EMPIRE telecom

November 3, 2016

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

Re: EM-CING-049-15022 – Town Farm Road, Enfield

Dear Ms. Bachman:

In accordance with your letter dated June 9, 2016 concerning the above-referenced site, enclosed please find a structural analysis.

Please do not hesitate to contact me with any questions or concerns.

Sincerely,

Sarah Snell
Site Acquisition Specialist
Empire Telecom USA LLC
16 Esquire Rd
Billerica, MA 01862
ssnell@empiretelecomm.com

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**150 ft Monopole**
ATC Site Name	:	**Enfd - Enfield, CT**
ATC Site Number	:	**302489**
Engineering Number	:	**11887806_C3_01**
Proposed Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**N/A**
Carrier Site Number	:	**CT11534A**
Site Location	:	**Town Farm Road** **Enfield, CT 06082-5152** **41.965917,-72.552700**
County	:	**Hartford**
Date	:	**July 29, 2016**
Max Usage	:	**97%**
Result	:	**Pass**

Prepared By:
Jessica Abbott, E.I.
Structural Engineer I

Jessica Abbott

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

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 AT&T Mobility.

Supporting Documents

Tower Drawings	Smith Cullum Acquisition #CT-0025, dated May 14, 2001 ITT Meyer Specification #AT-8935, Type B, dated April 13, 1984
Foundation Drawing	Southern New England Telephone, dated June 6, 1985
Geotechnical Report	MB & A Project #011107, dated June 16, 2001
Modifications	ATC Job #40071639, dated December 6, 2007 ATC Job #48982632, dated April 25, 2012 ATC Job #613768312, dated February 2, 2016

Analysis

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

Basic Wind Speed:	95 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2003 IBC w/ 2005 CT Supplement & 2009 CT Amendment
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.18, 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					
157.0	157.0	1	Decibel DB809KE-SY	Side Arms	(1) 1 5/8" Coax	Spok Holdings
154.0	154.0	3	ADC DD1900	Platform w/ Handrails	(12) 1 5/8" Coax (2) 0.78" 8 AWG 6	AT&T Mobility
		2	Raycap DC6-48-60-18-8F			
		3	Ericsson RRUS 11 (Band 12) (55 lb)			
		3	Ericsson RRUS-11			
		3	Powerwave 7770.00			
144.0	144.0	2	Diamond X50A	Stand-Offs	(2) 1/2" Coax	Senet
140.0	140.0	3	Ericsson KRY 112 144/1	Low Profile Platform	(6) 1 5/8" Coax (1) 1 1/4" Hybriflex	T-Mobile
		3	Ericsson RRUS-11 (50 lbs.)			
		3	Ericsson AIR 21, 1.3 M, B2A B4P			
		3	Ericsson AIR 21, 1.3M, B4A B2P			
		3	Andrew LNX-6515DS-VTM			
127.0	127.0	6	RFS FD9R6004/2C-3L	Low Profile Platform	(12) 1 5/8" Coax (1) 1 5/8" Hybriflex	Verizon
		3	Alcatel-Lucent RRH2x40-AWS			
		3	Antel BXA-171085-8BF-EDIN-X			
		3	Antel BXA-70063-4CF-EDIN-10			
		3	Antel BXA-171085-12BF-EDIN-X			
		1	RFS DB-T1-6Z-8AB-0Z			
		3	Antel BXA-80080-6CF-EDIN- X			
111.0	111.0	2	DragonWave A-ANT-11G-2-C	Leg	(4) 1/2" Coax	Clearwire
109.0	109.0	2	DragonWave Horizon Compact	Flush	-	
108.0	108.0	3	NextNet BTS-2500	Side Arms	(6) 5/16" Coax (2) 2" Conduit	
		3	Argus LLPX310R			
		1	24" x 24" Junction Box			
56.0	56.0	1	Channel Master Type 120	Leg	(1) 1/2" Coax	Spok Holdings
40.0	-	-	-	-	(1) 0.28" RG-6	

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					
150.0	154.0	3	Kaelus TMA2093FxxV1-1	Platform w/ Handrails	(2) 0.51" Hybrid	AT&T Mobility
		3	Ericsson RRUS A2 B2			
		3	Ericsson RRUS 32 B30			
		3	Ericsson RRUS E2 B29			
		3	Ericsson RRUS-12 B2			
		6	CCI HPA-65R-BUU-H8			

[1]Mount 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	89%	Pass
Shaft	97%	Pass
Base Plate	79%	Pass
Flanges	37%	Pass
Reinforcement	90%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	3,480.9	86%
Axial (Kips)	112.8	41%
Shear (Kips)	31.7	56%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, 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	Kaelus TMA2093FxxV1-1	AT&T Mobility	2.465	2.103
	Ericsson RRUS A2 B2			
	Ericsson RRUS 32 B30			
	Ericsson RRUS E2 B29			
	Ericsson RRUS-12 B2			
	CCI HPA-65R-BUU-H8			
111.0	DragonWave A-ANT-11G-2-C	Clearwire	1.265	1.428
56.0	Channel Master Type 120	Spok Holdings	0.305	0.610

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

AMERICAN TOWER®
CORPORATION

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:

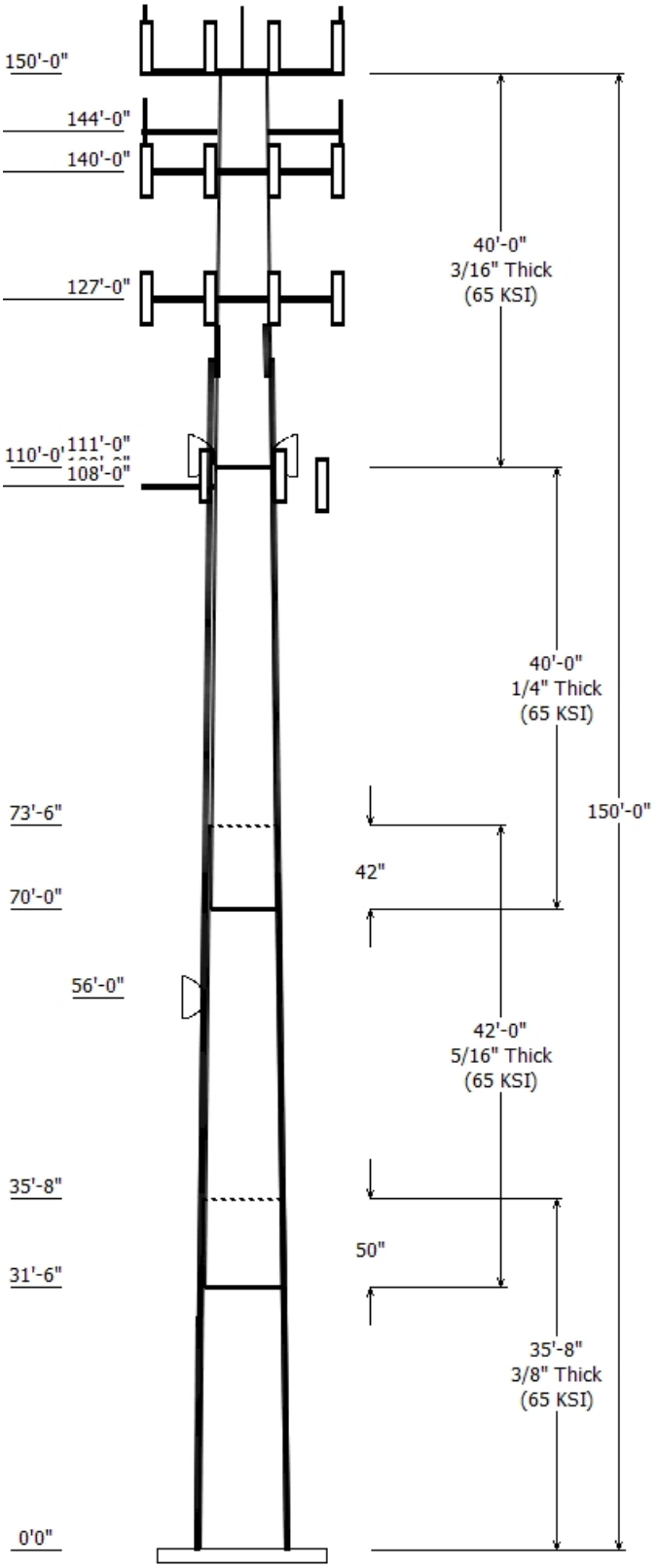
-- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

-- 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.



Job Information

Pole :	302489	Code:	ANSI/TIA-222-G
Description :	150' ITT Meyer Type "B" Monopole		
Client :	AT&T Mobility	Struct Class :	II
Location :	Enfd - Enfield, CT		
Shape :	12 Sides	Exposure :	C
Height :	150.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.156700(in/ft)		

Sections Properties

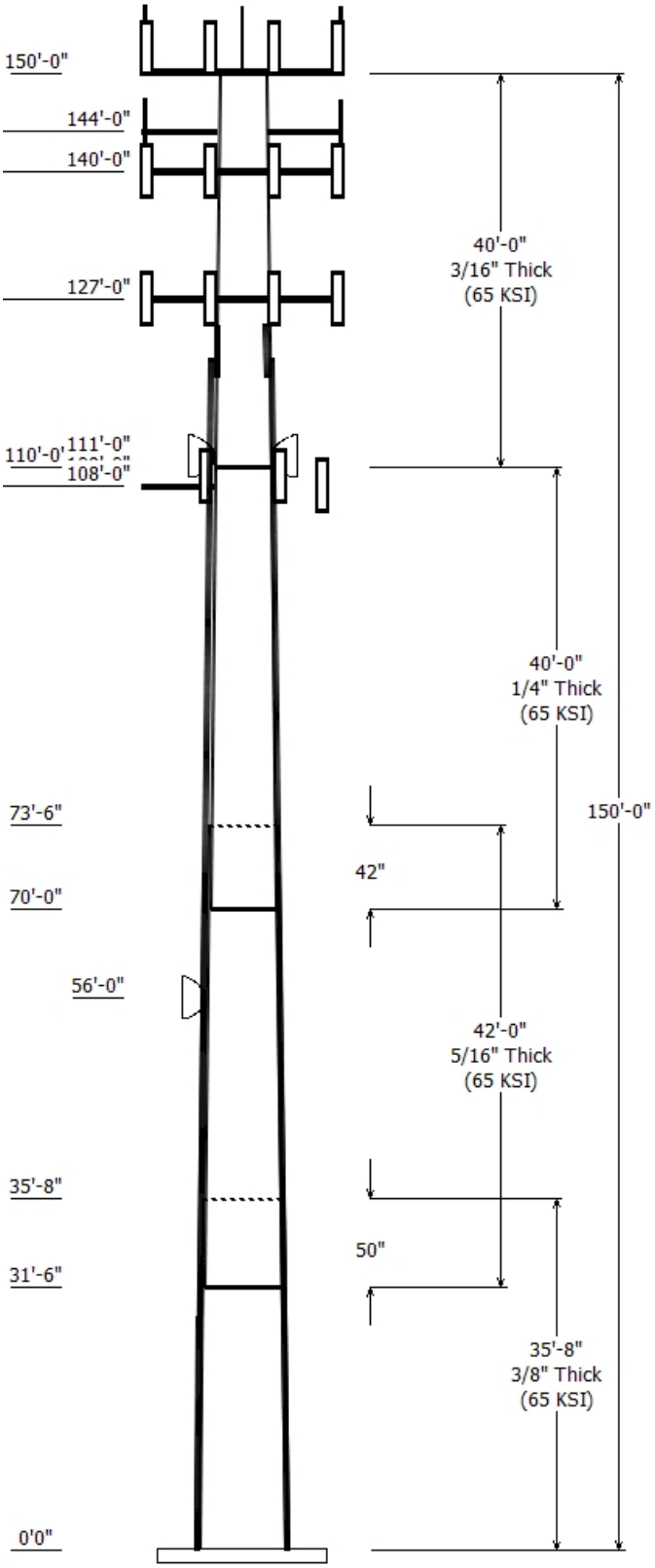
Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
1	35.667	31.791	37.380	0.375		0.000	0.156700	65
2	42.000	26.488	33.069	0.313	Slip Joint	50.000	0.156700	65
3	40.000	21.268	27.536	0.250	Slip Joint	42.000	0.156700	65
4	40.000	15.000	21.268	0.188	Butt Joint	0.000	0.156700	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
150.000	150.000	3	Round Side Arm
150.000	154.000	6	CCI HPA-65R-BUU-H8
150.000	154.000	3	Ericsson RRUS-12 B2
150.000	154.000	3	Ericsson RRUS E2 B29
150.000	154.000	3	Ericsson RRUS-11
150.000	154.000	3	Ericsson RRUS 32 B30
150.000	154.000	3	Ericsson RRUS A2 B2
150.000	154.000	3	Kaelus TMA2093FxxV1-1
150.000	154.000	3	Ericsson RRUS 11 (Band 12) (55
150.000	154.000	2	Raycap DC6-48-60-18-8F
150.000	154.000	3	ADC DD1900
150.000	154.000	3	Powerwave Allgon 7770.00
150.000	157.000	1	Decibel DB809KE-SY
150.000	150.000	1	Flat Platform w/ Handrails
144.000	144.000	2	Stand-Off
144.000	144.000	2	Diamond X50A
140.000	140.000	3	Ericsson RRUS-11 (50 lbs.)
140.000	140.000	3	Ericsson AIR 21, 1.3 M, B2A B4
140.000	140.000	3	Ericsson AIR 21, 1.3M, B4A B2P
140.000	140.000	3	Ericsson KRY 112 144/1
140.000	140.000	3	Andrew LNX-6515DS-VTM
140.000	140.000	1	Flat Low Profile Platform
127.000	127.000	1	Round Low Profile Platform
127.000	127.000	3	Antel BXA-80080-6CF-EDIN- X
127.000	127.000	1	RFS DB-T1-6Z-8AB-0Z
127.000	127.000	3	Antel BXA-171085-12BF-EDIN-X
127.000	127.000	3	Antel BXA-70063-4CF-EDIN-10
127.000	127.000	3	Antel BXA-171085-8BF-EDIN-X
127.000	127.000	3	Alcatel-Lucent RRH2x40-AWS
127.000	127.000	6	RFS FD9R6004/2C-3L
111.000	111.000	2	DragonWave A-ANT-11G-2-C
109.000	109.000	2	DragonWave Horizon Compact
108.000	108.000	3	NextNet BTS-2500
108.000	108.000	1	Side Arms
108.000	108.000	1	24" x 24" Junction Box
108.000	108.000	3	Argus LLPX310R
56.000	56.000	1	Channel Master Type 120

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
140.00	150.00	1 5/8" Coax	Yes



114.00	129.00	#20 Dywidag bars	Yes
31.000	76.700	#20 Dywidag bars	Yes
10.000	108.00	2" Conduit	Yes
10.000	108.00	5/16" Coax	No
10.000	111.00	1/2" Coax	No
10.000	40.000	0.28" RG-6	No
10.000	56.000	1/2" Coax	Yes
10.000	127.00	1 5/8" Coax	Yes
10.000	127.00	1 5/8" Hybriflex	Yes
10.000	140.00	1 1/4" Hybriflex	No
10.000	140.00	1 5/8" Coax	No
10.000	140.00	1 5/8" Coax	Yes
10.000	144.00	1/2" Coax	Yes
10.000	150.00	0.51" Hybrid	No
10.000	150.00	0.78" 8 AWG 6	No
10.000	150.00	1 5/8" Coax	No
10.000	150.00	1 5/8" Coax	No
0.000	125.00	#20 Dywidag bars	Yes
0.000	31.000	#20 Dywidag bars	Yes

Load Cases

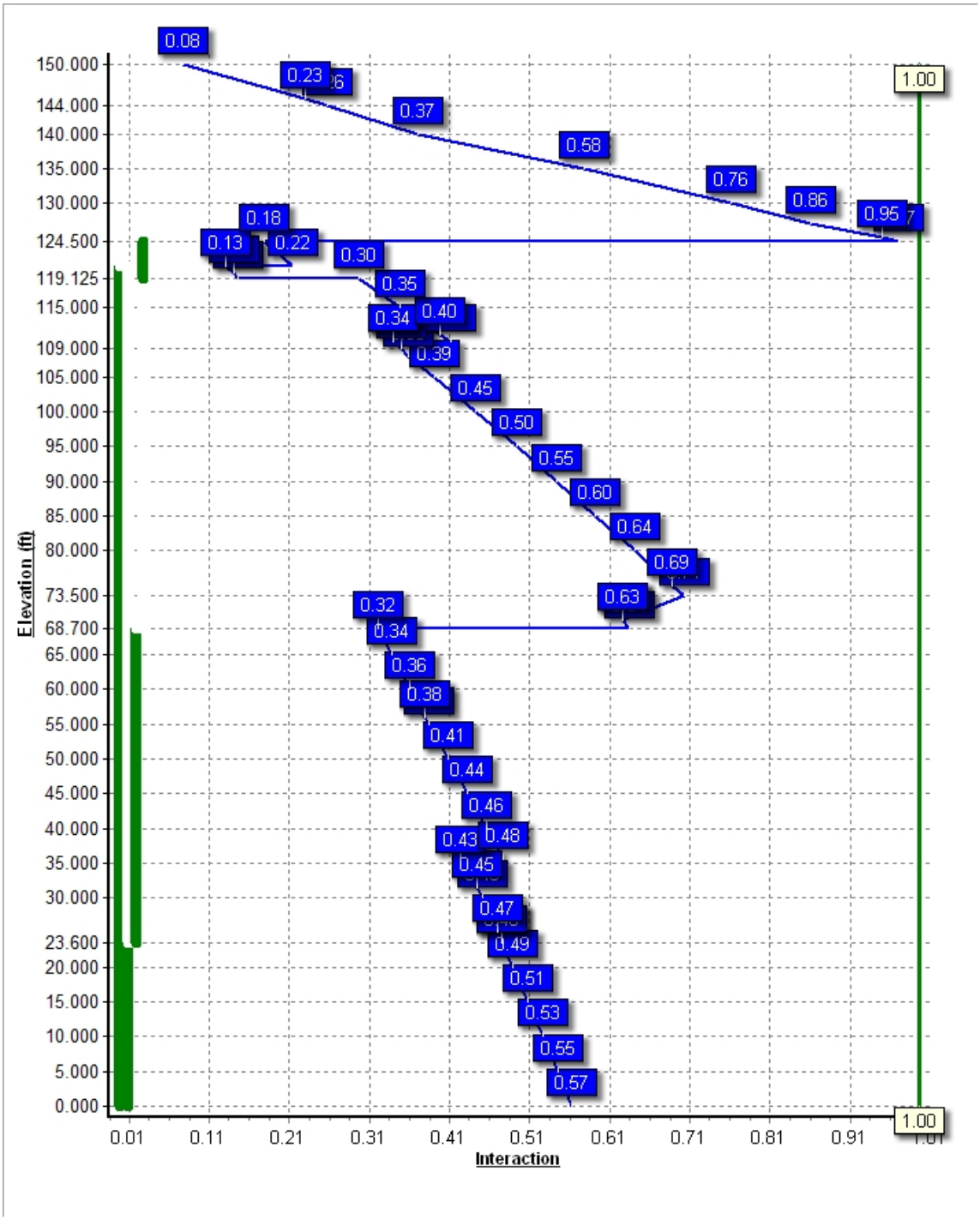
1.2D + 1.6W	95 mph with No Ice
0.9D + 1.6W	95 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced 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	3480.87	31.72	65.59
0.9D + 1.6W	3338.51	30.54	49.18
1.2D + 1.0Di + 1.0Wi	968.19	7.88	112.79
(1.2 + 0.2Sds) * DL + E ELFM	261.22	2.14	65.13
(1.2 + 0.2Sds) * DL + E EMAM	340.90	2.99	65.13
(0.9 - 0.2Sds) * DL + E ELFM	256.39	2.14	45.39
(0.9 - 0.2Sds) * DL + E EMAM	334.10	2.99	45.39
1.0D + 1.0W	845.47	7.67	54.71

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	56.00	3.655	0.610
1.0D + 1.0W	111.00	15.177	1.428


0.08
0.23
0.37
0.58
0.76
0.86
0.95
1.00
0.18
0.13
0.22
0.30
0.35
0.34
0.40
0.39
0.45
0.50
0.55
0.60
0.64
0.69
0.63
0.32
0.34
0.36
0.38
0.41
0.44
0.46
0.43
0.48
0.45
0.47
0.49
0.51
0.53
0.55
0.57
1.00
150.000
144.000
140.000
135.000
130.000
124.500
119.125
115.000
109.000
105.000
100.000
95.000
90.000
85.000
80.000
73.500
68.700
65.000
60.000
55.000
50.000
45.000
40.000
35.000
30.000
23.600
20.000
15.000
10.000
5.000
0.000
Elevation (ft)
0.01
0.11
0.21
0.31
0.41
0.51
0.61
0.71
0.81
0.91
Interaction

Site Number:	**302489**	**Code: ANSI/TIA-222-G**	
Site Name:	**Enfd - Enfield, CT**	**Engineering Number: 11887806_C3_01**	**7/29/2016 3:01:02 PM**
Customer:	**AT&T Mobility**		

Analysis Parameters

Location:	**Hartford County, CT**		
Code:	**ANSI/TIA-222-G**	**Height (ft):**	**150**
Shape:	**12 Sides**	**Base Diameter (in):**	**37.38**
Pole Type:	**Taper**	**Top Diameter (in):**	**15.00**
Pole Manfacturer:	**ITT Meyer**	**Taper (in/ft) :**	**0.157**

Ice & Wind Parameters

Structure Class:	**II**	**Design Wind Speed Without Ice:**	**95 mph**
Exposure Category:	**C**	**Design Wind Speed With Ice:**	**50 mph**
Topographic Category:	**1**	**Operational Wind Speed:**	**60 mph**
Crest Height:	**0.0 ft**	**Design Ice Thickness:**	**1.00 in**

Seismic Parameters

Analysis Method:	**Equivalent Modal Analysis & Equivalent Lateral Force Methods**				
Site Class:	**D - Stiff Soil**				
Period Based on Rayleigh Method (sec):	**2.62**				
T_L (sec):	**6**	**p:**	**1.3**	**C_s:**	**0.030**
S_s:	**0.176**	**S_1:**	**0.064**	**C_s Max:**	**0.030**
F_a:	**1.600**	**F_v:**	**2.400**	**C_s Min:**	**0.030**
S_{ds}:	**0.188**	**S_{d1}:**	**0.102**		

Load Cases

1.2D + 1.6W	**95 mph with No Ice**
0.9D + 1.6W	**95 mph with No Ice (Reduced DL)**
1.2D + 1.0Di + 1.0Wi	**50 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: 302489 **Code:** ANSI/TIA-222-G

Site Name: Enfd - Enfield, CT **Engineering Number:** 11887806_C3_01 **7/29/2016 3:01:02 PM**

Customer: AT&T Mobility

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-12	35.667	0.3750	65		0.00	5,014	37.38	0.00	44.68	7810.1	24.57	99.68	31.791	35.67	37.93	4778.9	20.57	84.78	0.156700
2-12	42.000	0.3125	65	Slip	50.00	4,237	33.06	31.50	32.96	4514.2	26.21	105.82	26.487	73.50	26.34	2303.3	20.57	84.76	0.156700
3-12	40.000	0.2500	65	Slip	42.00	2,646	27.53	70.00	21.97	2087.4	27.37	110.14	21.268	110.00	16.92	954.0	20.65	85.07	0.156700
4-12	40.000	0.1875	65	Butt	0.00	1,475	21.26	110.00	12.73	721.9	28.25	113.43	15.000	150.00	8.94	250.5	19.29	80.00	0.156700
				Shaft Weight		13,372													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor	Distance From Face (ft)	Vert Ecc (ft)
150.00	ADC DD1900	3	12.10	1.090	0.33	62.30	1.714	0.33	0.000	4.000
150.00	CCI HPA-65R-BUU-H8	6	68.00	12.980	0.67	476.77	15.173	0.67	0.000	4.000
150.00	Decibel DB809KE-SY	1	26.00	3.400	1.00	252.80	7.865	1.00	0.000	7.000
150.00	Ericsson RRUS 11 (Band 12)	3	55.00	2.520	0.50	170.75	3.406	0.50	0.000	4.000
150.00	Ericsson RRUS 32 B30	3	60.00	2.740	0.50	186.36	3.625	0.50	0.000	4.000
150.00	Ericsson RRUS A2 B2	3	22.00	2.060	0.50	119.94	3.030	0.50	0.000	4.000
150.00	Ericsson RRUS E2 B29	3	60.00	3.150	0.50	171.62	4.698	0.50	0.000	4.000
150.00	Ericsson RRUS-11	3	51.00	2.790	0.50	180.06	3.721	0.50	0.000	4.000
150.00	Ericsson RRUS-12 B2	3	58.00	3.150	0.50	165.90	4.698	0.50	0.000	4.000
150.00	Flat Platform w/ Handrails	1	2000.00	27.200	1.00	3,728.35	59.804	1.00	0.000	0.000
150.00	Kaelus TMA2093FxxV1-1	3	23.10	1.400	0.33	70.71	2.821	0.33	0.000	4.000
150.00	Powerwave Allgon 7770.00	3	35.00	5.510	0.65	228.57	6.943	0.65	0.000	4.000
150.00	Raycap DC6-48-60-18-8F	2	31.80	1.280	1.00	164.95	2.179	1.00	0.000	4.000
150.00	Round Side Arm	3	150.00	5.200	0.67	247.57	8.824	0.67	0.000	0.000
144.00	Diamond X50A	2	2.30	1.120	1.00	95.86	2.927	1.00	0.000	0.000
144.00	Stand-Off	2	75.00	2.500	0.85	123.60	3.796	0.85	0.000	0.000
140.00	Andrew LNX-6515DS-VTM	3	51.30	11.430	0.70	420.22	13.647	0.70	0.000	0.000
140.00	Ericsson AIR 21, 1.3 M, B2A	3	83.00	6.050	0.71	320.56	7.532	0.71	0.000	0.000
140.00	Ericsson AIR 21, 1.3M, B4A	3	81.50	6.090	0.70	319.00	7.577	0.70	0.000	0.000
140.00	Ericsson KRY 112 144/1	3	11.00	0.410	0.33	36.67	0.750	0.33	0.000	0.000
140.00	Ericsson RRUS-11 (50 lbs.)	3	50.00	2.570	0.50	166.19	3.457	0.50	0.000	0.000
140.00	Flat Low Profile Platform	1	1450.00	26.100	1.00	2,279.52	51.387	1.00	0.000	0.000
127.00	Alcatel-Lucent RRH2x40-AWS	3	44.00	2.160	0.50	148.33	3.031	0.50	0.000	0.000
127.00	Antel BXA-171085-12BF-EDIN-	3	15.00	4.730	0.72	187.24	6.438	0.72	0.000	0.000
127.00	Antel BXA-171085-8BF-EDIN-X	3	10.50	2.940	0.71	130.37	4.108	0.71	0.000	0.000
127.00	Antel BXA-70063-4CF-EDIN-10	3	9.90	4.710	0.65	179.16	5.994	0.65	0.000	0.000
127.00	Antel BXA-80080-6CF-EDIN- X	3	18.00	5.770	0.73	231.92	7.414	0.73	0.000	0.000
127.00	RFS DB-T1-6Z-8AB-0Z	1	44.00	4.800	0.50	242.93	5.969	0.50	0.000	0.000
127.00	RFS FD9R6004/2C-3L	6	2.60	0.370	0.33	23.38	0.689	0.33	0.000	0.000
127.00	Round Low Profile Platform	1	1350.00	21.700	1.00	2,115.60	46.908	1.00	0.000	0.000
111.00	DragonWave A-ANT-11G-2-C	2	27.00	4.690	0.90	153.29	6.341	0.90	0.000	0.000
109.00	DragonWave Horizon	2	10.60	0.430	0.33	54.28	0.770	0.33	0.000	0.000
108.00	24" x 24" Junction Box	1	20.00	4.800	0.50	199.57	5.948	0.50	0.000	0.000
108.00	Argus LLPX310R	3	28.60	4.290	0.62	177.27	5.473	0.62	0.000	0.000
108.00	NextNet BTS-2500	3	35.00	1.820	0.33	115.86	2.584	0.33	0.000	0.000
108.00	Side Arms	1	560.00	8.500	1.00	1,164.43	17.674	1.00	0.000	0.000
56.00	Channel Master Type 120	1	126.00	20.190	0.90	374.78	23.831	0.90	0.000	0.000
	Totals	96	9185.00			26,652.47			Number of Loadings :	37

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
10.00	150.00	2	0.51" Hybrid	0.51	0.14	N	0.00	N	AT&T Mobility

10.00	150.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
10.00	150.00	4	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
10.00	150.00	1	1 5/8" Coax	1.98	0.00	N	0.00	N	Spok Holdings
140.00	150.00	8	1 5/8" Coax	1.98	0.82	N	3.96	Y	AT&T Mobility
10.00	144.00	2	1/2" Coax	0.63	0.15	N	0.00	Y	Senet, INC
10.00	140.00	1	1 1/4" Hybriflex	1.54	1.00	N	0.00	N	T-Mobile
10.00	140.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	T-Mobile
10.00	140.00	8	1 5/8" Coax	1.98	0.82	N	0.00	Y	AT&T Mobility
114.00	129.00	4	#20 Dywidag bars	2.50	16.70	N	6.02	Y	--
10.00	127.00	12	1 5/8" Coax	1.98	0.82	N	3.96	Y	Verizon
10.00	127.00	1	1 5/8" Hybriflex	1.63	1.61	N	0.00	Y	Verizon
0.00	125.00	4	#20 Dywidag bars	2.50	16.70	N	0.00	Y	--
10.00	111.00	4	1/2" Coax	0.63	0.15	N	0.00	N	Clearwire
10.00	108.00	2	2" Conduit	2.35	3.65	N	0.00	Y	Clearwire
10.00	108.00	6	5/16" Coax	0.31	0.05	N	0.00	N	Clearwire
31.00	76.70	4	#20 Dywidag bars	2.50	16.70	N	0.00	Y	--
10.00	56.00	1	1/2" Coax	0.63	0.15	N	0.00	Y	Spok Holdings
10.00	40.00	1	0.28" RG-6	0.28	0.03	N	0.00	N	Spok Holdings
0.00	31.00	4	#20 Dywidag bars	2.50	16.70	N	0.00	Y	--

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	— Intermediate Connections — Description	Spacing (in)	Len (in)	Connectors	Continuation?
0.00	121.00	4	SOL #20 All Thread	75	2.19	6" Angle Bracket	27.00	3.31	5/8" A36 U-Bolt	Yes
0.00	23.60	4	SOL #20 All Thread	80	8.28	6" T Bracket	27.00	3.31	5/8" A36 U-Bolt	Yes
23.60	68.70	4	SOL #20 All Thread	80	8.28	6" T Bracket	30.00	3.31	5/8" A36 U-Bolt	Yes
119.13	124.50	3	SOL #20 (15 deg	80	8.28	6" T Bracket	30.00	3.31	5/8" A36 U-Bolt	No

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)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ix (in^4)	Additional Reinforcing Weight (lb)
0.00		0.3750	37.380	44.684	7,810.1	24.57	99.68	77.9	403.6	0.0	0.0	39.28	12,96	0.0
5.00		0.3750	36.597	43.737	7,324.4	24.01	97.59	78.5	386.6	0.0	752.2	39.28	12,56	668.0
10.00		0.3750	35.813	42.791	6,859.3	23.45	95.50	79.1	370.0	0.0	736.1	39.28	12,16	668.0
15.00		0.3750	35.029	41.845	6,414.3	22.89	93.41	79.8	353.7	0.0	720.0	39.28	11,77	668.0
20.00		0.3750	34.246	40.899	5,989.0	22.33	91.32	80.4	337.8	0.0	703.9	39.28	11,39	668.0
23.60	Reinf. Top Reinf	0.3750	33.682	40.218	5,694.8	21.92	89.82	80.8	326.6	0.0	496.8	39.28	11,12	481.0
25.00		0.3750	33.462	39.953	5,583.0	21.77	89.23	81.0	322.3	0.0	191.0	39.28	11,01	187.0
30.00		0.3750	32.679	39.007	5,195.7	21.21	87.14	81.6	307.1	0.0	671.7	39.28	10,64	668.0
31.50	Bot - Section 2	0.3750	32.444	38.723	5,083.1	21.04	86.52	81.8	302.7	0.0	198.4	39.28	10,53	200.4
35.00		0.3750	31.895	38.061	4,826.7	20.65	85.05	81.9	292.3	0.0	846.4	39.28	10,57	467.6
35.67	Top - Section 1	0.3125	32.416	32.304	4,249.6	25.65	103.73	76.7	253.3	0.0	159.7	39.28	10,52	89.1
40.00		0.3125	31.737	31.621	3,985.6	25.07	101.56	77.4	242.6	0.0	471.3	39.28	10,20	578.9
45.00		0.3125	30.953	30.833	3,694.9	24.40	99.05	78.1	230.6	0.0	531.3	39.28	9,853.	668.0
50.00		0.3125	30.170	30.044	3,418.6	23.73	96.54	78.8	218.9	0.0	517.9	39.28	9,503.	668.0
55.00		0.3125	29.386	29.256	3,156.5	23.05	94.04	79.6	207.5	0.0	504.5	39.28	9,159.	668.0
56.00		0.3125	29.230	29.098	3,105.7	22.92	93.54	79.7	205.3	0.0	99.3	39.28	9,091.	133.6
60.00		0.3125	28.603	28.467	2,908.1	22.38	91.53	80.3	196.4	0.0	391.8	39.28	8,822.	534.4
65.00		0.3125	27.819	27.679	2,673.1	21.71	89.02	81.0	185.6	0.0	477.6	39.28	8,491.	668.0
68.70	Reinf. Top	0.3125	27.240	27.096	2,507.6	21.21	87.17	81.6	177.8	0.0	344.8	39.28	8,251.	494.3
70.00		0.3125	27.036	26.891	2,451.2	21.04	86.52	81.8	175.1	0.0	119.4	19.64	2,879.	86.8
70.00	Bot - Section 3	0.3125	27.036	26.890	2,451.1	21.04	86.52	81.8	175.1	0.0	0.0	19.64	2,879.	0.0
73.50	Top - Section 2	0.2500	26.987	21.524	1,964.0	26.78	107.95	75.5	140.6	0.0	575.9	19.64	2,870.	233.8
75.00		0.2500	26.752	21.335	1,912.7	26.53	107.01	75.8	138.1	0.0	109.4	19.64	2,830.	100.2
80.00		0.2500	25.969	20.704	1,748.0	25.69	103.88	76.7	130.0	0.0	357.6	19.64	2,696.	334.0
85.00		0.2500	25.185	20.073	1,593.1	24.85	100.74	77.6	122.2	0.0	346.9	19.64	2,566.	334.0
90.00		0.2500	24.402	19.442	1,447.6	24.01	97.61	78.5	114.6	0.0	336.2	19.64	2,439.	334.0
95.00		0.2500	23.618	18.812	1,311.2	23.17	94.47	79.4	107.2	0.0	325.4	19.64	2,315.	334.0
100.00		0.2500	22.835	18.181	1,183.7	22.33	91.34	80.4	100.1	0.0	314.7	19.64	2,195.	334.0
105.00		0.2500	22.051	17.550	1,064.7	21.49	88.21	81.3	93.3	0.0	304.0	19.64	2,078.	334.0
108.00		0.2500	21.581	17.172	997.3	20.99	86.33	81.8	89.3	0.0	177.2	19.64	2,009.	200.4
109.00		0.2500	21.425	17.046	975.5	20.82	85.70	81.9	88.0	0.0	58.2	19.64	1,986.	66.8
110.00		0.2500	21.268	16.919	954.0	20.65	85.07	81.9	86.7	0.0	57.8	19.64	1,963.	66.8
110.00	Top - Section 3	0.2500	21.268	16.919	954.0	20.65	85.07	81.9	86.7	0.0	0.0	19.64	1,963.	0.0
110.00	Bot - Section 4	0.1875	21.268	12.727	721.9	28.25	113.43	73.9	65.6	0.0		19.64	1,963.	
111.00		0.1875	21.111	12.633	705.9	28.03	112.59	74.1	64.6	0.0	43.1	19.64	1,941.	66.8
115.00		0.1875	20.484	12.254	644.4	27.13	109.25	75.1	60.8	0.0	169.4	19.64	1,853.	267.2
119.13	Reinf Bottom	0.1875	19.838	11.864	584.8	26.21	105.80	76.1	56.9	0.0	169.3	19.64	1,764.	275.5
120.00		0.1875	19.701	11.781	572.6	26.01	105.07	76.3	56.1	0.0	35.2	32.45	4,143.	102.3
121.00	Reinf. Top	0.1875	19.544	11.687	558.9	25.79	104.24	76.6	55.2	0.0	39.9	32.45	4,231.	317.3
124.50	Reinf. Top	0.1875	18.996	11.356	512.7	25.00	101.31	77.4	52.1	0.0	137.2	12.81	2,308.	175.4
125.00		0.1875	18.917	11.308	506.4	24.89	100.89	77.6	51.7	0.0	19.3			
127.00		0.1875	18.604	11.119	481.4	24.44	99.22	78.1	50.0	0.0	76.3			
130.00		0.1875	18.134	10.835	445.4	23.77	96.71	78.8	47.5	0.0	112.1			
135.00		0.1875	17.350	10.362	389.6	22.65	92.54	80.0	43.4	0.0	180.3			
140.00		0.1875	16.567	9.889	338.6	21.53	88.36	81.2	39.5	0.0	172.3			
144.00		0.1875	15.940	9.511	301.2	20.64	85.01	81.9	36.5	0.0	132.0			
145.00		0.1875	15.783	9.416	292.3	20.41	84.18	81.9	35.8	0.0	32.2			
150.00		0.1875	15.000	8.943	250.5	19.29	80.00	81.9	32.3	0.0	156.2			
											13,372.1			13,141.

Load Case: 1.2D + 1.6W — 95 mph with No Ice — 25 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

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		262.0	0.0					0.0	0.0	262.0	0.0	0.0	0.0
5.00		518.4	902.6					0.0	1,603.2	518.4	2,505.8	0.0	0.0
10.00		513.3	883.3					0.0	1,603.2	513.3	2,486.5	0.0	0.0
15.00		517.8	864.0					0.0	1,827.1	517.8	2,691.1	0.0	0.0
20.00		455.2	844.7					0.0	1,827.1	455.2	2,671.8	0.0	0.0
23.60	Reinf. Top Reinf Bot	270.9	596.2					0.0	1,315.5	270.9	1,911.7	0.0	0.0
25.00		354.9	229.2					0.0	511.6	354.9	740.7	0.0	0.0
30.00		362.8	806.1					0.0	1,827.1	362.8	2,633.1	0.0	0.0
31.50	Bot - Section 2	287.4	238.1					0.0	548.3	287.4	786.4	0.0	0.0
35.00		241.8	1,015.7					0.0	1,278.8	241.8	2,294.6	0.0	0.0
35.67	Top - Section 1	291.6	191.6					0.0	243.7	291.6	435.4	0.0	0.0
40.00		547.0	565.5					0.0	1,583.4	547.0	2,148.9	0.0	0.0
45.00		590.6	637.5					0.0	1,826.9	590.6	2,464.5	0.0	0.0
50.00		593.9	621.4					0.0	1,826.9	593.9	2,448.4	0.0	0.0
55.00		357.2	605.4					0.0	1,826.9	357.2	2,432.3	0.0	0.0
56.00	Appertunance(s)	298.2	119.1	786.3	0.0	0.0	151.2	0.0	365.4	1,084.5	635.7	0.0	0.0
60.00		536.8	470.1					0.0	1,460.8	536.8	1,930.9	0.0	0.0
65.00		518.6	573.2					0.0	1,826.0	518.6	2,399.2	0.0	0.0
68.70	Reinf. Top	297.8	413.8					0.0	1,351.2	297.8	1,765.0	0.0	0.0
70.00		77.4	143.3					0.0	370.6	77.4	513.8	0.0	0.0
70.00	Bot - Section 3	211.8	0.0					0.0	0.1	211.8	0.1	0.0	0.0
73.50	Top - Section 2	301.8	691.1					0.0	997.7	301.8	1,688.8	0.0	0.0
75.00		389.1	131.2					0.0	427.5	389.1	558.7	0.0	0.0
80.00		596.6	429.1					0.0	1,160.7	596.6	1,589.8	0.0	0.0
85.00		593.1	416.3					0.0	1,024.4	593.1	1,440.7	0.0	0.0
90.00		589.0	403.4					0.0	1,024.4	589.0	1,427.8	0.0	0.0
95.00		584.3	390.5					0.0	1,024.4	584.3	1,414.9	0.0	0.0
100.00		579.1	377.6					0.0	1,024.4	579.1	1,402.0	0.0	0.0
105.00		459.6	364.8					0.0	1,024.4	459.6	1,389.2	0.0	0.0
108.00	Appertunance(s)	228.4	212.7	906.6	0.0	0.0	925.0	0.0	614.7	1,135.0	1,752.3	0.0	0.0
109.00	Appertunance(s)	113.7	69.9	11.3	0.0	0.0	25.4	0.0	195.8	125.0	291.1	0.0	0.0
110.00		56.8	69.3					0.0	195.8	56.8	265.1	0.0	0.0
110.00	Top - Section 3	56.7	0.0					0.0	0.1	56.7	0.1	0.0	0.0
111.00	Appertunance(s)	272.7	51.8	337.5	0.0	0.0	64.8	0.0	195.7	610.2	312.3	0.0	0.0
115.00		433.6	203.2					89.0	860.5	522.6	1,063.7	0.0	0.0
119.13	Reinf Bottom	263.0	203.1					147.3	1,135.4	410.4	1,338.5	0.0	0.0
120.00		97.1	42.2					31.3	293.4	128.4	335.7	0.0	0.0
121.00	Reinf. Top	229.9	47.9					35.8	575.8	265.7	623.8	0.0	0.0
124.50	Reinf. Top	203.3	164.7					125.6	893.2	329.0	1,057.9	0.0	0.0
125.00		124.8	23.1					18.0	97.5	142.8	120.7	0.0	0.0
127.00	Appertunance(s)	246.7	91.6	2,953.1	0.0	0.0	2,042.2	72.0	229.8	3,271.8	2,363.6	0.0	0.0
130.00		345.5	134.5					36.1	223.4	381.6	357.9	0.0	0.0
135.00		389.7	216.4					0.0	105.1	389.7	321.5	0.0	0.0
140.00	Appertunance(s)	368.4	206.7	3,634.3	0.0	0.0	2,736.5	0.0	105.1	4,002.7	3,048.3	0.0	0.0
144.00	Appertunance(s)	220.5	158.4	308.4	0.0	0.0	185.5	72.9	55.7	601.8	399.6	0.0	0.0
145.00		254.7	38.6					18.3	13.6	273.0	52.2	0.0	0.0
150.00	Appertunance(s)	211.4	187.4	5,859.1	0.0	15,828.2	4,891.4	91.5	67.8	6,162.0	5,146.6	0.0	0.0

Site Number:	**302489**	**Code: ANSI/TIA-222-G**	
Site Name:	**Enfd - Enfield, CT**	**Engineering Number: 11887806_C3_01**	**7/29/2016 3:01:06 PM**
Customer:	**AT&T Mobility**		

Load Case: **1.2D + 1.6W** **95 mph with No Ice** **25 Iterations**

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

Totals:	**31,849.03**	**65,658.58**	**0.00**	**0.00**

Site Number: 302489 Code: ANSI/TIA-222-G

Site Name: Enfd - Enfield, CT Engineering Number: 11887806_C3_01 7/29/2016 3:01:06 PM

Customer: AT&T Mobility

Load Case: 1.2D + 1.6W 95 mph with No Ice 25 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	-65.59	-31.72	0.00	-3,480.87	0.00	3,480.87	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.566
5.00	-62.96	-31.46	0.00	-3,322.26	0.00	3,322.26	3,091.35	1,545.67	4,611.19	2,277.30	0.13	-0.23	0.548
10.00	-60.35	-31.17	0.00	-3,164.99	0.00	3,164.99	3,047.99	1,524.00	4,447.17	2,196.29	0.50	-0.46	0.530
15.00	-57.54	-30.86	0.00	-3,009.14	0.00	3,009.14	3,003.60	1,501.80	4,284.50	2,115.95	1.11	-0.70	0.512
20.00	-54.77	-30.55	0.00	-2,854.85	0.00	2,854.85	2,958.17	1,479.08	4,123.27	2,036.33	1.96	-0.92	0.493
23.60	-52.81	-30.35	0.00	-2,744.87	0.00	2,744.87	2,924.81	1,462.41	4,008.13	1,979.47	2.72	-1.09	0.479
23.60	-52.81	-30.35	0.00	-2,744.87	0.00	2,744.87	2,924.81	1,462.41	4,008.13	1,979.47	2.72	-1.09	0.479
25.00	-52.00	-30.12	0.00	-2,702.38	0.00	2,702.38	2,911.70	1,455.85	3,963.58	1,957.46	3.05	-1.15	0.474
30.00	-49.30	-29.82	0.00	-2,551.80	0.00	2,551.80	2,864.18	1,432.09	3,805.55	1,879.42	4.38	-1.38	0.454
31.50	-48.46	-29.61	0.00	-2,507.06	0.00	2,507.06	2,849.72	1,424.86	3,758.46	1,856.16	4.83	-1.45	0.448
35.00	-46.12	-29.38	0.00	-2,403.44	0.00	2,403.44	2,805.48	1,402.74	3,636.10	1,795.73	5.95	-1.60	0.428
35.67	-45.64	-29.16	0.00	-2,383.84	0.00	2,383.84	2,231.07	1,115.54	2,951.42	1,457.59	6.17	-1.63	0.480
40.00	-43.41	-28.71	0.00	-2,257.48	0.00	2,257.48	2,201.95	1,100.98	2,850.70	1,407.85	7.75	-1.82	0.460
45.00	-40.86	-28.19	0.00	-2,113.95	0.00	2,113.95	2,167.39	1,083.69	2,735.30	1,350.86	9.77	-2.04	0.436
50.00	-38.33	-27.64	0.00	-1,973.01	0.00	1,973.01	2,131.78	1,065.89	2,620.87	1,294.35	12.02	-2.25	0.412
55.00	-35.86	-27.27	0.00	-1,834.79	0.00	1,834.79	2,095.13	1,047.56	2,507.52	1,238.37	14.50	-2.46	0.388
56.00	-35.22	-26.22	0.00	-1,807.52	0.00	1,807.52	2,087.67	1,043.84	2,484.99	1,227.24	15.02	-2.51	0.383
60.00	-33.24	-25.70	0.00	-1,702.65	0.00	1,702.65	2,057.44	1,028.72	2,395.35	1,182.97	17.19	-2.67	0.364
65.00	-30.79	-25.16	0.00	-1,574.15	0.00	1,574.15	2,018.71	1,009.36	2,284.46	1,128.21	20.09	-2.87	0.341
68.70	-29.00	-24.82	0.00	-1,481.07	0.00	1,481.07	1,989.38	994.69	2,203.29	1,088.12	22.38	-3.01	0.324
68.70	-29.00	-24.82	0.00	-1,481.07	0.00	1,481.07	1,989.38	994.69	2,203.29	1,088.12	22.38	-3.01	0.639
70.00	-28.48	-24.73	0.00	-1,448.80	0.00	1,448.80	1,978.94	989.47	2,174.96	1,074.13	23.20	-3.06	0.629
70.00	-28.44	-24.58	0.00	-1,448.80	0.00	1,448.80	1,978.94	989.47	2,174.95	1,074.12	23.20	-3.06	0.629
73.50	-26.69	-24.27	0.00	-1,362.76	0.00	1,362.76	1,462.64	731.32	1,612.09	796.15	25.55	-3.33	0.706
75.00	-26.05	-23.96	0.00	-1,326.36	0.00	1,326.36	1,455.06	727.53	1,589.51	785.00	26.61	-3.44	0.692
80.00	-24.35	-23.43	0.00	-1,206.54	0.00	1,206.54	1,429.11	714.55	1,514.58	747.99	30.41	-3.82	0.644
85.00	-22.81	-22.88	0.00	-1,089.41	0.00	1,089.41	1,402.12	701.06	1,440.27	711.29	34.60	-4.18	0.596
90.00	-21.30	-22.31	0.00	-975.01	0.00	975.01	1,374.09	687.04	1,366.68	674.95	39.17	-4.54	0.547
95.00	-19.81	-21.73	0.00	-863.45	0.00	863.45	1,345.02	672.51	1,293.93	639.02	44.10	-4.87	0.497
100.00	-18.35	-21.13	0.00	-754.82	0.00	754.82	1,314.91	657.46	1,222.10	603.55	49.37	-5.19	0.446
105.00	-16.93	-20.61	0.00	-649.20	0.00	649.20	1,283.76	641.88	1,151.31	568.59	54.96	-5.49	0.394
108.00	-15.26	-19.34	0.00	-587.38	0.00	587.38	1,264.57	632.29	1,109.37	547.87	58.46	-5.65	0.362
109.00	-14.96	-19.20	0.00	-568.04	0.00	568.04	1,256.43	628.22	1,094.04	540.30	59.65	-5.71	0.353
110.00	-14.70	-19.12	0.00	-548.84	0.00	548.84	1,247.14	623.57	1,077.81	532.29	60.85	-5.76	0.344
110.00	-14.69	-19.07	0.00	-548.84	0.00	548.84	1,247.13	623.57	1,077.80	532.29	60.85	-5.76	0.344
110.00	-14.69	-19.07	0.00	-548.84	0.00	548.84	846.54	423.27	735.96	363.46	60.85	-5.76	0.415
111.00	-14.40	-18.47	0.00	-529.77	0.00	529.77	843.03	421.51	727.41	359.24	62.06	-5.81	0.402
115.00	-13.33	-17.88	0.00	-455.91	0.00	455.91	828.55	414.27	693.31	342.40	67.02	-6.03	0.352
119.13	-12.01	-17.36	0.00	-382.13	0.00	382.13	812.92	406.46	658.37	325.15	72.31	-6.22	0.300
120.00	-11.68	-17.20	0.00	-366.95	0.00	366.95	809.51	404.76	651.00	321.50	73.45	-6.26	0.144
121.00	-11.08	-16.88	0.00	-349.75	0.00	349.75	805.58	402.79	642.58	317.35	74.76	-6.28	0.134
121.00	-11.08	-16.88	0.00	-349.75	0.00	349.75	805.58	402.79	642.58	317.35	74.76	-6.28	0.218
124.50	-10.05	-16.44	0.00	-290.68	0.00	290.68	791.49	395.75	613.28	302.88	79.39	-6.35	0.182
124.50	-10.05	-16.44	0.00	-290.68	0.00	290.68	791.49	395.75	613.28	302.88	79.39	-6.35	0.974
125.00	-9.90	-16.31	0.00	-282.46	0.00	282.46	789.44	394.72	609.12	300.82	80.06	-6.37	0.953
127.00	-7.84	-12.84	0.00	-249.83	0.00	249.83	781.12	390.56	592.51	292.62	82.78	-6.66	0.865
130.00	-7.43	-12.49	0.00	-211.31	0.00	211.31	768.32	384.16	567.78	280.41	87.10	-7.07	0.764
135.00	-7.05	-12.12	0.00	-148.88	0.00	148.88	746.17	373.08	527.09	260.31	94.80	-7.65	0.582
140.00	-4.54	-7.76	0.00	-88.27	0.00	88.27	722.98	361.49	487.14	240.58	103.04	-8.08	0.374
144.00	-4.21	-7.12	0.00	-57.21	0.00	57.21	701.03	350.52	454.07	224.25	109.90	-8.33	0.262
145.00	-4.18	-6.85	0.00	-50.09	0.00	50.09	694.06	347.03	445.03	219.78	111.64	-8.38	0.234

Site Number:	**302489**	**Code: ANSI/TIA-222-G**	
Site Name:	**Enfd - Enfield, CT**	**Engineering Number: 11887806_C3_01**	**7/29/2016 3:01:06 PM**
Customer:	**AT&T Mobility**		

Load Case: **1.2D + 1.6W** **95 mph with No Ice** **25 Iterations**

Gust Response Factor 1.10 **Wind Importance Factor : 1.00**

Dead Load Factor : 1.20

Wind Load Factor : 1.60

150.00	**0.00**	**-6.16**	**0.00**	**-15.83**	**0.00**	**15.83**	**659.19**	**329.60**	**401.19**	**198.13**	**120.48**	**-8.54**	**0.080**

Load Case: 0.9D + 1.6W — 95 mph with No Ice (Reduced DL) — 25 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

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		262.0	0.0					0.0	0.0	262.0	0.0	0.0	0.0
5.00		518.4	677.0					0.0	1,202.4	518.4	1,879.4	0.0	0.0
10.00		507.3	662.5					0.0	1,202.4	507.3	1,864.9	0.0	0.0
15.00		503.9	648.0					0.0	1,370.3	503.9	2,018.3	0.0	0.0
20.00		440.2	633.5					0.0	1,370.3	440.2	2,003.8	0.0	0.0
23.60	Reinf. Top Reinf Bot	260.7	447.2					0.0	986.6	260.7	1,433.8	0.0	0.0
25.00		339.3	171.9					0.0	383.7	339.3	555.6	0.0	0.0
30.00		346.1	604.5					0.0	1,370.3	346.1	1,974.9	0.0	0.0
31.50	Bot - Section 2	272.3	178.6					0.0	411.2	272.3	589.8	0.0	0.0
35.00		228.7	761.8					0.0	959.1	228.7	1,720.9	0.0	0.0
35.67	Top - Section 1	275.6	143.7					0.0	182.8	275.6	326.5	0.0	0.0
40.00		514.9	424.1					0.0	1,187.5	514.9	1,611.7	0.0	0.0
45.00		551.6	478.2					0.0	1,370.2	551.6	1,848.3	0.0	0.0
50.00		549.7	466.1					0.0	1,370.2	549.7	1,836.3	0.0	0.0
55.00		328.8	454.0					0.0	1,370.2	328.8	1,824.2	0.0	0.0
56.00	Appertunance(s)	272.1	89.4	786.3	0.0	0.0	113.4	0.0	274.0	1,058.4	476.8	0.0	0.0
60.00		487.0	352.6					0.0	1,095.6	487.0	1,448.2	0.0	0.0
65.00		466.8	429.9					0.0	1,369.5	466.8	1,799.4	0.0	0.0
68.70	Reinf. Top	266.2	310.3					0.0	1,013.4	266.2	1,323.8	0.0	0.0
70.00		68.9	107.5					0.0	277.9	68.9	385.4	0.0	0.0
70.00	Bot - Section 3	187.7	0.0					0.0	0.1	187.7	0.1	0.0	0.0
73.50	Top - Section 2	267.5	518.3					0.0	748.2	267.5	1,266.6	0.0	0.0
75.00		343.3	98.4					0.0	320.6	343.3	419.0	0.0	0.0
80.00		522.5	321.9					0.0	870.5	522.5	1,192.4	0.0	0.0
85.00		513.2	312.2					0.0	768.3	513.2	1,080.5	0.0	0.0
90.00		503.3	302.5					0.0	768.3	503.3	1,070.9	0.0	0.0
95.00		492.7	292.9					0.0	768.3	492.7	1,061.2	0.0	0.0
100.00		481.5	283.2					0.0	768.3	481.5	1,051.5	0.0	0.0
105.00		377.8	273.6					0.0	768.3	377.8	1,041.9	0.0	0.0
108.00	Appertunance(s)	186.0	159.5	906.6	0.0	0.0	693.7	0.0	461.0	1,092.6	1,314.2	0.0	0.0
109.00	Appertunance(s)	92.0	52.4	11.3	0.0	0.0	19.1	0.0	146.8	103.3	218.3	0.0	0.0
110.00		45.9	52.0					0.0	146.8	45.9	198.9	0.0	0.0
110.00	Top - Section 3	45.6	0.0					0.0	0.0	45.6	0.1	0.0	0.0
111.00	Appertunance(s)	261.6	38.8	337.5	0.0	0.0	48.6	0.0	146.8	599.2	234.2	0.0	0.0
115.00		433.6	152.4					89.0	645.4	522.6	797.8	0.0	0.0
119.13	Reinf Bottom	263.0	152.3					147.3	851.5	410.4	1,003.9	0.0	0.0
120.00		97.1	31.7					31.3	220.1	128.4	251.8	0.0	0.0
121.00	Reinf. Top	229.9	35.9					35.8	431.9	265.7	467.8	0.0	0.0
124.50	Reinf. Top	203.3	123.5					125.6	669.9	329.0	793.4	0.0	0.0
125.00		124.8	17.4					18.0	73.2	142.8	90.5	0.0	0.0
127.00	Appertunance(s)	246.7	68.7	2,953.1	0.0	0.0	1,531.6	72.0	172.4	3,271.8	1,772.7	0.0	0.0
130.00		345.5	100.9					36.1	167.5	381.6	268.4	0.0	0.0
135.00		389.7	162.3					0.0	78.8	389.7	241.1	0.0	0.0
140.00	Appertunance(s)	368.4	155.0	3,634.3	0.0	0.0	2,052.4	0.0	78.8	4,002.7	2,286.2	0.0	0.0
144.00	Appertunance(s)	220.5	118.8	308.4	0.0	0.0	139.1	72.9	41.8	601.8	299.7	0.0	0.0
145.00		254.7	29.0					18.3	10.2	273.0	39.2	0.0	0.0
150.00	Appertunance(s)	211.4	140.6	5,859.1	0.0	15,828.2	3,668.6	91.5	50.8	6,162.0	3,860.0	0.0	0.0

Load Case: 0.9D + 1.6W — 95 mph with No Ice (Reduced DL) — 25 Iterations

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

Wind Importance Factor : 1.00

Totals:	30,704.03	49,243.93	0.00	0.00

Site Number: 302489 | Code: ANSI/TIA-222-G |

Site Name: Enfd - Enfield, CT | Engineering Number: 11887806_C3_01 | 7/29/2016 3:01:09 PM

Customer: AT&T Mobility

Load Case: 0.9D + 1.6W — 95 mph with No Ice (Reduced DL) — 25 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	-49.18	-30.54	0.00	-3,338.51	0.00	3,338.51	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.541
5.00	-47.19	-30.20	0.00	-3,185.82	0.00	3,185.82	3,091.35	1,545.67	4,611.19	2,277.30	0.12	-0.22	0.524
10.00	-45.21	-29.86	0.00	-3,034.81	0.00	3,034.81	3,047.99	1,524.00	4,447.17	2,196.29	0.47	-0.45	0.506
15.00	-43.08	-29.50	0.00	-2,885.52	0.00	2,885.52	3,003.60	1,501.80	4,284.50	2,115.95	1.06	-0.67	0.489
20.00	-40.99	-29.17	0.00	-2,738.02	0.00	2,738.02	2,958.17	1,479.08	4,123.27	2,036.33	1.88	-0.89	0.471
23.60	-39.51	-28.96	0.00	-2,633.01	0.00	2,633.01	2,924.81	1,462.41	4,008.13	1,979.47	2.61	-1.05	0.458
23.60	-39.51	-28.96	0.00	-2,633.01	0.00	2,633.01	2,924.81	1,462.41	4,008.13	1,979.47	2.61	-1.05	0.458
25.00	-38.89	-28.70	0.00	-2,592.47	0.00	2,592.47	2,911.70	1,455.85	3,963.58	1,957.46	2.93	-1.11	0.453
30.00	-36.85	-28.41	0.00	-2,448.95	0.00	2,448.95	2,864.18	1,432.09	3,805.55	1,879.42	4.20	-1.32	0.434
31.50	-36.21	-28.19	0.00	-2,406.33	0.00	2,406.33	2,849.72	1,424.86	3,758.46	1,856.16	4.63	-1.39	0.429
35.00	-34.46	-27.97	0.00	-2,307.68	0.00	2,307.68	2,805.48	1,402.74	3,636.10	1,795.73	5.70	-1.54	0.409
35.67	-34.09	-27.75	0.00	-2,289.02	0.00	2,289.02	2,231.07	1,115.54	2,951.42	1,457.59	5.92	-1.57	0.459
40.00	-32.40	-27.30	0.00	-2,168.79	0.00	2,168.79	2,201.95	1,100.98	2,850.70	1,407.85	7.43	-1.75	0.440
45.00	-30.47	-26.80	0.00	-2,032.31	0.00	2,032.31	2,167.39	1,083.69	2,735.30	1,350.86	9.37	-1.96	0.417
50.00	-28.56	-26.28	0.00	-1,898.32	0.00	1,898.32	2,131.78	1,065.89	2,620.87	1,294.35	11.53	-2.16	0.394
55.00	-26.70	-25.94	0.00	-1,766.90	0.00	1,766.90	2,095.13	1,047.56	2,507.52	1,238.37	13.91	-2.37	0.372
56.00	-26.22	-24.91	0.00	-1,740.97	0.00	1,740.97	2,087.67	1,043.84	2,484.99	1,227.24	14.41	-2.41	0.367
60.00	-24.72	-24.43	0.00	-1,641.34	0.00	1,641.34	2,057.44	1,028.72	2,395.35	1,182.97	16.49	-2.56	0.350
65.00	-22.88	-23.95	0.00	-1,519.17	0.00	1,519.17	2,018.71	1,009.36	2,284.46	1,128.21	19.28	-2.76	0.328
68.70	-21.53	-23.65	0.00	-1,430.56	0.00	1,430.56	1,989.38	994.69	2,203.29	1,088.12	21.47	-2.89	0.311
68.70	-21.53	-23.65	0.00	-1,430.56	0.00	1,430.56	1,989.38	994.69	2,203.29	1,088.12	21.47	-2.89	0.615
70.00	-21.14	-23.57	0.00	-1,399.81	0.00	1,399.81	1,978.94	989.47	2,174.96	1,074.13	22.27	-2.94	0.606
70.00	-21.10	-23.43	0.00	-1,399.80	0.00	1,399.80	1,978.94	989.47	2,174.95	1,074.12	22.27	-2.94	0.606
73.50	-19.77	-23.16	0.00	-1,317.79	0.00	1,317.79	1,462.64	731.32	1,612.09	796.15	24.52	-3.20	0.680
75.00	-19.28	-22.88	0.00	-1,283.05	0.00	1,283.05	1,455.06	727.53	1,589.51	785.00	25.54	-3.30	0.667
80.00	-17.98	-22.40	0.00	-1,168.68	0.00	1,168.68	1,429.11	714.55	1,514.58	747.99	29.20	-3.67	0.622
85.00	-16.80	-21.91	0.00	-1,056.70	0.00	1,056.70	1,402.12	701.06	1,440.27	711.29	33.24	-4.03	0.576
90.00	-15.65	-21.43	0.00	-947.13	0.00	947.13	1,374.09	687.04	1,366.68	674.95	37.64	-4.37	0.529
95.00	-14.51	-20.93	0.00	-840.01	0.00	840.01	1,345.02	672.51	1,293.93	639.02	42.39	-4.70	0.481
100.00	-13.40	-20.43	0.00	-735.36	0.00	735.36	1,314.91	657.46	1,222.10	603.55	47.47	-5.01	0.433
105.00	-12.32	-20.01	0.00	-633.20	0.00	633.20	1,283.76	641.88	1,151.31	568.59	52.87	-5.29	0.383
108.00	-11.07	-18.82	0.00	-573.16	0.00	573.16	1,264.57	632.29	1,109.37	547.87	56.24	-5.46	0.352
109.00	-10.85	-18.71	0.00	-554.34	0.00	554.34	1,256.43	628.22	1,094.04	540.30	57.39	-5.51	0.343
110.00	-10.65	-18.65	0.00	-535.64	0.00	535.64	1,247.14	623.57	1,077.81	532.29	58.55	-5.56	0.334
110.00	-10.64	-18.61	0.00	-535.63	0.00	535.63	1,247.13	623.57	1,077.80	532.29	58.55	-5.56	0.334
110.00	-10.64	-18.61	0.00	-535.63	0.00	535.63	846.54	423.27	735.96	363.46	58.55	-5.56	0.403
111.00	-10.43	-18.01	0.00	-517.03	0.00	517.03	843.03	421.51	727.41	359.24	59.72	-5.62	0.390
115.00	-9.62	-17.45	0.00	-444.99	0.00	444.99	828.55	414.27	693.31	342.40	64.51	-5.82	0.342
119.13	-8.64	-16.95	0.00	-373.03	0.00	373.03	812.92	406.46	658.37	325.15	69.62	-6.01	0.291
120.00	-8.39	-16.80	0.00	-358.20	0.00	358.20	809.51	404.76	651.00	321.50	70.72	-6.05	0.140
121.00	-7.94	-16.49	0.00	-341.39	0.00	341.39	805.58	402.79	642.58	317.35	71.99	-6.07	0.130
121.00	-7.94	-16.49	0.00	-341.39	0.00	341.39	805.58	402.79	642.58	317.35	71.99	-6.07	0.211
124.50	-7.18	-16.09	0.00	-283.67	0.00	283.67	791.49	395.75	613.28	302.88	76.47	-6.14	0.176
124.50	-7.18	-16.09	0.00	-283.67	0.00	283.67	791.49	395.75	613.28	302.88	76.47	-6.14	0.947
125.00	-7.06	-15.95	0.00	-275.63	0.00	275.63	789.44	394.72	609.12	300.82	77.11	-6.15	0.927
127.00	-5.58	-12.54	0.00	-243.72	0.00	243.72	781.12	390.56	592.51	292.62	79.75	-6.44	0.841
130.00	-5.25	-12.18	0.00	-206.10	0.00	206.10	768.32	384.16	567.78	280.41	83.92	-6.84	0.743
135.00	-4.96	-11.80	0.00	-145.21	0.00	145.21	746.17	373.08	527.09	260.31	91.38	-7.40	0.565
140.00	-3.18	-7.55	0.00	-86.20	0.00	86.20	722.98	361.49	487.14	240.58	99.35	-7.83	0.363
144.00	-2.95	-6.92	0.00	-56.00	0.00	56.00	701.03	350.52	454.07	224.25	106.00	-8.07	0.254
145.00	-2.94	-6.65	0.00	-49.08	0.00	49.08	694.06	347.03	445.03	219.78	107.69	-8.12	0.228

Site Number:	**302489**	**Code: ANSI/TIA-222-G**	
Site Name:	**Enfd - Enfield, CT**	**Engineering Number: 11887806_C3_01**	**7/29/2016 3:01:10 PM**
Customer:	**AT&T Mobility**		

Load Case: **0.9D + 1.6W** — **95 mph with No Ice (Reduced DL)** — **25 Iterations**

Gust Response Factor 1.10 — **Wind Importance Factor : 1.00**

Dead Load Factor : 0.90

Wind Load Factor : 1.60

150.00	**0.00**	**-6.16**	**0.00**	**-15.83**	**0.00**	**15.83**	**659.19**	**329.60**	**401.19**	**198.13**	**116.26**	**-8.27**	**0.080**

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 1.00 in Radial Ice — 25 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

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		58.8	0.0					0.0	0.0	58.8	0.0	0.0	0.0
5.00		117.0	1,284.1					0.0	1,773.4	117.0	3,057.5	0.0	0.0
10.00		115.4	1,302.3					0.0	1,794.5	115.4	3,096.8	0.0	0.0
15.00		115.4	1,296.7					0.0	2,526.6	115.4	3,823.3	0.0	0.0
20.00		101.2	1,283.4					0.0	2,554.1	101.2	3,837.6	0.0	0.0
23.60	Reinf. Top Reinf Bot	60.1	914.4					0.0	1,852.5	60.1	2,766.9	0.0	0.0
25.00		78.5	353.6					0.0	723.1	78.5	1,076.6	0.0	0.0
30.00		80.2	1,246.2					0.0	2,593.3	80.2	3,839.5	0.0	0.0
31.50	Bot - Section 2	63.3	370.8					0.0	781.2	63.3	1,152.0	0.0	0.0
35.00		53.1	1,328.6					0.0	1,827.2	53.1	3,155.8	0.0	0.0
35.67	Top - Section 1	64.2	251.4					0.0	349.0	64.2	600.4	0.0	0.0
40.00		120.3	949.3					0.0	2,272.7	120.3	3,222.0	0.0	0.0
45.00		129.3	1,075.5					0.0	2,633.3	129.3	3,708.8	0.0	0.0
50.00		129.4	1,054.0					0.0	2,644.0	129.4	3,698.0	0.0	0.0
55.00		77.6	1,031.9					0.0	2,653.8	77.6	3,685.7	0.0	0.0
56.00	Appertunance(s)	64.5	204.5	160.7	0.0	0.0	341.0	0.0	531.8	225.2	1,077.4	0.0	0.0
60.00		115.7	806.4					0.0	2,104.0	115.7	2,910.4	0.0	0.0
65.00		111.3	986.1					0.0	2,637.0	111.3	3,623.1	0.0	0.0
68.70	Reinf. Top	63.7	715.6					0.0	1,956.1	63.7	2,671.7	0.0	0.0
70.00		16.5	249.0					0.0	584.0	16.5	833.0	0.0	0.0
70.00	Bot - Section 3	45.0	0.1					0.0	0.2	45.0	0.2	0.0	0.0
73.50	Top - Section 2	64.1	976.3					0.0	1,574.6	64.1	2,550.9	0.0	0.0
75.00		82.6	252.9					0.0	675.7	82.6	928.5	0.0	0.0
80.00		126.2	825.5					0.0	1,910.5	126.2	2,736.0	0.0	0.0
85.00		124.6	804.2					0.0	1,737.2	124.6	2,541.4	0.0	0.0
90.00		122.9	782.6					0.0	1,742.2	122.9	2,524.7	0.0	0.0
95.00		121.0	760.7					0.0	1,746.9	121.0	2,507.6	0.0	0.0
100.00		119.0	738.6					0.0	1,751.4	119.0	2,490.0	0.0	0.0
105.00		93.8	716.4					0.0	1,755.7	93.8	2,472.1	0.0	0.0
108.00	Appertunance(s)	46.4	420.4	260.2	0.0	0.0	2,957.6	0.0	1,055.4	306.5	4,433.4	0.0	0.0
109.00	Appertunance(s)	23.0	138.8	3.5	0.0	0.0	112.8	0.0	327.7	26.5	579.3	0.0	0.0
110.00		11.5	137.9					0.0	327.8	11.5	465.7	0.0	0.0
110.00	Top - Section 3	11.4	0.0					0.0	0.1	11.4	0.2	0.0	0.0
111.00	Appertunance(s)	56.7	119.9	79.0	0.0	0.0	371.4	0.0	327.9	135.7	819.1	0.0	0.0
115.00		91.1	469.1					38.6	1,416.5	129.8	1,885.6	0.0	0.0
119.13	Reinf Bottom	55.5	470.6					68.8	1,791.7	124.3	2,262.2	0.0	0.0
120.00		20.6	98.7					14.7	433.0	35.2	531.7	0.0	0.0
121.00	Reinf. Top	48.9	112.1					16.8	735.5	65.7	847.6	0.0	0.0
124.50	Reinf. Top	43.3	384.0					59.1	1,453.2	102.4	1,837.2	0.0	0.0
125.00		26.7	54.4					8.5	177.7	35.2	232.1	0.0	0.0
127.00	Appertunance(s)	52.9	215.0	841.1	0.0	0.0	5,120.2	34.0	498.3	928.0	5,833.5	0.0	0.0
130.00		83.1	315.8					18.9	414.0	102.1	729.8	0.0	0.0
135.00		101.7	507.9					0.0	335.9	101.7	843.8	0.0	0.0
140.00	Appertunance(s)	89.3	487.8	950.6	0.0	0.0	6,273.5	0.0	336.9	1,039.8	7,098.2	0.0	0.0
144.00	Appertunance(s)	48.7	376.6	101.2	0.0	0.0	159.8	31.3	241.9	181.3	778.3	0.0	0.0
145.00		56.9	92.8					7.9	51.3	64.8	144.1	0.0	0.0
150.00	Appertunance(s)	47.3	447.1	1,591.2	0.0	3,670.0	12,181.0	39.5	256.9	1,677.9	12,885.0	0.0	0.0

Site Number:	**302489**	**Code: ANSI/TIA-222-G**	
Site Name:	**Enfd - Enfield, CT**	**Engineering Number: 11887806_C3_01**	**7/29/2016 3:01:13 PM**
Customer:	**AT&T Mobility**		

Load Case: **1.2D + 1.0Di + 1.0Wi** **50 mph with 1.00 in Radial Ice** **25 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

Totals:	**7,875.20**	**112,794.6**	**0.00**	**0.00**

Site Number: 302489 Code: ANSI/TIA-222-G

Site Name: Enfd - Enfield, CT Engineering Number: 11887806_C3_01 7/29/2016 3:01:13 PM

Customer: AT&T Mobility

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.00 in Radial Ice 25 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	-112.79	-7.88	0.00	-968.19	0.00	968.19	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.173
5.00	-109.72	-7.89	0.00	-928.78	0.00	928.78	3,091.35	1,545.67	4,611.19	2,277.30	0.03	-0.06	0.169
10.00	-106.62	-7.89	0.00	-889.35	0.00	889.35	3,047.99	1,524.00	4,447.17	2,196.29	0.14	-0.13	0.164
15.00	-102.79	-7.88	0.00	-849.91	0.00	849.91	3,003.60	1,501.80	4,284.50	2,115.95	0.31	-0.19	0.159
20.00	-98.94	-7.86	0.00	-810.52	0.00	810.52	2,958.17	1,479.08	4,123.27	2,036.33	0.55	-0.26	0.154
23.60	-96.17	-7.84	0.00	-782.24	0.00	782.24	2,924.81	1,462.41	4,008.13	1,979.47	0.76	-0.31	0.150
23.60	-96.17	-7.84	0.00	-782.24	0.00	782.24	2,924.81	1,462.41	4,008.13	1,979.47	0.76	-0.31	0.150
25.00	-95.09	-7.82	0.00	-771.26	0.00	771.26	2,911.70	1,455.85	3,963.58	1,957.46	0.86	-0.33	0.149
30.00	-91.24	-7.79	0.00	-732.15	0.00	732.15	2,864.18	1,432.09	3,805.55	1,879.42	1.23	-0.39	0.144
31.50	-90.09	-7.77	0.00	-720.47	0.00	720.47	2,849.72	1,424.86	3,758.46	1,856.16	1.36	-0.41	0.142
35.00	-86.93	-7.73	0.00	-693.29	0.00	693.29	2,805.48	1,402.74	3,636.10	1,795.73	1.67	-0.45	0.136
35.67	-86.33	-7.71	0.00	-688.14	0.00	688.14	2,231.07	1,115.54	2,951.42	1,457.59	1.74	-0.46	0.153
40.00	-83.10	-7.65	0.00	-654.75	0.00	654.75	2,201.95	1,100.98	2,850.70	1,407.85	2.18	-0.52	0.147
45.00	-79.38	-7.57	0.00	-616.52	0.00	616.52	2,167.39	1,083.69	2,735.30	1,350.86	2.76	-0.58	0.141
50.00	-75.68	-7.48	0.00	-578.69	0.00	578.69	2,131.78	1,065.89	2,620.87	1,294.35	3.40	-0.64	0.134
55.00	-71.99	-7.41	0.00	-541.28	0.00	541.28	2,095.13	1,047.56	2,507.52	1,238.37	4.11	-0.70	0.127
56.00	-70.91	-7.21	0.00	-533.88	0.00	533.88	2,087.67	1,043.84	2,484.99	1,227.24	4.26	-0.72	0.125
60.00	-67.99	-7.12	0.00	-505.06	0.00	505.06	2,057.44	1,028.72	2,395.35	1,182.97	4.88	-0.77	0.120
65.00	-64.37	-7.01	0.00	-469.48	0.00	469.48	2,018.71	1,009.36	2,284.46	1,128.21	5.71	-0.82	0.113
68.70	-61.69	-6.94	0.00	-443.54	0.00	443.54	1,989.38	994.69	2,203.29	1,088.12	6.37	-0.87	0.108
68.70	-61.69	-6.94	0.00	-443.54	0.00	443.54	1,989.38	994.69	2,203.29	1,088.12	6.37	-0.87	0.207
70.00	-60.86	-6.92	0.00	-434.52	0.00	434.52	1,978.94	989.47	2,174.96	1,074.13	6.61	-0.88	0.204
70.00	-60.85	-6.92	0.00	-434.51	0.00	434.51	1,978.94	989.47	2,174.95	1,074.12	6.61	-0.88	0.204
73.50	-58.30	-6.87	0.00	-410.31	0.00	410.31	1,462.64	731.32	1,612.09	796.15	7.29	-0.96	0.230
75.00	-57.36	-6.84	0.00	-400.01	0.00	400.01	1,455.06	727.53	1,589.51	785.00	7.59	-1.00	0.226
80.00	-54.62	-6.78	0.00	-365.80	0.00	365.80	1,429.11	714.55	1,514.58	747.99	8.70	-1.11	0.212
85.00	-52.06	-6.70	0.00	-331.92	0.00	331.92	1,402.12	701.06	1,440.27	711.29	9.92	-1.22	0.198
90.00	-49.53	-6.61	0.00	-298.43	0.00	298.43	1,374.09	687.04	1,366.68	674.95	11.26	-1.33	0.183
95.00	-47.02	-6.51	0.00	-265.38	0.00	265.38	1,345.02	672.51	1,293.93	639.02	12.71	-1.43	0.167
100.00	-44.52	-6.40	0.00	-232.82	0.00	232.82	1,314.91	657.46	1,222.10	603.55	14.26	-1.53	0.152
105.00	-42.04	-6.29	0.00	-200.81	0.00	200.81	1,283.76	641.88	1,151.31	568.59	15.92	-1.62	0.135
108.00	-37.62	-5.88	0.00	-181.94	0.00	181.94	1,264.57	632.29	1,109.37	547.87	16.95	-1.67	0.124
109.00	-37.04	-5.85	0.00	-176.05	0.00	176.05	1,256.43	628.22	1,094.04	540.30	17.31	-1.69	0.121
110.00	-36.57	-5.83	0.00	-170.21	0.00	170.21	1,247.14	623.57	1,077.81	532.29	17.66	-1.71	0.118
110.00	-36.57	-5.82	0.00	-170.21	0.00	170.21	1,247.13	623.57	1,077.80	532.29	17.66	-1.71	0.118
110.00	-36.57	-5.82	0.00	-170.21	0.00	170.21	846.54	423.27	735.96	363.46	17.66	-1.71	0.143
111.00	-35.75	-5.69	0.00	-164.39	0.00	164.39	843.03	421.51	727.41	359.24	18.02	-1.72	0.139
115.00	-33.86	-5.54	0.00	-141.64	0.00	141.64	828.55	414.27	693.31	342.40	19.49	-1.79	0.123
119.13	-31.60	-5.36	0.00	-118.79	0.00	118.79	812.92	406.46	658.37	325.15	21.07	-1.85	0.106
120.00	-31.07	-5.31	0.00	-114.10	0.00	114.10	809.51	404.76	651.00	321.50	21.41	-1.86	0.053
121.00	-30.23	-5.23	0.00	-108.79	0.00	108.79	805.58	402.79	642.58	317.35	21.80	-1.87	0.050
121.00	-30.23	-5.23	0.00	-108.79	0.00	108.79	805.58	402.79	642.58	317.35	21.80	-1.87	0.083
124.50	-28.39	-5.07	0.00	-90.49	0.00	90.49	791.49	395.75	613.28	302.88	23.18	-1.89	0.071
124.50	-28.39	-5.07	0.00	-90.49	0.00	90.49	791.49	395.75	613.28	302.88	23.18	-1.89	0.335
125.00	-28.16	-5.05	0.00	-87.95	0.00	87.95	789.44	394.72	609.12	300.82	23.38	-1.89	0.328
127.00	-22.35	-3.97	0.00	-77.85	0.00	77.85	781.12	390.56	592.51	292.62	24.19	-1.99	0.295
130.00	-21.61	-3.90	0.00	-65.93	0.00	65.93	768.32	384.16	567.78	280.41	25.48	-2.12	0.263
135.00	-20.77	-3.83	0.00	-46.42	0.00	46.42	746.17	373.08	527.09	260.31	27.80	-2.29	0.206
140.00	-13.71	-2.52	0.00	-27.30	0.00	27.30	722.98	361.49	487.14	240.58	30.28	-2.43	0.132
144.00	-12.94	-2.31	0.00	-17.23	0.00	17.23	701.03	350.52	454.07	224.25	32.35	-2.50	0.095
145.00	-12.80	-2.25	0.00	-14.91	0.00	14.91	694.06	347.03	445.03	219.78	32.87	-2.52	0.086

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 1.00 in Radial Ice — 25 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

150.00	0.00	-1.68	0.00	-3.67	0.00	3.67	659.19	329.60	401.19	198.13	35.54	-2.56	0.019

Load Case: 1.0D + 1.0W Serviceability 60 mph 24 Iterations

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

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		65.3	0.0					0.0	0.0	65.3	0.0	0.0	0.0
5.00		129.2	752.2					0.0	1,336.0	129.2	2,088.2	0.0	0.0
10.00		126.5	736.1					0.0	1,336.0	126.5	2,072.1	0.0	0.0
15.00		125.6	720.0					0.0	1,522.6	125.6	2,242.6	0.0	0.0
20.00		109.7	703.9					0.0	1,522.6	109.7	2,226.5	0.0	0.0
23.60	Reinf. Top Reinf Bot	65.0	496.8					0.0	1,096.3	65.0	1,593.1	0.0	0.0
25.00		84.6	191.0					0.0	426.3	84.6	617.3	0.0	0.0
30.00		86.3	671.7					0.0	1,522.6	86.3	2,194.3	0.0	0.0
31.50	Bot - Section 2	67.9	198.4					0.0	456.9	67.9	655.3	0.0	0.0
35.00		57.0	846.4					0.0	1,065.7	57.0	1,912.1	0.0	0.0
35.67	Top - Section 1	68.7	159.7					0.0	203.1	68.7	362.8	0.0	0.0
40.00		128.4	471.3					0.0	1,319.5	128.4	1,790.7	0.0	0.0
45.00		137.5	531.3					0.0	1,522.4	137.5	2,053.7	0.0	0.0
50.00		137.0	517.9					0.0	1,522.4	137.0	2,040.3	0.0	0.0
55.00		82.0	504.5					0.0	1,522.4	82.0	2,026.9	0.0	0.0
56.00	Appertunance(s)	67.8	99.3	196.0	0.0	0.0	126.0	0.0	304.5	263.9	529.8	0.0	0.0
60.00		121.4	391.8					0.0	1,217.3	121.4	1,609.1	0.0	0.0
65.00		116.4	477.6					0.0	1,521.7	116.4	1,999.3	0.0	0.0
68.70	Reinf. Top	66.4	344.8					0.0	1,126.0	66.4	1,470.9	0.0	0.0
70.00		17.2	119.4					0.0	308.8	17.2	428.2	0.0	0.0
70.00	Bot - Section 3	46.8	0.0					0.0	0.1	46.8	0.1	0.0	0.0
73.50	Top - Section 2	66.7	575.9					0.0	831.4	66.7	1,407.3	0.0	0.0
75.00		85.6	109.4					0.0	356.2	85.6	465.6	0.0	0.0
80.00		130.3	357.6					0.0	967.2	130.3	1,324.9	0.0	0.0
85.00		127.9	346.9					0.0	853.7	127.9	1,200.6	0.0	0.0
90.00		125.5	336.2					0.0	853.7	125.5	1,189.8	0.0	0.0
95.00		122.8	325.4					0.0	853.7	122.8	1,179.1	0.0	0.0
100.00		120.0	314.7					0.0	853.7	120.0	1,168.4	0.0	0.0
105.00		94.2	304.0					0.0	853.7	94.2	1,157.6	0.0	0.0
108.00	Appertunance(s)	46.4	177.2	226.0	0.0	0.0	770.8	0.0	512.2	272.4	1,460.2	0.0	0.0
109.00	Appertunance(s)	22.9	58.2	2.8	0.0	0.0	21.2	0.0	163.2	25.8	242.6	0.0	0.0
110.00		11.4	57.8					0.0	163.2	11.4	221.0	0.0	0.0
110.00	Top - Section 3	11.4	0.0					0.0	0.1	11.4	0.1	0.0	0.0
111.00	Appertunance(s)	65.2	43.1	84.1	0.0	0.0	54.0	0.0	163.1	149.4	260.2	0.0	0.0
115.00		108.1	169.4					26.8	717.1	134.9	886.4	0.0	0.0
119.13	Reinf Bottom	65.6	169.3					49.7	946.1	115.2	1,115.4	0.0	0.0
120.00		24.2	35.2					10.6	244.5	34.8	279.7	0.0	0.0
121.00	Reinf. Top	57.3	39.9					12.1	479.9	69.4	519.8	0.0	0.0
124.50	Reinf. Top	50.7	137.2					42.4	744.3	93.1	881.5	0.0	0.0
125.00		31.1	19.3					6.1	81.3	37.2	100.6	0.0	0.0
127.00	Appertunance(s)	61.5	76.3	736.2	0.0	0.0	1,701.8	24.3	191.5	822.1	1,969.6	0.0	0.0
130.00		86.1	112.1					14.2	186.2	100.4	298.2	0.0	0.0
135.00		97.2	180.3					0.0	87.6	97.2	267.9	0.0	0.0
140.00	Appertunance(s)	91.8	172.3	906.1	0.0	0.0	2,280.4	0.0	87.6	997.9	2,540.3	0.0	0.0
144.00	Appertunance(s)	55.0	132.0	76.9	0.0	0.0	154.6	20.8	46.4	152.6	333.0	0.0	0.0
145.00		63.5	32.2					5.2	11.3	68.7	43.5	0.0	0.0
150.00	Appertunance(s)	52.7	156.2	1,460.7	0.0	3,946.1	4,076.2	26.2	56.5	1,539.6	4,288.9	0.0	0.0

Load Case: 1.0D + 1.0W Serviceability 60 mph 24 Iterations

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

Totals:	7,709.25	54,715.48	0.00	0.00

Site Number: 302489 Code: ANSI/TIA-222-G

Site Name: Enfd - Enfield, CT Engineering Number: 11887806_C3_01 7/29/2016 3:01:17 PM

Customer: AT&T Mobility

Load Case: 1.0D + 1.0W Serviceability 60 mph 24 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	-54.71	-7.67	0.00	-845.47	0.00	845.47	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.144
5.00	-52.62	-7.59	0.00	-807.11	0.00	807.11	3,091.35	1,545.67	4,611.19	2,277.30	0.03	-0.06	0.140
10.00	-50.54	-7.51	0.00	-769.15	0.00	769.15	3,047.99	1,524.00	4,447.17	2,196.29	0.12	-0.11	0.135
15.00	-48.29	-7.43	0.00	-731.59	0.00	731.59	3,003.60	1,501.80	4,284.50	2,115.95	0.27	-0.17	0.130
20.00	-46.06	-7.35	0.00	-694.45	0.00	694.45	2,958.17	1,479.08	4,123.27	2,036.33	0.48	-0.22	0.125
23.60	-44.46	-7.30	0.00	-667.99	0.00	667.99	2,924.81	1,462.41	4,008.13	1,979.47	0.66	-0.26	0.122
23.60	-44.46	-7.30	0.00	-667.99	0.00	667.99	2,924.81	1,462.41	4,008.13	1,979.47	0.66	-0.26	0.122
25.00	-43.84	-7.24	0.00	-657.77	0.00	657.77	2,911.70	1,455.85	3,963.58	1,957.46	0.74	-0.28	0.121
30.00	-41.64	-7.17	0.00	-621.58	0.00	621.58	2,864.18	1,432.09	3,805.55	1,879.42	1.07	-0.34	0.116
31.50	-40.98	-7.11	0.00	-610.83	0.00	610.83	2,849.72	1,424.86	3,758.46	1,856.16	1.17	-0.35	0.114
35.00	-39.07	-7.06	0.00	-585.93	0.00	585.93	2,805.48	1,402.74	3,636.10	1,795.73	1.45	-0.39	0.109
35.67	-38.70	-7.01	0.00	-581.22	0.00	581.22	2,231.07	1,115.54	2,951.42	1,457.59	1.50	-0.40	0.123
40.00	-36.91	-6.90	0.00	-550.86	0.00	550.86	2,201.95	1,100.98	2,850.70	1,407.85	1.88	-0.44	0.117
45.00	-34.85	-6.78	0.00	-516.37	0.00	516.37	2,167.39	1,083.69	2,735.30	1,350.86	2.38	-0.50	0.111
50.00	-32.80	-6.65	0.00	-482.49	0.00	482.49	2,131.78	1,065.89	2,620.87	1,294.35	2.92	-0.55	0.105
55.00	-30.77	-6.56	0.00	-449.25	0.00	449.25	2,095.13	1,047.56	2,507.52	1,238.37	3.53	-0.60	0.099
56.00	-30.24	-6.31	0.00	-442.68	0.00	442.68	2,087.67	1,043.84	2,484.99	1,227.24	3.65	-0.61	0.098
60.00	-28.63	-6.19	0.00	-417.45	0.00	417.45	2,057.44	1,028.72	2,395.35	1,182.97	4.18	-0.65	0.093
65.00	-26.63	-6.07	0.00	-386.50	0.00	386.50	2,018.71	1,009.36	2,284.46	1,128.21	4.89	-0.70	0.088
68.70	-25.16	-6.00	0.00	-364.04	0.00	364.04	1,989.38	994.69	2,203.29	1,088.12	5.45	-0.73	0.083
68.70	-25.16	-6.00	0.00	-364.04	0.00	364.04	1,989.38	994.69	2,203.29	1,088.12	5.45	-0.73	0.162
70.00	-24.73	-5.98	0.00	-356.25	0.00	356.25	1,978.94	989.47	2,174.96	1,074.13	5.65	-0.75	0.160
70.00	-24.72	-5.94	0.00	-356.24	0.00	356.24	1,978.94	989.47	2,174.95	1,074.12	5.65	-0.75	0.160
73.50	-23.31	-5.88	0.00	-335.44	0.00	335.44	1,462.64	731.32	1,612.09	796.15	6.22	-0.81	0.180
75.00	-22.84	-5.81	0.00	-326.63	0.00	326.63	1,455.06	727.53	1,589.51	785.00	6.48	-0.84	0.176
80.00	-21.51	-5.69	0.00	-297.59	0.00	297.59	1,429.11	714.55	1,514.58	747.99	7.41	-0.93	0.164
85.00	-20.30	-5.57	0.00	-269.13	0.00	269.13	1,402.12	701.06	1,440.27	711.29	8.44	-1.02	0.152
90.00	-19.11	-5.46	0.00	-241.26	0.00	241.26	1,374.09	687.04	1,366.68	674.95	9.56	-1.11	0.140
95.00	-17.92	-5.33	0.00	-213.98	0.00	213.98	1,345.02	672.51	1,293.93	639.02	10.77	-1.19	0.128
100.00	-16.75	-5.21	0.00	-187.31	0.00	187.31	1,314.91	657.46	1,222.10	603.55	12.06	-1.27	0.115
105.00	-15.59	-5.11	0.00	-161.25	0.00	161.25	1,283.76	641.88	1,151.31	568.59	13.43	-1.35	0.102
108.00	-14.14	-4.81	0.00	-145.93	0.00	145.93	1,264.57	632.29	1,109.37	547.87	14.29	-1.39	0.094
109.00	-13.89	-4.78	0.00	-141.13	0.00	141.13	1,256.43	628.22	1,094.04	540.30	14.58	-1.40	0.091
110.00	-13.67	-4.76	0.00	-136.35	0.00	136.35	1,247.14	623.57	1,077.81	532.29	14.88	-1.41	0.089
110.00	-13.67	-4.75	0.00	-136.35	0.00	136.35	1,247.13	623.57	1,077.80	532.29	14.88	-1.41	0.089
110.00	-13.67	-4.75	0.00	-136.35	0.00	136.35	846.54	423.27	735.96	363.46	14.88	-1.41	0.107
111.00	-13.41	-4.60	0.00	-131.60	0.00	131.60	843.03	421.51	727.41	359.24	15.18	-1.43	0.104
115.00	-12.53	-4.46	0.00	-113.18	0.00	113.18	828.55	414.27	693.31	342.40	16.40	-1.48	0.091
119.13	-11.41	-4.32	0.00	-94.78	0.00	94.78	812.92	406.46	658.37	325.15	17.70	-1.53	0.078
120.00	-11.13	-4.28	0.00	-91.00	0.00	91.00	809.51	404.76	651.00	321.50	17.98	-1.54	0.038
121.00	-10.61	-4.20	0.00	-86.73	0.00	86.73	805.58	402.79	642.58	317.35	18.30	-1.54	0.035
121.00	-10.61	-4.20	0.00	-86.73	0.00	86.73	805.58	402.79	642.58	317.35	18.30	-1.54	0.058
124.50	-9.73	-4.08	0.00	-72.03	0.00	72.03	791.49	395.75	613.28	302.88	19.44	-1.56	0.049
124.50	-9.73	-4.08	0.00	-72.03	0.00	72.03	791.49	395.75	613.28	302.88	19.44	-1.56	0.250
125.00	-9.63	-4.05	0.00	-69.99	0.00	69.99	789.44	394.72	609.12	300.82	19.61	-1.56	0.245
127.00	-7.68	-3.18	0.00	-61.89	0.00	61.89	781.12	390.56	592.51	292.62	20.28	-1.64	0.221
130.00	-7.38	-3.09	0.00	-52.34	0.00	52.34	768.32	384.16	567.78	280.41	21.34	-1.74	0.196
135.00	-7.11	-3.00	0.00	-36.89	0.00	36.89	746.17	373.08	527.09	260.31	23.24	-1.88	0.151
140.00	-4.60	-1.92	0.00	-21.88	0.00	21.88	722.98	361.49	487.14	240.58	25.27	-1.99	0.097
144.00	-4.27	-1.76	0.00	-14.18	0.00	14.18	701.03	350.52	454.07	224.25	26.97	-2.05	0.069
145.00	-4.23	-1.69	0.00	-12.42	0.00	12.42	694.06	347.03	445.03	219.78	27.40	-2.06	0.063

Site Number:	**302489**	**Code: ANSI/TIA-222-G**	
Site Name:	**Enfd - Enfield, CT**	**Engineering Number: 11887806_C3_01**	**7/29/2016 3:01:17 PM**
Customer:	**AT&T Mobility**		

Load Case: **1.0D + 1.0W** **Serviceability 60 mph** **24 Iterations**

Gust Response Factor 1.10 **Wind Importance Factor : 1.00**

Dead Load Factor : 1.00

Wind Load Factor : 1.00

150.00	**0.00**	**-1.54**	**0.00**	**-3.95**	**0.00**	**3.95**	**659.19**	**329.60**	**401.19**	**198.13**	**29.58**	**-2.10**	**0.020**

Site Number:	**302489**	**Code: ANSI/TIA-222-G**	
Site Name:	**Enfd - Enfield, CT**	**Engineering Number: 11887806_C3_01**	**7/29/2016 3:01:17 PM**
Customer:	**AT&T Mobility**		

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	**0.18**	
Spectral Response Acceleration at 1.0 Second Period (S_1):	**0.06**	
Long-Period Transition Period (T_L):	**6**	
Importance Factor (I_E):	**1.00**	
Site Coefficient F_a:	**1.60**	
Site Coeffiecient F_v:	**2.40**	
Response Modification Coefficient (R):	**1.50**	
Design Spectral Response Acceleration at Short Period (S_{ds}):	**0.19**	
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	**0.10**	
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):	**2.62**	
Redundancy Factor (p):	**1.30**	
Seismic Force Distribution Exponent (k):	**2.00**	
Total Unfactored Dead Load:	**54.72 k**	
Seismic Base Shear (E):	**2.13 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)
46	147.50	213	4,627	0.012	25	263
45	144.50	44	908	0.002	5	54
44	142.00	178	3,598	0.009	20	221
43	137.50	260	4,913	0.013	27	322
42	132.50	268	4,704	0.012	26	332
41	128.50	298	4,924	0.013	27	369
40	126.00	268	4,252	0.011	23	331
39	124.75	101	1,565	0.004	9	124
38	122.75	882	13,283	0.034	73	1,091
37	120.50	520	7,548	0.019	41	643
36	119.56	280	3,999	0.010	22	346
35	117.06	1,115	15,285	0.039	84	1,380
34	113.00	886	11,319	0.029	62	1,097
33	110.50	206	2,518	0.006	14	255
32	110.00	0	1	0.000	0	0
31	109.50	221	2,649	0.007	15	273
30	108.50	221	2,606	0.007	14	274
29	106.50	689	7,820	0.020	43	853
28	102.50	1,158	12,162	0.031	67	1,433
27	97.50	1,168	11,107	0.029	61	1,446
26	92.50	1,179	10,089	0.026	55	1,459
25	87.50	1,190	9,110	0.023	50	1,472
24	82.50	1,201	8,171	0.021	45	1,486

23	77.50	1,325	7,957	0.020	44	1,640
22	74.25	466	2,567	0.007	14	576
21	71.75	1,407	7,245	0.019	40	1,742
20	70.00	0	1	0.000	0	0
19	69.35	428	2,059	0.005	11	530
18	66.85	1,471	6,573	0.017	36	1,820
17	62.50	1,999	7,810	0.020	43	2,474
16	58.00	1,609	5,413	0.014	30	1,991
15	55.50	404	1,244	0.003	7	500
14	52.50	2,027	5,587	0.014	31	2,508
13	47.50	2,040	4,603	0.012	25	2,525
12	42.50	2,054	3,710	0.010	20	2,542
11	37.83	1,791	2,563	0.007	14	2,216
10	35.33	363	453	0.001	2	449
9	33.25	1,912	2,114	0.005	12	2,366
8	30.75	655	620	0.002	3	811
7	27.50	2,194	1,659	0.004	9	2,716
6	24.30	617	365	0.001	2	764
5	21.80	1,593	757	0.002	4	1,972
4	17.50	2,226	682	0.002	4	2,755
3	12.50	2,243	350	0.001	2	2,775
2	7.50	2,072	117	0.000	1	2,564
1	2.50	2,088	13	0.000	0	2,584
ADC DD1900	150.00	36	817	0.002	4	45
Raycap DC6-48-60-18-	150.00	64	1,431	0.004	8	79
Kaelus TMA2093FxxV1-	150.00	69	1,559	0.004	9	86
Ericsson RRUS A2 B2	150.00	66	1,485	0.004	8	82
Ericsson RRUS 11 (Ba	150.00	165	3,713	0.010	20	204
Ericsson RRUS 32 B30	150.00	180	4,050	0.010	22	223
Ericsson RRUS-11	150.00	153	3,443	0.009	19	189
Ericsson RRUS E2 B29	150.00	180	4,050	0.010	22	223
Ericsson RRUS-12 B2	150.00	174	3,915	0.010	21	215
Decibel DB809KE-SY	150.00	26	585	0.002	3	32
Round Side Arm	150.00	450	10,125	0.026	56	557
Powerwave Allgon 777	150.00	105	2,363	0.006	13	130
CCI HPA-65R-BUU-H8	150.00	408	9,180	0.024	50	505
Flat Platform w/ Han	150.00	2,000	45,000	0.116	247	2,475
Diamond X50A	144.00	5	95	0.000	1	6
Stand-Off	144.00	150	3,110	0.008	17	186
Ericsson KRY 112 144	140.00	33	647	0.002	4	41
Ericsson RRUS-11 (50	140.00	150	2,940	0.008	16	186
Ericsson AIR 21, 1.3	140.00	249	4,880	0.013	27	308
Ericsson AIR 21, 1.3	140.00	244	4,792	0.012	26	303
Andrew LNX-6515DS-VT	140.00	154	3,016	0.008	17	190
Flat Low Profile Pla	140.00	1,450	28,420	0.073	156	1,794
RFS FD9R6004/2C-3L	127.00	16	252	0.001	1	19
Alcatel-Lucent RRH2x	127.00	132	2,129	0.005	12	163
Antel BXA-171085-8BF	127.00	32	508	0.001	3	39
Antel BXA-70063-4CF-	127.00	30	479	0.001	3	37
Antel BXA-171085-12B	127.00	45	726	0.002	4	56
RFS DB-T1-6Z-8AB-0Z	127.00	44	710	0.002	4	54
Antel BXA-80080-6CF-	127.00	54	871	0.002	5	67
Round Low Profile Pl	127.00	1,350	21,774	0.056	119	1,671
DragonWave A-ANT-11G	111.00	54	665	0.002	4	67
DragonWave Horizon C	109.00	21	252	0.001	1	26
NextNet BTS-2500	108.00	105	1,225	0.003	7	130
Argus LLPX310R	108.00	86	1,001	0.003	5	106
24" x 24" Junction	108.00	20	233	0.001	1	25
Side Arms	108.00	560	6,532	0.017	36	693
Channel Master Type	56.00	126	395	0.001	2	156
		54,715	388,986	1.000	2,134	67,713

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)
46	147.50	213	4,627	0.012	25	183
45	144.50	44	908	0.002	5	38
44	142.00	178	3,598	0.009	20	154
43	137.50	260	4,913	0.013	27	224
42	132.50	268	4,704	0.012	26	231
41	128.50	298	4,924	0.013	27	257
40	126.00	268	4,252	0.011	23	231
39	124.75	101	1,565	0.004	9	87
38	122.75	882	13,283	0.034	73	760
37	120.50	520	7,548	0.019	41	448
36	119.56	280	3,999	0.010	22	241
35	117.06	1,115	15,285	0.039	84	962
34	113.00	886	11,319	0.029	62	765
33	110.50	206	2,518	0.006	14	178
32	110.00	0	1	0.000	0	0
31	109.50	221	2,649	0.007	15	191
30	108.50	221	2,606	0.007	14	191
29	106.50	689	7,820	0.020	43	595
28	102.50	1,158	12,162	0.031	67	998
27	97.50	1,168	11,107	0.029	61	1,008
26	92.50	1,179	10,089	0.026	55	1,017
25	87.50	1,190	9,110	0.023	50	1,026
24	82.50	1,201	8,171	0.021	45	1,035
23	77.50	1,325	7,957	0.020	44	1,143
22	74.25	466	2,567	0.007	14	402
21	71.75	1,407	7,245	0.019	40	1,214
20	70.00	0	1	0.000	0	0
19	69.35	428	2,059	0.005	11	369
18	66.85	1,471	6,573	0.017	36	1,269
17	62.50	1,999	7,810	0.020	43	1,724
16	58.00	1,609	5,413	0.014	30	1,388
15	55.50	404	1,244	0.003	7	348
14	52.50	2,027	5,587	0.014	31	1,748
13	47.50	2,040	4,603	0.012	25	1,760
12	42.50	2,054	3,710	0.010	20	1,771
11	37.83	1,791	2,563	0.007	14	1,544
10	35.33	363	453	0.001	2	313
9	33.25	1,912	2,114	0.005	12	1,649
8	30.75	655	620	0.002	3	565
7	27.50	2,194	1,659	0.004	9	1,892
6	24.30	617	365	0.001	2	532
5	21.80	1,593	757	0.002	4	1,374
4	17.50	2,226	682	0.002	4	1,920
3	12.50	2,243	350	0.001	2	1,934
2	7.50	2,072	117	0.000	1	1,787
1	2.50	2,088	13	0.000	0	1,801
ADC DD1900	150.00	36	817	0.002	4	31
Raycap DC6-48-60-18-	150.00	64	1,431	0.004	8	55
Kaelus TMA2093FxxV1-	150.00	69	1,559	0.004	9	60
Ericsson RRUS A2 B2	150.00	66	1,485	0.004	8	57
Ericsson RRUS 11 (Ba	150.00	165	3,713	0.010	20	142
Ericsson RRUS 32 B30	150.00	180	4,050	0.010	22	155
Ericsson RRUS-11	150.00	153	3,443	0.009	19	132
Ericsson RRUS E2 B29	150.00	180	4,050	0.010	22	155
Ericsson RRUS-12 B2	150.00	174	3,915	0.010	21	150
Decibel DB809KE-SY	150.00	26	585	0.002	3	22
Round Side Arm	150.00	450	10,125	0.026	56	388

Powerwave Allgon 777	150.00	105	2,363	0.006	13	91
CCI HPA-65R-BUU-H8	150.00	408	9,180	0.024	50	352
Flat Platform w/ Han	150.00	2,000	45,000	0.116	247	1,725
Diamond X50A	144.00	5	95	0.000	1	4
Stand-Off	144.00	150	3,110	0.008	17	129
Ericsson KRY 112 144	140.00	33	647	0.002	4	28
Ericsson RRUS-11 (50	140.00	150	2,940	0.008	16	129
Ericsson AIR 21, 1.3	140.00	249	4,880	0.013	27	215
Ericsson AIR 21, 1.3	140.00	244	4,792	0.012	26	211
Andrew LNX-6515DS-VT	140.00	154	3,016	0.008	17	133
Flat Low Profile Pla	140.00	1,450	28,420	0.073	156	1,251
RFS FD9R6004/2C-3L	127.00	16	252	0.001	1	13
Alcatel-Lucent RRH2x	127.00	132	2,129	0.005	12	114
Antel BXA-171085-8BF	127.00	32	508	0.001	3	27
Antel BXA-70063-4CF-	127.00	30	479	0.001	3	26
Antel BXA-171085-12B	127.00	45	726	0.002	4	39
RFS DB-T1-6Z-8AB-0Z	127.00	44	710	0.002	4	38
Antel BXA-80080-6CF-	127.00	54	871	0.002	5	47
Round Low Profile Pl	127.00	1,350	21,774	0.056	119	1,164
DragonWave A-ANT-11G	111.00	54	665	0.002	4	47
DragonWave Horizon C	109.00	21	252	0.001	1	18
NextNet BTS-2500	108.00	105	1,225	0.003	7	91
Argus LLPX310R	108.00	86	1,001	0.003	5	74
24" x 24" Junction	108.00	20	233	0.001	1	17
Side Arms	108.00	560	6,532	0.017	36	483
Channel Master Type	56.00	126	395	0.001	2	109
		54,715	388,986	1.000	2,134	47,190

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	-65.13	-2.14	0.00	-261.22	0.00	261.22	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.053
5.00	-62.56	-2.16	0.00	-250.50	0.00	250.50	3,091.35	1,545.67	4,611.19	2,277.30	0.01	-0.02	0.051
10.00	-59.79	-2.18	0.00	-239.69	0.00	239.69	3,047.99	1,524.00	4,447.17	2,196.29	0.04	-0.04	0.050
15.00	-57.03	-2.19	0.00	-228.81	0.00	228.81	3,003.60	1,501.80	4,284.50	2,115.95	0.08	-0.05	0.048
20.00	-55.06	-2.20	0.00	-217.87	0.00	217.87	2,958.17	1,479.08	4,123.27	2,036.33	0.15	-0.07	0.046
23.60	-54.30	-2.20	0.00	-209.97	0.00	209.97	2,924.81	1,462.41	4,008.13	1,979.47	0.21	-0.08	0.045
23.60	-54.30	-2.20	0.00	-209.97	0.00	209.97	2,924.81	1,462.41	4,008.13	1,979.47	0.21	-0.08	0.045
25.00	-51.58	-2.20	0.00	-206.89	0.00	206.89	2,911.70	1,455.85	3,963.58	1,957.46	0.23	-0.09	0.044
30.00	-50.77	-2.20	0.00	-195.90	0.00	195.90	2,864.18	1,432.09	3,805.55	1,879.42	0.33	-0.10	0.043
31.50	-48.40	-2.19	0.00	-192.59	0.00	192.59	2,849.72	1,424.86	3,758.46	1,856.16	0.37	-0.11	0.042
35.00	-47.95	-2.20	0.00	-184.91	0.00	184.91	2,805.48	1,402.74	3,636.10	1,795.73	0.45	-0.12	0.041
35.67	-45.74	-2.19	0.00	-183.45	0.00	183.45	2,231.07	1,115.54	2,951.42	1,457.59	0.47	-0.12	0.045
40.00	-43.19	-2.17	0.00	-173.98	0.00	173.98	2,201.95	1,100.98	2,850.70	1,407.85	0.59	-0.14	0.043
45.00	-40.67	-2.15	0.00	-163.13	0.00	163.13	2,167.39	1,083.69	2,735.30	1,350.86	0.74	-0.16	0.041
50.00	-38.16	-2.12	0.00	-152.37	0.00	152.37	2,131.78	1,065.89	2,620.87	1,294.35	0.91	-0.17	0.039
55.00	-37.66	-2.12	0.00	-141.75	0.00	141.75	2,095.13	1,047.56	2,507.52	1,238.37	1.10	-0.19	0.037
56.00	-35.51	-2.09	0.00	-139.63	0.00	139.63	2,087.67	1,043.84	2,484.99	1,227.24	1.14	-0.19	0.036
60.00	-33.04	-2.04	0.00	-131.28	0.00	131.28	2,057.44	1,028.72	2,395.35	1,182.97	1.31	-0.20	0.034
65.00	-31.22	-2.01	0.00	-121.06	0.00	121.06	2,018.71	1,009.36	2,284.46	1,128.21	1.53	-0.22	0.032
68.70	-30.69	-2.00	0.00	-113.63	0.00	113.63	1,989.38	994.69	2,203.29	1,088.12	1.71	-0.23	0.031
68.70	-30.69	-2.00	0.00	-113.63	0.00	113.63	1,989.38	994.69	2,203.29	1,088.12	1.71	-0.23	0.057
70.00	-30.69	-2.00	0.00	-111.03	0.00	111.03	1,978.94	989.47	2,174.96	1,074.13	1.77	-0.23	0.056
70.00	-28.94	-1.96	0.00	-111.03	0.00	111.03	1,978.94	989.47	2,174.95	1,074.12	1.77	-0.23	0.056
73.50	-28.37	-1.95	0.00	-104.17	0.00	104.17	1,462.64	731.32	1,612.09	796.15	1.95	-0.25	0.063
75.00	-26.73	-1.91	0.00	-101.25	0.00	101.25	1,455.06	727.53	1,589.51	785.00	2.03	-0.26	0.062
80.00	-25.24	-1.87	0.00	-91.71	0.00	91.71	1,429.11	714.55	1,514.58	747.99	2.32	-0.29	0.057
85.00	-23.77	-1.82	0.00	-82.37	0.00	82.37	1,402.12	701.06	1,440.27	711.29	2.64	-0.32	0.053
90.00	-22.31	-1.77	0.00	-73.27	0.00	73.27	1,374.09	687.04	1,366.68	674.95	2.99	-0.35	0.049
95.00	-20.86	-1.71	0.00	-64.43	0.00	64.43	1,345.02	672.51	1,293.93	639.02	3.37	-0.37	0.044
100.00	-19.43	-1.64	0.00	-55.90	0.00	55.90	1,314.91	657.46	1,222.10	603.55	3.77	-0.40	0.040
105.00	-18.58	-1.59	0.00	-47.71	0.00	47.71	1,283.76	641.88	1,151.31	568.59	4.20	-0.42	0.035
108.00	-17.35	-1.52	0.00	-42.93	0.00	42.93	1,264.57	632.29	1,109.37	547.87	4.46	-0.43	0.032
109.00	-17.05	-1.51	0.00	-41.41	0.00	41.41	1,256.43	628.22	1,094.04	540.30	4.55	-0.43	0.032
110.00	-17.05	-1.51	0.00	-39.90	0.00	39.90	1,247.14	623.57	1,077.81	532.29	4.65	-0.44	0.031
110.00	-16.79	-1.49	0.00	-39.90	0.00	39.90	1,247.13	623.57	1,077.80	532.29	4.65	-0.44	0.031
110.00	-16.79	-1.49	0.00	-39.90	0.00	39.90	846.54	423.27	735.96	363.46	4.65	-0.44	0.037
111.00	-15.63	-1.42	0.00	-38.41	0.00	38.41	843.03	421.51	727.41	359.24	4.74	-0.44	0.036
115.00	-14.25	-1.33	0.00	-32.73	0.00	32.73	828.55	414.27	693.31	342.40	5.11	-0.46	0.031
119.13	-13.90	-1.31	0.00	-27.24	0.00	27.24	812.92	406.46	658.37	325.15	5.52	-0.47	0.027
120.00	-13.26	-1.26	0.00	-26.10	0.00	26.10	809.51	404.76	651.00	321.50	5.60	-0.47	0.014
121.00	-12.17	-1.18	0.00	-24.84	0.00	24.84	805.58	402.79	642.58	317.35	5.70	-0.47	0.013
121.00	-12.17	-1.18	0.00	-24.84	0.00	24.84	805.58	402.79	642.58	317.35	5.70	-0.47	0.022
124.50	-12.05	-1.17	0.00	-20.71	0.00	20.71	791.49	395.75	613.28	302.88	6.05	-0.48	0.020
124.50	-12.05	-1.17	0.00	-20.71	0.00	20.71	791.49	395.75	613.28	302.88	6.05	-0.48	0.084
125.00	-11.71	-1.15	0.00	-20.13	0.00	20.13	789.44	394.72	609.12	300.82	6.10	-0.48	0.082
127.00	-9.24	-0.95	0.00	-17.83	0.00	17.83	781.12	390.56	592.51	292.62	6.31	-0.50	0.073
130.00	-8.91	-0.93	0.00	-14.98	0.00	14.98	768.32	384.16	567.78	280.41	6.63	-0.53	0.065
135.00	-8.59	-0.90	0.00	-10.33	0.00	10.33	746.17	373.08	527.09	260.31	7.21	-0.57	0.051
140.00	-5.55	-0.61	0.00	-5.82	0.00	5.82	722.98	361.49	487.14	240.58	7.83	-0.60	0.032
144.00	-5.30	-0.59	0.00	-3.38	0.00	3.38	701.03	350.52	454.07	224.25	8.34	-0.62	0.023
145.00	-5.04	-0.56	0.00	-2.79	0.00	2.79	694.06	347.03	445.03	219.78	8.47	-0.62	0.020
150.00	0.00	-0.50	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	9.12	-0.63	0.000

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-45.39	-2.14	0.00	-256.39	0.00	256.39	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.049
5.00	-43.60	-2.15	0.00	-245.69	0.00	245.69	3,091.35	1,545.67	4,611.19	2,277.30	0.01	-0.02	0.047
10.00	-41.67	-2.16	0.00	-234.93	0.00	234.93	3,047.99	1,524.00	4,447.17	2,196.29	0.04	-0.03	0.046
15.00	-39.74	-2.17	0.00	-224.13	0.00	224.13	3,003.60	1,501.80	4,284.50	2,115.95	0.08	-0.05	0.044
20.00	-38.37	-2.17	0.00	-213.28	0.00	213.28	2,958.17	1,479.08	4,123.27	2,036.33	0.14	-0.07	0.043
23.60	-37.84	-2.18	0.00	-205.46	0.00	205.46	2,924.81	1,462.41	4,008.13	1,979.47	0.20	-0.08	0.042
23.60	-37.84	-2.18	0.00	-205.46	0.00	205.46	2,924.81	1,462.41	4,008.13	1,979.47	0.20	-0.08	0.042
25.00	-35.94	-2.17	0.00	-202.41	0.00	202.41	2,911.70	1,455.85	3,963.58	1,957.46	0.23	-0.09	0.041
30.00	-35.38	-2.17	0.00	-191.56	0.00	191.56	2,864.18	1,432.09	3,805.55	1,879.42	0.33	-0.10	0.040
31.50	-33.73	-2.16	0.00	-188.30	0.00	188.30	2,849.72	1,424.86	3,758.46	1,856.16	0.36	-0.11	0.039
35.00	-33.42	-2.16	0.00	-180.73	0.00	180.73	2,805.48	1,402.74	3,636.10	1,795.73	0.44	-0.12	0.037
35.67	-31.87	-2.15	0.00	-179.29	0.00	179.29	2,231.07	1,115.54	2,951.42	1,457.59	0.46	-0.12	0.042
40.00	-30.10	-2.14	0.00	-169.96	0.00	169.96	2,201.95	1,100.98	2,850.70	1,407.85	0.58	-0.14	0.040
45.00	-28.34	-2.11	0.00	-159.29	0.00	159.29	2,167.39	1,083.69	2,735.30	1,350.86	0.73	-0.15	0.038
50.00	-26.59	-2.09	0.00	-148.72	0.00	148.72	2,131.78	1,065.89	2,620.87	1,294.35	0.90	-0.17	0.036
55.00	-26.24	-2.08	0.00	-138.29	0.00	138.29	2,095.13	1,047.56	2,507.52	1,238.37	1.08	-0.18	0.034
56.00	-24.75	-2.05	0.00	-136.21	0.00	136.21	2,087.67	1,043.84	2,484.99	1,227.24	1.12	-0.19	0.033
60.00	-23.02	-2.01	0.00	-128.01	0.00	128.01	2,057.44	1,028.72	2,395.35	1,182.97	1.28	-0.20	0.032
65.00	-21.75	-1.97	0.00	-117.98	0.00	117.98	2,018.71	1,009.36	2,284.46	1,128.21	1.50	-0.21	0.029
68.70	-21.38	-1.96	0.00	-110.70	0.00	110.70	1,989.38	994.69	2,203.29	1,088.12	1.67	-0.23	0.028
68.70	-21.38	-1.96	0.00	-110.70	0.00	110.70	1,989.38	994.69	2,203.29	1,088.12	1.67	-0.23	0.053
70.00	-21.38	-1.96	0.00	-108.15	0.00	108.15	1,978.94	989.47	2,174.96	1,074.13	1.73	-0.23	0.053
70.00	-20.17	-1.92	0.00	-108.15	0.00	108.15	1,978.94	989.47	2,174.95	1,074.12	1.73	-0.23	0.052
73.50	-19.77	-1.91	0.00	-101.43	0.00	101.43	1,462.64	731.32	1,612.09	796.15	1.91	-0.25	0.059
75.00	-18.62	-1.87	0.00	-98.57	0.00	98.57	1,455.06	727.53	1,589.51	785.00	1.99	-0.26	0.057
80.00	-17.59	-1.82	0.00	-89.24	0.00	89.24	1,429.11	714.55	1,514.58	747.99	2.27	-0.29	0.053
85.00	-16.56	-1.78	0.00	-80.12	0.00	80.12	1,402.12	701.06	1,440.27	711.29	2.59	-0.31	0.049
90.00	-15.54	-1.72	0.00	-71.23	0.00	71.23	1,374.09	687.04	1,366.68	674.95	2.93	-0.34	0.045
95.00	-14.54	-1.66	0.00	-62.62	0.00	62.62	1,345.02	672.51	1,293.93	639.02	3.29	-0.36	0.041
100.00	-13.54	-1.59	0.00	-54.31	0.00	54.31	1,314.91	657.46	1,222.10	603.55	3.69	-0.39	0.036
105.00	-12.94	-1.55	0.00	-46.35	0.00	46.35	1,283.76	641.88	1,151.31	568.59	4.10	-0.41	0.032
108.00	-12.09	-1.48	0.00	-41.69	0.00	41.69	1,264.57	632.29	1,109.37	547.87	4.36	-0.42	0.030
109.00	-11.88	-1.47	0.00	-40.21	0.00	40.21	1,256.43	628.22	1,094.04	540.30	4.45	-0.42	0.029
110.00	-11.88	-1.47	0.00	-38.75	0.00	38.75	1,247.14	623.57	1,077.81	532.29	4.54	-0.43	0.028
110.00	-11.70	-1.45	0.00	-38.75	0.00	38.75	1,247.13	623.57	1,077.80	532.29	4.54	-0.43	0.028
110.00	-11.70	-1.45	0.00	-38.75	0.00	38.75	846.54	423.27	735.96	363.46	4.54	-0.43	0.034
111.00	-10.89	-1.38	0.00	-37.30	0.00	37.30	843.03	421.51	727.41	359.24	4.63	-0.43	0.033
115.00	-9.93	-1.29	0.00	-31.77	0.00	31.77	828.55	414.27	693.31	342.40	5.00	-0.45	0.029
119.13	-9.69	-1.27	0.00	-26.44	0.00	26.44	812.92	406.46	658.37	325.15	5.39	-0.46	0.025
120.00	-9.24	-1.23	0.00	-25.33	0.00	25.33	809.51	404.76	651.00	321.50	5.47	-0.46	0.013
121.00	-8.48	-1.15	0.00	-24.10	0.00	24.10	805.58	402.79	642.58	317.35	5.57	-0.46	0.012
121.00	-8.48	-1.15	0.00	-24.10	0.00	24.10	805.58	402.79	642.58	317.35	5.57	-0.46	0.019
124.50	-8.39	-1.14	0.00	-20.09	0.00	20.09	791.49	395.75	613.28	302.88	5.91	-0.47	0.017
124.50	-8.39	-1.14	0.00	-20.09	0.00	20.09	791.49	395.75	613.28	302.88	5.91	-0.47	0.077
125.00	-8.16	-1.11	0.00	-19.52	0.00	19.52	789.44	394.72	609.12	300.82	5.96	-0.47	0.075
127.00	-6.44	-0.93	0.00	-17.29	0.00	17.29	781.12	390.56	592.51	292.62	6.16	-0.49	0.067
130.00	-6.21	-0.90	0.00	-14.52	0.00	14.52	768.32	384.16	567.78	280.41	6.48	-0.52	0.060
135.00	-5.98	-0.88	0.00	-10.01	0.00	10.01	746.17	373.08	527.09	260.31	7.04	-0.56	0.046
140.00	-3.86	-0.59	0.00	-5.63	0.00	5.63	722.98	361.49	487.14	240.58	7.64	-0.59	0.029
144.00	-3.69	-0.57	0.00	-3.27	0.00	3.27	701.03	350.52	454.07	224.25	8.14	-0.60	0.020
145.00	-3.51	-0.54	0.00	-2.70	0.00	2.70	694.06	347.03	445.03	219.78	8.26	-0.60	0.017
150.00	0.00	-0.50	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	8.90	-0.61	0.000

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):	0.18
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
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.62
Redundancy Factor (p):	1.30

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

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
46	147.50	213	1.828	1.667	1.025	0.317	58	263
45	144.50	44	1.754	1.337	0.900	0.273	10	54
44	142.00	178	1.694	1.099	0.805	0.239	37	221
43	137.50	260	1.588	0.742	0.654	0.182	41	322
42	132.50	268	1.475	0.441	0.513	0.127	29	332
41	128.50	298	1.387	0.260	0.419	0.088	23	369
40	126.00	268	1.334	0.170	0.367	0.067	15	331
39	124.75	101	1.307	0.131	0.343	0.057	5	124
38	122.75	882	1.266	0.076	0.307	0.041	32	1,091
37	120.50	520	1.220	0.024	0.270	0.026	12	643
36	119.56	280	1.201	0.005	0.255	0.020	5	346
35	117.06	1,115	1.151	-0.037	0.220	0.005	5	1,380
34	113.00	886	1.073	-0.084	0.170	-0.015	-12	1,097
33	110.50	206	1.026	-0.103	0.144	-0.025	-5	255
32	110.00	0	1.016	-0.105	0.140	-0.027	0	0
31	109.50	221	1.007	-0.108	0.135	-0.029	-5	273
30	108.50	221	0.989	-0.113	0.126	-0.032	-6	274
29	106.50	689	0.953	-0.119	0.109	-0.037	-22	853
28	102.50	1,158	0.883	-0.121	0.081	-0.044	-45	1,433
27	97.50	1,168	0.799	-0.112	0.053	-0.047	-47	1,446
26	92.50	1,179	0.719	-0.092	0.034	-0.042	-42	1,459
25	87.50	1,190	0.643	-0.068	0.020	-0.030	-31	1,472
24	82.50	1,201	0.572	-0.043	0.012	-0.014	-15	1,486
23	77.50	1,325	0.505	-0.018	0.007	0.003	4	1,640
22	74.25	466	0.463	-0.003	0.006	0.014	6	576
21	71.75	1,407	0.432	0.008	0.006	0.022	27	1,742
20	70.00	0	0.412	0.014	0.006	0.027	0	0
19	69.35	428	0.404	0.017	0.006	0.029	11	530
18	66.85	1,471	0.375	0.026	0.007	0.035	44	1,820
17	62.50	1,999	0.328	0.039	0.010	0.043	74	2,474
16	58.00	1,609	0.283	0.049	0.014	0.048	67	1,991
15	55.50	404	0.259	0.054	0.016	0.050	17	500
14	52.50	2,027	0.232	0.058	0.019	0.051	90	2,508
13	47.50	2,040	0.190	0.064	0.025	0.052	92	2,525

12	42.50	2,054	0.152	0.068	0.030	0.052	92	2,542
11	37.83	1,791	0.120	0.070	0.034	0.051	79	2,216
10	35.33	363	0.105	0.071	0.037	0.050	16	449
9	33.25	1,912	0.093	0.071	0.038	0.050	82	2,366
8	30.75	655	0.079	0.072	0.040	0.049	28	811
7	27.50	2,194	0.064	0.072	0.041	0.048	91	2,716
6	24.30	617	0.050	0.071	0.042	0.047	25	764
5	21.80	1,593	0.040	0.070	0.042	0.046	64	1,972
4	17.50	2,226	0.026	0.067	0.040	0.044	85	2,755
3	12.50	2,243	0.013	0.059	0.034	0.040	78	2,775
2	7.50	2,072	0.005	0.044	0.025	0.032	57	2,564
1	2.50	2,088	0.001	0.018	0.010	0.015	27	2,584
ADC DD1900	150.00	36	1.890	1.980	1.140	0.356	11	45
Raycap DC6-48-60-18-	150.00	64	1.890	1.980	1.140	0.356	20	79
Kaelus TMA2093FxxV1-	150.00	69	1.890	1.980	1.140	0.356	21	86
Ericsson RRUS A2 B2	150.00	66	1.890	1.980	1.140	0.356	20	82
Ericsson RRUS 11 (Ba	150.00	165	1.890	1.980	1.140	0.356	51	204
Ericsson RRUS 32 B30	150.00	180	1.890	1.980	1.140	0.356	56	223
Ericsson RRUS-11	150.00	153	1.890	1.980	1.140	0.356	47	189
Ericsson RRUS E2 B29	150.00	180	1.890	1.980	1.140	0.356	56	223
Ericsson RRUS-12 B2	150.00	174	1.890	1.980	1.140	0.356	54	215
Decibel DB809KE-SY	150.00	26	1.890	1.980	1.140	0.356	8	32
Round Side Arm	150.00	450	1.890	1.980	1.140	0.356	139	557
Powerwave Allgon 777	150.00	105	1.890	1.980	1.140	0.356	32	130
CCI HPA-65R-BUU-H8	150.00	408	1.890	1.980	1.140	0.356	126	505
Flat Platform w/ Han	150.00	2,000	1.890	1.980	1.140	0.356	617	2,475
Diamond X50A	144.00	5	1.742	1.287	0.880	0.266	1	6
Stand-Off	144.00	150	1.742	1.287	0.880	0.266	35	186
Ericsson KRY 112 144	140.00	33	1.646	0.929	0.735	0.213	6	41
Ericsson RRUS-11 (50	140.00	150	1.646	0.929	0.735	0.213	28	186
Ericsson AIR 21, 1.3	140.00	249	1.646	0.929	0.735	0.213	46	308
Ericsson AIR 21, 1.3	140.00	244	1.646	0.929	0.735	0.213	45	303
Andrew LNX-6515DS-VT	140.00	154	1.646	0.929	0.735	0.213	28	190
Flat Low Profile Pla	140.00	1,450	1.646	0.929	0.735	0.213	268	1,794
RFS FD9R6004/2C-3L	127.00	16	1.355	0.204	0.387	0.075	1	19
Alcatel-Lucent RRH2x	127.00	132	1.355	0.204	0.387	0.075	9	163
Antel BXA-171085-8BF	127.00	32	1.355	0.204	0.387	0.075	2	39
Antel BXA-70063-4CF-	127.00	30	1.355	0.204	0.387	0.075	2	37
Antel BXA-171085-12B	127.00	45	1.355	0.204	0.387	0.075	3	56
RFS DB-T1-6Z-8AB-0Z	127.00	44	1.355	0.204	0.387	0.075	3	54
Antel BXA-80080-6CF-	127.00	54	1.355	0.204	0.387	0.075	4	67
Round Low Profile Pl	127.00	1,350	1.355	0.204	0.387	0.075	88	1,671
DragonWave A-ANT-11G	111.00	54	1.035	-0.099	0.149	-0.023	-1	67
DragonWave Horizon C	109.00	21	0.998	-0.110	0.130	-0.030	-1	26
NextNet BTS-2500	108.00	105	0.980	-0.114	0.122	-0.033	-3	130
Argus LLPX310R	108.00	86	0.980	-0.114	0.122	-0.033	-2	106
24" x 24" Junction	108.00	20	0.980	-0.114	0.122	-0.033	-1	25
Side Arms	108.00	560	0.980	-0.114	0.122	-0.033	-16	693
Channel Master Type	56.00	126	0.263	0.053	0.016	0.050	5	156
		54,715	88.385	42.792	33.641	9.253	3,005	67,713

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)
46	147.50	213	1.828	1.667	1.025	0.317	58	183
45	144.50	44	1.754	1.337	0.900	0.273	10	38
44	142.00	178	1.694	1.099	0.805	0.239	37	154
43	137.50	260	1.588	0.742	0.654	0.182	41	224

42	132.50	268	1.475	0.441	0.513	0.127	29	231
41	128.50	298	1.387	0.260	0.419	0.088	23	257
40	126.00	268	1.334	0.170	0.367	0.067	15	231
39	124.75	101	1.307	0.131	0.343	0.057	5	87
38	122.75	882	1.266	0.076	0.307	0.041	32	760
37	120.50	520	1.220	0.024	0.270	0.026	12	448
36	119.56	280	1.201	0.005	0.255	0.020	5	241
35	117.06	1,115	1.151	-0.037	0.220	0.005	5	962
34	113.00	886	1.073	-0.084	0.170	-0.015	-12	765
33	110.50	206	1.026	-0.103	0.144	-0.025	-5	178
32	110.00	0	1.016	-0.105	0.140	-0.027	0	0
31	109.50	221	1.007	-0.108	0.135	-0.029	-5	191
30	108.50	221	0.989	-0.113	0.126	-0.032	-6	191
29	106.50	689	0.953	-0.119	0.109	-0.037	-22	595
28	102.50	1,158	0.883	-0.121	0.081	-0.044	-45	998
27	97.50	1,168	0.799	-0.112	0.053	-0.047	-47	1,008
26	92.50	1,179	0.719	-0.092	0.034	-0.042	-42	1,017
25	87.50	1,190	0.643	-0.068	0.020	-0.030	-31	1,026
24	82.50	1,201	0.572	-0.043	0.012	-0.014	-15	1,035
23	77.50	1,325	0.505	-0.018	0.007	0.003	4	1,143
22	74.25	466	0.463	-0.003	0.006	0.014	6	402
21	71.75	1,407	0.432	0.008	0.006	0.022	27	1,214
20	70.00	0	0.412	0.014	0.006	0.027	0	0
19	69.35	428	0.404	0.017	0.006	0.029	11	369
18	66.85	1,471	0.375	0.026	0.007	0.035	44	1,269
17	62.50	1,999	0.328	0.039	0.010	0.043	74	1,724
16	58.00	1,609	0.283	0.049	0.014	0.048	67	1,388
15	55.50	404	0.259	0.054	0.016	0.050	17	348
14	52.50	2,027	0.232	0.058	0.019	0.051	90	1,748
13	47.50	2,040	0.190	0.064	0.025	0.052	92	1,760
12	42.50	2,054	0.152	0.068	0.030	0.052	92	1,771
11	37.83	1,791	0.120	0.070	0.034	0.051	79	1,544
10	35.33	363	0.105	0.071	0.037	0.050	16	313
9	33.25	1,912	0.093	0.071	0.038	0.050	82	1,649
8	30.75	655	0.079	0.072	0.040	0.049	28	565
7	27.50	2,194	0.064	0.072	0.041	0.048	91	1,892
6	24.30	617	0.050	0.071	0.042	0.047	25	532
5	21.80	1,593	0.040	0.070	0.042	0.046	64	1,374
4	17.50	2,226	0.026	0.067	0.040	0.044	85	1,920
3	12.50	2,243	0.013	0.059	0.034	0.040	78	1,934
2	7.50	2,072	0.005	0.044	0.025	0.032	57	1,787
1	2.50	2,088	0.001	0.018	0.010	0.015	27	1,801
ADC DD1900	150.00	36	1.890	1.980	1.140	0.356	11	31
Raycap DC6-48-60-18-	150.00	64	1.890	1.980	1.140	0.356	20	55
Kaelus TMA2093FxxV1-	150.00	69	1.890	1.980	1.140	0.356	21	60
Ericsson RRUS A2 B2	150.00	66	1.890	1.980	1.140	0.356	20	57
Ericsson RRUS 11 (Ba	150.00	165	1.890	1.980	1.140	0.356	51	142
Ericsson RRUS 32 B30	150.00	180	1.890	1.980	1.140	0.356	56	155
Ericsson RRUS-11	150.00	153	1.890	1.980	1.140	0.356	47	132
Ericsson RRUS E2 B29	150.00	180	1.890	1.980	1.140	0.356	56	155
Ericsson RRUS-12 B2	150.00	174	1.890	1.980	1.140	0.356	54	150
Decibel DB809KE-SY	150.00	26	1.890	1.980	1.140	0.356	8	22
Round Side Arm	150.00	450	1.890	1.980	1.140	0.356	139	388
Powerwave Allgon 777	150.00	105	1.890	1.980	1.140	0.356	32	91
CCI HPA-65R-BUU-H8	150.00	408	1.890	1.980	1.140	0.356	126	352
Flat Platform w/ Han	150.00	2,000	1.890	1.980	1.140	0.356	617	1,725
Diamond X50A	144.00	5	1.742	1.287	0.880	0.266	1	4
Stand-Off	144.00	150	1.742	1.287	0.880	0.266	35	129
Ericsson KRY 112 144	140.00	33	1.646	0.929	0.735	0.213	6	28
Ericsson RRUS-11 (50	140.00	150	1.646	0.929	0.735	0.213	28	129
Ericsson AIR 21, 1.3	140.00	249	1.646	0.929	0.735	0.213	46	215
Ericsson AIR 21, 1.3	140.00	244	1.646	0.929	0.735	0.213	45	211
Andrew LNX-6515DS-VT	140.00	154	1.646	0.929	0.735	0.213	28	133
Flat Low Profile Pla	140.00	1,450	1.646	0.929	0.735	0.213	268	1,251

RFS FD9R6004/2C-3L	127.00	16	1.355	0.204	0.387	0.075	1	13
Alcatel-Lucent RRH2x	127.00	132	1.355	0.204	0.387	0.075	9	114
Antel BXA-171085-8BF	127.00	32	1.355	0.204	0.387	0.075	2	27
Antel BXA-70063-4CF-	127.00	30	1.355	0.204	0.387	0.075	2	26
Antel BXA-171085-12B	127.00	45	1.355	0.204	0.387	0.075	3	39
RFS DB-T1-6Z-8AB-0Z	127.00	44	1.355	0.204	0.387	0.075	3	38
Antel BXA-80080-6CF-	127.00	54	1.355	0.204	0.387	0.075	4	47
Round Low Profile Pl	127.00	1,350	1.355	0.204	0.387	0.075	88	1,164
DragonWave A-ANT-11G	111.00	54	1.035	-0.099	0.149	-0.023	-1	47
DragonWave Horizon C	109.00	21	0.998	-0.110	0.130	-0.030	-1	18
NextNet BTS-2500	108.00	105	0.980	-0.114	0.122	-0.033	-3	91
Argus LLPX310R	108.00	86	0.980	-0.114	0.122	-0.033	-2	74
24" x 24" Junction	108.00	20	0.980	-0.114	0.122	-0.033	-1	17
Side Arms	108.00	560	0.980	-0.114	0.122	-0.033	-16	483
Channel Master Type	56.00	126	0.263	0.053	0.016	0.050	5	109
		54,715	88.385	42.792	33.641	9.253	3,005	47,190

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	-65.13	-2.99	0.00	-340.90	0.00	340.90	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.065
5.00	-62.56	-2.96	0.00	-325.95	0.00	325.95	3,091.35	1,545.67	4,611.19	2,277.30	0.01	-0.02	0.063
10.00	-59.79	-2.90	0.00	-311.17	0.00	311.17	3,047.99	1,524.00	4,447.17	2,196.29	0.05	-0.05	0.061
15.00	-57.03	-2.84	0.00	-296.66	0.00	296.66	3,003.60	1,501.80	4,284.50	2,115.95	0.11	-0.07	0.059
20.00	-55.06	-2.79	0.00	-282.48	0.00	282.48	2,958.17	1,479.08	4,123.27	2,036.33	0.19	-0.09	0.057
23.60	-54.29	-2.77	0.00	-272.44	0.00	272.44	2,924.81	1,462.41	4,008.13	1,979.47	0.27	-0.11	0.056
23.60	-54.29	-2.77	0.00	-272.44	0.00	272.44	2,924.81	1,462.41	4,008.13	1,979.47	0.27	-0.11	0.056
25.00	-51.58	-2.69	0.00	-268.56	0.00	268.56	2,911.70	1,455.85	3,963.58	1,957.46	0.30	-0.11	0.055
30.00	-50.77	-2.67	0.00	-255.12	0.00	255.12	2,864.18	1,432.09	3,805.55	1,879.42	0.43	-0.14	0.053
31.50	-48.40	-2.59	0.00	-251.11	0.00	251.11	2,849.72	1,424.86	3,758.46	1,856.16	0.48	-0.14	0.052
35.00	-47.95	-2.58	0.00	-242.04	0.00	242.04	2,805.48	1,402.74	3,636.10	1,795.73	0.59	-0.16	0.051
35.67	-45.73	-2.51	0.00	-240.31	0.00	240.31	2,231.07	1,115.54	2,951.42	1,457.59	0.61	-0.16	0.057
40.00	-43.19	-2.42	0.00	-229.44	0.00	229.44	2,201.95	1,100.98	2,850.70	1,407.85	0.76	-0.18	0.055
45.00	-40.67	-2.34	0.00	-217.32	0.00	217.32	2,167.39	1,083.69	2,735.30	1,350.86	0.97	-0.20	0.052
50.00	-38.16	-2.26	0.00	-205.62	0.00	205.62	2,131.78	1,065.89	2,620.87	1,294.35	1.19	-0.23	0.050
55.00	-37.66	-2.24	0.00	-194.34	0.00	194.34	2,095.13	1,047.56	2,507.52	1,238.37	1.44	-0.25	0.048
56.00	-35.51	-2.17	0.00	-192.10	0.00	192.10	2,087.67	1,043.84	2,484.99	1,227.24	1.49	-0.25	0.047
60.00	-33.03	-2.09	0.00	-183.42	0.00	183.42	2,057.44	1,028.72	2,395.35	1,182.97	1.71	-0.27	0.045
65.00	-31.21	-2.05	0.00	-172.95	0.00	172.95	2,018.71	1,009.36	2,284.46	1,128.21	2.00	-0.29	0.043
68.70	-30.68	-2.04	0.00	-165.36	0.00	165.36	1,989.38	994.69	2,203.29	1,088.12	2.23	-0.31	0.042
68.70	-30.68	-2.04	0.00	-165.36	0.00	165.36	1,989.38	994.69	2,203.29	1,088.12	2.23	-0.31	0.079
70.00	-30.68	-2.05	0.00	-162.70	0.00	162.70	1,978.94	989.47	2,174.96	1,074.13	2.32	-0.31	0.079
70.00	-28.94	-2.02	0.00	-162.70	0.00	162.70	1,978.94	989.47	2,174.95	1,074.12	2.32	-0.31	0.078
73.50	-28.36	-2.02	0.00	-155.64	0.00	155.64	1,462.64	731.32	1,612.09	796.15	2.56	-0.34	0.090
75.00	-26.72	-2.02	0.00	-152.62	0.00	152.62	1,455.06	727.53	1,589.51	785.00	2.67	-0.35	0.088
80.00	-25.24	-2.04	0.00	-142.53	0.00	142.53	1,429.11	714.55	1,514.58	747.99	3.06	-0.40	0.084
85.00	-23.76	-2.08	0.00	-132.32	0.00	132.32	1,402.12	701.06	1,440.27	711.29	3.50	-0.44	0.080
90.00	-22.30	-2.13	0.00	-121.92	0.00	121.92	1,374.09	687.04	1,366.68	674.95	3.99	-0.49	0.075
95.00	-20.85	-2.18	0.00	-111.28	0.00	111.28	1,345.02	672.51	1,293.93	639.02	4.52	-0.53	0.071
100.00	-19.42	-2.22	0.00	-100.39	0.00	100.39	1,314.91	657.46	1,222.10	603.55	5.10	-0.57	0.065
105.00	-18.56	-2.25	0.00	-89.28	0.00	89.28	1,283.76	641.88	1,151.31	568.59	5.72	-0.61	0.060
108.00	-17.34	-2.27	0.00	-82.55	0.00	82.55	1,264.57	632.29	1,109.37	547.87	6.11	-0.63	0.056
109.00	-17.04	-2.27	0.00	-80.28	0.00	80.28	1,256.43	628.22	1,094.04	540.30	6.25	-0.64	0.055
110.00	-17.04	-2.27	0.00	-78.01	0.00	78.01	1,247.14	623.57	1,077.81	532.29	6.38	-0.65	0.054
110.00	-16.78	-2.27	0.00	-78.01	0.00	78.01	1,247.13	623.57	1,077.80	532.29	6.38	-0.65	0.054
110.00	-16.78	-2.27	0.00	-78.01	0.00	78.01	846.54	423.27	735.96	363.46	6.38	-0.65	0.066
111.00	-15.61	-2.28	0.00	-75.74	0.00	75.74	843.03	421.51	727.41	359.24	6.52	-0.66	0.063
115.00	-14.23	-2.27	0.00	-66.62	0.00	66.62	828.55	414.27	693.31	342.40	7.08	-0.69	0.057
119.13	-13.89	-2.26	0.00	-57.27	0.00	57.27	812.92	406.46	658.37	325.15	7.69	-0.72	0.050
120.00	-13.24	-2.24	0.00	-55.29	0.00	55.29	809.51	404.76	651.00	321.50	7.82	-0.72	0.025
121.00	-12.15	-2.20	0.00	-53.05	0.00	53.05	805.58	402.79	642.58	317.35	7.97	-0.73	0.024
121.00	-12.15	-2.20	0.00	-53.05	0.00	53.05	805.58	402.79	642.58	317.35	7.97	-0.73	0.039
124.50	-12.03	-2.19	0.00	-45.36	0.00	45.36	791.49	395.75	613.28	302.88	8.51	-0.74	0.034
124.50	-12.03	-2.19	0.00	-45.36	0.00	45.36	791.49	395.75	613.28	302.88	8.51	-0.74	0.165
125.00	-11.70	-2.18	0.00	-44.26	0.00	44.26	789.44	394.72	609.12	300.82	8.59	-0.74	0.162
127.00	-9.22	-2.02	0.00	-39.90	0.00	39.90	781.12	390.56	592.51	292.62	8.91	-0.79	0.148
130.00	-8.89	-2.00	0.00	-33.84	0.00	33.84	768.32	384.16	567.78	280.41	9.42	-0.85	0.132
135.00	-8.56	-1.97	0.00	-23.84	0.00	23.84	746.17	373.08	527.09	260.31	10.36	-0.94	0.103
140.00	-5.53	-1.46	0.00	-14.01	0.00	14.01	722.98	361.49	487.14	240.58	11.39	-1.01	0.066
144.00	-5.28	-1.41	0.00	-8.17	0.00	8.17	701.03	350.52	454.07	224.25	12.26	-1.05	0.044
145.00	-5.02	-1.35	0.00	-6.75	0.00	6.75	694.06	347.03	445.03	219.78	12.48	-1.06	0.038
150.00	0.00	-1.26	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	13.60	-1.07	0.000

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-45.39	-2.99	0.00	-334.10	0.00	334.10	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.061
5.00	-43.60	-2.95	0.00	-319.17	0.00	319.17	3,091.35	1,545.67	4,611.19	2,277.30	0.01	-0.02	0.059
10.00	-41.66	-2.88	0.00	-304.45	0.00	304.45	3,047.99	1,524.00	4,447.17	2,196.29	0.05	-0.04	0.057
15.00	-39.74	-2.81	0.00	-290.03	0.00	290.03	3,003.60	1,501.80	4,284.50	2,115.95	0.11	-0.07	0.055
20.00	-38.37	-2.76	0.00	-275.98	0.00	275.98	2,958.17	1,479.08	4,123.27	2,036.33	0.19	-0.09	0.053
23.60	-37.84	-2.74	0.00	-266.05	0.00	266.05	2,924.81	1,462.41	4,008.13	1,979.47	0.26	-0.10	0.052
23.60	-37.84	-2.74	0.00	-266.05	0.00	266.05	2,924.81	1,462.41	4,008.13	1,979.47	0.26	-0.10	0.052
25.00	-35.94	-2.65	0.00	-262.22	0.00	262.22	2,911.70	1,455.85	3,963.58	1,957.46	0.29	-0.11	0.051
30.00	-35.38	-2.63	0.00	-248.95	0.00	248.95	2,864.18	1,432.09	3,805.55	1,879.42	0.42	-0.13	0.050
31.50	-33.73	-2.55	0.00	-245.00	0.00	245.00	2,849.72	1,424.86	3,758.46	1,856.16	0.46	-0.14	0.049
35.00	-33.41	-2.54	0.00	-236.07	0.00	236.07	2,805.48	1,402.74	3,636.10	1,795.73	0.57	-0.16	0.047
35.67	-31.87	-2.47	0.00	-234.37	0.00	234.37	2,231.07	1,115.54	2,951.42	1,457.59	0.59	-0.16	0.053
40.00	-30.10	-2.38	0.00	-223.69	0.00	223.69	2,201.95	1,100.98	2,850.70	1,407.85	0.75	-0.18	0.051
45.00	-28.34	-2.29	0.00	-211.80	0.00	211.80	2,167.39	1,083.69	2,735.30	1,350.86	0.94	-0.20	0.049
50.00	-26.59	-2.20	0.00	-200.34	0.00	200.34	2,131.78	1,065.89	2,620.87	1,294.35	1.16	-0.22	0.046
55.00	-26.24	-2.19	0.00	-189.32	0.00	189.32	2,095.13	1,047.56	2,507.52	1,238.37	1.41	-0.24	0.045
56.00	-24.74	-2.12	0.00	-187.12	0.00	187.12	2,087.67	1,043.84	2,484.99	1,227.24	1.46	-0.25	0.044
60.00	-23.02	-2.04	0.00	-178.65	0.00	178.65	2,057.44	1,028.72	2,395.35	1,182.97	1.67	-0.26	0.042
65.00	-21.75	-2.00	0.00	-168.44	0.00	168.44	2,018.71	1,009.36	2,284.46	1,128.21	1.96	-0.28	0.040
68.70	-21.38	-1.99	0.00	-161.04	0.00	161.04	1,989.38	994.69	2,203.29	1,088.12	2.18	-0.30	0.039
68.70	-21.38	-1.99	0.00	-161.04	0.00	161.04	1,989.38	994.69	2,203.29	1,088.12	2.18	-0.30	0.075
70.00	-21.38	-1.99	0.00	-158.45	0.00	158.45	1,978.94	989.47	2,174.96	1,074.13	2.26	-0.30	0.074
70.00	-20.17	-1.96	0.00	-158.45	0.00	158.45	1,978.94	989.47	2,174.95	1,074.12	2.26	-0.30	0.074
73.50	-19.76	-1.96	0.00	-151.58	0.00	151.58	1,462.64	731.32	1,612.09	796.15	2.50	-0.33	0.084
75.00	-18.62	-1.96	0.00	-148.63	0.00	148.63	1,455.06	727.53	1,589.51	785.00	2.61	-0.35	0.083
80.00	-17.58	-1.98	0.00	-138.83	0.00	138.83	1,429.11	714.55	1,514.58	747.99	2.99	-0.39	0.079
85.00	-16.56	-2.02	0.00	-128.92	0.00	128.92	1,402.12	701.06	1,440.27	711.29	3.42	-0.43	0.075
90.00	-15.54	-2.06	0.00	-118.82	0.00	118.82	1,374.09	687.04	1,366.68	674.95	3.90	-0.47	0.071
95.00	-14.53	-2.11	0.00	-108.50	0.00	108.50	1,345.02	672.51	1,293.93	639.02	4.42	-0.52	0.067
100.00	-13.53	-2.16	0.00	-97.93	0.00	97.93	1,314.91	657.46	1,222.10	603.55	4.98	-0.56	0.062
105.00	-12.93	-2.18	0.00	-87.14	0.00	87.14	1,283.76	641.88	1,151.31	568.59	5.58	-0.60	0.057
108.00	-12.07	-2.20	0.00	-80.60	0.00	80.60	1,264.57	632.29	1,109.37	547.87	5.97	-0.62	0.053
109.00	-11.87	-2.21	0.00	-78.40	0.00	78.40	1,256.43	628.22	1,094.04	540.30	6.10	-0.63	0.052
110.00	-11.87	-2.21	0.00	-76.19	0.00	76.19	1,247.14	623.57	1,077.81	532.29	6.23	-0.63	0.051
110.00	-11.69	-2.21	0.00	-76.19	0.00	76.19	1,247.13	623.57	1,077.80	532.29	6.23	-0.63	0.051
110.00	-11.69	-2.21	0.00	-76.19	0.00	76.19	846.54	423.27	735.96	363.46	6.23	-0.63	0.062
111.00	-10.88	-2.22	0.00	-73.97	0.00	73.97	843.03	421.51	727.41	359.24	6.36	-0.64	0.060
115.00	-9.91	-2.21	0.00	-65.09	0.00	65.09	828.55	414.27	693.31	342.40	6.91	-0.67	0.054
119.13	-9.67	-2.21	0.00	-55.98	0.00	55.98	812.92	406.46	658.37	325.15	7.50	-0.70	0.047
120.00	-9.22	-2.19	0.00	-54.05	0.00	54.05	809.51	404.76	651.00	321.50	7.63	-0.70	0.023
121.00	-8.46	-2.15	0.00	-51.86	0.00	51.86	805.58	402.79	642.58	317.35	7.78	-0.71	0.022
121.00	-8.46	-2.15	0.00	-51.86	0.00	51.86	805.58	402.79	642.58	317.35	7.78	-0.71	0.036
124.50	-8.38	-2.14	0.00	-44.34	0.00	44.34	791.49	395.75	613.28	302.88	8.30	-0.72	0.032
124.50	-8.38	-2.14	0.00	-44.34	0.00	44.34	791.49	395.75	613.28	302.88	8.30	-0.72	0.157
125.00	-8.14	-2.13	0.00	-43.27	0.00	43.27	789.44	394.72	609.12	300.82	8.38	-0.72	0.154
127.00	-6.42	-1.98	0.00	-39.01	0.00	39.01	781.12	390.56	592.51	292.62	8.69	-0.77	0.142
130.00	-6.19	-1.96	0.00	-33.07	0.00	33.07	768.32	384.16	567.78	280.41	9.19	-0.83	0.126
135.00	-5.96	-1.92	0.00	-23.30	0.00	23.30	746.17	373.08	527.09	260.31	10.11	-0.92	0.098
140.00	-3.85	-1.43	0.00	-13.70	0.00	13.70	722.98	361.49	487.14	240.58	11.12	-0.99	0.062
144.00	-3.67	-1.38	0.00	-7.98	0.00	7.98	701.03	350.52	454.07	224.25	11.96	-1.02	0.041
145.00	-3.49	-1.32	0.00	-6.60	0.00	6.60	694.06	347.03	445.03	219.78	12.18	-1.03	0.035
150.00	0.00	-1.26	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	13.27	-1.05	0.000

Analysis Summary

Load Case	Reactions Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Max Usage Elev (ft)	Interaction Ratio
1.2D + 1.6W	31.72	0.00	65.59	0.00	0.00	3480.87	124.50	0.97
0.9D + 1.6W	30.54	0.00	49.18	0.00	0.00	3338.51	124.50	0.95
1.2D + 1.0Di + 1.0Wi	7.88	0.00	112.79	0.00	0.00	968.19	124.50	0.33
(1.2 + 0.2Sds) * DL + E ELFM	2.14	0.00	65.13	0.00	0.00	261.22	124.50	0.08
(1.2 + 0.2Sds) * DL + E EMAM	2.99	0.00	65.13	0.00	0.00	340.90	124.50	0.16
(0.9 - 0.2Sds) * DL + E ELFM	2.14	0.00	45.39	0.00	0.00	256.39	124.50	0.08
(0.9 - 0.2Sds) * DL + E EMAM	2.99	0.00	45.39	0.00	0.00	334.10	124.50	0.16
1.0D + 1.0W	7.67	0.00	54.71	0.00	0.00	845.47	124.50	0.25

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors VQ/I (lb/in)	Shear Applied (kips)	Shear phiVn (kips)	Upper Termination Connectors MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Lower Termination Connectors MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Max Member Pu (kip)	phiPn (kip)	Ratio
0.00	121.0	(4) SOL-#20 All Thre	485.3	13.1	16.8	59.0	12.0	5	10	0.0	12.0	0	0	282.5	314.9	0.897
0.00	23.60	(4) SOL-#20 All Thre	236.0	6.4	16.8	0.0	12.0	0	24	0.0	12.0	0	0	285.6	334.7	0.853
23.60	68.70	(4) SOL-#20 All Thre	265.3	8.0	16.8	188.9	12.0	16	24	0.0	12.0	0	0	259.4	330.5	0.785
119.1	124.5	(3) SOL-#20 (15 deg	472.4	14.2	16.8	100.1	12.0	9	12	79.7	12.0	7	12	119.4	284.5	0.420

Base/Flange Plate	Plate Type	***Baseplate***	
	Pole Diameter	37.38	in
	Pole Thickness		in
	Plate Length	44	in
	Plate Thickness	2.5	in
	Plate Fy	60	ksi
	Weld Length	0.3125	in
	ϕ_s Resistance	1382.37	k-in
	Applied	681.01	k-in
Stiffeners	#	***0***	

Bolts	#	***8***	
	Bolt Circle	44	in
	(R)adial / (S)quare	S	
	Bolt Gap	6	in
●	Diameter	2.25	in
	Hole Diameter	2.375	in
	Type	A615-75	
	Fy	75	ksi
	Fu	100	ksi
	ϕ_s Resistance	259.82	k
	Applied	188.12	k
Reinforcement	#	***4***	
●	DYW. Circle	46	in
	Offset Angle	0	°
	Type	#20	
	Diameter	2.5	in
	Fu	100	ksi
Extra Bolts O	#	***4***	
	Bolt Circle	52.4	in
	(R)adial / (S)quare	R	
	Offset Angle	0	°
	Diameter	2.5	in
	Type	DYWIDAG	
	Fy	80	ksi
	Fu	100	ksi
	ϕ_s Resistance	319.91	k
	Applied	285.77	k

Code Rev.	***G***
Moment	3480.9 k-ft
Axial	112.8 k

Date	7/29/2016
Engineer	JAA
Site #	302489
Carrier	AT&T

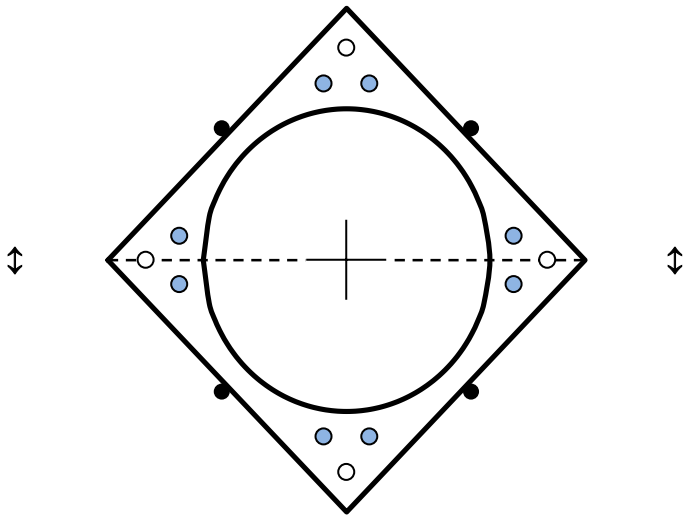


Plate Stress Ratio:
0.49 (Pass)

Bolt Stress Ratio:
0.72 (Pass)

Extra Bolt Stress Ratio:
0.89 (Pass)

Base/Flange Plate	Plate Type	***Flange***	***@ 110.0 ft***
	Pole Diameter	21.25	in
	Pole Thickness		in
	Plate Diameter	28.5	in
	Plate Thickness	1	in
	Plate Fy	60	ksi
	Weld Length	0.1875	in
	ϕ_s Resistance	96.45	k-in
	Applied	30.26	k-in
Stiffeners	#	***0***	

Bolts	#	***8***	
	Bolt Circle	25.75	in
	(R)adial / (S)quare	R	
●	Diameter	1	in
	Hole Diameter	1.125	in
	Type	A325	
	Fy	92	ksi
	Fu	120	ksi
	ϕ_s Resistance	54.52	k
	Applied	20.17	k
Reinforcement	#	***4***	
●	DYW. Circle	28	in
	Offset Angle	24	°
	Type	#20	
	Diameter	2.5	in
	Fu	100	ksi
Extra Bolts O	#	***0***	

Code Rev. ***G***

Date	7/29/2016
Engineer	JAA
Site #	302489
Carrier	AT&T

Moment	548.8 k-ft
Axial	14.7 k

Required Flange Thickness:

0.56 in OK

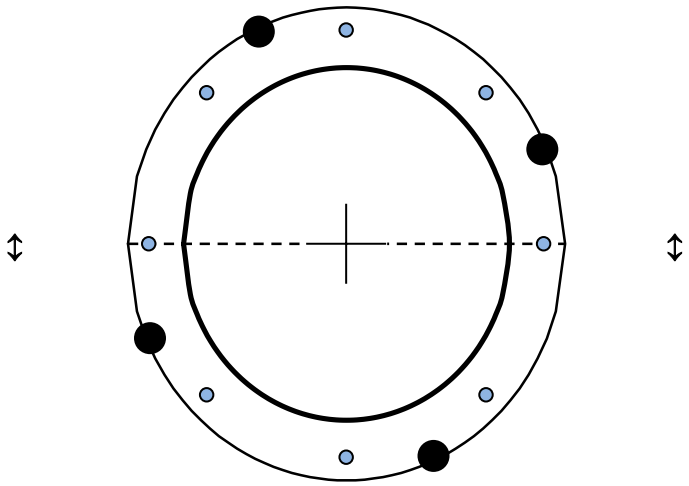


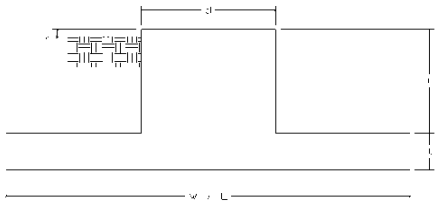
Plate Stress Ratio:

0.31 (Pass)

Bolt Stress Ratio:

0.37 (Pass)

Site Name:	Enfd - Enfield, CT	*Program Last Updated:*	*5/13/2014*
Site Number:	302489		
Engineering Number:	11887806_C3_01		
Engineer:	JAA		
Date:	07/29/16		
Tower Type:	MP		



Design Loads (Factored) - Analysis per TIA-222-G Standards

Design / Analysis / Mapping:	Analysis				
Compression/Leg:	112.8	k	Concrete Strength (f'_c):	3000	psi
Uplift/Leg:	0.0	k	Pad Tension Steel Depth:	32.00	in
Total Shear:	31.7	k	ϕ_{Shear}:	0.75	
Moment:	3480.9	k-ft	$\phi_{Flexure\ /\ Tension}$:	0.90	
Tower + Appurtenance Weight:	194.9	k	$\phi_{Compression:}$	0.65	
Depth to Base of Foundation (l + t - h):	8.00	ft	β:	0.85	
Diameter of Pier (d):	5.64	ft	Bottom Pad Rebar Size #:	10	
Height of Pier above Ground (h):	0.50		# of Bottom Pad Rebar:	34	
Width of Pad (W):	18.00	ft	Pad Bottom Steel Area:	43.18	in^2
Length of Pad (L):	18.00	ft	Pad Steel F_y:	60000	psi
Thickness of Pad (t):	3.00	ft	Top Pad Rebar Size #:	10	
Tower Leg Center to Center:	0.00	ft	# of Top Pad Rebar:	34	
Number of Tower Legs:	1.0	(1 if MP or GT)	Pad Top Steel Area:	43.18	in^2
Tower Center from Mat Center:	0.00	ft	Pier Rebar Size #:	11	
Depth Below Ground Surface to Water Table:	50.00	ft	Pier Steel Area (Single Bar):	1.56	in^2
Unit Weight of Concrete:	150.0	pcf	# of Pier Rebar:	52	
Unit Weight of Soil Above Water Table:	115.0	pcf	Pier Steel F_y:	60000	psi
Unit Weight of Water:	62.4	pcf	Pier Cage Diameter:	59.7	in
Unit Weight of Soil Below Water Table:	60.0	pcf	Rebar Strain Limit:	0.008	
Friction Angle of Uplift:	15.0	Degrees	Steel Elastic Modulus:	29000	ksi
Ultimate Coefficient of Shear Friction:	0.30		Tie Rebar Size #:	4	
Ultimate Compressive Bearing Pressure:	24000.0	psf	Tie Steel Area (Single Bar):	0.20	in^2
Ultimate Passive Pressure on Pad Face:	0.0	psf	Tie Spacing:	12	in
$\phi_{Soil\ and\ Concrete\ Weight}$:	0.9		Tie Steel F_y:	60000	psi
ϕ_{Soil}:	0.75				

Overturning Moment Usage

Design OTM:	3750.3	k-ft
OTM Resistance:	4355.1	k-ft
Design OTM / OTM Resistance:	0.86	Result: OK

Soil Bearing Pressure Usage

Net Bearing Pressure:	7455	psf
Factored Nominal Bearing Pressure:	18000	psf
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.41	Result: OK
Load Direction Controling Design Bearing Pressure:	Diagonal to Pad Edge	

Sliding Factor of Safety

Total Factored Sliding Resistance:	112.7	k
Sliding Design / Sliding Resistance:	0.28	Result: OK

One Way Shear, Flexual Capacity, and Punching Shear

Factored One Way Shear (V_u):	255.2	k
One Way Shear Capacity (ϕV_c):	456.9	k - ACI11.3.1.1
V_u / ϕV_c:	0.56	Result: OK
Load Direction Controling Shear Capacity:	Diagonal to Pad Edge	
Lower Steel Pad Factored Moment (M_u):	1484.1	k-ft
Lower Steel Pad Moment Capacity (ϕM_n):	5829.5	k-ft - ACI10.3
M_u / ϕM_n:	0.25	Result: OK
Load Direction Controling Flexural Capacity:	Parallel to Pad Edge	
Upper Steel Pad Factored Moment (M_u):	561.6	k-ft
Upper Steel Pad Moment Capacity (ϕM_n):	5829.5	k-ft
M_u / ϕM_n:	0.10	Result: OK
Lower Pad Flexural Reinforcement Ratio:	0.0062	OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0062	OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Lower Pad Reinforcement Spacing:	6	in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Upper Pad Reinforcement Spacing:	6	in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Factored Punching Shear (V_u):	0.0	k
Nominal Punching Shear Capacity ($\phi_c V_n$):	1646.6	k - ACI11.12.2.1
V_u / ϕV_c:	0.00	Result: OK
Factored Moment in Pier (M_u):	3655.2	k-ft
Pier Moment Capacity (ϕM_n):	10652.2	k-ft
M_u / ϕM_n:	0.34	Result: OK
Factored Shear in Pier (V_u):	31.7	k
Pier Shear Capacity (ϕV_n):	300.2	k
V_u / ϕV_c:	0.11	Result: OK
Pier Shear Reinforcement Ratio:	0.0006	No Ties Necessary for Shear - ACI11.5.6.1
Factored Tension in Pier (T_u):	0.0	k
Pier Tension Capacity (ϕT_n):	4380.5	k
T_u / ϕT_n:	0.00	Result: OK
Factored Compression in Pier (P_u):	112.8	k
Pier Compression Capacity (ϕP_n):	4662.8	k - ACI10.3.6.2
P_u / ϕP_n:	0.02	Result: OK
Pier Compression Reinforcement Ratio:	0.023	OK - Reinforcement Ratio Met - ACI10.9.1 & 10.8.4
$M_u/\phi_B M_n + T_u/\phi_T T_n$:	0.34	Result: OK

Nominal and Design Moment Capacity and Factored Design Loads