Filed by:
Kri Pelletier, Property Specialist - SBA Communications
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February 4, 2016

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

Notice of Exempt Modification
52 Stadley Rough Road
Danbury, CT 06811
41.43361 N
73.43055 W
T-Mobile#: CT11796G_L700

Dear Ms. Bachman:

T-Mobile currently maintains three (3) antennas at the 137-foot level of the existing 139-foot Monopole Tower at 52 Stadley Rough Road. The tower is owned by SBA Towers II, LLC. The property is owned by Christ the Shepherd Church. T-Mobile now intends to install three (3) new L700MHz antennas. These antennas would be installed at the 137-foot level of the tower. T-Mobile also intends to:

Remove:

- None

Remove and Replace:

- Remove (3) existing antenna mounts and replace with (3) new SitePro UDS-NP T-arms

Install:

- (3) AIR 21 Panel Antennas
- (3) Ericsson RRUS-11

Existing Equipment to Remain (Entitlements):

- (3) AIR 21 Panel Antennas
- (3) Ericsson KRY Tower Mounted Amplifiers
- (12) 1-5/8" Coax Lines
- (1) 1-5/8" Fiber Line

This facility was approved by the Council under Docket No. 366 on April 23, 2009. The approval called for the construction of a 140' monopole with a vegetative buffer, architectural compound fence, and space for public safety services. This modification is in compliance with the above conditions. The original approval also called for flush mounted antennas. In order to effectively address the need for increased speed and capacity while observing the site conditions, T-Mobile proposes to use a relatively small mount with an 8-inch standoff. T-Mobile's proposed mount would be smaller than Verizon's and AT&T's existing mounts, which are both using approximately 14-inch standoffs and would have less of a visual impact as well.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to the Honorable Mark Boughton, Mayor of Danbury, for the Town of Stafford, as well as the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. §16.50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modification will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modification will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

Kri Pelletier
Property Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3804 + T
508.366.2610 + F
203.446.7700 + C
kpelletier@sbasite.com

Attachments
cc: The Honorable Mark Boughton–as elected official
City of Danbury, 155 Deer Hill Avenue, Danbury, CT 06810
Christ the Shepherd Church–as property owner
52 Stadley Rough Road, Danbury CT 06811

POWER DENSITY

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	137	Height (AGL):	137	Height (AGL):	137
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	# PCS Channels:	4
Total TX Power:	120	Total TX Power:	120	# AWS Channels:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE%	0.98	Antenna B1 MPE%	0.98	Antenna C1 MPE%	0.98
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR21 B4A/B12P	Make / Model:	Ericsson AIR21 B4A/B12P	Make / Model:	Ericsson AIR21 B4A/B12P
Gain:	15.9 / 13.6 dBd	Gain:	15.9 / 13.6 dBd	Gain:	15.9 / 13.6 dBd
Height (AGL):	137	Height (AGL):	137	Height (AGL):	137
Frequency Bands	2100 MHz (AWS) / 700 MHz	Frequency Bands	2100 MHz (AWS) / 700 MHz	Frequency Bands	2100 MHz (AWS) / 700 MHz
Channel Count	3	Channel Count	3	Channel Count	3
Total TX Power:	150	Total TX Power:	150	Total TX Power:	150
ERP (W):	5,355.80	ERP (W):	5,355.80	ERP (W):	5,355.80
Antenna A2 MPE%	1.29	Antenna B2 MPE%	1.29	Antenna C2 MPE%	1.29

Site Composite MPE%	
Carrier	MPE%
T-Mobile	2.26
AT&T	1.86 %
Clearwire	0.16 %
MetroPCS	0.35 %
Verizon Wireless	5.04 %
Site Total MPE %:	**9.67 %**

T-Mobile Sector 1 Total:	2.26 %
T-Mobile Sector 2 Total:	2.26 %
T-Mobile Sector 3 Total:	2.26 %
Site Total:	9.67 %

T-Mobile _per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile 2100 MHz (AWS) LTE	2	2334.27	137	9.78	2100	1000	0.98 %
T-Mobile 700 MHz LTE	1	687.26	137	1.44	700	467	0.31 %
T-Mobile 1900 MHz (PCS) UMTS	2	1167.14	137	4.89	1900	1000	0.49 %
T-Mobile 2100 MHz (AWS) UMTS	2	1167.14	137	4.89	2100	1000	0.49 %
						Total:	2.26%

Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
8445 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 139 ft. SABRE Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13549-S

Customer Site Name: Danbury 1

Carrier Name: T-Mobile

Carrier Site ID / Name: CT11796G

Site Location: 52 Stadley Rough Road

Danbury, Connecticut

Fairfield County

Latitude: 41.433102

Longitude: -73.431916

Analysis Result:

Max Structural Usage: 86.7% [Pass]

Max Foundation Usage: 89% [Pass]

Report Prepared By : Stacey Hesselbein

Introduction

The purpose of this report is to summarize the analysis results on the 139 ft. SABRE Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Tower Drawings prepared by Sabre Towers and Poles, Job # 10-01206 Dated 01/28/2010
Foundation Drawing	Foundation Drawings prepared by Sabre Towers and Poles, Job # 10-01206 Dated 01/28/2010
Geotechnical Report	Geotechnical Report prepared by Tower Engineering Professionals Project # 091184.01 Dated 05/13/2009
Modification Drawings	N/A

Analysis Criteria

The analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-F**.** In accordance with this standard, the structure was analyzed using **TESPoles,** a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Basic Wind Speed Used in the Analysis:	85.0 mph (fastest mile)
Basic Wind Speed with Ice:	74 mph (fastest mile) with 1/2" radial ice concurrent
Operational Wind Speed:	50 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-F / 2005 Connecticut State Building Code

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	137.0	3	AIR 21 B2A/B4P - Panel	(1) Flush Mount	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
3		3	Ericsson - KRY 112 144/1 - TMA			
5	117.0	3	Kathrein - 800 10504 - Panel	(1) Flush Mount	(12) 1 5/8"	Metro PCS
6		3	Kathrein - 742 351 - Panel			
7	112.0	3	Ericsson - RRUS 11 - RRU	(1)Collar Mount (Commscope RR-RM1560)	(6) 7/8" (1) 10 mm Fiber (4) 3/4" DC	New Cingular
8		3	Ericsson - RRUS 12 - RRU			
9		3	Ericsson - RRUS A2 Module			
10		1	Raycap - DC6-48-60-18-8F - SP			
11	107.0	3	CCI - OPA-65R-LCUU-H6 - Panel	(1) Standoff Mount (Commscope MC-HPM1250-B)		
12		3	CCI - HPA-65R-BUU-H6 - Panel			
13		3	Kaelus - DBC20056F1V1 - Diplexer			
14		3	CCI - DTMABP7819VG12A - TMA			
15	102.0	3	Ericsson - RRUS-E2 - RRU	(1)Collar Mount (Commscope RR-RM1560)		
16		3	Ericsson - RRUS-32 - RRU			
17		1	Raycap - DC6-48-60-18-8F - SP			
18	97.0	3	Antel - BXA-70063/6CF - Panel	(1)Flush Mount	(12) 1 5/8" (1) 1 5/8" Fiber	Verizon
19		3	Antel - BXA-171063/12CF - Panel			
20		3	Andrew - DBXNH-6565A-VTM - Panel			
21		3	Alcatel - RRH2x40-AWS - RRH			
22		6	RFS - FD9R6004/2C-3L - Diplexer			
23		1	RFS - DB-T1-6Z-8AB-0Z - Junction Box			

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	137.0	3	AIR 21 B2A/B4P - Panel	(3) T-Arms (SitePro-UDS-NP)	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
2		3	AIR 21 B4A B12P - Panel			
3		3	Ericsson - KRY 112 144/1 - TMA			
4		3	Ericsson - S11B12 - RRU			

All transmission lines are considered running inside of the pole shafts.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	**86.7%**	**72.9%**	**71.5%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	2074.0	20.7	21.7
Analysis Reactions	1872.9	19.8	20.2
% of Design Reactions	90.3%	95.7%	93.1%

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-F for the installed antennas. Maximum twist/sway at the elevation of the proposed equipment is 1.9748 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-F Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.

3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.

4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.

5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.

6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed or/and ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Stress 86.7% at 53.3ft

Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)			Page: 1	

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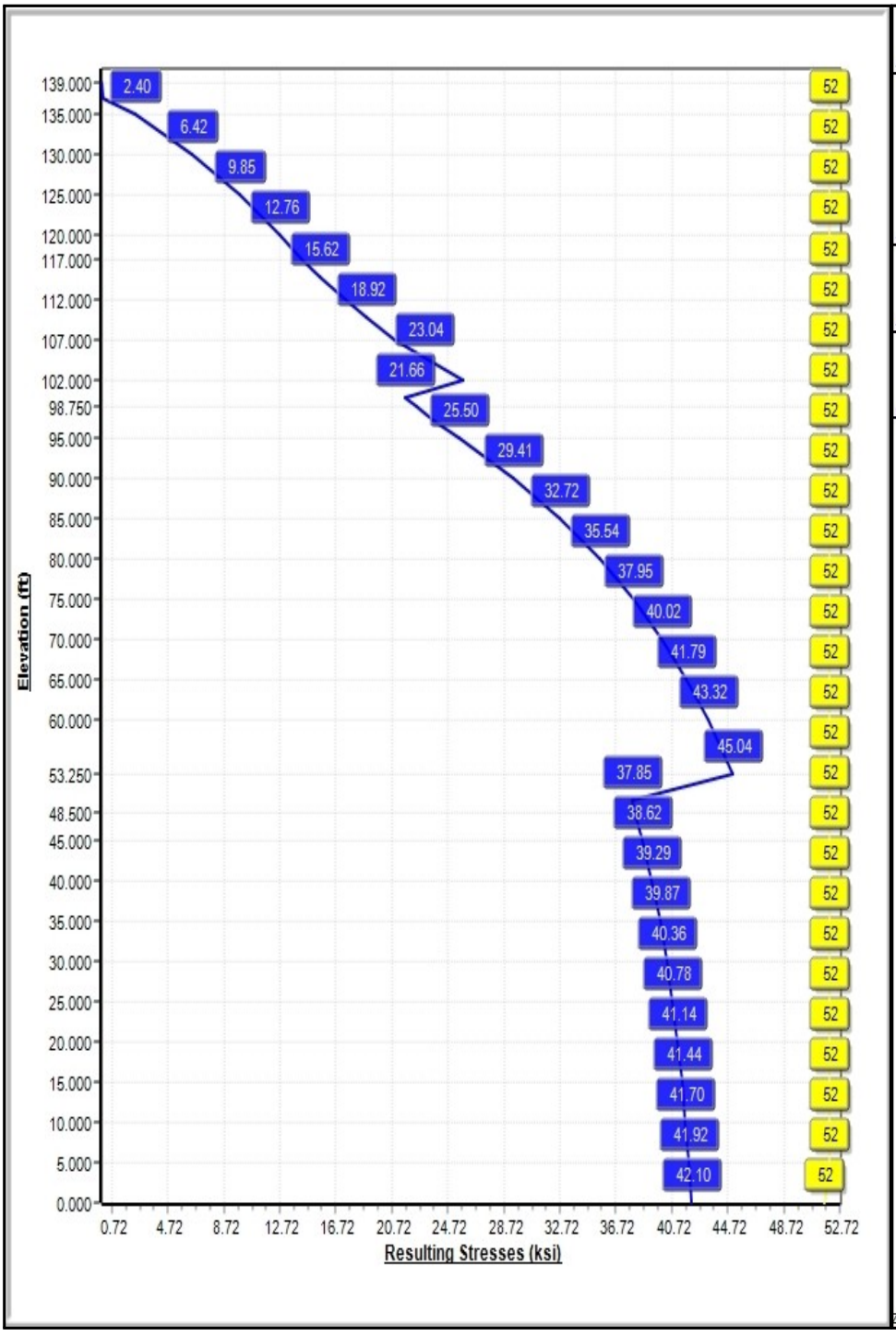
Dead Load Factor:	1.00
Wind Load Factor:	1.00

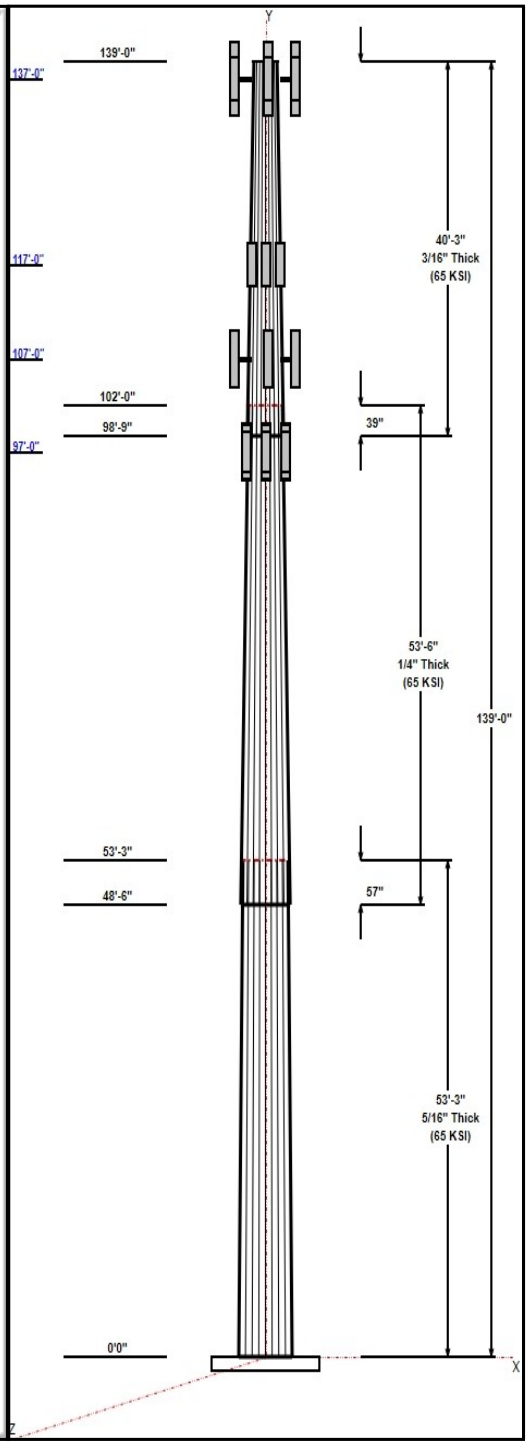
52 Alllowable Stress

45 Resulting Stress

Load Case : 85 mph Wind with 0 in Ice

Iterations: 26





Structure: CT13549-S-SBA

Type: Tapered
Site Name: Danbury 1
Height: 139.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23097

1/25/2016

Tower Engineering Solutions

Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	34.93	47.23	0.313		0.23097	65
2	53.50	24.17	36.53	0.250	Slip	0.23097	65
3	40.25	16.00	25.30	0.188	Slip	0.23097	65

Discrete Appurtenances

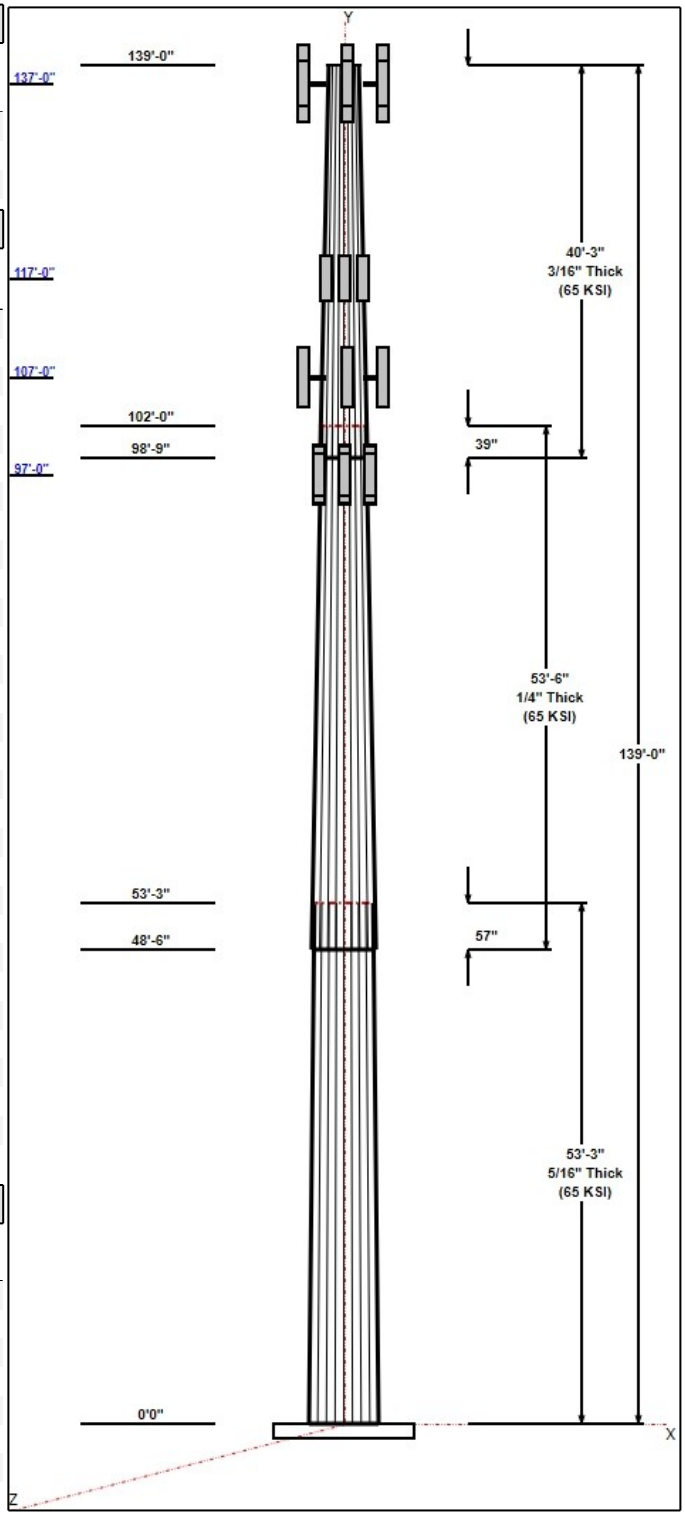
Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
139.00	139.00	1	6' Lightning rod	T-Mobile
137.00	137.00	3	AIR 21 B4A/B12P	T-Mobile
137.00	137.00	3	AIR 21, 1.3M, B2A B4P	T-Mobile
137.00	137.00	3	KRY 112 144/1	T-Mobile
137.00	137.00	3	S11B12	T-Mobile
137.00	137.00	3	T-Arms	T-Mobile
117.00	117.00	3	742 351	Metro PCS
117.00	117.00	3	800 10504	Metro PCS
117.00	117.00	1	Flush Mount	Metro PCS
112.00	112.00	1	Collar Mount	New Cingular
112.00	112.00	1	DC6-48-60-18-8F	New Cingular
112.00	112.00	3	RRUS 11	New Cingular
112.00	112.00	3	RRUS 12	New Cingular
112.00	112.00	3	RRUS A2 Module	New Cingular
107.00	107.00	3	DBC20056F1V1	New Cingular
107.00	107.00	3	DTMABP7819VG12A	New Cingular
107.00	107.00	3	HPA-65R-BUU-H6	New Cingular
107.00	107.00	3	OPA-65R-LCUU-H6	New Cingular
107.00	107.00	3	T-Arm (Flat)	New Cingular
102.00	102.00	1	Collar Mount	New Cingular
102.00	102.00	1	DC6-48-60-18-8F	New Cingular
102.00	102.00	3	RRUS-32	New Cingular
102.00	102.00	3	RRUS-E2	New Cingular
97.00	97.00	3	BXA-171063/12CF	Verizon
97.00	97.00	3	BXA-70063/6CF	Verizon
97.00	97.00	1	DB-T1-6Z-8AB-0Z	Verizon
97.00	97.00	3	DBXNH-6565A-VTM	Verizon
97.00	97.00	6	FD9R6004/2C-3L (3.1 lbs)	Verizon
97.00	97.00	1	Flush Mount	Verizon
97.00	97.00	3	RRH2x40-AWS	Verizon

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	137.00	Inside	1 5/8" Coax	T-Mobile
0.00	137.00	Inside	1 5/8" Hybrid	T-Mobile
0.00	117.00	Inside	1 5/8" Coax	Metro PCS
0.00	107.00	Inside	10 mm Fiber	New Cingular
0.00	107.00	Inside	3/4" DC	New Cingular
0.00	107.00	Inside	7/8" Coax	New Cingular
0.00	97.00	Inside	1 5/8" Coax	Verizon
0.00	97.00	Inside	1 5/8" Hybrid	Verizon

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
12	2.25" 18J	75.0	Cluster



Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	51.5	50.0	Clipped

Reactions

Load Case	Moment	Shear	Axial
85 mph Wind with 0" Ice	1872.9	19.8	20.2
73.61 mph Wind with 0.5" Ice	1541.9	15.9	25.1
50 mph Wind with 0" Ice	648.8	6.8	20.3

Structure: CT13549-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Danbury 1
Height: 139.00 (ft)

1/25/2016

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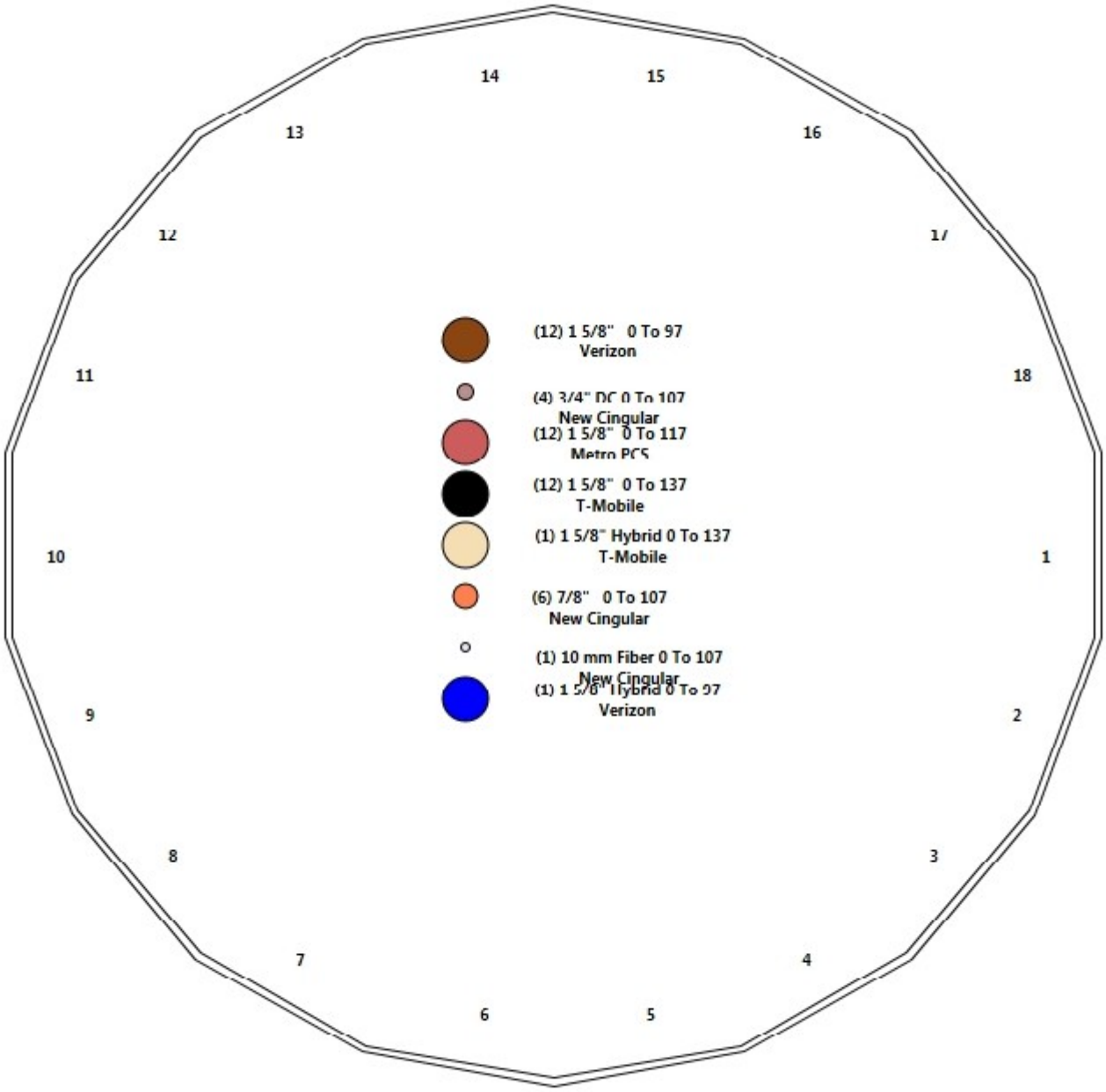

Shaft Properties

Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 5	

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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.250	0.3125	65		0.00	7,327
2	18	53.500	0.2500	65	Slip	57.00	4,348
3	18	40.250	0.1875	65	Slip	39.00	1,668
					Total Shaft Weight:		**13,342**

	Bottom						Top						
Sec. No.	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Taper**
1	47.23	0.00	46.53	12941.93	25.24	151.14	34.93	53.25	34.34	5198.89	18.30	111.78	0.230971
2	36.53	48.50	28.79	4786.42	24.35	146.11	24.17	102.0	18.98	1372.20	15.64	96.68	0.230971
3	25.30	98.75	14.94	1190.25	22.38	134.92	16.00	139.0	9.41	297.27	13.64	85.33	0.230971

Loading Summary

Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 6	

Tower Engineering Solutions

Discrete Appurtenances

				No Ice			Ice				
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	139.00	6' Lightning rod	1	6.50	0.38	0.00	11.80	0.980	0.00	0.00	0.00
2	137.00	AIR 21 B4A/B12P	3	126.00	11.47	0.83	196.60	12.020	0.83	0.00	0.00
3	137.00	AIR 21, 1.3M, B2A B4P	3	91.50	6.58	0.83	129.20	6.970	0.83	0.00	0.00
4	137.00	KRY 112 144/1	3	11.00	0.41	0.72	14.10	0.490	0.75	0.00	0.00
5	137.00	S11B12	3	51.00	3.31	0.71	67.10	3.520	0.72	0.00	0.00
6	137.00	T-Arms	3	350.00	3.50	0.75	420.00	5.500	0.75	0.00	0.00
7	117.00	742 351	3	29.80	5.88	0.65	57.10	6.250	0.66	0.00	0.00
8	117.00	800 10504	3	17.60	3.35	0.78	35.70	3.610	0.79	0.00	0.00
9	117.00	Flush Mount	1	350.00	5.00	0.75	450.00	6.000	0.75	0.00	0.00
10	112.00	Collar Mount	1	122.40	3.00	0.75	160.40	3.500	0.75	0.00	0.00
11	112.00	DC6-48-60-18-8F	1	31.80	1.47	1.00	49.50	1.670	1.00	0.00	0.00
12	112.00	RRUS 11	3	50.70	2.94	0.76	66.00	3.140	0.77	0.00	0.00
13	112.00	RRUS 12	3	58.00	3.67	0.70	75.70	3.890	0.71	0.00	0.00
14	112.00	RRUS A2 Module	3	21.20	1.86	0.60	31.40	2.030	0.63	0.00	0.00
15	107.00	DBC20056F1V1	3	6.60	0.48	0.80	9.40	0.570	0.82	0.00	0.00
16	107.00	DTMABP7819VG12A	3	19.20	1.14	0.67	26.50	1.260	0.69	0.00	0.00
17	107.00	HPA-65R-BUU-H6	3	51.00	10.36	0.81	108.40	10.850	0.81	0.00	0.00
18	107.00	OPA-65R-LCUU-H6	3	80.00	10.36	0.76	134.00	10.850	0.77	0.00	0.00
19	107.00	T-Arm (Flat)	3	178.00	4.50	0.75	220.00	6.000	0.75	0.00	0.00
20	102.00	Collar Mount	1	122.40	3.00	0.75	160.40	3.500	0.75	0.00	0.00
21	102.00	DC6-48-60-18-8F	1	31.80	1.47	1.00	49.50	1.670	1.00	0.00	0.00
22	102.00	RRUS-32	3	77.00	3.87	0.86	103.50	4.110	0.86	0.00	0.00
23	102.00	RRUS-E2	3	77.00	1.93	0.67	86.20	2.100	0.69	0.00	0.00
24	97.00	BXA-171063/12CF	3	15.00	4.79	0.88	42.40	5.120	0.88	0.00	0.00
25	97.00	BXA-70063/6CF	3	17.00	7.73	0.74	57.60	8.190	0.75	0.00	0.00
26	97.00	DB-T1-6Z-8AB-0Z	1	18.90	5.60	1.00	46.00	5.870	1.00	0.00	0.00
27	97.00	DBXNH-6565A-VTM	3	34.20	5.88	0.80	70.50	6.230	0.81	0.00	0.00
28	97.00	FD9R6004/2C-3L (3.1 lbs)	6	3.10	0.36	0.62	5.40	0.440	0.65	0.00	0.00
29	97.00	Flush Mount	1	350.00	5.00	0.75	450.00	6.000	0.75	0.00	0.00
30	97.00	RRH2x40-AWS	3	44.00	2.52	0.82	61.40	2.710	0.83	0.00	0.00
		Totals:	**77**	**5,269.80**			**7,448.40**				

Linear Appurtenances

			No Ice		Ice		
Bottom Elev. (ft)	Top Elev. (ft)	Description	Weight (lb/ft)	CaAa (sf/ft)	Weight (lb/ft)	CaAa (sf/ft)	Exposed
0.00	137.00	(12) 1 5/8" Coax	1.04	0.00	0.00	0.00	Inside
0.00	137.00	(1) 1 5/8" Hybrid	3.30	0.00	0.00	0.00	Inside
0.00	117.00	(12) 1 5/8" Coax	1.04	0.00	0.00	0.00	Inside
0.00	107.00	(1) 10 mm Fiber	0.18	0.00	0.00	0.00	Inside
0.00	107.00	(4) 3/4" DC	1.20	0.00	0.00	0.00	Inside
0.00	107.00	(6) 7/8" Coax	1.56	0.00	0.00	0.00	Inside
0.00	97.00	(12) 1 5/8" Coax	3.12	0.00	0.00	0.00	Inside
0.00	97.00	(1) 1 5/8" Hybrid	3.30	0.00	0.00	0.00	Inside
		Totals:	**1,653.58**		**0.00**		

Shaft Section Properties

Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 7	

Tower Engineering Solutions

Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)
0.00		0.3125	47.230	46.535	12941.9	25.24	151.14	65	52	0.0
5.00		0.3125	46.075	45.389	12009.6	24.59	147.44	65	52	782.0
10.00		0.3125	44.920	44.244	11123.1	23.94	143.74	65	52	762.5
15.00		0.3125	43.765	43.098	10281.4	23.28	140.05	65	52	743.0
20.00		0.3125	42.611	41.953	9483.2	22.63	136.35	65	52	723.5
25.00		0.3125	41.456	40.807	8727.5	21.98	132.66	65	52	704.0
30.00		0.3125	40.301	39.662	8013.0	21.33	128.96	65	52	684.5
35.00		0.3125	39.146	38.517	7338.6	20.68	125.27	65	52	665.1
40.00		0.3125	37.991	37.371	6703.2	20.03	121.57	65	52	645.6
45.00		0.3125	36.836	36.226	6105.5	19.37	117.88	65	52	626.1
48.50	Bot - Section 2	0.3125	36.028	35.424	5709.0	18.92	115.29	65	52	426.7
50.00		0.3125	35.681	35.080	5544.5	18.72	114.18	65	52	326.2
53.25	Top - Section 1	0.2500	35.431	27.915	4365.2	23.58	141.72	65	52	695.8
55.00		0.2500	35.027	27.594	4216.4	23.29	140.11	65	52	165.3
60.00		0.2500	33.872	26.678	3810.2	22.48	135.49	65	52	461.7
65.00		0.2500	32.717	25.762	3430.9	21.66	130.87	65	52	446.1
70.00		0.2500	31.562	24.845	3077.6	20.85	126.25	65	52	430.5
75.00		0.2500	30.407	23.929	2749.5	20.04	121.63	65	52	414.9
80.00		0.2500	29.252	23.012	2445.6	19.22	117.01	65	52	399.3
85.00		0.2500	28.097	22.096	2164.9	18.41	112.39	65	52	383.7
90.00		0.2500	26.943	21.180	1906.6	17.59	107.77	65	52	368.1
95.00		0.2500	25.788	20.263	1669.7	16.78	103.15	65	52	352.6
97.00		0.2500	25.326	19.897	1580.7	16.45	101.30	65	52	136.7
98.75	Bot - Section 3	0.2500	24.922	19.576	1505.5	16.17	99.69	65	52	117.5
100.00		0.2500	24.633	19.347	1453.2	15.96	98.53	65	52	146.0
102.00	Top - Section 2	0.1875	24.546	14.496	1086.7	21.67	130.91	65	52	230.0
105.00		0.1875	23.853	14.083	996.5	21.02	127.22	65	52	145.9
107.00		0.1875	23.391	13.809	939.3	20.59	124.75	65	52	94.9
110.00		0.1875	22.698	13.396	857.7	19.93	121.06	65	52	138.9
112.00		0.1875	22.236	13.121	805.9	19.50	118.59	65	52	90.2
115.00		0.1875	21.543	12.709	732.3	18.85	114.90	65	52	131.8
117.00		0.1875	21.081	12.434	685.8	18.41	112.43	65	52	85.6
120.00		0.1875	20.388	12.022	619.8	17.76	108.74	65	52	124.8
125.00		0.1875	19.234	11.334	519.5	16.68	102.58	65	52	198.7
130.00		0.1875	18.079	10.647	430.6	15.59	96.42	65	52	187.0
135.00		0.1875	16.924	9.960	352.5	14.50	90.26	65	52	175.3
137.00		0.1875	16.462	9.685	324.1	14.07	87.80	65	52	66.8
139.00		0.1875	16.000	9.410	297.3	13.64	85.33	65	52	65.0
										13342.3

Wind Loading - Shaft

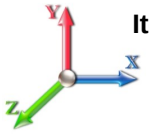
Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 8	

Tower Engineering Solutions

Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations: 26

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		0.00	1.00	18.496	31.26	334.55	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	18.496	31.26	326.37	0.650	0.000	5.00	19.439	12.64	395.0	0.0	782.0
10.00		0.00	1.00	18.496	31.26	318.19	0.650	0.000	5.00	18.957	12.32	385.2	0.0	762.5
15.00		0.00	1.00	18.496	31.26	310.01	0.650	0.000	5.00	18.476	12.01	375.4	0.0	743.0
20.00		0.00	1.00	18.496	31.26	301.82	0.650	0.000	5.00	17.995	11.70	365.6	0.0	723.5
25.00		0.00	1.00	18.496	31.26	293.64	0.650	0.000	5.00	17.514	11.38	355.8	0.0	704.0
30.00		0.00	1.00	18.496	31.26	285.46	0.650	0.000	5.00	17.033	11.07	346.1	0.0	684.5
35.00		0.00	1.02	18.810	31.79	279.62	0.650	0.000	5.00	16.551	10.76	342.0	0.0	665.1
40.00		0.00	1.06	19.541	33.02	276.60	0.650	0.000	5.00	16.070	10.45	345.0	0.0	645.6
45.00		0.00	1.09	20.210	34.15	272.74	0.650	0.000	5.00	15.589	10.13	346.1	0.0	626.1
48.50	Bot - Section 2	0.00	1.12	20.647	34.89	269.63	0.650	0.000	3.50	10.626	6.91	241.0	0.0	426.7
50.00		0.00	1.13	20.827	35.20	268.20	0.650	0.000	1.50	4.544	2.95	104.0	0.0	326.2
53.25	Top - Section 1	0.00	1.15	21.206	35.84	264.93	0.650	0.000	3.25	9.697	6.30	225.9	0.0	695.8
55.00		0.00	1.16	21.402	36.17	266.89	0.650	0.000	1.75	5.138	3.34	120.8	0.0	165.3
60.00		0.00	1.19	21.941	37.08	261.32	0.650	0.000	5.00	14.354	9.33	346.0	0.0	461.7
65.00		0.00	1.21	22.449	37.94	255.31	0.650	0.000	5.00	13.873	9.02	342.1	0.0	446.1
70.00		0.00	1.24	22.929	38.75	248.92	0.650	0.000	5.00	13.391	8.70	337.3	0.0	430.5
75.00		0.00	1.26	23.386	39.52	242.19	0.650	0.000	5.00	12.910	8.39	331.7	0.0	414.9
80.00		0.00	1.29	23.821	40.26	235.15	0.650	0.000	5.00	12.429	8.08	325.2	0.0	399.3
85.00		0.00	1.31	24.237	40.96	227.83	0.650	0.000	5.00	11.948	7.77	318.1	0.0	383.7
90.00		0.00	1.33	24.636	41.63	220.25	0.650	0.000	5.00	11.467	7.45	310.3	0.0	368.1
95.00		0.00	1.35	25.020	42.28	212.45	0.650	0.000	5.00	10.985	7.14	301.9	0.0	352.6
97.00	Appurtenance(s)	0.00	1.36	25.169	42.54	209.26	0.650	0.000	2.00	4.259	2.77	117.8	0.0	136.7
98.75	Bot - Section 3	0.00	1.37	25.298	42.75	206.45	0.650	0.000	1.75	3.664	2.38	101.8	0.0	117.5
100.00		0.00	1.37	25.389	42.91	204.43	0.650	0.000	1.25	2.620	1.70	73.1	0.0	146.0
102.00	Top - Section 2	0.00	1.38	25.533	43.15	201.16	0.650	0.000	2.00	4.129	2.68	115.8	0.0	230.0
105.00		0.00	1.39	25.745	43.51	199.34	0.650	0.000	3.00	6.050	3.93	171.1	0.0	145.9
107.00	Appurtenance(s)	0.00	1.40	25.885	43.74	196.01	0.650	0.000	2.00	3.937	2.56	111.9	0.0	94.9
110.00		0.00	1.41	26.090	44.09	190.95	0.650	0.000	3.00	5.761	3.74	165.1	0.0	138.9
112.00	Appurtenance(s)	0.00	1.42	26.225	44.32	187.55	0.650	0.000	2.00	3.745	2.43	107.9	0.0	90.2
115.00		0.00	1.43	26.423	44.66	182.39	0.650	0.000	3.00	5.472	3.56	158.8	0.0	131.8
117.00	Appurtenance(s)	0.00	1.44	26.554	44.88	178.92	0.650	0.000	2.00	3.552	2.31	103.6	0.0	85.6
120.00		0.00	1.45	26.747	45.20	173.67	0.650	0.000	3.00	5.184	3.37	152.3	0.0	124.8
125.00		0.00	1.46	27.060	45.73	164.79	0.650	0.000	5.00	8.255	5.37	245.4	0.0	198.7
130.00		0.00	1.48	27.365	46.25	155.76	0.650	0.000	5.00	7.773	5.05	233.7	0.0	187.0
135.00		0.00	1.50	27.662	46.75	146.60	0.650	0.000	5.00	7.292	4.74	221.6	0.0	175.3
137.00	Appurtenance(s)	0.00	1.50	27.778	46.95	142.90	0.650	0.000	2.00	2.782	1.81	84.9	0.0	66.8
139.00	Appurtenance(s)	0.00	1.51	27.894	47.14	139.18	0.650	0.000	2.00	2.705	1.76	82.9	0.0	65.0
								Totals:	**139.00**			**8,808.0**		**13,342.3**

Discrete Appurtenance Forces

Structure:	CT13549-S-SB	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations: 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	139.00	6' Lightning rod	1	27.894	47.140	0.00	0.38	6.50	0.000	0.000	17.91	0.00	0.00
2	137.00	T-Arms	3	27.778	46.946	0.75	7.88	1050.00	0.000	0.000	369.70	0.00	0.00
3	137.00	S11B12	3	27.778	46.946	0.71	7.05	153.00	0.000	0.000	330.98	0.00	0.00
4	137.00	KRY 112 144/1	3	27.778	46.946	0.72	0.89	33.00	0.000	0.000	41.58	0.00	0.00
5	137.00	AIR 21, 1.3M, B2A B4P	3	27.778	46.946	0.83	16.38	274.50	0.000	0.000	769.17	0.00	0.00
6	137.00	AIR 21 B4A/B12P	3	27.778	46.946	0.83	28.56	378.00	0.000	0.000	1340.78	0.00	0.00
7	117.00	742 351	3	26.554	44.876	0.65	11.47	89.40	0.000	0.000	514.55	0.00	0.00
8	117.00	800 10504	3	26.554	44.876	0.78	7.84	52.80	0.000	0.000	351.78	0.00	0.00
9	117.00	Flush Mount	1	26.554	44.876	0.75	3.75	350.00	0.000	0.000	168.28	0.00	0.00
10	112.00	RRUS A2 Module	3	26.225	44.319	0.60	3.35	63.60	0.000	0.000	148.38	0.00	0.00
11	112.00	RRUS 12	3	26.225	44.319	0.70	7.71	174.00	0.000	0.000	341.57	0.00	0.00
12	112.00	RRUS 11	3	26.225	44.319	0.76	6.70	152.10	0.000	0.000	297.08	0.00	0.00
13	112.00	DC6-48-60-18-8F	1	26.225	44.319	1.00	1.47	31.80	0.000	0.000	65.15	0.00	0.00
14	112.00	Collar Mount	1	26.225	44.319	0.75	2.25	122.40	0.000	0.000	99.72	0.00	0.00
15	107.00	T-Arm (Flat)	3	25.885	43.745	0.75	10.13	534.00	0.000	0.000	442.92	0.00	0.00
16	107.00	OPA-65R-LCUU-H6	3	25.885	43.745	0.76	23.62	240.00	0.000	0.000	1033.29	0.00	0.00
17	107.00	DTMABP7819VG12A	3	25.885	43.745	0.67	2.29	57.60	0.000	0.000	100.24	0.00	0.00
18	107.00	DBC20056F1V1	3	25.885	43.745	0.80	1.15	19.80	0.000	0.000	50.39	0.00	0.00
19	107.00	HPA-65R-BUU-H6	3	25.885	43.745	0.81	25.17	153.00	0.000	0.000	1101.27	0.00	0.00
20	102.00	DC6-48-60-18-8F	1	25.533	43.151	1.00	1.47	31.80	0.000	0.000	63.43	0.00	0.00
21	102.00	Collar Mount	1	25.533	43.151	0.75	2.25	122.40	0.000	0.000	97.09	0.00	0.00
22	102.00	RRUS-32	3	25.533	43.151	0.86	9.98	231.00	0.000	0.000	430.84	0.00	0.00
23	102.00	RRUS-E2	3	25.533	43.151	0.67	3.88	231.00	0.000	0.000	167.40	0.00	0.00
24	97.00	RRH2x40-AWS	3	25.169	42.536	0.82	6.20	132.00	0.000	0.000	263.69	0.00	0.00
25	97.00	Flush Mount	1	25.169	42.536	0.75	3.75	350.00	0.000	0.000	159.51	0.00	0.00
26	97.00	FD9R6004/2C-3L (3.1 lbs)	6	25.169	42.536	0.62	1.34	18.60	0.000	0.000	56.96	0.00	0.00
27	97.00	DBXNH-6565A-VTM	3	25.169	42.536	0.80	14.11	102.60	0.000	0.000	600.26	0.00	0.00
28	97.00	DB-T1-6Z-8AB-0Z	1	25.169	42.536	1.00	5.60	18.90	0.000	0.000	238.20	0.00	0.00
29	97.00	BXA-70063/6CF	3	25.169	42.536	0.74	17.16	51.00	0.000	0.000	729.94	0.00	0.00
30	97.00	BXA-171063/12CF	3	25.169	42.536	0.88	12.65	45.00	0.000	0.000	537.89	0.00	0.00
						Totals:		**5,269.80**			**10,929.94**		

Total Applied Force Summary

Structure:	CT13549-S-SB	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations: 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		394.95	855.69	0.00	0.00
10.00		385.17	836.20	0.00	0.00
15.00		375.40	816.71	0.00	0.00
20.00		365.62	797.23	0.00	0.00
25.00		355.84	777.74	0.00	0.00
30.00		346.07	758.25	0.00	0.00
35.00		341.99	738.76	0.00	0.00
40.00		344.96	719.27	0.00	0.00
45.00		346.09	699.78	0.00	0.00
48.50		241.01	478.25	0.00	0.00
50.00		103.97	348.27	0.00	0.00
53.25		225.90	743.75	0.00	0.00
55.00		120.79	191.07	0.00	0.00
60.00		345.96	535.39	0.00	0.00
65.00		342.10	519.80	0.00	0.00
70.00		337.30	504.21	0.00	0.00
75.00		331.65	488.62	0.00	0.00
80.00		325.23	473.03	0.00	0.00
85.00		318.10	457.44	0.00	0.00
90.00		310.32	441.85	0.00	0.00
95.00		301.93	426.26	0.00	0.00
97.00	(20) appurtenances	2704.21	884.24	0.00	0.00
98.75		101.82	132.09	0.00	0.00
100.00		73.07	156.37	0.00	0.00
102.00	(8) appurtenances	874.58	862.85	0.00	0.00
105.00		171.10	170.83	0.00	0.00
107.00	(15) appurtenances	2840.05	1115.95	0.00	0.00
110.00		165.11	155.00	0.00	0.00
112.00	(11) appurtenances	1059.77	644.89	0.00	0.00
115.00		158.84	147.98	0.00	0.00
117.00	(7) appurtenances	1138.23	588.52	0.00	0.00
120.00		152.30	137.85	0.00	0.00
125.00		245.37	220.39	0.00	0.00
130.00		233.67	208.70	0.00	0.00
135.00		221.59	197.00	0.00	0.00
137.00	(15) appurtenances	2937.10	1964.03	0.00	0.00
139.00	(1) appurtenances	100.80	71.48	0.00	0.00
	Totals:	**19,737.97**	**20,265.71**	**0.00**	**0.00**

Resulting Forces and Deflections

Structure:	CT13549-S-SB	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 11	

Tower Engineering Solutions

Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations: 26

Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	Deflect X (in)	Deflect Z (in)	Deflect Resultant (in)	Rotation Sway (deg)	Rotation Twist (deg)
0.00	-19.773	-20.230	0.000	0.000	0.000	-1872.896	0.000	0.000	0.000	0.000	0.000
5.00	-19.445	-19.307	0.000	0.000	0.000	-1774.031	-0.108	0.000	0.108	-0.200	0.000
10.00	-19.122	-18.404	0.000	0.000	0.000	-1676.807	-0.427	0.000	0.427	-0.405	0.000
15.00	-18.804	-17.522	0.000	0.000	0.000	-1581.199	-0.963	0.000	0.963	-0.613	0.000
20.00	-18.491	-16.660	0.000	0.000	0.000	-1487.182	-1.719	0.000	1.719	-0.825	0.000
25.00	-18.182	-15.819	0.000	0.000	0.000	-1394.731	-2.700	0.000	2.700	-1.042	0.000
30.00	-17.879	-14.999	0.000	0.000	0.000	-1303.820	-3.909	0.000	3.909	-1.261	0.000
35.00	-17.576	-14.199	0.000	0.000	0.000	-1214.425	-5.350	0.000	5.350	-1.485	0.000
40.00	-17.264	-13.421	0.000	0.000	0.000	-1126.548	-7.027	0.000	7.027	-1.712	0.000
45.00	-16.940	-12.675	0.000	0.000	0.000	-1040.227	-8.943	0.000	8.943	-1.942	0.000
48.50	-16.707	-12.171	0.000	0.000	0.000	-980.939	-10.428	0.000	10.428	-2.107	0.000
50.00	-16.614	-11.794	0.000	0.000	0.000	-955.878	-11.102	0.000	11.102	-2.179	0.000
53.25	-16.382	-11.025	0.000	0.000	0.000	-901.884	-12.639	0.000	12.639	-2.334	0.000
55.00	-16.288	-10.787	0.000	0.000	0.000	-873.217	-13.511	0.000	13.511	-2.419	0.000
60.00	-15.969	-10.189	0.000	0.000	0.000	-791.778	-16.195	0.000	16.195	-2.700	0.000
65.00	-15.648	-9.611	0.000	0.000	0.000	-711.935	-19.173	0.000	19.173	-2.980	0.000
70.00	-15.328	-9.052	0.000	0.000	0.000	-633.695	-22.444	0.000	22.444	-3.259	0.000
75.00	-15.009	-8.512	0.000	0.000	0.000	-557.055	-26.005	0.000	26.005	-3.535	0.000
80.00	-14.691	-7.993	0.000	0.000	0.000	-482.012	-29.850	0.000	29.850	-3.803	0.000
85.00	-14.375	-7.496	0.000	0.000	0.000	-408.559	-33.972	0.000	33.972	-4.062	0.000
90.00	-14.062	-7.020	0.000	0.000	0.000	-336.684	-38.357	0.000	38.357	-4.307	0.000
95.00	-13.746	-6.582	0.000	0.000	0.000	-266.372	-42.988	0.000	42.988	-4.532	0.000
97.00	-10.988	-5.901	0.000	0.000	0.000	-238.880	-44.904	0.000	44.904	-4.618	0.000
98.75	-10.882	-5.766	0.000	0.000	0.000	-219.651	-46.609	0.000	46.609	-4.691	0.000
100.00	-10.803	-5.604	0.000	0.000	0.000	-206.049	-47.843	0.000	47.843	-4.741	0.000
102.00	-9.867	-4.802	0.000	0.000	0.000	-184.444	-49.843	0.000	49.843	-4.817	0.000
105.00	-9.690	-4.630	0.000	0.000	0.000	-154.844	-52.902	0.000	52.902	-4.923	0.000
107.00	-6.770	-3.753	0.000	0.000	0.000	-135.465	-54.980	0.000	54.980	-5.006	0.000
110.00	-6.598	-3.602	0.000	0.000	0.000	-115.155	-58.159	0.000	58.159	-5.120	0.000
112.00	-5.489	-3.047	0.000	0.000	0.000	-101.960	-60.317	0.000	60.317	-5.192	0.000
115.00	-5.321	-2.907	0.000	0.000	0.000	-85.493	-63.607	0.000	63.607	-5.291	0.000
117.00	-4.137	-2.421	0.000	0.000	0.000	-74.851	-65.834	0.000	65.834	-5.353	0.000
120.00	-3.976	-2.291	0.000	0.000	0.000	-62.441	-69.221	0.000	69.221	-5.439	0.000
125.00	-3.715	-2.088	0.000	0.000	0.000	-42.560	-74.976	0.000	74.976	-5.559	0.000
130.00	-3.464	-1.899	0.000	0.000	0.000	-23.986	-80.842	0.000	80.842	-5.650	0.000
135.00	-3.225	-1.723	0.000	0.000	0.000	-6.665	-86.781	0.000	86.781	-5.701	0.000
137.00	-0.107	-0.061	0.000	0.000	0.000	-0.215	-89.167	0.000	89.167	-5.706	0.000
139.00	-0.101	0.000	0.000	0.000	0.000	0.000	0.000	0.000	91.554	-5.707	0.000

Resulting Stresses

Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations: 26

Applied Stresses

Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvt Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	Fb Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.43	0.86	0.00	0.00	0.00	41.64	42.10	51.6	0.816
5.00	0.43	0.86	0.00	0.00	0.00	41.47	41.92	52.0	0.806
10.00	0.42	0.87	0.00	0.00	0.00	41.26	41.70	52.0	0.802
15.00	0.41	0.88	0.00	0.00	0.00	41.01	41.44	52.0	0.797
20.00	0.40	0.89	0.00	0.00	0.00	40.71	41.14	52.0	0.791
25.00	0.39	0.90	0.00	0.00	0.00	40.36	40.78	52.0	0.785
30.00	0.38	0.91	0.00	0.00	0.00	39.95	40.36	52.0	0.776
35.00	0.37	0.92	0.00	0.00	0.00	39.47	39.87	52.0	0.767
40.00	0.36	0.93	0.00	0.00	0.00	38.90	39.29	52.0	0.756
45.00	0.35	0.94	0.00	0.00	0.00	38.24	38.62	52.0	0.743
48.50	0.34	0.95	0.00	0.00	0.00	37.72	38.09	52.0	0.733
50.00	0.34	0.95	0.00	0.00	0.00	37.48	37.85	52.0	0.728
53.25	0.39	1.18	0.00	0.00	0.00	44.60	45.04	52.0	0.867
55.00	0.39	1.19	0.00	0.00	0.00	44.20	44.63	52.0	0.859
60.00	0.38	1.21	0.00	0.00	0.00	42.88	43.32	52.0	0.833
65.00	0.37	1.22	0.00	0.00	0.00	41.36	41.79	52.0	0.804
70.00	0.36	1.24	0.00	0.00	0.00	39.59	40.02	52.0	0.770
75.00	0.36	1.26	0.00	0.00	0.00	37.53	37.95	52.0	0.730
80.00	0.35	1.29	0.00	0.00	0.00	35.13	35.54	52.0	0.684
85.00	0.34	1.31	0.00	0.00	0.00	32.31	32.72	52.0	0.630
90.00	0.33	1.34	0.00	0.00	0.00	28.99	29.41	52.0	0.566
95.00	0.32	1.37	0.00	0.00	0.00	25.07	25.50	52.0	0.491
97.00	0.30	1.11	0.00	0.00	0.00	23.32	23.69	52.0	0.456
98.75	0.29	1.12	0.00	0.00	0.00	22.15	22.53	52.0	0.433
100.00	0.29	1.13	0.00	0.00	0.00	21.28	21.66	52.0	0.417
102.00	0.33	1.37	0.00	0.00	0.00	25.38	25.82	52.0	0.497
105.00	0.33	1.39	0.00	0.00	0.00	22.58	23.04	52.0	0.443
107.00	0.27	0.99	0.00	0.00	0.00	20.55	20.89	52.0	0.402
110.00	0.27	0.99	0.00	0.00	0.00	18.57	18.92	52.0	0.364
112.00	0.23	0.84	0.00	0.00	0.00	17.14	17.43	52.0	0.335
115.00	0.23	0.84	0.00	0.00	0.00	15.32	15.62	52.0	0.301
117.00	0.19	0.67	0.00	0.00	0.00	14.02	14.26	52.0	0.274
120.00	0.19	0.67	0.00	0.00	0.00	12.51	12.76	52.0	0.245
125.00	0.18	0.66	0.00	0.00	0.00	9.60	9.85	52.0	0.190
130.00	0.18	0.66	0.00	0.00	0.00	6.14	6.42	52.0	0.123
135.00	0.17	0.65	0.00	0.00	0.00	1.95	2.40	52.0	0.046
137.00	0.01	0.02	0.00	0.00	0.00	0.07	0.08	52.0	0.002
139.00	0.00	0.02	0.00	0.00	0.00	0.00	0.04	52.0	0.001

Wind Loading - Shaft

Structure: CT13549-S-SBA
Site Name: Danbury 1
Height: 139.00 (ft)
Base Elev: 0.000 (ft)

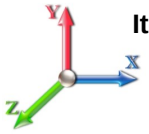
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/25/2016

Tower Engineering Solutions

Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 26

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		0.00	1.00	13.871	23.44	289.72	0.650	0.500	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	13.871	23.44	282.63	0.650	0.500	5.00	19.855	12.91	302.5	143.7	925.7
10.00		0.00	1.00	13.871	23.44	275.55	0.650	0.500	5.00	19.374	12.59	295.2	140.2	902.7
15.00		0.00	1.00	13.871	23.44	268.46	0.650	0.500	5.00	18.893	12.28	287.9	136.6	879.6
20.00		0.00	1.00	13.871	23.44	261.38	0.650	0.500	5.00	18.412	11.97	280.5	133.0	856.6
25.00		0.00	1.00	13.871	23.44	254.30	0.650	0.500	5.00	17.930	11.65	273.2	129.5	833.5
30.00		0.00	1.00	13.871	23.44	247.21	0.650	0.500	5.00	17.449	11.34	265.9	125.9	810.4
35.00		0.00	1.02	14.106	23.84	242.16	0.650	0.500	5.00	16.968	11.03	262.9	122.3	787.4
40.00		0.00	1.06	14.655	24.77	239.54	0.650	0.500	5.00	16.487	10.72	265.4	118.8	764.3
45.00		0.00	1.09	15.156	25.61	236.20	0.650	0.500	5.00	16.006	10.40	266.5	115.2	741.3
48.50	Bot - Section 2	0.00	1.12	15.484	26.17	233.50	0.650	0.500	3.50	10.918	7.10	185.7	78.9	505.6
50.00		0.00	1.13	15.620	26.40	232.26	0.650	0.500	1.50	4.669	3.04	80.1	34.0	360.1
53.25	Top - Section 1	0.00	1.15	15.903	26.88	229.43	0.650	0.500	3.25	9.968	6.48	174.1	72.1	767.9
55.00		0.00	1.16	16.051	27.13	231.12	0.650	0.500	1.75	5.283	3.43	93.2	38.4	203.6
60.00		0.00	1.19	16.455	27.81	226.30	0.650	0.500	5.00	14.770	9.60	267.0	106.1	567.8
65.00		0.00	1.21	16.836	28.45	221.10	0.650	0.500	5.00	14.289	9.29	264.3	102.5	548.6
70.00		0.00	1.24	17.196	29.06	215.56	0.650	0.500	5.00	13.808	8.98	260.8	98.9	529.4
75.00		0.00	1.26	17.538	29.64	209.73	0.650	0.500	5.00	13.327	8.66	256.8	95.4	510.3
80.00		0.00	1.29	17.865	30.19	203.64	0.650	0.500	5.00	12.846	8.35	252.1	91.8	491.1
85.00		0.00	1.31	18.177	30.72	197.30	0.650	0.500	5.00	12.365	8.04	246.9	88.2	472.0
90.00		0.00	1.33	18.476	31.22	190.74	0.650	0.500	5.00	11.883	7.72	241.2	84.7	452.8
95.00		0.00	1.35	18.764	31.71	183.98	0.650	0.500	5.00	11.402	7.41	235.0	81.1	433.7
97.00	Appurtenance(s)	0.00	1.36	18.876	31.90	181.22	0.650	0.500	2.00	4.426	2.88	91.8	31.9	168.5
98.75	Bot - Section 3	0.00	1.37	18.972	32.06	178.79	0.650	0.500	1.75	3.810	2.48	79.4	27.5	145.0
100.00		0.00	1.37	19.041	32.18	177.03	0.650	0.500	1.25	2.724	1.77	57.0	19.7	165.6
102.00	Top - Section 2	0.00	1.38	19.149	32.36	174.21	0.650	0.500	2.00	4.296	2.79	90.4	30.9	260.9
105.00		0.00	1.39	19.308	32.63	172.63	0.650	0.500	3.00	6.300	4.09	133.6	45.1	191.0
107.00	Appurtenance(s)	0.00	1.40	19.412	32.81	169.74	0.650	0.500	2.00	4.104	2.67	87.5	29.5	124.4
110.00		0.00	1.41	19.566	33.07	165.36	0.650	0.500	3.00	6.011	3.91	129.2	42.9	181.8
112.00	Appurtenance(s)	0.00	1.42	19.667	33.24	162.42	0.650	0.500	2.00	3.911	2.54	84.5	28.1	118.3
115.00		0.00	1.43	19.816	33.49	157.95	0.650	0.500	3.00	5.722	3.72	124.6	40.8	172.7
117.00	Appurtenance(s)	0.00	1.44	19.914	33.65	154.95	0.650	0.500	2.00	3.719	2.42	81.3	26.6	112.2
120.00		0.00	1.45	20.059	33.90	150.40	0.650	0.500	3.00	5.434	3.53	119.7	38.7	163.5
125.00		0.00	1.46	20.294	34.30	142.71	0.650	0.500	5.00	8.671	5.64	193.3	60.9	259.6
130.00		0.00	1.48	20.523	34.68	134.89	0.650	0.500	5.00	8.190	5.32	184.6	57.3	244.3
135.00		0.00	1.50	20.745	35.06	126.96	0.650	0.500	5.00	7.709	5.01	175.7	53.8	229.1
137.00	Appurtenance(s)	0.00	1.50	20.833	35.21	123.75	0.650	0.500	2.00	2.949	1.92	67.5	20.9	87.8
139.00	Appurtenance(s)	0.00	1.51	20.919	35.35	120.53	0.650	0.500	2.00	2.872	1.87	66.0	20.4	85.3
								Totals:	**139.00**			**6,823.3**		**16,054.4**

Discrete Appurtenance Forces

Structure:	CT13549-S-SB	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 14	

Tower Engineering Solutions

Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations: 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	139.00	6' Lightning rod	1	20.919	35.353	0.00	0.98	11.80	0.000	0.000	34.65	0.00	0.00
2	137.00	T-Arms	3	20.833	35.207	0.75	12.38	1260.00	0.000	0.000	435.69	0.00	0.00
3	137.00	S11B12	3	20.833	35.207	0.72	7.60	201.30	0.000	0.000	267.69	0.00	0.00
4	137.00	KRY 112 144/1	3	20.833	35.207	0.75	1.10	42.30	0.000	0.000	38.82	0.00	0.00
5	137.00	AIR 21, 1.3M, B2A B4P	3	20.833	35.207	0.83	17.36	387.60	0.000	0.000	611.03	0.00	0.00
6	137.00	AIR 21 B4A/B12P	3	20.833	35.207	0.83	29.93	589.80	0.000	0.000	1053.74	0.00	0.00
7	117.00	742 351	3	19.914	33.655	0.66	12.38	171.30	0.000	0.000	416.48	0.00	0.00
8	117.00	800 10504	3	19.914	33.655	0.79	8.56	107.10	0.000	0.000	287.94	0.00	0.00
9	117.00	Flush Mount	1	19.914	33.655	0.75	4.50	450.00	0.000	0.000	151.45	0.00	0.00
10	112.00	RRUS A2 Module	3	19.667	33.238	0.63	3.84	94.20	0.000	0.000	127.52	0.00	0.00
11	112.00	RRUS 12	3	19.667	33.238	0.71	8.29	227.10	0.000	0.000	275.40	0.00	0.00
12	112.00	RRUS 11	3	19.667	33.238	0.77	7.25	198.00	0.000	0.000	241.09	0.00	0.00
13	112.00	DC6-48-60-18-8F	1	19.667	33.238	1.00	1.67	49.50	0.000	0.000	55.51	0.00	0.00
14	112.00	Collar Mount	1	19.667	33.238	0.75	2.63	160.40	0.000	0.000	87.25	0.00	0.00
15	107.00	T-Arm (Flat)	3	19.412	32.807	0.75	13.50	660.00	0.000	0.000	442.89	0.00	0.00
16	107.00	OPA-65R-LCUU-H6	3	19.412	32.807	0.77	25.06	402.00	0.000	0.000	822.25	0.00	0.00
17	107.00	DTMABP7819VG12A	3	19.412	32.807	0.69	2.61	79.50	0.000	0.000	85.57	0.00	0.00
18	107.00	DBC20056F1V1	3	19.412	32.807	0.82	1.40	28.20	0.000	0.000	46.00	0.00	0.00
19	107.00	HPA-65R-BUU-H6	3	19.412	32.807	0.81	26.37	325.20	0.000	0.000	864.97	0.00	0.00
20	102.00	DC6-48-60-18-8F	1	19.149	32.361	1.00	1.67	49.50	0.000	0.000	54.04	0.00	0.00
21	102.00	Collar Mount	1	19.149	32.361	0.75	2.63	160.40	0.000	0.000	84.95	0.00	0.00
22	102.00	RRUS-32	3	19.149	32.361	0.86	10.60	310.50	0.000	0.000	343.15	0.00	0.00
23	102.00	RRUS-E2	3	19.149	32.361	0.69	4.35	258.60	0.000	0.000	140.67	0.00	0.00
24	97.00	RRH2x40-AWS	3	18.876	31.900	0.83	6.75	184.20	0.000	0.000	215.26	0.00	0.00
25	97.00	Flush Mount	1	18.876	31.900	0.75	4.50	450.00	0.000	0.000	143.55	0.00	0.00
26	97.00	FD9R6004/2C-3L (3.1 lbs)	6	18.876	31.900	0.65	1.72	32.40	0.000	0.000	54.74	0.00	0.00
27	97.00	DBXNH-6565A-VTM	3	18.876	31.900	0.81	15.14	211.50	0.000	0.000	482.93	0.00	0.00
28	97.00	DB-T1-6Z-8AB-0Z	1	18.876	31.900	1.00	5.87	46.00	0.000	0.000	187.25	0.00	0.00
29	97.00	BXA-70063/6CF	3	18.876	31.900	0.75	18.43	172.80	0.000	0.000	587.83	0.00	0.00
30	97.00	BXA-171063/12CF	3	18.876	31.900	0.88	13.52	127.20	0.000	0.000	431.18	0.00	0.00
						Totals:		**7,448.40**			**9,071.48**		

Total Applied Force Summary

Structure:	CT13549-S-SB	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 15	

Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations: 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		302.54	999.41	0.00	0.00
10.00		295.21	976.36	0.00	0.00
15.00		287.88	953.31	0.00	0.00
20.00		280.55	930.25	0.00	0.00
25.00		273.22	907.20	0.00	0.00
30.00		265.88	884.15	0.00	0.00
35.00		262.93	861.10	0.00	0.00
40.00		265.41	838.05	0.00	0.00
45.00		266.49	814.99	0.00	0.00
48.50		185.71	557.15	0.00	0.00
50.00		80.12	382.22	0.00	0.00
53.25		174.14	815.81	0.00	0.00
55.00		93.16	229.44	0.00	0.00
60.00		266.99	641.45	0.00	0.00
65.00		264.26	622.30	0.00	0.00
70.00		260.83	603.14	0.00	0.00
75.00		256.75	583.99	0.00	0.00
80.00		252.09	564.83	0.00	0.00
85.00		246.88	545.68	0.00	0.00
90.00		241.18	526.53	0.00	0.00
95.00		235.02	507.37	0.00	0.00
97.00	(20) appurtenances	2194.52	1422.11	0.00	0.00
98.75		79.40	159.54	0.00	0.00
100.00		56.98	176.05	0.00	0.00
102.00	(8) appurtenances	713.19	1056.56	0.00	0.00
105.00		133.62	215.92	0.00	0.00
107.00	(15) appurtenances	2349.19	1635.94	0.00	0.00
110.00		129.20	197.95	0.00	0.00
112.00	(11) appurtenances	871.26	858.26	0.00	0.00
115.00		124.57	188.79	0.00	0.00
117.00	(7) appurtenances	937.22	851.35	0.00	0.00
120.00		119.73	176.52	0.00	0.00
125.00		193.31	281.28	0.00	0.00
130.00		184.64	266.02	0.00	0.00
135.00		175.68	250.77	0.00	0.00
137.00	(15) appurtenances	2474.45	2577.46	0.00	0.00
139.00	(1) appurtenances	100.64	97.14	0.00	0.00
	Totals:	**15,894.82**	**25,156.41**	**0.00**	**0.00**

Resulting Forces and Deflections

Structure:	CT13549-S-SB	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations: 26

Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	Deflect X (in)	Deflect Z (in)	Deflect Resultant (in)	Rotation Sway (deg)	Rotation Twist (deg)
0.00	-15.931	-25.133	0.000	0.000	0.000	-1541.922	0.000	0.000	0.000	0.000	0.000
5.00	-15.697	-24.088	0.000	0.000	0.000	-1462.268	-0.089	0.000	0.089	-0.165	0.000
10.00	-15.466	-23.067	0.000	0.000	0.000	-1383.784	-0.352	0.000	0.352	-0.334	0.000
15.00	-15.239	-22.070	0.000	0.000	0.000	-1306.453	-0.794	0.000	0.794	-0.506	0.000
20.00	-15.014	-21.096	0.000	0.000	0.000	-1230.261	-1.418	0.000	1.418	-0.681	0.000
25.00	-14.792	-20.146	0.000	0.000	0.000	-1155.194	-2.227	0.000	2.227	-0.860	0.000
30.00	-14.573	-19.220	0.000	0.000	0.000	-1081.236	-3.226	0.000	3.226	-1.042	0.000
35.00	-14.353	-18.318	0.000	0.000	0.000	-1008.372	-4.417	0.000	4.417	-1.228	0.000
40.00	-14.126	-17.439	0.000	0.000	0.000	-936.608	-5.804	0.000	5.804	-1.416	0.000
45.00	-13.886	-16.592	0.000	0.000	0.000	-865.978	-7.390	0.000	7.390	-1.608	0.000
48.50	-13.711	-16.017	0.000	0.000	0.000	-817.379	-8.620	0.000	8.620	-1.745	0.000
50.00	-13.645	-15.615	0.000	0.000	0.000	-796.812	-9.178	0.000	9.178	-1.805	0.000
53.25	-13.470	-14.782	0.000	0.000	0.000	-752.465	-10.452	0.000	10.452	-1.934	0.000
55.00	-13.409	-14.519	0.000	0.000	0.000	-728.892	-11.175	0.000	11.175	-2.005	0.000
60.00	-13.175	-13.834	0.000	0.000	0.000	-661.850	-13.401	0.000	13.401	-2.240	0.000
65.00	-12.939	-13.171	0.000	0.000	0.000	-595.977	-15.873	0.000	15.873	-2.475	0.000
70.00	-12.702	-12.529	0.000	0.000	0.000	-531.281	-18.590	0.000	18.590	-2.708	0.000
75.00	-12.465	-11.908	0.000	0.000	0.000	-467.771	-21.551	0.000	21.551	-2.939	0.000
80.00	-12.227	-11.310	0.000	0.000	0.000	-405.448	-24.750	0.000	24.750	-3.165	0.000
85.00	-11.989	-10.735	0.000	0.000	0.000	-344.315	-28.183	0.000	28.183	-3.383	0.000
90.00	-11.752	-10.184	0.000	0.000	0.000	-284.370	-31.837	0.000	31.837	-3.590	0.000
95.00	-11.506	-9.667	0.000	0.000	0.000	-225.612	-35.699	0.000	35.699	-3.780	0.000
97.00	-9.232	-8.383	0.000	0.000	0.000	-202.600	-37.298	0.000	37.298	-3.853	0.000
98.75	-9.149	-8.221	0.000	0.000	0.000	-186.444	-38.721	0.000	38.721	-3.914	0.000
100.00	-9.088	-8.041	0.000	0.000	0.000	-175.008	-39.751	0.000	39.751	-3.957	0.000
102.00	-8.312	-7.025	0.000	0.000	0.000	-156.833	-41.422	0.000	41.422	-4.022	0.000
105.00	-8.173	-6.808	0.000	0.000	0.000	-131.896	-43.977	0.000	43.977	-4.112	0.000
107.00	-5.720	-5.338	0.000	0.000	0.000	-115.549	-45.714	0.000	45.714	-4.182	0.000
110.00	-5.584	-5.142	0.000	0.000	0.000	-98.390	-48.371	0.000	48.371	-4.280	0.000
112.00	-4.656	-4.346	0.000	0.000	0.000	-87.223	-50.176	0.000	50.176	-4.341	0.000
115.00	-4.522	-4.162	0.000	0.000	0.000	-73.255	-52.929	0.000	52.929	-4.426	0.000
117.00	-3.526	-3.382	0.000	0.000	0.000	-64.211	-54.794	0.000	54.794	-4.480	0.000
120.00	-3.397	-3.210	0.000	0.000	0.000	-53.635	-57.630	0.000	57.630	-4.553	0.000
125.00	-3.187	-2.940	0.000	0.000	0.000	-36.648	-62.451	0.000	62.451	-4.656	0.000
130.00	-2.984	-2.687	0.000	0.000	0.000	-20.714	-67.368	0.000	67.368	-4.735	0.000
135.00	-2.789	-2.451	0.000	0.000	0.000	-5.795	-72.349	0.000	72.349	-4.779	0.000
137.00	-0.108	-0.088	0.000	0.000	0.000	-0.217	-74.350	0.000	74.350	-4.784	0.000
139.00	-0.101	0.000	0.000	0.000	0.000	0.000	0.000	0.000	76.351	-4.784	0.000

Resulting Stresses

Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations: 26

Applied Stresses

Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvt Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	Fb Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.54	0.69	0.00	0.00	0.00	34.28	34.84	51.6	0.675
5.00	0.53	0.70	0.00	0.00	0.00	34.18	34.73	52.0	0.668
10.00	0.52	0.70	0.00	0.00	0.00	34.05	34.59	52.0	0.665
15.00	0.51	0.71	0.00	0.00	0.00	33.88	34.42	52.0	0.662
20.00	0.50	0.72	0.00	0.00	0.00	33.68	34.20	52.0	0.658
25.00	0.49	0.73	0.00	0.00	0.00	33.43	33.95	52.0	0.653
30.00	0.48	0.74	0.00	0.00	0.00	33.13	33.64	52.0	0.647
35.00	0.48	0.75	0.00	0.00	0.00	32.77	33.27	52.0	0.640
40.00	0.47	0.76	0.00	0.00	0.00	32.34	32.83	52.0	0.632
45.00	0.46	0.77	0.00	0.00	0.00	31.83	32.32	52.0	0.622
48.50	0.45	0.78	0.00	0.00	0.00	31.43	31.91	52.0	0.614
50.00	0.45	0.78	0.00	0.00	0.00	31.24	31.72	52.0	0.610
53.25	0.53	0.97	0.00	0.00	0.00	37.21	37.78	52.0	0.727
55.00	0.53	0.98	0.00	0.00	0.00	36.89	37.46	52.0	0.721
60.00	0.52	1.00	0.00	0.00	0.00	35.85	36.41	52.0	0.700
65.00	0.51	1.01	0.00	0.00	0.00	34.63	35.18	52.0	0.677
70.00	0.50	1.03	0.00	0.00	0.00	33.19	33.75	52.0	0.649
75.00	0.50	1.05	0.00	0.00	0.00	31.52	32.07	52.0	0.617
80.00	0.49	1.07	0.00	0.00	0.00	29.55	30.10	52.0	0.579
85.00	0.49	1.09	0.00	0.00	0.00	27.23	27.78	52.0	0.534
90.00	0.48	1.12	0.00	0.00	0.00	24.48	25.04	52.0	0.482
95.00	0.48	1.14	0.00	0.00	0.00	21.23	21.80	52.0	0.419
97.00	0.42	0.94	0.00	0.00	0.00	19.78	20.26	52.0	0.390
98.75	0.42	0.94	0.00	0.00	0.00	18.80	19.29	52.0	0.371
100.00	0.42	0.95	0.00	0.00	0.00	18.07	18.56	52.0	0.357
102.00	0.48	1.16	0.00	0.00	0.00	21.58	22.16	52.0	0.426
105.00	0.48	1.17	0.00	0.00	0.00	19.23	19.82	52.0	0.381
107.00	0.39	0.83	0.00	0.00	0.00	17.53	17.98	52.0	0.346
110.00	0.38	0.84	0.00	0.00	0.00	15.86	16.31	52.0	0.314
112.00	0.33	0.72	0.00	0.00	0.00	14.66	15.04	52.0	0.289
115.00	0.33	0.72	0.00	0.00	0.00	13.13	13.51	52.0	0.260
117.00	0.27	0.57	0.00	0.00	0.00	12.03	12.34	52.0	0.237
120.00	0.27	0.57	0.00	0.00	0.00	10.75	11.06	52.0	0.213
125.00	0.26	0.57	0.00	0.00	0.00	8.27	8.58	52.0	0.165
130.00	0.25	0.56	0.00	0.00	0.00	5.30	5.64	52.0	0.108
135.00	0.25	0.56	0.00	0.00	0.00	1.70	2.17	52.0	0.042
137.00	0.01	0.02	0.00	0.00	0.00	0.07	0.09	52.0	0.002
139.00	0.00	0.02	0.00	0.00	0.00	0.00	0.04	52.0	0.001

Wind Loading - Shaft

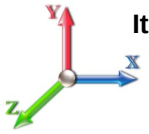
Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations: 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		0.00	1.00	6.400	10.82	196.79	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	6.400	10.82	191.98	0.650	0.000	5.00	19.439	12.64	136.7	0.0	782.0
10.00		0.00	1.00	6.400	10.82	187.17	0.650	0.000	5.00	18.957	12.32	133.3	0.0	762.5
15.00		0.00	1.00	6.400	10.82	182.36	0.650	0.000	5.00	18.476	12.01	129.9	0.0	743.0
20.00		0.00	1.00	6.400	10.82	177.54	0.650	0.000	5.00	17.995	11.70	126.5	0.0	723.5
25.00		0.00	1.00	6.400	10.82	172.73	0.650	0.000	5.00	17.514	11.38	123.1	0.0	704.0
30.00		0.00	1.00	6.400	10.82	167.92	0.650	0.000	5.00	17.033	11.07	119.7	0.0	684.5
35.00		0.00	1.02	6.509	11.00	164.49	0.650	0.000	5.00	16.551	10.76	118.3	0.0	665.1
40.00		0.00	1.06	6.762	11.43	162.71	0.650	0.000	5.00	16.070	10.45	119.4	0.0	645.6
45.00		0.00	1.09	6.993	11.82	160.44	0.650	0.000	5.00	15.589	10.13	119.8	0.0	626.1
48.50	Bot - Section 2	0.00	1.12	7.144	12.07	158.61	0.650	0.000	3.50	10.626	6.91	83.4	0.0	426.7
50.00		0.00	1.13	7.207	12.18	157.76	0.650	0.000	1.50	4.544	2.95	36.0	0.0	326.2
53.25	Top - Section 1	0.00	1.15	7.338	12.40	155.84	0.650	0.000	3.25	9.697	6.30	78.2	0.0	695.8
55.00		0.00	1.16	7.406	12.52	156.99	0.650	0.000	1.75	5.138	3.34	41.8	0.0	165.3
60.00		0.00	1.19	7.592	12.83	153.72	0.650	0.000	5.00	14.354	9.33	119.7	0.0	461.7
65.00		0.00	1.21	7.768	13.13	150.18	0.650	0.000	5.00	13.873	9.02	118.4	0.0	446.1
70.00		0.00	1.24	7.934	13.41	146.42	0.650	0.000	5.00	13.391	8.70	116.7	0.0	430.5
75.00		0.00	1.26	8.092	13.68	142.46	0.650	0.000	5.00	12.910	8.39	114.8	0.0	414.9
80.00		0.00	1.29	8.242	13.93	138.32	0.650	0.000	5.00	12.429	8.08	112.5	0.0	399.3
85.00		0.00	1.31	8.387	14.17	134.02	0.650	0.000	5.00	11.948	7.77	110.1	0.0	383.7
90.00		0.00	1.33	8.525	14.41	129.56	0.650	0.000	5.00	11.467	7.45	107.4	0.0	368.1
95.00		0.00	1.35	8.657	14.63	124.97	0.650	0.000	5.00	10.985	7.14	104.5	0.0	352.6
97.00	Appurtenance(s)	0.00	1.36	8.709	14.72	123.10	0.650	0.000	2.00	4.259	2.77	40.7	0.0	136.7
98.75	Bot - Section 3	0.00	1.37	8.754	14.79	121.44	0.650	0.000	1.75	3.664	2.38	35.2	0.0	117.5
100.00		0.00	1.37	8.785	14.85	120.25	0.650	0.000	1.25	2.620	1.70	25.3	0.0	146.0
102.00	Top - Section 2	0.00	1.38	8.835	14.93	118.33	0.650	0.000	2.00	4.129	2.68	40.1	0.0	230.0
105.00		0.00	1.39	8.908	15.06	117.26	0.650	0.000	3.00	6.050	3.93	59.2	0.0	145.9
107.00	Appurtenance(s)	0.00	1.40	8.957	15.14	115.30	0.650	0.000	2.00	3.937	2.56	38.7	0.0	94.9
110.00		0.00	1.41	9.028	15.26	112.33	0.650	0.000	3.00	5.761	3.74	57.1	0.0	138.9
112.00	Appurtenance(s)	0.00	1.42	9.074	15.34	110.32	0.650	0.000	2.00	3.745	2.43	37.3	0.0	90.2
115.00		0.00	1.43	9.143	15.45	107.29	0.650	0.000	3.00	5.472	3.56	55.0	0.0	131.8
117.00	Appurtenance(s)	0.00	1.44	9.188	15.53	105.25	0.650	0.000	2.00	3.552	2.31	35.9	0.0	85.6
120.00		0.00	1.45	9.255	15.64	102.16	0.650	0.000	3.00	5.184	3.37	52.7	0.0	124.8
125.00		0.00	1.46	9.363	15.82	96.93	0.650	0.000	5.00	8.255	5.37	84.9	0.0	198.7
130.00		0.00	1.48	9.469	16.00	91.63	0.650	0.000	5.00	7.773	5.05	80.9	0.0	187.0
135.00		0.00	1.50	9.572	16.18	86.24	0.650	0.000	5.00	7.292	4.74	76.7	0.0	175.3
137.00	Appurtenance(s)	0.00	1.50	9.612	16.24	84.06	0.650	0.000	2.00	2.782	1.81	29.4	0.0	66.8
139.00	Appurtenance(s)	0.00	1.51	9.652	16.31	81.87	0.650	0.000	2.00	2.705	1.76	28.7	0.0	65.0
								Totals:	**139.00**			**3,047.8**		**13,342.3**

Discrete Appurtenance Forces

Structure:	CT13549-S-SB	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations: 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	139.00	6' Lightning rod	1	9.652	16.312	0.00	0.38	6.50	0.000	0.000	6.20	0.00	0.00
2	137.00	T-Arms	3	9.612	16.244	0.75	7.88	1050.00	0.000	0.000	127.92	0.00	0.00
3	137.00	S11B12	3	9.612	16.244	0.71	7.05	153.00	0.000	0.000	114.53	0.00	0.00
4	137.00	KRY 112 144/1	3	9.612	16.244	0.72	0.89	33.00	0.000	0.000	14.39	0.00	0.00
5	137.00	AIR 21, 1.3M, B2A B4P	3	9.612	16.244	0.83	16.38	274.50	0.000	0.000	266.15	0.00	0.00
6	137.00	AIR 21 B4A/B12P	3	9.612	16.244	0.83	28.56	378.00	0.000	0.000	463.94	0.00	0.00
7	117.00	742 351	3	9.188	15.528	0.65	11.47	89.40	0.000	0.000	178.04	0.00	0.00
8	117.00	800 10504	3	9.188	15.528	0.78	7.84	52.80	0.000	0.000	121.72	0.00	0.00
9	117.00	Flush Mount	1	9.188	15.528	0.75	3.75	350.00	0.000	0.000	58.23	0.00	0.00
10	112.00	RRUS A2 Module	3	9.074	15.335	0.60	3.35	63.60	0.000	0.000	51.34	0.00	0.00
11	112.00	RRUS 12	3	9.074	15.335	0.70	7.71	174.00	0.000	0.000	118.19	0.00	0.00
12	112.00	RRUS 11	3	9.074	15.335	0.76	6.70	152.10	0.000	0.000	102.80	0.00	0.00
13	112.00	DC6-48-60-18-8F	1	9.074	15.335	1.00	1.47	31.80	0.000	0.000	22.54	0.00	0.00
14	112.00	Collar Mount	1	9.074	15.335	0.75	2.25	122.40	0.000	0.000	34.50	0.00	0.00
15	107.00	T-Arm (Flat)	3	8.957	15.137	0.75	10.13	534.00	0.000	0.000	153.26	0.00	0.00
16	107.00	OPA-65R-LCUU-H6	3	8.957	15.137	0.76	23.62	240.00	0.000	0.000	357.54	0.00	0.00
17	107.00	DTMABP7819VG12A	3	8.957	15.137	0.67	2.29	57.60	0.000	0.000	34.68	0.00	0.00
18	107.00	DBC20056F1V1	3	8.957	15.137	0.80	1.15	19.80	0.000	0.000	17.44	0.00	0.00
19	107.00	HPA-65R-BUU-H6	3	8.957	15.137	0.81	25.17	153.00	0.000	0.000	381.06	0.00	0.00
20	102.00	DC6-48-60-18-8F	1	8.835	14.931	1.00	1.47	31.80	0.000	0.000	21.95	0.00	0.00
21	102.00	Collar Mount	1	8.835	14.931	0.75	2.25	122.40	0.000	0.000	33.59	0.00	0.00
22	102.00	RRUS-32	3	8.835	14.931	0.86	9.98	231.00	0.000	0.000	149.08	0.00	0.00
23	102.00	RRUS-E2	3	8.835	14.931	0.67	3.88	231.00	0.000	0.000	57.92	0.00	0.00
24	97.00	RRH2x40-AWS	3	8.709	14.718	0.82	6.20	132.00	0.000	0.000	91.24	0.00	0.00
25	97.00	Flush Mount	1	8.709	14.718	0.75	3.75	350.00	0.000	0.000	55.19	0.00	0.00
26	97.00	FD9R6004/2C-3L (3.1 lbs)	6	8.709	14.718	0.62	1.34	18.60	0.000	0.000	19.71	0.00	0.00
27	97.00	DBXNH-6565A-VTM	3	8.709	14.718	0.80	14.11	102.60	0.000	0.000	207.70	0.00	0.00
28	97.00	DB-T1-6Z-8AB-0Z	1	8.709	14.718	1.00	5.60	18.90	0.000	0.000	82.42	0.00	0.00
29	97.00	BXA-70063/6CF	3	8.709	14.718	0.74	17.16	51.00	0.000	0.000	252.57	0.00	0.00
30	97.00	BXA-171063/12CF	3	8.709	14.718	0.88	12.65	45.00	0.000	0.000	186.12	0.00	0.00
						Totals:		**5,269.80**			**3,781.99**		

Total Applied Force Summary

Structure:	CT13549-S-SB	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 20	

Tower Engineering Solutions

Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations: 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		136.66	855.69	0.00	0.00
10.00		133.28	836.20	0.00	0.00
15.00		129.90	816.71	0.00	0.00
20.00		126.51	797.23	0.00	0.00
25.00		123.13	777.74	0.00	0.00
30.00		119.75	758.25	0.00	0.00
35.00		118.34	738.76	0.00	0.00
40.00		119.36	719.27	0.00	0.00
45.00		119.75	699.78	0.00	0.00
48.50		83.39	478.25	0.00	0.00
50.00		35.98	348.27	0.00	0.00
53.25		78.17	743.75	0.00	0.00
55.00		41.79	191.07	0.00	0.00
60.00		119.71	535.39	0.00	0.00
65.00		118.37	519.80	0.00	0.00
70.00		116.71	504.21	0.00	0.00
75.00		114.76	488.62	0.00	0.00
80.00		112.54	473.03	0.00	0.00
85.00		110.07	457.44	0.00	0.00
90.00		107.38	441.85	0.00	0.00
95.00		104.47	426.26	0.00	0.00
97.00	(20) appurtenances	935.71	884.24	0.00	0.00
98.75		35.23	132.09	0.00	0.00
100.00		25.28	156.37	0.00	0.00
102.00	(8) appurtenances	302.62	862.85	0.00	0.00
105.00		59.20	170.83	0.00	0.00
107.00	(15) appurtenances	982.72	1115.95	0.00	0.00
110.00		57.13	155.00	0.00	0.00
112.00	(11) appurtenances	366.70	644.89	0.00	0.00
115.00		54.96	147.98	0.00	0.00
117.00	(7) appurtenances	393.85	588.52	0.00	0.00
120.00		52.70	137.85	0.00	0.00
125.00		84.90	220.39	0.00	0.00
130.00		80.86	208.70	0.00	0.00
135.00		76.67	197.00	0.00	0.00
137.00	(15) appurtenances	1016.30	1964.03	0.00	0.00
139.00	(1) appurtenances	34.88	71.48	0.00	0.00
	Totals:	**6,829.75**	**20,265.71**	**0.00**	**0.00**

Resulting Forces and Deflections

Structure:	CT13549-S-SB	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 21	

Tower Engineering Solutions

Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations: 25

Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	Deflect X (in)	Deflect Z (in)	Deflect Resultant (in)	Rotation Sway (deg)	Rotation Twist (deg)
0.00	-6.841	-20.261	0.000	0.000	0.000	-648.750	0.000	0.000	0.000	0.000	0.000
5.00	-6.728	-19.398	0.000	0.000	0.000	-614.545	-0.037	0.000	0.037	-0.069	0.000
10.00	-6.616	-18.553	0.000	0.000	0.000	-580.906	-0.148	0.000	0.148	-0.140	0.000
15.00	-6.506	-17.729	0.000	0.000	0.000	-547.826	-0.334	0.000	0.334	-0.212	0.000
20.00	-6.398	-16.924	0.000	0.000	0.000	-515.295	-0.596	0.000	0.596	-0.286	0.000
25.00	-6.292	-16.139	0.000	0.000	0.000	-483.304	-0.935	0.000	0.935	-0.361	0.000
30.00	-6.188	-15.373	0.000	0.000	0.000	-451.845	-1.354	0.000	1.354	-0.437	0.000
35.00	-6.083	-14.627	0.000	0.000	0.000	-420.907	-1.854	0.000	1.854	-0.515	0.000
40.00	-5.976	-13.901	0.000	0.000	0.000	-390.492	-2.435	0.000	2.435	-0.593	0.000
45.00	-5.864	-13.195	0.000	0.000	0.000	-360.613	-3.099	0.000	3.099	-0.673	0.000
48.50	-5.784	-12.714	0.000	0.000	0.000	-340.089	-3.614	0.000	3.614	-0.730	0.000
50.00	-5.752	-12.362	0.000	0.000	0.000	-331.413	-3.847	0.000	3.847	-0.755	0.000
53.25	-5.672	-11.615	0.000	0.000	0.000	-312.719	-4.380	0.000	4.380	-0.809	0.000
55.00	-5.640	-11.419	0.000	0.000	0.000	-302.792	-4.682	0.000	4.682	-0.838	0.000
60.00	-5.531	-10.876	0.000	0.000	0.000	-274.591	-5.612	0.000	5.612	-0.936	0.000
65.00	-5.421	-10.349	0.000	0.000	0.000	-246.936	-6.645	0.000	6.645	-1.033	0.000
70.00	-5.312	-9.838	0.000	0.000	0.000	-219.830	-7.779	0.000	7.779	-1.130	0.000
75.00	-5.202	-9.343	0.000	0.000	0.000	-193.273	-9.014	0.000	9.014	-1.225	0.000
80.00	-5.093	-8.865	0.000	0.000	0.000	-167.262	-10.348	0.000	10.348	-1.319	0.000
85.00	-4.985	-8.403	0.000	0.000	0.000	-141.795	-11.778	0.000	11.778	-1.408	0.000
90.00	-4.878	-7.957	0.000	0.000	0.000	-116.869	-13.300	0.000	13.300	-1.493	0.000
95.00	-4.769	-7.529	0.000	0.000	0.000	-92.478	-14.907	0.000	14.907	-1.571	0.000
97.00	-3.813	-6.669	0.000	0.000	0.000	-82.940	-15.572	0.000	15.572	-1.601	0.000
98.75	-3.776	-6.537	0.000	0.000	0.000	-76.268	-16.163	0.000	16.163	-1.626	0.000
100.00	-3.749	-6.380	0.000	0.000	0.000	-71.547	-16.592	0.000	16.592	-1.644	0.000
102.00	-3.425	-5.524	0.000	0.000	0.000	-64.050	-17.286	0.000	17.286	-1.670	0.000
105.00	-3.364	-5.353	0.000	0.000	0.000	-53.776	-18.348	0.000	18.348	-1.707	0.000
107.00	-2.350	-4.266	0.000	0.000	0.000	-47.049	-19.069	0.000	19.069	-1.736	0.000
110.00	-2.291	-4.111	0.000	0.000	0.000	-39.999	-20.173	0.000	20.173	-1.775	0.000
112.00	-1.906	-3.477	0.000	0.000	0.000	-35.417	-20.922	0.000	20.922	-1.800	0.000
115.00	-1.848	-3.330	0.000	0.000	0.000	-29.699	-22.065	0.000	22.065	-1.835	0.000
117.00	-1.437	-2.754	0.000	0.000	0.000	-26.003	-22.838	0.000	22.838	-1.857	0.000
120.00	-1.381	-2.617	0.000	0.000	0.000	-21.694	-24.014	0.000	24.014	-1.886	0.000
125.00	-1.291	-2.399	0.000	0.000	0.000	-14.788	-26.013	0.000	26.013	-1.928	0.000
130.00	-1.204	-2.192	0.000	0.000	0.000	-8.335	-28.050	0.000	28.050	-1.960	0.000
135.00	-1.121	-1.998	0.000	0.000	0.000	-2.316	-30.114	0.000	30.114	-1.977	0.000
137.00	-0.037	-0.070	0.000	0.000	0.000	-0.074	-30.942	0.000	30.942	-1.979	0.000
139.00	-0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	31.771	-1.979	0.000

Resulting Stresses

Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 22	

Tower Engineering Solutions

Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations: 25

Applied Stresses

Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvt Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	Fb Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.44	0.30	0.00	0.00	0.00	14.42	14.87	51.6	0.288
5.00	0.43	0.30	0.00	0.00	0.00	14.36	14.80	52.0	0.285
10.00	0.42	0.30	0.00	0.00	0.00	14.29	14.72	52.0	0.283
15.00	0.41	0.30	0.00	0.00	0.00	14.21	14.63	52.0	0.281
20.00	0.40	0.31	0.00	0.00	0.00	14.11	14.52	52.0	0.279
25.00	0.40	0.31	0.00	0.00	0.00	13.99	14.39	52.0	0.277
30.00	0.39	0.31	0.00	0.00	0.00	13.85	14.24	52.0	0.274
35.00	0.38	0.32	0.00	0.00	0.00	13.68	14.07	52.0	0.271
40.00	0.37	0.32	0.00	0.00	0.00	13.48	13.87	52.0	0.267
45.00	0.36	0.33	0.00	0.00	0.00	13.26	13.63	52.0	0.262
48.50	0.36	0.33	0.00	0.00	0.00	13.08	13.45	52.0	0.259
50.00	0.35	0.33	0.00	0.00	0.00	12.99	13.36	52.0	0.257
53.25	0.42	0.41	0.00	0.00	0.00	15.46	15.90	52.0	0.306
55.00	0.41	0.41	0.00	0.00	0.00	15.32	15.75	52.0	0.303
60.00	0.41	0.42	0.00	0.00	0.00	14.87	15.30	52.0	0.294
65.00	0.40	0.42	0.00	0.00	0.00	14.35	14.77	52.0	0.284
70.00	0.40	0.43	0.00	0.00	0.00	13.74	14.15	52.0	0.272
75.00	0.39	0.44	0.00	0.00	0.00	13.02	13.43	52.0	0.258
80.00	0.39	0.45	0.00	0.00	0.00	12.19	12.60	52.0	0.242
85.00	0.38	0.45	0.00	0.00	0.00	11.21	11.62	52.0	0.224
90.00	0.38	0.46	0.00	0.00	0.00	10.06	10.47	52.0	0.201
95.00	0.37	0.47	0.00	0.00	0.00	8.70	9.11	52.0	0.175
97.00	0.34	0.39	0.00	0.00	0.00	8.10	8.46	52.0	0.163
98.75	0.33	0.39	0.00	0.00	0.00	7.69	8.05	52.0	0.155
100.00	0.33	0.39	0.00	0.00	0.00	7.39	7.75	52.0	0.149
102.00	0.38	0.48	0.00	0.00	0.00	8.81	9.23	52.0	0.178
105.00	0.38	0.48	0.00	0.00	0.00	7.84	8.26	52.0	0.159
107.00	0.31	0.34	0.00	0.00	0.00	7.14	7.47	52.0	0.144
110.00	0.31	0.34	0.00	0.00	0.00	6.45	6.78	52.0	0.130
112.00	0.27	0.29	0.00	0.00	0.00	5.95	6.24	52.0	0.120
115.00	0.26	0.29	0.00	0.00	0.00	5.32	5.61	52.0	0.108
117.00	0.22	0.23	0.00	0.00	0.00	4.87	5.11	52.0	0.098
120.00	0.22	0.23	0.00	0.00	0.00	4.35	4.58	52.0	0.088
125.00	0.21	0.23	0.00	0.00	0.00	3.34	3.57	52.0	0.069
130.00	0.21	0.23	0.00	0.00	0.00	2.13	2.37	52.0	0.046
135.00	0.20	0.23	0.00	0.00	0.00	0.68	0.96	52.0	0.019
137.00	0.01	0.01	0.00	0.00	0.00	0.02	0.03	52.0	0.001
139.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	52.0	0.000

Final Analysis Summary

Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	1/25/2016	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 23	

Tower Engineering Solutions

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
85 mph Wind with 0" Ice	19.8	0.00	20.23	0.00	0.00	1872.90
73.61 mph Wind with 0.5" Ice	15.9	0.00	25.13	0.00	0.00	1541.92
50 mph Wind with 0" Ice	6.8	0.00	20.26	0.00	0.00	648.75

Max Stresses

Load Case	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvt Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	Combined Stress (ksi)	Allowable Stress (ksi)	Elev (ft)	Stress Ratio
85 mph Wind with 0" Ice	0.39	1.18	0.00	0.00	0.00	44.60	45.04	52.0	53.25	0.867
73.61 mph Wind with 0.5" Ice	0.53	0.97	0.00	0.00	0.00	37.21	37.78	52.0	53.25	0.727
50 mph Wind with 0" Ice	0.42	0.41	0.00	0.00	0.00	15.46	15.90	52.0	53.25	0.306

Monopole Mat Foundation Design

			Date: 1/25/2016
Customer Name:	T-Mobile	**EIA/TIA Standard:**	EIA-222-F
Site Name:		**Structure Height (Ft.):**	139
Site Number:	CT13549-S-SBA	**Engineer Name:**	S. Hesselbein
Engr. Number:	20101	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

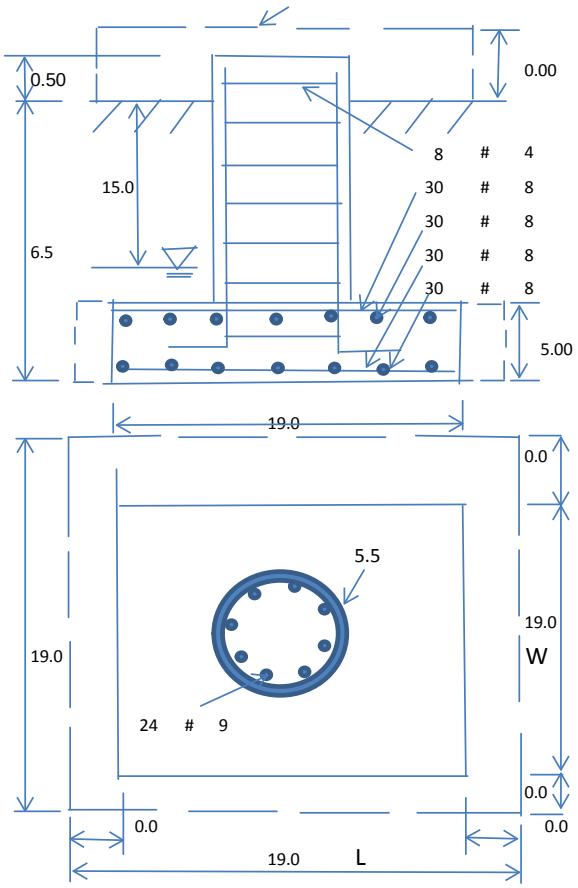
Analysis or Design? Analysis

Base Reactions (Unfactored)

Axial Load (Kips):	20.2	Shear Force (Kips):	19.8
Uplift Force (Kips):	0.0	Moment (Kips-ft):	1872.9
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	5.5	Depth of Base BG (ft.):	6.5
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	5.00
Length of Pad (ft.):	19	Width of Pad (ft.):	19
Final Length of pad (ft)	19.0	Final width of pad (ft):	19.0
Control Value for Cell D18:	0	Control Value for Cell F18:	0



Material Properties and Reabr Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	24	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	30	Qty. of Rebar in Pad (W):	30	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	30	Qty. of Rebar in Pad (W):	30	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	15.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Allowable Net Soil Bearing (psf):	4300	Allowable Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hori. force for O.T.M.:	No	Reduction factor on the maximum soil bearing pressure:			1.00	

Foundation Analysis and Design:

Total Dry Soil Volume (cu. Ft.):	505.86	Total Dry Soil Weight (Kips):	58.17
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	58.17	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1852.52	Total Dry Concrete Weight (Kips):	277.88
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	277.88	Total Vertical Load on Base (Kips):	356.25

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	3634	<	Allowable Soil Bearing (psf): 4300	0.85	OK!
Allowable Foundation Overturning Resistance (SF=1.5, kips-ft.):	2256.3	>	Applied Momont (kips-ft): 2012	0.89	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.68	OK!			

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75			
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.30			
					Load/ Capacity Ratio	
(1) Concrete Pier:						
Vertical Steel Rebar Area (sq. in./each):	1.00		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	3146.1	>	Design Factored Moment (Mu, Kips-Ft	1912.5	0.61	OK!
Calculated Shear Capacity (Kips):	430.2	>	Design Factored Shear (Kips):	25.7	0.06	OK!
Calculated Tension Capacity (Tn, Kips):	1296.0	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	6006.2	>	Design Factored Axial Load (Pu Kips):	26.3	0.00	OK!
Moment & Axial Strength Combination:	0.61	OK!	Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.007	Reinforcement Ratio is satisfied per ACI				
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	1222.1	>	One-Way Factored Shear (L-D. Kips):	110.3	0.09	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1222.1	>	One-Way Factored Shear (W-D., Kips):	110.3	0.09	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1374.5	>	One-Way Factored Shear (C-C, Kips):	459.3	0.33	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK!	Lower Steel Pad Reinf. Ratio (W-Direct	0.0018		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	5927.9	>	Moment at Bottom (L-Direct. K-Ft):	86.6	0.01	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	5927.9	>	Moment at Bottom (W-Direct. K-Ft):	86.6	0.01	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	8347.7	>	Moment at Bottom (C-C Dir. K-Ft):	122.5	0.01	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK!	Upper Steel Reinf. Ratio (W-Direct.):	0.0018		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	5927.9	>	Moment at the top (L-Dir Kips-Ft):	438.7	0.07	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	5927.9	>	Moment at the top (W-Dir Kips-Ft):	438.7	0.07	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	8347.7	>	Moment at the top (C-C Direc. K-Ft):	434.8	0.05	OK!

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RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CT11796G

CT796/OptasiteCandle_FT
52 Stadley Rough Road
Danbury, CT 06811

October 8, 2015

EBI Project Number: 6215005050

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	9.67 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

October 8, 2015

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CT11796G – CT796/OptasiteCandle_FT**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **52 Stadley Rough Road, Danbury, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limit for the 700 MHz Band is approximately 467 $\mu W/cm^2$, and the general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **52 Stadley Rough Road, Danbury, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 2 GSM / UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel

2) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

4) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.

5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

6) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

7) The antennas used in this modeling are the **Ericsson AIR21 B2A/B4P** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Ericsson AIR21 B4A/B12P** for 2100 MHz (AWS) and 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR21 B2A/B4P** has a maximum gain of **15.9 dBd** at its main lobe. The **Ericsson AIR21 B4A/B12P** has a maximum gain of **15.9 dBd** at its main lobe at 1900 MHz and 2100 MHz and has a maximum gain of **13.6 dBd** at its main lobe at 700 MHz. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antenna mounting height centerline of the proposed antennas is **137 feet** above ground level (AGL).

9) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculations were done with respect to uncontrolled / general public threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	137	Height (AGL):	137	Height (AGL):	137
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	# PCS Channels:	4
Total TX Power:	120	Total TX Power:	120	# AWS Channels:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE%	0.98	Antenna B1 MPE%	0.98	Antenna C1 MPE%	0.98
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Ericsson AIR21 B4A/B12P	Make / Model:	Ericsson AIR21 B4A/B12P	Make / Model:	Ericsson AIR21 B4A/B12P
Gain:	15.9 / 13.6 dBd	Gain:	15.9 / 13.6 dBd	Gain:	15.9 / 13.6 dBd
Height (AGL):	137	Height (AGL):	137	Height (AGL):	137
Frequency Bands	2100 MHz (AWS) / 700 MHz	Frequency Bands	2100 MHz (AWS) / 700 MHz	Frequency Bands	2100 MHz (AWS) / 700 MHz
Channel Count	3	Channel Count	3	Channel Count	3
Total TX Power:	150	Total TX Power:	150	Total TX Power:	150
ERP (W):	5,355.80	ERP (W):	5,355.80	ERP (W):	5,355.80
Antenna A2 MPE%	1.29	Antenna B2 MPE%	1.29	Antenna C2 MPE%	1.29

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile	**2.26**
AT&T	1.86 %
Clearwire	0.16 %
MetroPCS	0.35 %
Verizon Wireless	5.04 %
Site Total MPE %:	**9.67 %**

T-Mobile Sector 1 Total:	2.26 %
T-Mobile Sector 2 Total:	2.26 %
T-Mobile Sector 3 Total:	2.26 %
Site Total:	9.67 %

T-Mobile _per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile 2100 MHz (AWS) LTE	**2**	**2334.27**	**137**	**9.78**	**2100**	**1000**	**0.98 %**
T-Mobile 700 MHz LTE	**1**	**687.26**	**137**	**1.44**	**700**	**467**	**0.31 %**
T-Mobile 1900 MHz (PCS) UMTS	**2**	**1167.14**	**137**	**4.89**	**1900**	**1000**	**0.49 %**
T-Mobile 2100 MHz (AWS) UMTS	**2**	**1167.14**	**137**	**4.89**	**2100**	**1000**	**0.49 %**
						Total:	**2.26%**

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Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general public exposure to RF Emissions.

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

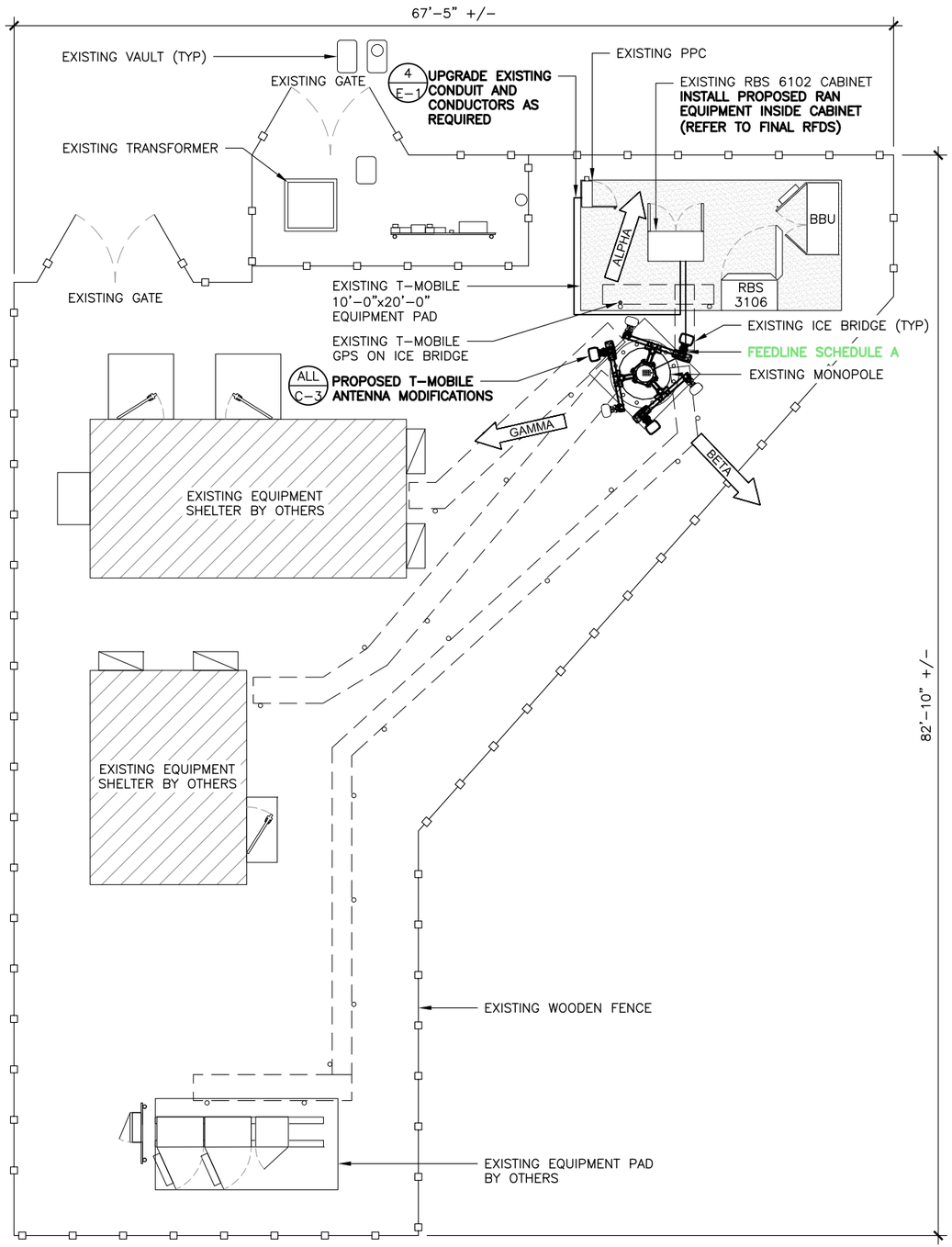
T-Mobile Sector	Power Density Value (%)
Sector 1:	2.26 %
Sector 2:	2.26 %
Sector 3 :	2.26 %
T-Mobile Total:	2.26 %
Site Total:	9.67 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **9.67%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803



1 OVERALL SITE PLAN

SCALE: 0' 5' 10' 15' 25'

11x17 SCALE: 3/32"=1'-0"
22x34 SCALE: 3/16"=1'-0"

N

STRUCTURAL NOTES:

PRIOR TO COMMENCING CONSTRUCTION, GC SHALL REFER TO TOWER STRUCTURAL ANALYSIS PROVIDED BY SBA TO DETERMINE IF THERE ARE ANY SUPPLEMENTAL OR SPECIAL INSTALLATION REQUIREMENTS FOR TOWER TOP EQUIPMENT AND FOR CABLE BUNDLING, SHIELDING, MOUNTING OR RELOCATION ARRANGEMENTS.

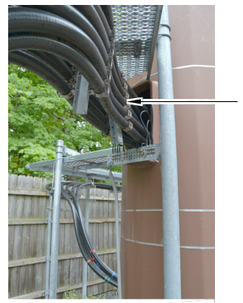
ANTENNA MOUNT STRUCTURAL ASSESSMENT REQUIREMENT:

ENGINEER OF RECORD HAS MADE A VISUAL ASSESSMENT ONLY AND HAS DETERMINED THAT THE EXISTING ANTENNA MOUNT SHALL BE REPLACED OR MODIFIED TO ACCOMMODATE ANY ADDITIONAL EQUIPMENT LOADS. USE BEST PRACTICES AND PROCEDURES TO COMPLETE CONSTRUCTION AND INSTALLATION OF DESIGNS AND DETAILS AS SHOWN HEREIN FOR MODIFICATIONS TO THE EXISTING ANTENNA MOUNT.

PAINTING NOTE:

ALL EQUIPMENT MOUNTED TO MONOPINE SHALL BE PAINTED BROWN TO MATCH THE COLOR OF THE MONOPINE, INCLUDING ANTENNAS, RRUS AND ALL BRACKETS AND PIPES

FEEDLINE SCHEDULE	FEEDLINE DESCRIPTION	LOCATION
A	EXISTING TO REMAIN: (12) 1 5/8" COAX & (1) 1 1/4" HYBRID FIBER TO T-MOBILE RAD @ 137'	INSIDE POLE
EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER		

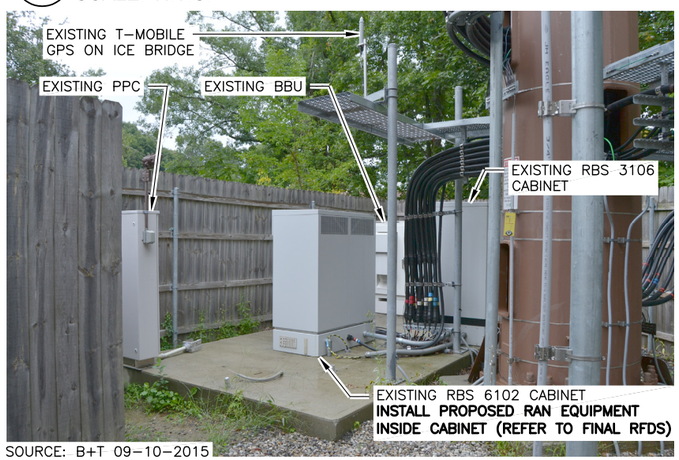


EXISTING (12) LINES OF 1 5/8" COAX AND (1) 1 1/4" HYBRID FIBER TO 137' TO REMAIN. **(REFER TO SBA PROVIDED STRUCTURAL ANALYSIS FOR SPECIAL CABLE INSTALLATION REQUIREMENTS, BUNDLING, SHIELDING, MOUNTING AND RELOCATION OF EXISTING CABLES)**

SOURCE: B+T 09-10-2015

2A FEEDLINE PHOTO DETAIL @ TOWER BASE

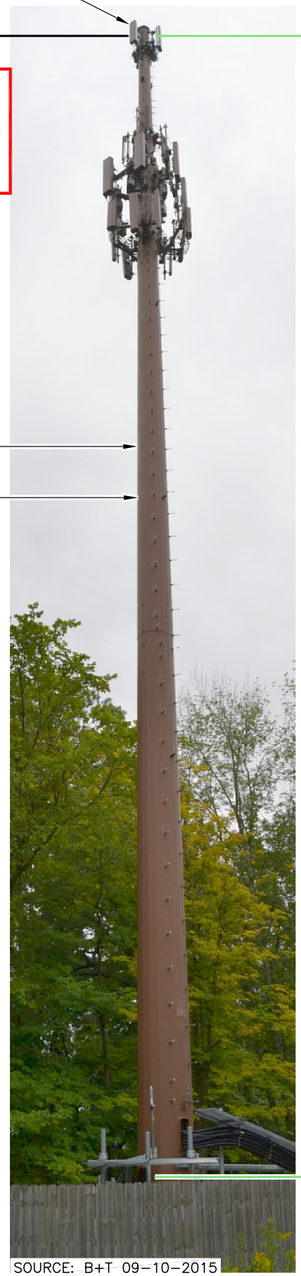
SCALE: N.T.S.



SOURCE: B+T 09-10-2015

2B EQUIPMENT PHOTO DETAIL

SCALE: N.T.S.



SOURCE: B+T 09-10-2015

3 ELEVATION PHOTO DETAIL

SCALE: N.T.S.

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

SBA COMMUNICATIONS CORP.
33 BOSTON POST ROAD WEST, SUITE 320
MARLBOROUGH, MA 01752

CT11796G

CT796/ OPTASITE CANDLE_FT

52 STADLEY ROUGH ROAD
DANBURY, CT 06811

PROJECT NO:	101027.001
CHECKED BY:	RCM

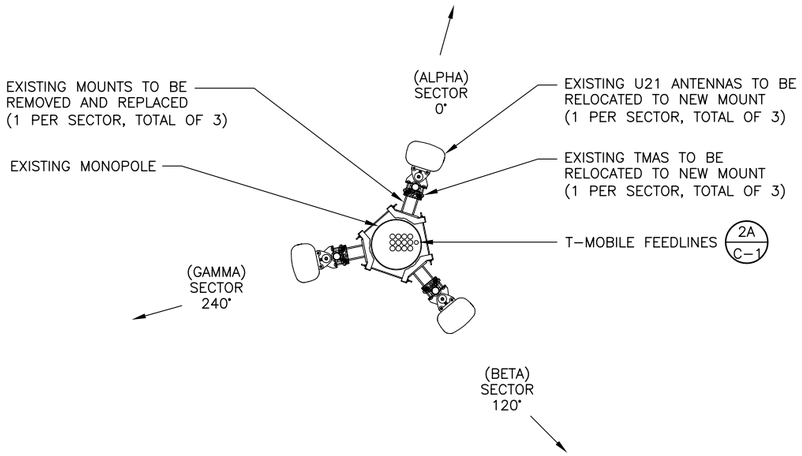
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	9/23/15	MEH	CONSTRUCTION
1	10/14/15	MEH	CONSTRUCTION
2	1/14/16	MDW	CONSTRUCTION

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/16

1/14/16
STATE OF CONNECTICUT
CHAD TUTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER

SHEET NUMBER:	REVISION:
C-1	2

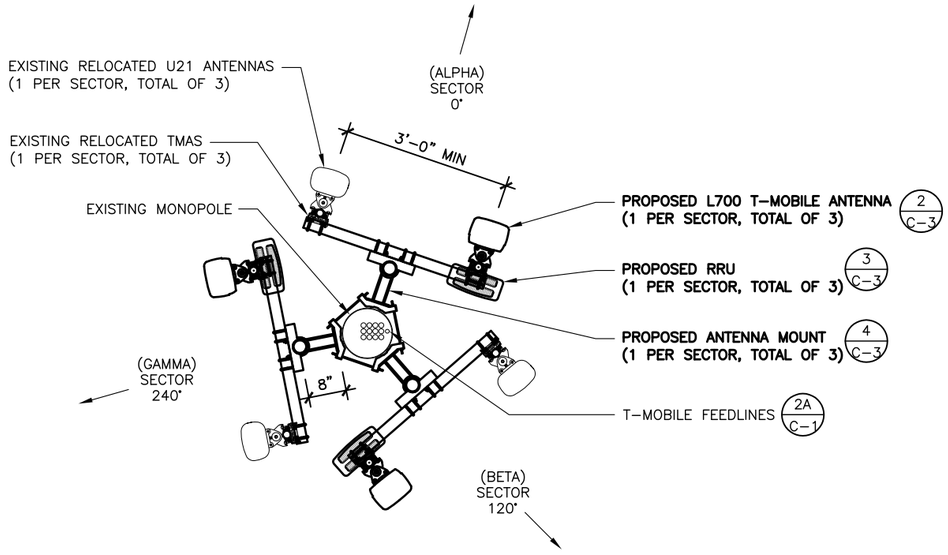


1A EXISTING ANTENNA PLAN

SCALE: 0' 1' 4' 10'

11x17 SCALE: 1/4"=1'-0"
22x34 SCALE: 1/2"=1'-0"

N

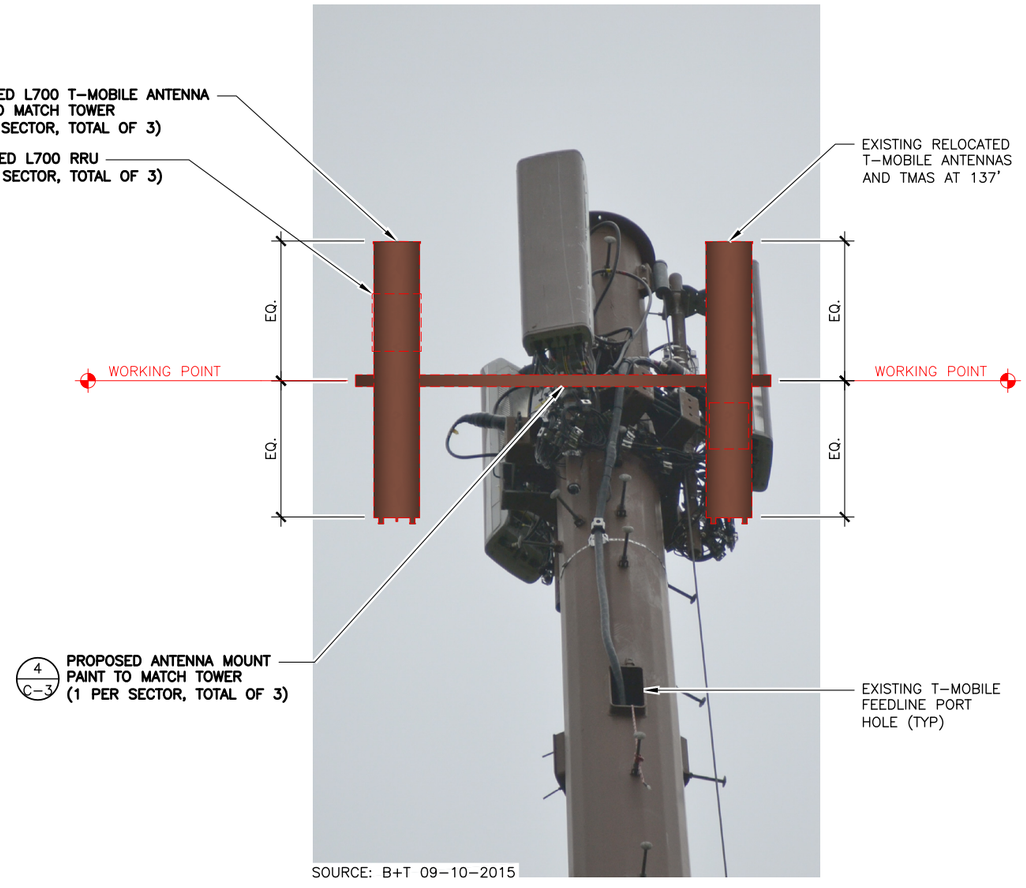


1B PROPOSED ANTENNA PLAN

SCALE: 0' 1' 4' 10'

11x17 SCALE: 1/4"=1'-0"
22x34 SCALE: 1/2"=1'-0"

N



SOURCE: B+T 09-10-2015

2 ANTENNA MOUNT PHOTO DETAIL

SCALE: N.T.S.

STRUCTURAL NOTES:

PRIOR TO COMMENCING CONSTRUCTION, GC SHALL REFER TO TOWER STRUCTURAL ANALYSIS PROVIDED BY SBA TO DETERMINE IF THERE ARE ANY SUPPLEMENTAL OR SPECIAL INSTALLATION REQUIREMENTS FOR TOWER TOP EQUIPMENT AND FOR CABLE BUNDLING, SHIELDING, MOUNTING OR RELOCATION ARRANGEMENTS.

SPECIAL WORK NOTE:

GC AND TOWER CREW SHALL CHECK WITH THE RF ENGINEER FOR LATEST RFDS, RAN SCENARIO AND TOWER TOP EQUIPMENT SPECIFICATIONS.

PAINTING NOTE:

ALL EQUIPMENT MOUNTED TO MONOPINE SHALL BE PAINTED BROWN TO MATCH THE COLOR OF THE MONOPINE, INCLUDING ANTENNAS, RRUS AND ALL BRACKETS AND PIPES

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CT796/ OPTASITE CANDLE_FT

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DANBURY, CT 06811

PROJECT NO:	101027.001
CHECKED BY:	RCM

ISSUED FOR:

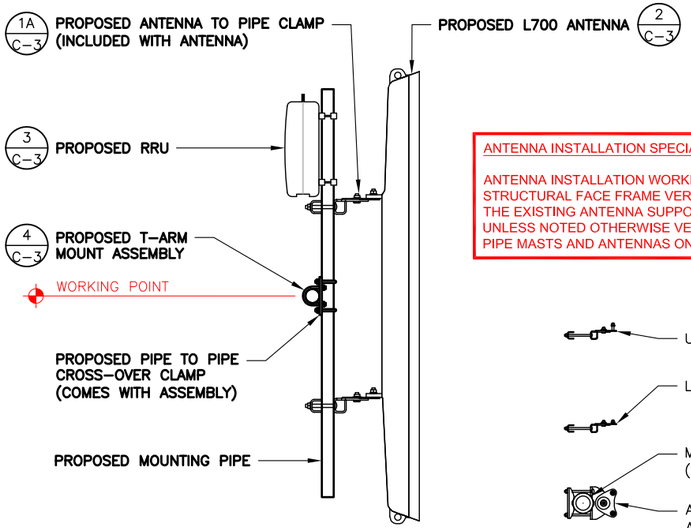
REV	DATE	DRWN	DESCRIPTION
0	9/23/15	MEH	CONSTRUCTION
1	10/14/15	MEH	CONSTRUCTION
2	1/14/16	MDW	CONSTRUCTION

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/16

1/14/16

STATE OF CONNECTICUT ★ CHAD TOTTLE ★ No. 23924 LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER:	REVISION:
C-2	2

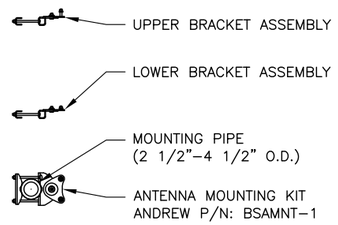


ANTENNA INSTALLATION SPECIAL WORK NOTE:

ANTENNA INSTALLATION WORKING POINT IS THE STRUCTURAL FACE FRAME VERTICAL CENTERLINE OF THE EXISTING ANTENNA SUPPORT ASSEMBLY. UNLESS NOTED OTHERWISE VERTICALLY CENTER ALL PIPE MASTS AND ANTENNAS ON THIS WORKING POINT.

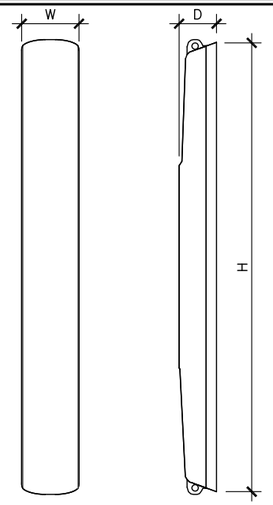
1 PROPOSED L700 ANTENNA & RRU MOUNTING DETAIL

SCALE: N.T.S.



1A L700 ANTENNA MOUNTING BRACKET

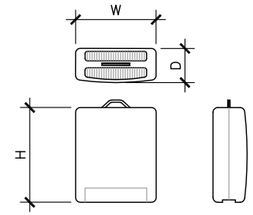
SCALE: N.T.S.



L700 ANTENNA SPECS	
MANUFACTURER	ERICSSON
MODEL #	AIR 21 B4A/B12P-B5P (KRC 118 048/1)
WIDTH	12.1"
DEPTH	8.7"
HEIGHT	96.0"
WEIGHT	126.0 LBS

2 L700 ANTENNA DETAIL

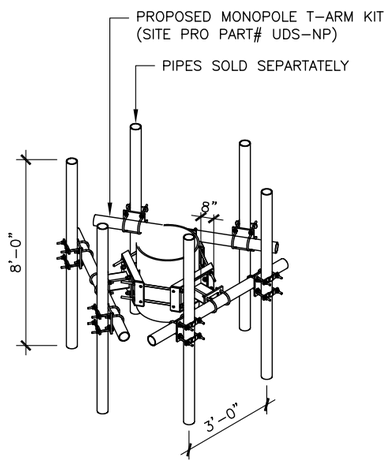
SCALE: N.T.S.



RRU SPECIFICATIONS	
MANUFACTURER	ERICSSON
MODEL #	RRUS11 B12
WIDTH	17"
DEPTH	7"
HEIGHT	20"
WEIGHT	50.6 LBS

3 REMOTE RADIO UNIT (RRU)

SCALE: N.T.S.



4 PROPOSED T-ARM MOUNT KIT

SCALE: N.T.S.

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

SBA COMMUNICATIONS CORP.
33 BOSTON POST ROAD WEST, SUITE 320
MARLBOROUGH, MA 01752

CT11796G

CT796/ OPTASITE CANDLE_FT

52 STADLEY ROUGH ROAD
DANBURY, CT 06811

PROJECT NO:	101027.001
CHECKED BY:	RCM

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C-3	2