Filed by:
Kri Pelletier, Property Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3804 - kpelletier@sbasite.com

September 13, 2016

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

Notice of Exempt Modification
49 Brainerd Road , Niantic, CT 06357
41 18 27.3 N
-72 13 26.1 W
AT&T #: 10133918 _LTE – CT1269

Dear Ms. Bachman:

AT&T currently maintains twelve (12) antennas at the 168.5-foot level of the existing 170-foot Monopole Tower at 49 Brainerd Rd in Niantic, CT. The tower is owned by SBA Towers V, LLC. The property is owned by Christopher Samuelsen. AT&T does not propose any antenna work at the above referenced-site at this time. The proposed upgrades are limited to RRU removal, as follows:

Remove:

- (3) Ericsson RRUS E2

Existing Equipment to Remain (including entitlements):

- (3) CCI HPA-65R-BUU-H8 Panel Antennas
- (3) CCI HPA-65R-BUU-H6 Panel Antennas
- (3) Commscope SBNHH-1D65A Panel Antennas
- (1) Andrew SBNH-1D6565C Panel Antenna
- (2) KMW AM-X-CD-14-65-00T Panel Antenna
- (6) Ericsson RRUS 12
- (6) Ericsson RRU A2 Modules
- (3) Ericsson RRUS 32
- (3) Ericsson RRUS E2
- (6) Ericsson RRUS 11
- (3) Raycap DC Surge Suppression Systems
- (3) CCI DTMABP7819VG12A TMAs(
- (6) 1-5/8" coax
- (1) 1.496" fiber
- (6) .645" DC lines

This facility was approved by the Council in docket # 396 on March 3, 2011. The approval was made for a 170' Monopole with space to be provided to Town of East Lyme Emergency Communication Services at no cost. All commercial antennas were to be attached via T-arms. A D&M Plan was to be prepared. Recalculated RF reports would be required when there was a change in power density (attached herewith) and any future non-functioning equipment was to be removed. This modification complies with the aforementioned conditions.

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

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

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

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

Sincerely,

Kri Pelletier
Property Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581

508.251.0720 x3804 + T
508.366.2610 + F
203.446.7700 + C
kpelletier@sbasite.com

Attachments
cc: First Selectman Mark C. Nickerson –as elected official
Town of East Lyme, 108 Pennsylvania Ave., Niantic, CT 06357
Christopher Samuelsen – as property owner
49 Brainerd Road, Niantic, CT 06357

POWER DENSITY

AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	KMW AM-X-CD-14-65-00T-RET	Make / Model:	KMW AM-X-CD-16-65-00T-RET	Make / Model:	Commscope SBNH-1D6565C
Gain:	12.65 / 14.15 dBd	Gain:	13.85 / 15.25 dBd	Gain:	14.45 / 15.85 dBd
Height (AGL):	168.5 feet	Height (AGL):	168.5 feet	Height (AGL):	168.5 feet
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	2,664.56	ERP (W):	3,465.76	ERP (W):	3,979.22
Antenna A1 MPE%	0.48 %	Antenna B1 MPE%	0.62 %	Antenna C1 MPE%	0.72 %
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Commscope SBNHH-1D65A	Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	CCI HPA-65R-BUU-H8
Gain:	10.65 / 15.85 dBd	Gain:	14.05 / 15.55 dBd	Gain:	14.05 / 15.55 dBd
Height (AGL):	168.5 feet	Height (AGL):	168.5 feet	Height (AGL):	168.5 feet
Frequency Bands	850 MHz / 2300 MHz (WCS)	Frequency Bands	850 MHz / 2300 MHz (WCS)	Frequency Bands	850 MHz / 2300 MHz (WCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	6,008.84	ERP (W):	6,228.51	ERP (W):	7,356.23
Antenna A2 MPE%	0.96 %	Antenna B2 MPE%	1.08 %	Antenna C2 MPE%	1.32 %
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Commscope SBNHH-1D65A	Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	CCI HPA-65R-BUU-H8
Gain:	14.65 dBd	Gain:	15.05 dBd	Gain:	15.25 dBd
Height (AGL):	168.5 feet	Height (AGL):	168.5 feet	Height (AGL):	168.5 feet
Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	3,500.91	ERP (W):	3,838.67	ERP (W):	4,019.59
Antenna A3 MPE%	0.48 %	Antenna B3 MPE%	0.52 %	Antenna C3 MPE%	0.55 %
Antenna #:	4	Antenna #:	4	Antenna #:	4
Make / Model:	Commscope SBNHH-1D65A	Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	CCI HPA-65R-BUU-H8
Gain:	10.85 / 14.55 dBd	Gain:	11.95 / 14.75 dBd	Gain:	13.15 / 14.95 dBd
Height (AGL):	168.5 feet	Height (AGL):	168.5 feet	Height (AGL):	168.5 feet
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	4,880.65	ERP (W):	5,462.56	ERP (W):	6,229.75
Antenna A3 MPE%	0.89 %	Antenna B3 MPE%	1.04 %	Antenna C3 MPE%	1.23 %

Site Composite MPE%	
Carrier	MPE%
AT&T – Max per sector	3.81 %
Verizon Wireless	3.71 %
T-Mobile	0.01 %
Site Total MPE %:	7.53 %

AT&T Sector A Total:	2.81 %
AT&T Sector B Total:	3.26 %
AT&T Sector C Total:	3.81 %
Site Total:	7.53 %

49 BRAINERD RD

Location	49 BRAINERD RD	**Mblu**	07.4/ 21/ / /
Acct#	005680	**Owner**	SAMUELSEN CHRISTOPHER
Assessment	$356,230	**Appraisal**	$667,800
PID	5939	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$231,900	$435,900	$667,800
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$162,330	$193,900	$356,230

Owner of Record

Owner	SAMUELSEN CHRISTOPHER	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	49 BRAINERD RD NIANTIC, CT 06357	**Book & Page**	831/ 222
		Sale Date	07/10/2009
		Instrument	04

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
SAMUELSEN CHRISTOPHER &			788/ 266	04	10/24/2007
SAMUELSEN CHRISTOPHER	$560,000		748/ 207	07	07/13/2006
BOUTIN WYNN R			737/ 532	01	04/03/2006
BOUTIN ZACHARY H OR WYNN R			542/ 147	08	10/01/2001

Building Information

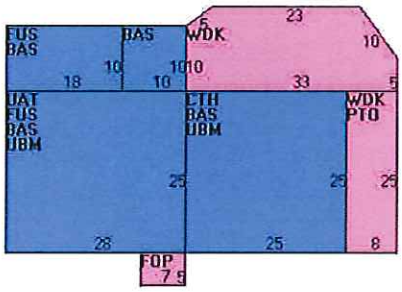
Building 1 : Section 1

Year Built:	1890
Living Area:	2485
Replacement Cost:	$290,654
Building Percent Good:	67
Replacement Cost Less Depreciation:	$194,700

Building Attributes

Building Layout

Field	Description
Style	Conventional
Model	Residential
Grade:	Good
Stories:	2 Stories
Occupancy	1
Exterior Wall 1	Wood Shingle
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Ceram Clay Til
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	Central
Total Bedrooms:	4 Bedrooms
Total Bthrms:	2
Total Half Baths:	1
Total Xtra Fixtrs:	
Total Rooms:	8 Rooms
Bath Style:	Modern
Kitchen Style:	Modern



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	1605	1605
FUS	Upper Story, Finished	880	880
CTH	Cathedral Ceiling	625	0
FOP	Porch, Open, Finished	35	0
PTO	Patio	200	0
UAT	Attic, Unfinished	700	0
UBM	Basement, Unfinished	1325	0
WDK	Deck, Wood	599	0
		5969	2485

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	1010
Description	Single Fam MDL-01
Zone	R40
Neighborhood	0060
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	51.31
Frontage	0
Depth	0
Assessed Value	$193,900
Appraised Value	$435,900

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
BRN4	1 STY LFT&BSMT			378 S.F.	$3,400	1

SHP1	WORK SHOP AVE			841 S.F.	$16,800	1
FGR2	GARAGE-GOOD			841 S.F.	$16,800	1
SHD1	SHED FRAME			45 S.F.	$200	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2014	$231,900	$435,900	$667,800
2013	$231,900	$435,900	$667,800
2012	$231,900	$435,900	$667,800

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2014	$162,330	$193,900	$356,230
2013	$162,330	$193,900	$356,230
2012	$162,330	$193,900	$356,230

EBI Consulting
environmental | engineering | due diligence

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

AT&T Existing Facility

Site ID: CT1269

Niantic Old Black Point Road
49 Brainerd Road
Niantic, CT 06357

August 25, 2016

EBI Project Number: 6216003759

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	7.53 %

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

EBI Consulting
environmental | engineering | due diligence

August 25, 2016

AT&T Mobility – New England
Attn: Cameron Syme, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT1269 – Niantic Old Black Point Road**

EBI Consulting was directed to analyze the proposed AT&T facility located at **49 Brainerd Road, Niantic, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately 467 $\mu W/cm^2$ and 567 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed AT&T Wireless antenna facility located at **49 Brainerd Road, Niantic, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

1) 2 UMTS channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

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

3) 2 LTE channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

4) 2 LTE channels (2300 MHz (WCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

5) 2 LTE channels (2100 MHz (AWS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

6) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

7) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

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

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

10) The antennas used in this modeling are the **KMW AM-X-CD-14-65-00T-RET, KMW AM-X-CD-16-65-00T-RET, Commscope SBNHH-1D65A, Commscope SBNH-1D6565C, CCI HPA-65R-BUU-H6 and the CCI HPA-65R-BUU-H8** for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

11) The antenna mounting height centerlines of the proposed antennas are **168.5 feet** above ground level (AGL) for **Sector A**, **168.5 feet** above ground level (AGL) for **Sector B** and **168.5 feet** above ground level (AGL) for Sector C.

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

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

AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	KMW AM-X-CD-14-65-00T-RET	Make / Model:	KMW AM-X-CD-16-65-00T-RET	Make / Model:	Commscope SBNH-1D6565C
Gain:	12.65 / 14.15 dBd	Gain:	13.85 / 15.25 dBd	Gain:	14.45 / 15.85 dBd
Height (AGL):	**168.5 feet**	Height (AGL):	**168.5 feet**	Height (AGL):	**168.5 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	2,664.56	ERP (W):	3,465.76	ERP (W):	3,979.22
Antenna A1 MPE%	**0.48 %**	Antenna B1 MPE%	**0.62 %**	Antenna C1 MPE%	**0.72 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Commscope SBNHH-1D65A	Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	CCI HPA-65R-BUU-H8
Gain:	10.65 / 15.85 dBd	Gain:	14.05 / 15.55 dBd	Gain:	14.05 / 15.55 dBd
Height (AGL):	**168.5 feet**	Height (AGL):	**168.5 feet**	Height (AGL):	**168.5 feet**
Frequency Bands	850 MHz / 2300 MHz (WCS)	Frequency Bands	850 MHz / 2300 MHz (WCS)	Frequency Bands	850 MHz / 2300 MHz (WCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	6,008.84	ERP (W):	6,228.51	ERP (W):	7,356.23
Antenna A2 MPE%	**0.96 %**	Antenna B2 MPE%	**1.08 %**	Antenna C2 MPE%	**1.32 %**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Commscope SBNHH-1D65A	Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	CCI HPA-65R-BUU-H8
Gain:	14.65 dBd	Gain:	15.05 dBd	Gain:	15.25 dBd
Height (AGL):	**168.5 feet**	Height (AGL):	**168.5 feet**	Height (AGL):	**168.5 feet**
Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	3,500.91	ERP (W):	3,838.67	ERP (W):	4,019.59
Antenna A3 MPE%	**0.48 %**	Antenna B3 MPE%	**0.52 %**	Antenna C3 MPE%	**0.55 %**
Antenna #:	**4**	Antenna #:	**4**	Antenna #:	**4**
Make / Model:	Commscope SBNHH-1D65A	Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	CCI HPA-65R-BUU-H8
Gain:	10.85 / 14.55 dBd	Gain:	11.95 / 14.75 dBd	Gain:	13.15 / 14.95 dBd
Height (AGL):	**168.5 feet**	Height (AGL):	**168.5 feet**	Height (AGL):	**168.5 feet**
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	4,880.65	ERP (W):	5,462.56	ERP (W):	6,229.75
Antenna A3 MPE%	**0.89 %**	Antenna B3 MPE%	**1.04 %**	Antenna C3 MPE%	**1.23 %**

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max per sector	**3.81 %**
Verizon Wireless	3.71 %
T-Mobile	0.01 %
Site Total MPE %:	**7.53 %**

AT&T Sector A Total:	2.81 %
AT&T Sector B Total:	3.26 %
AT&T Sector C Total:	3.81 %
Site Total:	7.53 %

Highest Calculated Sector Values:

AT&T _ Max Values Per Sector (Sector C)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	835.84	168.5	2.28	850 MHz	567	0.40%
AT&T 1900 MHz (PCS) UMTS	2	1,153.78	168.5	3.14	1900 MHz (PCS)	1000	0.31%
AT&T 850 MHz LTE	2	1,524.58	168.5	4.15	850 MHz	567	0.73%
AT&T 2300 MHz (WCS) LTE	2	2,153.53	168.5	5.86	2300 MHz (WCS)	1000	0.59%
AT&T 2100 MHz (AWS) LTE	2	2,009.79	168.5	5.47	2100 MHz (AWS)	1000	0.55%
AT&T 700 MHz LTE	2	1,239.23	168.5	3.37	700 MHz	467	0.72%
AT&T 1900 MHz (PCS) LTE	2	1,875.65	168.5	5.11	1900 MHz (PCS)	1000	0.51%
						Total:	3.81%

Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	2.81 %
Sector B:	3.26 %
Sector C:	3.81 %
AT&T Maximum Total (per sector):	3.81 %
Site Total:	7.53 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **7.53 %** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

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

Structural Analysis Report

Existing 169 ft SABRE Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT11794-S

Customer Site Name: East Lyme 1

Carrier Name: AT&T

Carrier Site ID / Name: 10133918 - CT1269

Site Location: 49 Brainerd Road

Niantic, Connecticut

New Haven County

Latitude: 41.307583

Longitude: -72.223916

Analysis Result:

Max Structural Usage: 69.9% [Pass]

Max Foundation Usage: 47.0% [Pass]

Report Prepared by: Tawfeeq Alajaj

9/9/16

Introduction

The purpose of this report is to summarize the analysis results on the 169 ft SABRE Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Sabre Towers & Poles, Job# 42498. Dated 04/06/2011
Foundation Drawing	Sabre Towers & Poles, Job# 42498. Dated 04/06/2011
Geotechnical Report	Tower Engineering Professionals, Project #: 103196.01. Dated 03/18/2011.
Modification Drawings	N/A

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} =125 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 97.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	D
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.161, S_1 = 0.058

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
-	170.0	3	CCI - HPA-65R-BBU-H8 - Panel	(3) Reinforced T-Arms	(6) 1-5/8" (1) 1.496" Fiber (6) 0.645" DC	AT&T
-		3	CCI - HPA-65R-BUU-H6 - Panel			
-		3	Commscope SBNHH-1D65A - Panel			
-		6	Ericsson RRUS 12 RRUs			
-		6	Ericsson RRUS A2 Module			
-		3	Ericsson RRUS-32 RRUs			
-		6	Ericsson RRUS-E2 RRUs			
-		3	Raycap DC6-48-60-18-8F Surge			
-		1	Andrew SBNH-1D6565C - Panel			
-		3	CCI DTMABP7818VG12A TMAs			
-		2	KMW AM-X-CD-14-65-007 - Panel			
-		6	Ericsson RRUS 11 RRUs			
14	160.0	3	Ericsson - Air21 B2A/B4P - Panel	(3) T-Arms	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
15		3	Ericsson - Air21 B4A/B2P - Panel			
16		3	Commscope - LNX-6515DS-A1M - Panel			
17		3	Ericsson KRY 112-114/1 TMAs			
18		3	Ericsson S11B12			
19	147.0	2	Antel LPA-80080/4CF Panel	Low Profile Platform	(10) 1 5/8" (2) 1 5/8" Fiber	Verizon
20		6	Commscope SBNHH-1D65B - Panel			
21		4	Swedcom SC-E 6014 rev2 - Panel			
22		3	ALU RRH2X60-700 RRH			
23		3	ALU RRH2X60-AWS RRH			
24		3	ALU RRH2X60-PCS RRH			
25		6	RFS FD9R6004/2C-3L Diplexers			
26		2	RFS DB-T1-6Z-8AB-0Z			

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	170.0	1	KMW - AM-X-CD-14-65-00T-RET - Panel	(3) Reinforced T-Arms	(6) 1-5/8" (1) 1.50" Fiber (6) 0.64" DC Power	AT&T
2		1	KMW - AM-X-CD-16-65-00T-RET - Panel			
3		1	Andrew - SBNH-1D6565C - Panel			
4		3	CCI DTMABP7819VG12A TMAs			
5		6	Ericsson RRUS 11 RRUs			
6		6	Ericsson RRUS 12 RRUs			
7		3	CCI - HPA-65R-BBU-H8 - Panel			
8		3	Andrew - SBNHH-1D65A - Panel			
9		3	CCI - HPA-65R-BUU-H6 - Panel			
10		3	Ericsson RRUS-32 RRUs			
11		3	Ericsson RRUS-E2 RRUs			
12		6	Ericsson RRUS A2 Module			
13		3	Raycap DC6-48-60-18-8F DC Surge Suppression System			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	**69.9%**	**68.1%**	**51.5%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	6776.7	55.5
Analysis Reactions	4711.3	38.0
Factored Reactions*	9148.5	75.0
% of Design Reactions	51.5%	50.7%

* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 2.1121 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

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

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

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

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

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

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

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

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

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

Usage Diagram - Max Ratio 69.87% at 0.0ft

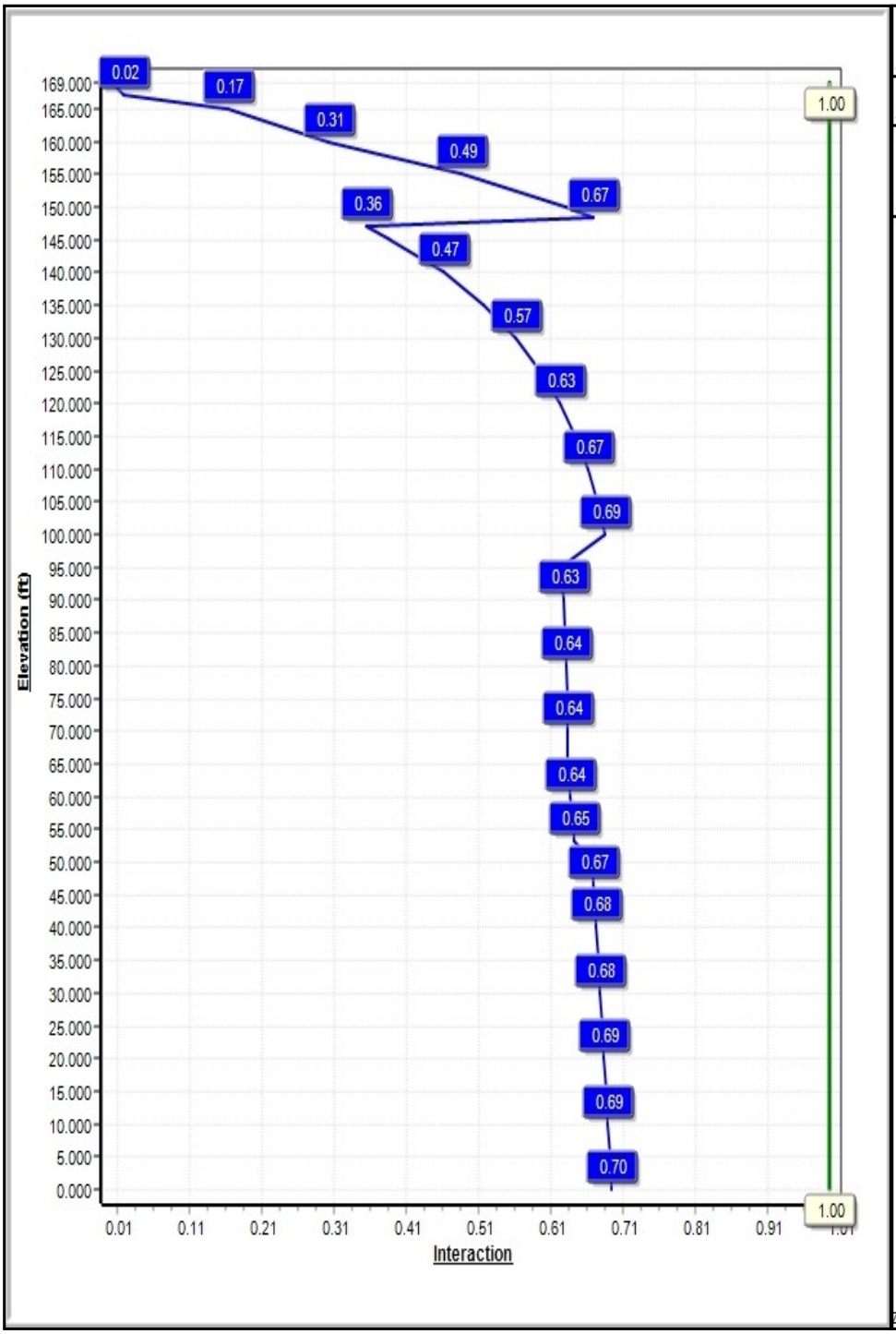
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016
Site Name:	East Lyme 1	**Exposure:**	D	
Height:	169.00 (ft)	**Gh:**	1.1	Page: 1
Base Elev:	0.000 (ft)			

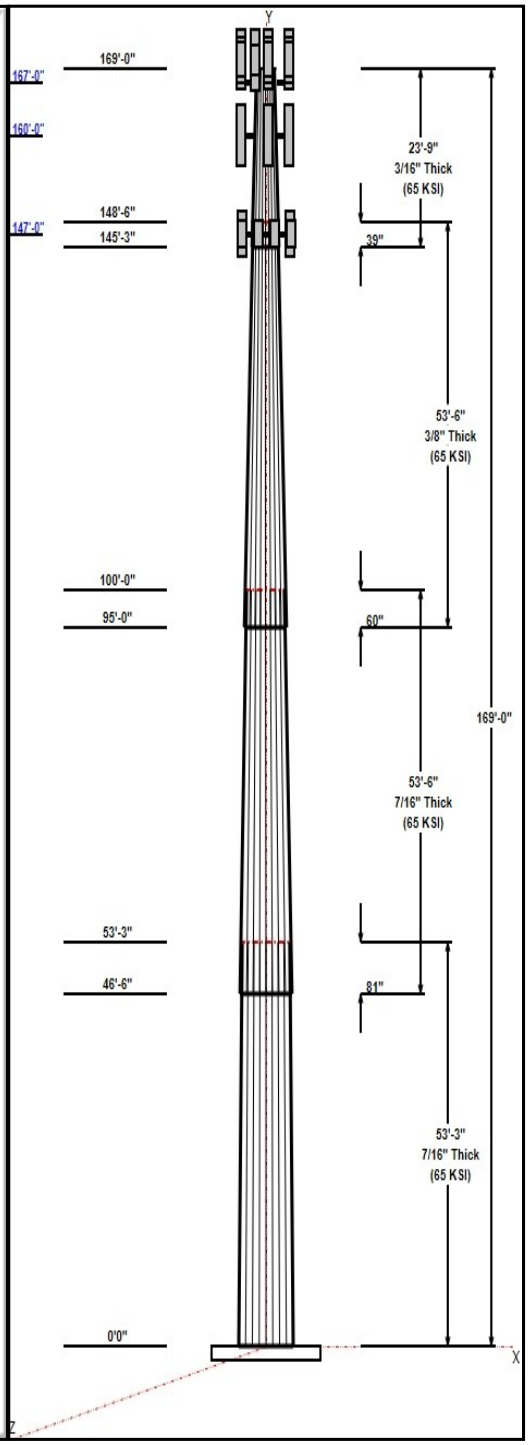
Tower Engineering Solutions

Dead Load Factor:	1.20
Wind Load Factor:	1.60

Load Case : 1.2D + 1.6W 97 mph Wind

Iterations: 25





Structure: CT11794-S-SBA

Type: Tapered
Site Name: East Lyme 1
Height: 169.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.27302

9/9/2016

Tower Engineering Solutions

Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	45.60	60.14	0.438		0.27302	65
2	53.50	33.71	48.32	0.438	Slip	0.27302	65
3	53.50	21.22	35.83	0.375	Slip	0.27302	65
4	23.75	16.00	22.48	0.188	Slip	0.27302	65

Discrete Appurtenances

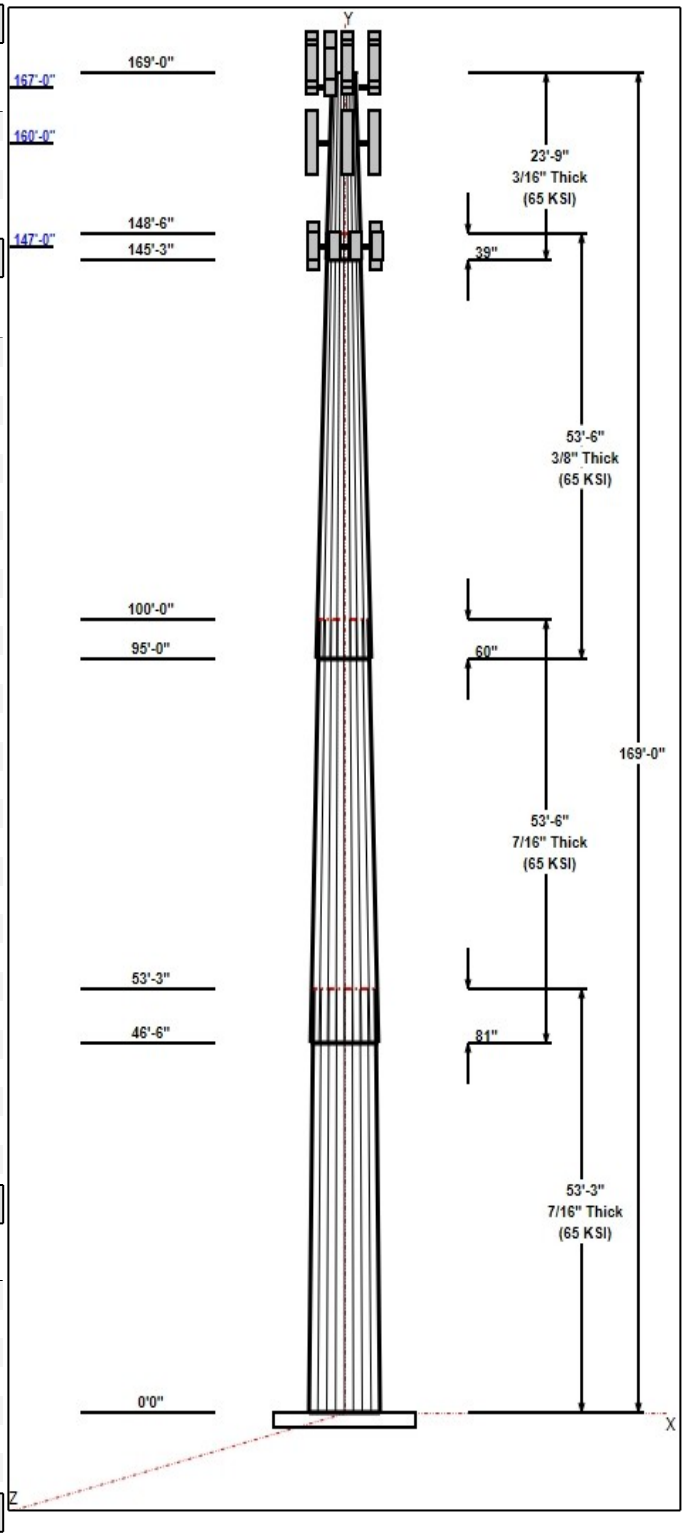
Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
169.00	170.00	1	KMW	AT&T
169.00	170.00	1	Andrew SBNH-1D6565C	AT&T
169.00	170.00	3	CCI DTMABP7819VG12A	AT&T
169.00	170.00	6	Ericsson RRUS 11 RRUs	AT&T
169.00	170.00	1	AM-X-CD-16-65-00T-RET	AT&T
167.00	170.00	3	HPA-65R-BBU-H8	AT&T
167.00	170.00	3	HPA-65R-BUU-H6	AT&T
167.00	170.00	3	SBNHH-1D65A	AT&T
167.00	170.00	6	Ericsson RRUS 12 RRUs	AT&T
167.00	170.00	3	Ericsson RRUS-32 RRUs	AT&T
167.00	170.00	3	Ericsson RRUS-E2 RRUs	AT&T
167.00	170.00	6	Ericsson RRUS A2 Module	AT&T
167.00	170.00	3	Raycap DC6-48-60-18-8F	AT&T
167.00	167.00	3	T-Arm	AT&T
160.00	160.00	3	Ericsson KRY 112-114/1	T-Mobile
160.00	160.00	3	T-Arm	T-Mobile
160.00	160.00	3	Air21 B2A/B4P	T-Mobile
160.00	160.00	3	Air21 B4A/B2P	T-Mobile
160.00	160.00	3	LNX-6515DS-A1M	T-Mobile
160.00	160.00	3	S11B12	T-Mobile
147.00	147.00	4	Swedcom SC-E 6014 rev2	Verizon
147.00	147.00	2	Antel LPA-80080/4CF ___	Verizon
147.00	147.00	6	Commscope	Verizon
147.00	147.00	3	ALU RRH2X60-AWS RRH	Verizon
147.00	147.00	3	ALU RRH2X60-PCS RRH	Verizon
147.00	147.00	3	ALU RRH2X60-700 RRH	Verizon
147.00	147.00	6	FD9R6004/2C-3L	Verizon
147.00	147.00	2	RFS DB-T1-6Z-8AB-0Z	Verizon
147.00	147.00	1	Low Profile Platform	Verizon

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	170.00	Inside	0.64" DC Power	AT&T
0.00	170.00	Inside	1 5/8" Coax	AT&T
0.00	170.00	Inside	1.5" Fiber	AT&T
0.00	160.00	Inside	1 5/8" Coax	T-Mobile
0.00	160.00	Inside	1 5/8" Fiber	T-Mobile
0.00	147.00	Inside	1 5/8" Coax	Verizon
0.00	147.00	Inside	1 5/8" Fiber	Verizon

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
20	2.25" 18J	75.0	Radial



Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	72.8	50.0	Round

Reactions

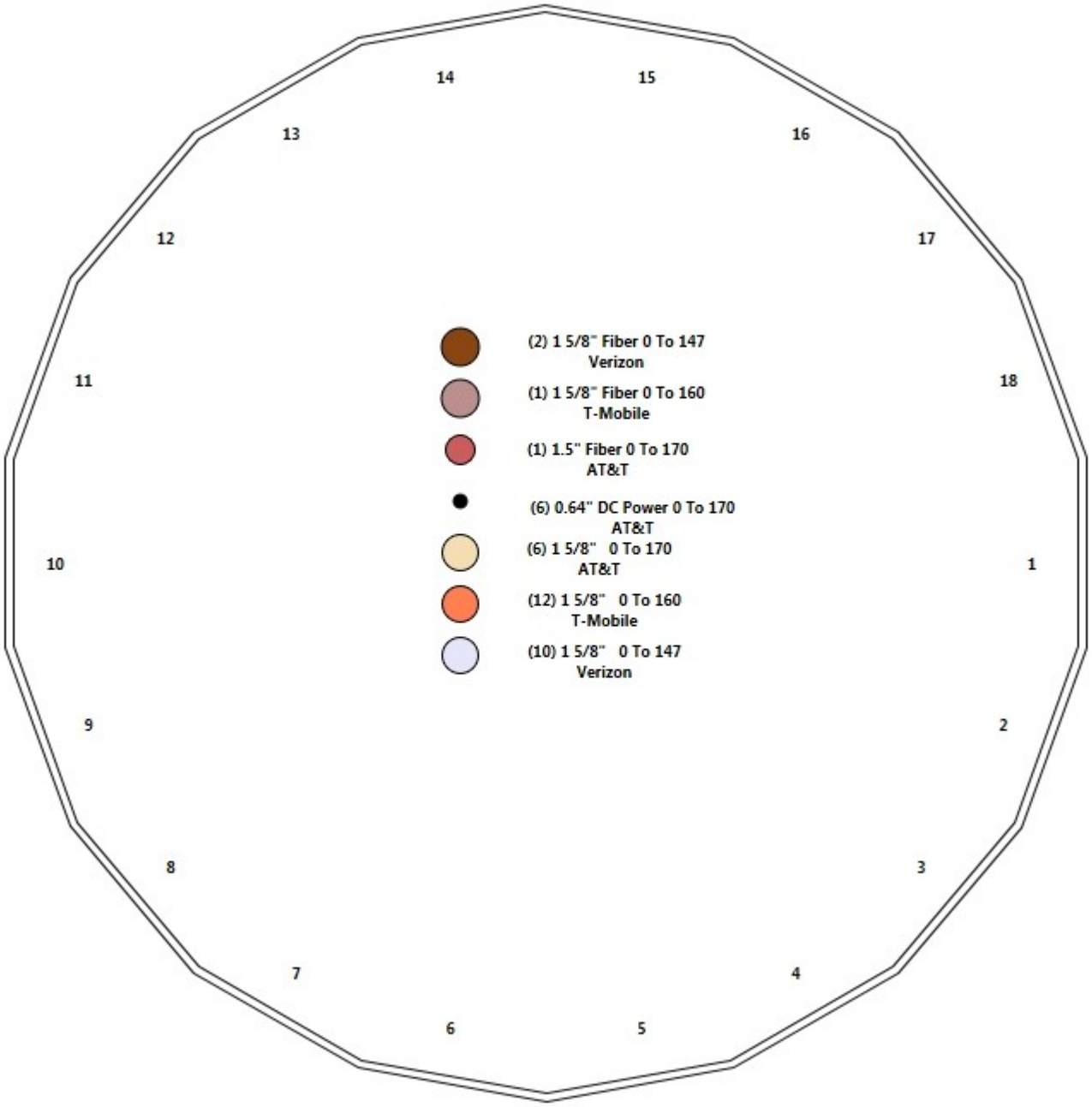
Load Case	Moment	Shear	Axial
1.2D + 1.6W 97 mph Wind	4711.3	38.0	52.2
0.9D + 1.6W 97 mph Wind	4659.4	38.0	39.1
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1273.7	10.6	76.3
1.2D + 1.0E	239.1	1.8	52.3
0.9D + 1.0E	236.2	1.8	39.2
1.0D + 1.0W 60 mph Wind	1121.0	9.1	43.5

Structure: CT11794-S-SBA - Coax Line Placement

Type: Monopole
Site Name: East Lyme 1
Height: 169.00 (ft)

9/9/2016

Tower Engineering Solutions



Shaft Properties

Structure:	CT11794-S-SBA		**Code:**	EIA/TIA-222-G	9/9/2016
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

Tower Engineering Solutions

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.250	0.4375	65		0.00	13,193
2	18	53.500	0.4375	65	Slip	81.00	10,258
3	18	53.500	0.3750	65	Slip	60.00	6,099
4	18	23.750	0.1875	65	Slip	39.00	916
					Total Shaft Weight:		**30,466**

	Bottom						Top						
Sec. No.	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Taper**
1	60.14	0.00	82.90	37333.61	22.83	137.46	45.60	53.25	62.71	16162.5	16.97	104.2	0.273018
2	48.32	46.50	66.49	19259.46	18.06	110.44	33.71	100.00	46.21	6464.05	12.18	77.06	0.273018
3	35.83	95.00	42.20	6701.10	15.44	95.54	21.22	148.50	24.81	1362.38	8.57	56.59	0.273018
4	22.48	145.2	13.27	833.42	19.73	119.92	16.00	169.00	9.41	297.27	13.64	85.33	0.273018

Load Summary

Structure:	CT11794-S-SBA		**Code:**	EIA/TIA-222-G	9/9/2016
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 6

Tower Engineering Solutions

Discrete Appurtenances

				No Ice			Ice				
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	169.00	KMW AM-X-CD-14-65-00T-RET	1	36.40	5.00	0.75	149.26	6.897	0.75	0.00	1.00
2	169.00	Andrew SBNH-1D6565C	1	66.10	11.47	0.80	298.75	14.760	0.80	0.00	1.00
3	169.00	CCI DTMABP7819VG12A TMAs	3	19.20	1.14	0.67	45.03	1.919	0.67	0.00	1.00
4	169.00	Ericsson RRUS 11 RRUs	6	50.70	2.52	0.67	141.21	3.180	0.67	0.00	1.00
5	169.00	AM-X-CD-16-65-00T-RET	1	48.50	8.02	0.75	212.72	10.847	0.75	0.00	1.00
6	167.00	HPA-65R-BBU-H8	3	68.00	12.98	0.79	362.71	14.614	0.79	0.00	3.00
7	167.00	HPA-65R-BUU-H6	3	51.00	9.66	0.85	302.23	11.042	0.85	0.00	3.00
8	167.00	SBNHH-1D65A	3	33.50	5.88	0.83	193.92	6.973	0.83	0.00	3.00
9	167.00	Ericsson RRUS 12 RRUs	6	58.00	3.15	0.50	154.65	3.873	0.50	0.00	3.00
10	167.00	Ericsson RRUS-32 RRUs	3	77.00	3.87	0.67	192.07	4.115	0.67	0.00	3.00
11	167.00	Ericsson RRUS-E2 RRUs	3	58.00	3.87	0.50	154.65	3.873	0.50	0.00	3.00
12	167.00	Ericsson RRUS A2 Module	6	21.20	1.86	0.62	57.70	2.844	0.62	0.00	3.00
13	167.00	Raycap DC6-48-60-18-8F DC Surge	3	32.80	1.47	1.00	95.29	2.177	1.00	0.00	3.00
14	167.00	T-Arm	3	400.00	10.00	0.75	682.25	18.820	0.75	0.00	0.00
15	160.00	Ericsson KRY 112-114/1 TMAs	3	11.00	0.41	0.70	21.85	0.888	0.70	0.00	0.00
16	160.00	T-Arm	3	400.00	10.00	0.75	681.04	18.783	0.75	0.00	0.00
17	160.00	Air21 B2A/B4P	3	91.50	6.09	0.86	261.69	7.195	0.86	0.00	0.00
18	160.00	Air21 B4A/B2P	3	91.50	6.09	0.86	261.69	7.195	0.86	0.00	0.00
19	160.00	LNX-6515DS-A1M	3	49.80	11.47	0.80	280.84	14.758	0.80	0.00	0.00
20	160.00	S11B12	3	51.00	2.83	0.70	121.05	3.506	0.70	0.00	0.00
21	147.00	Swedcom SC-E 6014 rev2	4	15.00	3.33	0.97	109.59	4.996	0.97	0.00	0.00
22	147.00	Antel LPA-80080/4CF ___	2	12.00	2.61	1.70	147.12	3.461	1.70	0.00	0.00
23	147.00	Commscope SBNHH-1D65B	6	50.71	8.08	0.83	251.83	9.369	0.83	0.00	0.00
24	147.00	ALU RRH2X60-AWS RRH	3	60.00	3.50	0.76	147.11	4.288	0.76	0.00	0.00
25	147.00	ALU RRH2X60-PCS RRH	3	55.00	2.20	0.89	139.32	2.835	0.89	0.00	0.00
26	147.00	ALU RRH2X60-700 RRH	3	60.00	3.50	0.76	147.11	4.288	0.76	0.00	0.00
27	147.00	FD9R6004/2C-3L	6	3.10	0.36	1.00	11.11	0.802	1.00	0.00	0.00
28	147.00	RFS DB-T1-6Z-8AB-0Z	2	18.90	4.80	0.71	162.29	5.672	0.71	0.00	0.00
29	147.00	Low Profile Platform	1	1200.00	25.00	1.00	2245.02	45.900	1.00	0.00	0.00
		Totals:	**93**	**7,402.96**			**19,931.50**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	170.00	(6) 0.64" DC Power	0.00	Inside
0.00	170.00	(6) 1 5/8" Coax	0.00	Inside
0.00	170.00	(1) 1.5" Fiber	0.00	Inside
0.00	160.00	(12) 1 5/8" Coax	0.00	Inside
0.00	160.00	(1) 1 5/8" Fiber	0.00	Inside
0.00	147.00	(10) 1 5/8" Coax	0.00	Inside
0.00	147.00	(2) 1 5/8" Fiber	0.00	Inside

Shaft Section Properties

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 7	

Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.4375	60.140	82.901	37333.6	22.83	137.46	74.6	1222.	0.0
5.00		0.4375	58.775	81.006	34830.8	22.28	134.34	75.2	1167.	1394.4
10.00		0.4375	57.410	79.110	32442.5	21.73	131.22	75.8	1113.	1362.1
15.00		0.4375	56.045	77.215	30165.9	21.18	128.10	76.5	1060.	1329.8
20.00		0.4375	54.680	75.319	27998.4	20.63	124.98	77.1	1008.	1297.6
25.00		0.4375	53.315	73.424	25937.3	20.08	121.86	77.8	958.2	1265.3
30.00		0.4375	51.949	71.528	23979.9	19.53	118.74	78.4	909.2	1233.1
35.00		0.4375	50.584	69.633	22123.5	18.98	115.62	79.1	861.4	1200.8
40.00		0.4375	49.219	67.737	20365.5	18.43	112.50	79.7	815.0	1168.6
45.00		0.4375	47.854	65.842	18703.2	17.88	109.38	80.4	769.8	1136.3
46.50	Bot - Section 2	0.4375	47.445	65.273	18222.8	17.71	108.44	80.6	756.5	334.6
50.00		0.4375	46.489	63.946	17133.9	17.33	106.26	81.0	725.9	1553.4
53.25	Top - Section 1	0.4375	46.477	63.929	17120.2	17.32	106.23	0.0	0.0	1414.2
55.00		0.4375	45.999	63.266	16592.7	17.13	105.14	81.3	710.5	378.7
60.00		0.4375	44.634	61.370	15145.5	16.58	102.02	81.9	668.3	1060.3
65.00		0.4375	43.269	59.475	13785.0	16.03	98.90	82.5	627.5	1028.0
70.00		0.4375	41.904	57.579	12508.5	15.48	95.78	82.5	587.9	995.8
75.00		0.4375	40.539	55.683	11313.4	14.93	92.66	82.5	549.7	963.5
80.00		0.4375	39.174	53.788	10196.9	14.38	89.54	82.5	512.7	931.3
85.00		0.4375	37.808	51.892	9156.4	13.83	86.42	82.5	477.0	899.0
90.00		0.4375	36.443	49.997	8189.2	13.28	83.30	82.5	442.6	866.8
95.00	Bot - Section 3	0.4375	35.078	48.101	7292.7	12.73	80.18	82.5	409.5	834.5
100.00	Top - Section 2	0.3750	34.463	40.572	5956.5	14.79	91.90	0.0	0.0	1506.4
105.00		0.3750	33.098	38.947	5269.1	14.15	88.26	82.5	313.6	676.5
110.00		0.3750	31.733	37.323	4636.8	13.51	84.62	82.5	287.8	648.8
115.00		0.3750	30.368	35.698	4057.3	12.87	80.98	82.5	263.1	621.2
120.00		0.3750	29.003	34.073	3528.1	12.23	77.34	82.5	239.6	593.5
125.00		0.3750	27.638	32.448	3047.1	11.58	73.70	82.5	217.2	565.9
130.00		0.3750	26.273	30.824	2611.9	10.94	70.06	82.5	195.8	538.3
135.00		0.3750	24.908	29.199	2220.3	10.30	66.42	82.5	175.6	510.6
140.00		0.3750	23.543	27.574	1869.9	9.66	62.78	82.5	156.4	483.0
145.00		0.3750	22.177	25.949	1558.4	9.02	59.14	82.5	138.4	455.3
145.25	Bot - Section 4	0.3750	22.109	25.868	1543.8	8.99	58.96	82.5	137.5	22.0
147.00		0.3750	21.631	25.300	1444.3	8.76	57.68	82.5	131.5	230.5
148.50	Top - Section 3	0.1875	21.597	12.741	737.8	18.90	115.18	0.0	0.0	193.5
150.00		0.1875	21.187	12.497	696.3	18.51	113.00	79.6	64.7	64.4
155.00		0.1875	19.822	11.685	569.1	17.23	105.72	81.1	56.6	205.7
160.00		0.1875	18.457	10.872	458.5	15.95	98.44	82.5	48.9	191.9
165.00		0.1875	17.092	10.060	363.2	14.66	91.16	82.5	41.9	178.1
167.00		0.1875	16.546	9.735	329.1	14.15	88.25	82.5	39.2	67.4
169.00		0.1875	16.000	9.410	297.3	13.64	85.33	82.5	36.6	65.1
										30466.3

Wind Loading - Shaft

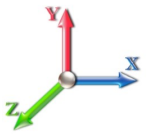
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	1.03	23.569	25.93	500.98	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	1.03	23.569	25.93	489.61	0.650	0.000	5.00	25.156	16.35	678.3	0.0	1673.2
10.00		1.00	1.03	23.569	25.93	478.24	0.650	0.000	5.00	24.579	15.98	662.7	0.0	1634.5
15.00		1.00	1.03	23.574	25.93	466.92	0.650	0.000	5.00	24.001	15.60	647.3	0.0	1595.8
20.00		1.00	1.08	24.784	27.26	467.09	0.650	0.000	5.00	23.423	15.23	664.1	0.0	1557.1
25.00		1.00	1.13	25.765	28.34	464.35	0.650	0.000	5.00	22.846	14.85	673.4	0.0	1518.4
30.00		1.00	1.16	26.595	29.25	459.69	0.650	0.000	5.00	22.268	14.47	677.5	0.0	1479.7
35.00		1.00	1.19	27.317	30.05	453.65	0.650	0.000	5.00	21.691	14.10	677.9	0.0	1441.0
40.00		1.00	1.22	27.959	30.75	446.56	0.650	0.000	5.00	21.113	13.72	675.3	0.0	1402.3
45.00		1.00	1.25	28.538	31.39	438.65	0.650	0.000	5.00	20.536	13.35	670.4	0.0	1363.6
46.50	Bot - Section 2	1.00	1.25	28.701	31.57	436.13	0.650	0.000	1.50	6.048	3.93	198.6	0.0	401.5
50.00		1.00	1.27	29.065	31.97	430.06	0.650	0.000	3.50	14.169	9.21	471.1	0.0	1864.1
53.25	Top - Section 1	1.00	1.28	29.385	32.32	424.16	0.650	0.000	3.25	12.904	8.39	433.8	0.0	1697.0
55.00		1.00	1.29	29.551	32.51	429.06	0.650	0.000	1.75	6.847	4.45	231.5	0.0	454.5
60.00		1.00	1.31	30.002	33.00	419.49	0.650	0.000	5.00	19.173	12.46	658.1	0.0	1272.3
65.00		1.00	1.33	30.422	33.46	409.50	0.650	0.000	5.00	18.596	12.09	647.2	0.0	1233.6
70.00		1.00	1.35	30.817	33.90	399.15	0.650	0.000	5.00	18.018	11.71	635.2	0.0	1194.9
75.00		1.00	1.36	31.189	34.31	388.47	0.650	0.000	5.00	17.440	11.34	622.3	0.0	1156.2
80.00		1.00	1.38	31.541	34.70	377.50	0.650	0.000	5.00	16.863	10.96	608.5	0.0	1117.5
85.00		1.00	1.39	31.875	35.06	366.27	0.650	0.000	5.00	16.285	10.59	593.9	0.0	1078.8
90.00		1.00	1.41	32.194	35.41	354.81	0.650	0.000	5.00	15.708	10.21	578.5	0.0	1040.1
95.00	Bot - Section 3	1.00	1.42	32.498	35.75	343.12	0.650	0.000	5.00	15.130	9.83	562.5	0.0	1001.4
100.00	Top - Section 2	1.00	1.43	32.789	36.07	331.25	0.650	0.000	5.00	14.870	9.67	557.8	0.0	1807.7
105.00		1.00	1.45	33.069	36.38	326.59	0.650	0.000	5.00	14.292	9.29	540.7	0.0	811.8
110.00		1.00	1.46	33.337	36.67	314.38	0.650	0.000	5.00	13.715	8.91	523.1	0.0	778.6
115.00		1.00	1.47	33.596	36.96	302.03	0.650	0.000	5.00	13.137	8.54	504.9	0.0	745.4
120.00		1.00	1.48	33.845	37.23	289.52	0.650	0.000	5.00	12.560	8.16	486.3	0.0	712.2
125.00		1.00	1.49	34.087	37.50	276.87	0.650	0.000	5.00	11.982	7.79	467.2	0.0	679.1
130.00		1.00	1.50	34.320	37.75	264.10	0.650	0.000	5.00	11.405	7.41	447.8	0.0	645.9
135.00		1.00	1.51	34.546	38.00	251.20	0.650	0.000	5.00	10.827	7.04	427.9	0.0	612.7
140.00		1.00	1.52	34.765	38.24	238.18	0.650	0.000	5.00	10.249	6.66	407.6	0.0	579.6
145.00		1.00	1.53	34.978	38.48	225.06	0.650	0.000	5.00	9.672	6.29	387.0	0.0	546.4
145.25	Bot - Section 4	1.00	1.53	34.988	38.49	224.40	0.650	0.000	0.25	0.468	0.30	18.7	0.0	26.4
147.00	Appurtenance(s)	1.00	1.53	35.061	38.57	219.78	0.650	0.000	1.75	3.294	2.14	132.1	0.0	276.6
148.50	Top - Section 3	1.00	1.53	35.123	38.64	215.81	0.650	0.000	1.50	2.767	1.80	111.2	0.0	232.3
150.00		1.00	1.54	35.185	38.70	215.64	0.650	0.000	1.50	2.715	1.76	109.3	0.0	77.3
155.00		1.00	1.55	35.386	38.92	202.33	0.650	0.000	5.00	8.675	5.64	351.2	0.0	246.9
160.00	Appurtenance(s)	1.00	1.55	35.582	39.14	188.91	0.650	0.000	5.00	8.098	5.26	329.6	0.0	230.3
165.00		1.00	1.56	35.773	39.35	175.41	0.650	0.000	5.00	7.520	4.89	307.8	0.0	213.7
167.00	Appurtenance(s)	1.00	1.57	35.848	39.43	169.99	0.650	0.000	2.00	2.846	1.85	116.7	0.0	80.8
169.00	Appurtenance(s)	1.00	1.57	35.922	39.51	164.55	0.650	0.000	2.00	2.754	1.79	113.2	0.0	78.2
								Totals:	**169.00**			**18,608.1**		**36,559.6**

Discrete Appurtenance Forces

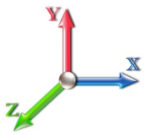
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	169.00	Ericsson RRUS 11 RRUs	6	35.959	39.555	0.60	0.90	9.12	365.04	0.000	1.000	577.02	0.00	577.02
2	169.00	CCI DTMABP7819VG12A	3	35.959	39.555	0.60	0.90	2.06	69.12	0.000	1.000	130.52	0.00	130.52
3	169.00	Andrew SBNH-1D6565C	1	35.959	39.555	0.72	0.90	8.26	79.32	0.000	1.000	522.66	0.00	522.66
4	169.00	KMW	1	35.959	39.555	0.68	0.90	3.38	43.68	0.000	1.000	213.60	0.00	213.60
5	169.00	AM-X-CD-16-65-00T-RET	1	35.959	39.555	0.68	0.90	5.41	58.20	0.000	1.000	342.61	0.00	342.61
6	167.00	Ericsson RRUS 12 RRUs	6	35.959	39.555	0.45	0.90	8.50	417.60	0.000	3.000	538.26	0.00	1614.79
7	167.00	HPA-65R-BBU-H8	3	35.959	39.555	0.71	0.90	27.69	244.80	0.000	3.000	1752.21	0.00	5256.63
8	167.00	HPA-65R-BUU-H6	3	35.959	39.555	0.77	0.90	22.17	183.60	0.000	3.000	1403.07	0.00	4209.22
9	167.00	SBNHH-1D65A	3	35.959	39.555	0.75	0.90	13.18	120.60	0.000	3.000	833.95	0.00	2501.85
10	167.00	Raycap DC6-48-60-18-8F	3	35.959	39.555	0.90	0.90	3.97	118.08	0.000	3.000	251.19	0.00	753.57
11	167.00	Ericsson RRUS-32 RRUs	3	35.959	39.555	0.60	0.90	7.00	277.20	0.000	3.000	443.07	0.00	1329.20
12	167.00	Ericsson RRUS-E2 RRUs	3	35.959	39.555	0.45	0.90	5.22	208.80	0.000	3.000	330.65	0.00	991.94
13	167.00	Ericsson RRUS A2	6	35.959	39.555	0.56	0.90	6.23	152.64	0.000	3.000	394.11	0.00	1182.33
14	167.00	T-Arm	3	35.848	39.433	0.56	0.75	16.88	1440.00	0.000	0.000	1064.68	0.00	0.00
15	160.00	S11B12	3	35.582	39.140	0.56	0.80	4.75	183.60	0.000	0.000	297.74	0.00	0.00
16	160.00	Air21 B4A/B2P	3	35.582	39.140	0.69	0.80	12.57	329.40	0.000	0.000	787.17	0.00	0.00
17	160.00	Air21 B2A/B4P	3	35.582	39.140	0.69	0.80	12.57	329.40	0.000	0.000	787.17	0.00	0.00
18	160.00	T-Arm	3	35.582	39.140	0.56	0.75	16.88	1440.00	0.000	0.000	1056.78	0.00	0.00
19	160.00	Ericsson KRY 112-114/1	3	35.582	39.140	0.56	0.80	0.69	39.60	0.000	0.000	43.14	0.00	0.00
20	160.00	LNX-6515DS-A1M	3	35.582	39.140	0.64	0.80	22.02	179.28	0.000	0.000	1379.13	0.00	0.00
21	147.00	ALU RRH2X60-AWS RRH	3	35.061	38.567	0.61	0.80	6.38	216.00	0.000	0.000	393.94	0.00	0.00
22	147.00	Swedcom SC-E 6014 rev2	4	35.061	38.567	0.78	0.80	10.34	72.00	0.000	0.000	637.83	0.00	0.00
23	147.00	Antel LPA-80080/4CF ___	2	35.061	38.567	1.36	0.80	7.10	28.80	0.000	0.000	438.08	0.00	0.00
24	147.00	Commscope	6	35.061	38.567	0.66	0.80	32.19	365.11	0.000	0.000	1986.42	0.00	0.00
25	147.00	RFS DB-T1-6Z-8AB-0Z	2	35.061	38.567	0.57	0.80	5.45	45.36	0.000	0.000	336.48	0.00	0.00
26	147.00	ALU RRH2X60-PCS RRH	3	35.061	38.567	0.89	1.00	5.87	198.00	0.000	0.000	362.47	0.00	0.00
27	147.00	ALU RRH2X60-700 RRH	3	35.061	38.567	0.61	0.80	6.38	216.00	0.000	0.000	393.94	0.00	0.00
28	147.00	FD9R6004/2C-3L	6	35.061	38.567	0.80	0.80	1.73	22.32	0.000	0.000	106.63	0.00	0.00
29	147.00	Low Profile Platform	1	35.061	38.567	1.00	1.00	25.00	1440.00	0.000	0.000	1542.70	0.00	0.00
							Totals:		**8,883.55**			**19,347.21**		

Total Applied Force Summary

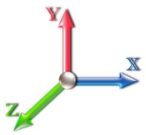
Structure:	CT11794-S-SBA		**Code:**	EIA/TIA-222-G	9/9/2016
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 10

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		678.29	1889.04	0.00	0.00
10.00		662.71	1850.34	0.00	0.00
15.00		647.29	1811.64	0.00	0.00
20.00		664.12	1772.94	0.00	0.00
25.00		673.38	1734.24	0.00	0.00
30.00		677.50	1695.54	0.00	0.00
35.00		677.86	1656.84	0.00	0.00
40.00		675.31	1618.14	0.00	0.00
45.00		670.43	1579.44	0.00	0.00
46.50		198.58	466.28	0.00	0.00
50.00		471.14	2015.19	0.00	0.00
53.25		433.78	1837.29	0.00	0.00
55.00		231.48	529.99	0.00	0.00
60.00		658.06	1488.14	0.00	0.00
65.00		647.19	1449.44	0.00	0.00
70.00		635.22	1410.74	0.00	0.00
75.00		622.28	1372.04	0.00	0.00
80.00		608.46	1333.34	0.00	0.00
85.00		593.85	1294.64	0.00	0.00
90.00		578.51	1255.94	0.00	0.00
95.00		562.51	1217.24	0.00	0.00
100.00		557.78	2023.47	0.00	0.00
105.00		540.69	1027.58	0.00	0.00
110.00		523.05	994.41	0.00	0.00
115.00		504.91	961.24	0.00	0.00
120.00		486.30	928.06	0.00	0.00
125.00		467.25	894.89	0.00	0.00
130.00		447.77	861.72	0.00	0.00
135.00		427.89	828.55	0.00	0.00
140.00		407.63	795.38	0.00	0.00
145.00		387.02	762.21	0.00	0.00
145.25		18.75	37.24	0.00	0.00
147.00	(30) attachments	6330.63	2955.75	0.00	0.00
148.50		111.19	274.32	0.00	0.00
150.00		109.29	119.36	0.00	0.00
155.00		351.20	387.08	0.00	0.00
160.00	(18) attachments	4680.76	2871.77	0.00	0.00
165.00		307.76	272.42	0.00	0.00
167.00	(33) attachments	7127.92	3267.65	0.00	17839.52
169.00	(12) attachments	1899.57	717.03	0.00	1786.40
	Totals:	**37,955.29**	**52,258.56**	**0.00**	**19,625.92**

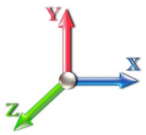
Calculated Forces

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 11	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-52.20	-38.04	0.00	-4711.3	0.00	4711.32	5562.36	2781.18	13652.7	6836.50	0.00	0.000	0.000	0.699
5.00	-50.19	-37.51	0.00	-4521.1	0.00	4521.14	5482.35	2741.17	13146.4	6582.98	0.09	-0.176	0.000	0.696
10.00	-48.23	-37.00	0.00	-4333.5	0.00	4333.58	5400.13	2700.07	12644.0	6331.40	0.38	-0.357	0.000	0.694
15.00	-46.30	-36.49	0.00	-4148.6	0.00	4148.61	5315.71	2657.86	12145.8	6081.95	0.85	-0.543	0.000	0.691
20.00	-44.42	-35.95	0.00	-3966.1	0.00	3966.18	5229.08	2614.54	11652.3	5834.81	1.52	-0.734	0.000	0.688
25.00	-42.57	-35.40	0.00	-3786.4	0.00	3786.42	5140.25	2570.12	11163.7	5590.18	2.40	-0.931	0.000	0.686
30.00	-40.76	-34.84	0.00	-3609.4	0.00	3609.41	5049.20	2524.60	10680.6	5348.24	3.48	-1.134	0.000	0.683
35.00	-38.99	-34.27	0.00	-3435.2	0.00	3435.20	4955.95	2477.97	10203.2	5109.18	4.78	-1.343	0.000	0.680
40.00	-37.26	-33.70	0.00	-3263.8	0.00	3263.84	4860.49	2430.24	9731.91	4873.19	6.30	-1.558	0.000	0.678
45.00	-35.62	-33.07	0.00	-3095.3	0.00	3095.34	4762.82	2381.41	9267.12	4640.45	8.05	-1.780	0.000	0.675
46.50	-35.09	-32.93	0.00	-3045.7	0.00	3045.73	4733.09	2366.54	9129.00	4571.29	8.62	-1.850	0.000	0.674
50.00	-33.00	-32.49	0.00	-2930.4	0.00	2930.47	4662.94	2331.47	8809.20	4411.15	10.04	-2.014	0.000	0.672
53.25	-31.12	-32.05	0.00	-2824.8	0.00	2824.89	4662.03	2331.01	8805.10	4409.10	11.46	-2.169	0.000	0.648
55.00	-30.51	-31.88	0.00	-2768.8	0.00	2768.81	4626.54	2313.27	8646.55	4329.70	12.28	-2.255	0.000	0.646
60.00	-28.92	-31.28	0.00	-2609.3	0.00	2609.39	4523.67	2261.83	8198.57	4105.38	14.76	-2.485	0.000	0.642
65.00	-27.37	-30.69	0.00	-2452.9	0.00	2452.98	4418.66	2209.33	7758.49	3885.01	17.49	-2.723	0.000	0.638
70.00	-25.86	-30.09	0.00	-2299.5	0.00	2299.56	4277.83	2138.92	7269.40	3640.10	20.47	-2.968	0.000	0.638
75.00	-24.40	-29.51	0.00	-2149.0	0.00	2149.09	4137.00	2068.50	6796.24	3403.17	23.72	-3.221	0.000	0.638
80.00	-22.97	-28.93	0.00	-2001.5	0.00	2001.55	3996.18	1998.09	6339.00	3174.21	27.23	-3.482	0.000	0.637
85.00	-21.58	-28.36	0.00	-1856.9	0.00	1856.90	3855.35	1927.67	5897.69	2953.23	31.02	-3.751	0.000	0.635
90.00	-20.23	-27.80	0.00	-1715.1	0.00	1715.11	3714.52	1857.26	5472.29	2740.21	35.09	-4.029	0.000	0.632
95.00	-18.92	-27.24	0.00	-1576.1	0.00	1576.13	3573.69	1786.85	5062.82	2535.17	39.46	-4.315	0.000	0.627
100.00	-16.80	-26.62	0.00	-1439.9	0.00	1439.92	3014.30	1507.15	4208.99	2107.62	44.13	-4.609	0.000	0.689
105.00	-15.68	-26.08	0.00	-1306.8	0.00	1306.84	2893.59	1446.80	3876.87	1941.32	49.12	-4.911	0.000	0.679
110.00	-14.58	-25.56	0.00	-1176.4	0.00	1176.44	2772.88	1386.44	3558.41	1781.85	54.43	-5.246	0.000	0.666
115.00	-13.53	-25.05	0.00	-1048.6	0.00	1048.65	2652.17	1326.09	3253.59	1629.21	60.10	-5.588	0.000	0.649
120.00	-12.50	-24.55	0.00	-923.43	0.00	923.43	2531.46	1265.73	2962.42	1483.41	66.13	-5.933	0.000	0.628
125.00	-11.52	-24.06	0.00	-800.70	0.00	800.70	2410.75	1205.38	2684.90	1344.44	72.52	-6.281	0.000	0.601
130.00	-10.57	-23.58	0.00	-680.42	0.00	680.42	2290.04	1145.02	2421.02	1212.31	79.28	-6.627	0.000	0.566
135.00	-9.66	-23.11	0.00	-562.54	0.00	562.54	2169.33	1084.67	2170.80	1087.01	86.38	-6.965	0.000	0.522
140.00	-8.80	-22.66	0.00	-446.99	0.00	446.99	2048.62	1024.31	1934.22	968.55	93.84	-7.289	0.000	0.466
145.00	-8.04	-22.19	0.00	-333.71	0.00	333.71	1927.91	963.96	1711.29	856.92	101.61	-7.586	0.000	0.394
145.25	-7.98	-22.18	0.00	-328.16	0.00	328.16	1921.88	960.94	1700.50	851.51	102.01	-7.601	0.000	0.390
147.00	-5.87	-15.52	0.00	-289.35	0.00	289.35	1879.63	939.81	1625.94	814.18	104.81	-7.700	0.000	0.359
148.50	-5.59	-15.38	0.00	-266.07	0.00	266.07	907.84	453.92	797.93	399.56	107.23	-7.782	0.000	0.673
150.00	-5.42	-15.28	0.00	-243.00	0.00	243.00	895.57	447.78	771.95	386.55	109.68	-7.862	0.000	0.636
155.00	-4.99	-14.91	0.00	-166.59	0.00	166.59	853.23	426.61	687.23	344.13	118.13	-8.280	0.000	0.491
160.00	-2.79	-9.87	0.00	-92.03	0.00	92.03	807.76	403.88	604.95	302.92	126.96	-8.604	0.000	0.308
165.00	-2.55	-9.53	0.00	-42.67	0.00	42.67	747.41	373.70	517.50	259.13	136.06	-8.813	0.000	0.169
167.00	-0.42	-1.99	0.00	-5.76	0.00	5.76	723.26	361.63	484.43	242.57	139.75	-8.864	0.000	0.024
169.00	0.00	-1.90	0.00	-1.79	0.00	1.79	699.12	349.56	452.45	226.56	143.45	-8.871	0.000	0.008

Wind Loading - Shaft

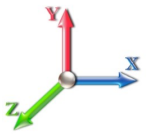
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	1.03	23.569	25.93	500.98	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	1.03	23.569	25.93	489.61	0.650	0.000	5.00	25.156	16.35	678.3	0.0	1254.9
10.00		1.00	1.03	23.569	25.93	478.24	0.650	0.000	5.00	24.579	15.98	662.7	0.0	1225.9
15.00		1.00	1.03	23.574	25.93	466.92	0.650	0.000	5.00	24.001	15.60	647.3	0.0	1196.9
20.00		1.00	1.08	24.784	27.26	467.09	0.650	0.000	5.00	23.423	15.23	664.1	0.0	1167.8
25.00		1.00	1.13	25.765	28.34	464.35	0.650	0.000	5.00	22.846	14.85	673.4	0.0	1138.8
30.00		1.00	1.16	26.595	29.25	459.69	0.650	0.000	5.00	22.268	14.47	677.5	0.0	1109.8
35.00		1.00	1.19	27.317	30.05	453.65	0.650	0.000	5.00	21.691	14.10	677.9	0.0	1080.8
40.00		1.00	1.22	27.959	30.75	446.56	0.650	0.000	5.00	21.113	13.72	675.3	0.0	1051.7
45.00		1.00	1.25	28.538	31.39	438.65	0.650	0.000	5.00	20.536	13.35	670.4	0.0	1022.7
46.50	Bot - Section 2	1.00	1.25	28.701	31.57	436.13	0.650	0.000	1.50	6.048	3.93	198.6	0.0	301.2
50.00		1.00	1.27	29.065	31.97	430.06	0.650	0.000	3.50	14.169	9.21	471.1	0.0	1398.1
53.25	Top - Section 1	1.00	1.28	29.385	32.32	424.16	0.650	0.000	3.25	12.904	8.39	433.8	0.0	1272.8
55.00		1.00	1.29	29.551	32.51	429.06	0.650	0.000	1.75	6.847	4.45	231.5	0.0	340.8
60.00		1.00	1.31	30.002	33.00	419.49	0.650	0.000	5.00	19.173	12.46	658.1	0.0	954.2
65.00		1.00	1.33	30.422	33.46	409.50	0.650	0.000	5.00	18.596	12.09	647.2	0.0	925.2
70.00		1.00	1.35	30.817	33.90	399.15	0.650	0.000	5.00	18.018	11.71	635.2	0.0	896.2
75.00		1.00	1.36	31.189	34.31	388.47	0.650	0.000	5.00	17.440	11.34	622.3	0.0	867.2
80.00		1.00	1.38	31.541	34.70	377.50	0.650	0.000	5.00	16.863	10.96	608.5	0.0	838.1
85.00		1.00	1.39	31.875	35.06	366.27	0.650	0.000	5.00	16.285	10.59	593.9	0.0	809.1
90.00		1.00	1.41	32.194	35.41	354.81	0.650	0.000	5.00	15.708	10.21	578.5	0.0	780.1
95.00	Bot - Section 3	1.00	1.42	32.498	35.75	343.12	0.650	0.000	5.00	15.130	9.83	562.5	0.0	751.1
100.00	Top - Section 2	1.00	1.43	32.789	36.07	331.25	0.650	0.000	5.00	14.870	9.67	557.8	0.0	1355.7
105.00		1.00	1.45	33.069	36.38	326.59	0.650	0.000	5.00	14.292	9.29	540.7	0.0	608.8
110.00		1.00	1.46	33.337	36.67	314.38	0.650	0.000	5.00	13.715	8.91	523.1	0.0	583.9
115.00		1.00	1.47	33.596	36.96	302.03	0.650	0.000	5.00	13.137	8.54	504.9	0.0	559.1
120.00		1.00	1.48	33.845	37.23	289.52	0.650	0.000	5.00	12.560	8.16	486.3	0.0	534.2
125.00		1.00	1.49	34.087	37.50	276.87	0.650	0.000	5.00	11.982	7.79	467.2	0.0	509.3
130.00		1.00	1.50	34.320	37.75	264.10	0.650	0.000	5.00	11.405	7.41	447.8	0.0	484.4
135.00		1.00	1.51	34.546	38.00	251.20	0.650	0.000	5.00	10.827	7.04	427.9	0.0	459.5
140.00		1.00	1.52	34.765	38.24	238.18	0.650	0.000	5.00	10.249	6.66	407.6	0.0	434.7
145.00		1.00	1.53	34.978	38.48	225.06	0.650	0.000	5.00	9.672	6.29	387.0	0.0	409.8
145.25	Bot - Section 4	1.00	1.53	34.988	38.49	224.40	0.650	0.000	0.25	0.468	0.30	18.7	0.0	19.8
147.00	Appurtenance(s)	1.00	1.53	35.061	38.57	219.78	0.650	0.000	1.75	3.294	2.14	132.1	0.0	207.5
148.50	Top - Section 3	1.00	1.53	35.123	38.64	215.81	0.650	0.000	1.50	2.767	1.80	111.2	0.0	174.2
150.00		1.00	1.54	35.185	38.70	215.64	0.650	0.000	1.50	2.715	1.76	109.3	0.0	58.0
155.00		1.00	1.55	35.386	38.92	202.33	0.650	0.000	5.00	8.675	5.64	351.2	0.0	185.1
160.00	Appurtenance(s)	1.00	1.55	35.582	39.14	188.91	0.650	0.000	5.00	8.098	5.26	329.6	0.0	172.7
165.00		1.00	1.56	35.773	39.35	175.41	0.650	0.000	5.00	7.520	4.89	307.8	0.0	160.3
167.00	Appurtenance(s)	1.00	1.57	35.848	39.43	169.99	0.650	0.000	2.00	2.846	1.85	116.7	0.0	60.6
169.00	Appurtenance(s)	1.00	1.57	35.922	39.51	164.55	0.650	0.000	2.00	2.754	1.79	113.2	0.0	58.6
								Totals:	**169.00**			**18,608.1**		**27,419.7**

Discrete Appurtenance Forces

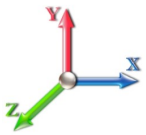
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	169.00	Ericsson RRUS 11 RRUs	6	35.959	39.555	0.60	0.90	9.12	273.78	0.000	1.000	577.02	0.00	577.02
2	169.00	CCI DTMABP7819VG12A	3	35.959	39.555	0.60	0.90	2.06	51.84	0.000	1.000	130.52	0.00	130.52
3	169.00	Andrew SBNH-1D6565C	1	35.959	39.555	0.72	0.90	8.26	59.49	0.000	1.000	522.66	0.00	522.66
4	169.00	KMW	1	35.959	39.555	0.68	0.90	3.38	32.76	0.000	1.000	213.60	0.00	213.60
5	169.00	AM-X-CD-16-65-00T-RET	1	35.959	39.555	0.68	0.90	5.41	43.65	0.000	1.000	342.61	0.00	342.61
6	167.00	Ericsson RRUS 12 RRUs	6	35.959	39.555	0.45	0.90	8.50	313.20	0.000	3.000	538.26	0.00	1614.79
7	167.00	HPA-65R-BBU-H8	3	35.959	39.555	0.71	0.90	27.69	183.60	0.000	3.000	1752.21	0.00	5256.63
8	167.00	HPA-65R-BUU-H6	3	35.959	39.555	0.77	0.90	22.17	137.70	0.000	3.000	1403.07	0.00	4209.22
9	167.00	SBNHH-1D65A	3	35.959	39.555	0.75	0.90	13.18	90.45	0.000	3.000	833.95	0.00	2501.85
10	167.00	Raycap DC6-48-60-18-8F	3	35.959	39.555	0.90	0.90	3.97	88.56	0.000	3.000	251.19	0.00	753.57
11	167.00	Ericsson RRUS-32 RRUs	3	35.959	39.555	0.60	0.90	7.00	207.90	0.000	3.000	443.07	0.00	1329.20
12	167.00	Ericsson RRUS-E2 RRUs	3	35.959	39.555	0.45	0.90	5.22	156.60	0.000	3.000	330.65	0.00	991.94
13	167.00	Ericsson RRUS A2	6	35.959	39.555	0.56	0.90	6.23	114.48	0.000	3.000	394.11	0.00	1182.33
14	167.00	T-Arm	3	35.848	39.433	0.56	0.75	16.88	1080.00	0.000	0.000	1064.68	0.00	0.00
15	160.00	S11B12	3	35.582	39.140	0.56	0.80	4.75	137.70	0.000	0.000	297.74	0.00	0.00
16	160.00	Air21 B4A/B2P	3	35.582	39.140	0.69	0.80	12.57	247.05	0.000	0.000	787.17	0.00	0.00
17	160.00	Air21 B2A/B4P	3	35.582	39.140	0.69	0.80	12.57	247.05	0.000	0.000	787.17	0.00	0.00
18	160.00	T-Arm	3	35.582	39.140	0.56	0.75	16.88	1080.00	0.000	0.000	1056.78	0.00	0.00
19	160.00	Ericsson KRY 112-114/1	3	35.582	39.140	0.56	0.80	0.69	29.70	0.000	0.000	43.14	0.00	0.00
20	160.00	LNX-6515DS-A1M	3	35.582	39.140	0.64	0.80	22.02	134.46	0.000	0.000	1379.13	0.00	0.00
21	147.00	ALU RRH2X60-AWS RRH	3	35.061	38.567	0.61	0.80	6.38	162.00	0.000	0.000	393.94	0.00	0.00
22	147.00	Swedcom SC-E 6014 rev2	4	35.061	38.567	0.78	0.80	10.34	54.00	0.000	0.000	637.83	0.00	0.00
23	147.00	Antel LPA-80080/4CF ___	2	35.061	38.567	1.36	0.80	7.10	21.60	0.000	0.000	438.08	0.00	0.00
24	147.00	Commscope	6	35.061	38.567	0.66	0.80	32.19	273.83	0.000	0.000	1986.42	0.00	0.00
25	147.00	RFS DB-T1-6Z-8AB-0Z	2	35.061	38.567	0.57	0.80	5.45	34.02	0.000	0.000	336.48	0.00	0.00
26	147.00	ALU RRH2X60-PCS RRH	3	35.061	38.567	0.89	1.00	5.87	148.50	0.000	0.000	362.47	0.00	0.00
27	147.00	ALU RRH2X60-700 RRH	3	35.061	38.567	0.61	0.80	6.38	162.00	0.000	0.000	393.94	0.00	0.00
28	147.00	FD9R6004/2C-3L	6	35.061	38.567	0.80	0.80	1.73	16.74	0.000	0.000	106.63	0.00	0.00
29	147.00	Low Profile Platform	1	35.061	38.567	1.00	1.00	25.00	1080.00	0.000	0.000	1542.70	0.00	0.00
							Totals:		**6,662.66**			**19,347.21**		

Total Applied Force Summary

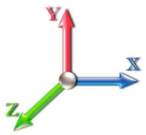
Structure:	CT11794-S-SBA		**Code:**	EIA/TIA-222-G	9/9/2016
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 14

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		678.29	1416.78	0.00	0.00
10.00		662.71	1387.75	0.00	0.00
15.00		647.29	1358.73	0.00	0.00
20.00		664.12	1329.70	0.00	0.00
25.00		673.38	1300.68	0.00	0.00
30.00		677.50	1271.65	0.00	0.00
35.00		677.86	1242.63	0.00	0.00
40.00		675.31	1213.60	0.00	0.00
45.00		670.43	1184.58	0.00	0.00
46.50		198.58	349.71	0.00	0.00
50.00		471.14	1511.40	0.00	0.00
53.25		433.78	1377.97	0.00	0.00
55.00		231.48	397.49	0.00	0.00
60.00		658.06	1116.11	0.00	0.00
65.00		647.19	1087.08	0.00	0.00
70.00		635.22	1058.06	0.00	0.00
75.00		622.28	1029.03	0.00	0.00
80.00		608.46	1000.01	0.00	0.00
85.00		593.85	970.98	0.00	0.00
90.00		578.51	941.96	0.00	0.00
95.00		562.51	912.93	0.00	0.00
100.00		557.78	1517.60	0.00	0.00
105.00		540.69	770.69	0.00	0.00
110.00		523.05	745.81	0.00	0.00
115.00		504.91	720.93	0.00	0.00
120.00		486.30	696.05	0.00	0.00
125.00		467.25	671.17	0.00	0.00
130.00		447.77	646.29	0.00	0.00
135.00		427.89	621.41	0.00	0.00
140.00		407.63	596.53	0.00	0.00
145.00		387.02	571.65	0.00	0.00
145.25		18.75	27.93	0.00	0.00
147.00	(30) attachments	6330.63	2216.81	0.00	0.00
148.50		111.19	205.74	0.00	0.00
150.00		109.29	89.52	0.00	0.00
155.00		351.20	290.31	0.00	0.00
160.00	(18) attachments	4680.76	2153.83	0.00	0.00
165.00		307.76	204.32	0.00	0.00
167.00	(33) attachments	7127.92	2450.73	0.00	17839.52
169.00	(12) attachments	1899.57	537.77	0.00	1786.40
	Totals:	**37,955.29**	**39,193.92**	**0.00**	**19,625.92**

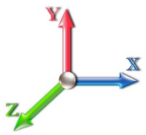
Calculated Forces

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-39.13	-38.02	0.00	-4659.3	0.00	4659.39	5562.36	2781.18	13652.7	6836.50	0.00	0.000	0.000	0.689
5.00	-37.60	-37.45	0.00	-4469.3	0.00	4469.32	5482.35	2741.17	13146.4	6582.98	0.09	-0.174	0.000	0.686
10.00	-36.10	-36.90	0.00	-4282.0	0.00	4282.06	5400.13	2700.07	12644.0	6331.40	0.37	-0.353	0.000	0.683
15.00	-34.63	-36.35	0.00	-4097.5	0.00	4097.58	5315.71	2657.86	12145.8	6081.95	0.84	-0.536	0.000	0.680
20.00	-33.19	-35.78	0.00	-3915.8	0.00	3915.83	5229.08	2614.54	11652.3	5834.81	1.50	-0.725	0.000	0.678
25.00	-31.78	-35.20	0.00	-3736.9	0.00	3736.91	5140.25	2570.12	11163.7	5590.18	2.37	-0.920	0.000	0.675
30.00	-30.40	-34.61	0.00	-3560.9	0.00	3560.91	5049.20	2524.60	10680.6	5348.24	3.44	-1.120	0.000	0.672
35.00	-29.04	-34.01	0.00	-3387.8	0.00	3387.87	4955.95	2477.97	10203.2	5109.18	4.72	-1.326	0.000	0.669
40.00	-27.72	-33.41	0.00	-3217.8	0.00	3217.81	4860.49	2430.24	9731.91	4873.19	6.22	-1.538	0.000	0.666
45.00	-26.47	-32.77	0.00	-3050.7	0.00	3050.76	4762.82	2381.41	9267.12	4640.45	7.95	-1.757	0.000	0.663
46.50	-26.07	-32.62	0.00	-3001.6	0.00	3001.60	4733.09	2366.54	9129.00	4571.29	8.52	-1.826	0.000	0.662
50.00	-24.48	-32.16	0.00	-2887.4	0.00	2887.45	4662.94	2331.47	8809.20	4411.15	9.91	-1.987	0.000	0.660
53.25	-23.06	-31.73	0.00	-2782.9	0.00	2782.93	4662.03	2331.01	8805.10	4409.10	11.32	-2.140	0.000	0.636
55.00	-22.58	-31.54	0.00	-2727.4	0.00	2727.41	4626.54	2313.27	8646.55	4329.70	12.12	-2.225	0.000	0.635
60.00	-21.37	-30.92	0.00	-2569.7	0.00	2569.70	4523.67	2261.83	8198.57	4105.38	14.57	-2.452	0.000	0.631
65.00	-20.19	-30.31	0.00	-2415.0	0.00	2415.08	4418.66	2209.33	7758.49	3885.01	17.27	-2.686	0.000	0.626
70.00	-19.03	-29.71	0.00	-2263.5	0.00	2263.51	4277.83	2138.92	7269.40	3640.10	20.21	-2.928	0.000	0.626
75.00	-17.91	-29.11	0.00	-2114.9	0.00	2114.97	4137.00	2068.50	6796.24	3403.17	23.41	-3.177	0.000	0.626
80.00	-16.82	-28.52	0.00	-1969.4	0.00	1969.41	3996.18	1998.09	6339.00	3174.21	26.87	-3.433	0.000	0.625
85.00	-15.75	-27.95	0.00	-1826.7	0.00	1826.79	3855.35	1927.67	5897.69	2953.23	30.60	-3.698	0.000	0.623
90.00	-14.72	-27.38	0.00	-1687.0	0.00	1687.07	3714.52	1857.26	5472.29	2740.21	34.62	-3.971	0.000	0.620
95.00	-13.72	-26.82	0.00	-1550.1	0.00	1550.19	3573.69	1786.85	5062.82	2535.17	38.93	-4.252	0.000	0.616
100.00	-12.11	-26.21	0.00	-1416.1	0.00	1416.10	3014.30	1507.15	4208.99	2107.62	43.53	-4.542	0.000	0.676
105.00	-11.25	-25.67	0.00	-1285.0	0.00	1285.06	2893.59	1446.80	3876.87	1941.32	48.44	-4.839	0.000	0.666
110.00	-10.41	-25.14	0.00	-1156.7	0.00	1156.71	2772.88	1386.44	3558.41	1781.85	53.68	-5.168	0.000	0.653
115.00	-9.59	-24.63	0.00	-1031.0	0.00	1031.00	2652.17	1326.09	3253.59	1629.21	59.27	-5.504	0.000	0.637
120.00	-8.80	-24.13	0.00	-907.85	0.00	907.85	2531.46	1265.73	2962.42	1483.41	65.21	-5.844	0.000	0.616
125.00	-8.04	-23.64	0.00	-787.20	0.00	787.20	2410.75	1205.38	2684.90	1344.44	71.50	-6.186	0.000	0.589
130.00	-7.31	-23.17	0.00	-668.98	0.00	668.98	2290.04	1145.02	2421.02	1212.31	78.15	-6.525	0.000	0.555
135.00	-6.62	-22.71	0.00	-553.13	0.00	553.13	2169.33	1084.67	2170.80	1087.01	85.15	-6.858	0.000	0.512
140.00	-5.96	-22.27	0.00	-439.57	0.00	439.57	2048.62	1024.31	1934.22	968.55	92.49	-7.176	0.000	0.457
145.00	-5.38	-21.82	0.00	-328.24	0.00	328.24	1927.91	963.96	1711.29	856.92	100.15	-7.468	0.000	0.386
145.25	-5.34	-21.81	0.00	-322.79	0.00	322.79	1921.88	960.94	1700.50	851.51	100.54	-7.483	0.000	0.382
147.00	-3.94	-15.25	0.00	-284.63	0.00	284.63	1879.63	939.81	1625.94	814.18	103.29	-7.581	0.000	0.352
148.50	-3.73	-15.11	0.00	-261.76	0.00	261.76	907.84	453.92	797.93	399.56	105.68	-7.662	0.000	0.660
150.00	-3.59	-15.01	0.00	-239.09	0.00	239.09	895.57	447.78	771.95	386.55	108.09	-7.740	0.000	0.624
155.00	-3.26	-14.64	0.00	-164.04	0.00	164.04	853.23	426.61	687.23	344.13	116.40	-8.152	0.000	0.482
160.00	-1.76	-9.71	0.00	-90.83	0.00	90.83	807.76	403.88	604.95	302.92	125.10	-8.471	0.000	0.303
165.00	-1.59	-9.38	0.00	-42.30	0.00	42.30	747.41	373.70	517.50	259.13	134.06	-8.677	0.000	0.166
167.00	-0.24	-1.96	0.00	-5.70	0.00	5.70	723.26	361.63	484.43	242.57	137.69	-8.729	0.000	0.024
169.00	0.00	-1.90	0.00	-1.79	0.00	1.79	699.12	349.56	452.45	226.56	141.34	-8.735	0.000	0.008

Wind Loading - Shaft

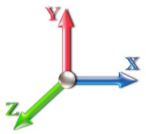
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	1.03	6.262	6.89	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	1.03	6.262	6.89	0.00	1.200	1.242	5.00	26.191	31.43	216.5	467.0	2140.2
10.00		1.00	1.03	6.262	6.89	0.00	1.200	1.331	5.00	25.688	30.83	212.3	489.9	2124.4
15.00		1.00	1.03	6.264	6.89	0.00	1.200	1.386	5.00	25.156	30.19	208.0	498.7	2094.6
20.00		1.00	1.08	6.585	7.24	0.00	1.200	1.427	5.00	24.612	29.53	213.9	501.4	2058.6
25.00		1.00	1.13	6.846	7.53	0.00	1.200	1.459	5.00	24.062	28.87	217.4	500.6	2019.0
30.00		1.00	1.16	7.066	7.77	0.00	1.200	1.486	5.00	23.506	28.21	219.3	497.3	1977.0
35.00		1.00	1.19	7.258	7.98	0.00	1.200	1.509	5.00	22.948	27.54	219.9	492.3	1933.4
40.00		1.00	1.22	7.429	8.17	0.00	1.200	1.529	5.00	22.387	26.86	219.5	486.1	1888.4
45.00		1.00	1.25	7.583	8.34	0.00	1.200	1.547	5.00	21.825	26.19	218.4	478.8	1842.4
46.50	Bot - Section 2	1.00	1.25	7.626	8.39	0.00	1.200	1.552	1.50	6.436	7.72	64.8	142.9	544.5
50.00		1.00	1.27	7.723	8.50	0.00	1.200	1.564	3.50	15.081	18.10	153.7	335.4	2199.6
53.25	Top - Section 1	1.00	1.28	7.808	8.59	0.00	1.200	1.574	3.25	13.756	16.51	141.8	307.8	2004.8
55.00		1.00	1.29	7.852	8.64	0.00	1.200	1.579	1.75	7.307	8.77	75.7	164.7	619.1
60.00		1.00	1.31	7.972	8.77	0.00	1.200	1.592	5.00	20.500	24.60	215.7	461.1	1733.4
65.00		1.00	1.33	8.083	8.89	0.00	1.200	1.605	5.00	19.933	23.92	212.7	451.2	1684.8
70.00		1.00	1.35	8.188	9.01	0.00	1.200	1.617	5.00	19.366	23.24	209.3	440.8	1635.7
75.00		1.00	1.36	8.287	9.12	0.00	1.200	1.628	5.00	18.797	22.56	205.6	430.0	1586.3
80.00		1.00	1.38	8.381	9.22	0.00	1.200	1.639	5.00	18.229	21.87	201.7	418.9	1536.4
85.00		1.00	1.39	8.469	9.32	0.00	1.200	1.649	5.00	17.659	21.19	197.4	407.4	1486.3
90.00		1.00	1.41	8.554	9.41	0.00	1.200	1.658	5.00	17.090	20.51	193.0	395.7	1435.8
95.00	Bot - Section 3	1.00	1.42	8.635	9.50	0.00	1.200	1.667	5.00	16.520	19.82	188.3	383.7	1385.1
100.00	Top - Section 2	1.00	1.43	8.712	9.58	0.00	1.200	1.676	5.00	16.267	19.52	187.1	379.3	2186.9
105.00		1.00	1.45	8.786	9.67	0.00	1.200	1.684	5.00	15.696	18.83	182.0	366.8	1178.6
110.00		1.00	1.46	8.858	9.74	0.00	1.200	1.692	5.00	15.125	18.15	176.8	354.1	1132.7
115.00		1.00	1.47	8.927	9.82	0.00	1.200	1.699	5.00	14.554	17.46	171.5	341.2	1086.7
120.00		1.00	1.48	8.993	9.89	0.00	1.200	1.707	5.00	13.982	16.78	166.0	328.2	1040.4
125.00		1.00	1.49	9.057	9.96	0.00	1.200	1.714	5.00	13.410	16.09	160.3	314.9	994.0
130.00		1.00	1.50	9.119	10.03	0.00	1.200	1.720	5.00	12.838	15.41	154.5	301.5	947.4
135.00		1.00	1.51	9.179	10.10	0.00	1.200	1.727	5.00	12.266	14.72	148.6	288.0	900.7
140.00		1.00	1.52	9.237	10.16	0.00	1.200	1.733	5.00	11.694	14.03	142.6	274.2	853.8
145.00		1.00	1.53	9.294	10.22	0.00	1.200	1.739	5.00	11.121	13.35	136.4	260.4	806.8
145.25	Bot - Section 4	1.00	1.53	9.297	10.23	0.00	1.200	1.740	0.25	0.541	0.65	6.6	13.0	39.4
147.00	Appurtenance(s)	1.00	1.53	9.316	10.25	0.00	1.200	1.742	1.75	3.802	4.56	46.8	90.6	367.2
148.50	Top - Section 3	1.00	1.53	9.332	10.27	0.00	1.200	1.743	1.50	3.203	3.84	39.5	76.4	308.7
150.00		1.00	1.54	9.349	10.28	0.00	1.200	1.745	1.50	3.152	3.78	38.9	75.2	152.4
155.00		1.00	1.55	9.402	10.34	0.00	1.200	1.751	5.00	10.135	12.16	125.8	236.4	483.3
160.00	Appurtenance(s)	1.00	1.55	9.454	10.40	0.00	1.200	1.757	5.00	9.562	11.47	119.3	222.2	452.5
165.00		1.00	1.56	9.505	10.46	0.00	1.200	1.762	5.00	8.989	10.79	112.8	207.9	421.6
167.00	Appurtenance(s)	1.00	1.57	9.525	10.48	0.00	1.200	1.764	2.00	3.434	4.12	43.2	80.8	161.7
169.00	Appurtenance(s)	1.00	1.57	9.545	10.50	0.00	1.200	1.766	2.00	3.343	4.01	42.1	78.5	156.7
								Totals:	**169.00**			**6,205.8**		**49,601.0**

Discrete Appurtenance Forces

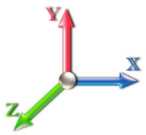
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	169.00	Ericsson RRUS 11 RRUs	6	9.554	10.510	0.60	0.90	11.50	908.09	0.000	1.000	120.91	0.00	120.91
2	169.00	CCI DTMABP7819VG12A	3	9.554	10.510	0.60	0.90	3.47	124.70	0.000	1.000	36.48	0.00	36.48
3	169.00	Andrew SBNH-1D6565C	1	9.554	10.510	0.72	0.90	10.63	246.06	0.000	1.000	111.69	0.00	111.69
4	169.00	KMW	1	9.554	10.510	0.68	0.90	4.66	124.64	0.000	1.000	48.93	0.00	48.93
5	169.00	AM-X-CD-16-65-00T-RET	1	9.554	10.510	0.68	0.90	7.32	175.92	0.000	1.000	76.95	0.00	76.95
6	167.00	Ericsson RRUS 12 RRUs	6	9.554	10.510	0.45	0.90	10.46	997.49	0.000	3.000	109.89	0.00	329.68
7	167.00	HPA-65R-BBU-H8	3	9.554	10.510	0.71	0.90	31.17	1128.93	0.000	3.000	327.60	0.00	982.81
8	167.00	HPA-65R-BUU-H6	3	9.554	10.510	0.77	0.90	25.34	937.28	0.000	3.000	266.33	0.00	799.00
9	167.00	SBNHH-1D65A	3	9.554	10.510	0.75	0.90	15.63	601.85	0.000	3.000	164.23	0.00	492.69
10	167.00	Raycap DC6-48-60-18-8F	3	9.554	10.510	0.90	0.90	5.88	252.45	0.000	3.000	61.79	0.00	185.36
11	167.00	Ericsson RRUS-32 RRUs	3	9.554	10.510	0.60	0.90	7.44	622.42	0.000	3.000	78.24	0.00	234.73
12	167.00	Ericsson RRUS-E2 RRUs	3	9.554	10.510	0.45	0.90	5.23	498.75	0.000	3.000	54.95	0.00	164.84
13	167.00	Ericsson RRUS A2	6	9.554	10.510	0.56	0.90	9.52	310.44	0.000	3.000	100.08	0.00	300.25
14	167.00	T-Arm	3	9.525	10.477	0.56	0.75	31.76	2046.75	0.000	0.000	332.75	0.00	0.00
15	160.00	S11B12	3	9.454	10.400	0.56	0.80	5.89	345.46	0.000	0.000	61.26	0.00	0.00
16	160.00	Air21 B4A/B2P	3	9.454	10.400	0.69	0.80	14.85	839.98	0.000	0.000	154.44	0.00	0.00
17	160.00	Air21 B2A/B4P	3	9.454	10.400	0.69	0.80	14.85	839.98	0.000	0.000	154.44	0.00	0.00
18	160.00	T-Arm	3	9.454	10.400	0.56	0.75	31.70	2043.13	0.000	0.000	329.62	0.00	0.00
19	160.00	Ericsson KRY 112-114/1	3	9.454	10.400	0.56	0.80	1.49	62.85	0.000	0.000	15.52	0.00	0.00
20	160.00	LNX-6515DS-A1M	3	9.454	10.400	0.64	0.80	28.34	674.99	0.000	0.000	294.68	0.00	0.00
21	147.00	ALU RRH2X60-AWS RRH	3	9.316	10.247	0.61	0.80	7.82	417.04	0.000	0.000	80.14	0.00	0.00
22	147.00	Swedcom SC-E 6014 rev2	4	9.316	10.247	0.78	0.80	15.51	341.98	0.000	0.000	158.90	0.00	0.00
23	147.00	Antel LPA-80080/4CF ___	2	9.316	10.247	1.36	0.80	9.41	299.04	0.000	0.000	96.48	0.00	0.00
24	147.00	Commscope	6	9.316	10.247	0.66	0.80	37.33	1571.84	0.000	0.000	382.51	0.00	0.00
25	147.00	RFS DB-T1-6Z-8AB-0Z	2	9.316	10.247	0.57	0.80	6.44	332.13	0.000	0.000	66.03	0.00	0.00
26	147.00	ALU RRH2X60-PCS RRH	3	9.316	10.247	0.89	1.00	7.57	450.95	0.000	0.000	77.56	0.00	0.00
27	147.00	ALU RRH2X60-700 RRH	3	9.316	10.247	0.61	0.80	7.82	417.04	0.000	0.000	80.14	0.00	0.00
28	147.00	FD9R6004/2C-3L	6	9.316	10.247	0.80	0.80	3.85	56.58	0.000	0.000	39.47	0.00	0.00
29	147.00	Low Profile Platform	1	9.316	10.247	1.00	1.00	45.90	2185.02	0.000	0.000	470.36	0.00	0.00
							Totals:		**19,853.80**			**4,352.38**		

Total Applied Force Summary

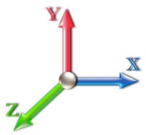
Structure:	CT11794-S-SBA		**Code:**	EIA/TIA-222-G	9/9/2016
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 18

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		216.51	2356.03	0.00	0.00
10.00		212.35	2340.19	0.00	0.00
15.00		208.00	2310.38	0.00	0.00
20.00		213.94	2274.38	0.00	0.00
25.00		217.43	2234.81	0.00	0.00
30.00		219.26	2192.85	0.00	0.00
35.00		219.86	2149.19	0.00	0.00
40.00		219.53	2104.21	0.00	0.00
45.00		218.45	2058.21	0.00	0.00
46.50		64.79	609.21	0.00	0.00
50.00		153.74	2350.63	0.00	0.00
53.25		141.77	2145.12	0.00	0.00
55.00		75.74	694.64	0.00	0.00
60.00		215.71	1949.20	0.00	0.00
65.00		212.69	1900.60	0.00	0.00
70.00		209.31	1851.54	0.00	0.00
75.00		205.62	1802.07	0.00	0.00
80.00		201.65	1752.24	0.00	0.00
85.00		197.42	1702.09	0.00	0.00
90.00		192.96	1651.63	0.00	0.00
95.00		188.29	1600.91	0.00	0.00
100.00		187.07	2402.74	0.00	0.00
105.00		182.04	1394.38	0.00	0.00
110.00		176.84	1348.53	0.00	0.00
115.00		171.48	1302.48	0.00	0.00
120.00		165.97	1256.24	0.00	0.00
125.00		160.32	1209.82	0.00	0.00
130.00		154.53	1163.24	0.00	0.00
135.00		148.62	1116.51	0.00	0.00
140.00		142.58	1069.62	0.00	0.00
145.00		136.43	1022.60	0.00	0.00
145.25		6.64	50.22	0.00	0.00
147.00	(30) attachments	1498.35	6514.39	0.00	0.00
148.50		39.46	350.73	0.00	0.00
150.00		38.89	194.51	0.00	0.00
155.00		125.78	623.50	0.00	0.00
160.00	(18) attachments	1129.27	5399.10	0.00	0.00
165.00		112.78	480.30	0.00	0.00
167.00	(33) attachments	1539.06	7581.53	0.00	3489.37
169.00	(12) attachments	437.08	1759.63	0.00	394.96
	Totals:	**10,558.21**	**76,270.20**	**0.00**	**3,884.33**

Calculated Forces

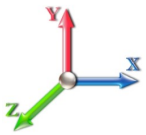
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-76.27	-10.59	0.00	-1273.7	0.00	1273.74	5562.36	2781.18	13652.7	6836.50	0.00	0.000	0.000	0.200
5.00	-73.90	-10.44	0.00	-1220.7	0.00	1220.78	5482.35	2741.17	13146.4	6582.98	0.03	-0.048	0.000	0.199
10.00	-71.55	-10.28	0.00	-1168.6	0.00	1168.61	5400.13	2700.07	12644.0	6331.40	0.10	-0.096	0.000	0.198
15.00	-69.23	-10.13	0.00	-1117.2	0.00	1117.20	5315.71	2657.86	12145.8	6081.95	0.23	-0.146	0.000	0.197
20.00	-66.95	-9.97	0.00	-1066.5	0.00	1066.56	5229.08	2614.54	11652.3	5834.81	0.41	-0.198	0.000	0.196
25.00	-64.71	-9.80	0.00	-1016.7	0.00	1016.71	5140.25	2570.12	11163.7	5590.18	0.65	-0.251	0.000	0.194
30.00	-62.51	-9.64	0.00	-967.68	0.00	967.68	5049.20	2524.60	10680.6	5348.24	0.94	-0.305	0.000	0.193
35.00	-60.35	-9.46	0.00	-919.51	0.00	919.51	4955.95	2477.97	10203.2	5109.18	1.29	-0.361	0.000	0.192
40.00	-58.24	-9.29	0.00	-872.20	0.00	872.20	4860.49	2430.24	9731.91	4873.19	1.70	-0.419	0.000	0.191
45.00	-56.17	-9.09	0.00	-825.76	0.00	825.76	4762.82	2381.41	9267.12	4640.45	2.17	-0.478	0.000	0.190
46.50	-55.56	-9.05	0.00	-812.12	0.00	812.12	4733.09	2366.54	9129.00	4571.29	2.32	-0.497	0.000	0.189
50.00	-53.21	-8.92	0.00	-780.44	0.00	780.44	4662.94	2331.47	8809.20	4411.15	2.70	-0.540	0.000	0.188
53.25	-51.06	-8.78	0.00	-751.47	0.00	751.47	4662.03	2331.01	8805.10	4409.10	3.08	-0.582	0.000	0.181
55.00	-50.36	-8.74	0.00	-736.10	0.00	736.10	4626.54	2313.27	8646.55	4329.70	3.30	-0.605	0.000	0.181
60.00	-48.40	-8.55	0.00	-692.42	0.00	692.42	4523.67	2261.83	8198.57	4105.38	3.97	-0.666	0.000	0.179
65.00	-46.49	-8.37	0.00	-649.67	0.00	649.67	4418.66	2209.33	7758.49	3885.01	4.70	-0.729	0.000	0.178
70.00	-44.64	-8.18	0.00	-607.83	0.00	607.83	4277.83	2138.92	7269.40	3640.10	5.50	-0.794	0.000	0.177
75.00	-42.83	-8.00	0.00	-566.91	0.00	566.91	4137.00	2068.50	6796.24	3403.17	6.36	-0.861	0.000	0.177
80.00	-41.07	-7.82	0.00	-526.89	0.00	526.89	3996.18	1998.09	6339.00	3174.21	7.30	-0.929	0.000	0.176
85.00	-39.36	-7.65	0.00	-487.77	0.00	487.77	3855.35	1927.67	5897.69	2953.23	8.31	-1.000	0.000	0.175
90.00	-37.70	-7.47	0.00	-449.53	0.00	449.53	3714.52	1857.26	5472.29	2740.21	9.40	-1.073	0.000	0.174
95.00	-36.10	-7.30	0.00	-412.16	0.00	412.16	3573.69	1786.85	5062.82	2535.17	10.56	-1.148	0.000	0.173
100.00	-33.69	-7.11	0.00	-375.65	0.00	375.65	3014.30	1507.15	4208.99	2107.62	11.81	-1.225	0.000	0.189
105.00	-32.29	-6.95	0.00	-340.09	0.00	340.09	2893.59	1446.80	3876.87	1941.32	13.13	-1.303	0.000	0.186
110.00	-30.93	-6.78	0.00	-305.36	0.00	305.36	2772.88	1386.44	3558.41	1781.85	14.54	-1.390	0.000	0.183
115.00	-29.63	-6.63	0.00	-271.44	0.00	271.44	2652.17	1326.09	3253.59	1629.21	16.05	-1.479	0.000	0.178
120.00	-28.36	-6.47	0.00	-238.31	0.00	238.31	2531.46	1265.73	2962.42	1483.41	17.64	-1.568	0.000	0.172
125.00	-27.15	-6.32	0.00	-205.95	0.00	205.95	2410.75	1205.38	2684.90	1344.44	19.33	-1.658	0.000	0.164
130.00	-25.98	-6.17	0.00	-174.36	0.00	174.36	2290.04	1145.02	2421.02	1212.31	21.12	-1.747	0.000	0.155
135.00	-24.86	-6.02	0.00	-143.51	0.00	143.51	2169.33	1084.67	2170.80	1087.01	23.00	-1.833	0.000	0.144
140.00	-23.79	-5.88	0.00	-113.39	0.00	113.39	2048.62	1024.31	1934.22	968.55	24.96	-1.915	0.000	0.129
145.00	-22.77	-5.72	0.00	-83.99	0.00	83.99	1927.91	963.96	1711.29	856.92	27.01	-1.991	0.000	0.110
145.25	-22.72	-5.72	0.00	-82.56	0.00	82.56	1921.88	960.94	1700.50	851.51	27.11	-1.994	0.000	0.109
147.00	-16.26	-4.00	0.00	-72.55	0.00	72.55	1879.63	939.81	1625.94	814.18	27.85	-2.019	0.000	0.098
148.50	-15.91	-3.95	0.00	-66.55	0.00	66.55	907.84	453.92	797.93	399.56	28.49	-2.040	0.000	0.184
150.00	-15.71	-3.93	0.00	-60.62	0.00	60.62	895.57	447.78	771.95	386.55	29.13	-2.060	0.000	0.174
155.00	-15.09	-3.80	0.00	-40.99	0.00	40.99	853.23	426.61	687.23	344.13	31.35	-2.164	0.000	0.137
160.00	-9.73	-2.48	0.00	-21.98	0.00	21.98	807.76	403.88	604.95	302.92	33.66	-2.242	0.000	0.085
165.00	-9.25	-2.35	0.00	-9.60	0.00	9.60	747.41	373.70	517.50	259.13	36.03	-2.291	0.000	0.049
167.00	-1.74	-0.51	0.00	-1.41	0.00	1.41	723.26	361.63	484.43	242.57	37.00	-2.303	0.000	0.008
169.00	0.00	-0.44	0.00	-0.39	0.00	0.39	699.12	349.56	452.45	226.56	37.96	-2.304	0.000	0.002

Seismic Segment Forces (Factored)

Structure:	CT11794-S-SBA		**Code:**	EIA/TIA-222-G	9/9/2016
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 20

Tower Engineering Solutions

Load Case:	1.2D + 1.0E							**Iterations**	23
Gust Response Factor	1.10				**Sds**	0.17		**Ss**	0.16
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.09		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency**	0.36		**SA**	0.03	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1394.3	0.00	0.03	0.02	20.31	
10.00		1362.1	0.01	0.05	0.03	29.75	
15.00		1329.8	0.01	0.06	0.04	34.22	
20.00		1297.6	0.03	0.07	0.04	36.18	
25.00		1265.3	0.04	0.07	0.04	36.86	
30.00		1233.1	0.06	0.07	0.04	36.96	
35.00		1200.8	0.08	0.07	0.04	36.83	
40.00		1168.6	0.11	0.07	0.04	36.62	
45.00		1136.3	0.13	0.07	0.03	36.33	
46.50	Bot - Section 2	334.62	0.14	0.07	0.03	10.75	
50.00		1553.4	0.17	0.07	0.03	50.40	
53.25	Top - Section 1	1414.1	0.19	0.06	0.02	46.06	
55.00		378.71	0.20	0.06	0.02	12.32	
60.00		1060.2	0.24	0.06	0.02	33.86	
65.00		1028.0	0.28	0.05	0.01	31.07	
70.00		995.77	0.32	0.04	0.01	26.86	
75.00		963.52	0.37	0.03	0.01	21.01	
80.00		931.27	0.42	0.01	0.01	13.54	
85.00		899.02	0.48	-0.01	0.01	4.88	
90.00		866.77	0.54	-0.03	0.01	-4.06	
95.00	Bot - Section 3	834.52	0.60	-0.05	0.01	-12.15	
100.00	Top - Section 2	1506.3	0.66	-0.07	0.02	-34.39	
105.00		676.47	0.73	-0.10	0.04	-19.23	
110.00		648.82	0.80	-0.11	0.05	-19.93	
115.00		621.18	0.88	-0.12	0.08	-18.28	
120.00		593.54	0.95	-0.12	0.11	-14.54	
125.00		565.89	1.03	-0.10	0.15	-9.03	
130.00		538.25	1.12	-0.06	0.20	-2.07	
135.00		510.61	1.21	0.01	0.26	6.06	
140.00		482.96	1.30	0.12	0.33	15.05	
145.00		455.32	1.39	0.27	0.42	24.62	
145.25	Bot - Section 4	22.04	1.40	0.28	0.43	1.22	
147.00	Appurtenance(s)	2400.1	1.43	0.34	0.46	154.27	
148.50	Top - Section 3	193.54	1.46	0.41	0.50	14.00	
150.00		64.41	1.49	0.47	0.53	5.20	
155.00		205.71	1.59	0.75	0.66	22.84	
160.00	Appurtenance(s)	2276.2	1.69	1.10	0.81	330.42	
165.00		178.07	1.80	1.55	0.98	32.62	
167.00	Appurtenance(s)	2703.4	1.85	1.75	1.06	539.35	
169.00	Appurtenance(s)	577.95	1.89	1.98	1.14	125.10	
	Totals:	**37,869.3**				**1,691.9**	**Total Wind:** **37,955.3**

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Tower Engineering Solutions

Load Case: 1.2D + 1.0E

Gust Response Factor	1.10			**Sds**	0.17			**Iterations**	23
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.09			**Ss**	0.16
Wind Load Factor	0.00	**Structure Frequency**	0.36	**SA**	0.03			**S1**	0.06
								Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-52.26	-1.83	0.00	-239.10	0.00	239.10	5562.36	2781.18	13652.7	6836.50		0.00	0.00	0.044
5.00	-50.37	-1.82	0.00	-229.96	0.00	229.96	5482.35	2741.17	13146.4	6582.98		0.00	-0.01	0.044
10.00	-48.52	-1.79	0.00	-220.87	0.00	220.87	5400.13	2700.07	12644.0	6331.40		0.02	-0.02	0.044
15.00	-46.71	-1.77	0.00	-211.90	0.00	211.90	5315.71	2657.86	12145.8	6081.95		0.04	-0.03	0.044
20.00	-44.93	-1.74	0.00	-203.07	0.00	203.07	5229.08	2614.54	11652.3	5834.81		0.08	-0.04	0.043
25.00	-43.20	-1.71	0.00	-194.38	0.00	194.38	5140.25	2570.12	11163.7	5590.18		0.12	-0.05	0.043
30.00	-41.50	-1.68	0.00	-185.84	0.00	185.84	5049.20	2524.60	10680.6	5348.24		0.18	-0.06	0.043
35.00	-39.85	-1.65	0.00	-177.45	0.00	177.45	4955.95	2477.97	10203.2	5109.18		0.24	-0.07	0.043
40.00	-38.23	-1.61	0.00	-169.23	0.00	169.23	4860.49	2430.24	9731.91	4873.19		0.32	-0.08	0.043
45.00	-36.65	-1.58	0.00	-161.15	0.00	161.15	4762.82	2381.41	9267.12	4640.45		0.41	-0.09	0.042
46.50	-36.18	-1.57	0.00	-158.78	0.00	158.78	4733.09	2366.54	9129.00	4571.29		0.44	-0.10	0.042
50.00	-34.17	-1.52	0.00	-153.28	0.00	153.28	4662.94	2331.47	8809.20	4411.15		0.51	-0.10	0.042
53.25	-32.33	-1.48	0.00	-148.32	0.00	148.32	4662.03	2331.01	8805.10	4409.10		0.59	-0.11	0.041
55.00	-31.80	-1.47	0.00	-145.74	0.00	145.74	4626.54	2313.27	8646.55	4329.70		0.63	-0.12	0.041
60.00	-30.31	-1.44	0.00	-138.39	0.00	138.39	4523.67	2261.83	8198.57	4105.38		0.76	-0.13	0.040
65.00	-28.86	-1.41	0.00	-131.19	0.00	131.19	4418.66	2209.33	7758.49	3885.01		0.90	-0.14	0.040
70.00	-27.45	-1.39	0.00	-124.14	0.00	124.14	4277.83	2138.92	7269.40	3640.10		1.05	-0.15	0.041
75.00	-26.08	-1.37	0.00	-117.20	0.00	117.20	4137.00	2068.50	6796.24	3403.17		1.22	-0.17	0.041
80.00	-24.74	-1.36	0.00	-110.36	0.00	110.36	3996.18	1998.09	6339.00	3174.21		1.41	-0.18	0.041
85.00	-23.45	-1.35	0.00	-103.58	0.00	103.58	3855.35	1927.67	5897.69	2953.23		1.60	-0.20	0.041
90.00	-22.19	-1.36	0.00	-96.80	0.00	96.80	3714.52	1857.26	5472.29	2740.21		1.82	-0.21	0.041
95.00	-20.97	-1.36	0.00	-90.02	0.00	90.02	3573.69	1786.85	5062.82	2535.17		2.05	-0.23	0.041
100.00	-18.95	-1.35	0.00	-83.24	0.00	83.24	3014.30	1507.15	4208.99	2107.62		2.30	-0.25	0.046
105.00	-17.92	-1.36	0.00	-76.46	0.00	76.46	2893.59	1446.80	3876.87	1941.32		2.57	-0.26	0.046
110.00	-16.93	-1.36	0.00	-69.68	0.00	69.68	2772.88	1386.44	3558.41	1781.85		2.85	-0.28	0.045
115.00	-15.97	-1.36	0.00	-62.90	0.00	62.90	2652.17	1326.09	3253.59	1629.21		3.16	-0.30	0.045
120.00	-15.04	-1.36	0.00	-56.11	0.00	56.11	2531.46	1265.73	2962.42	1483.41		3.49	-0.32	0.044
125.00	-14.14	-1.36	0.00	-49.32	0.00	49.32	2410.75	1205.38	2684.90	1344.44		3.84	-0.35	0.043
130.00	-13.28	-1.36	0.00	-42.52	0.00	42.52	2290.04	1145.02	2421.02	1212.31		4.21	-0.37	0.041
135.00	-12.45	-1.35	0.00	-35.73	0.00	35.73	2169.33	1084.67	2170.80	1087.01		4.61	-0.39	0.039
140.00	-11.66	-1.33	0.00	-28.98	0.00	28.98	2048.62	1024.31	1934.22	968.55		5.03	-0.41	0.036
145.00	-10.89	-1.31	0.00	-22.30	0.00	22.30	1927.91	963.96	1711.29	856.92		5.47	-0.43	0.032
145.25	-10.86	-1.31	0.00	-21.98	0.00	21.98	1921.88	960.94	1700.50	851.51		5.49	-0.43	0.031
147.00	-7.90	-1.13	0.00	-19.69	0.00	19.69	1879.63	939.81	1625.94	814.18		5.65	-0.44	0.028
148.50	-7.63	-1.11	0.00	-18.00	0.00	18.00	907.84	453.92	797.93	399.56		5.79	-0.44	0.053
150.00	-7.51	-1.11	0.00	-16.33	0.00	16.33	895.57	447.78	771.95	386.55		5.93	-0.45	0.051
155.00	-7.12	-1.09	0.00	-10.77	0.00	10.77	853.23	426.61	687.23	344.13		6.41	-0.47	0.040
160.00	-4.25	-0.73	0.00	-5.33	0.00	5.33	807.76	403.88	604.95	302.92		6.92	-0.50	0.023
165.00	-3.98	-0.70	0.00	-1.66	0.00	1.66	747.41	373.70	517.50	259.13		7.45	-0.51	0.012
167.00	-0.72	-0.13	0.00	-0.26	0.00	0.26	723.26	361.63	484.43	242.57		7.66	-0.51	0.002
169.00	0.00	-0.13	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56		7.87	-0.51	0.000

Seismic Segment Forces (Factored)

Structure:	CT11794-S-SBA		**Code:**	EIA/TIA-222-G	9/9/2016
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 22

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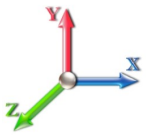
Load Case:	0.9D + 1.0E							**Iterations**	22
Gust Response Factor	1.10				**Sds**	0.17		**Ss**	0.16
Dead Load Factor	0.90	**Seismic Load Factor**	1.00		**Sd1**	0.09		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency**	0.36		**SA**	0.03	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1394.3	0.00	0.03	0.02	20.31	
10.00		1362.1	0.01	0.05	0.03	29.75	
15.00		1329.8	0.01	0.06	0.04	34.22	
20.00		1297.6	0.03	0.07	0.04	36.18	
25.00		1265.3	0.04	0.07	0.04	36.86	
30.00		1233.1	0.06	0.07	0.04	36.96	
35.00		1200.8	0.08	0.07	0.04	36.83	
40.00		1168.6	0.11	0.07	0.04	36.62	
45.00		1136.3	0.13	0.07	0.03	36.33	
46.50	Bot - Section 2	334.62	0.14	0.07	0.03	10.75	
50.00		1553.4	0.17	0.07	0.03	50.40	
53.25	Top - Section 1	1414.1	0.19	0.06	0.02	46.06	
55.00		378.71	0.20	0.06	0.02	12.32	
60.00		1060.2	0.24	0.06	0.02	33.86	
65.00		1028.0	0.28	0.05	0.01	31.07	
70.00		995.77	0.32	0.04	0.01	26.86	
75.00		963.52	0.37	0.03	0.01	21.01	
80.00		931.27	0.42	0.01	0.01	13.54	
85.00		899.02	0.48	-0.01	0.01	4.88	
90.00		866.77	0.54	-0.03	0.01	-4.06	
95.00	Bot - Section 3	834.52	0.60	-0.05	0.01	-12.15	
100.00	Top - Section 2	1506.3	0.66	-0.07	0.02	-34.39	
105.00		676.47	0.73	-0.10	0.04	-19.23	
110.00		648.82	0.80	-0.11	0.05	-19.93	
115.00		621.18	0.88	-0.12	0.08	-18.28	
120.00		593.54	0.95	-0.12	0.11	-14.54	
125.00		565.89	1.03	-0.10	0.15	-9.03	
130.00		538.25	1.12	-0.06	0.20	-2.07	
135.00		510.61	1.21	0.01	0.26	6.06	
140.00		482.96	1.30	0.12	0.33	15.05	
145.00		455.32	1.39	0.27	0.42	24.62	
145.25	Bot - Section 4	22.04	1.40	0.28	0.43	1.22	
147.00	Appurtenance(s)	2400.1	1.43	0.34	0.46	154.27	
148.50	Top - Section 3	193.54	1.46	0.41	0.50	14.00	
150.00		64.41	1.49	0.47	0.53	5.20	
155.00		205.71	1.59	0.75	0.66	22.84	
160.00	Appurtenance(s)	2276.2	1.69	1.10	0.81	330.42	
165.00		178.07	1.80	1.55	0.98	32.62	
167.00	Appurtenance(s)	2703.4	1.85	1.75	1.06	539.35	
169.00	Appurtenance(s)	577.95	1.89	1.98	1.14	125.10	
	Totals:	**37,869.3**				**1,691.9**	**Total Wind:** **37,955.3**

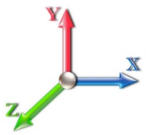
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Tower Engineering Solutions

Load Case: 0.9D + 1.0E



Gust Response Factor	1.10			**Sds**	0.17			**Iterations**	22
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.09			**Ss**	0.16
Wind Load Factor	0.00	**Structure Frequency**	0.36	**SA**	0.03			**S1**	0.06
								Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-39.19	-1.83	0.00	-236.18	0.00	236.18	5562.36	2781.18	13652.7	6836.50		0.00	0.00	0.042
5.00	-37.78	-1.81	0.00	-227.04	0.00	227.04	5482.35	2741.17	13146.4	6582.98		0.00	-0.01	0.041
10.00	-36.39	-1.79	0.00	-217.98	0.00	217.98	5400.13	2700.07	12644.0	6331.40		0.02	-0.02	0.041
15.00	-35.03	-1.76	0.00	-209.04	0.00	209.04	5315.71	2657.86	12145.8	6081.95		0.04	-0.03	0.041
20.00	-33.70	-1.73	0.00	-200.24	0.00	200.24	5229.08	2614.54	11652.3	5834.81		0.08	-0.04	0.041
25.00	-32.40	-1.70	0.00	-191.59	0.00	191.59	5140.25	2570.12	11163.7	5590.18		0.12	-0.05	0.041
30.00	-31.13	-1.66	0.00	-183.11	0.00	183.11	5049.20	2524.60	10680.6	5348.24		0.18	-0.06	0.040
35.00	-29.88	-1.63	0.00	-174.79	0.00	174.79	4955.95	2477.97	10203.2	5109.18		0.24	-0.07	0.040
40.00	-28.67	-1.60	0.00	-166.64	0.00	166.64	4860.49	2430.24	9731.91	4873.19		0.32	-0.08	0.040
45.00	-27.49	-1.56	0.00	-158.64	0.00	158.64	4762.82	2381.41	9267.12	4640.45		0.41	-0.09	0.040
46.50	-27.14	-1.56	0.00	-156.30	0.00	156.30	4733.09	2366.54	9129.00	4571.29		0.43	-0.09	0.040
50.00	-25.62	-1.51	0.00	-150.85	0.00	150.85	4662.94	2331.47	8809.20	4411.15		0.51	-0.10	0.040
53.25	-24.25	-1.46	0.00	-145.95	0.00	145.95	4662.03	2331.01	8805.10	4409.10		0.58	-0.11	0.038
55.00	-23.85	-1.45	0.00	-143.40	0.00	143.40	4626.54	2313.27	8646.55	4329.70		0.62	-0.11	0.038
60.00	-22.73	-1.42	0.00	-136.14	0.00	136.14	4523.67	2261.83	8198.57	4105.38		0.75	-0.13	0.038
65.00	-21.64	-1.39	0.00	-129.05	0.00	129.05	4418.66	2209.33	7758.49	3885.01		0.89	-0.14	0.038
70.00	-20.59	-1.37	0.00	-122.09	0.00	122.09	4277.83	2138.92	7269.40	3640.10		1.04	-0.15	0.038
75.00	-19.56	-1.35	0.00	-115.26	0.00	115.26	4137.00	2068.50	6796.24	3403.17		1.20	-0.17	0.039
80.00	-18.56	-1.34	0.00	-108.53	0.00	108.53	3996.18	1998.09	6339.00	3174.21		1.39	-0.18	0.039
85.00	-17.59	-1.33	0.00	-101.85	0.00	101.85	3855.35	1927.67	5897.69	2953.23		1.58	-0.19	0.039
90.00	-16.64	-1.33	0.00	-95.20	0.00	95.20	3714.52	1857.26	5472.29	2740.21		1.79	-0.21	0.039
95.00	-15.73	-1.33	0.00	-88.53	0.00	88.53	3573.69	1786.85	5062.82	2535.17		2.02	-0.23	0.039
100.00	-14.21	-1.33	0.00	-81.86	0.00	81.86	3014.30	1507.15	4208.99	2107.62		2.27	-0.24	0.044
105.00	-13.44	-1.33	0.00	-75.20	0.00	75.20	2893.59	1446.80	3876.87	1941.32		2.53	-0.26	0.043
110.00	-12.69	-1.33	0.00	-68.54	0.00	68.54	2772.88	1386.44	3558.41	1781.85		2.81	-0.28	0.043
115.00	-11.97	-1.33	0.00	-61.87	0.00	61.87	2652.17	1326.09	3253.59	1629.21		3.11	-0.30	0.042
120.00	-11.28	-1.33	0.00	-55.20	0.00	55.20	2531.46	1265.73	2962.42	1483.41		3.44	-0.32	0.042
125.00	-10.60	-1.33	0.00	-48.53	0.00	48.53	2410.75	1205.38	2684.90	1344.44		3.78	-0.34	0.040
130.00	-9.96	-1.33	0.00	-41.85	0.00	41.85	2290.04	1145.02	2421.02	1212.31		4.15	-0.36	0.039
135.00	-9.34	-1.33	0.00	-35.18	0.00	35.18	2169.33	1084.67	2170.80	1087.01		4.54	-0.38	0.037
140.00	-8.74	-1.31	0.00	-28.54	0.00	28.54	2048.62	1024.31	1934.22	968.55		4.95	-0.40	0.034
145.00	-8.17	-1.28	0.00	-21.98	0.00	21.98	1927.91	963.96	1711.29	856.92		5.38	-0.42	0.030
145.25	-8.14	-1.28	0.00	-21.66	0.00	21.66	1921.88	960.94	1700.50	851.51		5.41	-0.42	0.030
147.00	-5.92	-1.11	0.00	-19.41	0.00	19.41	1879.63	939.81	1625.94	814.18		5.56	-0.43	0.027
148.50	-5.72	-1.10	0.00	-17.74	0.00	17.74	907.84	453.92	797.93	399.56		5.70	-0.44	0.051
150.00	-5.63	-1.09	0.00	-16.09	0.00	16.09	895.57	447.78	771.95	386.55		5.84	-0.44	0.048
155.00	-5.34	-1.07	0.00	-10.62	0.00	10.62	853.23	426.61	687.23	344.13		6.31	-0.47	0.037
160.00	-3.19	-0.72	0.00	-5.26	0.00	5.26	807.76	403.88	604.95	302.92		6.81	-0.49	0.021
165.00	-2.98	-0.69	0.00	-1.64	0.00	1.64	747.41	373.70	517.50	259.13		7.33	-0.50	0.010
167.00	-0.54	-0.13	0.00	-0.26	0.00	0.26	723.26	361.63	484.43	242.57		7.54	-0.50	0.002
169.00	0.00	-0.13	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56		7.75	-0.50	0.000

Wind Loading - Shaft

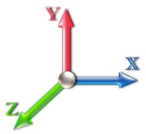
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	1.03	9.018	9.92	309.89	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	1.03	9.018	9.92	302.85	0.650	0.000	5.00	25.156	16.35	162.2	0.0	1394.4
10.00		1.00	1.03	9.018	9.92	295.82	0.650	0.000	5.00	24.579	15.98	158.5	0.0	1362.1
15.00		1.00	1.03	9.020	9.92	288.82	0.650	0.000	5.00	24.001	15.60	154.8	0.0	1329.8
20.00		1.00	1.08	9.483	10.43	288.92	0.650	0.000	5.00	23.423	15.23	158.8	0.0	1297.6
25.00		1.00	1.13	9.858	10.84	287.23	0.650	0.000	5.00	22.846	14.85	161.0	0.0	1265.3
30.00		1.00	1.16	10.175	11.19	284.34	0.650	0.000	5.00	22.268	14.47	162.0	0.0	1233.1
35.00		1.00	1.19	10.452	11.50	280.61	0.650	0.000	5.00	21.691	14.10	162.1	0.0	1200.8
40.00		1.00	1.22	10.697	11.77	276.22	0.650	0.000	5.00	21.113	13.72	161.5	0.0	1168.6
45.00		1.00	1.25	10.919	12.01	271.33	0.650	0.000	5.00	20.536	13.35	160.3	0.0	1136.3
46.50	Bot - Section 2	1.00	1.25	10.981	12.08	269.77	0.650	0.000	1.50	6.048	3.93	47.5	0.0	334.6
50.00		1.00	1.27	11.121	12.23	266.01	0.650	0.000	3.50	14.169	9.21	112.7	0.0	1553.4
53.25	Top - Section 1	1.00	1.28	11.243	12.37	262.37	0.650	0.000	3.25	12.904	8.39	103.7	0.0	1414.2
55.00		1.00	1.29	11.307	12.44	265.40	0.650	0.000	1.75	6.847	4.45	55.4	0.0	378.7
60.00		1.00	1.31	11.479	12.63	259.48	0.650	0.000	5.00	19.173	12.46	157.4	0.0	1060.3
65.00		1.00	1.33	11.640	12.80	253.30	0.650	0.000	5.00	18.596	12.09	154.8	0.0	1028.0
70.00		1.00	1.35	11.791	12.97	246.90	0.650	0.000	5.00	18.018	11.71	151.9	0.0	995.8
75.00		1.00	1.36	11.933	13.13	240.29	0.650	0.000	5.00	17.440	11.34	148.8	0.0	963.5
80.00		1.00	1.38	12.068	13.27	233.50	0.650	0.000	5.00	16.863	10.96	145.5	0.0	931.3
85.00		1.00	1.39	12.196	13.42	226.56	0.650	0.000	5.00	16.285	10.59	142.0	0.0	899.0
90.00		1.00	1.41	12.318	13.55	219.47	0.650	0.000	5.00	15.708	10.21	138.3	0.0	866.8
95.00	Bot - Section 3	1.00	1.42	12.434	13.68	212.24	0.650	0.000	5.00	15.130	9.83	134.5	0.0	834.5
100.00	Top - Section 2	1.00	1.43	12.546	13.80	204.89	0.650	0.000	5.00	14.870	9.67	133.4	0.0	1506.4
105.00		1.00	1.45	12.652	13.92	202.01	0.650	0.000	5.00	14.292	9.29	129.3	0.0	676.5
110.00		1.00	1.46	12.755	14.03	194.46	0.650	0.000	5.00	13.715	8.91	125.1	0.0	648.8
115.00		1.00	1.47	12.854	14.14	186.82	0.650	0.000	5.00	13.137	8.54	120.7	0.0	621.2
120.00		1.00	1.48	12.950	14.24	179.08	0.650	0.000	5.00	12.560	8.16	116.3	0.0	593.5
125.00		1.00	1.49	13.042	14.35	171.26	0.650	0.000	5.00	11.982	7.79	111.7	0.0	565.9
130.00		1.00	1.50	13.131	14.44	163.36	0.650	0.000	5.00	11.405	7.41	107.1	0.0	538.3
135.00		1.00	1.51	13.218	14.54	155.38	0.650	0.000	5.00	10.827	7.04	102.3	0.0	510.6
140.00		1.00	1.52	13.302	14.63	147.33	0.650	0.000	5.00	10.249	6.66	97.5	0.0	483.0
145.00		1.00	1.53	13.383	14.72	139.21	0.650	0.000	5.00	9.672	6.29	92.5	0.0	455.3
145.25	Bot - Section 4	1.00	1.53	13.387	14.73	138.80	0.650	0.000	0.25	0.468	0.30	4.5	0.0	22.0
147.00	Appurtenance(s)	1.00	1.53	13.415	14.76	135.95	0.650	0.000	1.75	3.294	2.14	31.6	0.0	230.5
148.50	Top - Section 3	1.00	1.53	13.439	14.78	133.49	0.650	0.000	1.50	2.767	1.80	26.6	0.0	193.5
150.00		1.00	1.54	13.462	14.81	133.39	0.650	0.000	1.50	2.715	1.76	26.1	0.0	64.4
155.00		1.00	1.55	13.539	14.89	125.15	0.650	0.000	5.00	8.675	5.64	84.0	0.0	205.7
160.00	Appurtenance(s)	1.00	1.55	13.614	14.98	116.85	0.650	0.000	5.00	8.098	5.26	78.8	0.0	191.9
165.00		1.00	1.56	13.687	15.06	108.50	0.650	0.000	5.00	7.520	4.89	73.6	0.0	178.1
167.00	Appurtenance(s)	1.00	1.57	13.716	15.09	105.15	0.650	0.000	2.00	2.846	1.85	27.9	0.0	67.4
169.00	Appurtenance(s)	1.00	1.57	13.744	15.12	101.78	0.650	0.000	2.00	2.754	1.79	27.1	0.0	65.1
								Totals:	**169.00**			**4,449.8**		**30,466.3**

Discrete Appurtenance Forces

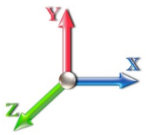
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	169.00	Ericsson RRUS 11 RRUs	6	13.758	15.134	0.60	0.90	9.12	304.20	0.000	1.000	137.98	0.00	137.98
2	169.00	CCI DTMABP7819VG12A	3	13.758	15.134	0.60	0.90	2.06	57.60	0.000	1.000	31.21	0.00	31.21
3	169.00	Andrew SBNH-1D6565C	1	13.758	15.134	0.72	0.90	8.26	66.10	0.000	1.000	124.98	0.00	124.98
4	169.00	KMW	1	13.758	15.134	0.68	0.90	3.38	36.40	0.000	1.000	51.08	0.00	51.08
5	169.00	AM-X-CD-16-65-00T-RET	1	13.758	15.134	0.68	0.90	5.41	48.50	0.000	1.000	81.93	0.00	81.93
6	167.00	Ericsson RRUS 12 RRUs	6	13.758	15.134	0.45	0.90	8.50	348.00	0.000	3.000	128.72	0.00	386.15
7	167.00	HPA-65R-BBU-H8	3	13.758	15.134	0.71	0.90	27.69	204.00	0.000	3.000	419.01	0.00	1257.03
8	167.00	HPA-65R-BUU-H6	3	13.758	15.134	0.77	0.90	22.17	153.00	0.000	3.000	335.52	0.00	1006.56
9	167.00	SBNHH-1D65A	3	13.758	15.134	0.75	0.90	13.18	100.50	0.000	3.000	199.42	0.00	598.27
10	167.00	Raycap DC6-48-60-18-8F	3	13.758	15.134	0.90	0.90	3.97	98.40	0.000	3.000	60.07	0.00	180.20
11	167.00	Ericsson RRUS-32 RRUs	3	13.758	15.134	0.60	0.90	7.00	231.00	0.000	3.000	105.95	0.00	317.86
12	167.00	Ericsson RRUS-E2 RRUs	3	13.758	15.134	0.45	0.90	5.22	174.00	0.000	3.000	79.07	0.00	237.21
13	167.00	Ericsson RRUS A2	6	13.758	15.134	0.56	0.90	6.23	127.20	0.000	3.000	94.24	0.00	282.73
14	167.00	T-Arm	3	13.716	15.087	0.56	0.75	16.88	1200.00	0.000	0.000	254.60	0.00	0.00
15	160.00	S11B12	3	13.614	14.975	0.56	0.80	4.75	153.00	0.000	0.000	71.20	0.00	0.00
16	160.00	Air21 B4A/B2P	3	13.614	14.975	0.69	0.80	12.57	274.50	0.000	0.000	188.24	0.00	0.00
17	160.00	Air21 B2A/B4P	3	13.614	14.975	0.69	0.80	12.57	274.50	0.000	0.000	188.24	0.00	0.00
18	160.00	T-Arm	3	13.614	14.975	0.56	0.75	16.88	1200.00	0.000	0.000	252.71	0.00	0.00
19	160.00	Ericsson KRY 112-114/1	3	13.614	14.975	0.56	0.80	0.69	33.00	0.000	0.000	10.32	0.00	0.00
20	160.00	LNX-6515DS-A1M	3	13.614	14.975	0.64	0.80	22.02	149.40	0.000	0.000	329.80	0.00	0.00
21	147.00	ALU RRH2X60-AWS RRH	3	13.415	14.756	0.61	0.80	6.38	180.00	0.000	0.000	94.20	0.00	0.00
22	147.00	Swedcom SC-E 6014 rev2	4	13.415	14.756	0.78	0.80	10.34	60.00	0.000	0.000	152.53	0.00	0.00
23	147.00	Antel LPA-80080/4CF ___	2	13.415	14.756	1.36	0.80	7.10	24.00	0.000	0.000	104.76	0.00	0.00
24	147.00	Commscope	6	13.415	14.756	0.66	0.80	32.19	304.26	0.000	0.000	475.02	0.00	0.00
25	147.00	RFS DB-T1-6Z-8AB-0Z	2	13.415	14.756	0.57	0.80	5.45	37.80	0.000	0.000	80.46	0.00	0.00
26	147.00	ALU RRH2X60-PCS RRH	3	13.415	14.756	0.89	1.00	5.87	165.00	0.000	0.000	86.68	0.00	0.00
27	147.00	ALU RRH2X60-700 RRH	3	13.415	14.756	0.61	0.80	6.38	180.00	0.000	0.000	94.20	0.00	0.00
28	147.00	FD9R6004/2C-3L	6	13.415	14.756	0.80	0.80	1.73	18.60	0.000	0.000	25.50	0.00	0.00
29	147.00	Low Profile Platform	1	13.415	14.756	1.00	1.00	25.00	1200.00	0.000	0.000	368.91	0.00	0.00
							Totals:		**7,402.96**			**4,626.55**		

Total Applied Force Summary

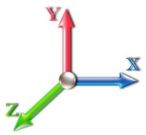
Structure:	CT11794-S-SBA		**Code:**	EIA/TIA-222-G	9/9/2016
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 26

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		162.20	1574.20	0.00	0.00
10.00		158.48	1541.95	0.00	0.00
15.00		154.79	1509.70	0.00	0.00
20.00		158.81	1477.45	0.00	0.00
25.00		161.03	1445.20	0.00	0.00
30.00		162.01	1412.95	0.00	0.00
35.00		162.10	1380.70	0.00	0.00
40.00		161.49	1348.45	0.00	0.00
45.00		160.32	1316.20	0.00	0.00
46.50		47.49	388.57	0.00	0.00
50.00		112.66	1679.33	0.00	0.00
53.25		103.73	1531.08	0.00	0.00
55.00		55.35	441.66	0.00	0.00
60.00		157.36	1240.12	0.00	0.00
65.00		154.76	1207.87	0.00	0.00
70.00		151.90	1175.62	0.00	0.00
75.00		148.81	1143.37	0.00	0.00
80.00		145.50	1111.12	0.00	0.00
85.00		142.01	1078.87	0.00	0.00
90.00		138.34	1046.62	0.00	0.00
95.00		134.51	1014.37	0.00	0.00
100.00		133.38	1686.23	0.00	0.00
105.00		129.30	856.32	0.00	0.00
110.00		125.08	828.67	0.00	0.00
115.00		120.74	801.03	0.00	0.00
120.00		116.29	773.39	0.00	0.00
125.00		111.73	745.74	0.00	0.00
130.00		107.08	718.10	0.00	0.00
135.00		102.32	690.46	0.00	0.00
140.00		97.48	662.81	0.00	0.00
145.00		92.55	635.17	0.00	0.00
145.25		4.48	31.03	0.00	0.00
147.00	(30) attachments	1513.86	2463.12	0.00	0.00
148.50		26.59	228.60	0.00	0.00
150.00		26.14	99.46	0.00	0.00
155.00		83.98	322.56	0.00	0.00
160.00	(18) attachments	1119.32	2393.14	0.00	0.00
165.00		73.60	227.02	0.00	0.00
167.00	(33) attachments	1704.52	2723.04	0.00	4266.01
169.00	(12) attachments	454.25	597.53	0.00	427.19
	Totals:	**9,076.35**	**43,548.80**	**0.00**	**4,693.20**

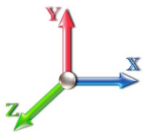
Calculated Forces

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	9/9/2016	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-43.55	-9.09	0.00	-1121.0	0.00	1121.04	5562.36	2781.18	13652.7	6836.50	0.00	0.000	0.000	0.172
5.00	-41.96	-8.96	0.00	-1075.5	0.00	1075.58	5482.35	2741.17	13146.4	6582.98	0.02	-0.042	0.000	0.171
10.00	-40.42	-8.83	0.00	-1030.7	0.00	1030.78	5400.13	2700.07	12644.0	6331.40	0.09	-0.085	0.000	0.170
15.00	-38.90	-8.70	0.00	-986.62	0.00	986.62	5315.71	2657.86	12145.8	6081.95	0.20	-0.129	0.000	0.170
20.00	-37.42	-8.57	0.00	-943.11	0.00	943.11	5229.08	2614.54	11652.3	5834.81	0.36	-0.175	0.000	0.169
25.00	-35.96	-8.44	0.00	-900.25	0.00	900.25	5140.25	2570.12	11163.7	5590.18	0.57	-0.221	0.000	0.168
30.00	-34.55	-8.30	0.00	-858.08	0.00	858.08	5049.20	2524.60	10680.6	5348.24	0.83	-0.270	0.000	0.167
35.00	-33.16	-8.16	0.00	-816.60	0.00	816.60	4955.95	2477.97	10203.2	5109.18	1.14	-0.319	0.000	0.167
40.00	-31.80	-8.02	0.00	-775.81	0.00	775.81	4860.49	2430.24	9731.91	4873.19	1.50	-0.371	0.000	0.166
45.00	-30.48	-7.86	0.00	-735.74	0.00	735.74	4762.82	2381.41	9267.12	4640.45	1.91	-0.423	0.000	0.165
46.50	-30.09	-7.83	0.00	-723.94	0.00	723.94	4733.09	2366.54	9129.00	4571.29	2.05	-0.440	0.000	0.165
50.00	-28.41	-7.72	0.00	-696.54	0.00	696.54	4662.94	2331.47	8809.20	4411.15	2.39	-0.479	0.000	0.164
53.25	-26.87	-7.62	0.00	-671.44	0.00	671.44	4662.03	2331.01	8805.10	4409.10	2.73	-0.516	0.000	0.158
55.00	-26.43	-7.58	0.00	-658.11	0.00	658.11	4626.54	2313.27	8646.55	4329.70	2.92	-0.536	0.000	0.158
60.00	-25.18	-7.43	0.00	-620.23	0.00	620.23	4523.67	2261.83	8198.57	4105.38	3.51	-0.591	0.000	0.157
65.00	-23.97	-7.29	0.00	-583.08	0.00	583.08	4418.66	2209.33	7758.49	3885.01	4.16	-0.647	0.000	0.156
70.00	-22.79	-7.14	0.00	-546.65	0.00	546.65	4277.83	2138.92	7269.40	3640.10	4.87	-0.706	0.000	0.156
75.00	-21.64	-7.00	0.00	-510.92	0.00	510.92	4137.00	2068.50	6796.24	3403.17	5.64	-0.766	0.000	0.155
80.00	-20.52	-6.87	0.00	-475.90	0.00	475.90	3996.18	1998.09	6339.00	3174.21	6.48	-0.828	0.000	0.155
85.00	-19.44	-6.73	0.00	-441.57	0.00	441.57	3855.35	1927.67	5897.69	2953.23	7.38	-0.892	0.000	0.155
90.00	-18.39	-6.60	0.00	-407.92	0.00	407.92	3714.52	1857.26	5472.29	2740.21	8.35	-0.958	0.000	0.154
95.00	-17.37	-6.47	0.00	-374.94	0.00	374.94	3573.69	1786.85	5062.82	2535.17	9.39	-1.026	0.000	0.153
100.00	-15.68	-6.32	0.00	-342.61	0.00	342.61	3014.30	1507.15	4208.99	2107.62	10.50	-1.096	0.000	0.168
105.00	-14.81	-6.19	0.00	-311.01	0.00	311.01	2893.59	1446.80	3876.87	1941.32	11.68	-1.168	0.000	0.165
110.00	-13.98	-6.07	0.00	-280.05	0.00	280.05	2772.88	1386.44	3558.41	1781.85	12.95	-1.248	0.000	0.162
115.00	-13.17	-5.95	0.00	-249.70	0.00	249.70	2652.17	1326.09	3253.59	1629.21	14.30	-1.329	0.000	0.158
120.00	-12.39	-5.83	0.00	-219.94	0.00	219.94	2531.46	1265.73	2962.42	1483.41	15.74	-1.411	0.000	0.153
125.00	-11.64	-5.72	0.00	-190.77	0.00	190.77	2410.75	1205.38	2684.90	1344.44	17.26	-1.494	0.000	0.147
130.00	-10.92	-5.61	0.00	-162.17	0.00	162.17	2290.04	1145.02	2421.02	1212.31	18.87	-1.576	0.000	0.139
135.00	-10.22	-5.50	0.00	-134.13	0.00	134.13	2169.33	1084.67	2170.80	1087.01	20.56	-1.657	0.000	0.128
140.00	-9.56	-5.40	0.00	-106.62	0.00	106.62	2048.62	1024.31	1934.22	968.55	22.34	-1.734	0.000	0.115
145.00	-8.92	-5.29	0.00	-79.63	0.00	79.63	1927.91	963.96	1711.29	856.92	24.20	-1.805	0.000	0.098
145.25	-8.89	-5.29	0.00	-78.31	0.00	78.31	1921.88	960.94	1700.50	851.51	24.29	-1.809	0.000	0.097
147.00	-6.48	-3.70	0.00	-69.06	0.00	69.06	1879.63	939.81	1625.94	814.18	24.96	-1.832	0.000	0.088
148.50	-6.25	-3.67	0.00	-63.51	0.00	63.51	907.84	453.92	797.93	399.56	25.54	-1.852	0.000	0.166
150.00	-6.14	-3.64	0.00	-58.01	0.00	58.01	895.57	447.78	771.95	386.55	26.12	-1.871	0.000	0.157
155.00	-5.82	-3.56	0.00	-39.79	0.00	39.79	853.23	426.61	687.23	344.13	28.14	-1.971	0.000	0.123
160.00	-3.46	-2.36	0.00	-22.00	0.00	22.00	807.76	403.88	604.95	302.92	30.25	-2.048	0.000	0.077
165.00	-3.24	-2.28	0.00	-10.20	0.00	10.20	747.41	373.70	517.50	259.13	32.42	-2.098	0.000	0.044
167.00	-0.58	-0.48	0.00	-1.38	0.00	1.38	723.26	361.63	484.43	242.57	33.30	-2.110	0.000	0.006
169.00	0.00	-0.45	0.00	-0.43	0.00	0.43	699.12	349.56	452.45	226.56	34.19	-2.112	0.000	0.002

Final Analysis Summary

Structure:	CT11794-S-SBA		**Code:**	EIA/TIA-222-G	9/9/2016
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 28

Tower Engineering Solutions

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 97 mph Wind	38.0	0.00	52.20	0.00	0.00	4711.32
0.9D + 1.6W 97 mph Wind	38.0	0.00	39.13	0.00	0.00	4659.39
1.2D + 1.0Di + 1.0Wi 50 mph Wind	10.6	0.00	76.27	0.00	0.00	1273.74
1.2D + 1.0E	1.8	0.00	52.26	0.00	0.00	239.10
0.9D + 1.0E	1.8	0.00	39.19	0.00	0.00	236.18
1.0D + 1.0W 60 mph Wind	9.1	0.00	43.55	0.00	0.00	1121.04

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 97 mph Wind	-52.20	-38.04	0.00	-4711.3	0.00	-4711.3	5562.36	2781.1	13652.7	6836.50	0.00	0.699
0.9D + 1.6W 97 mph Wind	-39.13	-38.02	0.00	-4659.3	0.00	-4659.3	5562.36	2781.1	13652.7	6836.50	0.00	0.689
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-76.27	-10.59	0.00	-1273.7	0.00	-1273.7	5562.36	2781.1	13652.7	6836.50	0.00	0.200
1.2D + 1.0E	-7.63	-1.11	0.00	-18.00	0.00	-18.00	907.84	453.92	797.93	399.56	148.50	0.053
0.9D + 1.0E	-5.72	-1.10	0.00	-17.74	0.00	-17.74	907.84	453.92	797.93	399.56	148.50	0.051
1.0D + 1.0W 60 mph Wind	-43.55	-9.09	0.00	-1121.0	0.00	-1121.0	5562.36	2781.1	13652.7	6836.50	0.00	0.172

Base Plate Summary

Structure:	CT11794-S-SB		**Code:**	EIA/TIA-222-G	9/9/2016
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 29

Tower Engineering Solutions

Reactions		Base Plate		Anchor Bolts	
Original Design		**Yield (ksi):**	50.00	**Bolt Circle:**	66.75
Moment (kip-ft):	6776.67	**Width (in):**	72.75	**Number Bolts:**	20.00
Axial (kip):	62.81	**Style:**	Round	**Bolt Type:**	2.25" 18J
Shear (kip):	55.54	**Polygon Sides:**	0.00	**Bolt Diameter (in):**	2.25
Analysis		**Clip Length (in):**	0.00	**Yield (ksi):**	75.00
Moment (kip-ft):	4711.32	**Effective Len (in):**	13.07	**Ultimate (ksi):**	100.00
Axial (kip):	76.27	**Moment (kip-in):**	572.46	**Arrangement:**	Radial
Shear (kip):	38.04	**Allow Stress (ksi):**	67.50	**Cluster Dist (in):**	0.00
		Applied Stress (ksi):	0.00	**Start Angle (deg):**	0.00
Moment Design %:	69.52	**Stress Ratio:**	0.51	Compression	
				Force (kip):	173.21
				Allowable (kip):	260.00
				Ratio:	0.68
				Tension	
				Force (kip):	165.58
				Allowable (kip):	260.00
				Ratio:	0.65

Monopole Mat Foundation Design

			Date: 9/8/2016
Customer Name:	AT&T	**EIA/TIA Standard:**	EIA-222-G
Site Name:		**Structure Height (Ft.):**	169
Site Number:	CT11794-S-SBA	**Engineer Name:**	T. Alajaj
Engr. Number:	25896	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

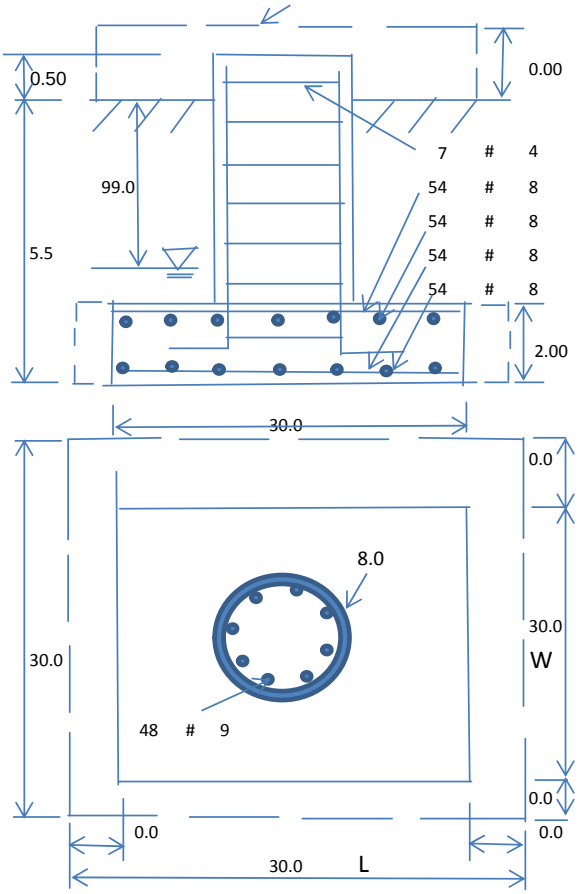
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	52.2	Shear Force (Kips):	33.6
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4211.0
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	5.5
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	2.00
Length of Pad (ft.):	30	Width of Pad (ft.):	30
Final Length of pad (ft)	30.0	Final width of pad (ft):	30.0
Control Value for Cell D18:	0	Control Value for Cell F18:	0



Material Properties and Reabr Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	48	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	54	Qty. of Rebar in Pad (W):	54	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	54	Qty. of Rebar in Pad (W):	54	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	15000	Ultimate Skin Friction:	175	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00			

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 — Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	2974.07	Total Dry Soil Weight (Kips):	356.89
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	356.89	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2001.06	Total Dry Concrete Weight (Kips):	300.16
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	300.16	Total Vertical Load on Base (Kips):	709.26

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	1760	<	Allowable Factored Soil Bearing (psf): 11250	0.16	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	9653.3	>	Design Factored Momont (kips-ft): 4413	0.46	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.19	OK!			

Check the capacities of Reinforceing Concrete:

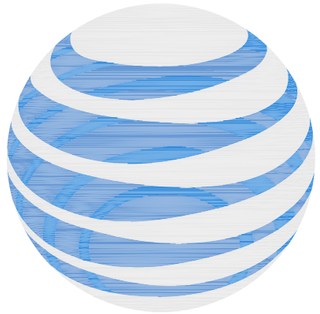
Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.00		

(1) Concrete Pier:

					Load/ Capacity Ratio	
Vertical Steel Rebar Area (sq. in./each):	1.00		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	9280.8	>	Design Factored Moment (Mu, Kips-F	4345.4	0.47	OK!
Calculated Shear Capacity (Kips):	840.3	>	Design Factored Shear (Kips):	33.6	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	2592.0	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	12712.3	>	Design Factored Axial Load (Pu Kips):	52.2	0.00	OK!
Moment & Axial Strength Combination:	0.47	OK!	Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.007	Reinforcement Ratio is satisfied per ACI				

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	700.1	>	One-Way Factored Shear (L-D. Kips):	267.6	0.38	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	700.1	>	One-Way Factored Shear (W-D., Kips)	267.6	0.38	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	803.4	>	One-Way Factored Shear (C-C, Kips):	268.8	0.33	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0058	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0058		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3734.7	>	Moment at Bottom (L-Direct. K-Ft):	1243.1	0.33	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3734.7	>	Moment at Bottom (W-Direct. K-Ft):	1243.1	0.33	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	5215.6	>	Moment at Bottom (C-C Dir. K-Ft):	1758.0	0.34	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0058	OK!	Upper Steel Reinf. Ratio (W-Direct.):	0.0058		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	3734.7	>	Moment at the top (L-Dir Kips-Ft):	204.5	0.05	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	3734.7	>	Moment at the top (W-Dir Kips-Ft):	204.5	0.05	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	5215.6	>	Moment at the top (C-C Direc. K-Ft):	559.5	0.11	OK!



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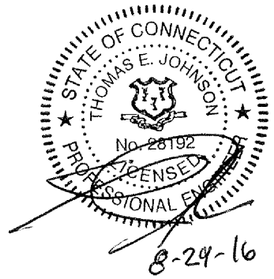


NIANTIC OLD BLACK POINT ROAD (CTV-1269)

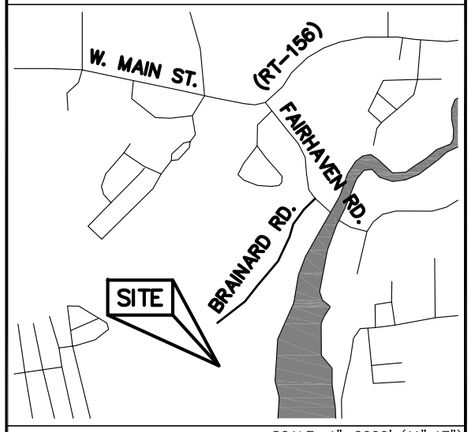
49 BRAINERD ROAD
NIANTIC, CT 06357

SITE TYPE: MONOPOLE LTE 3C ALTERATION

PROJECT SUMMARY

SITE NAME:	NIANTIC OLD BLACK POINT ROAD
SITE ADDRESS:	49 BRAINERD ROAD NIANTIC, CT 06357
TAX ID:	MAP 07.4, PARCEL 21
ZONING JURISDICTION:	TOWN OF EAST LYME
ZONING CLASSIFICATION:	(B-4) GATEWAY BUSINESS DISTRICT
CONSTRUCTION TYPE:	LTE 3C ALTERATION
LATITUDE:	41° 18' 27.30" N ± (RECORD SBA)
LONGITUDE:	72° 13' 26.10" W ± (RECORD SBA)
PROPERTY OWNER:	N/F SAMUELSEN CHRISTOPHER 49 BRAINERD ROAD NIANTIC, CT 06357
TOWER OWNER:	SBA SITE#: CT11794-S EAST LYME 1
APPLICANT, LESSEE/LICENSEE, PROJECT OWNER:	NEW CINGULAR WIRELESS PCS, LLC d/b/a "AT&T" 500 ENTERPRISE DRIVE ROCKY HILL, CT 06067
ARCHITECT/ENGINEER:	PROTERRA DESIGN GROUP, LLC 4 BAY ROAD BUILDING A; SUITE 200 HADLEY, MA 01035

VICINITY MAP



SCALE: 1"=2000' (11"x17")
1"=1000' (22"x34")

SHEET INDEX

SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	2
GN-1	GENERAL NOTES	2
A-1	COMPOUND PLAN AND ELEVATION	2
D-1	DETAILS	2
D-2	DETAILS	2
E-1	GROUNDING DETAILS	2

SCALE NOTES

1. THIS SHEET SET WAS ORIGINALLY SETUP AS 11"x17".
2. PRINTING TO ANSI D (22"x34") WILL RESULT IN A DOUBLE SCALE SHEET SET WITH 1" MARGINS. RESULTING SCALES WILL BE THOSE NOTED IN TEXT. EXAMPLE: 1"=20' WILL CHANGE TO 1"=10'.
3. CONFIRM ALL SCALED DISTANCES WITH GRAPHICAL SCALES SHOWN HEREIN. GRAPHICAL SCALES WILL BE UNCHANGED BY ENLARGEMENT OR REDUCTION.

PROJECT DESCRIPTION

1. THIS PLAN SET DETAILS A MODIFICATION TO AN EXISTING AT&T COMMUNICATIONS FACILITY.
2. THIS IS UNMANNED & RESTRICTED-ACCESS EQUIPMENT AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
3. THIS FACILITY WILL CONSUME NO UNRECOVERABLE ENERGY.
4. NO POTABLE WATER SUPPLY IS TO BE PROVIDED AT THIS LOCATION.
5. NO WASTE WATER WILL BE GENERATED AT THIS LOCATION.
6. NO SOLID WASTE WILL BE GENERATED AT THIS LOCATION.
7. AT&T MAINTENANCE CREW (TYPICALLY ONE PERSON) WILL MAKE AN AVERAGE OF ONE TRIP PER MONTH AT ONE HOUR PER VISIT.

PLAN NOTES

1. EXISTING CONDITIONS BASED ON A FIELD VISIT BY PROTERRA DESIGN GROUP, LLC ON 8/12/2016.
2. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION OR BE RESPONSIBLE FOR SAME. ENGINEER OF RECORD IS TO BE INFORMED OF ANY DISCREPANCIES PRIOR TO COMMENCING CONSTRUCTION ACTIVITY.
3. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. CALL THE FOLLOWING FOR ALL PRE-CONSTRUCTION NOTIFICATION 72-HOURS PRIOR TO ANY EXCAVATION ACTIVITY: CALL BEFORE YOU DIG 1-800-922-4455
4. NEW CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES:
   BUILDING CODE: CONNECTICUT STATE BUILDING CODE - 2003 IBC AND STATE AMENDMENTS
   ELECTRICAL CODE: NEC 2005 WITH STATE AMENDMENTS

ProTerra DESIGN GROUP, LLC
4 Bay Road
Building A; Suite 200
Hadley, MA 01035 Ph: (413)320-4918

EMPIRE telecom
16 Esquire Road
Billerica, MA 01862

SBA
134 Flanders Road
Suite 125
Westborough, MA 01581

at&t
New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, CT 06067

SITE NUMBER
CTV-1269
49 BRAINERD ROAD
NIANTIC, CT 06357

REVISIONS		DESIGNED BY: JMM/TEJ	JOB #: 13-033
1	RELOCATED RRUS	DRAWN BY: MJV	REV. #: 2
2	RF REVISIONS	DATE: 8/29/16	**T-1**
		SCALE: AS NOTED	

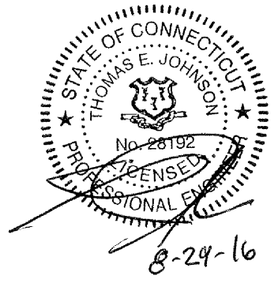
GENERAL NOTES

1. 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 THE CONTRACTOR.
2. 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, RULED, 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.
3. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
4. UNLESS OTHERWISE NOTED, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
5. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDE IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF POWER, TELCO, AND GROUNDING CABLES AND CONDUITS. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
9. 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 THE OWNER.
10. 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.
11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
12. CONSTRUCTION SHALL COMPLY WITH LTE SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
13. 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.
14. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUT DOWN PRIOR TO PERFORMING ANY WORK THE COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORK TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
15. SUBCONTRACTOR 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.
16. 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, FOURTEENTH EDITION
    - TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARDS FOR STEEL

    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.

GROUNDING NOTES

1. GROUNDING SHALL COMPLY WITH ARTICLE (250) OF THE NATIONAL ELECTRIC CODE & EIA/TIA-222..
2. ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE.
3. GROUND WIRES SHALL BE TINNED #2 AWG BARE SOLID COPPER UNLESS OTHERWISE NOTED.
4. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC (CADWELDED) UNLESS OTHERWISE NOTED. CLEAN SURFACES TO SHINY METAL WHERE GROUND WIRES ARE CADWELDED TO GALVANIZED SURFACES. SPRAY CADWELD WITH GALVANIZING PAINT.
5. ROUTE GROUNDING CONNECTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 8" RADIUS.
6. PRIOR TO INSTALLING LUGS ON GROUND WIRES. APPLY THOMAS & BETTS KOPR-SHIELD OR EQUAL PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BARS.
7. GROUNDING WIRE CONNECTIONS SHALL BE THREE (3) CRIMP STYLE COMPRESSION FIT OR EQUAL. NO SLIP BOLTS ARE ACCEPTABLE.
8. CONNECTORS SHALL BE CRIMPED WITH HYDRAULIC CRIMPING TOOLS.
9. COPPER BUSES SHALL BE CLEANED, POLISHED, AND A NON -OXIDIZING AGENT SHALL BE APPLIED. NO OILS OR FINGERPRINTS THAT WILL DISCOLOR THE COPPER WILL BE PERMITTED.
10. HARDWARE (I.E. NUTS, BOLTS, WASHERS, ETC.) IS TO BE STAINLESS STEEL.
11. EXOTHERMIC WELDS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
12. GROUND BARS SHALL BE $\frac{1}{4}$" THICK TINNED COPPER LARGE ENOUGH TO ACCOMMODATE THE REQUIRED NUMBER OF GROUND CONNECTIONS. THE HARDWARE SECURING THE GROUND BAR SHALL INSULATE IT FROM THE STRUCTURE TO WHICH IT IS FASTENED UNLESS OTHERWISE NOTED.
13. All TERMINATIONS AT EQUIPMENT ENCLOSURES, PANELS, AND FRAMES OF EQUIPMENT AND WHERE EXPOSED FOR GROUNDING CONDUCTOR TERMINATION SHALL BE PERFORMED USING TWO HOLE BOLTED TONGUE COMPRESSION TYPE FITTINGS WITH STAINLESS STEEL HARDWARE.
14. ALL CLAMPS AND SUPPORTS USED TO HOLD THE THE GROUNDING SYSTEM CONDUCTORS AND PVC CONDUITS SHALL BE NON-CONDUCTIVE. DO NOT USE A METAL RING OR BRACKET SUPPORT THAT WOULD FORM A COMPLETE RING AROUND ANY GROUNDING CONDUCTOR.
15. ALL GROUNDING SYSTEM CONSTRUCTION, MATERIALS, AND COMPONENTS SHALL MEET AT&T GROUNDING STANDARDS.



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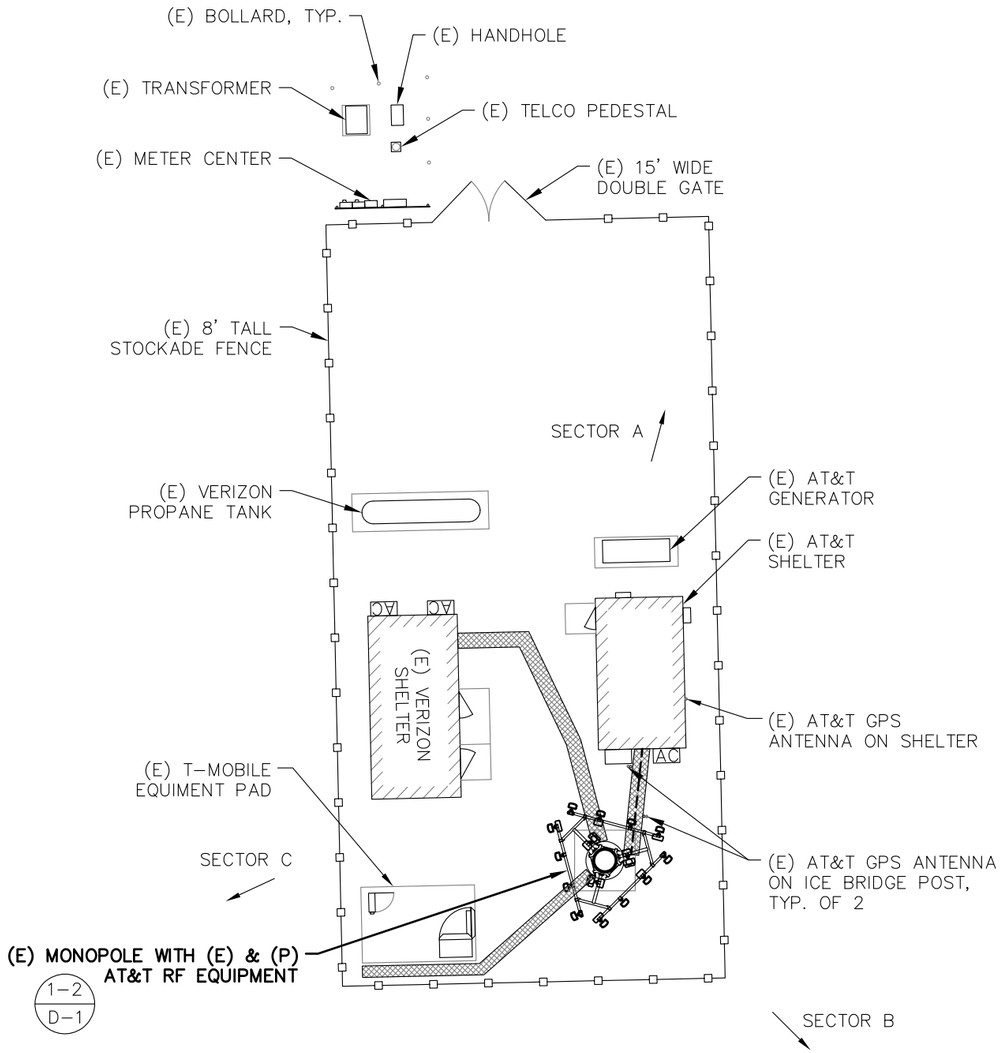
SITE NUMBER

CTV-1269

49 BRAINERD ROAD
NIANTIC, CT 06357

REVISIONS		DESIGNED BY: JMM/TEJ	JOB #: 13-033
1	RELOCATED RRUS	DRAWN BY: MJV	REV. #: 2
2	RF REVISIONS	DATE: 8/29/16	**GN-1**
		SCALE: AS NOTED	



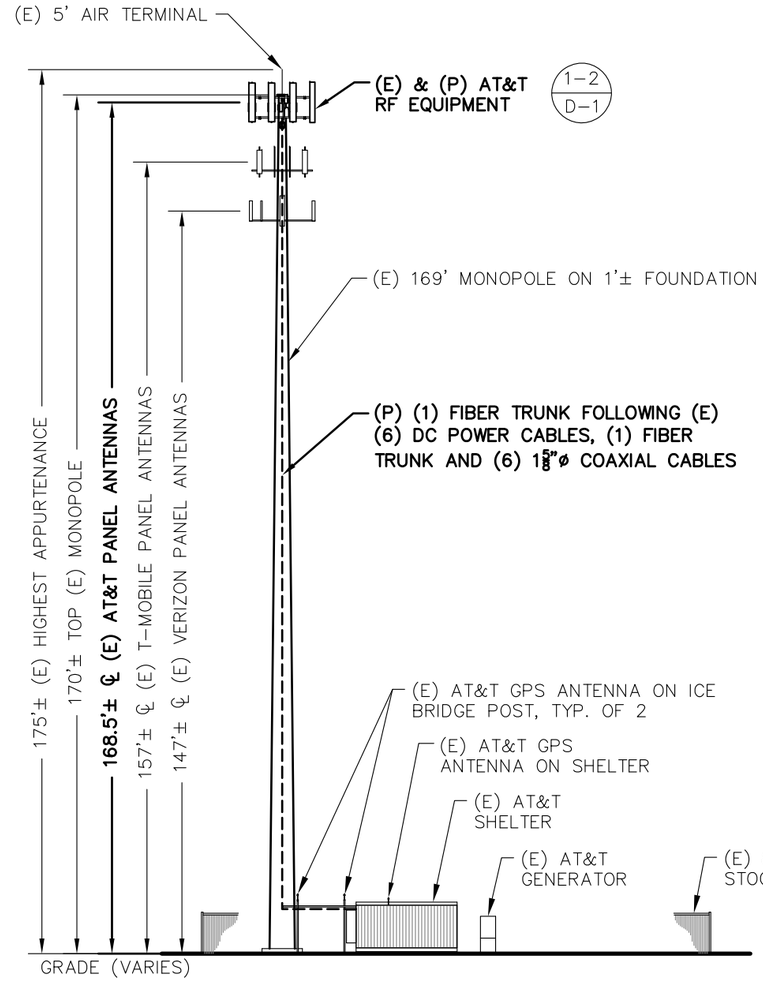
N
GRID

COMPOUND PLAN

1
A-1

SCALE: 1"=20' (11"x17")
1"=10' (22"x34")

20 10 0 20



EAST ELEVATION

2
A-1

SCALE: 1"=30' (11"x17")
1"=15' (22"x34")

30 15 0 30

STRUCTURAL ANALYSIS OF (E) MONOPOLE SHALL BE PERFORMED PRIOR TO CONSTRUCTION (BY OTHERS)

ALL WORK TO BE COMPLETED IN ACCORDANCE WITH LATEST AT&T RF DESIGN SHEET. PLEASE SEE RFDS FOR RRU FREQUENCY AND MODEL

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LICENSED PROFESSIONAL ENGINEER
8-29-16

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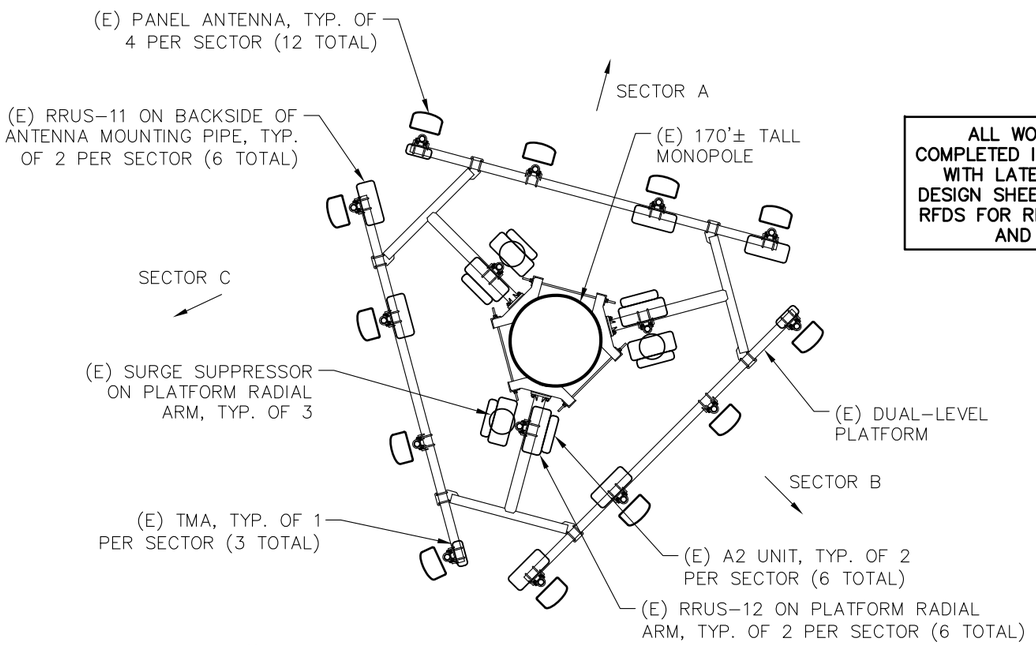


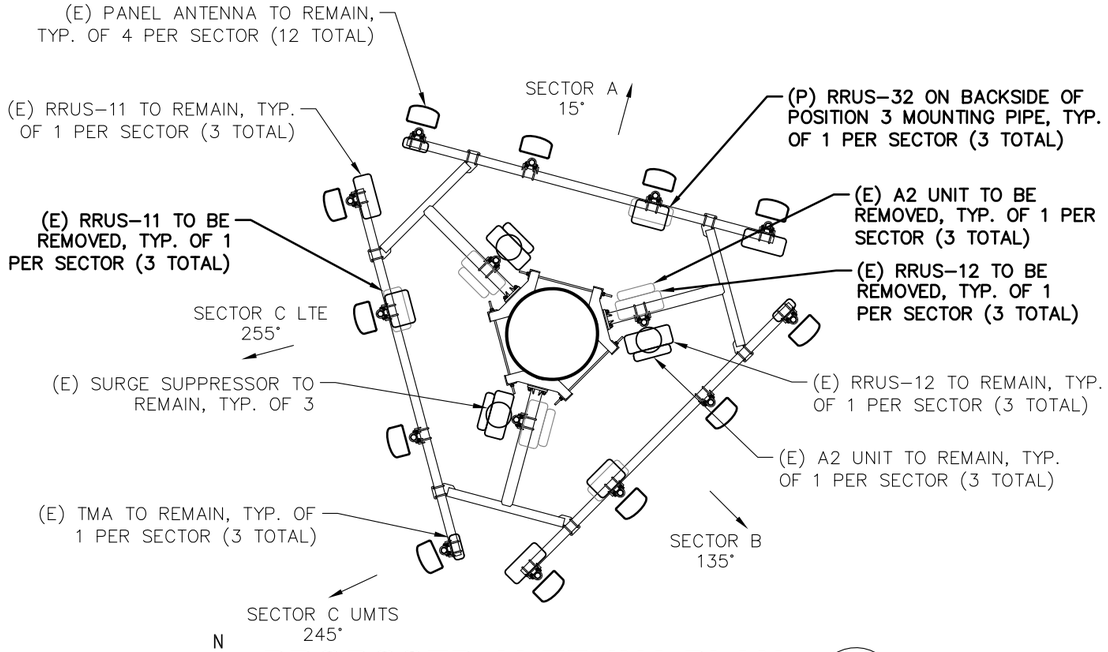
N
GRID

EXISTING ANTENNA PLAN

SCALE: 1"=5' (11"x17")
1"=2.5' (22"x34")

1
D–1

ALL WORK TO BE COMPLETED IN ACCORDANCE WITH LATEST AT&T RF DESIGN SHEET. PLEASE SEE RFDS FOR RRU FREQUENCY AND MODEL



N
GRID

PROPOSED ANTENNA PLAN

SCALE: 1"=5' (11"x17")
1"=2.5' (22"x34")

2
D–1

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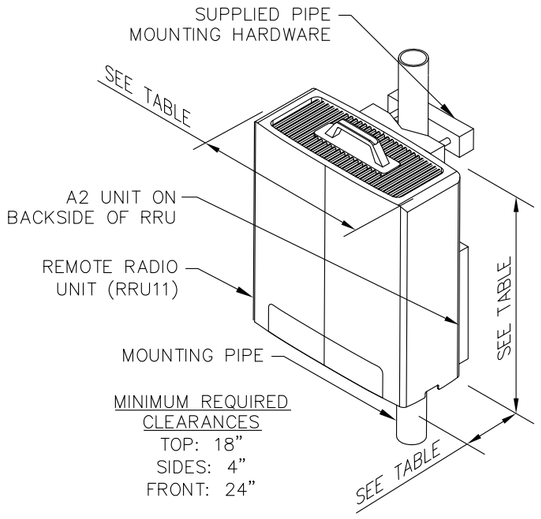
1	RELOCATED RRUS	DRAWN BY: MJV	REV. #: 2
2	RF REVISIONS	DATE: 8/29/16	D-1
		SCALE: AS NOTED	



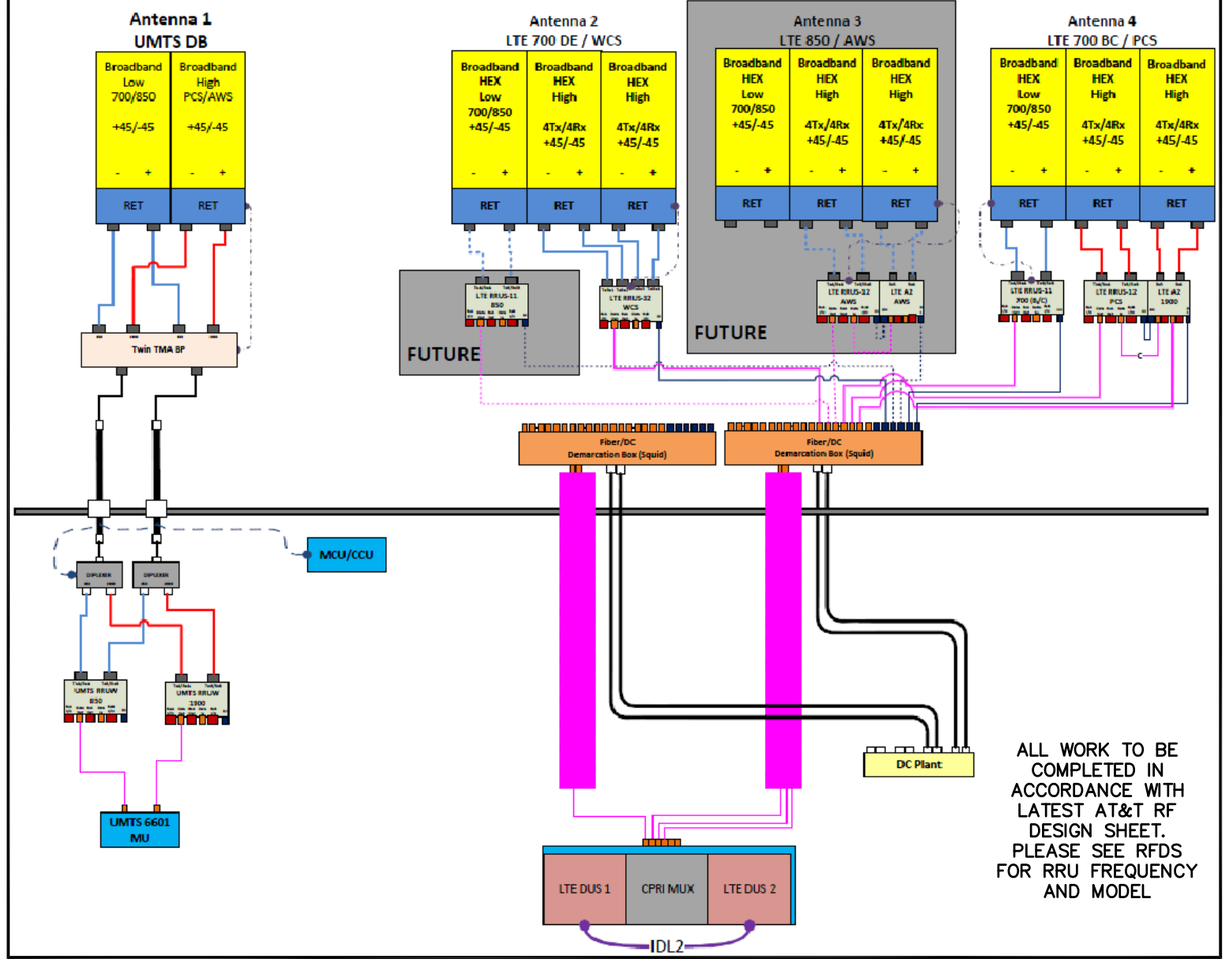
MODEL	LENGTH	WIDTH	DEPTH	WEIGHT
RRUS–11	19.7"	17"	7.2"	50.7LBS
RRUS–12	20.4"	18.5"	7.5"	58.0LBS
A2 UNIT	16.4"	15.2"	3.4"	22.0LBS
RRUS–32	27.2"	12.1"	7"	60.0LBS

LTE EQUIPMENT DETAIL

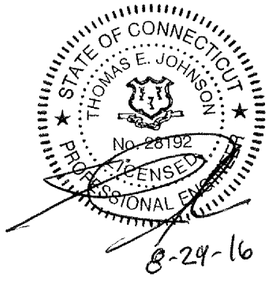
1 / D–2

SCALE: NONE

RF PLUMBING DIAGRAM



FROM AT&T 2017 LTE 3C WCS RFDS DATED MAY 27, 2016



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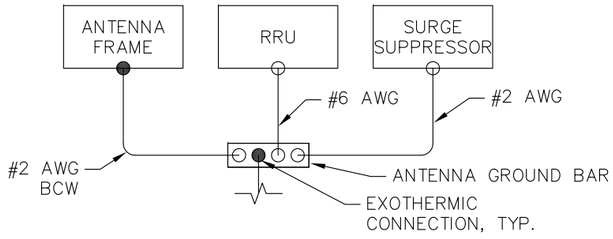
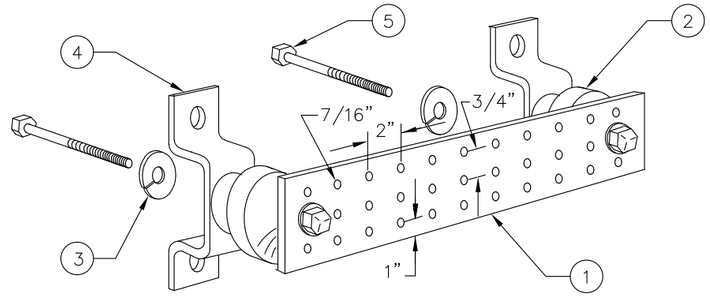
		DATE: 8/29/16	**D-2**
		SCALE: AS NOTED	



GROUNDING ONE-LINE

SCALE: NONE

1 / E-1

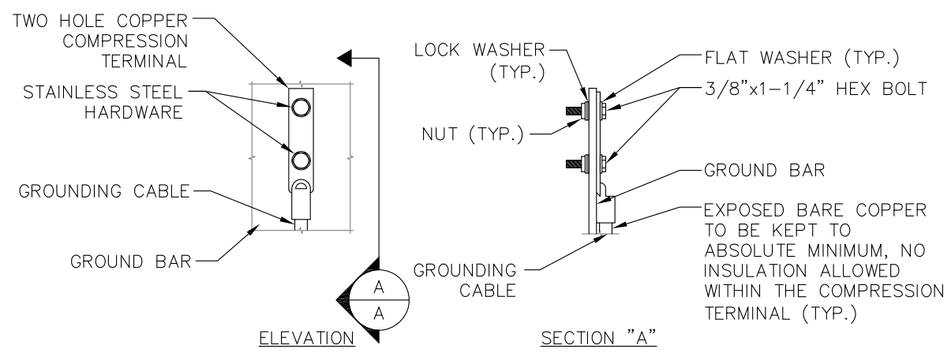


1. SOLID COPPER GROUND BAR, 1/4"x4"x20", BY WIRELESS SOLUTIONS, INC. OR EQUAL. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION. (ACTUAL GROUND BAR SIZE WILL VARY BASED ON NUMBER OF GROUND CONNECTIONS)
2. INSULATORS. INSULATORS SHALL BE ELIMINATED WHEN BONDING DIRECTLY TO TOWER/MONOPOLE STRUCTURE. CONNECTION TO TOWER/MONOPOLE STRUCTURE SHALL BE PER MANUFACTURERS RECOMMENDATIONS.
3. 5/8" LOCK WASHERS OR EQUAL
4. WALL MOUNTING BRACKET
5. 5/8–11x1" HHCS BOLTS

GROUND BAR DETAIL

SCALE: NONE

2 / E-1

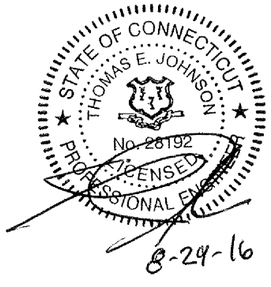


1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.
4. EACH GROUND CONDUCTOR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END IDENTIFYING ITS ORIGIN AND DESTINATION.

GROUND BAR CONNECTION

SCALE: NONE

3 / E-1



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