.7	1442.	0.0	1,661.3
40.00		0.5000	59.479	93.597	41,135.2	19.56	118.96	78.4	1362.	0.0	1,615.4
43.50	Bot - Section 2	0.5000	58.289	91.708	38,695.0	19.15	116.58	78.9	1307.	0.0	1,103.5
45.00		0.5000	57.779	90.899	37,679.5	18.97	115.56	79.1	1284.	0.0	880.4
50.00		0.5000	56.079	88.201	34,423.1	18.37	112.16	79.8	1209.	0.0	2,878.9
51.00	Top - Section 1	0.4375	56.614	78.005	31,102.0	21.41	129.40	76.2	1082.	0.0	565.4
55.00		0.4375	55.254	76.117	28,897.3	20.86	126.29	76.9	1030.	0.0	1,048.9
60.00		0.4375	53.554	73.756	26,291.2	20.17	122.41	77.7	966.9	0.0	1,275.0
65.00		0.4375	51.854	71.395	23,846.6	19.49	118.52	78.5	905.8	0.0	1,234.8
70.00		0.4375	50.154	69.035	21,558.5	18.80	114.64	79.3	846.6	0.0	1,194.6
75.00		0.4375	48.454	66.674	19,421.6	18.12	110.75	80.1	789.5	0.0	1,154.5
80.00		0.4375	46.754	64.313	17,430.8	17.43	106.87	80.9	734.3	0.0	1,114.3
85.00		0.4375	45.054	61.953	15,581.0	16.75	102.98	81.7	681.2	0.0	1,074.1
89.00	Bot - Section 3	0.4375	43.693	60.064	14,199.1	16.20	99.87	82.3	640.1	0.0	830.4
90.00		0.4375	43.353	59.592	13,866.9	16.06	99.09	82.5	630.0	0.0	336.7
94.50	Top - Section 2	0.2813	42.386	37.592	8,419.8	25.16	150.68	71.8	391.3	0.0	1,482.3
95.00		0.2813	42.216	37.440	8,318.3	25.05	150.07	71.9	388.1	0.0	63.8
100.0		0.2813	40.516	35.922	7,347.0	23.99	144.03	73.2	357.2	0.0	624.1
105.0		0.2813	38.816	34.404	6,454.5	22.92	137.99	74.4	327.5	0.0	598.3
110.0		0.2813	37.116	32.886	5,637.3	21.85	131.94	75.7	299.2	0.0	572.4
115.0		0.2813	35.416	31.368	4,892.2	20.79	125.90	76.9	272.1	0.0	546.6
120.0		0.2813	33.716	29.851	4,215.9	19.72	119.86	78.2	246.3	0.0	520.8
123.0		0.2813	32.695	28.940	3,841.7	19.08	116.23	79.0	231.4	0.0	300.1
125.0		0.2813	32.015	28.333	3,604.9	18.66	113.81	79.5	221.8	0.0	194.9
130.0	Bot - Section 4	0.2813	30.315	26.815	3,056.0	17.59	107.77	80.7	198.6	0.0	469.1
134.0	Top - Section 3	0.1875	29.330	17.343	1,861.0	26.17	156.43	70.6	125.0	0.0	598.3
135.0		0.1875	28.990	17.141	1,796.6	25.85	154.61	71.0	122.1	0.0	58.7
140.0		0.1875	27.290	16.129	1,496.9	24.25	145.55	72.9	108.0	0.0	283.0
141.0		0.1875	26.950	15.927	1,441.2	23.93	143.73	73.3	105.3	0.0	54.5
145.0		0.1875	25.590	15.117	1,232.5	22.65	136.48	74.8	94.9	0.0	211.3
146.0		0.1875	25.250	14.915	1,183.6	22.33	134.67	75.1	92.3	0.0	51.1
148.5		0.1875	24.400	14.409	1,067.2	21.54	130.13	76.1	86.2	0.0	124.7
35,654.0											

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

10/5/2016 8:39:17 PM

Customer: T- Mobile

Load Case: 1.2D + 1.6W

90 mph with No Ice

19 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		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		241.0	0.0					0.0	0.0	241.0	0.0	0.0	0.0
5.00		476.4	2,324.1					0.0	177.9	476.4	2,502.0	0.0	0.0
10.00		465.1	2,269.0					0.0	177.9	465.1	2,446.9	0.0	0.0
15.00		453.7	2,213.9					0.0	177.9	453.7	2,391.8	0.0	0.0
20.00		442.4	2,158.8					0.0	177.9	442.4	2,336.7	0.0	0.0
25.00		431.0	2,103.7					0.0	177.9	431.0	2,281.6	0.0	0.0
30.00		424.6	2,048.6					0.0	177.9	424.6	2,226.5	0.0	0.0
35.00		426.7	1,993.6					0.0	177.9	426.7	2,171.5	0.0	0.0
40.00		366.1	1,938.5					0.0	177.9	366.1	2,116.4	0.0	0.0
43.50	Bot - Section 2	217.3	1,324.2					0.0	124.5	217.3	1,448.7	0.0	0.0
45.00		286.1	1,056.5					0.0	53.4	286.1	1,109.9	0.0	0.0
50.00		264.2	3,454.7					0.0	177.9	264.2	3,632.6	0.0	0.0
51.00	Top - Section 1	219.9	678.5					0.0	35.6	219.9	714.1	0.0	0.0
55.00		394.7	1,258.7					0.0	142.3	394.7	1,401.0	0.0	0.0
60.00		435.9	1,530.0					0.0	177.9	435.9	1,707.9	0.0	0.0
65.00		431.9	1,481.8					0.0	177.9	431.9	1,659.7	0.0	0.0
70.00		426.7	1,433.6					0.0	177.9	426.7	1,611.5	0.0	0.0
75.00		420.4	1,385.4					0.0	177.9	420.4	1,563.3	0.0	0.0
80.00		413.2	1,337.2					0.0	177.9	413.2	1,515.1	0.0	0.0
85.00		365.4	1,289.0					0.0	177.9	365.4	1,466.9	0.0	0.0
89.00	Bot - Section 3	201.0	996.5					0.0	142.3	201.0	1,138.8	0.0	0.0
90.00		219.0	404.0					0.0	35.6	219.0	439.6	0.0	0.0
94.50	Top - Section 2	198.4	1,778.8					0.0	160.1	198.4	1,938.9	0.0	0.0
95.00		213.1	76.6					0.0	17.8	213.1	94.4	0.0	0.0
100.00		381.7	748.9					0.0	177.9	381.7	926.8	0.0	0.0
105.00		370.8	717.9					0.0	177.9	370.8	895.8	0.0	0.0
110.00		359.3	686.9					0.0	177.9	359.3	864.8	0.0	0.0
115.00		347.2	655.9					0.0	177.9	347.2	833.8	0.0	0.0
120.00		269.8	624.9					0.0	177.9	269.8	802.8	0.0	0.0
123.00	Appertunance(s)	164.1	360.1	2,417.9	0.0	0.0	1,775.6	0.0	106.7	2,581.9	2,242.5	0.0	0.0
125.00		222.2	233.9					0.0	64.6	222.2	298.4	0.0	0.0
130.00	Bot - Section 4	279.8	563.0					0.0	161.4	279.8	724.4	0.0	0.0
134.00	Top - Section 3	152.4	717.9	2,587.3	0.0	409.2	1,159.2	0.0	129.1	2,739.7	2,006.3	0.0	0.0
135.00		175.1	70.4					0.0	14.6	175.1	85.0	0.0	0.0
140.00		173.4	339.6					0.0	72.8	173.4	412.5	0.0	0.0
141.00	Appertunance(s)	137.8	65.4	2,909.2	0.0	0.0	1,989.5	0.0	14.6	3,047.0	2,069.5	0.0	0.0
145.00		136.3	253.5					0.0	0.7	136.3	254.2	0.0	0.0
146.00	Appertunance(s)	92.0	61.3	1,079.6	0.0	677.1	960.0	0.0	0.2	1,171.6	1,021.5	0.0	0.0
148.50		65.3	149.7					0.0	0.0	65.3	149.7	0.0	0.0
Totals:										20,755.3	53,503.3	0.00	0.00

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

10/5/2016 8:39:18 PM

Customer: T-Mobile

Load Case: 1.2D + 1.6W

90 mph with No Ice

19 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	-53.50	-20.53	0.00	-2,042.30	0.00	2,042.30	7,541.17	3,770.58	22,511.9	11,272.6	0.00	0.00	0.188
5.00	-50.98	-20.09	0.00	-1,939.65	0.00	1,939.65	7,435.91	3,717.96	21,674.1	10,853.2	0.02	-0.04	0.186
10.00	-48.52	-19.65	0.00	-1,839.21	0.00	1,839.21	7,327.23	3,663.62	20,841.5	10,436.2	0.08	-0.07	0.183
15.00	-46.12	-19.23	0.00	-1,740.95	0.00	1,740.95	7,215.13	3,607.56	20,014.7	10,022.2	0.18	-0.11	0.180
20.00	-43.77	-18.81	0.00	-1,644.82	0.00	1,644.82	7,099.60	3,549.80	19,194.4	9,611.47	0.32	-0.15	0.177
25.00	-41.48	-18.40	0.00	-1,550.78	0.00	1,550.78	6,980.64	3,490.32	18,381.3	9,204.34	0.50	-0.19	0.174
30.00	-39.24	-17.99	0.00	-1,458.78	0.00	1,458.78	6,858.27	3,429.13	17,576.2	8,801.21	0.72	-0.23	0.171
35.00	-37.06	-17.59	0.00	-1,368.81	0.00	1,368.81	6,732.46	3,366.23	16,779.9	8,402.42	0.99	-0.27	0.168
40.00	-34.93	-17.23	0.00	-1,280.89	0.00	1,280.89	6,603.24	3,301.62	15,992.9	8,008.36	1.30	-0.32	0.165
43.50	-33.48	-17.02	0.00	-1,220.58	0.00	1,220.58	6,510.74	3,255.37	15,448.0	7,735.51	1.54	-0.35	0.163
45.00	-32.36	-16.74	0.00	-1,195.05	0.00	1,195.05	6,470.58	3,235.29	15,216.1	7,619.37	1.65	-0.36	0.162
50.00	-28.72	-16.47	0.00	-1,111.35	0.00	1,111.35	6,334.51	3,167.25	14,450.1	7,235.83	2.05	-0.40	0.158
51.00	-28.00	-16.25	0.00	-1,094.89	0.00	1,094.89	5,351.19	2,675.60	12,353.0	6,185.72	2.14	-0.41	0.182
55.00	-26.59	-15.87	0.00	-1,029.88	0.00	1,029.88	5,265.80	2,632.90	11,859.3	5,938.51	2.50	-0.45	0.179
60.00	-24.88	-15.44	0.00	-950.55	0.00	950.55	5,155.98	2,577.99	11,249.0	5,632.89	2.99	-0.50	0.174
65.00	-23.21	-15.01	0.00	-873.37	0.00	873.37	5,042.74	2,521.37	10,646.9	5,331.40	3.54	-0.55	0.168
70.00	-21.59	-14.59	0.00	-798.32	0.00	798.32	4,926.07	2,463.04	10,053.8	5,034.40	4.14	-0.60	0.163
75.00	-20.02	-14.17	0.00	-725.39	0.00	725.39	4,805.98	2,402.99	9,470.41	4,742.24	4.79	-0.65	0.157
80.00	-18.49	-13.75	0.00	-654.55	0.00	654.55	4,682.46	2,341.23	8,897.37	4,455.30	5.50	-0.70	0.151
85.00	-17.02	-13.38	0.00	-585.79	0.00	585.79	4,555.52	2,277.76	8,335.45	4,173.92	6.25	-0.75	0.144
89.00	-15.88	-13.17	0.00	-532.27	0.00	532.27	4,451.50	2,225.75	7,894.42	3,953.08	6.90	-0.79	0.138
90.00	-15.44	-12.96	0.00	-519.10	0.00	519.10	4,425.16	2,212.58	7,785.39	3,898.48	7.06	-0.80	0.137
94.50	-13.50	-12.73	0.00	-460.80	0.00	460.80	2,429.52	1,214.76	4,208.21	2,107.23	7.84	-0.84	0.224
95.00	-13.40	-12.53	0.00	-454.43	0.00	454.43	2,423.93	1,211.97	4,181.46	2,093.84	7.93	-0.85	0.223
100.00	-12.46	-12.15	0.00	-391.78	0.00	391.78	2,366.19	1,183.09	3,915.26	1,960.54	8.86	-0.92	0.205
105.00	-11.56	-11.78	0.00	-331.04	0.00	331.04	2,305.01	1,152.51	3,651.76	1,828.59	9.86	-0.99	0.186
110.00	-10.69	-11.41	0.00	-272.15	0.00	272.15	2,240.42	1,120.21	3,391.69	1,698.37	10.94	-1.06	0.165
115.00	-9.85	-11.06	0.00	-215.08	0.00	215.08	2,172.39	1,086.20	3,135.78	1,570.22	12.08	-1.12	0.142
120.00	-9.04	-10.78	0.00	-159.77	0.00	159.77	2,100.95	1,050.47	2,884.74	1,444.51	13.28	-1.17	0.115
123.00	-6.85	-8.16	0.00	-127.43	0.00	127.43	2,056.44	1,028.22	2,736.75	1,370.41	14.03	-1.20	0.096
125.00	-6.55	-7.93	0.00	-111.11	0.00	111.11	2,026.08	1,013.04	2,639.30	1,321.61	14.54	-1.22	0.087
130.00	-5.83	-7.64	0.00	-71.46	0.00	71.46	1,947.78	973.89	2,400.18	1,201.87	15.84	-1.26	0.063
134.00	-3.88	-4.86	0.00	-40.49	0.00	40.49	1,102.25	551.13	1,321.80	661.88	16.90	-1.28	0.065
135.00	-3.80	-4.68	0.00	-35.63	0.00	35.63	1,095.19	547.60	1,297.91	649.92	17.17	-1.28	0.058
140.00	-3.39	-4.50	0.00	-12.23	0.00	12.23	1,057.85	528.92	1,179.18	590.46	18.52	-1.30	0.024
141.00	-1.39	-1.41	0.00	-7.73	0.00	7.73	1,049.97	524.98	1,155.61	578.66	18.80	-1.30	0.015
145.00	-1.14	-1.26	0.00	-2.11	0.00	2.11	1,017.07	508.54	1,062.12	531.85	19.89	-1.31	0.005
146.00	-0.15	-0.07	0.00	-0.17	0.00	0.17	1,008.51	504.25	1,038.98	520.26	20.16	-1.31	0.000
148.50	0.00	-0.07	0.00	0.00	0.00	0.00	986.50	493.25	981.57	491.52	20.85	-1.31	0.000

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

10/5/2016 8:39:18 PM

Customer: T-Mobile

Load Case: 0.9D + 1.6W

90 mph with No Ice (Reduced DL)

19 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		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		241.0	0.0					0.0	0.0	241.0	0.0	0.0	0.0
5.00		476.4	1,743.0					0.0	133.4	476.4	1,876.5	0.0	0.0
10.00		465.1	1,701.7					0.0	133.4	465.1	1,835.2	0.0	0.0
15.00		453.7	1,660.4					0.0	133.4	453.7	1,793.8	0.0	0.0
20.00		442.4	1,619.1					0.0	133.4	442.4	1,752.5	0.0	0.0
25.00		431.0	1,577.8					0.0	133.4	431.0	1,711.2	0.0	0.0
30.00		424.6	1,536.5					0.0	133.4	424.6	1,669.9	0.0	0.0
35.00		426.7	1,495.2					0.0	133.4	426.7	1,628.6	0.0	0.0
40.00		366.1	1,453.9					0.0	133.4	366.1	1,587.3	0.0	0.0
43.50	Bot - Section 2	217.3	993.1					0.0	93.4	217.3	1,086.5	0.0	0.0
45.00		286.1	792.4					0.0	40.0	286.1	832.4	0.0	0.0
50.00		264.2	2,591.0					0.0	133.4	264.2	2,724.4	0.0	0.0
51.00	Top - Section 1	219.9	508.9					0.0	26.7	219.9	535.6	0.0	0.0
55.00		394.7	944.0					0.0	106.7	394.7	1,050.7	0.0	0.0
60.00		435.9	1,147.5					0.0	133.4	435.9	1,280.9	0.0	0.0
65.00		431.9	1,111.3					0.0	133.4	431.9	1,244.7	0.0	0.0
70.00		426.7	1,075.2					0.0	133.4	426.7	1,208.6	0.0	0.0
75.00		420.4	1,039.0					0.0	133.4	420.4	1,172.4	0.0	0.0
80.00		413.2	1,002.9					0.0	133.4	413.2	1,136.3	0.0	0.0
85.00		365.4	966.7					0.0	133.4	365.4	1,100.1	0.0	0.0
89.00	Bot - Section 3	201.0	747.4					0.0	106.7	201.0	854.1	0.0	0.0
90.00		219.0	303.0					0.0	26.7	219.0	329.7	0.0	0.0
94.50	Top - Section 2	198.4	1,334.1					0.0	120.1	198.4	1,454.2	0.0	0.0
95.00		213.1	57.4					0.0	13.3	213.1	70.8	0.0	0.0
100.00		381.7	561.7					0.0	133.4	381.7	695.1	0.0	0.0
105.00		370.8	538.4					0.0	133.4	370.8	671.9	0.0	0.0
110.00		359.3	515.2					0.0	133.4	359.3	648.6	0.0	0.0
115.00		347.2	491.9					0.0	133.4	347.2	625.4	0.0	0.0
120.00		269.8	468.7					0.0	133.4	269.8	602.1	0.0	0.0
123.00	Appertunance(s)	164.1	270.1	2,417.9	0.0	0.0	1,331.7	0.0	80.1	2,581.9	1,681.9	0.0	0.0
125.00		222.2	175.4					0.0	48.4	222.2	223.8	0.0	0.0
130.00	Bot - Section 4	279.8	422.2					0.0	121.0	279.8	543.3	0.0	0.0
134.00	Top - Section 3	152.4	538.5	2,587.3	0.0	409.2	869.4	0.0	96.8	2,739.7	1,504.7	0.0	0.0
135.00		175.1	52.8					0.0	10.9	175.1	63.7	0.0	0.0
140.00		173.4	254.7					0.0	54.6	173.4	309.3	0.0	0.0
141.00	Appertunance(s)	137.8	49.1	2,909.2	0.0	0.0	1,492.1	0.0	10.9	3,047.0	1,552.1	0.0	0.0
145.00		136.3	190.1					0.0	0.5	136.3	190.7	0.0	0.0
146.00	Appertunance(s)	92.0	46.0	1,079.6	0.0	677.1	720.0	0.0	0.1	1,171.6	766.1	0.0	0.0
148.50		65.3	112.3					0.0	0.0	65.3	112.3	0.0	0.0
Totals:										20,755.3	40,127.5	0.00	0.00

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

10/5/2016 8:39:20 PM

Customer: T-Mobile

Load Case: 0.9D + 1.6W

90 mph with No Ice (Reduced DL)

19 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :0.90

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	-40.12	-20.53	0.00	-2,035.98	0.00	2,035.98	7,541.17	3,770.58	22,511.9	11,272.6	0.00	0.00	0.186
5.00	-38.23	-20.08	0.00	-1,933.35	0.00	1,933.35	7,435.91	3,717.96	21,674.1	10,853.2	0.02	-0.04	0.183
10.00	-36.38	-19.63	0.00	-1,832.97	0.00	1,832.97	7,327.23	3,663.62	20,841.5	10,436.2	0.08	-0.07	0.181
15.00	-34.58	-19.20	0.00	-1,734.81	0.00	1,734.81	7,215.13	3,607.56	20,014.7	10,022.2	0.18	-0.11	0.178
20.00	-32.81	-18.77	0.00	-1,638.82	0.00	1,638.82	7,099.60	3,549.80	19,194.4	9,611.47	0.32	-0.15	0.175
25.00	-31.09	-18.36	0.00	-1,544.94	0.00	1,544.94	6,980.64	3,490.32	18,381.3	9,204.34	0.50	-0.19	0.172
30.00	-29.41	-17.95	0.00	-1,453.14	0.00	1,453.14	6,858.27	3,429.13	17,576.2	8,801.21	0.72	-0.23	0.169
35.00	-27.77	-17.54	0.00	-1,363.39	0.00	1,363.39	6,732.46	3,366.23	16,779.9	8,402.42	0.99	-0.27	0.166
40.00	-26.17	-17.18	0.00	-1,275.71	0.00	1,275.71	6,603.24	3,301.62	15,992.9	8,008.36	1.29	-0.31	0.163
43.50	-25.08	-16.96	0.00	-1,215.58	0.00	1,215.58	6,510.74	3,255.37	15,448.0	7,735.51	1.54	-0.34	0.161
45.00	-24.24	-16.69	0.00	-1,190.13	0.00	1,190.13	6,470.58	3,235.29	15,216.1	7,619.37	1.65	-0.36	0.160
50.00	-21.51	-16.41	0.00	-1,106.71	0.00	1,106.71	6,334.51	3,167.25	14,450.1	7,235.83	2.05	-0.40	0.156
51.00	-20.97	-16.20	0.00	-1,090.29	0.00	1,090.29	5,351.19	2,675.60	12,353.0	6,185.72	2.13	-0.41	0.180
55.00	-19.91	-15.81	0.00	-1,025.50	0.00	1,025.50	5,265.80	2,632.90	11,859.3	5,938.51	2.49	-0.45	0.177
60.00	-18.62	-15.38	0.00	-946.45	0.00	946.45	5,155.98	2,577.99	11,249.0	5,632.89	2.98	-0.49	0.172
65.00	-17.37	-14.95	0.00	-869.56	0.00	869.56	5,042.74	2,521.37	10,646.9	5,331.40	3.53	-0.54	0.167
70.00	-16.15	-14.53	0.00	-794.80	0.00	794.80	4,926.07	2,463.04	10,053.8	5,034.40	4.13	-0.59	0.161
75.00	-14.97	-14.11	0.00	-722.17	0.00	722.17	4,805.98	2,402.99	9,470.41	4,742.24	4.77	-0.64	0.155
80.00	-13.83	-13.69	0.00	-651.63	0.00	651.63	4,682.46	2,341.23	8,897.37	4,455.30	5.48	-0.69	0.149
85.00	-12.72	-13.32	0.00	-583.17	0.00	583.17	4,555.52	2,277.76	8,335.45	4,173.92	6.23	-0.74	0.143
89.00	-11.87	-13.12	0.00	-529.88	0.00	529.88	4,451.50	2,225.75	7,894.42	3,953.08	6.87	-0.78	0.137
90.00	-11.53	-12.90	0.00	-516.76	0.00	516.76	4,425.16	2,212.58	7,785.39	3,898.48	7.04	-0.80	0.135
94.50	-10.08	-12.68	0.00	-458.72	0.00	458.72	2,429.52	1,214.76	4,208.21	2,107.23	7.81	-0.84	0.222
95.00	-10.00	-12.48	0.00	-452.38	0.00	452.38	2,423.93	1,211.97	4,181.46	2,093.84	7.90	-0.85	0.220
100.00	-9.30	-12.10	0.00	-390.00	0.00	390.00	2,366.19	1,183.09	3,915.26	1,960.54	8.82	-0.92	0.203
105.00	-8.62	-11.72	0.00	-329.52	0.00	329.52	2,305.01	1,152.51	3,651.76	1,828.59	9.82	-0.99	0.184
110.00	-7.96	-11.36	0.00	-270.90	0.00	270.90	2,240.42	1,120.21	3,391.69	1,698.37	10.89	-1.05	0.163
115.00	-7.33	-11.01	0.00	-214.09	0.00	214.09	2,172.39	1,086.20	3,135.78	1,570.22	12.03	-1.11	0.140
120.00	-6.73	-10.73	0.00	-159.04	0.00	159.04	2,100.95	1,050.47	2,884.74	1,444.51	13.23	-1.17	0.113
123.00	-5.10	-8.12	0.00	-126.84	0.00	126.84	2,056.44	1,028.22	2,736.75	1,370.41	13.98	-1.20	0.095
125.00	-4.87	-7.89	0.00	-110.60	0.00	110.60	2,026.08	1,013.04	2,639.30	1,321.61	14.48	-1.22	0.086
130.00	-4.33	-7.61	0.00	-71.12	0.00	71.12	1,947.78	973.89	2,400.18	1,201.87	15.78	-1.25	0.061
134.00	-2.89	-4.83	0.00	-40.29	0.00	40.29	1,102.25	551.13	1,321.80	661.88	16.83	-1.27	0.064
135.00	-2.83	-4.66	0.00	-35.46	0.00	35.46	1,095.19	547.60	1,297.91	649.92	17.10	-1.28	0.057
140.00	-2.52	-4.48	0.00	-12.17	0.00	12.17	1,057.85	528.92	1,179.18	590.46	18.45	-1.29	0.023
141.00	-1.04	-1.40	0.00	-7.69	0.00	7.69	1,049.97	524.98	1,155.61	578.66	18.72	-1.30	0.014
145.00	-0.85	-1.26	0.00	-2.10	0.00	2.10	1,017.07	508.54	1,062.12	531.85	19.81	-1.30	0.005
146.00	-0.11	-0.07	0.00	-0.17	0.00	0.17	1,008.51	504.25	1,038.98	520.26	20.08	-1.30	0.000
148.50	0.00	-0.07	0.00	0.00	0.00	0.00	986.50	493.25	981.57	491.52	20.76	-1.30	0.000

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

10/5/2016 8:39:20 PM

Customer: T-Mobile

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph with 1.00 in Radial Ice 18 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		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		57.3	0.0					0.0	0.0	57.3	0.0	0.0	0.0
5.00		113.5	3,030.0					0.0	177.9	113.5	3,207.9	0.0	0.0
10.00		111.3	3,040.4					0.0	177.9	111.3	3,218.3	0.0	0.0
15.00		108.9	3,007.4					0.0	177.9	108.9	3,185.3	0.0	0.0
20.00		106.5	2,960.2					0.0	177.9	106.5	3,138.1	0.0	0.0
25.00		104.1	2,905.6					0.0	177.9	104.1	3,083.5	0.0	0.0
30.00		102.8	2,846.3					0.0	177.9	102.8	3,024.2	0.0	0.0
35.00		103.6	2,783.8					0.0	177.9	103.6	2,961.7	0.0	0.0
40.00		89.0	2,718.9					0.0	177.9	89.0	2,896.8	0.0	0.0
43.50	Bot - Section 2	52.9	1,865.8					0.0	124.5	52.9	1,990.4	0.0	0.0
45.00		69.8	1,291.5					0.0	53.4	69.8	1,344.9	0.0	0.0
50.00		64.5	4,221.5					0.0	177.9	64.5	4,399.4	0.0	0.0
51.00	Top - Section 1	53.8	832.0					0.0	35.6	53.8	867.6	0.0	0.0
55.00		96.7	1,861.3					0.0	142.3	96.7	2,003.6	0.0	0.0
60.00		107.1	2,267.1					0.0	177.9	107.1	2,445.0	0.0	0.0
65.00		106.4	2,202.6					0.0	177.9	106.4	2,380.5	0.0	0.0
70.00		105.5	2,137.3					0.0	177.9	105.5	2,315.2	0.0	0.0
75.00		104.3	2,071.3					0.0	177.9	104.3	2,249.2	0.0	0.0
80.00		102.9	2,004.6					0.0	177.9	102.9	2,182.5	0.0	0.0
85.00		91.3	1,937.5					0.0	177.9	91.3	2,115.4	0.0	0.0
89.00	Bot - Section 3	50.3	1,503.1					0.0	142.3	50.3	1,645.5	0.0	0.0
90.00		55.0	531.7					0.0	35.6	55.0	567.2	0.0	0.0
94.50	Top - Section 2	49.8	2,335.9					0.0	160.1	49.8	2,496.1	0.0	0.0
95.00		53.7	138.4					0.0	17.8	53.7	156.2	0.0	0.0
100.00		96.4	1,345.5					0.0	177.9	96.4	1,523.4	0.0	0.0
105.00		94.1	1,293.8					0.0	177.9	94.1	1,471.7	0.0	0.0
110.00		91.7	1,241.7					0.0	177.9	91.7	1,419.6	0.0	0.0
115.00		89.1	1,189.3					0.0	177.9	89.1	1,367.2	0.0	0.0
120.00		69.6	1,136.6					0.0	177.9	69.6	1,314.5	0.0	0.0
123.00	Appertunance(s)	42.5	659.4	421.8	0.0	0.0	5,171.3	0.0	106.7	464.3	5,937.5	0.0	0.0
125.00		57.9	430.0					0.0	64.6	57.9	494.5	0.0	0.0
130.00	Bot - Section 4	73.2	1,030.2					0.0	161.4	73.2	1,191.6	0.0	0.0
134.00	Top - Section 3	40.0	1,081.8	380.2	0.0	107.2	4,658.4	0.0	129.1	420.2	5,869.3	0.0	0.0
135.00		46.3	160.6					0.0	14.6	46.3	175.1	0.0	0.0
140.00		45.9	767.0					0.0	72.8	45.9	839.8	0.0	0.0
141.00	Appertunance(s)	36.8	150.1	515.2	0.0	0.0	6,287.1	0.0	14.6	552.0	6,451.8	0.0	0.0
145.00		36.5	577.1					0.0	0.7	36.5	577.8	0.0	0.0
146.00	Appertunance(s)	24.8	141.4	282.3	0.0	227.4	2,344.0	0.0	0.2	307.1	2,485.5	0.0	0.0
148.50		17.6	343.9					0.0	0.0	17.6	343.9	0.0	0.0
Totals:										4,522.86	85,337.3	0.00	0.00

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

10/5/2016 8:39:21 PM

Customer: T-Mobile

Load Case: 1.2D + 1.0Di + 1.0Wi

40 mph with 1.00 in Radial Ice

18 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	-85.34	-4.47	0.00	-431.54	0.00	431.54	7,541.17	3,770.58	22,511.9	11,272.6	0.00	0.00	0.050
5.00	-82.13	-4.37	0.00	-409.18	0.00	409.18	7,435.91	3,717.96	21,674.1	10,853.2	0.00	-0.01	0.049
10.00	-78.91	-4.27	0.00	-387.34	0.00	387.34	7,327.23	3,663.62	20,841.5	10,436.2	0.02	-0.02	0.048
15.00	-75.72	-4.17	0.00	-366.00	0.00	366.00	7,215.13	3,607.56	20,014.7	10,022.2	0.04	-0.02	0.047
20.00	-72.59	-4.07	0.00	-345.16	0.00	345.16	7,099.60	3,549.80	19,194.4	9,611.47	0.07	-0.03	0.046
25.00	-69.50	-3.98	0.00	-324.81	0.00	324.81	6,980.64	3,490.32	18,381.3	9,204.34	0.11	-0.04	0.045
30.00	-66.48	-3.88	0.00	-304.93	0.00	304.93	6,858.27	3,429.13	17,576.2	8,801.21	0.15	-0.05	0.044
35.00	-63.51	-3.78	0.00	-285.53	0.00	285.53	6,732.46	3,366.23	16,779.9	8,402.42	0.21	-0.06	0.043
40.00	-60.62	-3.70	0.00	-266.62	0.00	266.62	6,603.24	3,301.62	15,992.9	8,008.36	0.27	-0.07	0.042
43.50	-58.63	-3.65	0.00	-253.67	0.00	253.67	6,510.74	3,255.37	15,448.0	7,735.51	0.32	-0.07	0.042
45.00	-57.28	-3.58	0.00	-248.20	0.00	248.20	6,470.58	3,235.29	15,216.1	7,619.37	0.35	-0.08	0.041
50.00	-52.88	-3.52	0.00	-230.29	0.00	230.29	6,334.51	3,167.25	14,450.1	7,235.83	0.43	-0.08	0.040
51.00	-52.01	-3.47	0.00	-226.77	0.00	226.77	5,351.19	2,675.60	12,353.0	6,185.72	0.45	-0.09	0.046
55.00	-50.01	-3.37	0.00	-212.91	0.00	212.91	5,265.80	2,632.90	11,859.3	5,938.51	0.52	-0.09	0.045
60.00	-47.56	-3.27	0.00	-196.04	0.00	196.04	5,155.98	2,577.99	11,249.0	5,632.89	0.63	-0.10	0.044
65.00	-45.18	-3.17	0.00	-179.68	0.00	179.68	5,042.74	2,521.37	10,646.9	5,331.40	0.74	-0.11	0.043
70.00	-42.87	-3.07	0.00	-163.84	0.00	163.84	4,926.07	2,463.04	10,053.8	5,034.40	0.87	-0.12	0.041
75.00	-40.62	-2.96	0.00	-148.52	0.00	148.52	4,805.98	2,402.99	9,470.41	4,742.24	1.00	-0.13	0.040
80.00	-38.44	-2.86	0.00	-133.70	0.00	133.70	4,682.46	2,341.23	8,897.37	4,455.30	1.15	-0.14	0.038
85.00	-36.32	-2.77	0.00	-119.39	0.00	119.39	4,555.52	2,277.76	8,335.45	4,173.92	1.31	-0.16	0.037
89.00	-34.68	-2.72	0.00	-108.30	0.00	108.30	4,451.50	2,225.75	7,894.42	3,953.08	1.44	-0.16	0.035
90.00	-34.11	-2.67	0.00	-105.58	0.00	105.58	4,425.16	2,212.58	7,785.39	3,898.48	1.47	-0.17	0.035
94.50	-31.61	-2.61	0.00	-93.59	0.00	93.59	4,229.52	1,214.76	4,208.21	2,107.23	1.64	-0.17	0.057
95.00	-31.46	-2.56	0.00	-92.28	0.00	92.28	2,423.93	1,211.97	4,181.46	2,093.84	1.65	-0.18	0.057
100.00	-29.93	-2.47	0.00	-79.47	0.00	79.47	2,366.19	1,183.09	3,915.26	1,960.54	1.85	-0.19	0.053
105.00	-28.46	-2.38	0.00	-67.13	0.00	67.13	2,305.01	1,152.51	3,651.76	1,828.59	2.05	-0.20	0.049
110.00	-27.04	-2.29	0.00	-55.24	0.00	55.24	2,240.42	1,120.21	3,391.69	1,698.37	2.28	-0.22	0.045
115.00	-25.67	-2.20	0.00	-43.82	0.00	43.82	2,172.39	1,086.20	3,135.78	1,570.22	2.51	-0.23	0.040
120.00	-24.36	-2.12	0.00	-32.84	0.00	32.84	2,100.95	1,050.47	2,884.74	1,444.51	2.76	-0.24	0.034
123.00	-18.42	-1.64	0.00	-26.46	0.00	26.46	2,056.44	1,028.22	2,736.75	1,370.41	2.91	-0.25	0.028
125.00	-17.93	-1.58	0.00	-23.19	0.00	23.19	2,026.08	1,013.04	2,639.30	1,321.61	3.02	-0.25	0.026
130.00	-16.74	-1.50	0.00	-15.30	0.00	15.30	1,947.78	973.89	2,400.18	1,201.87	3.29	-0.26	0.021
134.00	-10.87	-1.06	0.00	-9.18	0.00	9.18	1,102.25	551.13	1,321.80	661.88	3.50	-0.26	0.024
135.00	-10.69	-1.01	0.00	-8.13	0.00	8.13	1,095.19	547.60	1,297.91	649.92	3.56	-0.26	0.022
140.00	-9.85	-0.96	0.00	-3.08	0.00	3.08	1,057.85	528.92	1,179.18	590.46	3.84	-0.27	0.015
141.00	-3.41	-0.38	0.00	-2.12	0.00	2.12	1,049.97	524.98	1,155.61	578.66	3.90	-0.27	0.007
145.00	-2.83	-0.34	0.00	-0.61	0.00	0.61	1,017.07	508.54	1,062.12	531.85	4.12	-0.27	0.004
146.00	-0.34	-0.02	0.00	-0.05	0.00	0.05	1,008.51	504.25	1,038.98	520.26	4.18	-0.27	0.000
148.50	0.00	-0.02	0.00	0.00	0.00	0.00	986.50	493.25	981.57	491.52	4.32	-0.27	0.000

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

10/5/2016 8:39:22 PM

Customer: T-Mobile

Load Case: 1.0D + 1.0W

Serviceability 60 mph

18 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

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		67.0	0.0					0.0	0.0	67.0	0.0	0.0	0.0
5.00		132.3	1,936.7					0.0	148.3	132.3	2,085.0	0.0	0.0
10.00		129.2	1,890.8					0.0	148.3	129.2	2,039.1	0.0	0.0
15.00		126.0	1,844.9					0.0	148.3	126.0	1,993.2	0.0	0.0
20.00		122.9	1,799.0					0.0	148.3	122.9	1,947.3	0.0	0.0
25.00		119.7	1,753.1					0.0	148.3	119.7	1,901.4	0.0	0.0
30.00		118.0	1,707.2					0.0	148.3	118.0	1,855.5	0.0	0.0
35.00		118.5	1,661.3					0.0	148.3	118.5	1,809.5	0.0	0.0
40.00		101.7	1,615.4					0.0	148.3	101.7	1,763.6	0.0	0.0
43.50	Bot - Section 2	60.4	1,103.5					0.0	103.8	60.4	1,207.2	0.0	0.0
45.00		79.5	880.4					0.0	44.5	79.5	924.9	0.0	0.0
50.00		73.4	2,878.9					0.0	148.3	73.4	3,027.1	0.0	0.0
51.00	Top - Section 1	61.1	565.4					0.0	29.7	61.1	595.1	0.0	0.0
55.00		109.6	1,048.9					0.0	118.6	109.6	1,167.5	0.0	0.0
60.00		121.1	1,275.0					0.0	148.3	121.1	1,423.2	0.0	0.0
65.00		120.0	1,234.8					0.0	148.3	120.0	1,383.0	0.0	0.0
70.00		118.5	1,194.6					0.0	148.3	118.5	1,342.9	0.0	0.0
75.00		116.8	1,154.5					0.0	148.3	116.8	1,302.7	0.0	0.0
80.00		114.8	1,114.3					0.0	148.3	114.8	1,262.6	0.0	0.0
85.00		101.5	1,074.1					0.0	148.3	101.5	1,222.4	0.0	0.0
89.00	Bot - Section 3	55.8	830.4					0.0	118.6	55.8	949.0	0.0	0.0
90.00		60.8	336.7					0.0	29.7	60.8	366.3	0.0	0.0
94.50	Top - Section 2	55.1	1,482.3					0.0	133.4	55.1	1,615.7	0.0	0.0
95.00		59.2	63.8					0.0	14.8	59.2	78.7	0.0	0.0
100.00		106.0	624.1					0.0	148.3	106.0	772.3	0.0	0.0
105.00		103.0	598.3					0.0	148.3	103.0	746.5	0.0	0.0
110.00		99.8	572.4					0.0	148.3	99.8	720.7	0.0	0.0
115.00		96.5	546.6					0.0	148.3	96.5	694.9	0.0	0.0
120.00		74.9	520.8					0.0	148.3	74.9	669.0	0.0	0.0
123.00	Appertunance(s)	45.6	300.1	671.6	0.0	0.0	1,479.7	0.0	88.9	717.2	1,868.7	0.0	0.0
125.00		61.7	194.9					0.0	53.8	61.7	248.7	0.0	0.0
130.00	Bot - Section 4	77.7	469.1					0.0	134.5	77.7	603.6	0.0	0.0
134.00	Top - Section 3	42.3	598.3	718.7	0.0	113.7	966.0	0.0	107.6	761.0	1,671.9	0.0	0.0
135.00		48.6	58.7					0.0	12.1	48.6	70.8	0.0	0.0
140.00		48.2	283.0					0.0	60.7	48.2	343.7	0.0	0.0
141.00	Appertunance(s)	38.3	54.5	808.1	0.0	0.0	1,657.9	0.0	12.1	846.4	1,724.6	0.0	0.0
145.00		37.9	211.3					0.0	0.6	37.9	211.9	0.0	0.0
146.00	Appertunance(s)	25.5	51.1	299.9	0.0	188.1	800.0	0.0	0.2	325.4	851.2	0.0	0.0
148.50		18.1	124.7					0.0	0.0	18.1	124.7	0.0	0.0
Totals:										5,765.38	44,586.1	0.00	0.00

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

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Customer: T-Mobile

Load Case: 1.0D + 1.0W

Serviceability 60 mph

18 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	-44.59	-5.70	0.00	-566.10	0.00	566.10	7,541.17	3,770.58	22,511.9	11,272.6	0.00	0.00	0.056
5.00	-42.50	-5.58	0.00	-537.59	0.00	537.59	7,435.91	3,717.96	21,674.1	10,853.2	0.01	-0.01	0.055
10.00	-40.46	-5.45	0.00	-509.70	0.00	509.70	7,327.23	3,663.62	20,841.5	10,436.2	0.02	-0.02	0.054
15.00	-38.47	-5.33	0.00	-482.43	0.00	482.43	7,215.13	3,607.56	20,014.7	10,022.2	0.05	-0.03	0.053
20.00	-36.52	-5.22	0.00	-455.76	0.00	455.76	7,099.60	3,549.80	19,194.4	9,611.47	0.09	-0.04	0.053
25.00	-34.62	-5.10	0.00	-429.67	0.00	429.67	6,980.64	3,490.32	18,381.3	9,204.34	0.14	-0.05	0.052
30.00	-32.76	-4.99	0.00	-404.15	0.00	404.15	6,858.27	3,429.13	17,576.2	8,801.21	0.20	-0.06	0.051
35.00	-30.95	-4.88	0.00	-379.20	0.00	379.20	6,732.46	3,366.23	16,779.9	8,402.42	0.27	-0.08	0.050
40.00	-29.18	-4.78	0.00	-354.83	0.00	354.83	6,603.24	3,301.62	15,992.9	8,008.36	0.36	-0.09	0.049
43.50	-27.98	-4.72	0.00	-338.11	0.00	338.11	6,510.74	3,255.37	15,448.0	7,735.51	0.43	-0.10	0.048
45.00	-27.05	-4.64	0.00	-331.04	0.00	331.04	6,470.58	3,235.29	15,216.1	7,619.37	0.46	-0.10	0.048
50.00	-24.02	-4.56	0.00	-307.84	0.00	307.84	6,334.51	3,167.25	14,450.1	7,235.83	0.57	-0.11	0.046
51.00	-23.43	-4.50	0.00	-303.27	0.00	303.27	5,351.19	2,675.60	12,353.0	6,185.72	0.59	-0.11	0.053
55.00	-22.26	-4.40	0.00	-285.26	0.00	285.26	5,265.80	2,632.90	11,859.3	5,938.51	0.69	-0.12	0.052
60.00	-20.84	-4.28	0.00	-263.28	0.00	263.28	5,155.98	2,577.99	11,249.0	5,632.89	0.83	-0.14	0.051
65.00	-19.45	-4.16	0.00	-241.89	0.00	241.89	5,042.74	2,521.37	10,646.9	5,331.40	0.98	-0.15	0.049
70.00	-18.11	-4.04	0.00	-221.10	0.00	221.10	4,926.07	2,463.04	10,053.8	5,034.40	1.15	-0.17	0.048
75.00	-16.81	-3.92	0.00	-200.90	0.00	200.90	4,805.98	2,402.99	9,470.41	4,742.24	1.33	-0.18	0.046
80.00	-15.54	-3.81	0.00	-181.28	0.00	181.28	4,682.46	2,341.23	8,897.37	4,455.30	1.52	-0.19	0.044
85.00	-14.32	-3.71	0.00	-162.24	0.00	162.24	4,555.52	2,277.76	8,335.45	4,173.92	1.73	-0.21	0.042
89.00	-13.37	-3.65	0.00	-147.41	0.00	147.41	4,451.50	2,225.75	7,894.42	3,953.08	1.91	-0.22	0.040
90.00	-13.00	-3.59	0.00	-143.76	0.00	143.76	4,425.16	2,212.58	7,785.39	3,898.48	1.96	-0.22	0.040
94.50	-11.39	-3.53	0.00	-127.62	0.00	127.62	2,429.52	1,214.76	4,208.21	2,107.23	2.17	-0.23	0.065
95.00	-11.31	-3.47	0.00	-125.85	0.00	125.85	2,423.93	1,211.97	4,181.46	2,093.84	2.20	-0.24	0.065
100.00	-10.54	-3.36	0.00	-108.50	0.00	108.50	2,366.19	1,183.09	3,915.26	1,960.54	2.45	-0.26	0.060
105.00	-9.79	-3.26	0.00	-91.68	0.00	91.68	2,305.01	1,152.51	3,651.76	1,828.59	2.73	-0.27	0.054
110.00	-9.07	-3.16	0.00	-75.37	0.00	75.37	2,240.42	1,120.21	3,391.69	1,698.37	3.03	-0.29	0.048
115.00	-8.37	-3.06	0.00	-59.56	0.00	59.56	2,172.39	1,086.20	3,135.78	1,570.22	3.35	-0.31	0.042
120.00	-7.70	-2.99	0.00	-44.25	0.00	44.25	2,100.95	1,050.47	2,884.74	1,444.51	3.68	-0.33	0.034
123.00	-5.84	-2.26	0.00	-35.29	0.00	35.29	2,056.44	1,028.22	2,736.75	1,370.41	3.89	-0.33	0.029
125.00	-5.59	-2.20	0.00	-30.77	0.00	30.77	2,026.08	1,013.04	2,639.30	1,321.61	4.03	-0.34	0.026
130.00	-4.99	-2.12	0.00	-19.79	0.00	19.79	1,947.78	973.89	2,400.18	1,201.87	4.39	-0.35	0.019
134.00	-3.32	-1.34	0.00	-11.21	0.00	11.21	1,102.25	551.13	1,321.80	661.88	4.68	-0.35	0.020
135.00	-3.25	-1.30	0.00	-9.87	0.00	9.87	1,095.19	547.60	1,297.91	649.92	4.76	-0.35	0.018
140.00	-2.90	-1.25	0.00	-3.39	0.00	3.39	1,057.85	528.92	1,179.18	590.46	5.13	-0.36	0.008
141.00	-1.19	-0.39	0.00	-2.14	0.00	2.14	1,049.97	524.98	1,155.61	578.66	5.21	-0.36	0.005
145.00	-0.97	-0.35	0.00	-0.58	0.00	0.58	1,017.07	508.54	1,062.12	531.85	5.51	-0.36	0.002
146.00	-0.12	-0.02	0.00	-0.05	0.00	0.05	1,008.51	504.25	1,038.98	520.26	5.59	-0.36	0.000
148.50	0.00	-0.02	0.00	0.00	0.00	0.00	986.50	493.25	981.57	491.52	5.78	-0.36	0.000

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

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Customer: T-Mobile

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 Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.06
Upper Limit C_s	0.06
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	1.17
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.33
Total Unfactored Dead Load:	44.59 k
Seismic Base Shear (E):	3.45 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	147.25	125	97	0.008	26	154
37	145.50	51	39	0.003	11	63
36	143.00	212	158	0.013	43	262
35	140.50	67	49	0.004	13	82
34	137.50	344	243	0.019	66	425
33	134.50	71	49	0.004	13	88
32	132.00	706	473	0.037	129	873
31	127.50	604	386	0.031	105	747
30	124.00	249	153	0.012	42	308
29	121.50	389	233	0.018	64	481
28	117.50	669	384	0.030	105	828
27	112.50	695	376	0.030	103	860
26	107.50	721	367	0.029	100	892
25	102.50	747	357	0.028	97	924
24	97.50	772	346	0.027	94	955
23	94.75	79	34	0.003	9	97
22	92.25	1,616	672	0.053	183	1,999
21	89.50	366	146	0.012	40	453
20	87.00	949	365	0.029	100	1,174
19	82.50	1,222	438	0.035	119	1,512
18	77.50	1,263	416	0.033	114	1,562
17	72.50	1,303	393	0.031	107	1,612
16	67.50	1,343	368	0.029	100	1,661

Site Number: 370630

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

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Customer: T-Mobile

15	62.50	1,383	342	0.027	93	1,711
14	57.50	1,423	315	0.025	86	1,761
13	53.00	1,167	232	0.018	63	1,444
12	50.50	595	111	0.009	30	736
11	47.50	3,027	520	0.041	142	3,745
10	44.25	925	144	0.011	39	1,144
9	41.75	1,207	174	0.014	48	1,494
8	37.50	1,764	221	0.017	60	2,182
7	32.50	1,810	187	0.015	51	2,239
6	27.50	1,855	154	0.012	42	2,295
5	22.50	1,901	121	0.010	33	2,352
4	17.50	1,947	88	0.007	24	2,409
3	12.50	1,993	58	0.005	16	2,466
2	7.50	2,039	30	0.002	8	2,523
1	2.50	2,085	7	0.001	2	2,579
RFS Celwave PD220	146.00	25	19	0.002	5	31
RFS Celwave PD220	146.00	25	19	0.002	5	31
Flat T-Arm	146.00	750	575	0.045	157	928
Powerwave Allgon LGP	141.00	85	62	0.005	17	105
Raycap DC6-48-60-18-	141.00	33	24	0.002	7	41
Ericsson RRUS 11 (Ba	141.00	330	241	0.019	66	408
Powerwave 7770.00	141.00	315	230	0.018	63	390
KMW AM-X-CD-16-65-00	141.00	146	106	0.008	29	180
Flat T-Arm	141.00	750	549	0.043	150	928
Antel BXA-185085/12C	134.00	39	27	0.002	7	48
Antel BXA-70063/6CF	134.00	51	35	0.003	10	63
Antel LPA-80080/6CF	134.00	126	86	0.007	24	156
Round T-Arm	134.00	750	513	0.041	140	928
Symmetricom 58532A	123.00	0	0	0.000	0	0
Ericsson RRUS 11 B12	123.00	152	93	0.007	25	188
Ericsson RRUS 11 B4	123.00	152	93	0.007	25	188
Ericsson RRUS 11 B2	123.00	152	93	0.007	25	188
RFS APX16DWV-16DWVS-	123.00	122	74	0.006	20	151
Commscope LNX-6515DS	123.00	151	92	0.007	25	187
Flat T-Arm	123.00	750	457	0.036	125	928
		44,586	12,634	1.000	3,448	55,158

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	147.25	125	97	0.008	26	108
37	145.50	51	39	0.003	11	44
36	143.00	212	158	0.013	43	183
35	140.50	67	49	0.004	13	58
34	137.50	344	243	0.019	66	297
33	134.50	71	49	0.004	13	61
32	132.00	706	473	0.037	129	609
31	127.50	604	386	0.031	105	521
30	124.00	249	153	0.012	42	215
29	121.50	389	233	0.018	64	336
28	117.50	669	384	0.030	105	577
27	112.50	695	376	0.030	103	600
26	107.50	721	367	0.029	100	622
25	102.50	747	357	0.028	97	644
24	97.50	772	346	0.027	94	666
23	94.75	79	34	0.003	9	68
22	92.25	1,616	672	0.053	183	1,394
21	89.50	366	146	0.012	40	316
20	87.00	949	365	0.029	100	819

Site Number: 370630

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

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Customer: T- Mobile

19	82.50	1,222	438	0.035	119	1,055
18	77.50	1,263	416	0.033	114	1,089
17	72.50	1,303	393	0.031	107	1,124
16	67.50	1,343	368	0.029	100	1,159
15	62.50	1,383	342	0.027	93	1,193
14	57.50	1,423	315	0.025	86	1,228
13	53.00	1,167	232	0.018	63	1,007
12	50.50	595	111	0.009	30	513
11	47.50	3,027	520	0.041	142	2,612
10	44.25	925	144	0.011	39	798
9	41.75	1,207	174	0.014	48	1,042
8	37.50	1,764	221	0.017	60	1,522
7	32.50	1,810	187	0.015	51	1,561
6	27.50	1,855	154	0.012	42	1,601
5	22.50	1,901	121	0.010	33	1,641
4	17.50	1,947	88	0.007	24	1,680
3	12.50	1,993	58	0.005	16	1,720
2	7.50	2,039	30	0.002	8	1,759
1	2.50	2,085	7	0.001	2	1,799
RFS Celwave PD220	146.00	25	19	0.002	5	22
RFS Celwave PD220	146.00	25	19	0.002	5	22
Flat T-Arm	146.00	750	575	0.045	157	647
Powerwave Allgon LGP	141.00	85	62	0.005	17	73
Raycap DC6-48-60-18-	141.00	33	24	0.002	7	28
Ericsson RRUS 11 (Ba	141.00	330	241	0.019	66	285
Powerwave 7770.00	141.00	315	230	0.018	63	272
KMW AM-X-CD-16-65-00	141.00	146	106	0.008	29	126
Flat T-Arm	141.00	750	549	0.043	150	647
Antel BXA-185085/12C	134.00	39	27	0.002	7	34
Antel BXA-70063/6CF	134.00	51	35	0.003	10	44
Antel LPA-80080/6CF	134.00	126	86	0.007	24	109
Round T-Arm	134.00	750	513	0.041	140	647
Symmetricom 58532A	123.00	0	0	0.000	0	0
Ericsson RRUS 11 B12	123.00	152	93	0.007	25	131
Ericsson RRUS 11 B4	123.00	152	93	0.007	25	131
Ericsson RRUS 11 B2	123.00	152	93	0.007	25	131
RFS APX16DWV-16DWVS-	123.00	122	74	0.006	20	105
Commscope LNX-6515DS	123.00	151	92	0.007	25	130
Flat T-Arm	123.00	750	457	0.036	125	647
		44,586	12,634	1.000	3,448	38,472

Site Number: 370630

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

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Customer: T-Mobile

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	-52.58	-3.45	0.00	-341.18	0.00	341.18	7,541.17	3,770.58	22,511.9	11,272.6	0.00	0.00	0.037
5.00	-50.06	-3.45	0.00	-323.93	0.00	323.93	7,435.91	3,717.96	21,674.1	10,853.2	0.00	-0.01	0.037
10.00	-47.59	-3.44	0.00	-306.70	0.00	306.70	7,327.23	3,663.62	20,841.5	10,436.2	0.01	-0.01	0.036
15.00	-45.18	-3.42	0.00	-289.53	0.00	289.53	7,215.13	3,607.56	20,014.7	10,022.2	0.03	-0.02	0.035
20.00	-42.83	-3.39	0.00	-272.45	0.00	272.45	7,099.60	3,549.80	19,194.4	9,611.47	0.05	-0.03	0.034
25.00	-40.53	-3.35	0.00	-255.52	0.00	255.52	6,980.64	3,490.32	18,381.3	9,204.34	0.08	-0.03	0.034
30.00	-38.29	-3.30	0.00	-238.78	0.00	238.78	6,858.27	3,429.13	17,576.2	8,801.21	0.12	-0.04	0.033
35.00	-36.11	-3.24	0.00	-222.28	0.00	222.28	6,732.46	3,366.23	16,779.9	8,402.42	0.16	-0.05	0.032
40.00	-34.62	-3.20	0.00	-206.07	0.00	206.07	6,603.24	3,301.62	15,992.9	8,008.36	0.22	-0.05	0.031
43.50	-33.47	-3.16	0.00	-194.88	0.00	194.88	6,510.74	3,255.37	15,448.0	7,735.51	0.26	-0.06	0.030
45.00	-29.73	-3.02	0.00	-190.14	0.00	190.14	6,470.58	3,235.29	15,216.1	7,619.37	0.27	-0.06	0.030
50.00	-28.99	-2.99	0.00	-175.06	0.00	175.06	6,334.51	3,167.25	14,450.1	7,235.83	0.34	-0.07	0.029
51.00	-27.55	-2.92	0.00	-172.08	0.00	172.08	5,351.19	2,675.60	12,353.0	6,185.72	0.35	-0.07	0.033
55.00	-25.79	-2.84	0.00	-160.38	0.00	160.38	5,265.80	2,632.90	11,859.3	5,938.51	0.41	-0.07	0.032
60.00	-24.07	-2.75	0.00	-146.20	0.00	146.20	5,155.98	2,577.99	11,249.0	5,632.89	0.49	-0.08	0.031
65.00	-22.41	-2.65	0.00	-132.47	0.00	132.47	5,042.74	2,521.37	10,646.9	5,331.40	0.58	-0.09	0.029
70.00	-20.80	-2.54	0.00	-119.24	0.00	119.24	4,926.07	2,463.04	10,053.8	5,034.40	0.68	-0.10	0.028
75.00	-19.24	-2.42	0.00	-106.55	0.00	106.55	4,805.98	2,402.99	9,470.41	4,742.24	0.78	-0.10	0.026
80.00	-17.73	-2.30	0.00	-94.43	0.00	94.43	4,682.46	2,341.23	8,897.37	4,455.30	0.89	-0.11	0.025
85.00	-16.55	-2.20	0.00	-82.90	0.00	82.90	4,555.52	2,277.76	8,335.45	4,173.92	1.01	-0.12	0.023
89.00	-16.10	-2.16	0.00	-74.08	0.00	74.08	4,451.50	2,225.75	7,894.42	3,953.08	1.12	-0.12	0.022
90.00	-14.10	-1.98	0.00	-71.92	0.00	71.92	4,425.16	2,212.58	7,785.39	3,898.48	1.14	-0.12	0.022
94.50	-14.00	-1.97	0.00	-63.02	0.00	63.02	2,429.52	1,214.76	4,208.21	2,107.23	1.26	-0.13	0.036
95.00	-13.05	-1.87	0.00	-62.03	0.00	62.03	2,423.93	1,211.97	4,181.46	2,093.84	1.28	-0.13	0.035
100.00	-12.12	-1.78	0.00	-52.66	0.00	52.66	2,366.19	1,183.09	3,915.26	1,960.54	1.42	-0.14	0.032
105.00	-11.23	-1.68	0.00	-43.78	0.00	43.78	2,305.01	1,152.51	3,651.76	1,828.59	1.57	-0.15	0.029
110.00	-10.37	-1.57	0.00	-35.40	0.00	35.40	2,240.42	1,120.21	3,391.69	1,698.37	1.74	-0.16	0.025
115.00	-9.55	-1.47	0.00	-27.54	0.00	27.54	2,172.39	1,086.20	3,135.78	1,570.22	1.91	-0.17	0.022
120.00	-9.06	-1.40	0.00	-20.21	0.00	20.21	2,100.95	1,050.47	2,884.74	1,444.51	2.09	-0.17	0.018
123.00	-6.93	-1.11	0.00	-16.00	0.00	16.00	2,056.44	1,028.22	2,736.75	1,370.41	2.20	-0.18	0.015
125.00	-6.18	-1.00	0.00	-13.79	0.00	13.79	2,026.08	1,013.04	2,639.30	1,321.61	2.27	-0.18	0.013
130.00	-5.31	-0.87	0.00	-8.79	0.00	8.79	1,947.78	973.89	2,400.18	1,201.87	2.46	-0.18	0.010
134.00	-4.03	-0.67	0.00	-5.31	0.00	5.31	1,102.25	551.13	1,321.80	661.88	2.62	-0.19	0.012
135.00	-3.60	-0.60	0.00	-4.64	0.00	4.64	1,095.19	547.60	1,297.91	649.92	2.66	-0.19	0.010
140.00	-3.52	-0.59	0.00	-1.62	0.00	1.62	1,057.85	528.92	1,179.18	590.46	2.86	-0.19	0.006
141.00	-1.21	-0.21	0.00	-1.03	0.00	1.03	1,049.97	524.98	1,155.61	578.66	2.90	-0.19	0.003
145.00	-1.14	-0.20	0.00	-0.20	0.00	0.20	1,017.07	508.54	1,062.12	531.85	3.06	-0.19	0.001
146.00	0.00	0.00	0.00	0.00	0.00	0.00	1,008.51	504.25	1,038.98	520.26	3.10	-0.19	0.000
148.50	0.00	0.00	0.00	0.00	0.00	0.00	986.50	493.25	981.57	491.52	3.20	-0.19	0.000

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

10/5/2016 8:39:23 PM

Customer: T-Mobile

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	-36.67	-3.45	0.00	-340.02	0.00	340.02	7,541.17	3,770.58	22,511.9	11,272.6	0.00	0.00	0.035
5.00	-34.91	-3.44	0.00	-322.78	0.00	322.78	7,435.91	3,717.96	21,674.1	10,853.2	0.00	-0.01	0.034
10.00	-33.19	-3.43	0.00	-305.57	0.00	305.57	7,327.23	3,663.62	20,841.5	10,436.2	0.01	-0.01	0.034
15.00	-31.51	-3.41	0.00	-288.41	0.00	288.41	7,215.13	3,607.56	20,014.7	10,022.2	0.03	-0.02	0.033
20.00	-29.87	-3.38	0.00	-271.36	0.00	271.36	7,099.60	3,549.80	19,194.4	9,611.47	0.05	-0.03	0.032
25.00	-28.27	-3.34	0.00	-254.46	0.00	254.46	6,980.64	3,490.32	18,381.3	9,204.34	0.08	-0.03	0.032
30.00	-26.71	-3.29	0.00	-237.76	0.00	237.76	6,858.27	3,429.13	17,576.2	8,801.21	0.12	-0.04	0.031
35.00	-25.19	-3.23	0.00	-221.30	0.00	221.30	6,732.46	3,366.23	16,779.9	8,402.42	0.16	-0.05	0.030
40.00	-24.14	-3.19	0.00	-205.14	0.00	205.14	6,603.24	3,301.62	15,992.9	8,008.36	0.21	-0.05	0.029
43.50	-23.35	-3.15	0.00	-193.98	0.00	193.98	6,510.74	3,255.37	15,448.0	7,735.51	0.25	-0.06	0.029
45.00	-20.73	-3.01	0.00	-189.26	0.00	189.26	6,470.58	3,235.29	15,216.1	7,619.37	0.27	-0.06	0.028
50.00	-20.22	-2.98	0.00	-174.23	0.00	174.23	6,334.51	3,167.25	14,450.1	7,235.83	0.34	-0.07	0.027
51.00	-19.21	-2.91	0.00	-171.26	0.00	171.26	5,351.19	2,675.60	12,353.0	6,185.72	0.35	-0.07	0.031
55.00	-17.98	-2.83	0.00	-159.60	0.00	159.60	5,265.80	2,632.90	11,859.3	5,938.51	0.41	-0.07	0.030
60.00	-16.79	-2.73	0.00	-145.47	0.00	145.47	5,155.98	2,577.99	11,249.0	5,632.89	0.49	-0.08	0.029
65.00	-15.63	-2.63	0.00	-131.79	0.00	131.79	5,042.74	2,521.37	10,646.9	5,331.40	0.58	-0.09	0.028
70.00	-14.51	-2.53	0.00	-118.62	0.00	118.62	4,926.07	2,463.04	10,053.8	5,034.40	0.68	-0.10	0.027
75.00	-13.42	-2.41	0.00	-105.99	0.00	105.99	4,805.98	2,402.99	9,470.41	4,742.24	0.78	-0.10	0.025
80.00	-12.36	-2.29	0.00	-93.92	0.00	93.92	4,682.46	2,341.23	8,897.37	4,455.30	0.89	-0.11	0.024
85.00	-11.54	-2.19	0.00	-82.45	0.00	82.45	4,555.52	2,277.76	8,335.45	4,173.92	1.01	-0.12	0.022
89.00	-11.23	-2.15	0.00	-73.67	0.00	73.67	4,451.50	2,225.75	7,894.42	3,953.08	1.11	-0.12	0.021
90.00	-9.83	-1.97	0.00	-71.52	0.00	71.52	4,425.16	2,212.58	7,785.39	3,898.48	1.14	-0.12	0.021
94.50	-9.77	-1.96	0.00	-62.66	0.00	62.66	2,429.52	1,214.76	4,208.21	2,107.23	1.26	-0.13	0.034
95.00	-9.10	-1.86	0.00	-61.68	0.00	61.68	2,423.93	1,211.97	4,181.46	2,093.84	1.27	-0.13	0.033
100.00	-8.46	-1.77	0.00	-52.36	0.00	52.36	2,366.19	1,183.09	3,915.26	1,960.54	1.41	-0.14	0.030
105.00	-7.83	-1.67	0.00	-43.52	0.00	43.52	2,305.01	1,152.51	3,651.76	1,828.59	1.57	-0.15	0.027
110.00	-7.23	-1.56	0.00	-35.19	0.00	35.19	2,240.42	1,120.21	3,391.69	1,698.37	1.73	-0.16	0.024
115.00	-6.66	-1.46	0.00	-27.37	0.00	27.37	2,172.39	1,086.20	3,135.78	1,570.22	1.90	-0.17	0.020
120.00	-6.32	-1.39	0.00	-20.09	0.00	20.09	2,100.95	1,050.47	2,884.74	1,444.51	2.08	-0.17	0.017
123.00	-4.83	-1.10	0.00	-15.91	0.00	15.91	2,056.44	1,028.22	2,736.75	1,370.41	2.19	-0.18	0.014
125.00	-4.31	-0.99	0.00	-13.70	0.00	13.70	2,026.08	1,013.04	2,639.30	1,321.61	2.26	-0.18	0.012
130.00	-3.70	-0.86	0.00	-8.73	0.00	8.73	1,947.78	973.89	2,400.18	1,201.87	2.45	-0.18	0.009
134.00	-2.81	-0.67	0.00	-5.28	0.00	5.28	1,102.25	551.13	1,321.80	661.88	2.61	-0.19	0.011
135.00	-2.51	-0.60	0.00	-4.61	0.00	4.61	1,095.19	547.60	1,297.91	649.92	2.65	-0.19	0.009
140.00	-2.45	-0.59	0.00	-1.61	0.00	1.61	1,057.85	528.92	1,179.18	590.46	2.85	-0.19	0.005
141.00	-0.84	-0.21	0.00	-1.02	0.00	1.02	1,049.97	524.98	1,155.61	578.66	2.89	-0.19	0.003
145.00	-0.80	-0.20	0.00	-0.20	0.00	0.20	1,017.07	508.54	1,062.12	531.85	3.04	-0.19	0.001
146.00	0.00	0.00	0.00	0.00	0.00	0.00	1,008.51	504.25	1,038.98	520.26	3.08	-0.19	0.000
148.50	0.00	0.00	0.00	0.00	0.00	0.00	986.50	493.25	981.57	491.52	3.18	-0.19	0.000

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

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Customer: T-Mobile

Equivalent Modal Forces Analysis

(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}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	1.17
Redundancy Factor (ρ):	1.30

Load Case (1.2 + 0.2S_{ds}) * DL + E EMAM

Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	S _{az}	Horizontal Force (lb)	Vertical Force (lb)
38	147.25	125	1.858	1.817	1.081	0.364	39	154
37	145.50	51	1.814	1.605	1.002	0.338	15	63
36	143.00	212	1.753	1.332	0.898	0.303	56	262
35	140.50	67	1.692	1.092	0.802	0.271	16	82
34	137.50	344	1.620	0.843	0.698	0.234	70	425
33	134.50	71	1.550	0.633	0.605	0.201	12	88
32	132.00	706	1.493	0.485	0.535	0.176	108	873
31	127.50	604	1.393	0.271	0.425	0.136	71	747
30	124.00	249	1.318	0.146	0.352	0.110	24	308
29	121.50	389	1.265	0.075	0.306	0.093	31	481
28	117.50	669	1.183	-0.010	0.243	0.071	41	828
27	112.50	695	1.085	-0.078	0.178	0.050	30	860
26	107.50	721	0.990	-0.112	0.127	0.036	23	892
25	102.50	747	0.900	-0.122	0.087	0.028	18	924
24	97.50	772	0.815	-0.114	0.058	0.025	17	955
23	94.75	79	0.769	-0.106	0.045	0.026	2	97
22	92.25	1,616	0.729	-0.095	0.036	0.026	37	1,999
21	89.50	366	0.687	-0.083	0.027	0.028	9	453
20	87.00	949	0.649	-0.070	0.021	0.029	24	1,174
19	82.50	1,222	0.583	-0.047	0.013	0.033	35	1,512
18	77.50	1,263	0.515	-0.022	0.008	0.037	41	1,562
17	72.50	1,303	0.450	0.001	0.006	0.040	45	1,612
16	67.50	1,343	0.390	0.021	0.007	0.042	49	1,661
15	62.50	1,383	0.335	0.037	0.010	0.043	52	1,711
14	57.50	1,423	0.283	0.049	0.014	0.043	53	1,761
13	53.00	1,167	0.241	0.057	0.018	0.042	42	1,444
12	50.50	595	0.219	0.060	0.021	0.041	21	736
11	47.50	3,027	0.193	0.064	0.024	0.040	104	3,745
10	44.25	925	0.168	0.066	0.028	0.038	31	1,144
9	41.75	1,207	0.149	0.068	0.030	0.037	39	1,494
8	37.50	1,764	0.121	0.070	0.034	0.035	54	2,182
7	32.50	1,810	0.091	0.071	0.038	0.033	52	2,239
6	27.50	1,855	0.065	0.072	0.041	0.031	50	2,295
5	22.50	1,901	0.043	0.071	0.042	0.029	47	2,352

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

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Customer: T-Mobile

4	17.50	1,947	0.026	0.067	0.040	0.026	44	2,409
3	12.50	1,993	0.013	0.059	0.034	0.022	39	2,466
2	7.50	2,039	0.005	0.044	0.025	0.017	29	2,523
1	2.50	2,085	0.001	0.018	0.010	0.007	13	2,579
RFS Celwave PD220	146.00	25	1.827	1.664	1.024	0.346	7	31
RFS Celwave PD220	146.00	25	1.827	1.664	1.024	0.346	7	31
Flat T-Arm	146.00	750	1.827	1.664	1.024	0.346	225	928
Powerwave Allgon LGP	141.00	85	1.704	1.137	0.821	0.277	20	105
Raycap DC6-48-60-18-	141.00	33	1.704	1.137	0.821	0.277	8	41
Ericsson RRUS 11 (Ba	141.00	330	1.704	1.137	0.821	0.277	79	408
Powerwave 7770.00	141.00	315	1.704	1.137	0.821	0.277	76	390
KMW AM-X-CD-16-65-00	141.00	146	1.704	1.137	0.821	0.277	35	180
Flat T-Arm	141.00	750	1.704	1.137	0.821	0.277	180	928
Antel BXA-185085/12C	134.00	39	1.539	0.602	0.590	0.196	7	48
Antel BXA-70063/6CF	134.00	51	1.539	0.602	0.590	0.196	9	63
Antel LPA-80080/6CF	134.00	126	1.539	0.602	0.590	0.196	21	156
Round T-Arm	134.00	750	1.539	0.602	0.590	0.196	127	928
Symmetricom 58532A	123.00	0	1.297	0.116	0.333	0.103	0	0
Ericsson RRUS 11 B12	123.00	152	1.297	0.116	0.333	0.103	14	188
Ericsson RRUS 11 B4	123.00	152	1.297	0.116	0.333	0.103	14	188
Ericsson RRUS 11 B2	123.00	152	1.297	0.116	0.333	0.103	14	188
RFS APX16DWW-	123.00	122	1.297	0.116	0.333	0.103	11	151
Commscope LNX-	123.00	151	1.297	0.116	0.333	0.103	13	187
Flat T-Arm	123.00	750	1.297	0.116	0.333	0.103	67	928
		44,586	58.393	23.365	20.657	7.385	2,415	55,158

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	147.25	125	1.858	1.817	1.081	0.364	39	108
37	145.50	51	1.814	1.605	1.002	0.338	15	44
36	143.00	212	1.753	1.332	0.898	0.303	56	183
35	140.50	67	1.692	1.092	0.802	0.271	16	58
34	137.50	344	1.620	0.843	0.698	0.234	70	297
33	134.50	71	1.550	0.633	0.605	0.201	12	61
32	132.00	706	1.493	0.485	0.535	0.176	108	609
31	127.50	604	1.393	0.271	0.425	0.136	71	521
30	124.00	249	1.318	0.146	0.352	0.110	24	215
29	121.50	389	1.265	0.075	0.306	0.093	31	336
28	117.50	669	1.183	-0.010	0.243	0.071	41	577
27	112.50	695	1.085	-0.078	0.178	0.050	30	600
26	107.50	721	0.990	-0.112	0.127	0.036	23	622
25	102.50	747	0.900	-0.122	0.087	0.028	18	644
24	97.50	772	0.815	-0.114	0.058	0.025	17	666
23	94.75	79	0.769	-0.106	0.045	0.026	2	68
22	92.25	1,616	0.729	-0.095	0.036	0.026	37	1,394
21	89.50	366	0.687	-0.083	0.027	0.028	9	316
20	87.00	949	0.649	-0.070	0.021	0.029	24	819
19	82.50	1,222	0.583	-0.047	0.013	0.033	35	1,055
18	77.50	1,263	0.515	-0.022	0.008	0.037	41	1,089
17	72.50	1,303	0.450	0.001	0.006	0.040	45	1,124
16	67.50	1,343	0.390	0.021	0.007	0.042	49	1,159
15	62.50	1,383	0.335	0.037	0.010	0.043	52	1,193
14	57.50	1,423	0.283	0.049	0.014	0.043	53	1,228
13	53.00	1,167	0.241	0.057	0.018	0.042	42	1,007
12	50.50	595	0.219	0.060	0.021	0.041	21	513
11	47.50	3,027	0.193	0.064	0.024	0.040	104	2,612
10	44.25	925	0.168	0.066	0.028	0.038	31	798

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

10/5/2016 8:39:23 PM

Customer: T-Mobile

9	41.75	1,207	0.149	0.068	0.030	0.037	39	1,042
8	37.50	1,764	0.121	0.070	0.034	0.035	54	1,522
7	32.50	1,810	0.091	0.071	0.038	0.033	52	1,561
6	27.50	1,855	0.065	0.072	0.041	0.031	50	1,601
5	22.50	1,901	0.043	0.071	0.042	0.029	47	1,641
4	17.50	1,947	0.026	0.067	0.040	0.026	44	1,680
3	12.50	1,993	0.013	0.059	0.034	0.022	39	1,720
2	7.50	2,039	0.005	0.044	0.025	0.017	29	1,759
1	2.50	2,085	0.001	0.018	0.010	0.007	13	1,799
RFS Celwave PD220	146.00	25	1.827	1.664	1.024	0.346	7	22
RFS Celwave PD220	146.00	25	1.827	1.664	1.024	0.346	7	22
Flat T-Arm	146.00	750	1.827	1.664	1.024	0.346	225	647
Powerwave Allgon LGP	141.00	85	1.704	1.137	0.821	0.277	20	73
Raycap DC6-48-60-18-	141.00	33	1.704	1.137	0.821	0.277	8	28
Ericsson RRUS 11 (Ba	141.00	330	1.704	1.137	0.821	0.277	79	285
Powerwave 7770.00	141.00	315	1.704	1.137	0.821	0.277	76	272
KMW AM-X-CD-16-65-00	141.00	146	1.704	1.137	0.821	0.277	35	126
Flat T-Arm	141.00	750	1.704	1.137	0.821	0.277	180	647
Antel BXA-185085/12C	134.00	39	1.539	0.602	0.590	0.196	7	34
Antel BXA-70063/6CF	134.00	51	1.539	0.602	0.590	0.196	9	44
Antel LPA-80080/6CF	134.00	126	1.539	0.602	0.590	0.196	21	109
Round T-Arm	134.00	750	1.539	0.602	0.590	0.196	127	647
Symmetricom 58532A	123.00	0	1.297	0.116	0.333	0.103	0	0
Ericsson RRUS 11 B12	123.00	152	1.297	0.116	0.333	0.103	14	131
Ericsson RRUS 11 B4	123.00	152	1.297	0.116	0.333	0.103	14	131
Ericsson RRUS 11 B2	123.00	152	1.297	0.116	0.333	0.103	14	131
RFS APX16DWV-	123.00	122	1.297	0.116	0.333	0.103	11	105
Commscope LNX-	123.00	151	1.297	0.116	0.333	0.103	13	130
Flat T-Arm	123.00	750	1.297	0.116	0.333	0.103	67	647
		44,586	58.393	23.365	20.657	7.385	2,415	38,472

Site Number: 370630

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

10/5/2016 8:39:23 PM

Customer: T-Mobile

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	-52.58	-2.40	0.00	-246.77	0.00	246.77	7,541.17	3,770.58	22,511.9	11,272.6	0.00	0.00	0.029
5.00	-50.06	-2.38	0.00	-234.75	0.00	234.75	7,435.91	3,717.96	21,674.1	10,853.2	0.00	0.00	0.028
10.00	-47.59	-2.34	0.00	-222.86	0.00	222.86	7,327.23	3,663.62	20,841.5	10,436.2	0.01	-0.01	0.028
15.00	-45.18	-2.30	0.00	-211.14	0.00	211.14	7,215.13	3,607.56	20,014.7	10,022.2	0.02	-0.01	0.027
20.00	-42.83	-2.26	0.00	-199.63	0.00	199.63	7,099.60	3,549.80	19,194.4	9,611.47	0.04	-0.02	0.027
25.00	-40.53	-2.21	0.00	-188.34	0.00	188.34	6,980.64	3,490.32	18,381.3	9,204.34	0.06	-0.02	0.026
30.00	-38.29	-2.16	0.00	-177.29	0.00	177.29	6,858.27	3,429.13	17,576.2	8,801.21	0.09	-0.03	0.026
35.00	-36.11	-2.11	0.00	-166.48	0.00	166.48	6,732.46	3,366.23	16,779.9	8,402.42	0.12	-0.03	0.025
40.00	-34.62	-2.07	0.00	-155.93	0.00	155.93	6,603.24	3,301.62	15,992.9	8,008.36	0.16	-0.04	0.025
43.50	-33.47	-2.04	0.00	-148.68	0.00	148.68	6,510.74	3,255.37	15,448.0	7,735.51	0.19	-0.04	0.024
45.00	-29.73	-1.94	0.00	-145.61	0.00	145.61	6,470.58	3,235.29	15,216.1	7,619.37	0.20	-0.04	0.024
50.00	-28.99	-1.92	0.00	-135.92	0.00	135.92	6,334.51	3,167.25	14,450.1	7,235.83	0.25	-0.05	0.023
51.00	-27.55	-1.88	0.00	-134.01	0.00	134.01	5,351.19	2,675.60	12,353.0	6,185.72	0.26	-0.05	0.027
55.00	-25.79	-1.82	0.00	-126.51	0.00	126.51	5,265.80	2,632.90	11,859.3	5,938.51	0.30	-0.05	0.026
60.00	-24.08	-1.77	0.00	-117.39	0.00	117.39	5,155.98	2,577.99	11,249.0	5,632.89	0.36	-0.06	0.026
65.00	-22.42	-1.72	0.00	-108.53	0.00	108.53	5,042.74	2,521.37	10,646.9	5,331.40	0.43	-0.07	0.025
70.00	-20.80	-1.68	0.00	-99.92	0.00	99.92	4,926.07	2,463.04	10,053.8	5,034.40	0.50	-0.07	0.024
75.00	-19.24	-1.64	0.00	-91.53	0.00	91.53	4,805.98	2,402.99	9,470.41	4,742.24	0.58	-0.08	0.023
80.00	-17.73	-1.60	0.00	-83.34	0.00	83.34	4,682.46	2,341.23	8,897.37	4,455.30	0.67	-0.09	0.022
85.00	-16.56	-1.58	0.00	-75.33	0.00	75.33	4,555.52	2,277.76	8,335.45	4,173.92	0.76	-0.09	0.022
89.00	-16.10	-1.57	0.00	-69.02	0.00	69.02	4,451.50	2,225.75	7,894.42	3,953.08	0.84	-0.10	0.021
90.00	-14.10	-1.53	0.00	-67.45	0.00	67.45	4,425.16	2,212.58	7,785.39	3,898.48	0.86	-0.10	0.020
94.50	-14.01	-1.53	0.00	-60.56	0.00	60.56	2,429.52	1,214.76	4,208.21	2,107.23	0.96	-0.10	0.035
95.00	-13.05	-1.51	0.00	-59.80	0.00	59.80	2,423.93	1,211.97	4,181.46	2,093.84	0.97	-0.11	0.034
100.00	-12.13	-1.49	0.00	-52.24	0.00	52.24	2,366.19	1,183.09	3,915.26	1,960.54	1.08	-0.11	0.032
105.00	-11.23	-1.47	0.00	-44.77	0.00	44.77	2,305.01	1,152.51	3,651.76	1,828.59	1.21	-0.12	0.029
110.00	-10.37	-1.44	0.00	-37.42	0.00	37.42	2,240.42	1,120.21	3,391.69	1,698.37	1.35	-0.13	0.027
115.00	-9.55	-1.40	0.00	-30.21	0.00	30.21	2,172.39	1,086.20	3,135.78	1,570.22	1.49	-0.14	0.024
120.00	-9.07	-1.37	0.00	-23.22	0.00	23.22	2,100.95	1,050.47	2,884.74	1,444.51	1.64	-0.15	0.020
123.00	-6.93	-1.21	0.00	-19.12	0.00	19.12	2,056.44	1,028.22	2,736.75	1,370.41	1.74	-0.15	0.017
125.00	-6.18	-1.13	0.00	-16.71	0.00	16.71	2,026.08	1,013.04	2,639.30	1,321.61	1.80	-0.16	0.016
130.00	-5.31	-1.02	0.00	-11.04	0.00	11.04	1,947.78	973.89	2,400.18	1,201.87	1.97	-0.16	0.012
134.00	-4.03	-0.84	0.00	-6.94	0.00	6.94	1,102.25	551.13	1,321.80	661.88	2.11	-0.17	0.014
135.00	-3.60	-0.77	0.00	-6.10	0.00	6.10	1,095.19	547.60	1,297.91	649.92	2.14	-0.17	0.013
140.00	-3.52	-0.76	0.00	-2.23	0.00	2.23	1,057.85	528.92	1,179.18	590.46	2.32	-0.17	0.007
141.00	-1.21	-0.30	0.00	-1.47	0.00	1.47	1,049.97	524.98	1,155.61	578.66	2.35	-0.17	0.004
145.00	-1.14	-0.28	0.00	-0.28	0.00	0.28	1,017.07	508.54	1,062.12	531.85	2.50	-0.17	0.002
146.00	0.00	0.00	0.00	0.00	0.00	0.00	1,008.51	504.25	1,038.98	520.26	2.53	-0.17	0.000
148.50	0.00	0.00	0.00	0.00	0.00	0.00	986.50	493.25	981.57	491.52	2.62	-0.17	0.000

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

10/5/2016 8:39:23 PM

Customer: T-Mobile

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	-36.67	-2.40	0.00	-245.87	0.00	245.87	7,541.17	3,770.58	22,511.9	11,272.6	0.00	0.00	0.027
5.00	-34.91	-2.38	0.00	-233.85	0.00	233.85	7,435.91	3,717.96	21,674.1	10,853.2	0.00	0.00	0.026
10.00	-33.19	-2.34	0.00	-221.97	0.00	221.97	7,327.23	3,663.62	20,841.5	10,436.2	0.01	-0.01	0.026
15.00	-31.51	-2.30	0.00	-210.27	0.00	210.27	7,215.13	3,607.56	20,014.7	10,022.2	0.02	-0.01	0.025
20.00	-29.87	-2.25	0.00	-198.78	0.00	198.78	7,099.60	3,549.80	19,194.4	9,611.47	0.04	-0.02	0.025
25.00	-28.27	-2.21	0.00	-187.51	0.00	187.51	6,980.64	3,490.32	18,381.3	9,204.34	0.06	-0.02	0.024
30.00	-26.71	-2.16	0.00	-176.48	0.00	176.48	6,858.27	3,429.13	17,576.2	8,801.21	0.09	-0.03	0.024
35.00	-25.19	-2.10	0.00	-165.71	0.00	165.71	6,732.46	3,366.23	16,779.9	8,402.42	0.12	-0.03	0.023
40.00	-24.15	-2.07	0.00	-155.19	0.00	155.19	6,603.24	3,301.62	15,992.9	8,008.36	0.16	-0.04	0.023
43.50	-23.35	-2.04	0.00	-147.96	0.00	147.96	6,510.74	3,255.37	15,448.0	7,735.51	0.19	-0.04	0.023
45.00	-20.74	-1.93	0.00	-144.91	0.00	144.91	6,470.58	3,235.29	15,216.1	7,619.37	0.20	-0.04	0.022
50.00	-20.22	-1.91	0.00	-135.26	0.00	135.26	6,334.51	3,167.25	14,450.1	7,235.83	0.25	-0.05	0.022
51.00	-19.21	-1.87	0.00	-133.35	0.00	133.35	5,351.19	2,675.60	12,353.0	6,185.72	0.26	-0.05	0.025
55.00	-17.99	-1.81	0.00	-125.88	0.00	125.88	5,265.80	2,632.90	11,859.3	5,938.51	0.30	-0.05	0.025
60.00	-16.79	-1.76	0.00	-116.81	0.00	116.81	5,155.98	2,577.99	11,249.0	5,632.89	0.36	-0.06	0.024
65.00	-15.63	-1.71	0.00	-107.99	0.00	107.99	5,042.74	2,521.37	10,646.9	5,331.40	0.43	-0.07	0.023
70.00	-14.51	-1.67	0.00	-99.42	0.00	99.42	4,926.07	2,463.04	10,053.8	5,034.40	0.50	-0.07	0.023
75.00	-13.42	-1.63	0.00	-91.07	0.00	91.07	4,805.98	2,402.99	9,470.41	4,742.24	0.58	-0.08	0.022
80.00	-12.37	-1.59	0.00	-82.92	0.00	82.92	4,682.46	2,341.23	8,897.37	4,455.30	0.67	-0.09	0.021
85.00	-11.55	-1.57	0.00	-74.95	0.00	74.95	4,555.52	2,277.76	8,335.45	4,173.92	0.76	-0.09	0.020
89.00	-11.23	-1.56	0.00	-68.67	0.00	68.67	4,451.50	2,225.75	7,894.42	3,953.08	0.84	-0.10	0.020
90.00	-9.84	-1.52	0.00	-67.11	0.00	67.11	4,425.16	2,212.58	7,785.39	3,898.48	0.86	-0.10	0.019
94.50	-9.77	-1.52	0.00	-60.26	0.00	60.26	2,429.52	1,214.76	4,208.21	2,107.23	0.95	-0.10	0.033
95.00	-9.10	-1.50	0.00	-59.50	0.00	59.50	2,423.93	1,211.97	4,181.46	2,093.84	0.96	-0.10	0.032
100.00	-8.46	-1.49	0.00	-51.98	0.00	51.98	2,366.19	1,183.09	3,915.26	1,960.54	1.08	-0.11	0.030
105.00	-7.83	-1.46	0.00	-44.55	0.00	44.55	2,305.01	1,152.51	3,651.76	1,828.59	1.20	-0.12	0.028
110.00	-7.24	-1.43	0.00	-37.23	0.00	37.23	2,240.42	1,120.21	3,391.69	1,698.37	1.34	-0.13	0.025
115.00	-6.66	-1.39	0.00	-30.07	0.00	30.07	2,172.39	1,086.20	3,135.78	1,570.22	1.48	-0.14	0.022
120.00	-6.32	-1.36	0.00	-23.11	0.00	23.11	2,100.95	1,050.47	2,884.74	1,444.51	1.63	-0.15	0.019
123.00	-4.83	-1.20	0.00	-19.04	0.00	19.04	2,056.44	1,028.22	2,736.75	1,370.41	1.73	-0.15	0.016
125.00	-4.31	-1.13	0.00	-16.63	0.00	16.63	2,026.08	1,013.04	2,639.30	1,321.61	1.79	-0.16	0.015
130.00	-3.70	-1.02	0.00	-10.99	0.00	10.99	1,947.78	973.89	2,400.18	1,201.87	1.96	-0.16	0.011
134.00	-2.81	-0.84	0.00	-6.91	0.00	6.91	1,102.25	551.13	1,321.80	661.88	2.10	-0.16	0.013
135.00	-2.51	-0.77	0.00	-6.07	0.00	6.07	1,095.19	547.60	1,297.91	649.92	2.13	-0.17	0.012
140.00	-2.45	-0.75	0.00	-2.22	0.00	2.22	1,057.85	528.92	1,179.18	590.46	2.31	-0.17	0.006
141.00	-0.84	-0.30	0.00	-1.47	0.00	1.47	1,049.97	524.98	1,155.61	578.66	2.34	-0.17	0.003
145.00	-0.80	-0.28	0.00	-0.28	0.00	0.28	1,017.07	508.54	1,062.12	531.85	2.48	-0.17	0.001
146.00	0.00	0.00	0.00	0.00	0.00	0.00	1,008.51	504.25	1,038.98	520.26	2.52	-0.17	0.000
148.50	0.00	0.00	0.00	0.00	0.00	0.00	986.50	493.25	981.57	491.52	2.61	-0.17	0.000

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

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Customer: T-Mobile

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 + 1.6W	20.53	0.00	53.50	0.00	0.00	2042.30	94.50	0.22
0.9D + 1.6W	20.53	0.00	40.12	0.00	0.00	2035.98	94.50	0.22
1.2D + 1.0Di + 1.0Wi	4.47	0.00	85.34	0.00	0.00	431.54	94.50	0.06
(1.2 + 0.2Sds) * DL + E ELFM	3.45	0.00	52.58	0.00	0.00	341.18	0.00	0.04
(1.2 + 0.2Sds) * DL + E EMAM	2.40	0.00	52.58	0.00	0.00	246.77	94.50	0.03
(0.9 - 0.2Sds) * DL + E ELFM	3.45	0.00	36.67	0.00	0.00	340.02	0.00	0.04
(0.9 - 0.2Sds) * DL + E EMAM	2.40	0.00	36.67	0.00	0.00	245.87	94.50	0.03
1.0D + 1.0W	5.70	0.00	44.59	0.00	0.00	566.10	94.50	0.07

Site Number: 370630

Code: ANSI/TIA-222-G

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Site Name: Salisbury CT, CT

Engineering Number: OAA686579_C3_03

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Customer: T-Mobile

Base Summary

Reactions

Original Design			Analysis			Moment Design %
Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment (kip-ft)	Axial (kip)	Shear (kip)	
7,150.00	53.00	62.00	2,042.30	85.34	20.53	21.16

Base Plate

Yield (ksi)	Thick (in)	Width (in)	Style	Poly Sides	Clip Len (in)	Effective Len (in)	Mu (kip-in)	Phi Mn (kip-in)	Ratio
50.0	3.250	81.000	Clipped	8	18.00	8.284	183.23	984.35	0.19

Anchor Bolts

Bolt Circle	Num Bolts	Bolt Type	Bolt Dia (in)	Yield (ksi)	Ultimate (ksi)	Arrange	Cluster Dist (in)	Start Angle (deg)	Compression			Tension		
									Force (kip)	Allow (kip)	Ratio	Force (kip)	Allow (kip)	Ratio
81.00	28	2.25" 18J	2.25	75.00	100.00	Clustered	6.00	45.0	46.27	260.00	0.18	40.18	260.00	0.16