October 13, 2015

Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

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

Members of the Siting Council:

On behalf of T-Mobile, SBA Communications is submitting an exempt modification application to the Connecticut Siting council for modification of existing equipment at a tower facility located at 52 Stadley Rough Road, Danbury, CT.

The 52 Stadley Rough Road facility consists of a 139' Monopole Tower owned and operated by SBA Towers II, LLC. In order to accommodate technological changes and enhance system performance in the State of Connecticut, T-Mobile plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the chief elected official of the municipality in which the affected cell site is located, Mayor Mark Boughton, as well as the property owner, Christ the Shepherd Church.

As part of T-Mobile's L700 project, T-Mobile desires to upgrade their equipment to meet the new standards of 4G technology. The new equipment will allow customers to download files and browse the internet at a high rate of speed while also allowing their phones to be compatible with the latest 4G technology.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in T-Mobile's operations at the site along with the required fee of $625.

The changes to the facility do not constitute modifications as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. The overall height of the structure will be unaffected.

2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound.

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.

4. The changes in radio frequency power density will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons, SBA Communications on behalf of T-Mobile, respectfully submits that he proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at 508.251.0720 x 3804 with any questions you may have concerning this matter.

Thank you,

Kri Pelletier
SBA Communications Corporation
33 Boston Post Road West Suite 320
Marlborough, MA 01752
508-251-0720 x 3804 + T
508-251-1755 + F
203-446-7700 + C
kpelletier@sbasite.com

T-Mobile

Equipment Modification

52 Stadley Rough Road, Danbury, CT
Site number CT11796G_L700

Tower Owner: SBA Towers II, LLC

Equipment Configuration: Monopole

Current and/or approved:

- (3) AIR 21 B2A/B4P - Panel
- (3) Ericsson - KRY 112 144/1 - TMA
- (12) 1-5/8" Lines
- (1) 1-5/8" Fiber

Final Configuration:

- (3) AIR 21 B2A/B4P - Panel
- (3) AIR 21 B4A/B2P - Panel
- (3) Ericsson - KRY 112 144/1 - TMA
- (3) Ericsson - S11B12 - RRU
- (12) 1-5/8" lines
- (1) 1-5/8" Fiber

Structural Information:

The attached structural analysis demonstrates that the tower and foundation will have adequate structural capacity to accommodate the proposed modifications.

Power Density:

The anticipated Maximum Composite contributions from the T-Mobile facility are 2.26% of the allowable FCC established general public limit. 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.

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 %**

October 13, 2015

Mark D. Boughton, Mayor
City of Danbury
155 Deer Hill Avenue
Danbury, CT 06810

RE: Telecommunications Facility @ 52 Stadley Rough Road, Danbury, CT

Dear Mayor Boughton,

In order to accommodate technological changes and enhance system performance in the State of Connecticut, T-Mobile will be changing its equipment configuration at certain cell sites.

As required by Regulations of Connecticut State Agencies (R.C.S.A.) Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review T-Mobile's proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter to the Siting Council fully describes T-Mobile's proposal for the referenced cell site. However, if you have any questions or require any further information on our plans or the Siting Council's procedures, please call me at 508.251.0720 x 3804.

Thank you,

Kri Pelletier
SBA Communications Company
33 Boston Post Road West Suite 320
Marlborough, MA 01752
508-251-0720 x 3804 + T
508-251-1755 + F
203-446-7700 + C
kpelletier@sbasite.com

October 13, 2015

Christ the Shepherd Church PCA
52 Stadley Rough Road
Danbury CT 06811

RE: Telecommunications Facility @ 52 Stadley Rough Road, Danbury, CT

To Whom It May Concern:

In order to accommodate technological changes and enhance system performance in the State of Connecticut, T-Mobile will be changing its equipment configuration at certain cell sites.

As required by Regulations of Connecticut State Agencies (R.C.S.A.) Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review T-Mobile's proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

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kpelletier@sbasite.com

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 Number: CT11796G

Carrier Site Name: N/A

Site Location: 52 Stadley Rough Road

Danbury, Connecticut

Fairfield County

Latitude: 41.433102

Longitude: -73.431916

Analysis Result:

Max Structural Usage: 87.5% [Pass]

Max Foundation Usage: 90% [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 rigorous 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-RDS-272)	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
2		3	AIR 21 B4A/B2P - 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:	**87.5%**	**73.5%**	**72.1%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	2074.0	20.7	21.7
Analysis Reactions	1889.2	19.9	24.4

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 2.0055 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 87.5% at 53.3ft

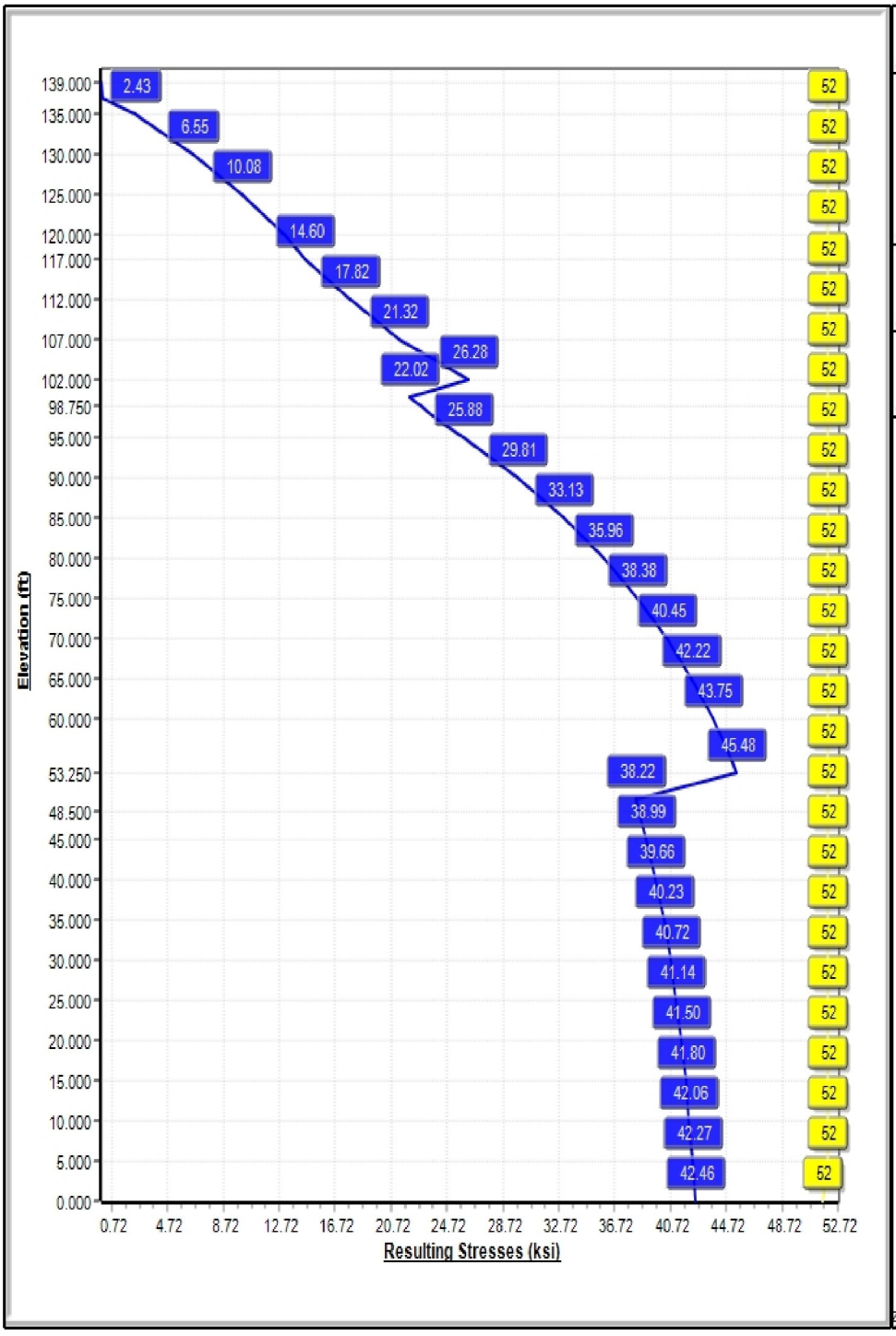
Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	10/2/2015	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69	Page: 1	
Base Elev:	0.000 (ft)				

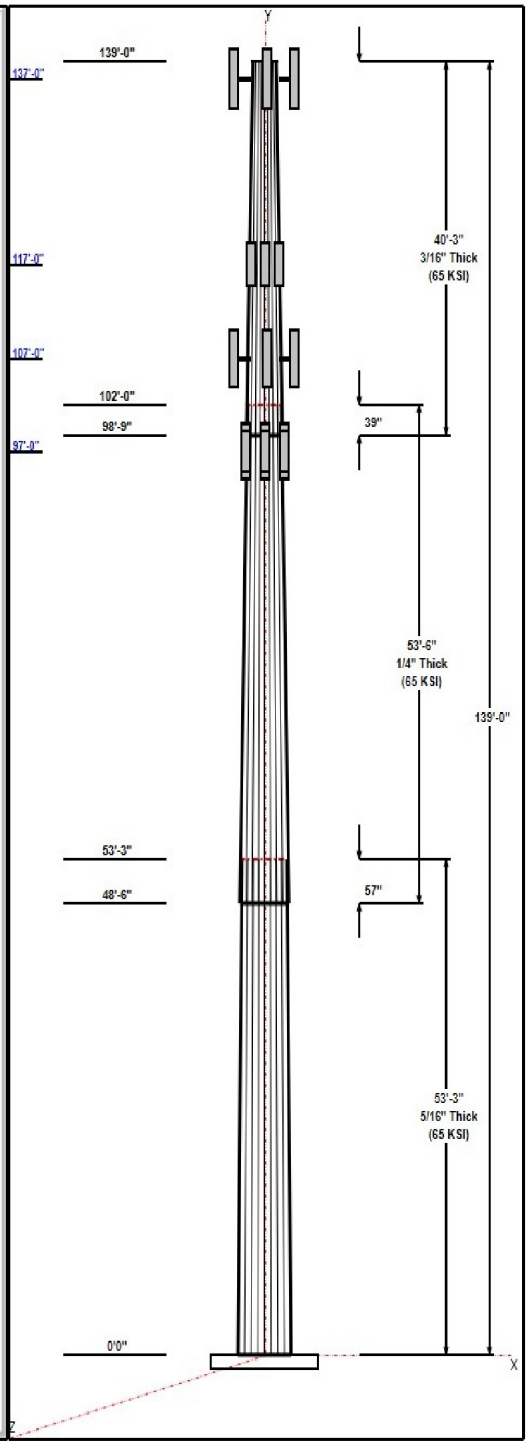
Tower Engineering Solutions

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

10/2/2015

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

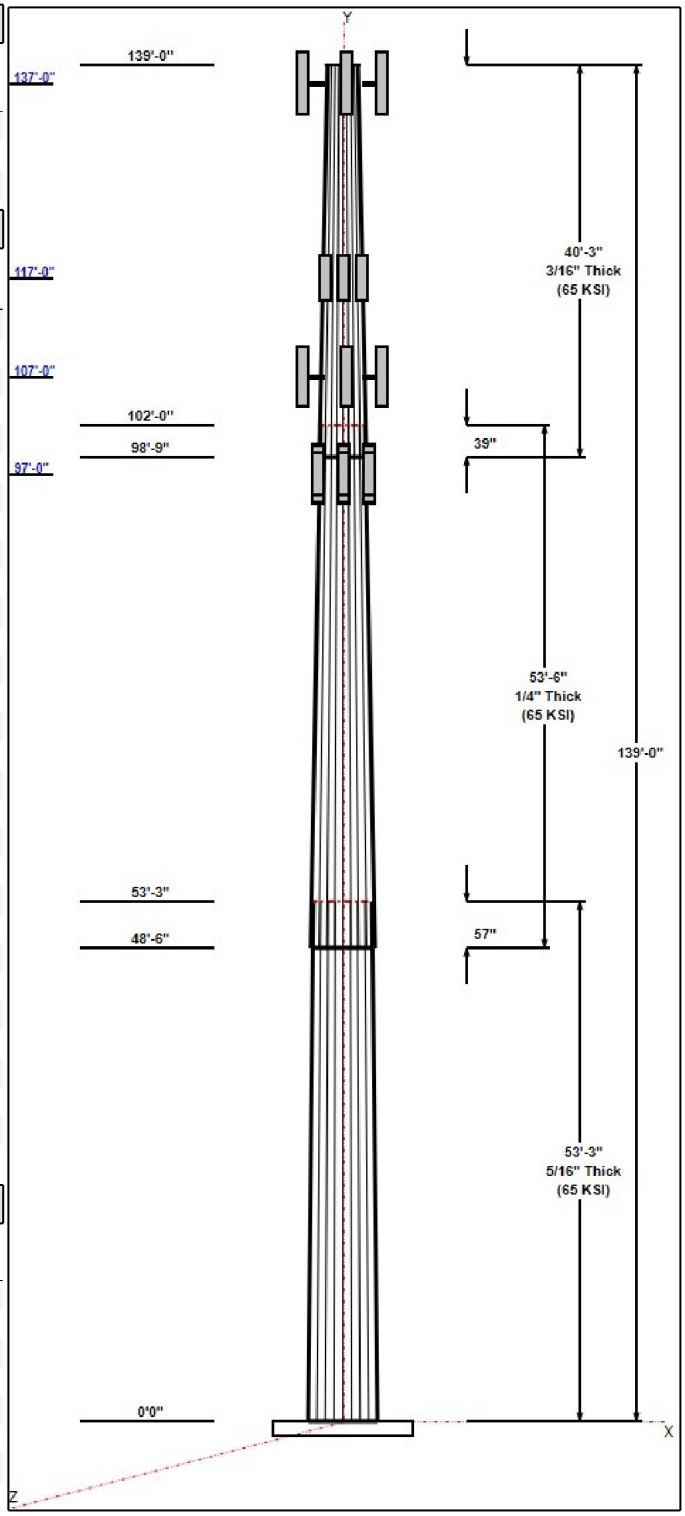
Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
139.00	139.00	1	6' Lightning rod	T-Mobile
137.00	137.00	3	AIR 21, 1.3M, B2A B4P	T-Mobile
137.00	137.00	3	AIR 21, 1.3M, B4A B2P	T-Mobile
137.00	137.00	3	KRY 112 144/1	T-Mobile
137.00	137.00	3	S11B12	T-Mobile
137.00	137.00	3	T-Arm (Flat)	T-Mobile
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

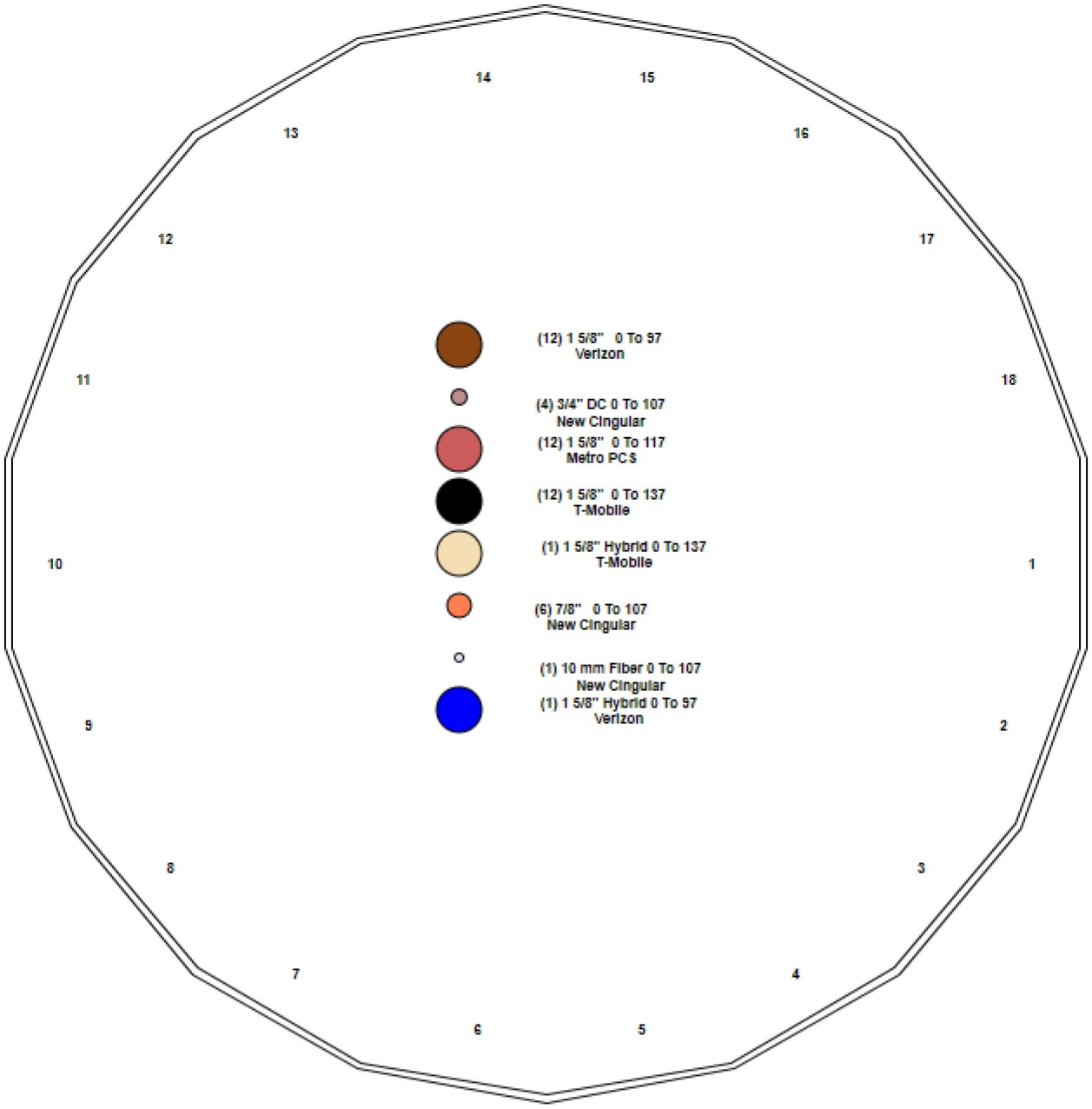
Load Case	Moment	Shear	Axial
85 mph Wind with 0" Ice	1889.2	19.9	19.8
73.61 mph Wind with 0.5" Ice	1543.0	16.0	24.4
50 mph Wind with 0" Ice	654.4	6.9	19.8

Structure: CT13549-S-SBA - Coax Line Placement

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

10/2/2015

Tower Engineering Solutions



Shaft Properties

Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	10/2/2015	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 5	

Tower Engineering Solutions

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	25.23	151.1	34.93	53.25	34.34	5198.89	18.29	111.7	0.230971
2	36.53	48.50	28.79	4786.42	24.35	146.1	24.17	102.0	18.98	1372.20	15.63	96.68	0.230971
3	25.30	98.75	14.94	1190.25	22.37	134.9	16.00	139.0	9.41	297.27	13.63	85.33	0.230971

Loading Summary

Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	10/2/2015	
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	139.0	6' Lightning rod	1	6.50	0.38	0.00	11.80	0.980	0.00	0.00	0.00
2	137.0	AIR 21, 1.3M, B2A B4P	3	91.50	6.58	0.83	129.20	6.970	0.83	0.00	0.00
3	137.0	AIR 21, 1.3M, B4A B2P	3	135.00	11.30	0.83	128.10	11.82	0.83	0.00	0.00
4	137.0	KRY 112 144/1	3	11.00	0.41	0.72	14.10	0.490	0.75	0.00	0.00
5	137.0	S11B12	3	51.00	3.31	0.71	67.10	3.520	0.72	0.00	0.00
6	137.0	T-Arm (Flat)	3	200.00	5.00	0.75	240.00	6.250	0.75	0.00	0.00
7	117.0	742 351	3	29.80	5.88	0.65	57.10	6.250	0.66	0.00	0.00
8	117.0	800 10504	3	17.60	3.35	0.78	35.70	3.610	0.79	0.00	0.00
9	117.0	Flush Mount	1	350.00	5.00	0.75	450.00	6.000	0.75	0.00	0.00
10	112.0	Collar Mount	1	122.40	3.00	0.75	160.40	3.500	0.75	0.00	0.00
11	112.0	DC6-48-60-18-8F	1	31.80	1.47	1.00	49.50	1.670	1.00	0.00	0.00
12	112.0	RRUS 11	3	50.70	2.94	0.76	66.00	3.140	0.77	0.00	0.00
13	112.0	RRUS 12	3	58.00	3.67	0.70	75.70	3.890	0.71	0.00	0.00
14	112.0	RRUS A2 Module	3	21.20	1.86	0.60	31.40	2.030	0.63	0.00	0.00
15	107.0	DBC20056F1V1	3	6.60	0.48	0.80	9.40	0.570	0.82	0.00	0.00
16	107.0	DTMABP7819VG12A	3	19.20	1.14	0.67	26.50	1.260	0.69	0.00	0.00
17	107.0	HPA-65R-BUU-H6	3	51.00	10.36	0.81	108.40	10.85	0.81	0.00	0.00
18	107.0	OPA-65R-LCUU-H6	3	80.00	10.36	0.76	134.00	10.85	0.77	0.00	0.00
19	107.0	T-Arm (Flat)	3	178.00	4.50	0.75	220.00	6.000	0.75	0.00	0.00
20	102.0	Collar Mount	1	122.40	3.00	0.75	160.40	3.500	0.75	0.00	0.00
21	102.0	DC6-48-60-18-8F	1	31.80	1.47	1.00	49.50	1.670	1.00	0.00	0.00
22	102.0	RRUS-32	3	77.00	3.87	0.86	103.50	4.110	0.86	0.00	0.00
23	102.0	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**	**4,846.80**			**6,702.90**				

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	137.0	(12) 1 5/8" Coax	1.04	0.00	0.00	0.00	Inside
0.00	137.0	(1) 1 5/8" Hybrid	3.30	0.00	0.00	0.00	Inside
0.00	117.0	(12) 1 5/8" Coax	1.04	0.00	0.00	0.00	Inside
0.00	107.0	(1) 10 mm Fiber	0.18	0.00	0.00	0.00	Inside
0.00	107.0	(4) 3/4" DC	1.20	0.00	0.00	0.00	Inside
0.00	107.0	(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
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

10/2/2015

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

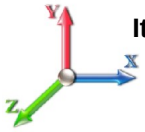
Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	10/2/2015	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 8	

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	10/2/2015	
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-Arm (Flat)	3	27.778	46.946	0.75	11.25	600.00	0.000	0.000	528.14	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, B4A B2P	3	27.778	46.946	0.83	28.14	405.00	0.000	0.000	1320.91	0.00	0.00
6	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
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:		**4,846.80**			**11,068.51**		

Total Applied Force Summary

Structure:	CT13549-S-SB	**Code:**	EIA/TIA-222-F	10/2/2015	
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	3075.67	1541.03	0.00	0.00
139.00	(1) appurtenances	100.80	71.48	0.00	0.00
	Totals:	**19,876.54**	**19,842.71**	**0.00**	**0.00**

Resulting Forces and Deflections

Structure:	CT13549-S-SB	**Code:**	EIA/TIA-222-F	10/2/2015	
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	-19.911	-19.807	0.000	0.000	0.000	-1889.1	0.000	0.000	0.000	0.000	0.000
5.00	-19.582	-18.882	0.000	0.000	0.000	-1789.6	-0.109	0.000	0.109	-0.202	0.000
10.00	-19.258	-17.978	0.000	0.000	0.000	-1691.7	-0.431	0.000	0.431	-0.408	0.000
15.00	-18.939	-17.095	0.000	0.000	0.000	-1595.4	-0.972	0.000	0.972	-0.619	0.000
20.00	-18.625	-16.232	0.000	0.000	0.000	-1500.7	-1.734	0.000	1.734	-0.833	0.000
25.00	-18.315	-15.390	0.000	0.000	0.000	-1407.6	-2.724	0.000	2.724	-1.051	0.000
30.00	-18.011	-14.569	0.000	0.000	0.000	-1316.0	-3.943	0.000	3.943	-1.273	0.000
35.00	-17.706	-13.768	0.000	0.000	0.000	-1225.9	-5.398	0.000	5.398	-1.498	0.000
40.00	-17.393	-12.989	0.000	0.000	0.000	-1137.4	-7.090	0.000	7.090	-1.728	0.000
45.00	-17.067	-12.242	0.000	0.000	0.000	-1050.4	-9.024	0.000	9.024	-1.960	0.000
48.50	-16.834	-11.737	0.000	0.000	0.000	-990.74	-10.523	0.000	10.523	-2.126	0.000
50.00	-16.740	-11.360	0.000	0.000	0.000	-965.49	-11.203	0.000	11.203	-2.199	0.000
53.25	-16.507	-10.591	0.000	0.000	0.000	-911.09	-12.754	0.000	12.754	-2.356	0.000
55.00	-16.412	-10.351	0.000	0.000	0.000	-882.20	-13.634	0.000	13.634	-2.442	0.000
60.00	-16.091	-9.752	0.000	0.000	0.000	-800.14	-16.343	0.000	16.343	-2.725	0.000
65.00	-15.769	-9.173	0.000	0.000	0.000	-719.69	-19.350	0.000	19.350	-3.009	0.000
70.00	-15.446	-8.612	0.000	0.000	0.000	-640.85	-22.652	0.000	22.652	-3.291	0.000
75.00	-15.125	-8.072	0.000	0.000	0.000	-563.62	-26.248	0.000	26.248	-3.570	0.000
80.00	-14.805	-7.552	0.000	0.000	0.000	-487.99	-30.132	0.000	30.132	-3.842	0.000
85.00	-14.488	-7.053	0.000	0.000	0.000	-413.97	-34.295	0.000	34.295	-4.104	0.000
90.00	-14.173	-6.576	0.000	0.000	0.000	-341.53	-38.725	0.000	38.725	-4.352	0.000
95.00	-13.856	-6.137	0.000	0.000	0.000	-270.66	-43.405	0.000	43.405	-4.580	0.000
97.00	-11.097	-5.459	0.000	0.000	0.000	-242.95	-45.341	0.000	45.341	-4.668	0.000
98.75	-10.990	-5.324	0.000	0.000	0.000	-223.53	-47.065	0.000	47.065	-4.741	0.000
100.00	-10.910	-5.161	0.000	0.000	0.000	-209.80	-48.312	0.000	48.312	-4.793	0.000
102.00	-9.973	-4.359	0.000	0.000	0.000	-187.98	-50.335	0.000	50.335	-4.871	0.000
105.00	-9.795	-4.187	0.000	0.000	0.000	-158.06	-53.427	0.000	53.427	-4.978	0.000
107.00	-6.874	-3.312	0.000	0.000	0.000	-138.47	-55.529	0.000	55.529	-5.063	0.000
110.00	-6.701	-3.161	0.000	0.000	0.000	-117.84	-58.744	0.000	58.744	-5.179	0.000
112.00	-5.591	-2.607	0.000	0.000	0.000	-104.44	-60.927	0.000	60.927	-5.253	0.000
115.00	-5.423	-2.467	0.000	0.000	0.000	-87.674	-64.257	0.000	64.257	-5.355	0.000
117.00	-4.237	-1.982	0.000	0.000	0.000	-76.828	-66.511	0.000	66.511	-5.419	0.000
120.00	-4.076	-1.851	0.000	0.000	0.000	-64.117	-69.940	0.000	69.940	-5.506	0.000
125.00	-3.813	-1.649	0.000	0.000	0.000	-43.738	-75.767	0.000	75.767	-5.630	0.000
130.00	-3.562	-1.460	0.000	0.000	0.000	-24.671	-81.708	0.000	81.708	-5.724	0.000
135.00	-3.323	-1.284	0.000	0.000	0.000	-6.860	-87.726	0.000	87.726	-5.776	0.000
137.00	-0.107	-0.061	0.000	0.000	0.000	-0.215	-90.143	0.000	90.143	-5.782	0.000
139.00	-0.101	0.000	0.000	0.000	0.000	0.000	0.000	0.000	92.561	-5.782	0.000

Resulting Stresses

Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	10/2/2015	
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	42.00	42.46	51.6	0.823
5.00	0.42	0.87	0.00	0.00	0.00	41.83	42.27	52.0	0.813
10.00	0.41	0.88	0.00	0.00	0.00	41.62	42.06	52.0	0.809
15.00	0.40	0.89	0.00	0.00	0.00	41.38	41.80	52.0	0.804
20.00	0.39	0.89	0.00	0.00	0.00	41.08	41.50	52.0	0.798
25.00	0.38	0.90	0.00	0.00	0.00	40.74	41.14	52.0	0.792
30.00	0.37	0.92	0.00	0.00	0.00	40.33	40.72	52.0	0.783
35.00	0.36	0.93	0.00	0.00	0.00	39.84	40.23	52.0	0.774
40.00	0.35	0.94	0.00	0.00	0.00	39.28	39.66	52.0	0.763
45.00	0.34	0.95	0.00	0.00	0.00	38.61	38.99	52.0	0.750
48.50	0.33	0.96	0.00	0.00	0.00	38.09	38.46	52.0	0.740
50.00	0.32	0.96	0.00	0.00	0.00	37.86	38.22	52.0	0.735
53.25	0.38	1.19	0.00	0.00	0.00	45.05	45.48	52.0	0.875
55.00	0.38	1.20	0.00	0.00	0.00	44.65	45.07	52.0	0.867
60.00	0.37	1.22	0.00	0.00	0.00	43.34	43.75	52.0	0.842
65.00	0.36	1.23	0.00	0.00	0.00	41.81	42.22	52.0	0.812
70.00	0.35	1.25	0.00	0.00	0.00	40.04	40.45	52.0	0.778
75.00	0.34	1.27	0.00	0.00	0.00	37.98	38.38	52.0	0.738
80.00	0.33	1.30	0.00	0.00	0.00	35.56	35.96	52.0	0.692
85.00	0.32	1.32	0.00	0.00	0.00	32.73	33.13	52.0	0.637
90.00	0.31	1.35	0.00	0.00	0.00	29.40	29.81	52.0	0.573
95.00	0.30	1.38	0.00	0.00	0.00	25.47	25.88	52.0	0.498
97.00	0.27	1.12	0.00	0.00	0.00	23.72	24.07	52.0	0.463
98.75	0.27	1.13	0.00	0.00	0.00	22.55	22.90	52.0	0.441
100.00	0.27	1.14	0.00	0.00	0.00	21.67	22.02	52.0	0.424
102.00	0.30	1.39	0.00	0.00	0.00	25.87	26.28	52.0	0.506
105.00	0.30	1.40	0.00	0.00	0.00	23.05	23.47	52.0	0.452
107.00	0.24	1.00	0.00	0.00	0.00	21.01	21.32	52.0	0.410
110.00	0.24	1.01	0.00	0.00	0.00	19.00	19.32	52.0	0.372
112.00	0.20	0.86	0.00	0.00	0.00	17.56	17.82	52.0	0.343
115.00	0.19	0.86	0.00	0.00	0.00	15.71	15.98	52.0	0.307
117.00	0.16	0.69	0.00	0.00	0.00	14.39	14.60	52.0	0.281
120.00	0.15	0.68	0.00	0.00	0.00	12.85	13.06	52.0	0.251
125.00	0.15	0.68	0.00	0.00	0.00	9.87	10.08	52.0	0.194
130.00	0.14	0.67	0.00	0.00	0.00	6.31	6.55	52.0	0.126
135.00	0.13	0.67	0.00	0.00	0.00	2.01	2.43	52.0	0.047
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

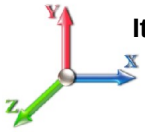
Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	10/2/2015	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 13	

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	10/2/2015	
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-Arm (Flat)	3	20.833	35.207	0.75	14.06	720.00	0.000	0.000	495.10	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, B4A B2P	3	20.833	35.207	0.83	29.43	384.30	0.000	0.000	1036.21	0.00	0.00
6	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
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:		**6,702.90**			**9,113.36**		

Total Applied Force Summary

Structure:	CT13549-S-SB	**Code:**	EIA/TIA-222-F	10/2/2015	
Site Name:	Danbury 1	**Exposure:**	C		
Height:	139.00 (ft)	**Gh:**	1.69		
Base Elev:	0.000 (ft)	**Struct Class:**	II	Page: 15	

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	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	2516.33	1831.96	0.00	0.00
139.00	(1) appurtenances	100.64	97.14	0.00	0.00
	Totals:	**15,936.70**	**24,410.91**	**0.00**	**0.00**

Resulting Forces and Deflections

Structure:	CT13549-S-SB	**Code:**	EIA/TIA-222-F	10/2/2015	
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	-15.972	-24.387	0.000	0.000	0.000	-1543.0	0.000	0.000	0.000	0.000	0.000
5.00	-15.736	-23.343	0.000	0.000	0.000	-1463.1	-0.089	0.000	0.089	-0.165	0.000
10.00	-15.503	-22.321	0.000	0.000	0.000	-1384.4	-0.352	0.000	0.352	-0.334	0.000
15.00	-15.273	-21.324	0.000	0.000	0.000	-1306.9	-0.794	0.000	0.794	-0.506	0.000
20.00	-15.046	-20.350	0.000	0.000	0.000	-1230.6	-1.418	0.000	1.418	-0.682	0.000
25.00	-14.822	-19.400	0.000	0.000	0.000	-1155.3	-2.228	0.000	2.228	-0.860	0.000
30.00	-14.600	-18.474	0.000	0.000	0.000	-1081.2	-3.227	0.000	3.227	-1.043	0.000
35.00	-14.378	-17.571	0.000	0.000	0.000	-1008.2	-4.419	0.000	4.419	-1.228	0.000
40.00	-14.149	-16.693	0.000	0.000	0.000	-936.38	-5.806	0.000	5.806	-1.417	0.000
45.00	-13.906	-15.846	0.000	0.000	0.000	-865.64	-7.393	0.000	7.393	-1.608	0.000
48.50	-13.730	-15.271	0.000	0.000	0.000	-816.97	-8.623	0.000	8.623	-1.745	0.000
50.00	-13.663	-14.868	0.000	0.000	0.000	-796.38	-9.181	0.000	9.181	-1.805	0.000
53.25	-13.487	-14.035	0.000	0.000	0.000	-751.97	-10.455	0.000	10.455	-1.935	0.000
55.00	-13.423	-13.773	0.000	0.000	0.000	-728.37	-11.178	0.000	11.178	-2.005	0.000
60.00	-13.186	-13.088	0.000	0.000	0.000	-661.26	-13.404	0.000	13.404	-2.240	0.000
65.00	-12.947	-12.424	0.000	0.000	0.000	-595.33	-15.876	0.000	15.876	-2.474	0.000
70.00	-12.707	-11.782	0.000	0.000	0.000	-530.59	-18.593	0.000	18.593	-2.708	0.000
75.00	-12.467	-11.162	0.000	0.000	0.000	-467.06	-21.552	0.000	21.552	-2.938	0.000
80.00	-12.226	-10.564	0.000	0.000	0.000	-404.73	-24.751	0.000	24.751	-3.164	0.000
85.00	-11.985	-9.989	0.000	0.000	0.000	-343.60	-28.182	0.000	28.182	-3.382	0.000
90.00	-11.745	-9.438	0.000	0.000	0.000	-283.67	-31.834	0.000	31.834	-3.588	0.000
95.00	-11.498	-8.921	0.000	0.000	0.000	-224.95	-35.694	0.000	35.694	-3.777	0.000
97.00	-9.223	-7.637	0.000	0.000	0.000	-201.95	-37.291	0.000	37.291	-3.850	0.000
98.75	-9.139	-7.475	0.000	0.000	0.000	-185.81	-38.713	0.000	38.713	-3.911	0.000
100.00	-9.077	-7.295	0.000	0.000	0.000	-174.39	-39.742	0.000	39.742	-3.954	0.000
102.00	-8.301	-6.279	0.000	0.000	0.000	-156.23	-41.412	0.000	41.412	-4.018	0.000
105.00	-8.161	-6.062	0.000	0.000	0.000	-131.33	-43.964	0.000	43.964	-4.108	0.000
107.00	-5.706	-4.592	0.000	0.000	0.000	-115.01	-45.700	0.000	45.700	-4.178	0.000
110.00	-5.569	-4.396	0.000	0.000	0.000	-97.896	-48.355	0.000	48.355	-4.275	0.000
112.00	-4.640	-3.600	0.000	0.000	0.000	-86.758	-50.157	0.000	50.157	-4.336	0.000
115.00	-4.506	-3.416	0.000	0.000	0.000	-72.837	-52.907	0.000	52.907	-4.421	0.000
117.00	-3.508	-2.636	0.000	0.000	0.000	-63.826	-54.769	0.000	54.769	-4.474	0.000
120.00	-3.379	-2.464	0.000	0.000	0.000	-53.301	-57.602	0.000	57.602	-4.547	0.000
125.00	-3.167	-2.194	0.000	0.000	0.000	-36.407	-62.416	0.000	62.416	-4.650	0.000
130.00	-2.964	-1.941	0.000	0.000	0.000	-20.571	-67.325	0.000	67.325	-4.728	0.000
135.00	-2.768	-1.705	0.000	0.000	0.000	-5.753	-72.299	0.000	72.299	-4.771	0.000
137.00	-0.108	-0.088	0.000	0.000	0.000	-0.217	-74.297	0.000	74.297	-4.776	0.000
139.00	-0.101	0.000	0.000	0.000	0.000	0.000	0.000	0.000	76.295	-4.776	0.000

Resulting Stresses

Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	10/2/2015	
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	0.52	0.69	0.00	0.00	0.00	34.31	34.85	51.6	0.675
5.00	0.51	0.70	0.00	0.00	0.00	34.20	34.74	52.0	0.668
10.00	0.50	0.71	0.00	0.00	0.00	34.06	34.59	52.0	0.665
15.00	0.49	0.71	0.00	0.00	0.00	33.90	34.41	52.0	0.662
20.00	0.49	0.72	0.00	0.00	0.00	33.69	34.20	52.0	0.658
25.00	0.48	0.73	0.00	0.00	0.00	33.44	33.94	52.0	0.653
30.00	0.47	0.74	0.00	0.00	0.00	33.13	33.62	52.0	0.647
35.00	0.46	0.75	0.00	0.00	0.00	32.77	33.25	52.0	0.640
40.00	0.45	0.76	0.00	0.00	0.00	32.33	32.81	52.0	0.631
45.00	0.44	0.77	0.00	0.00	0.00	31.82	32.28	52.0	0.621
48.50	0.43	0.78	0.00	0.00	0.00	31.41	31.87	52.0	0.613
50.00	0.42	0.78	0.00	0.00	0.00	31.22	31.68	52.0	0.609
53.25	0.50	0.97	0.00	0.00	0.00	37.19	37.73	52.0	0.726
55.00	0.50	0.98	0.00	0.00	0.00	36.86	37.40	52.0	0.720
60.00	0.49	1.00	0.00	0.00	0.00	35.82	36.35	52.0	0.699
65.00	0.48	1.01	0.00	0.00	0.00	34.59	35.11	52.0	0.676
70.00	0.47	1.03	0.00	0.00	0.00	33.15	33.67	52.0	0.648
75.00	0.47	1.05	0.00	0.00	0.00	31.47	31.99	52.0	0.615
80.00	0.46	1.07	0.00	0.00	0.00	29.49	30.01	52.0	0.577
85.00	0.45	1.09	0.00	0.00	0.00	27.17	27.69	52.0	0.533
90.00	0.45	1.12	0.00	0.00	0.00	24.42	24.94	52.0	0.480
95.00	0.44	1.14	0.00	0.00	0.00	21.17	21.70	52.0	0.417
97.00	0.38	0.93	0.00	0.00	0.00	19.71	20.16	52.0	0.388
98.75	0.38	0.94	0.00	0.00	0.00	18.74	19.19	52.0	0.369
100.00	0.38	0.95	0.00	0.00	0.00	18.01	18.46	52.0	0.355
102.00	0.43	1.15	0.00	0.00	0.00	21.50	22.03	52.0	0.424
105.00	0.43	1.17	0.00	0.00	0.00	19.15	19.69	52.0	0.379
107.00	0.33	0.83	0.00	0.00	0.00	17.45	17.84	52.0	0.343
110.00	0.33	0.84	0.00	0.00	0.00	15.78	16.18	52.0	0.311
112.00	0.27	0.71	0.00	0.00	0.00	14.58	14.91	52.0	0.287
115.00	0.27	0.71	0.00	0.00	0.00	13.05	13.38	52.0	0.257
117.00	0.21	0.57	0.00	0.00	0.00	11.95	12.21	52.0	0.235
120.00	0.20	0.57	0.00	0.00	0.00	10.68	10.93	52.0	0.210
125.00	0.19	0.56	0.00	0.00	0.00	8.21	8.46	52.0	0.163
130.00	0.18	0.56	0.00	0.00	0.00	5.26	5.53	52.0	0.106
135.00	0.17	0.56	0.00	0.00	0.00	1.68	2.09	52.0	0.040
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
Site Name: Danbury 1
Height: 139.00 (ft)
Base Elev: 0.000 (ft)

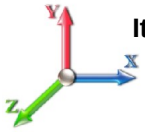
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

10/2/2015

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	10/2/2015	
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-Arm (Flat)	3	9.612	16.244	0.75	11.25	600.00	0.000	0.000	182.75	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, B4A B2P	3	9.612	16.244	0.83	28.14	405.00	0.000	0.000	457.06	0.00	0.00
6	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
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:		**4,846.80**			**3,829.93**		

Total Applied Force Summary

Structure:	CT13549-S-SB	**Code:**	EIA/TIA-222-F	10/2/2015	
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	1064.24	1541.03	0.00	0.00
139.00	(1) appurtenances	34.88	71.48	0.00	0.00
	Totals:	**6,877.69**	**19,842.71**	**0.00**	**0.00**

Resulting Forces and Deflections

Structure:	CT13549-S-SB	**Code:**	EIA/TIA-222-F	10/2/2015	
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	-6.889	-19.838	0.000	0.000	0.000	-654.40	0.000	0.000	0.000	0.000	0.000
5.00	-6.775	-18.974	0.000	0.000	0.000	-619.96	-0.038	0.000	0.038	-0.070	0.000
10.00	-6.663	-18.130	0.000	0.000	0.000	-586.08	-0.149	0.000	0.149	-0.141	0.000
15.00	-6.553	-17.305	0.000	0.000	0.000	-552.77	-0.337	0.000	0.337	-0.214	0.000
20.00	-6.445	-16.500	0.000	0.000	0.000	-520.00	-0.601	0.000	0.601	-0.289	0.000
25.00	-6.338	-15.715	0.000	0.000	0.000	-487.78	-0.944	0.000	0.944	-0.364	0.000
30.00	-6.233	-14.949	0.000	0.000	0.000	-456.09	-1.366	0.000	1.366	-0.441	0.000
35.00	-6.128	-14.203	0.000	0.000	0.000	-424.92	-1.870	0.000	1.870	-0.519	0.000
40.00	-6.021	-13.476	0.000	0.000	0.000	-394.28	-2.457	0.000	2.457	-0.599	0.000
45.00	-5.908	-12.771	0.000	0.000	0.000	-364.18	-3.127	0.000	3.127	-0.679	0.000
48.50	-5.828	-12.290	0.000	0.000	0.000	-343.50	-3.646	0.000	3.646	-0.737	0.000
50.00	-5.796	-11.938	0.000	0.000	0.000	-334.76	-3.882	0.000	3.882	-0.762	0.000
53.25	-5.716	-11.191	0.000	0.000	0.000	-315.92	-4.420	0.000	4.420	-0.816	0.000
55.00	-5.683	-10.994	0.000	0.000	0.000	-305.92	-4.725	0.000	4.725	-0.846	0.000
60.00	-5.573	-10.451	0.000	0.000	0.000	-277.50	-5.664	0.000	5.664	-0.945	0.000
65.00	-5.463	-9.924	0.000	0.000	0.000	-249.64	-6.707	0.000	6.707	-1.043	0.000
70.00	-5.353	-9.413	0.000	0.000	0.000	-222.32	-7.852	0.000	7.852	-1.141	0.000
75.00	-5.243	-8.918	0.000	0.000	0.000	-195.56	-9.099	0.000	9.099	-1.237	0.000
80.00	-5.133	-8.440	0.000	0.000	0.000	-169.35	-10.446	0.000	10.446	-1.332	0.000
85.00	-5.025	-7.977	0.000	0.000	0.000	-143.68	-11.891	0.000	11.891	-1.423	0.000
90.00	-4.917	-7.531	0.000	0.000	0.000	-118.56	-13.428	0.000	13.428	-1.509	0.000
95.00	-4.808	-7.103	0.000	0.000	0.000	-93.978	-15.052	0.000	15.052	-1.588	0.000
97.00	-3.851	-6.244	0.000	0.000	0.000	-84.363	-15.724	0.000	15.724	-1.619	0.000
98.75	-3.814	-6.111	0.000	0.000	0.000	-77.624	-16.322	0.000	16.322	-1.644	0.000
100.00	-3.787	-5.954	0.000	0.000	0.000	-72.857	-16.755	0.000	16.755	-1.662	0.000
102.00	-3.462	-5.099	0.000	0.000	0.000	-65.284	-17.457	0.000	17.457	-1.689	0.000
105.00	-3.400	-4.928	0.000	0.000	0.000	-54.899	-18.531	0.000	18.531	-1.726	0.000
107.00	-2.387	-3.841	0.000	0.000	0.000	-48.098	-19.261	0.000	19.261	-1.756	0.000
110.00	-2.327	-3.686	0.000	0.000	0.000	-40.938	-20.377	0.000	20.377	-1.796	0.000
112.00	-1.942	-3.052	0.000	0.000	0.000	-36.285	-21.135	0.000	21.135	-1.822	0.000
115.00	-1.883	-2.905	0.000	0.000	0.000	-30.460	-22.292	0.000	22.292	-1.857	0.000
117.00	-1.472	-2.329	0.000	0.000	0.000	-26.693	-23.074	0.000	23.074	-1.879	0.000
120.00	-1.416	-2.192	0.000	0.000	0.000	-22.278	-24.265	0.000	24.265	-1.910	0.000
125.00	-1.325	-1.974	0.000	0.000	0.000	-15.199	-26.289	0.000	26.289	-1.953	0.000
130.00	-1.238	-1.767	0.000	0.000	0.000	-8.573	-28.353	0.000	28.353	-1.985	0.000
135.00	-1.155	-1.573	0.000	0.000	0.000	-2.384	-30.443	0.000	30.443	-2.004	0.000
137.00	-0.037	-0.070	0.000	0.000	0.000	-0.075	-31.283	0.000	31.283	-2.006	0.000
139.00	-0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	32.123	-2.006	0.000

Resulting Stresses

Structure:	CT13549-S-SBA	**Code:**	EIA/TIA-222-F	10/2/2015	
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	0.43	0.30	0.00	0.00	0.00	14.55	14.99	51.6	0.290
5.00	0.42	0.30	0.00	0.00	0.00	14.49	14.92	52.0	0.287
10.00	0.41	0.30	0.00	0.00	0.00	14.42	14.84	52.0	0.285
15.00	0.40	0.31	0.00	0.00	0.00	14.34	14.75	52.0	0.284
20.00	0.39	0.31	0.00	0.00	0.00	14.24	14.64	52.0	0.282
25.00	0.39	0.31	0.00	0.00	0.00	14.12	14.51	52.0	0.279
30.00	0.38	0.32	0.00	0.00	0.00	13.98	14.36	52.0	0.276
35.00	0.37	0.32	0.00	0.00	0.00	13.81	14.19	52.0	0.273
40.00	0.36	0.32	0.00	0.00	0.00	13.61	13.99	52.0	0.269
45.00	0.35	0.33	0.00	0.00	0.00	13.39	13.75	52.0	0.265
48.50	0.35	0.33	0.00	0.00	0.00	13.21	13.57	52.0	0.261
50.00	0.34	0.33	0.00	0.00	0.00	13.13	13.48	52.0	0.259
53.25	0.40	0.41	0.00	0.00	0.00	15.62	16.04	52.0	0.309
55.00	0.40	0.42	0.00	0.00	0.00	15.48	15.90	52.0	0.306
60.00	0.39	0.42	0.00	0.00	0.00	15.03	15.44	52.0	0.297
65.00	0.39	0.43	0.00	0.00	0.00	14.50	14.91	52.0	0.287
70.00	0.38	0.43	0.00	0.00	0.00	13.89	14.29	52.0	0.275
75.00	0.37	0.44	0.00	0.00	0.00	13.18	13.57	52.0	0.261
80.00	0.37	0.45	0.00	0.00	0.00	12.34	12.73	52.0	0.245
85.00	0.36	0.46	0.00	0.00	0.00	11.36	11.75	52.0	0.226
90.00	0.36	0.47	0.00	0.00	0.00	10.21	10.59	52.0	0.204
95.00	0.35	0.48	0.00	0.00	0.00	8.84	9.23	52.0	0.178
97.00	0.31	0.39	0.00	0.00	0.00	8.24	8.58	52.0	0.165
98.75	0.31	0.39	0.00	0.00	0.00	7.83	8.17	52.0	0.157
100.00	0.31	0.39	0.00	0.00	0.00	7.52	7.86	52.0	0.151
102.00	0.35	0.48	0.00	0.00	0.00	8.98	9.37	52.0	0.180
105.00	0.35	0.49	0.00	0.00	0.00	8.01	8.40	52.0	0.162
107.00	0.28	0.35	0.00	0.00	0.00	7.30	7.60	52.0	0.146
110.00	0.28	0.35	0.00	0.00	0.00	6.60	6.90	52.0	0.133
112.00	0.23	0.30	0.00	0.00	0.00	6.10	6.35	52.0	0.122
115.00	0.23	0.30	0.00	0.00	0.00	5.46	5.71	52.0	0.110
117.00	0.19	0.24	0.00	0.00	0.00	5.00	5.20	52.0	0.100
120.00	0.18	0.24	0.00	0.00	0.00	4.46	4.67	52.0	0.090
125.00	0.17	0.24	0.00	0.00	0.00	3.43	3.63	52.0	0.070
130.00	0.17	0.23	0.00	0.00	0.00	2.19	2.39	52.0	0.046
135.00	0.16	0.23	0.00	0.00	0.00	0.70	0.95	52.0	0.018
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	10/2/2015	
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)	t MZ (ft-kips)
85 mph Wind with 0" Ice	19.9	0.00	19.81	0.00	0.00	1889.17
73.61 mph Wind with 0.5" Ice	16.0	0.00	24.39	0.00	0.00	1543.02
50 mph Wind with 0" Ice	6.9	0.00	19.84	0.00	0.00	654.41

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	0.38	1.19	0.00	0.00	0.00	45.05	45.48	52.0	53.25	0.875
73.61 mph Wind with 0.5" Ice	0.50	0.97	0.00	0.00	0.00	37.19	37.73	52.0	53.25	0.726
50 mph Wind with 0" Ice	0.40	0.41	0.00	0.00	0.00	15.62	16.04	52.0	53.25	0.309

Monopole Mat Foundation Design

			Date: 10/2/2015
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:	17886	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

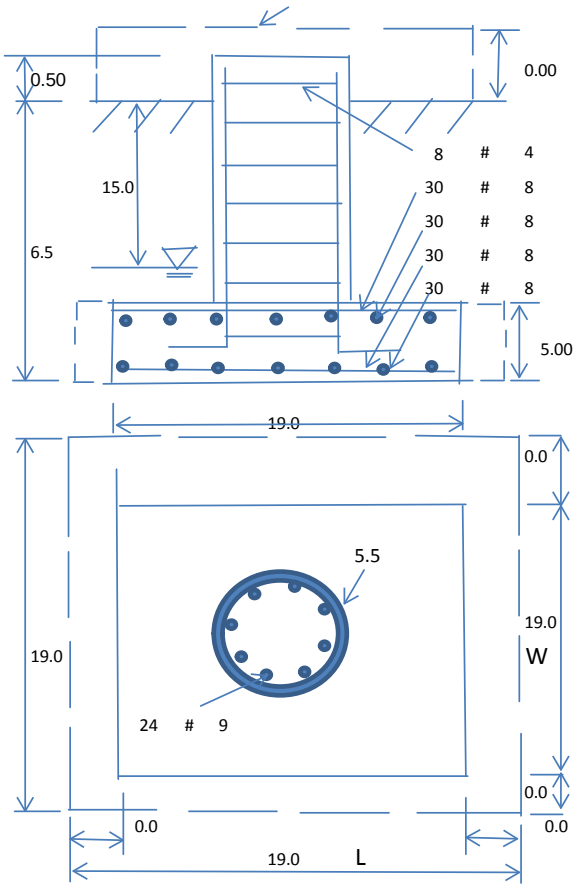
Analysis or Design? Analysis

Base Reactions (Unfactored)

Axial Load (Kips):	19.8	Shear Force (Kips):	19.9
Uplift Force (Kips):	0.0	Moment (Kips-ft):	1889.2
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):	355.86

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	3629	<	Allowable Soil Bearing (psf):	4300	0.84	OK!
Allowable Foundation Overturning Resistance (SF=1.5, kips-ft.):	2253.8	>	Applied Momont (kips-ft):	2029	0.90	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.67	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		

(1) Concrete Pier:

				Load/ Capacity Ratio	
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 1929.0	0.61	OK!
Calculated Shear Capacity (Kips):	430.2	>	Design Factored Shear (Kips): 25.9	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): 25.8	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): 113.2	0.09	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1222.1	>	One-Way Factored Shear (W-D., Kips): 113.2	0.09	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1374.5	>	One-Way Factored Shear (C-C, Kips): 458.7	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): 88.9	0.01	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	5927.9	>	Moment at Bottom (W-Direct. K-Ft): 88.9	0.01	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	8347.7	>	Moment at Bottom (C-C Dir. K-Ft): 125.7	0.02	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): 438.1	0.07	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	5927.9	>	Moment at the top (W-Dir Kips-Ft): 438.1	0.07	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	8347.7	>	Moment at the top (C-C Direc. K-Ft): 438.9	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:

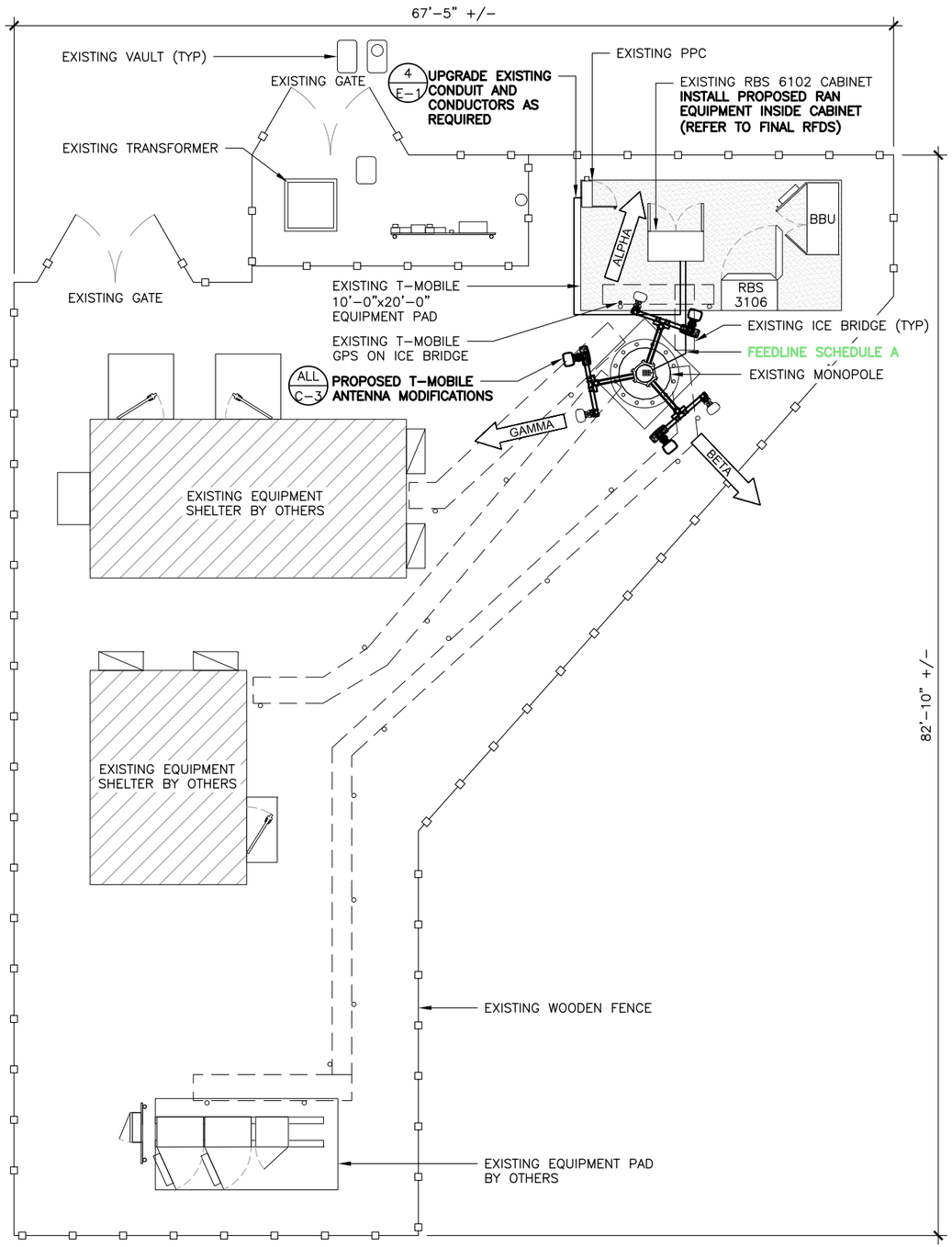
T-Mobile Sector	Power Density Value (%)
Sector 1:	2.26 %
Sector 2:	2.26 %
Sector 3 :	2.26 %
T-Mobile Total:	2.26 %
Site Total:	9.67 %
Site Compliance Status:	**COMPLIANT**

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

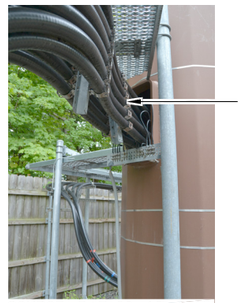
STRUCTURAL NOTES:

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. STRUCTURAL DESIGNS AND DETAILS AS SHOWN HEREIN FOR STRUCTURAL MODIFICATIONS OF THE EXISTING ANTENNA MOUNT ARE PRELIMINARY ONLY AND FINAL CONSTRUCTION DETAILS ARE SUBJECT TO CHANGE PENDING THE COMPLETION OF AN ANTENNA MOUNT STRUCTURAL ASSESSMENT.

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		

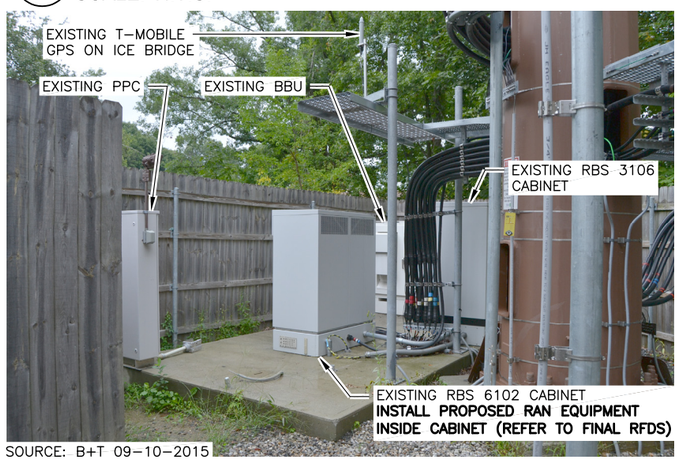


EXISTING (12) LINES OF 1 5/8" COAX AND (1) 1 1/4" HYBRID FIBER TO 137' TO REMAIN. **(REFER TO SBA PROVIDED STRUCTURAL ANALYSIS FOR SPECIAL CABLE INSTALLATION REQUIREMENTS, BUNDLING, SHIELDING, MOUNTING AND RELOCATION OF EXISTING CABLES)**

SOURCE: B+T 09-10-2015

2A FEEDLINE PHOTO DETAIL @ TOWER BASE

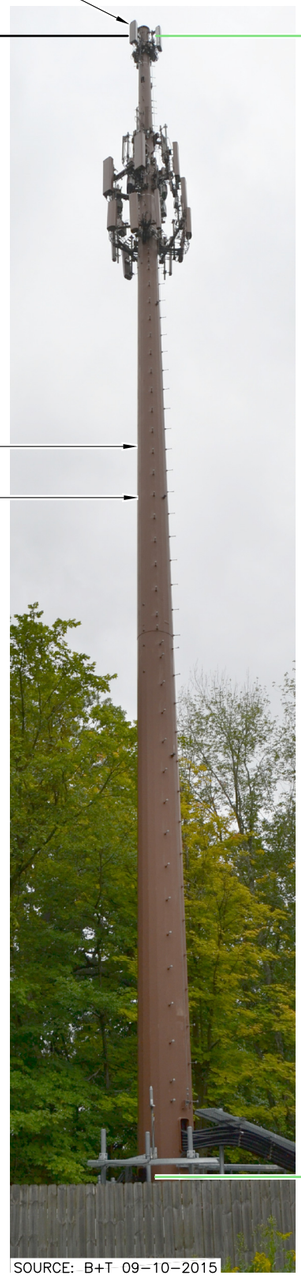
SCALE: N.T.S.



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:

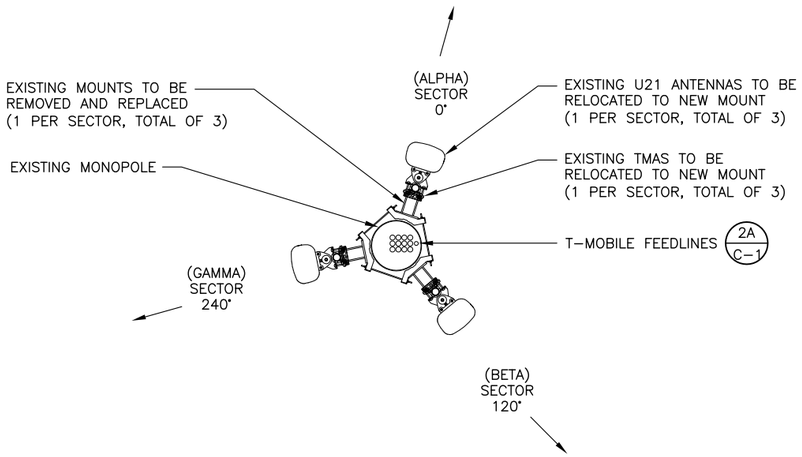
REV	DATE	DRWN	DESCRIPTION
0	9/23/15	MEH	CONSTRUCTION

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

9/23/15
STATE OF CONNECTICUT ★ CHAD TUTTLE ★ No. 23924 LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER: C-1

REVISION: 0

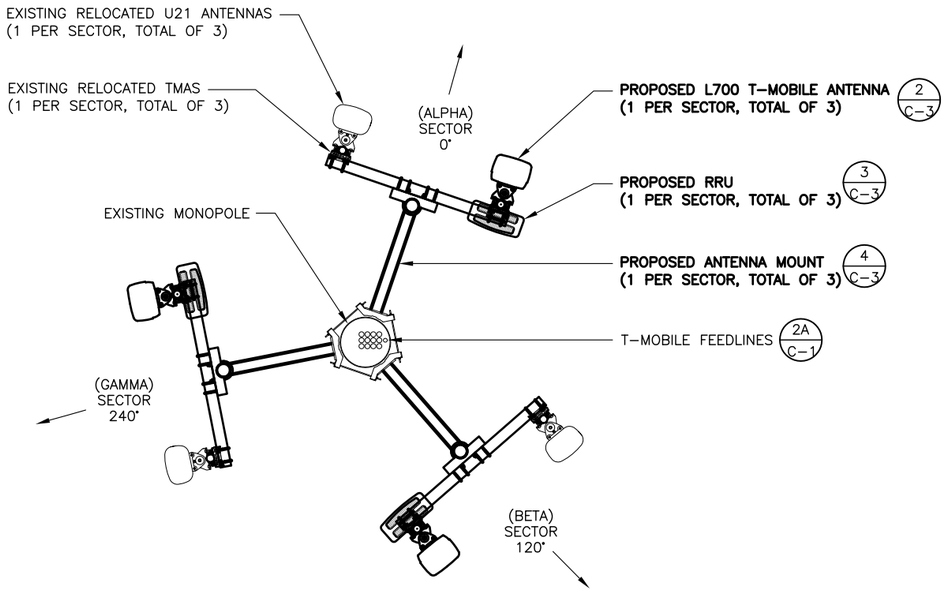


1A EXISTING ANTENNA PLAN

SCALE: 0' 1' 4' 10'

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

N

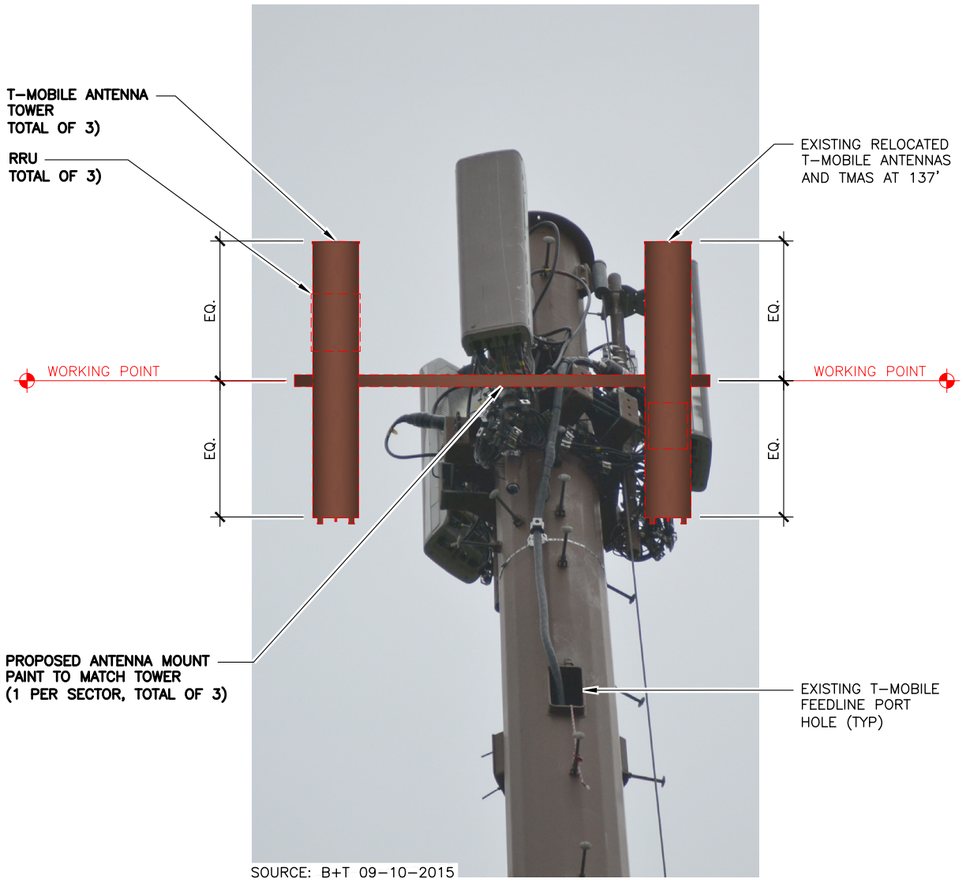


1B PROPOSED ANTENNA PLAN

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.

B+T GRP
1717 S. BOULDER
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TULSA, OK 74119
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MARLBOROUGH, MA 01752

CT11796G

CT796/ OPTASITE CANDLE_FT

52 STADLEY ROUGH ROAD
DANBURY, CT 06811

PROJECT NO:	101027.001
CHECKED BY:	RCM

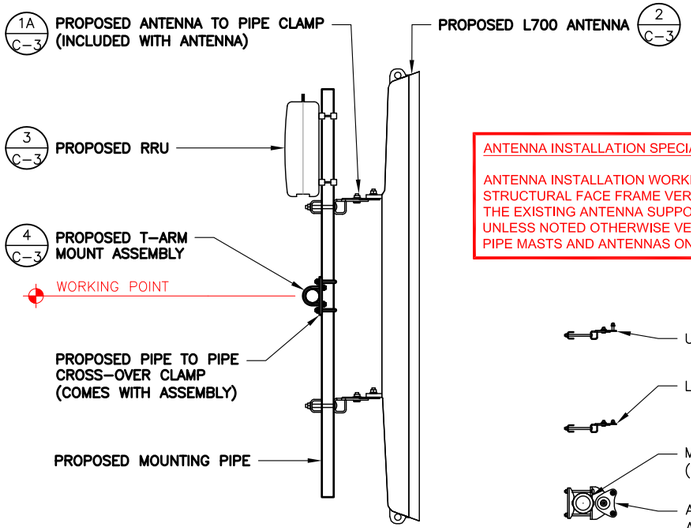
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	9/23/15	MEH	CONSTRUCTION

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

9/23/15
STATE OF CONNECTICUT
CHAD TOTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER

SHEET NUMBER:	REVISION:
C-2	0

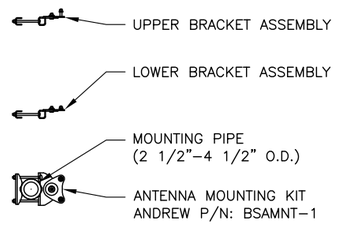


ANTENNA INSTALLATION SPECIAL WORK NOTE:

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.

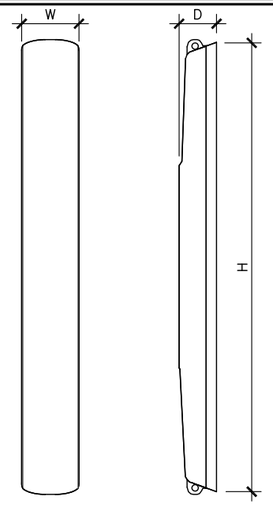
1 PROPOSED L700 ANTENNA & RRU MOUNTING DETAIL

SCALE: N.T.S.



1A L700 ANTENNA MOUNTING BRACKET

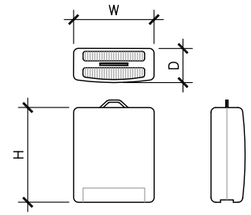
SCALE: N.T.S.



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

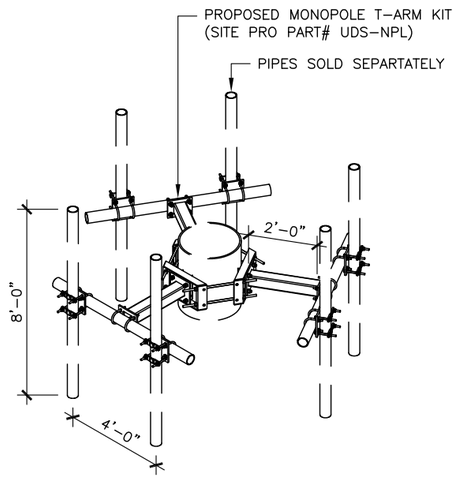
SCALE: N.T.S.



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

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	9/23/15	MEH	CONSTRUCTION

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

9/23/15

STATE OF CONNECTICUT
CHAD TUTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER

SHEET NUMBER:	REVISION:
C-3	0