EM-CING-028-121206

lar Wireless PCS, LLC
154 General Patton Dr.
Naugatuck, CT 06770
Phone: (203)-217-6200
Christopher Bisson
Real Estate Consultant

ORIGINAL

December 3, 2012

Hand Delivered

Ms. Linda Roberts
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 355 Route 85, Colchester, CT 06415, know to AT&T as site CT5730.

Dear Ms. Roberts:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") and/or Long Term Evolution ("LTE") capabilities, and enhance system performance in the state of Connecticut, New Cingular Wireless PCS, LLC ("AT&T") 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 its attachments is being sent to the chief elected official of the municipality in which affected cell site is located.

UMTS offers services to mobile computer and phone users anywhere in the world. Based on the Global System for Mobile ("GSM") communication standard, UMTS is the planned worldwide standard for mobile users. UMTS, fully implemented, gives computer and phone users high-speed access to the internet as they travel. They have the same capabilities even when they roam, through both terrestrial wireless and satellite transmissions.

LTE is a new high-performance air interface for cellular mobile communications. It is designed to increase the capacity and speed of mobile telephone networks.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration based on the supplied structural modification plan dated 4/26/2012 requiring the restacking of the existing coaxial cables.

The changes to the facility do not constitute modification as defined Connecticut General Statues ("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 the R.C.S.A. Section 16-50j-72(b)(2).

1. The height of the overall structure will not be affected.
2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound as all proposed equipment will be located in the existing AT&T equipment shelter.
3. The proposed changes will not increase the noise level at the existing facility by 6 decibels or more.
4. Radio Frequency power density may increase due to the use of one or more GSM channels for UMTS transmissions. Moreover, LTE will utilize additional radio frequencies newly licensed by the FCC for cellular mobile communications. However, the changes 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 New Cingular Wireless PCS, LLC respectfully submits that the 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 (203)-217-6200 or email CBisson@Transcendwireless.com with questions concerning this matter.
Thank you for your consideration.

Sincerely,

Christopher Bisson
Real Estate Consultant

C Squared Systems, LLC
65 Dartmouth Drive, Unit A3
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions

at&t

CT5730

(AWE – Colchester South)

355 Route 85, Colchester, CT 06415

October 23, 2012

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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modifications to the existing AT&T antenna arrays mounted on the monopole tower located on 355 Route 85 in Colchester, CT. The coordinates of the tower are 41° 32' 41.35" N, 72° 18' 17.40" W.

AT&T is proposing the following modifications:

1) Install three multi-band (700/850/1900/2100 MHz) antennas for their LTE network (one per sector).

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{1.6^2 \times EIRP}{4\pi \times R^2} \right) \text{x Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the finished modifications.

4. Calculation Results

Table 1 below outlines the power density information for the site. Because the proposed AT&T antennas are directional in nature, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical patterns of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm^2)	Limit	%MPE
AT&T UMTS	*150*	*880*	*1*	*500*	*0.0080*	*0.5867*	*1.36%*
AT&T GSM	*150*	*1900*	*2*	*427*	*0.0136*	*1.0000*	*1.36%*
AT&T GSM	*150*	*880*	*4*	*296*	*0.0189*	*0.5867*	*3.23%*
Enertrac	169	Receive only					
Sprint Nextel iDEN	180	851	12	100	0.0133	0.5673	2.35%
Sprint Nextel CDMA	180	1962	11	411	0.0502	1.0000	5.02%
AT&T UMTS	150	880	2	565	0.0018	0.5867	0.31%
AT&T UMTS	150	1900	2	875	0.0028	1.0000	0.28%
AT&T LTE	150	734	1	1615	0.0026	0.4893	0.53%
AT&T GSM	150	880	1	283	0.0005	0.5867	0.08%
AT&T GSM	150	1900	4	525	0.0034	1.0000	0.34%
						Total	**8.89%**

Table 1: Carrier Information[1] [2] [3]

[1] The existing CSC filing for AT&T should be removed and replaced with the updated AT&T technologies and values provided in Table 1. The power density information for carriers other than AT&T was taken directly from the CSC database dated 7/26/2012. Please note that %MPE values listed are rounded to two decimal points. The total %MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

[2] In the case where antenna models are not uniform across all 3 sectors for the same frequency band, the antenna model with the highest gain was used for the calculations to present a worse-case scenario.

[3] Antenna height listed for AT&T is in reference to the American Tower Corporation Structural Analysis dated October 16, 2012.

5. Conclusion

The above analysis verifies that emissions from the existing site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Even when using conservative methods, the cumulative power density from the proposed transmit antennas at the existing facility is well below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at ground level is **8.89% of the FCC limit**.

As noted previously, obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.

Daniel L. Goulet
C Squared Systems, LLC

October 23, 2012
Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz. IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave. IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure[4]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure[5]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * Plane-wave equivalent power density

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

[4] Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

[5] General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

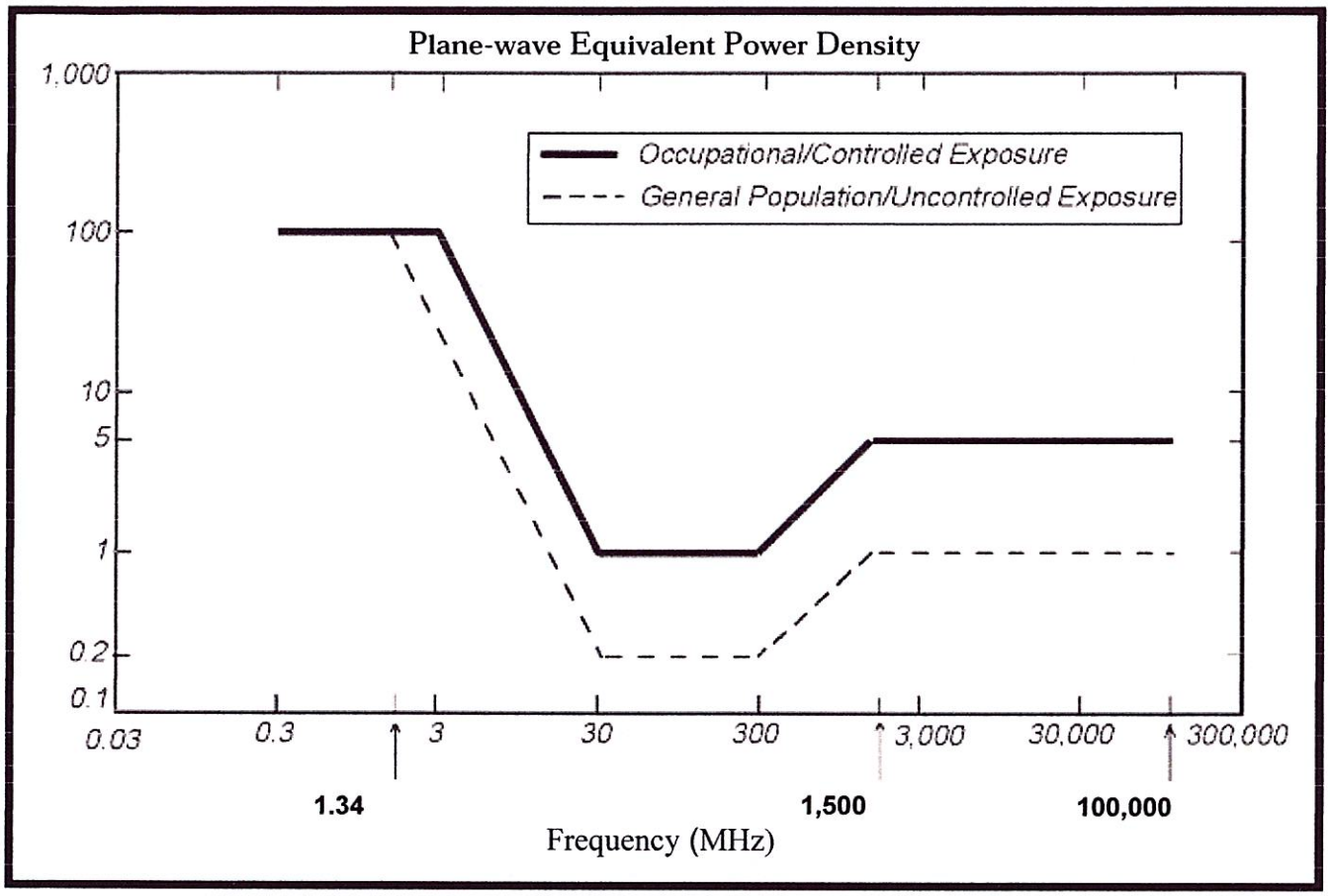
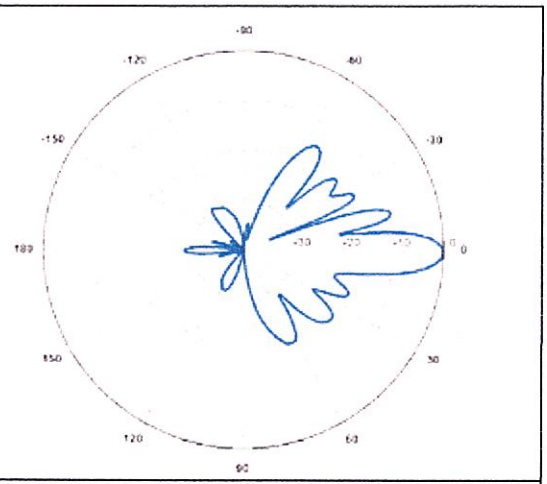


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

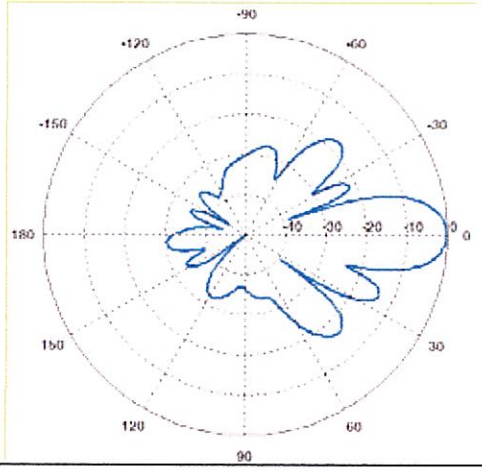
700 MHz

Manufacturer:	Powerwave
Model #:	P65-17-XLH-RR
Frequency Band:	698-806 MHz
Gain:	14.3 dBd
Vertical Beamwidth:	8.4°
Horizontal Beamwidth:	70°
Polarization:	Dual Linear ± 45°
Size L x W x D:	96.0" x 12.0" x 6.0"



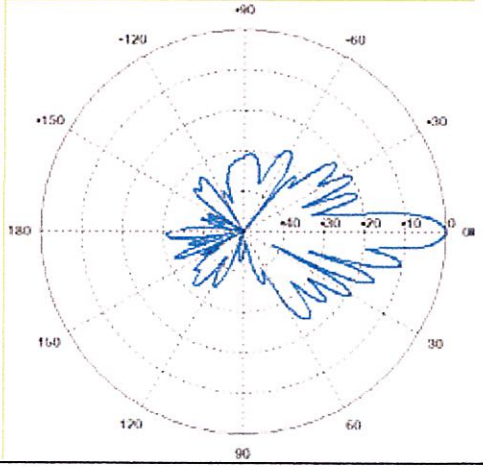
850 MHz

Manufacturer:	Powerwave
Model #:	7770.00
Frequency Band:	824-896 MHz
Gain:	11.5 dBd
Vertical Beamwidth:	15°
Horizontal Beamwidth:	82°
Polarization:	Dual Linear ± 45°
Size L x W x D:	55" x 11.0" x 5.0"



1900 MHz

Manufacturer:	Powerwave
Model #:	7770.00
Frequency Band:	1850-1990 MHz
Gain:	13.4 dBd
Vertical Beamwidth:	7°
Horizontal Beamwidth:	86°
Polarization:	± 45°
Size L x W x D:	55" x 11.0" x 5.0"



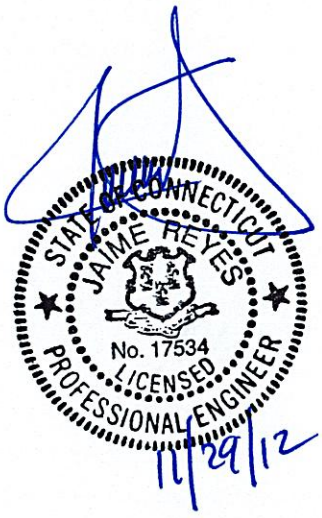
AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**180 ft Monopole**
ATC Site Name	:	**Colchester CT 6, CT**
ATC Site Number	:	**302465**
Engineering Number	:	**50402621**
Proposed Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**AWE - Colchester South**
Carrier Site Number	:	**CT5730**
Site Location	:	**355 Route 85** **Colchester, CT 06415-1825** **41.544819,-72.304892**
County	:	**New London**
Date	:	**October 16, 2012**
Max Usage	:	**72%**
Result	:	**Pass**

Jianwei "Jack" Kong
Senior Design Engineer

Jianwei Kong



AMERICAN TOWER®
CORPORATION

Eng. Number 50402621
October 16, 2012

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AMERICAN TOWER®
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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 180 ft monopole to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	Valmont order # 17494-98, dated June 8, 1998
Foundation Drawing	Valmont drawing # 17494-S-01 dated July 10, 1998
Geotechnical Report	Tectonic Engineering Consultants W.O. 1170.C877 dated June 5, 1998

Analysis

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

Basic Wind Speed:	85 mph (Fastest Mile)
Basic Wind Speed w/ Ice:	74 mph (Fastest Mile)w/ 1/2" radial ice concurrent
Code:	ANSI/TIA/EIA-222-F / 2003 IBC , Sec. 1609.1.1, Exception (4) & Sec. 3108.4 w/ 2005 CT Supplement & 2009 CT Amendment

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact me via email at jianwei.kong@americantower.com or call 972-999-8935.

Existing and Reserved Equipment

Mount Elev.[1] (ft)	Qty.	Antenna	Mount Type	Coax (in)	Carrier
180.0	9	48"x12" Panels	T-Arms	(15) 1 5/8	Sprint Nextel
	3	72"x12" Panels			
169.0	2	Diamond X50A	Standoff Mounts	(2) 1/2	Enertrac, Inc.

Proposed Equipment

Elevation[1](ft)		Qty.	Antenna	Mount Type	Coax (in)	Carrier
Mount	RAD					
150.0	150.0	3	14"x9" TTA	Low Profile Platform	(12) 1 5/8 (1) 33 mm Hybrid (2) 16.4 mm	AT&T Mobility
		3	36"x 8"x 6" Panels			
		7	72"x12" Panels			
		6	Ericsson RRUS-11 800 MHz			
		6	Powerwave LGP21401			
		6	Powerwave LGP21903			
		2	Powerwave P65-17-XLH-RR			
		1	Raycap DC6-48-60-18-8F			

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

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	66%	Pass
Shaft	72%	Pass
Base Plate	70%	Pass

Foundations

Reaction Component	Original Design Reactions	Analysis Reactions	% of Design
Moment (Kips-Ft)	4,932.4	3834.5	78%
Shear (Kips)	41.5	35.1	85%

The structure base reactions resulting from this analysis are less than those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

The foundation and anchorage have factors of safety exceeding 2.0 with respect to wind load.

Deflection and Sway*

Antenna Elevation (ft)	Deflection (ft)	Sway (Rotation) (°)
150.0	1.906	1.580

***Deflection and Sway was evaluated considering a design wind speed of 50 mph (Fastest Mile) per ANSI/TIA/EIA-222-F.**

AMERICAN TOWER®
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Standard Conditions

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

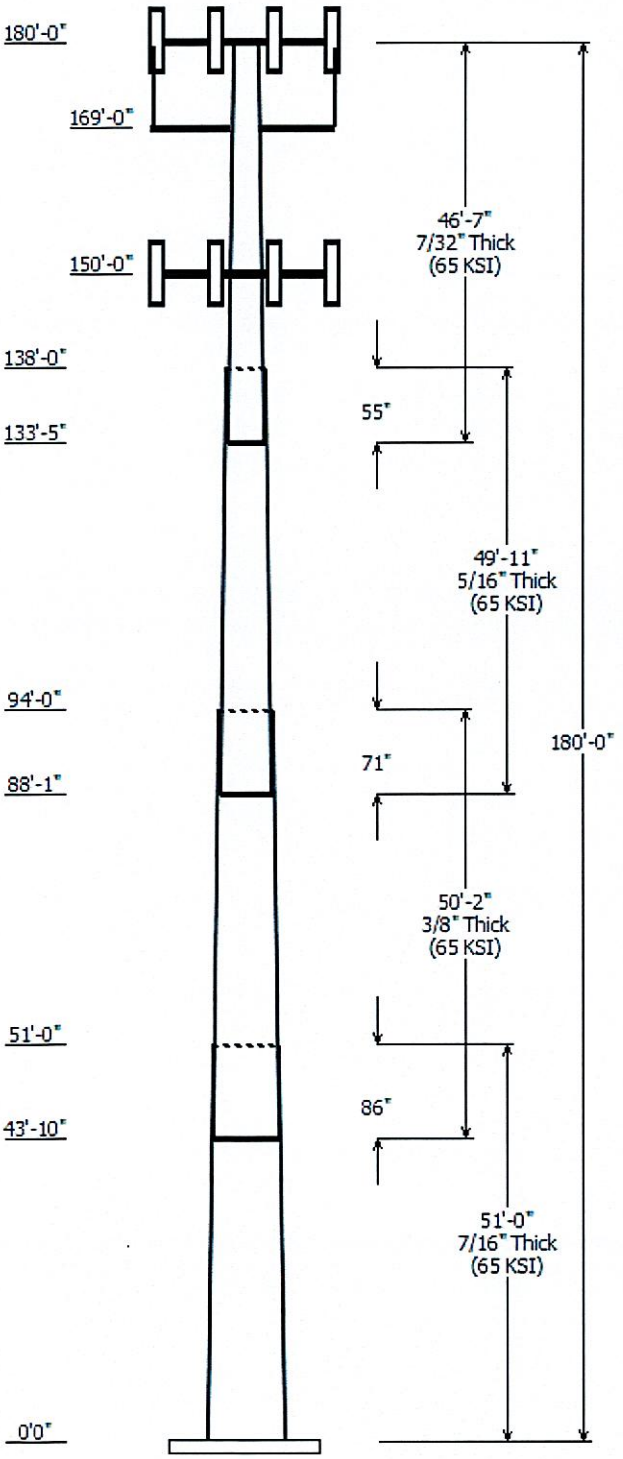
-- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

-- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Engineering Services and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

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

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



Job Information

Pole :	302465
Code:	TIA/EIA-222 Rev F
Description :	180 ft Valmont Monopole verified 10-16-12 JK
Client :	AT&T Mobility
Location :	Colchester CT 6, CT
Shape :	12 Sides
Height :	180.00 (ft)
Base Elev (ft):	0.00
Taper:	0.26079 (in/ft)

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
1	51.000	50.70	64.00	0.438		0.000	0.260791	65
2	50.167	40.23	53.31	0.375	Slip Joint	86.000	0.260791	65
3	49.917	29.38	42.40	0.313	Slip Joint	71.000	0.260791	65
4	46.583	18.87	31.01	0.219	Slip Joint	55.000	0.260791	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
180.000	180.000	3	72"x12" Panels
180.000	180.000	9	48"x12" Panels
180.000	180.000	3	T-Arms
169.000	169.000	2	Standoff Mounts
169.000	171.000	2	Diamond X50A
150.000	150.000	6	Ericsson RRUS-11 800 MHz
150.000	150.000	1	Raycap DC6-48-60-18-8F
150.000	150.000	2	Powerwave P65-17-XLH-RR
150.000	150.000	3	14"x9" TTA
150.000	150.000	6	Powerwave LGP21401
150.000	150.000	6	Powerwave LGP21903
150.000	150.000	3	36"x 8"x 6" Panels
150.000	150.000	7	72"x12" Panels
150.000	150.000	1	Low Profile Platform

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	150.0	1 5/8" Coax	No
0.000	150.0	33mm Hybrid	No
0.000	150.0	8 AWG 2C	No
0.000	169.0	1/2" Coax	No
0.000	180.0	1 5/8" Coax	No

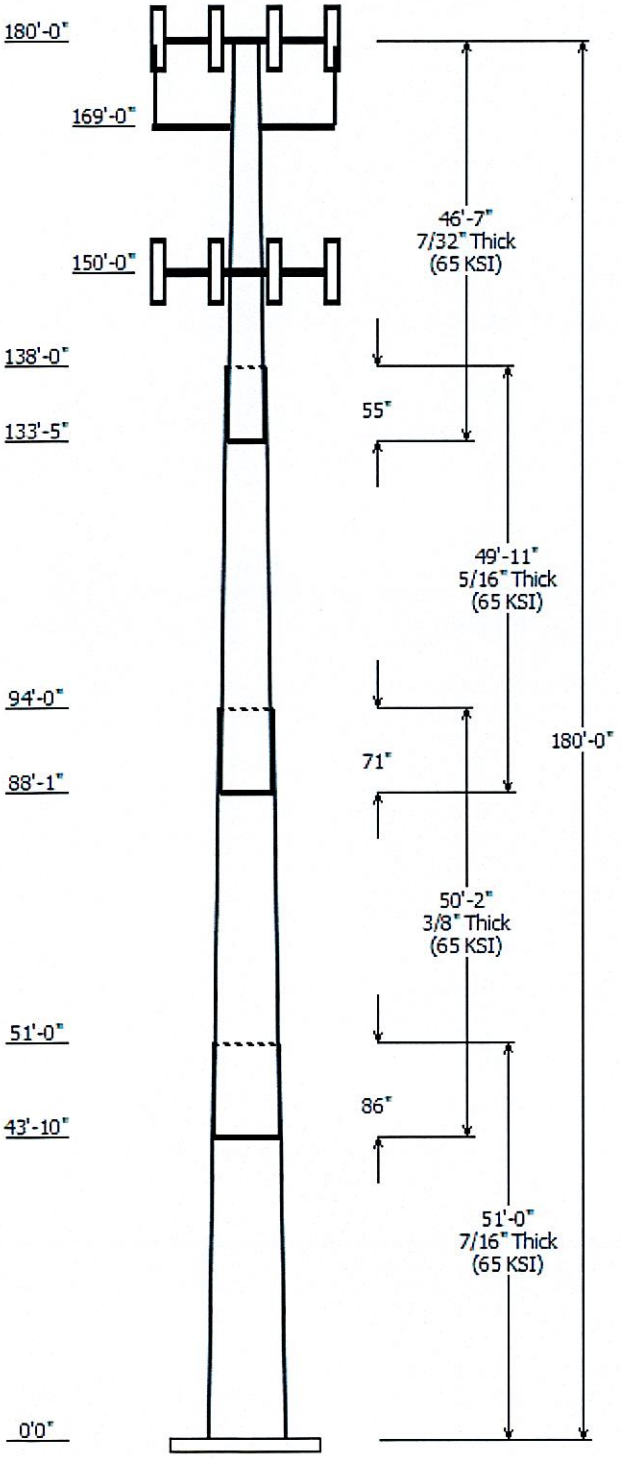
Load Cases

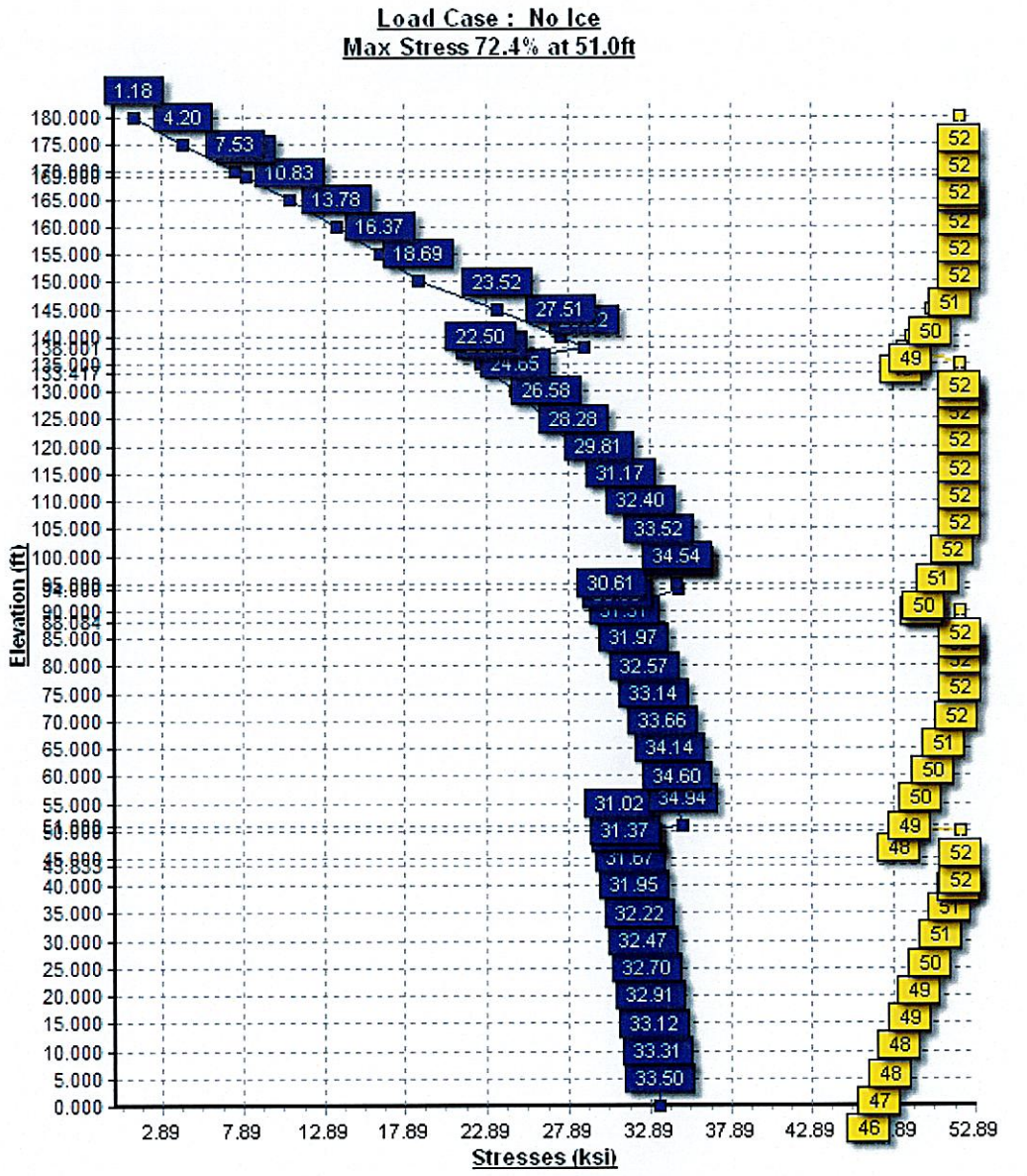
No Ice	85.00 mph Wind with No Ice
Ice	73.61 mph Wind with Ice
Twist/Sway	50.00 mph Wind with No Ice

Reactions

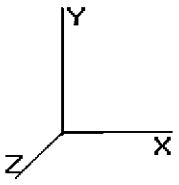
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
No Ice	3834.55	35.14	40.92
Ice	3126.61	27.93	47.32
Twist/Sway	1327.72	12.16	40.95

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




Load Case : No Ice
Max Stress 72.4% at 51.0ft
Elevation (ft)
Stresses (ksi)
2.89
7.89
12.89
17.89
22.89
27.89
32.89
37.89
42.89
52.89
1.18
4.20
7.53
10.83
13.78
16.37
18.69
23.52
27.51
22.50
26.58
28.28
29.81
31.17
32.40
33.52
34.54
30.61
31.97
32.57
33.14
33.66
34.14
34.60
31.02
34.94
31.37
31.95
32.22
32.47
32.70
32.91
33.12
33.31
33.50

Pole :	302465	Code: TIA/EIA-222 Rev F	10/16/2012 9:57:51 AM
Location :	Colchester CT 6, CT		Page: 1
Height :	180.0 (ft)		
Base Dia :	64.00 (in)		
Top Dia :	18.87 (in)	Base Elev : 0.000 (ft)	
Shape :	12 Sides		
Taper :	0.260791 (in/ft)		



Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (sqin)	Bottom Ix (in^4)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (sqin)	Top Ix (in^4)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-12	51.000	0.4375	65		0.00	13,914	64.00	0.00	89.54	46176.7	37.05	146.29	50.70	51.00	70.81	22831.9	28.91	115.88	0.260791
2-12	50.167	0.3750	65	Slip	86.00	9,565	53.31	43.83	63.93	22872.6	35.95	142.18	40.23	94.00	48.13	9761.2	26.61	107.29	0.260791
3-12	49.917	0.3125	65	Slip	71.00	6,082	42.40	88.08	42.35	9577.7	34.21	135.69	29.38	138.00	29.25	3156.2	23.05	94.03	0.260791
4-12	46.583	0.2188	65	Slip	55.00	2,761	31.01	133.42	21.69	2626.8	35.85	141.80	18.87	180.00	13.14	583.3	20.97	86.26	0.260791
				Shaft Weight		32,321													

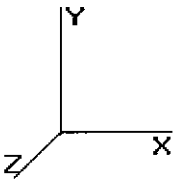
Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Distance From Face (ft)	Vert Ecc (ft)
180.00	48"x12" Panels	9	30.00	5.600	0.75	63.00	6.190	0.75	0.000	0.000
180.00	72"x12" Panels	3	40.00	8.400	0.75	87.00	9.230	0.75	0.000	0.000
180.00	T-Arms	3	250.00	9.700	0.75	314.00	12.100	0.75	0.000	0.000
169.00	Diamond X50A	2	2.30	1.120	1.00	57.20	1.630	1.00	0.000	2.000
169.00	Standoff Mounts	2	150.00	5.200	1.00	175.00	5.900	1.00	0.000	0.000
150.00	14"x9" TTA	3	10.00	1.230	0.67	18.00	1.460	0.67	0.000	0.000
150.00	36"x 8"x 6" Panels	3	25.00	2.800	0.75	40.00	3.240	0.75	0.000	0.000
150.00	72"x12" Panels	7	40.00	8.400	0.75	87.00	9.230	0.75	0.000	0.000
150.00	Ericsson RRUS-11 800 MHz	6	54.00	2.940	0.76	75.64	3.290	0.76	0.000	0.000
150.00	Low Profile Platform	1	1500.00	21.700	1.00	1,700.00	27.200	1.00	0.000	0.000
150.00	Powerwave LGP21401	6	14.10	1.290	0.67	21.26	1.530	0.67	0.000	0.000
150.00	Powerwave LGP21903	6	5.50	0.270	0.67	7.90	0.380	0.67	0.000	0.000
150.00	Powerwave P65-17-XLH-RR	2	59.00	11.460	0.80	121.00	12.390	0.80	0.000	0.000
150.00	Raycap DC6-48-60-18-8F	1	20.00	1.260	1.00	35.10	1.460	1.00	0.000	0.000
	Totals	54	3909.20			5,623.30			Number of Loadings :	14

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	No Ice Weight (lb/ft)	No Ice CaAa (sf/ft)	Ice Weight (lb/ft)	Ice CaAa (sf/ft)	Exposed To Wind
0.00	180.00	(15) 1 5/8" Coax	15.00	0.00	15.00	0.00	N
0.00	169.00	(2) 1/2" Coax	0.30	0.00	0.00	0.00	N
0.00	150.00	(12) 1 5/8" Coax	12.00	0.00	12.00	0.00	N
0.00	150.00	(1) 33mm Hybrid Cable	0.87	0.00	0.00	0.00	N
0.00	150.00	(2) 8 AWG 2C	0.31	0.00	0.00	0.00	N
		Total Weight	4,727.70 (lb)		4,500.00 (lb)		

Pole :	302465	Code: TIA/EIA-222 Rev F	10/16/2012 9:57:51 AM
Location :	Colchester CT 6, CT		Page: 2
Height :	180.0 (ft)		
Base Dia :	64.00 (in)		
Top Dia :	18.87 (in)	Base Elev : 0.000 (ft)	
Shape :	12 Sides		
Taper :	0.260791 (in/ft)		



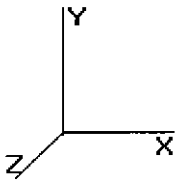
Segment Properties (Max Len : 5 ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)
0.00		0.4375	64.000	89.544	46,176.7	37.05	146.29	65	46	0.0
5.00		0.4375	62.696	87.707	43,392.7	36.25	143.31	65	47	1,507.9
10.00		0.4375	61.392	85.870	40,722.9	35.46	140.32	65	48	1,476.6
15.00		0.4375	60.088	84.033	38,165.0	34.66	137.34	65	48	1,445.4
20.00		0.4375	58.784	82.196	35,716.4	33.86	134.36	65	49	1,414.1
25.00		0.4375	57.480	80.359	33,374.9	33.06	131.38	65	49	1,382.8
30.00		0.4375	56.176	78.522	31,138.1	32.26	128.40	65	50	1,351.6
35.00		0.4375	54.872	76.685	29,003.5	31.46	125.42	65	51	1,320.3
40.00		0.4375	53.568	74.848	26,968.7	30.66	122.44	65	51	1,289.1
43.83	Bot - Section 2	0.4375	52.569	73.440	25,474.9	30.05	120.16	65	52	967.1
45.00		0.4375	52.264	73.011	25,031.4	29.87	119.46	65	52	543.8
50.00		0.4375	50.960	71.174	23,189.2	29.07	116.48	65	52	2,294.6
51.00	Top - Section 1	0.3750	51.450	61.673	20,534.7	34.62	137.20	65	48	452.0
55.00		0.3750	50.406	60.413	19,302.0	33.87	134.42	65	49	830.9
60.00		0.3750	49.103	58.838	17,831.8	32.94	130.94	65	50	1,014.5
65.00		0.3750	47.799	57.264	16,438.3	32.01	127.46	65	50	987.7
70.00		0.3750	46.495	55.689	15,119.2	31.08	123.99	65	51	960.9
75.00		0.3750	45.191	54.115	13,872.7	30.15	120.51	65	52	934.1
80.00		0.3750	43.887	52.540	12,696.7	29.21	117.03	65	52	907.3
85.00		0.3750	42.583	50.966	11,589.1	28.28	113.55	65	52	880.5
88.08	Bot - Section 3	0.3750	41.779	49.995	10,939.2	27.71	111.41	65	52	529.7
90.00		0.3750	41.279	49.391	10,547.8	27.35	110.08	65	52	598.6
94.00	Top - Section 2	0.3125	40.861	40.801	8,562.5	32.89	130.75	65	50	1,226.3
95.00		0.3125	40.600	40.539	8,398.4	32.67	129.92	65	50	138.3
100.0		0.3125	39.296	39.227	7,609.0	31.55	125.75	65	51	678.6
105.0		0.3125	37.992	37.915	6,870.7	30.43	121.57	65	52	656.2
110.0		0.3125	36.688	36.603	6,181.8	29.31	117.40	65	52	633.9
115.0		0.3125	35.384	35.291	5,540.6	28.20	113.23	65	52	611.6
120.0		0.3125	34.080	33.979	4,945.3	27.08	109.06	65	52	589.3
125.0		0.3125	32.776	32.666	4,394.2	25.96	104.88	65	52	566.9
130.0		0.3125	31.472	31.354	3,885.7	24.84	100.71	65	52	544.6
133.4	Bot - Section 4	0.3125	30.581	30.458	3,561.7	24.08	97.86	65	52	359.4
135.0		0.3125	30.168	30.042	3,418.0	23.72	96.54	65	52	279.0
138.0	Top - Section 3	0.2188	29.823	20.853	2,332.7	34.39	136.33	65	48	518.5
140.0		0.2188	29.302	20.485	2,211.6	33.75	133.95	65	49	140.6
145.0		0.2188	27.998	19.567	1,927.3	32.15	127.99	65	50	340.7
150.0		0.2188	26.694	18.648	1,668.4	30.55	122.03	65	51	325.1
155.0		0.2188	25.390	17.730	1,433.8	28.96	116.07	65	52	309.5
160.0		0.2188	24.086	16.811	1,222.3	27.36	110.11	65	52	293.8
165.0		0.2188	22.782	15.893	1,032.7	25.76	104.15	65	52	278.2
169.0		0.2188	21.739	15.158	896.0	24.48	99.38	65	52	211.3
170.0		0.2188	21.478	14.974	863.8	24.17	98.19	65	52	51.3
175.0		0.2188	20.174	14.056	714.4	22.57	92.22	65	52	247.0
180.0		0.2188	18.870	13.138	583.3	20.97	86.26	65	52	231.3
										32,320.8

Pole : 302465
Location : Colchester CT 6, CT
Height : 180.0 (ft)
Base Dia : 64.00 (in)
Top Dia : 18.87 (in)
Shape : 12 Sides
Taper : 0.260791 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)



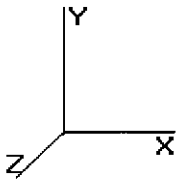
Load Case: No Ice — 85.00 mph Wind with No Ice — 24 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Shaft Segment Forces

Seg Top Elev (ft)	Description		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	31.25	453.33	1.030	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	18.496	31.25	444.09	1.030	0.000	5.00	26.395	27.19	849.8	0.0	1,507.9
10.00		0.00	1.00	18.496	31.25	434.86	1.030	0.000	5.00	25.852	26.63	832.3	0.0	1,476.6
15.00		0.00	1.00	18.496	31.25	425.62	1.030	0.000	5.00	25.308	26.07	814.8	0.0	1,445.4
20.00		0.00	1.00	18.496	31.25	416.38	1.030	0.000	5.00	24.765	25.51	797.3	0.0	1,414.1
25.00		0.00	1.00	18.496	31.25	407.15	1.030	0.000	5.00	24.222	24.95	779.8	0.0	1,382.8
30.00		0.00	1.00	18.496	31.25	397.91	1.030	0.000	5.00	23.678	24.39	762.4	0.0	1,351.6
35.00		0.00	1.01	18.810	31.78	391.96	1.030	0.000	5.00	23.135	23.83	757.5	0.0	1,320.3
40.00		0.00	1.05	19.541	33.02	390.01	1.030	0.000	5.00	22.592	23.27	768.5	0.0	1,289.1
43.83	Bot - Section 2	0.00	1.08	20.059	33.89	387.77	1.030	0.000	3.83	16.952	17.46	591.9	0.0	967.1
45.00		0.00	1.09	20.210	34.15	386.97	1.030	0.000	1.17	5.169	5.32	181.8	0.0	543.8
50.00		0.00	1.12	20.827	35.19	383.04	1.030	0.000	5.00	21.818	22.47	791.0	0.0	2,294.6
51.00	Top - Section 1	0.00	1.13	20.946	35.39	382.16	1.030	0.000	1.00	4.298	4.43	156.7	0.0	452.0
55.00		0.00	1.15	21.402	36.17	384.07	1.030	0.000	4.00	16.976	17.49	632.4	0.0	830.9
60.00		0.00	1.18	21.941	37.08	378.82	1.030	0.000	5.00	20.731	21.35	791.8	0.0	1,014.5
65.00		0.00	1.21	22.449	37.93	373.00	1.030	0.000	5.00	20.188	20.79	788.9	0.0	987.7
70.00		0.00	1.24	22.929	38.75	366.68	1.030	0.000	5.00	19.644	20.23	784.1	0.0	960.9
75.00		0.00	1.26	23.386	39.52	359.93	1.030	0.000	5.00	19.101	19.67	777.6	0.0	934.1
80.00		0.00	1.28	23.821	40.25	352.78	1.030	0.000	5.00	18.558	19.11	769.5	0.0	907.3
85.00		0.00	1.31	24.237	40.96	345.28	1.030	0.000	5.00	18.014	18.55	760.0	0.0	880.5
88.08	Bot - Section 3	0.00	1.32	24.485	41.38	340.48	1.030	0.000	3.08	10.839	11.16	462.0	0.0	529.7
90.00		0.00	1.33	24.636	41.63	337.45	1.030	0.000	1.92	6.732	6.93	288.7	0.0	598.6
94.00	Top - Section 2	0.00	1.34	24.944	42.15	330.97	1.030	0.000	4.00	13.795	14.21	599.0	0.0	1,226.3
95.00		0.00	1.35	25.020	42.28	334.47	1.030	0.000	1.00	3.393	3.49	147.8	0.0	138.3
100.0		0.00	1.37	25.389	42.90	326.11	1.030	0.000	5.00	16.645	17.14	735.6	0.0	678.6
105.0		0.00	1.39	25.745	43.51	317.49	1.030	0.000	5.00	16.102	16.58	721.6	0.0	656.2
110.0		0.00	1.41	26.090	44.09	308.64	1.030	0.000	5.00	15.558	16.03	706.6	0.0	633.9
115.0		0.00	1.42	26.423	44.65	299.57	1.030	0.000	5.00	15.015	15.47	690.6	0.0	611.6
120.0		0.00	1.44	26.747	45.20	290.29	1.030	0.000	5.00	14.472	14.91	673.8	0.0	589.3
125.0		0.00	1.46	27.060	45.73	280.81	1.030	0.000	5.00	13.928	14.35	656.1	0.0	566.9
130.0		0.00	1.48	27.365	46.24	271.16	1.030	0.000	5.00	13.385	13.79	637.6	0.0	544.6
133.4	Bot - Section 4	0.00	1.49	27.569	46.59	264.46	1.030	0.000	3.42	8.836	9.10	424.0	0.0	359.4
135.0		0.00	1.49	27.662	46.74	261.33	1.030	0.000	1.58	4.064	4.19	195.7	0.0	279.0
138.0	Top - Section 3	0.00	1.50	27.836	47.04	255.35	1.030	0.000	3.00	7.555	7.78	366.1	0.0	518.5
140.0		0.00	1.51	27.951	47.23	255.14	1.030	0.000	2.00	4.925	5.07	239.6	0.0	140.6
145.0		0.00	1.52	28.233	47.71	245.01	1.030	0.000	5.00	11.937	12.30	586.7	0.0	340.7
150.0	Appertunance(s)	0.00	1.54	28.507	48.17	234.74	1.030	0.000	5.00	11.394	11.74	565.4	0.0	325.1
155.0		0.00	1.55	28.776	48.63	224.32	1.030	0.000	5.00	10.851	11.18	543.5	0.0	309.5
160.0		0.00	1.57	29.038	49.07	213.76	1.030	0.000	5.00	10.307	10.62	521.0	0.0	293.8
165.0		0.00	1.58	29.294	49.50	203.08	1.030	0.000	5.00	9.764	10.06	497.9	0.0	278.2
169.0	Appertunance(s)	0.00	1.59	29.495	49.84	194.45	1.030	0.000	4.00	7.420	7.64	381.0	0.0	211.3
170.0		0.00	1.59	29.545	49.93	192.28	1.030	0.000	1.00	1.801	1.85	92.6	0.0	51.3
175.0		0.00	1.61	29.791	50.34	181.35	1.030	0.000	5.00	8.677	8.94	450.0	0.0	247.0
180.0	Appertunance(s)	0.00	1.62	30.032	50.75	170.31	1.030	0.000	5.00	8.134	8.38	425.2	0.0	231.3
							Totals:		180.00			24,996.1	0.0	32,320.8

Pole :	302465	Code: TIA/EIA-222 Rev F	10/16/2012 9:57:51 AM
Location :	Colchester CT 6, CT		Page: 4
Height :	180.0 (ft)		
Base Dia :	64.00 (in)		
Top Dia :	18.87 (in)	Base Elev : 0.000 (ft)	
Shape :	12 Sides		
Taper :	0.260791 (in/ft)		



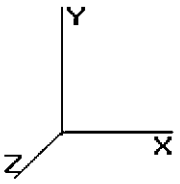
Load Case: No Ice — 85.00 mph Wind with No Ice — 24 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Discrete Appurtenance Segment Forces

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
150.0	14"x9" TTA	3	28.507	48.177	0.67	2.47	0.000	0.000	119.11	0.00	0.00	30.00
150.0	36"x 8"x 6" Panels	3	28.507	48.177	0.75	6.30	0.000	0.000	303.52	0.00	0.00	75.00
150.0	72"x12" Panels	7	28.507	48.177	0.75	44.10	0.000	0.000	2,124.63	0.00	0.00	280.00
150.0	Ericsson RRUS-11 800	6	28.507	48.177	0.76	13.41	0.000	0.000	645.89	0.00	0.00	324.00
150.0	Low Profile Platform	1	28.507	48.177	1.00	21.70	0.000	0.000	1,045.45	0.00	0.00	1,500.00
150.0	Powerwave LGP21401	6	28.507	48.177	0.67	5.19	0.000	0.000	249.84	0.00	0.00	84.60
150.0	Powerwave LGP21903	6	28.507	48.177	0.67	1.09	0.000	0.000	52.29	0.00	0.00	33.00
150.0	Powerwave P65-17-	2	28.507	48.177	0.80	18.34	0.000	0.000	883.38	0.00	0.00	118.00
150.0	Raycap DC6-48-60-18-	1	28.507	48.177	1.00	1.26	0.000	0.000	60.70	0.00	0.00	20.00
169.0	Diamond X50A	2	29.595	50.015	1.00	2.24	0.000	2.000	112.03	0.00	224.07	4.60
169.0	Standoff Mounts	2	29.495	49.847	1.00	10.40	0.000	0.000	518.41	0.00	0.00	300.00
180.0	48"x12" Panels	9	30.032	50.754	0.75	37.80	0.000	0.000	1,918.49	0.00	0.00	270.00
180.0	72"x12" Panels	3	30.032	50.754	0.75	18.90	0.000	0.000	959.24	0.00	0.00	120.00
180.0	T-Arms	3	30.032	50.754	0.75	21.82	0.000	0.000	1,107.69	0.00	0.00	750.00
									10,100.66			3,909.20

Pole :	302465	Code: TIA/EIA-222 Rev F	10/16/2012 9:57:51 AM
Location :	Colchester CT 6, CT		Page: 5
Height :	180.0 (ft)		
Base Dia :	64.00 (in)		
Top Dia :	18.87 (in)	Base Elev : 0.000 (ft)	
Shape :	12 Sides		
Taper :	0.260791 (in/ft)		



Load Case: No Ice — 85.00 mph Wind with No Ice — 24 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

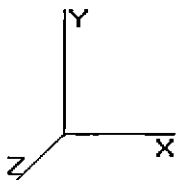
Applied Segment Forces Summary

Seg Elev (ft)	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	849.81	1,650.26	0.00	0.00
10.00	832.32	1,619.01	0.00	0.00
15.00	814.83	1,587.75	0.00	0.00
20.00	797.34	1,556.50	0.00	0.00
25.00	779.84	1,525.24	0.00	0.00
30.00	762.35	1,493.99	0.00	0.00
35.00	757.49	1,462.74	0.00	0.00
40.00	768.46	1,431.48	0.00	0.00
43.83	591.92	1,076.31	0.00	0.00
45.00	181.84	576.99	0.00	0.00
50.00	790.99	2,437.02	0.00	0.00
51.00	156.72	480.44	0.00	0.00
55.00	632.45	944.78	0.00	0.00
60.00	791.78	1,156.87	0.00	0.00
65.00	788.87	1,130.08	0.00	0.00
70.00	784.06	1,103.29	0.00	0.00
75.00	777.55	1,076.50	0.00	0.00
80.00	769.50	1,049.71	0.00	0.00
85.00	760.02	1,022.92	0.00	0.00
88.08	461.98	617.52	0.00	0.00
90.00	288.68	653.16	0.00	0.00
94.00	598.99	1,340.23	0.00	0.00
95.00	147.77	166.82	0.00	0.00
100.0	735.62	820.97	0.00	0.00
105.0	721.59	798.64	0.00	0.00
110.0	706.57	776.32	0.00	0.00
115.0	690.62	753.99	0.00	0.00
120.0	673.77	731.67	0.00	0.00
125.0	656.08	709.35	0.00	0.00
130.0	637.59	687.02	0.00	0.00
133.4	424.02	456.71	0.00	0.00
135.0	195.67	324.03	0.00	0.00
138.0	366.09	603.92	0.00	0.00
140.0	239.64	197.56	0.00	0.00
145.0	586.66	483.12	0.00	0.00
150.0	6,050.21	2,932.09	0.00	0.00
155.0	543.51	385.97	0.00	0.00
160.0	521.00	370.34	0.00	0.00
165.0	497.90	354.71	0.00	0.00
169.0	1,011.42	577.12	0.00	224.07
170.0	92.61	66.27	0.00	0.00
175.0	449.99	321.96	0.00	0.00
180.0	4,410.64	1,446.33	0.00	0.00
Totals:	35,096.75	40,957.69	0.00	224.07

Pole : 302465
Location : Colchester CT 6, CT
Height : 180.0 (ft)
Base Dia : 64.00 (in)
Top Dia : 18.87 (in)
Shape : 12 Sides
Taper : 0.260791 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)



Load Case: No Ice — 85.00 mph Wind with No Ice — 24 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Calculated Shaft Forces and Deflections

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-35.138	-40.921	0.000	0.000	0.000	-3,834.545	0.000	0.000	0.000	0.000
5.00	-34.366	-39.202	0.000	0.000	0.000	-3,658.856	-0.063	0.000	0.063	-0.115
10.00	-33.607	-37.516	0.000	0.000	0.000	-3,487.026	-0.247	0.000	0.247	-0.233
15.00	-32.859	-35.864	0.000	0.000	0.000	-3,318.996	-0.555	0.000	0.555	-0.351
20.00	-32.123	-34.245	0.000	0.000	0.000	-3,154.706	-0.988	0.000	0.988	-0.472
25.00	-31.399	-32.660	0.000	0.000	0.000	-2,994.094	-1.549	0.000	1.549	-0.595
30.00	-30.688	-31.108	0.000	0.000	0.000	-2,837.101	-2.238	0.000	2.238	-0.719
35.00	-29.976	-29.589	0.000	0.000	0.000	-2,683.665	-3.059	0.000	3.059	-0.845
40.00	-29.241	-28.112	0.000	0.000	0.000	-2,533.787	-4.013	0.000	4.013	-0.973
43.83	-28.661	-27.014	0.000	0.000	0.000	-2,421.699	-4.836	0.000	4.836	-1.073
45.00	-28.506	-26.400	0.000	0.000	0.000	-2,388.262	-5.103	0.000	5.103	-1.104
50.00	-27.698	-23.941	0.000	0.000	0.000	-2,245.736	-6.330	0.000	6.330	-1.236
51.00	-27.559	-23.432	0.000	0.000	0.000	-2,218.038	-6.592	0.000	6.592	-1.263
55.00	-26.955	-22.441	0.000	0.000	0.000	-2,107.805	-7.697	0.000	7.697	-1.371
60.00	-26.191	-21.235	0.000	0.000	0.000	-1,973.030	-9.215	0.000	9.215	-1.522
65.00	-25.424	-20.060	0.000	0.000	0.000	-1,842.077	-10.890	0.000	10.890	-1.674
70.00	-24.658	-18.914	0.000	0.000	0.000	-1,714.957	-12.726	0.000	12.726	-1.828
75.00	-23.894	-17.799	0.000	0.000	0.000	-1,591.667	-14.724	0.000	14.724	-1.983
80.00	-23.133	-16.714	0.000	0.000	0.000	-1,472.199	-16.885	0.000	16.885	-2.140
85.00	-22.369	-15.671	0.000	0.000	0.000	-1,356.535	-19.212	0.000	19.212	-2.299
88.08	-21.904	-15.042	0.000	0.000	0.000	-1,287.556	-20.730	0.000	20.730	-2.399
90.00	-21.612	-14.365	0.000	0.000	0.000	-1,245.582	-21.706	0.000	21.706	-2.462
94.00	-20.973	-13.023	0.000	0.000	0.000	-1,159.127	-23.824	0.000	23.824	-2.592
95.00	-20.842	-12.823	0.000	0.000	0.000	-1,138.161	-24.371	0.000	24.371	-2.625
100.0	-20.107	-11.974	0.000	0.000	0.000	-1,033.950	-27.219	0.000	27.219	-2.809
105.0	-19.382	-11.150	0.000	0.000	0.000	-933.415	-30.259	0.000	30.259	-2.993
110.0	-18.668	-10.354	0.000	0.000	0.000	-836.506	-33.492	0.000	33.492	-3.176
115.0	-17.966	-9.584	0.000	0.000	0.000	-743.168	-36.915	0.000	36.915	-3.358
120.0	-17.276	-8.841	0.000	0.000	0.000	-653.341	-40.527	0.000	40.527	-3.537
125.0	-16.601	-8.124	0.000	0.000	0.000	-566.960	-44.325	0.000	44.325	-3.713
130.0	-15.938	-7.442	0.000	0.000	0.000	-483.953	-48.304	0.000	48.304	-3.883
133.4	-15.494	-6.993	0.000	0.000	0.000	-429.487	-51.124	0.000	51.124	-3.997
135.0	-15.285	-6.664	0.000	0.000	0.000	-404.966	-52.457	0.000	52.457	-4.050
138.0	-14.885	-6.067	0.000	0.000	0.000	-359.102	-55.032	0.000	55.032	-4.145
140.0	-14.645	-5.854	0.000	0.000	0.000	-329.343	-56.780	0.000	56.780	-4.207
145.0	-14.040	-5.374	0.000	0.000	0.000	-256.121	-61.288	0.000	61.288	-4.396
150.0	-7.787	-2.903	0.000	0.000	0.000	-185.922	-65.979	0.000	65.979	-4.559
155.0	-7.220	-2.545	0.000	0.000	0.000	-146.990	-70.827	0.000	70.827	-4.701
160.0	-6.674	-2.206	0.000	0.000	0.000	-110.891	-75.815	0.000	75.815	-4.829
165.0	-6.151	-1.885	0.000	0.000	0.000	-77.519	-80.928	0.000	80.928	-4.938
169.0	-5.095	-1.394	0.000	0.000	0.000	-52.690	-85.093	0.000	85.093	-5.010
170.0	-4.997	-1.333	0.000	0.000	0.000	-47.596	-86.143	0.000	86.143	-5.026
175.0	-4.522	-1.049	0.000	0.000	0.000	-22.608	-91.435	0.000	91.435	-5.084
180.0	-4.411	0.000	0.000	0.000	0.000	0.000	-96.768	0.000	96.768	-5.106

Pole : 302465
Location : Colchester CT 6, CT
Height : 180.0 (ft)
Base Dia : 64.00 (in)
Top Dia : 18.87 (in)
Shape : 12 Sides
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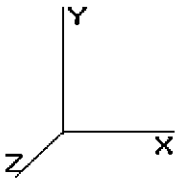
Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)



Load Case: No Ice — 85.00 mph Wind with No Ice — 24 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Calculated Stresses

Seg Elev (ft)	Applied Stresses Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)	Allowable Stress (Fb) (ksi)		Stress Ratio
0.00	0.46	0.80	0.00	0.00	0.00	33.01	33.50	46.3	0.0	0.723
5.00	0.45	0.80	0.00	0.00	0.00	32.84	33.31	47.0	0.0	0.709
10.00	0.44	0.80	0.00	0.00	0.00	32.65	33.12	47.6	0.0	0.696
15.00	0.43	0.79	0.00	0.00	0.00	32.46	32.91	48.2	0.0	0.683
20.00	0.42	0.79	0.00	0.00	0.00	32.25	32.70	48.8	0.0	0.669
25.00	0.41	0.79	0.00	0.00	0.00	32.03	32.47	49.5	0.0	0.656
30.00	0.40	0.79	0.00	0.00	0.00	31.79	32.22	50.1	0.0	0.643
35.00	0.39	0.79	0.00	0.00	0.00	31.54	31.95	50.7	0.0	0.630
40.00	0.38	0.79	0.00	0.00	0.00	31.26	31.67	51.4	0.0	0.617
43.83	0.37	0.79	0.00	0.00	0.00	31.04	31.44	51.8	0.0	0.607
45.00	0.36	0.79	0.00	0.00	0.00	30.97	31.37	52.0	0.0	0.603
50.00	0.34	0.79	0.00	0.00	0.00	30.66	31.02	52.0	0.0	0.597
51.00	0.38	0.91	0.00	0.00	0.00	34.52	34.94	48.3	0.0	0.724
55.00	0.37	0.91	0.00	0.00	0.00	34.19	34.60	48.8	0.0	0.708
60.00	0.36	0.90	0.00	0.00	0.00	33.75	34.14	49.6	0.0	0.689
65.00	0.35	0.90	0.00	0.00	0.00	33.27	33.66	50.3	0.0	0.669
70.00	0.34	0.90	0.00	0.00	0.00	32.76	33.14	51.0	0.0	0.649
75.00	0.33	0.90	0.00	0.00	0.00	32.21	32.57	51.8	0.0	0.629
80.00	0.32	0.89	0.00	0.00	0.00	31.61	31.97	52.0	0.0	0.615
85.00	0.31	0.89	0.00	0.00	0.00	30.96	31.31	52.0	0.0	0.602
88.08	0.30	0.89	0.00	0.00	0.00	30.55	30.88	52.0	0.0	0.594
90.00	0.29	0.89	0.00	0.00	0.00	30.28	30.61	52.0	0.0	0.589
94.00	0.32	1.04	0.00	0.00	0.00	34.36	34.73	49.6	0.0	0.700
95.00	0.32	1.04	0.00	0.00	0.00	34.18	34.54	49.8	0.0	0.694
100.00	0.31	1.04	0.00	0.00	0.00	33.17	33.52	50.7	0.0	0.662
105.00	0.29	1.04	0.00	0.00	0.00	32.06	32.40	51.5	0.0	0.629
110.00	0.28	1.04	0.00	0.00	0.00	30.84	31.17	52.0	0.0	0.599
115.00	0.27	1.03	0.00	0.00	0.00	29.48	29.81	52.0	0.0	0.573
120.00	0.26	1.03	0.00	0.00	0.00	27.97	28.28	52.0	0.0	0.544
125.00	0.25	1.03	0.00	0.00	0.00	26.27	26.58	52.0	0.0	0.511
130.00	0.24	1.03	0.00	0.00	0.00	24.35	24.65	52.0	0.0	0.474
133.42	0.23	1.03	0.00	0.00	0.00	22.91	23.20	52.0	0.0	0.446
135.00	0.22	1.03	0.00	0.00	0.00	22.20	22.50	52.0	0.0	0.433
138.00	0.29	1.45	0.00	0.00	0.00	28.52	28.92	48.4	0.0	0.597
140.00	0.29	1.45	0.00	0.00	0.00	27.10	27.51	48.9	0.0	0.562
145.00	0.27	1.46	0.00	0.00	0.00	23.11	23.52	50.2	0.0	0.469
150.00	0.16	0.85	0.00	0.00	0.00	18.48	18.69	51.4	0.0	0.363
155.00	0.14	0.83	0.00	0.00	0.00	16.17	16.37	52.0	0.0	0.315
160.00	0.13	0.81	0.00	0.00	0.00	13.57	13.78	52.0	0.0	0.265
165.00	0.12	0.79	0.00	0.00	0.00	10.62	10.83	52.0	0.0	0.208
169.00	0.09	0.68	0.00	0.00	0.00	7.94	8.12	52.0	0.0	0.156
170.00	0.09	0.68	0.00	0.00	0.00	7.35	7.53	52.0	0.0	0.145
175.00	0.07	0.65	0.00	0.00	0.00	3.97	4.20	52.0	0.0	0.081
180.00	0.00	0.68	0.00	0.00	0.00	0.00	1.18	52.0	0.0	0.023

Pole :	302465	Code: TIA/EIA-222 Rev F	10/16/2012 9:57:51 AM
Location :	Colchester CT 6, CT		Page: 8
Height :	180.0 (ft)		
Base Dia :	64.00 (in)		
Top Dia :	18.87 (in)	Base Elev : 0.000 (ft)	
Shape :	12 Sides		
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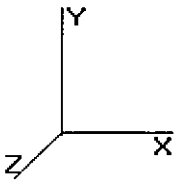


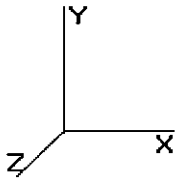
Load Case: Ice — 73.61 mph Wind with Ice — 24 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Shaft Segment Forces

Seg Top Elev (ft)	Description		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	392.58	1.030	0.500	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	13.871	23.44	384.58	1.030	0.500	5.00	26.812	27.62	647.4	197.8	1,705.7
10.00		0.00	1.00	13.871	23.44	376.58	1.030	0.500	5.00	26.268	27.06	634.3	193.8	1,670.4
15.00		0.00	1.00	13.871	23.44	368.59	1.030	0.500	5.00	25.725	26.50	621.1	189.7	1,635.0
20.00		0.00	1.00	13.871	23.44	360.59	1.030	0.500	5.00	25.182	25.94	608.0	185.6	1,599.7
25.00		0.00	1.00	13.871	23.44	352.59	1.030	0.500	5.00	24.638	25.38	594.9	181.5	1,564.4
30.00		0.00	1.00	13.871	23.44	344.59	1.030	0.500	5.00	24.095	24.82	581.8	177.4	1,529.0
35.00		0.00	1.01	14.106	23.84	339.43	1.030	0.500	5.00	23.552	24.26	578.3	173.3	1,493.7
40.00		0.00	1.05	14.655	24.76	337.75	1.030	0.500	5.00	23.008	23.70	586.9	169.3	1,458.3
43.83	Bot - Section 2	0.00	1.08	15.043	25.42	335.81	1.030	0.500	3.83	17.272	17.79	452.3	127.4	1,094.5
45.00		0.00	1.09	15.156	25.61	335.12	1.030	0.500	1.17	5.266	5.42	138.9	39.1	582.9
50.00		0.00	1.12	15.620	26.39	331.71	1.030	0.500	5.00	22.234	22.90	604.5	163.4	2,458.1
51.00	Top - Section 1	0.00	1.13	15.708	26.54	330.95	1.030	0.500	1.00	4.382	4.51	119.8	32.5	484.5
55.00		0.00	1.15	16.051	27.12	332.60	1.030	0.500	4.00	17.309	17.83	483.6	127.5	958.4
60.00		0.00	1.18	16.455	27.80	328.05	1.030	0.500	5.00	21.148	21.78	605.7	155.3	1,169.7
65.00		0.00	1.21	16.836	28.45	323.01	1.030	0.500	5.00	20.604	21.22	603.8	151.2	1,138.9
70.00		0.00	1.24	17.196	29.06	317.55	1.030	0.500	5.00	20.061	20.66	600.5	147.1	1,108.0
75.00		0.00	1.26	17.538	29.64	311.70	1.030	0.500	5.00	19.518	20.10	595.9	143.0	1,077.1
80.00		0.00	1.28	17.865	30.19	305.51	1.030	0.500	5.00	18.974	19.54	590.0	139.0	1,046.3
85.00		0.00	1.31	18.177	30.71	299.01	1.030	0.500	5.00	18.431	18.98	583.2	134.9	1,015.4
88.08	Bot - Section 3	0.00	1.32	18.363	31.03	294.86	1.030	0.500	3.08	11.096	11.43	354.7	81.6	611.3
90.00		0.00	1.33	18.476	31.22	292.23	1.030	0.500	1.92	6.891	7.10	221.6	50.9	649.5
94.00	Top - Section 2	0.00	1.34	18.707	31.61	286.62	1.030	0.500	4.00	14.129	14.55	460.1	103.6	1,329.9
95.00		0.00	1.35	18.764	31.71	289.65	1.030	0.500	1.00	3.476	3.58	113.5	25.7	164.1
100.0		0.00	1.37	19.041	32.17	282.41	1.030	0.500	5.00	17.062	17.57	565.5	124.6	803.1
105.0		0.00	1.39	19.308	32.63	274.95	1.030	0.500	5.00	16.518	17.01	555.2	120.5	776.7
110.0		0.00	1.41	19.566	33.06	267.28	1.030	0.500	5.00	15.975	16.45	544.1	116.4	750.3
115.0		0.00	1.42	19.816	33.49	259.42	1.030	0.500	5.00	15.432	15.89	532.3	112.3	723.9
120.0		0.00	1.44	20.059	33.89	251.39	1.030	0.500	5.00	14.888	15.33	519.8	108.3	697.5
125.0		0.00	1.46	20.294	34.29	243.18	1.030	0.500	5.00	14.345	14.78	506.8	104.2	671.1
130.0		0.00	1.48	20.523	34.68	234.82	1.030	0.500	5.00	13.802	14.22	493.1	100.1	644.7
133.4	Bot - Section 4	0.00	1.49	20.675	34.94	229.02	1.030	0.500	3.42	9.120	9.39	328.2	66.5	425.9
135.0		0.00	1.49	20.745	35.06	226.31	1.030	0.500	1.58	4.196	4.32	151.5	30.8	309.8
138.0	Top - Section 3	0.00	1.50	20.876	35.28	221.13	1.030	0.500	3.00	7.805	8.04	283.6	57.0	575.4
140.0		0.00	1.51	20.962	35.42	220.95	1.030	0.500	2.00	5.092	5.24	185.8	37.3	177.9
145.0		0.00	1.52	21.173	35.78	212.18	1.030	0.500	5.00	12.354	12.72	455.3	89.2	429.9
150.0	Appertunance(s)	0.00	1.54	21.379	36.13	203.28	1.030	0.500	5.00	11.811	12.17	439.5	85.1	410.2
155.0		0.00	1.55	21.581	36.47	194.26	1.030	0.500	5.00	11.267	11.61	423.3	81.0	390.5
160.0		0.00	1.57	21.777	36.80	185.12	1.030	0.500	5.00	10.724	11.05	406.5	77.0	370.8
165.0		0.00	1.58	21.969	37.12	175.87	1.030	0.500	5.00	10.181	10.49	389.3	72.9	351.1
169.0	Appertunance(s)	0.00	1.59	22.120	37.38	168.39	1.030	0.500	4.00	7.753	7.99	298.5	55.7	267.0
170.0		0.00	1.59	22.158	37.44	166.51	1.030	0.500	1.00	1.884	1.94	72.7	13.8	65.0
175.0		0.00	1.61	22.342	37.75	157.05	1.030	0.500	5.00	9.094	9.37	353.7	64.7	311.7
180.0	Appertunance(s)	0.00	1.62	22.522	38.06	147.49	1.030	0.500	5.00	8.551	8.81	335.2	60.6	292.0
							Totals:		180.00			19,221.0	4,668.7	36,989.4

Pole :	302465	Code: TIA/EIA-222 Rev F	10/16/2012 9:57:51 AM
Location :	Colchester CT 6, CT		Page: 9
Height :	180.0 (ft)		
Base Dia :	64.00 (in)		
Top Dia :	18.87 (in)	Base Elev : 0.000 (ft)	
Shape :	12 Sides		
Taper :	0.260791 (in/ft)		



Load Case: Ice — 73.61 mph Wind with Ice — 24 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Discrete Appurtenance Segment Forces

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
150.0	14"x9" TTA	3	21.379	36.131	0.67	2.93	0.000	0.000	106.03	0.00	0.00	54.00
150.0	36"x 8"x 6" Panels	3	21.379	36.131	0.75	7.29	0.000	0.000	263.39	0.00	0.00	120.00
150.0	72"x12" Panels	7	21.379	36.131	0.75	48.46	0.000	0.000	1,750.82	0.00	0.00	609.00
150.0	Ericsson RRUS-11 800	6	21.379	36.131	0.76	15.00	0.000	0.000	542.05	0.00	0.00	453.84
150.0	Low Profile Platform	1	21.379	36.131	1.00	27.20	0.000	0.000	982.76	0.00	0.00	1,700.00
150.0	Powerwave LGP21401	6	21.379	36.131	0.67	6.15	0.000	0.000	222.23	0.00	0.00	127.56
150.0	Powerwave LGP21903	6	21.379	36.131	0.67	1.53	0.000	0.000	55.19	0.00	0.00	47.40
150.0	Powerwave P65-17-	2	21.379	36.131	0.80	19.82	0.000	0.000	716.26	0.00	0.00	242.00
150.0	Raycap DC6-48-60-18-	1	21.379	36.131	1.00	1.46	0.000	0.000	52.75	0.00	0.00	35.10
169.0	Diamond X50A	2	22.195	37.509	1.00	3.26	0.000	2.000	122.28	0.00	244.56	114.40
169.0	Standoff Mounts	2	22.120	37.383	1.00	11.80	0.000	0.000	441.12	0.00	0.00	350.00
180.0	48"x12" Panels	9	22.522	38.063	0.75	41.78	0.000	0.000	1,590.37	0.00	0.00	567.00
180.0	72"x12" Panels	3	22.522	38.063	0.75	20.77	0.000	0.000	790.47	0.00	0.00	261.00
180.0	T-Arms	3	22.522	38.063	0.75	27.23	0.000	0.000	1,036.26	0.00	0.00	942.00
									8,671.99			5,623.30

Pole :	302465	Code: TIA/EIA-222 Rev F	10/16/2012 9:57:51 AM
Location :	Colchester CT 6, CT		Page: 10
Height :	180.0 (ft)		
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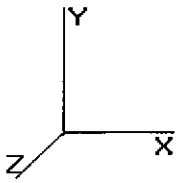
Top Dia :	18.87 (in)	Base Elev : 0.000 (ft)	
Shape :	12 Sides		
Taper :	0.260791 (in/ft)		



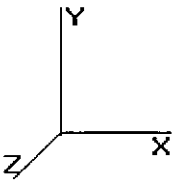
Load Case: Ice — 73.61 mph Wind with Ice — 24 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	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	647.38	1,848.10	0.00	0.00
10.00	634.26	1,812.76	0.00	0.00
15.00	621.15	1,777.43	0.00	0.00
20.00	608.03	1,742.09	0.00	0.00
25.00	594.91	1,706.75	0.00	0.00
30.00	581.79	1,671.42	0.00	0.00
35.00	578.31	1,636.08	0.00	0.00
40.00	586.94	1,600.75	0.00	0.00
43.83	452.28	1,203.68	0.00	0.00
45.00	138.94	616.08	0.00	0.00
50.00	604.53	2,600.47	0.00	0.00
51.00	119.81	512.97	0.00	0.00
55.00	483.62	1,072.27	0.00	0.00
60.00	605.74	1,312.15	0.00	0.00
65.00	603.83	1,281.28	0.00	0.00
70.00	600.48	1,250.41	0.00	0.00
75.00	595.85	1,219.54	0.00	0.00
80.00	590.05	1,188.67	0.00	0.00
85.00	583.16	1,157.79	0.00	0.00
88.08	354.68	699.14	0.00	0.00
90.00	221.63	704.04	0.00	0.00
94.00	460.07	1,443.82	0.00	0.00
95.00	113.54	192.54	0.00	0.00
100.0	565.49	945.55	0.00	0.00
105.0	555.17	919.14	0.00	0.00
110.0	544.09	892.74	0.00	0.00
115.0	532.30	866.33	0.00	0.00
120.0	519.85	839.92	0.00	0.00
125.0	506.75	813.52	0.00	0.00
130.0	493.05	787.11	0.00	0.00
133.4	328.24	523.22	0.00	0.00
135.0	151.51	354.86	0.00	0.00
138.0	283.64	660.89	0.00	0.00
140.0	185.80	234.86	0.00	0.00
145.0	455.32	572.34	0.00	0.00
150.0	5,131.02	3,941.53	0.00	0.00
155.0	423.26	467.02	0.00	0.00
160.0	406.52	447.31	0.00	0.00
165.0	389.34	427.60	0.00	0.00
169.0	861.95	792.62	0.00	244.56
170.0	72.67	80.03	0.00	0.00
175.0	353.68	386.68	0.00	0.00
180.0	3,752.34	2,136.97	0.00	0.00
Totals:	27,892.98	47,340.45	0.00	244.56

Pole :	302465	Code: TIA/EIA-222 Rev F	10/16/2012 9:57:51 AM
Location :	Colchester CT 6, CT		Page: 11
Height :	180.0 (ft)		
Base Dia :	64.00 (in)		
Top Dia :	18.87 (in)	Base Elev : 0.000 (ft)	
Shape :	12 Sides		
Taper :	0.260791 (in/ft)		



Load Case: Ice — 73.61 mph Wind with Ice — 24 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Calculated Shaft Forces and Deflections

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-27.932	-47.317	0.000	0.000	0.000	-3,126.606	0.000	0.000	0.000	0.000
5.00	-27.359	-45.424	0.000	0.000	0.000	-2,986.947	-0.051	0.000	0.051	-0.094
10.00	-26.793	-43.568	0.000	0.000	0.000	-2,850.156	-0.201	0.000	0.201	-0.190
15.00	-26.236	-41.748	0.000	0.000	0.000	-2,716.193	-0.453	0.000	0.453	-0.287
20.00	-25.687	-39.965	0.000	0.000	0.000	-2,585.015	-0.807	0.000	0.807	-0.386
25.00	-25.147	-38.218	0.000	0.000	0.000	-2,456.581	-1.265	0.000	1.265	-0.486
30.00	-24.615	-36.508	0.000	0.000	0.000	-2,330.848	-1.830	0.000	1.830	-0.588
35.00	-24.082	-34.835	0.000	0.000	0.000	-2,207.775	-2.502	0.000	2.502	-0.692
40.00	-23.529	-33.204	0.000	0.000	0.000	-2,087.367	-3.283	0.000	3.283	-0.797
43.83	-23.089	-31.985	0.000	0.000	0.000	-1,997.175	-3.958	0.000	3.958	-0.880
45.00	-22.977	-31.344	0.000	0.000	0.000	-1,970.238	-4.176	0.000	4.176	-0.906
50.00	-22.362	-28.729	0.000	0.000	0.000	-1,855.352	-5.183	0.000	5.183	-1.014
51.00	-22.261	-28.196	0.000	0.000	0.000	-1,832.991	-5.398	0.000	5.398	-1.037
55.00	-21.808	-27.092	0.000	0.000	0.000	-1,743.949	-6.306	0.000	6.306	-1.126
60.00	-21.231	-25.747	0.000	0.000	0.000	-1,634.912	-7.552	0.000	7.552	-1.251
65.00	-20.652	-24.434	0.000	0.000	0.000	-1,528.757	-8.930	0.000	8.930	-1.377
70.00	-20.073	-23.154	0.000	0.000	0.000	-1,425.497	-10.441	0.000	10.441	-1.505
75.00	-19.493	-21.907	0.000	0.000	0.000	-1,325.135	-12.087	0.000	12.087	-1.634
80.00	-18.916	-20.693	0.000	0.000	0.000	-1,227.669	-13.869	0.000	13.869	-1.765
85.00	-18.333	-19.520	0.000	0.000	0.000	-1,133.091	-15.788	0.000	15.788	-1.897
88.08	-17.977	-18.812	0.000	0.000	0.000	-1,076.559	-17.041	0.000	17.041	-1.981
90.00	-17.756	-18.091	0.000	0.000	0.000	-1,042.110	-17.848	0.000	17.848	-2.034
94.00	-17.264	-16.645	0.000	0.000	0.000	-971.080	-19.598	0.000	19.598	-2.142
95.00	-17.170	-16.429	0.000	0.000	0.000	-953.822	-20.050	0.000	20.050	-2.170
100.0	-16.609	-15.461	0.000	0.000	0.000	-867.976	-22.406	0.000	22.406	-2.325
105.0	-16.055	-14.523	0.000	0.000	0.000	-784.931	-24.923	0.000	24.923	-2.479
110.0	-15.508	-13.614	0.000	0.000	0.000	-704.657	-27.603	0.000	27.603	-2.633
115.0	-14.970	-12.734	0.000	0.000	0.000	-627.116	-30.443	0.000	30.443	-2.787
120.0	-14.440	-11.883	0.000	0.000	0.000	-552.269	-33.442	0.000	33.442	-2.938
125.0	-13.919	-11.062	0.000	0.000	0.000	-480.072	-36.599	0.000	36.599	-3.086
130.0	-13.405	-10.275	0.000	0.000	0.000	-410.478	-39.908	0.000	39.908	-3.231
133.4	-13.059	-9.756	0.000	0.000	0.000	-364.669	-42.256	0.000	42.256	-3.328
135.0	-12.898	-9.396	0.000	0.000	0.000	-344.001	-43.366	0.000	43.366	-3.372
138.0	-12.585	-8.739	0.000	0.000	0.000	-305.300	-45.511	0.000	45.511	-3.453
140.0	-12.402	-8.492	0.000	0.000	0.000	-280.138	-46.968	0.000	46.968	-3.506
145.0	-11.933	-7.918	0.000	0.000	0.000	-218.129	-50.727	0.000	50.727	-3.666
150.0	-6.565	-4.305	0.000	0.000	0.000	-158.467	-54.643	0.000	54.643	-3.805
155.0	-6.119	-3.855	0.000	0.000	0.000	-125.643	-58.692	0.000	58.692	-3.927
160.0	-5.688	-3.427	0.000	0.000	0.000	-95.049	-62.862	0.000	62.862	-4.036
165.0	-5.274	-3.021	0.000	0.000	0.000	-66.607	-67.139	0.000	67.139	-4.130
169.0	-4.358	-2.291	0.000	0.000	0.000	-45.268	-70.624	0.000	70.624	-4.192
170.0	-4.281	-2.214	0.000	0.000	0.000	-40.910	-71.503	0.000	71.503	-4.206
175.0	-3.901	-1.852	0.000	0.000	0.000	-19.505	-75.933	0.000	75.933	-4.255
180.0	-3.752	0.000	0.000	0.000	0.000	0.000	-80.400	0.000	80.400	-4.275

Pole :	302465	Code: TIA/EIA-222 Rev F	10/16/2012 9:57:51 AM
Location :	Colchester CT 6, CT		Page: 12
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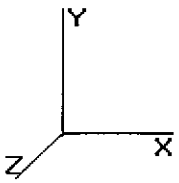


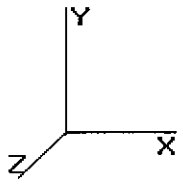
Load Case: Ice — 73.61 mph Wind with Ice — 24 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Calculated Stresses

Seg Elev (ft)	Applied Stresses Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)	Allowable Stress (Fb) (ksi)		Stress Ratio
0.00	0.53	0.63	0.00	0.00	0.00	26.92	27.47	46.3	0.0	0.593
5.00	0.52	0.63	0.00	0.00	0.00	26.81	27.35	47.0	0.0	0.582
10.00	0.51	0.63	0.00	0.00	0.00	26.69	27.22	47.6	0.0	0.572
15.00	0.50	0.63	0.00	0.00	0.00	26.56	27.08	48.2	0.0	0.562
20.00	0.49	0.63	0.00	0.00	0.00	26.43	26.94	48.8	0.0	0.551
25.00	0.48	0.64	0.00	0.00	0.00	26.28	26.78	49.5	0.0	0.541
30.00	0.46	0.64	0.00	0.00	0.00	26.12	26.61	50.1	0.0	0.531
35.00	0.45	0.64	0.00	0.00	0.00	25.95	26.42	50.7	0.0	0.521
40.00	0.44	0.64	0.00	0.00	0.00	25.75	26.22	51.4	0.0	0.511
43.83	0.44	0.64	0.00	0.00	0.00	25.60	26.06	51.8	0.0	0.503
45.00	0.43	0.64	0.00	0.00	0.00	25.55	26.01	52.0	0.0	0.500
50.00	0.40	0.64	0.00	0.00	0.00	25.33	25.75	52.0	0.0	0.495
51.00	0.46	0.73	0.00	0.00	0.00	28.53	29.01	48.3	0.0	0.601
55.00	0.45	0.73	0.00	0.00	0.00	28.29	28.77	48.8	0.0	0.589
60.00	0.44	0.73	0.00	0.00	0.00	27.96	28.43	49.6	0.0	0.574
65.00	0.43	0.73	0.00	0.00	0.00	27.61	28.07	50.3	0.0	0.558
70.00	0.42	0.73	0.00	0.00	0.00	27.23	27.67	51.0	0.0	0.542
75.00	0.40	0.73	0.00	0.00	0.00	26.81	27.25	51.8	0.0	0.526
80.00	0.39	0.73	0.00	0.00	0.00	26.36	26.78	52.0	0.0	0.515
85.00	0.38	0.73	0.00	0.00	0.00	25.86	26.28	52.0	0.0	0.505
88.08	0.38	0.73	0.00	0.00	0.00	25.54	25.95	52.0	0.0	0.499
90.00	0.37	0.73	0.00	0.00	0.00	25.33	25.73	52.0	0.0	0.495
94.00	0.41	0.86	0.00	0.00	0.00	28.78	29.23	49.6	0.0	0.589
95.00	0.41	0.86	0.00	0.00	0.00	28.64	29.09	49.8	0.0	0.584
100.00	0.39	0.86	0.00	0.00	0.00	27.84	28.28	50.7	0.0	0.558
105.00	0.38	0.86	0.00	0.00	0.00	26.96	27.38	51.5	0.0	0.531
110.00	0.37	0.86	0.00	0.00	0.00	25.98	26.39	52.0	0.0	0.508
115.00	0.36	0.86	0.00	0.00	0.00	24.88	25.28	52.0	0.0	0.486
120.00	0.35	0.86	0.00	0.00	0.00	23.64	24.04	52.0	0.0	0.462
125.00	0.34	0.87	0.00	0.00	0.00	22.24	22.63	52.0	0.0	0.435
130.00	0.33	0.87	0.00	0.00	0.00	20.65	21.03	52.0	0.0	0.404
133.42	0.32	0.87	0.00	0.00	0.00	19.45	19.83	52.0	0.0	0.381
135.00	0.31	0.87	0.00	0.00	0.00	18.86	19.23	52.0	0.0	0.370
138.00	0.42	1.23	0.00	0.00	0.00	24.25	24.76	48.4	0.0	0.511
140.00	0.41	1.23	0.00	0.00	0.00	23.06	23.57	48.9	0.0	0.482
145.00	0.40	1.24	0.00	0.00	0.00	19.68	20.20	50.2	0.0	0.403
150.00	0.23	0.72	0.00	0.00	0.00	15.75	16.03	51.4	0.0	0.312
155.00	0.22	0.70	0.00	0.00	0.00	13.82	14.09	52.0	0.0	0.271
160.00	0.20	0.69	0.00	0.00	0.00	11.63	11.90	52.0	0.0	0.229
165.00	0.19	0.67	0.00	0.00	0.00	9.13	9.39	52.0	0.0	0.181
169.00	0.15	0.58	0.00	0.00	0.00	6.82	7.05	52.0	0.0	0.136
170.00	0.15	0.58	0.00	0.00	0.00	6.32	6.54	52.0	0.0	0.126
175.00	0.13	0.56	0.00	0.00	0.00	3.42	3.68	52.0	0.0	0.071
180.00	0.00	0.58	0.00	0.00	0.00	0.00	1.01	52.0	0.0	0.019

Pole :	302465	Code: TIA/EIA-222 Rev F	10/16/2012 9:57:51 AM
Location :	Colchester CT 6, CT		Page: 13
Height :	180.0 (ft)		
Base Dia :	64.00 (in)		
Top Dia :	18.87 (in)	Base Elev : 0.000 (ft)	
Shape :	12 Sides		
Taper :	0.260791 (in/ft)		



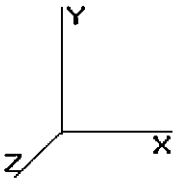
Load Case: Twist/Sway — 50.00 mph Wind with No Ice — 23 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Shaft Segment Forces

Seg Top Elev (ft)	Description		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	10.81	266.66	1.030	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	6.400	10.81	261.23	1.030	0.000	5.00	26.395	27.19	294.1	0.0	1,507.9
10.00		0.00	1.00	6.400	10.81	255.80	1.030	0.000	5.00	25.852	26.63	288.0	0.0	1,476.6
15.00		0.00	1.00	6.400	10.81	250.36	1.030	0.000	5.00	25.308	26.07	281.9	0.0	1,445.4
20.00		0.00	1.00	6.400	10.81	244.93	1.030	0.000	5.00	24.765	25.51	275.9	0.0	1,414.1
25.00		0.00	1.00	6.400	10.81	239.50	1.030	0.000	5.00	24.222	24.95	269.8	0.0	1,382.8
30.00		0.00	1.00	6.400	10.81	234.06	1.030	0.000	5.00	23.678	24.39	263.8	0.0	1,351.6
35.00		0.00	1.01	6.509	10.99	230.56	1.030	0.000	5.00	23.135	23.83	262.1	0.0	1,320.3
40.00		0.00	1.05	6.762	11.42	229.42	1.030	0.000	5.00	22.592	23.27	265.9	0.0	1,289.1
43.83	Bot - Section 2	0.00	1.08	6.941	11.73	228.10	1.030	0.000	3.83	16.952	17.46	204.8	0.0	967.1
45.00		0.00	1.09	6.993	11.81	227.63	1.030	0.000	1.17	5.169	5.32	62.9	0.0	543.8
50.00		0.00	1.12	7.207	12.17	225.32	1.030	0.000	5.00	21.818	22.47	273.7	0.0	2,294.6
51.00	Top - Section 1	0.00	1.13	7.248	12.24	224.80	1.030	0.000	1.00	4.298	4.43	54.2	0.0	452.0
55.00		0.00	1.15	7.406	12.51	225.92	1.030	0.000	4.00	16.976	17.49	218.8	0.0	830.9
60.00		0.00	1.18	7.592	12.83	222.83	1.030	0.000	5.00	20.731	21.35	274.0	0.0	1,014.5
65.00		0.00	1.21	7.768	13.12	219.41	1.030	0.000	5.00	20.188	20.79	273.0	0.0	987.7
70.00		0.00	1.24	7.934	13.40	215.69	1.030	0.000	5.00	19.644	20.23	271.3	0.0	960.9
75.00		0.00	1.26	8.092	13.67	211.72	1.030	0.000	5.00	19.101	19.67	269.0	0.0	934.1
80.00		0.00	1.28	8.242	13.93	207.52	1.030	0.000	5.00	18.558	19.11	266.3	0.0	907.3
85.00		0.00	1.31	8.387	14.17	203.10	1.030	0.000	5.00	18.014	18.55	263.0	0.0	880.5
88.08	Bot - Section 3	0.00	1.32	8.472	14.31	200.28	1.030	0.000	3.08	10.839	11.16	159.9	0.0	529.7
90.00		0.00	1.33	8.525	14.40	198.50	1.030	0.000	1.92	6.732	6.93	99.9	0.0	598.6
94.00	Top - Section 2	0.00	1.34	8.631	14.58	194.69	1.030	0.000	4.00	13.795	14.21	207.3	0.0	1,226.3
95.00		0.00	1.35	8.657	14.63	196.75	1.030	0.000	1.00	3.393	3.49	51.1	0.0	138.3
100.0		0.00	1.37	8.785	14.84	191.83	1.030	0.000	5.00	16.645	17.14	254.5	0.0	678.6
105.0		0.00	1.39	8.908	15.05	186.76	1.030	0.000	5.00	16.102	16.58	249.7	0.0	656.2
110.0		0.00	1.41	9.028	15.25	181.55	1.030	0.000	5.00	15.558	16.03	244.5	0.0	633.9
115.0		0.00	1.42	9.143	15.45	176.21	1.030	0.000	5.00	15.015	15.47	239.0	0.0	611.6
120.0		0.00	1.44	9.255	15.64	170.75	1.030	0.000	5.00	14.472	14.91	233.1	0.0	589.3
125.0		0.00	1.46	9.363	15.82	165.18	1.030	0.000	5.00	13.928	14.35	227.0	0.0	566.9
130.0		0.00	1.48	9.469	16.00	159.50	1.030	0.000	5.00	13.385	13.79	220.6	0.0	544.6
133.4	Bot - Section 4	0.00	1.49	9.539	16.12	155.56	1.030	0.000	3.42	8.836	9.10	146.7	0.0	359.4
135.0		0.00	1.49	9.572	16.17	153.72	1.030	0.000	1.58	4.064	4.19	67.7	0.0	279.0
138.0	Top - Section 3	0.00	1.50	9.632	16.27	150.20	1.030	0.000	3.00	7.555	7.78	126.7	0.0	518.5
140.0		0.00	1.51	9.672	16.34	150.08	1.030	0.000	2.00	4.925	5.07	82.9	0.0	140.6
145.0		0.00	1.52	9.769	16.51	144.12	1.030	0.000	5.00	11.937	12.30	203.0	0.0	340.7
150.0	Appertunance(s)	0.00	1.54	9.864	16.67	138.08	1.030	0.000	5.00	11.394	11.74	195.6	0.0	325.1
155.0		0.00	1.55	9.957	16.82	131.95	1.030	0.000	5.00	10.851	11.18	188.1	0.0	309.5
160.0		0.00	1.57	10.048	16.98	125.74	1.030	0.000	5.00	10.307	10.62	180.3	0.0	293.8
165.0		0.00	1.58	10.136	17.13	119.46	1.030	0.000	5.00	9.764	10.06	172.3	0.0	278.2
169.0	Appertunance(s)	0.00	1.59	10.206	17.24	114.38	1.030	0.000	4.00	7.420	7.64	131.8	0.0	211.3
170.0		0.00	1.59	10.223	17.27	113.10	1.030	0.000	1.00	1.801	1.85	32.0	0.0	51.3
175.0		0.00	1.61	10.308	17.42	106.68	1.030	0.000	5.00	8.677	8.94	155.7	0.0	247.0
180.0	Appertunance(s)	0.00	1.62	10.392	17.56	100.18	1.030	0.000	5.00	8.134	8.38	147.1	0.0	231.3
							Totals:		180.00			8,649.2	0.0	32,320.8

Pole :	302465	Code: TIA/EIA-222 Rev F	10/16/2012 9:57:51 AM
Location :	Colchester CT 6, CT		Page: 14
Height :	180.0 (ft)		
Base Dia :	64.00 (in)		
Top Dia :	18.87 (in)	Base Elev : 0.000 (ft)	
Shape :	12 Sides		
Taper :	0.260791 (in/ft)		



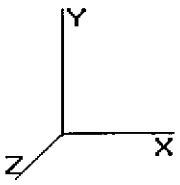
Load Case: Twist/Sway — 50.00 mph Wind with No Ice — 23 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Discrete Appurtenance Segment Forces

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
150.0	14"x9" TTA	3	9.864	16.670	0.67	2.47	0.000	0.000	41.21	0.00	0.00	30.00
150.0	36"x 8"x 6" Panels	3	9.864	16.670	0.75	6.30	0.000	0.000	105.02	0.00	0.00	75.00
150.0	72"x12" Panels	7	9.864	16.670	0.75	44.10	0.000	0.000	735.16	0.00	0.00	280.00
150.0	Ericsson RRUS-11 800	6	9.864	16.670	0.76	13.41	0.000	0.000	223.49	0.00	0.00	324.00
150.0	Low Profile Platform	1	9.864	16.670	1.00	21.70	0.000	0.000	361.75	0.00	0.00	1,500.00
150.0	Powerwave LGP21401	6	9.864	16.670	0.67	5.19	0.000	0.000	86.45	0.00	0.00	84.60
150.0	Powerwave LGP21903	6	9.864	16.670	0.67	1.09	0.000	0.000	18.09	0.00	0.00	33.00
150.0	Powerwave P65-17-	2	9.864	16.670	0.80	18.34	0.000	0.000	305.67	0.00	0.00	118.00
150.0	Raycap DC6-48-60-18-	1	9.864	16.670	1.00	1.26	0.000	0.000	21.00	0.00	0.00	20.00
169.0	Diamond X50A	2	10.240	17.306	1.00	2.24	0.000	2.000	38.77	0.00	77.53	4.60
169.0	Standoff Mounts	2	10.206	17.248	1.00	10.40	0.000	0.000	179.38	0.00	0.00	300.00
180.0	48"x12" Panels	9	10.392	17.562	0.75	37.80	0.000	0.000	663.84	0.00	0.00	270.00
180.0	72"x12" Panels	3	10.392	17.562	0.75	18.90	0.000	0.000	331.92	0.00	0.00	120.00
180.0	T-Arms	3	10.392	17.562	0.75	21.82	0.000	0.000	383.28	0.00	0.00	750.00
									3,495.04			3,909.20

Pole :	302465	Code: TIA/EIA-222 Rev F	10/16/2012 9:57:51 AM
Location :	Colchester CT 6, CT		Page: 15
Height :	180.0 (ft)		
Base Dia :	64.00 (in)		
Top Dia :	18.87 (in)	Base Elev : 0.000 (ft)	
Shape :	12 Sides		
Taper :	0.260791 (in/ft)		



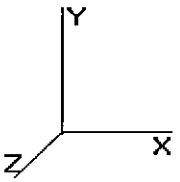
Load Case: Twist/Sway — 50.00 mph Wind with No Ice — 23 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	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	294.05	1,650.26	0.00	0.00
10.00	288.00	1,619.01	0.00	0.00
15.00	281.95	1,587.75	0.00	0.00
20.00	275.89	1,556.50	0.00	0.00
25.00	269.84	1,525.24	0.00	0.00
30.00	263.79	1,493.99	0.00	0.00
35.00	262.11	1,462.74	0.00	0.00
40.00	265.90	1,431.48	0.00	0.00
43.83	204.82	1,076.31	0.00	0.00
45.00	62.92	576.99	0.00	0.00
50.00	273.70	2,437.02	0.00	0.00
51.00	54.23	480.44	0.00	0.00
55.00	218.84	944.78	0.00	0.00
60.00	273.97	1,156.87	0.00	0.00
65.00	272.96	1,130.08	0.00	0.00
70.00	271.30	1,103.29	0.00	0.00
75.00	269.05	1,076.50	0.00	0.00
80.00	266.26	1,049.71	0.00	0.00
85.00	262.98	1,022.92	0.00	0.00
88.08	159.86	617.52	0.00	0.00
90.00	99.89	653.16	0.00	0.00
94.00	207.26	1,340.23	0.00	0.00
95.00	51.13	166.82	0.00	0.00
100.0	254.54	820.97	0.00	0.00
105.0	249.69	798.64	0.00	0.00
110.0	244.49	776.32	0.00	0.00
115.0	238.97	753.99	0.00	0.00
120.0	233.14	731.67	0.00	0.00
125.0	227.02	709.35	0.00	0.00
130.0	220.62	687.02	0.00	0.00
133.4	146.72	456.71	0.00	0.00
135.0	67.71	324.03	0.00	0.00
138.0	126.67	603.92	0.00	0.00
140.0	82.92	197.56	0.00	0.00
145.0	203.00	483.12	0.00	0.00
150.0	2,093.50	2,932.09	0.00	0.00
155.0	188.07	385.97	0.00	0.00
160.0	180.28	370.34	0.00	0.00
165.0	172.28	354.71	0.00	0.00
169.0	349.97	577.12	0.00	77.53
170.0	32.04	66.27	0.00	0.00
175.0	155.71	321.96	0.00	0.00
180.0	1,526.17	1,446.33	0.00	0.00
Totals:	12,144.20	40,957.69	0.00	77.53

Pole :	302465	Code: TIA/EIA-222 Rev F	10/16/2012 9:57:51 AM
Location :	Colchester CT 6, CT		Page: 16
Height :	180.0 (ft)		
Base Dia :	64.00 (in)		
Top Dia :	18.87 (in)	Base Elev : 0.000 (ft)	
Shape :	12 Sides		
Taper :	0.260791 (in/ft)		



Load Case: Twist/Sway — 50.00 mph Wind with No Ice — 23 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Calculated Shaft Forces and Deflections

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-12.158	-40.953	0.000	0.000	0.000	-1,327.722	0.000	0.000	0.000	0.000
5.00	-11.891	-39.295	0.000	0.000	0.000	-1,266.935	-0.022	0.000	0.022	-0.040
10.00	-11.628	-37.668	0.000	0.000	0.000	-1,207.482	-0.085	0.000	0.085	-0.081
15.00	-11.369	-36.072	0.000	0.000	0.000	-1,149.344	-0.192	0.000	0.192	-0.122
20.00	-11.115	-34.508	0.000	0.000	0.000	-1,092.499	-0.342	0.000	0.342	-0.163
25.00	-10.865	-32.976	0.000	0.000	0.000	-1,036.926	-0.536	0.000	0.536	-0.206
30.00	-10.619	-31.475	0.000	0.000	0.000	-982.604	-0.775	0.000	0.775	-0.249
35.00	-10.373	-30.006	0.000	0.000	0.000	-929.511	-1.059	0.000	1.059	-0.293
40.00	-10.119	-28.569	0.000	0.000	0.000	-877.648	-1.390	0.000	1.390	-0.337
43.83	-9.918	-27.490	0.000	0.000	0.000	-838.861	-1.675	0.000	1.675	-0.372
45.00	-9.865	-26.908	0.000	0.000	0.000	-827.290	-1.767	0.000	1.767	-0.382
50.00	-9.585	-24.469	0.000	0.000	0.000	-777.967	-2.192	0.000	2.192	-0.428
51.00	-9.537	-23.985	0.000	0.000	0.000	-768.382	-2.283	0.000	2.283	-0.438
55.00	-9.329	-23.034	0.000	0.000	0.000	-730.233	-2.666	0.000	2.666	-0.475
60.00	-9.065	-21.872	0.000	0.000	0.000	-683.588	-3.191	0.000	3.191	-0.527
65.00	-8.800	-20.736	0.000	0.000	0.000	-638.264	-3.772	0.000	3.772	-0.580
70.00	-8.536	-19.628	0.000	0.000	0.000	-594.263	-4.408	0.000	4.408	-0.633
75.00	-8.272	-18.547	0.000	0.000	0.000	-551.585	-5.100	0.000	5.100	-0.687
80.00	-8.009	-17.493	0.000	0.000	0.000	-510.226	-5.849	0.000	5.849	-0.741
85.00	-7.745	-16.467	0.000	0.000	0.000	-470.181	-6.655	0.000	6.655	-0.796
88.08	-7.585	-15.848	0.000	0.000	0.000	-446.297	-7.181	0.000	7.181	-0.831
90.00	-7.484	-15.192	0.000	0.000	0.000	-431.762	-7.519	0.000	7.519	-0.853
94.00	-7.263	-13.852	0.000	0.000	0.000	-401.824	-8.253	0.000	8.253	-0.898
95.00	-7.218	-13.681	0.000	0.000	0.000	-394.564	-8.442	0.000	8.442	-0.909
100.0	-6.965	-12.857	0.000	0.000	0.000	-358.472	-9.429	0.000	9.429	-0.973
105.0	-6.715	-12.055	0.000	0.000	0.000	-323.648	-10.483	0.000	10.483	-1.037
110.0	-6.468	-11.276	0.000	0.000	0.000	-290.076	-11.604	0.000	11.604	-1.101
115.0	-6.226	-10.521	0.000	0.000	0.000	-257.736	-12.791	0.000	12.791	-1.164
120.0	-5.988	-9.787	0.000	0.000	0.000	-226.607	-14.043	0.000	14.043	-1.226
125.0	-5.755	-9.077	0.000	0.000	0.000	-196.667	-15.360	0.000	15.360	-1.287
130.0	-5.526	-8.391	0.000	0.000	0.000	-167.892	-16.739	0.000	16.739	-1.346
133.4	-5.372	-7.935	0.000	0.000	0.000	-149.009	-17.717	0.000	17.717	-1.385
135.0	-5.300	-7.610	0.000	0.000	0.000	-140.506	-18.180	0.000	18.180	-1.404
138.0	-5.162	-7.007	0.000	0.000	0.000	-124.602	-19.073	0.000	19.073	-1.437
140.0	-5.080	-6.808	0.000	0.000	0.000	-114.282	-19.679	0.000	19.679	-1.458
145.0	-4.871	-6.325	0.000	0.000	0.000	-88.884	-21.243	0.000	21.243	-1.524
150.0	-2.702	-3.448	0.000	0.000	0.000	-64.531	-22.870	0.000	22.870	-1.580
155.0	-2.505	-3.066	0.000	0.000	0.000	-51.022	-24.552	0.000	24.552	-1.629
160.0	-2.317	-2.699	0.000	0.000	0.000	-38.495	-26.283	0.000	26.283	-1.674
165.0	-2.135	-2.348	0.000	0.000	0.000	-26.912	-28.057	0.000	28.057	-1.712
169.0	-1.769	-1.782	0.000	0.000	0.000	-18.294	-29.503	0.000	29.503	-1.737
170.0	-1.735	-1.716	0.000	0.000	0.000	-16.525	-29.867	0.000	29.867	-1.742
175.0	-1.570	-1.399	0.000	0.000	0.000	-7.850	-31.704	0.000	31.704	-1.762
180.0	-1.526	0.000	0.000	0.000	0.000	0.000	-33.555	0.000	33.555	-1.770

Pole :	302465	Code: TIA/EIA-222 Rev F	10/16/2012 9:57:51 AM
Location :	Colchester CT 6, CT		Page: 17
Height :	180.0 (ft)		
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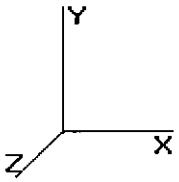

Load Case: Twist/Sway — 50.00 mph Wind with No Ice — 23 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Calculated Stresses

Seg Elev (ft)	Applied Stresses Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)	Allowable Stress (Fb) (ksi)		Stress Ratio
0.00	0.46	0.28	0.00	0.00	0.00	11.43	11.90	46.3	0.0	0.257
5.00	0.45	0.28	0.00	0.00	0.00	11.37	11.83	47.0	0.0	0.252
10.00	0.44	0.28	0.00	0.00	0.00	11.31	11.76	47.6	0.0	0.247
15.00	0.43	0.27	0.00	0.00	0.00	11.24	11.68	48.2	0.0	0.242
20.00	0.42	0.27	0.00	0.00	0.00	11.17	11.60	48.8	0.0	0.237
25.00	0.41	0.27	0.00	0.00	0.00	11.09	11.51	49.5	0.0	0.233
30.00	0.40	0.27	0.00	0.00	0.00	11.01	11.42	50.1	0.0	0.228
35.00	0.39	0.27	0.00	0.00	0.00	10.92	11.32	50.7	0.0	0.223
40.00	0.38	0.27	0.00	0.00	0.00	10.83	11.22	51.4	0.0	0.219
43.83	0.37	0.27	0.00	0.00	0.00	10.75	11.14	51.8	0.0	0.215
45.00	0.37	0.27	0.00	0.00	0.00	10.73	11.11	52.0	0.0	0.214
50.00	0.34	0.27	0.00	0.00	0.00	10.62	10.97	52.0	0.0	0.211
51.00	0.39	0.31	0.00	0.00	0.00	11.96	12.36	48.3	0.0	0.256
55.00	0.38	0.31	0.00	0.00	0.00	11.85	12.24	48.8	0.0	0.251
60.00	0.37	0.31	0.00	0.00	0.00	11.69	12.08	49.6	0.0	0.244
65.00	0.36	0.31	0.00	0.00	0.00	11.53	11.90	50.3	0.0	0.237
70.00	0.35	0.31	0.00	0.00	0.00	11.35	11.72	51.0	0.0	0.230
75.00	0.34	0.31	0.00	0.00	0.00	11.16	11.52	51.8	0.0	0.223
80.00	0.33	0.31	0.00	0.00	0.00	10.95	11.30	52.0	0.0	0.217
85.00	0.32	0.31	0.00	0.00	0.00	10.73	11.07	52.0	0.0	0.213
88.08	0.32	0.31	0.00	0.00	0.00	10.59	10.92	52.0	0.0	0.210
90.00	0.31	0.31	0.00	0.00	0.00	10.50	10.82	52.0	0.0	0.208
94.00	0.34	0.36	0.00	0.00	0.00	11.91	12.27	49.6	0.0	0.247
95.00	0.34	0.36	0.00	0.00	0.00	11.85	12.20	49.8	0.0	0.245
100.00	0.33	0.36	0.00	0.00	0.00	11.50	11.84	50.7	0.0	0.234
105.00	0.32	0.36	0.00	0.00	0.00	11.12	11.45	51.5	0.0	0.222
110.00	0.31	0.36	0.00	0.00	0.00	10.69	11.02	52.0	0.0	0.212
115.00	0.30	0.36	0.00	0.00	0.00	10.22	10.54	52.0	0.0	0.203
120.00	0.29	0.36	0.00	0.00	0.00	9.70	10.01	52.0	0.0	0.192
125.00	0.28	0.36	0.00	0.00	0.00	9.11	9.41	52.0	0.0	0.181
130.00	0.27	0.36	0.00	0.00	0.00	8.45	8.74	52.0	0.0	0.168
133.42	0.26	0.36	0.00	0.00	0.00	7.95	8.23	52.0	0.0	0.158
135.00	0.25	0.36	0.00	0.00	0.00	7.70	7.98	52.0	0.0	0.153
138.00	0.34	0.50	0.00	0.00	0.00	9.90	10.27	48.4	0.0	0.212
140.00	0.33	0.50	0.00	0.00	0.00	9.41	9.78	48.9	0.0	0.200
145.00	0.32	0.51	0.00	0.00	0.00	8.02	8.39	50.2	0.0	0.167
150.00	0.18	0.29	0.00	0.00	0.00	6.41	6.62	51.4	0.0	0.129
155.00	0.17	0.29	0.00	0.00	0.00	5.61	5.81	52.0	0.0	0.112
160.00	0.16	0.28	0.00	0.00	0.00	4.71	4.90	52.0	0.0	0.094
165.00	0.15	0.27	0.00	0.00	0.00	3.69	3.86	52.0	0.0	0.074
169.00	0.12	0.24	0.00	0.00	0.00	2.76	2.90	52.0	0.0	0.056
170.00	0.11	0.24	0.00	0.00	0.00	2.55	2.70	52.0	0.0	0.052
175.00	0.10	0.23	0.00	0.00	0.00	1.38	1.53	52.0	0.0	0.029
180.00	0.00	0.24	0.00	0.00	0.00	0.00	0.41	52.0	0.0	0.008

Pole :	302465	Code: TIA/EIA-222 Rev F	10/16/2012 9:57:52 AM
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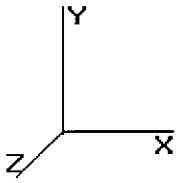

Analysis Summary

	Reactions						Max Stresses			
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Combined Stress (ksi)	Allowable Stress (ksi)	Elev (ft)	Stress Ratio
No Ice	35.1	0.00	40.92	0.00	0.00	3834.55	34.94	48.3	51.00	0.724
Ice	27.9	0.00	47.32	0.00	0.00	3126.61	29.01	48.3	51.00	0.601
Twist/Sway	12.2	0.00	40.95	0.00	0.00	1327.72	11.90	46.3	0.00	0.257

PROJECT INFORMATION

SCOPE OF WORK:	TELECOMMUNICATIONS FACILITY UPGRADE (LTE): 1. INSTALL (3) NEW LTE ANTENNAS, (6) RRH'S, (1) SURGE ARRESTOR, (1) FIBER LINE, (2) DC POWER LINES & (1) GPS ANTENNA 2. INSTALL (1) LTE 6601 CABINET, (1) DC POWER PLANT & (1) SURGE SUPPRESSOR
SITE ADDRESS:	285 WEST ROAD COLCHESTER, CT 06415
LATITUDE:	41.54499 N 41° 32' 42.0" N
LONGITUDE:	72.30420 W 72° 18' 15.1" W
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

at&t

SITE NUMBER: CT5730
SITE NAME: COLCHESTER SOUTH

DRAWING INDEX

		REV
T-1	TITLE SHEET	1
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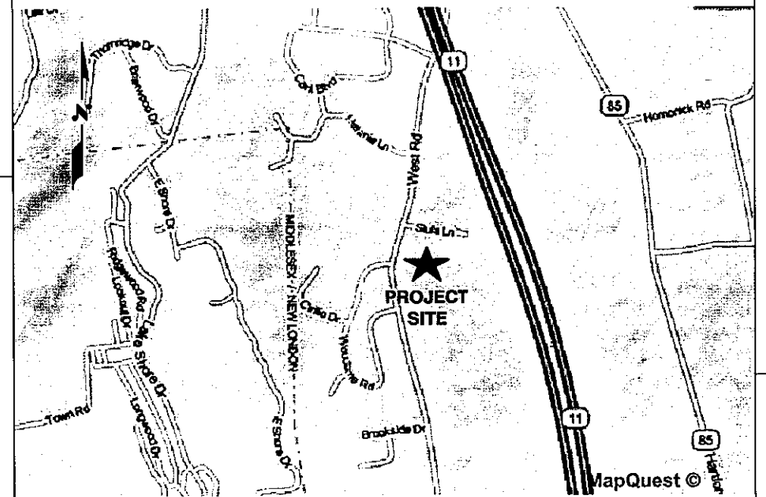
A-2	ANTENNA PLAN & ELEVATION	1
A-3	DETAILS	1
A-4	DETAILS	1
G-1	PLUMBING DIAGRAM & GROUNDING DETAILS	1

VICINITY MAP

DIRECTIONS TO SITE:

START OUT GOING NORTHEAST ON ENTERPRISE DR TOWARD CAPITOL BLVD. TURN LEFT ONTO CAPITOL BLVD. TURN LEFT ONTO WEST ST. MERGE ONTO I-91 N VIA THE RAMP IN THE LEFT TOWARD HARTFORD 4.5 MILES. MERGE ONTO CT-3 N VIA EXIT 25 TOWARD GLASTONBURY. MERGE ONTO CT-2 E TOWARD NORWICH 20.0 MILES. MERGE ONTO CT-11 S VIA EXIT 19 TOWARD NEW LONDON. TAKE THE LAKE HAYWARD RD EXIT, EXIT 6, TOWARD CT-85/CT-354. TURN LEFT ONTO LAKE HAYWARD RD. TURN RIGHT ONTO NEW LONDON RD/CT-85. TURN SLIGHT RIGHT ONTO WEST RD. 285 WEST RD IS ON THE LEFT.



GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL

BEFORE YOU DIG

CALL TOLL FREE 1-800-922-4455 OR DIAL 811

UNDERGROUND SERVICE ALERT

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5730
SITE NAME: COLCHESTER SOUTH
285 WEST ROAD
COLCHESTER, CT 06415
NEW LONDON COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK
1	10/17/12	ISSUED FOR PERMITTING	MJS	DC
0	08/20/12	ISSUED FOR REVIEW	RM	DC

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: RM

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET (LTE)

JOB NUMBER	DRAWING NUMBER	REV
10730.01	T-1	1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTIING HAVING 20 FT. OR MORE 1/2" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – NEXLINK
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH UMTS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
BUILDING CODE: 2003 IBC WITH 2005 CT SUPPLEMENT & 2009 CT AMENDMENTS
ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE	TYP	TYPICAL
EGR	EQUIPMENT GROUND RING	REQD	REQUIRED		

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

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a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5730
SITE NAME: COLCHESTER SOUTH
285 WEST ROAD
COLCHESTER, CT 06415
NEW LONDON COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/17/12	ISSUED FOR PERMITTING	MJS	DC	DPH
0	08/20/12	ISSUED FOR REVIEW	RM	DC	DPH

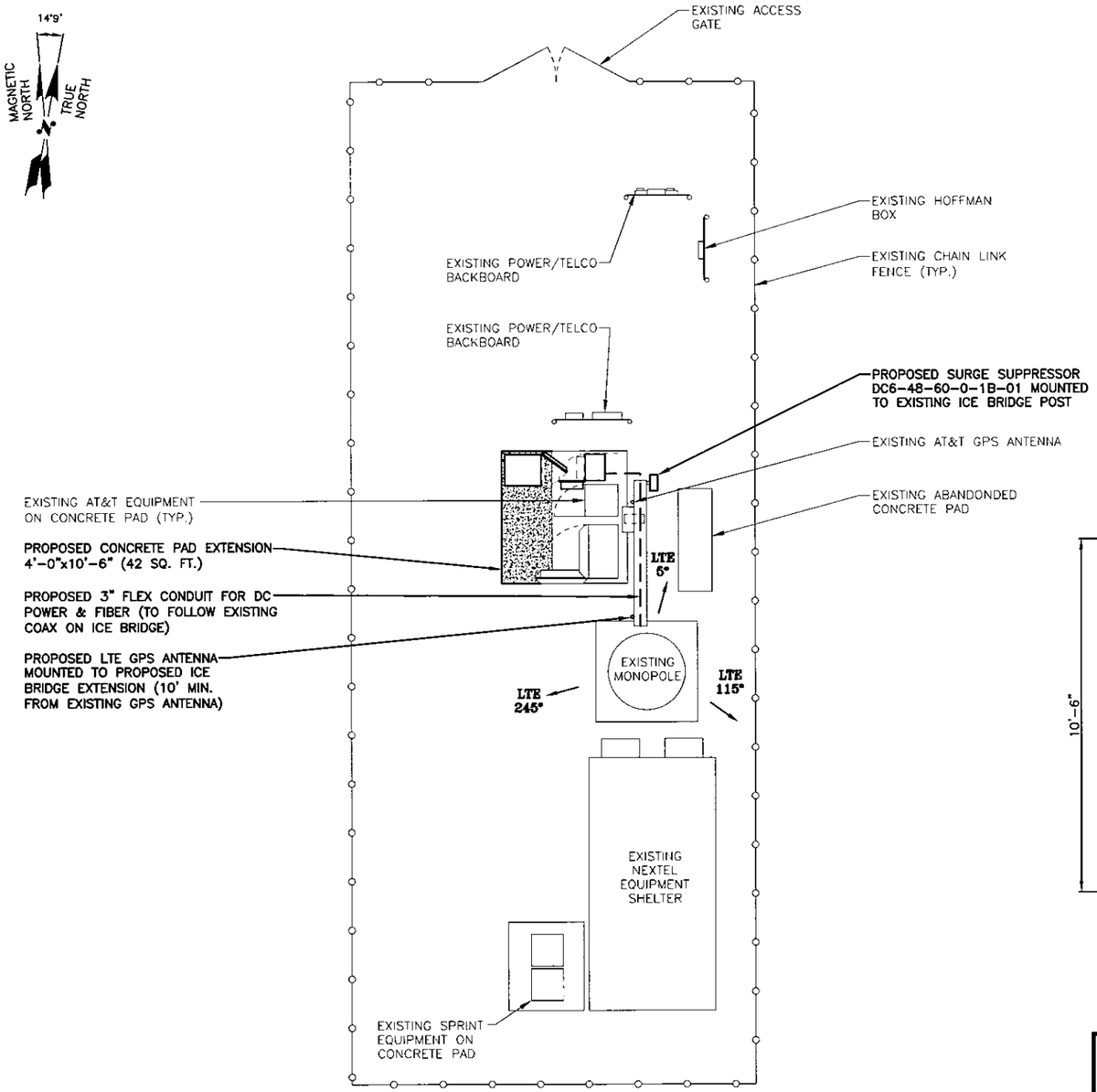
SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: RM

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5730.01	GN-1	1



COMPOUND PLAN

SCALE: 3/16"= 1'-0"

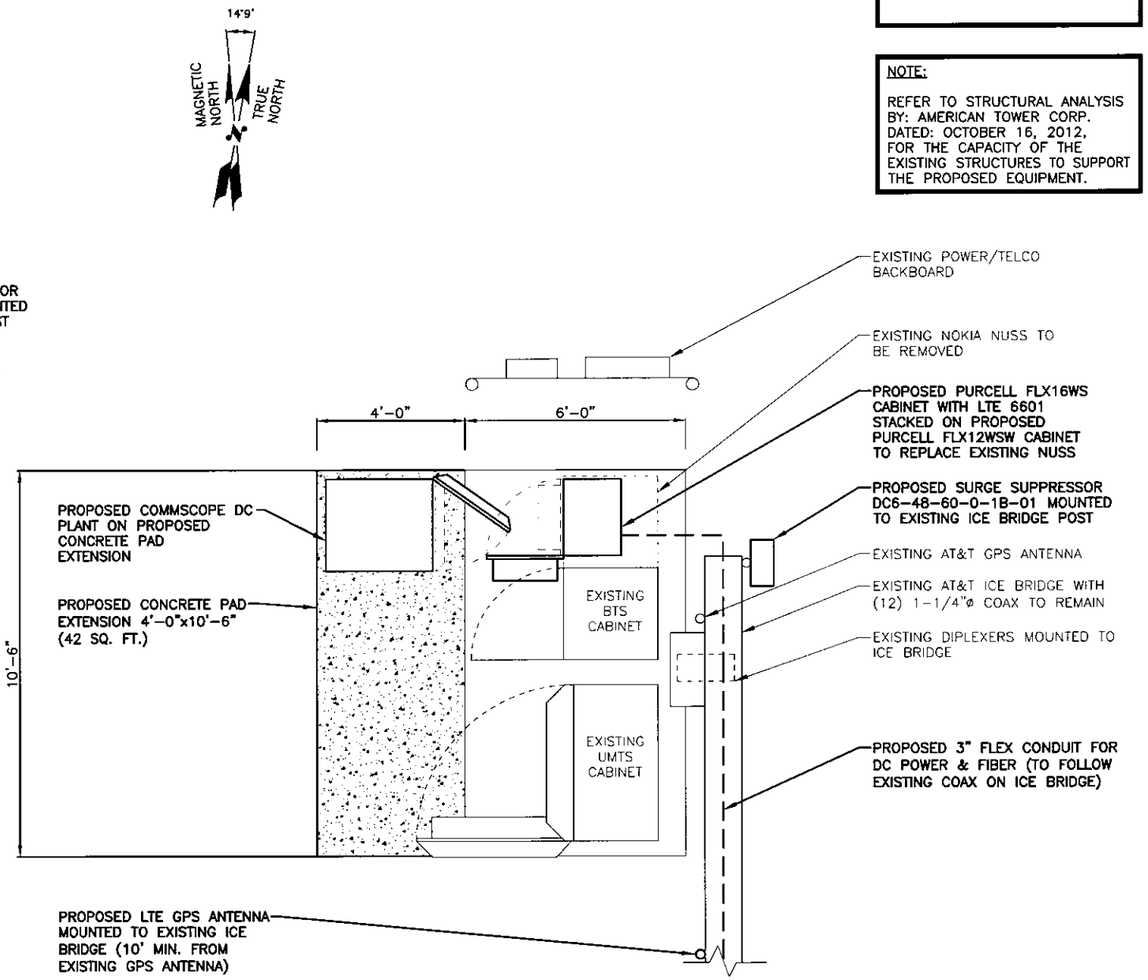
0 2'-8" 5'-4" 10'-8" 16'-0"

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

REFER TO STRUCTURAL ANALYSIS BY: AMERICAN TOWER CORP. DATED: OCTOBER 16, 2012, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.



PROPOSED COMMSCOPE DC PLANT TO BE INSTALLED AND LIVE PRIOR TO NOKIA NUSS REMOVAL AND PURCELL INSTALLATION.

EQUIPMENT PLAN

SCALE: 1/2"= 1'-0"

0 1'-0" 2'-0" 4'-0" 6'-0"

Hudson Design Group LLC
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FAX: (978) 336-5586

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0	08/20/12	ISSUED FOR REVIEW	RM	DCA

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: RM

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

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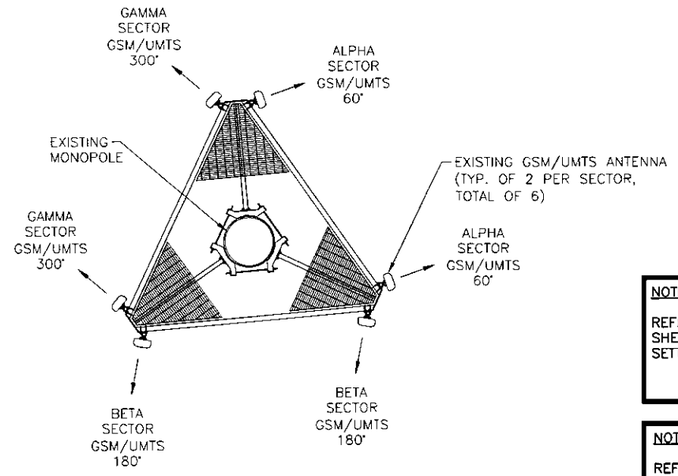
COMPOUND PLAN & EQUIPMENT PLAN (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5730.01	A-1	1



EXISTING GSM/UMTS ANTENNA PLAN

SCALE: N.T.S.

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

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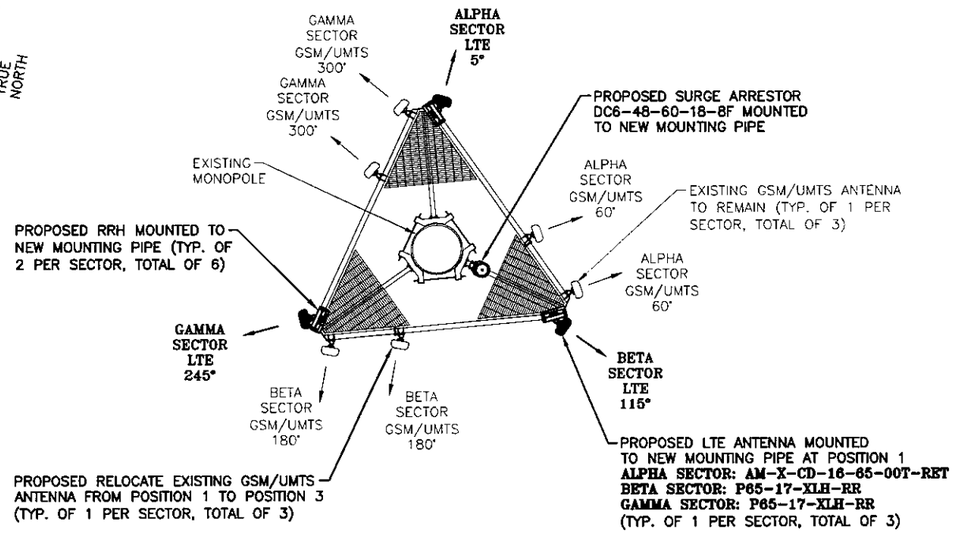
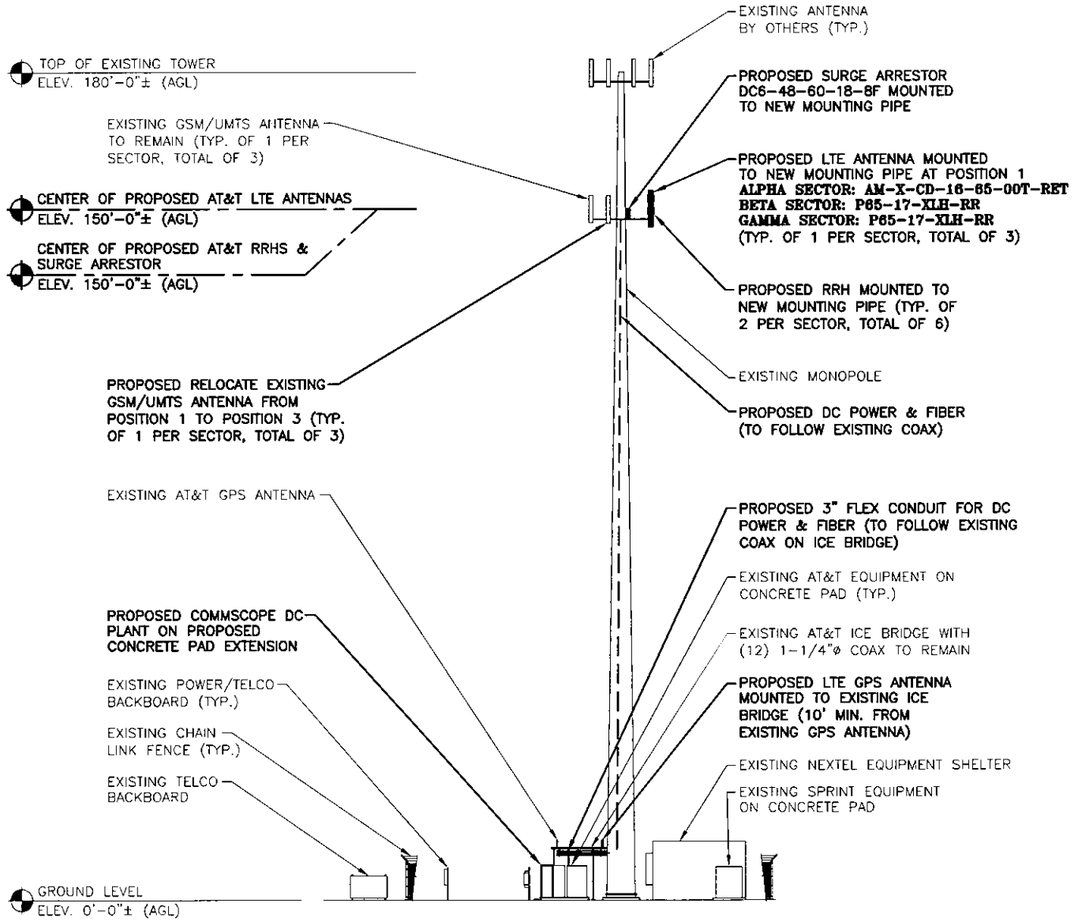


PROPOSED LTE ANTENNA PLAN

SCALE: N.T.S.



WEST ELEVATION

SCALE: 1/16"=1'-0"

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0	08/20/12	ISSUED FOR REVIEW	RM	DC	DPH

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: RM

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 21781
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ANTENNA PLAN & ELEVATION (LTE)

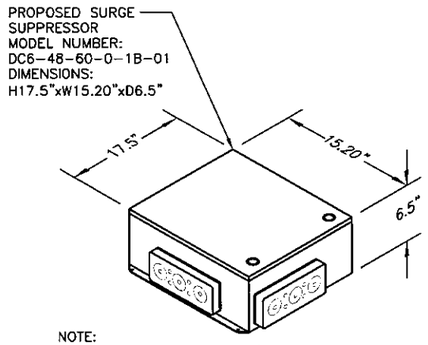
JOB NUMBER	DRAWING NUMBER	REV
15730.01	A-2	1

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

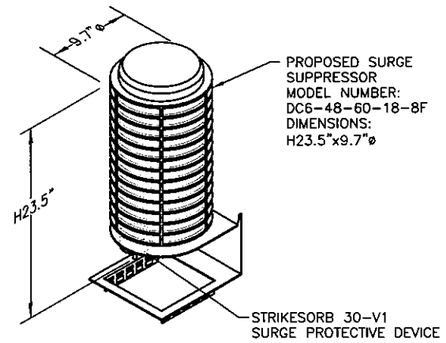
REFER TO STRUCTURAL ANALYSIS BY: AMERICAN TOWER CORP. DATED: OCTOBER 16, 2012, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

SURGE SUPPRESSOR DETAIL

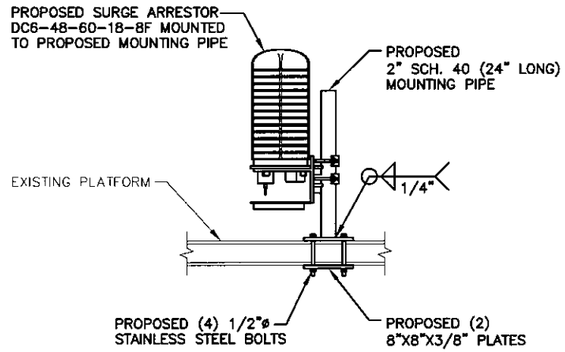
SCALE: N.T.S.



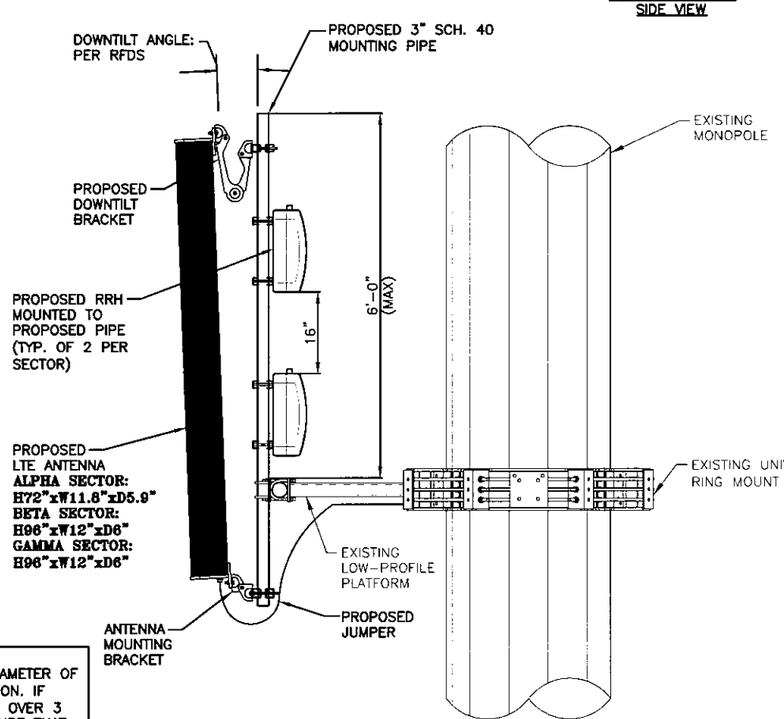
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL

SCALE: N.T.S.



SURGE ARRESTOR
SIDE VIEW



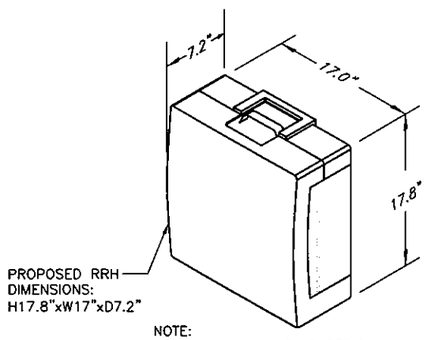
NOTE:
1. MINIMUM MONOPOLE DIAMETER OF 2'-0" AT BANDING LOCATION. IF SMALLER, STACK RRH'S 3 OVER 3
2. CONTRACTOR TO ENSURE THAT RRH MOUNTING DOES NOT INTERFERE WITH CLIMBING LADDER

PART #	VMI PART #	SIZE RANGE
LWRM	801068	12"-45"
RM-ADK	157286	36"-60" ADAPTER KIT

NOTES:
1. REFER TO RFDS & SECTOR SCHEMATICS FOR ANTENNA MODEL, TYPE & QUANTITY REQUIRED PER SECTOR

PROPOSED RRH & SURGE ARRESTOR MOUNTING DETAIL

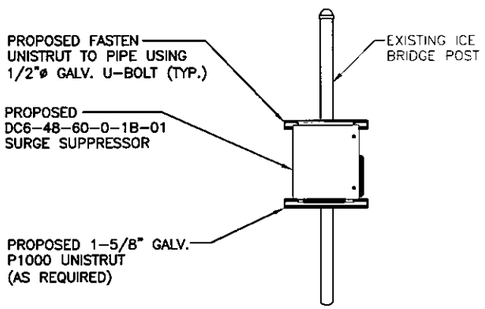
SCALE: N.T.S.



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

RRH DETAIL

SCALE: N.T.S.



NOTE:
MOUNT PROPOSED EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS

PROPOSED SURGE SUPPRESSOR MOUNTING DETAIL

SCALE: N.T.S.

Hudson Design Group LLC
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STATE OF CONNECTICUT
DANIEL P. HANNON
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

DETAILS
(LTE)

JOB NUMBER	DRAWING NUMBER	REV
5730.01	A-3	1

NOTE:

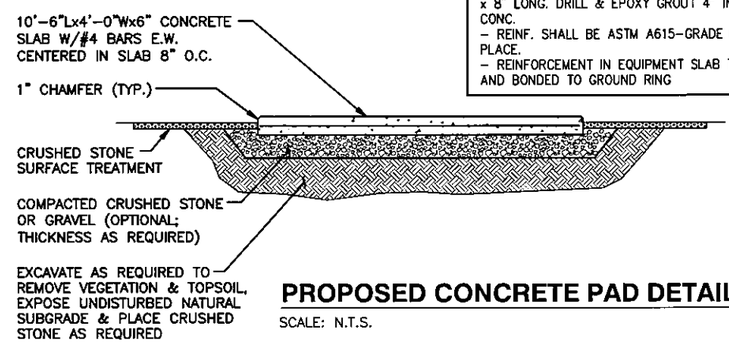
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

REFER TO STRUCTURAL ANALYSIS BY: AMERICAN TOWER CORP. DATED: OCTOBER 16, 2012, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

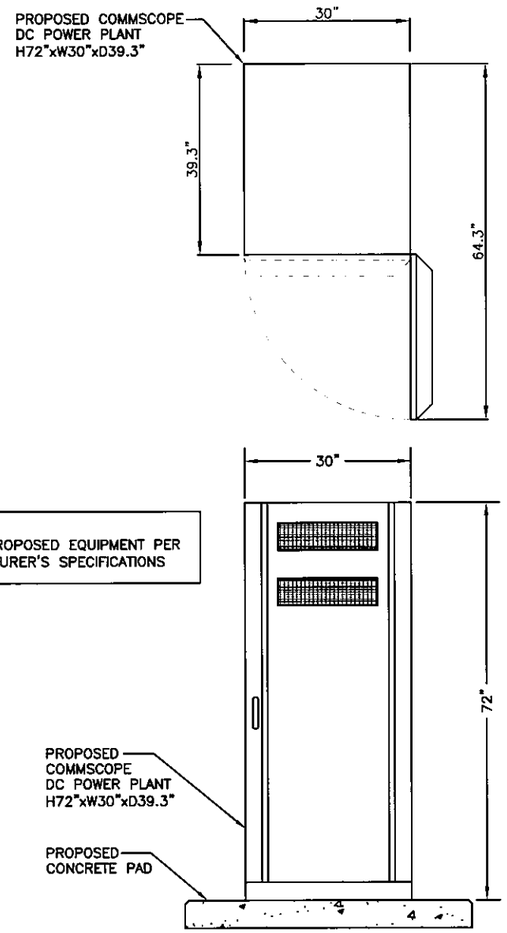
NOTE:
– ATTACH EQUIPMENT TO CONCRETE PER MANUFACTURER'S SPECIFICATIONS.

NEW CONC. PAD NOTES:
– REINF. W/ #4's @ 8" O.C. EA. WAY (MID-DEPTH).
– DOWEL NEW CONC. TO EXIST. W/ #4's @ 8" O.C. x 8" LONG. DRILL & EPOXY GROUT 4" INTO EXIST. CONC.
– REINF. SHALL BE ASTM A615–GRADE 60. SECURE IN PLACE.
– REINFORCEMENT IN EQUIPMENT SLAB TO BE WELDED AND BONDED TO GROUND RING



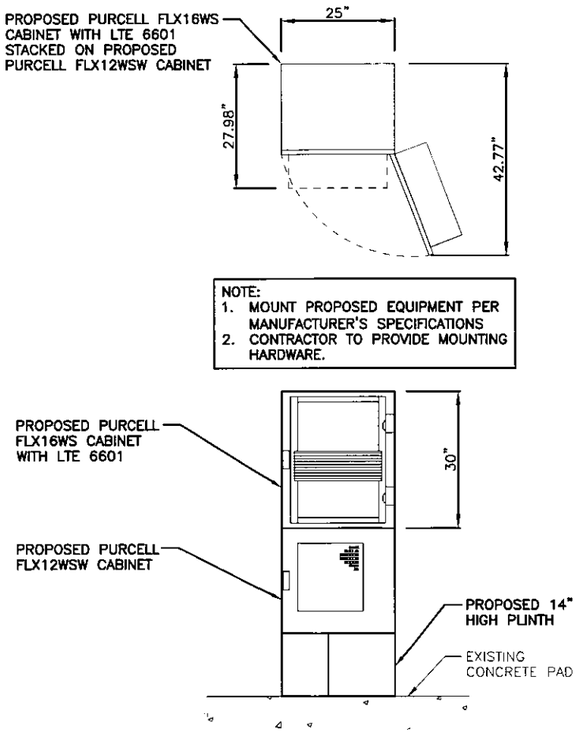
PROPOSED CONCRETE PAD DETAIL

SCALE: N.T.S.



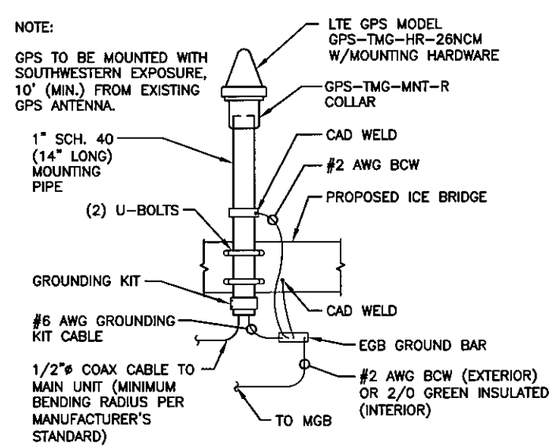
PROPOSED DC POWER PLANT DETAIL

SCALE: N.T.S.



PROPOSED EQUIPMENT MOUNTING DETAIL

SCALE: N.T.S.



GPS MOUNTING DETAIL

SCALE: N.T.S.

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SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: RM

STATE OF CONNECTICUT · DANIEL P. FRAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

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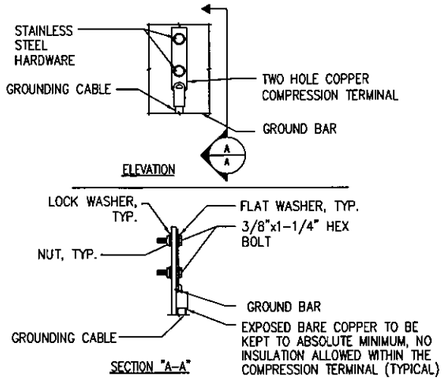
DETAILS (LTE)

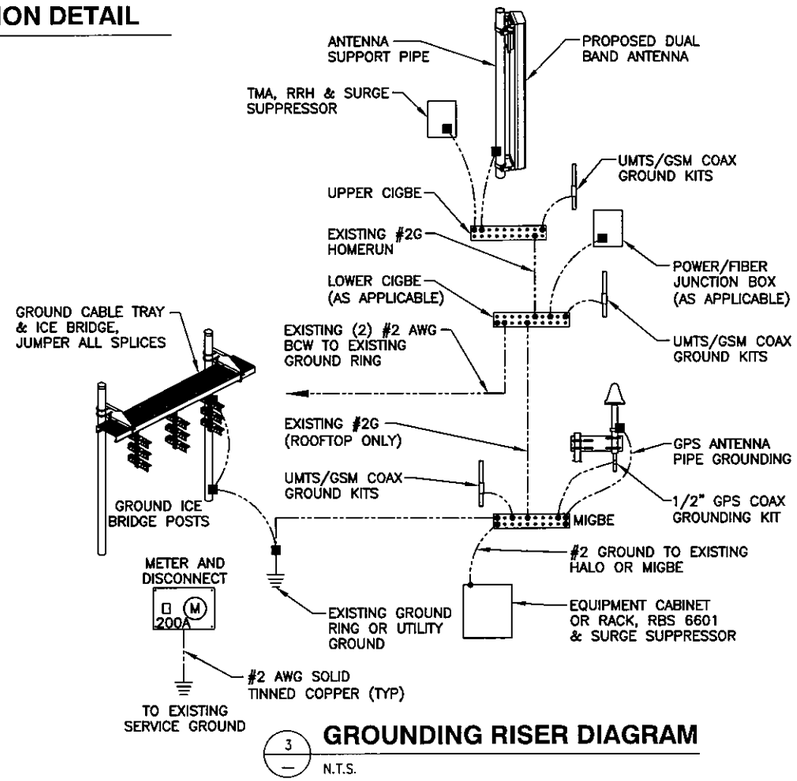
JOB NUMBER	DRAWING NUMBER	REV
5730.01	A–4	1



NOTE:
1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.

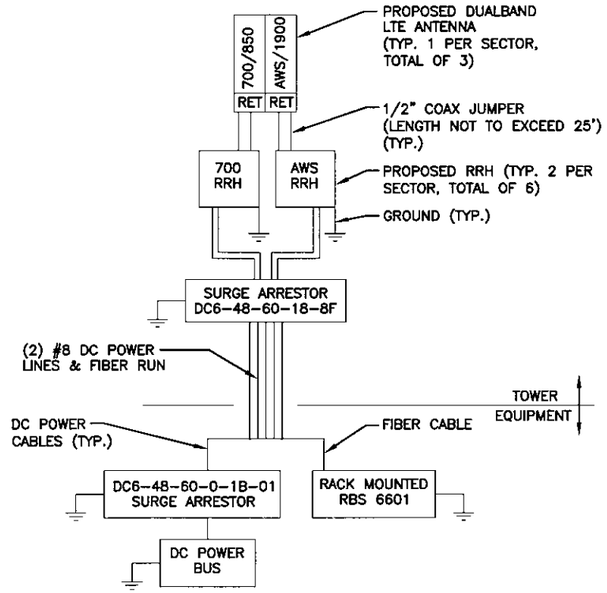
1 TYPICAL GROUND BAR CONNECTION DETAIL

N.T.S.



3 GROUNDING RISER DIAGRAM

N.T.S.



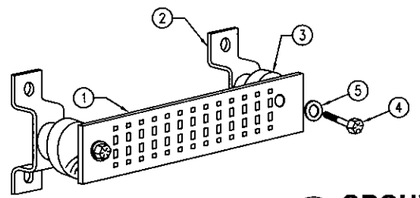
NOTE:

CONTRACTOR TO CONFIRM ALL PARTS & INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS.

2 LTE PLUMBING DIAGRAM

N.T.S.

WIRELESS SOLUTIONS INC.			
NO.	REQ.	PART NO.	DESCRIPTION
1	1	HLGB-0420-IS	SOLID GND. BAR (20"x4"x1/4")
2	2	———	WALL MTG. BRKT.
3	2	———	INSULATORS
4	4	———	5/8"-11x1" H.H.C.S.
5	4	———	5/8 LOCKWASHER



4 GROUND BAR DETAIL

N.T.S.

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
-48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)

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PLUMBING DIAGRAM & GROUNDING DETAILS (LTE)

JOB NUMBER	DRAWING NUMBER	REV.
5730.01	G-1	1