



Filed by:

Kri Pelletier, Property Specialist - SBA Communications
 134 Flanders Rd., Suite 125, Westborough, MA 01581
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February 17, 2016

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

Notice of Exempt Modification
500 Moosehill Road, Monroe, CT 06468
41.3209561 N
-73.2014239 W
AT&T #: 10035397_LTE

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 138-foot level of the existing 149-foot Monopole Tower at 500 Moosehill Road. The tower is owned by SBA Infrastructure, LLC. The property is owned by St. John's Greek Catholic Cemetery Association, Inc. AT&T now intends to swap three (3) existing LTE antennas with three (3) new LTE antennas. These antennas would be installed at the 138-foot level of the tower. AT&T also intends to:

Remove:

- None

Remove and Replace:

- Remove (3) existing Powerwave P65-16 panel antennas and replace with (3) new CCI HPA-65R-BUU-H6 panel antennas

Install:

- (3) Ericsson RRUS-12 Remote Radio Units with (3) RRUS A2 Modules

Existing Equipment to Remain (Entitlements):

- All Existing Equipment located within existing Equipment shelter
- (6) Powerwave LPG21401 Tower Mounted Amplifiers
- (6) Powerwave LPG13519 Tower Mounted Amplifiers
- (1) Raycap DC6 Surge Suppressor
- (3) Ericsson RRUS-11 Remote Radio Unit
- (3) Ericsson RRUS-11 Remote Radio Unit (Reserved Entitlement)
- (12) 1-1/4" Coax Lines
- (1) 1/2" Fiber Cable
- (2) 3/4" DC Power Cable
- (3) Commscope ABT-DRDM Bias-T (Reserved Entitlement)



This facility was approved by the Council in docket #207 on 3/21/02 and by the Town of Monroe's Planning and Zoning Commission by Special Exception Permit on 6/6/02. This approval set conditions regarding original landscaping and fence installation, that no lighting be placed within the facility except for emergency work lights to be used when active maintenance was to be performed, the installation of a gate or other lockable movable barrier, and that the gravel access drive beyond the gate would give access only to the facility. This modification complies with all 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 Stephen J. Vavrek, First Selectman for the Town of Monroe, as well as the property owner, St. John's Greek Catholic Cemetery Association, Inc. (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@sbsite.com

Attachments

cc: First Selectman Stephen J. Vavrek—as elected official
Monroe Town Hall Offices, 7 Fan Hill Road, Monroe, Connecticut 06468
St. John's Greek Catholic Cemetery Association, Inc—as property owner
c/o Apple Valley Bank, 286 Maple Ave., Cheshire, CT 06410

POWER DENSITY

AT&T Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	CCI OPA-65R-BUU-H8	Make / Model:	CCI OPA-65R-BUU-H8	Make / Model:	CCI OPA-65R-BUU-H8
Gain:	13.15 / 14.95 dBd	Gain:	13.15 / 14.95 dBd	Gain:	13.15 / 14.95 dBd
Height (AGL):	139 feet	Height (AGL):	139 feet	Height (AGL):	139 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	Total TX Power(W):	240	Total TX Power(W):	240
ERP (W):	6,229.75	ERP (W):	6,229.75	ERP (W):	6,229.75
Antenna A1 MPE%	1.84	Antenna B1 MPE%	1.84	Antenna C1 MPE%	1.84
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Powerwave 7770.00	Make / Model:	Powerwave 7770.00	Make / Model:	Powerwave 7770.00
Gain:	11.4 dBd	Gain:	11.4 dBd	Gain:	11.4 dBd
Height (AGL):	139 feet	Height (AGL):	139 feet	Height (AGL):	139 feet
Frequency Bands	850 MHz	Frequency Bands	850 MHz	Frequency Bands	850 MHz
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	60	Total TX Power(W):	60	Total TX Power(W):	60
ERP (W):	828.23	ERP (W):	828.23	ERP (W):	828.23
Antenna A2 MPE%	0.30	Antenna B2 MPE%	0.30	Antenna C2 MPE%	0.30
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Powerwave 7770.00	Make / Model:	Powerwave 7770.00	Make / Model:	Powerwave 7770.00
Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd
Height (AGL):	139 feet	Height (AGL):	139 feet	Height (AGL):	139 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	Total TX Power(W):	120	Total TX Power(W):	120
ERP (W):	2,140.89	ERP (W):	2,140.89	ERP (W):	2,140.89
Antenna A3 MPE%	0.56	Antenna B3 MPE%	0.56	Antenna C3 MPE%	0.56

Site Composite MPE%	
Carrier	MPE%
AT&T – Max per sector	2.70 %
T-Mobile	3.04 %
Clearwire	0.09 %
Sprint	0.62 %
Sprint MW	1.15 %
Town PD	0.00 %
Nextel	0.74 %
Verizon Wireless	7.03 %
Site Total MPE %:	15.37 %

AT&T Sector 1 Total:	2.70 %
AT&T Sector 2 Total:	2.70 %
AT&T Sector 3 Total:	2.70 %
Site Total:	15.37 %

AT&T _ Per Sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 700 MHz LTE	2	1239.23	139	5.04	700	467	1.08 %
AT&T 1900 MHz (PCS) LTE	2	1875.65	139	7.62	1900	1000	0.76 %
AT&T 850 MHz GSM	2	414.12	139	1.68	850	567	0.30 %
AT&T 850 MHz UMTS	2	414.12	139	1.68	850	567	0.30 %
AT&T 1900 MHz (PCS) UMTS	2	656.33	139	2.67	1900	1000	0.27 %
						Total:	2.70 %

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

AT&T Existing Facility

Site ID: CTV2203

Monroe Center
500 Moose Hill Road
Monroe, CT 06468

February 10, 2016

EBI Project Number: 6216000628

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	15.37 %

February 10, 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: **CTV2203 – Monroe Center**

EBI Consulting was directed to analyze the proposed AT&T facility located at **500 Moose Hill Road, Monroe, 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ 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 ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately $467 \mu\text{W}/\text{cm}^2$ and $567 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is $1000 \mu\text{W}/\text{cm}^2$. 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 **500 Moose Hill Road, Monroe, 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 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 2) 2 LTE channels (PCS Band – 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 3) 2 GSM channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 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.
- 5) 2 UMTS channels (PCS Band – 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

- 6) 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.
- 7) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 8) The antennas used in this modeling are the **CCI HPA-65R-BUU-H8 and the Powerwave 7770.00** for transmission in the 700 MHz, 850 MHz and 1900 MHz (PCS) 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.
- 9) The antenna mounting height centerline of the proposed antennas is **139 feet** above ground level (AGL).
- 10) 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

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
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Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Powerwave 7770.00	Make / Model:	Powerwave 7770.00	Make / Model:	Powerwave 7770.00
Gain:	11.4 dBd	Gain:	11.4 dBd	Gain:	11.4 dBd
Height (AGL):	139 feet	Height (AGL):	139 feet	Height (AGL):	139 feet
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Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Powerwave 7770.00	Make / Model:	Powerwave 7770.00	Make / Model:	Powerwave 7770.00
Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd
Height (AGL):	139 feet	Height (AGL):	139 feet	Height (AGL):	139 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	Total TX Power(W):	120	Total TX Power(W):	120
ERP (W):	2,140.89	ERP (W):	2,140.89	ERP (W):	2,140.89
Antenna A3 MPE%	0.56	Antenna B3 MPE%	0.56	Antenna C3 MPE%	0.56

Site Composite MPE%	
Carrier	MPE%
AT&T – Max per sector	2.70 %
T-Mobile	3.04 %
Clearwire	0.09 %
Sprint	0.62 %
Sprint MW	1.15 %
Town PD	0.00 %
Nextel	0.74 %
Verizon Wireless	7.03 %
Site Total MPE %:	15.37 %

AT&T Sector 1 Total:	2.70 %
AT&T Sector 2 Total:	2.70 %
AT&T Sector 3 Total:	2.70 %
Site Total:	15.37 %

AT&T _ Per Sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
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AT&T 850 MHz UMTS	2	414.12	139	1.68	850	567	0.30 %
AT&T 1900 MHz (PCS) UMTS	2	656.33	139	2.67	1900	1000	0.27 %
						Total:	2.70 %

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 1:	2.70 %
Sector 2:	2.70 %
Sector 3 :	2.70 %
AT&T Maximum Total (per sector):	2.70 %
Site Total:	15.37 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **15.37%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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



Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
8445 Freepoint Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 149 ft Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13056-A

Customer Site Name: Moosehill

Carrier Name: AT&T

Carrier Site ID / Name: FA# 10035397 USID# 24509

Site Location: 500 Moosehill Road

Monroe, Connecticut

Fairfield County

Latitude: 41.320966

Longitude: -73.201422

Analysis Result:

Max Structural Usage: 99.3% [Pass]

Max Foundation Usage: 86.0% [Pass]

Report Prepared by: Tawfeeq Alajaj



Introduction

The purpose of this report is to summarize the analysis results on the 149 ft 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	Structural design report prepared by Sabre communication corporation. job #: 02-03107. dated 04/03/2002.
Foundation Drawing	Foundation report prepared by Sabre communication corporation. job #: 02-03107. dated 04/03/2002.
Geotechnical Report	Geotechnical report prepared by ST. Johns Cemetary. dated 03/20/2002.
Modification Drawings	N/A

Analysis Criteria

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

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	152.5	1	Decibel DB404-B - Whip	Pipe Mount	(1) 7/8"	Town of Monroe
2	147.0	1	Andrew VHLP2-11 - Dish	12.5' Low Profile Platform	(4) 1 1/4" (2) 1/2" (6) 5/16"	Sprint/ Clearwire
3		1	Andrew VHLP800-11-DW1 - Dish			
4		3	Argus LLPX310R - Panel			
5		4	RFS ACU-A20-N			
6		3	RFS APXVSP18-C-A20 - Panel			
7		3	RFS APXVTM14-C-120 - Panel			
8		3	ALU 800MHz RRH w/ filter			
9		3	ALU 1900MHz RRH			
10		3	ALU 800MHz RRH			
11		3	ALU TD-RRH8x20-25			
12		3	U-RAS Flexible RRH ODUs			
13	139.0	6	Ericsson RRUS 11 RRUs	13' Low Profile Platform	(12) 1-1/4" (1) 0.393" (2) 0.645"	AT&T
16		3	Powerwave P65-16			
18		6	Powerave 7770.00 - Panel			
19		6	Powerave LGP13519			
20		6	Powerave LGP21401 TMAs			
21		1	Raycap DC6-48-60-18-8F			
	128.0	-	-	12.5' Low Profile Platform	-	-
22	121.0	3	Commscope LNX-6515DS - Panel	13' Low Profile Platform SitePro PRK1245	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
23		3	Ericsson Air 21 B2A/B4P - Panel			
24		3	Ericsson AIR21 B4A/B12P - Panel			
25		3	Ericsson KRY 112 144/1			
26		3	Ericsson S11B12			
27	109.0	12	Decibel DB844H90E-XY - Panel	14' Low Profile Platform	(12) 7/8"	Nextel
28	99.0	2	Antel BXA-171063-8BF - Panel	12.5' Low Profile Platform	(1) 1 5/8" Fiber (12) 1 5/8"	Verizon
29		1	Antel BXA-70063-4CF - Panel			
30		1	Antel BXA-70063-6CF - Panel			
31		2	Antel LPA-80063-6CF - Panel			
32		1	BXA-171063-12BF - Panel			
33		3	Kathrein 7442213_2110_P45_02.0 - Panel			
34		3	ALU RRH2x40-AWS			
35		4	RFS APL866513-42T0 - Panel			
36		1	RFS DB-T1-6Z-8AB-OZ			
37		6	RFS FD9R6004/2C-3L			
38		1	Swedcom SLCP 2x6014F - Panel			
39	65.5	1	Decibel 26OB	3' Standoff @ 64.0	(1) 1/2"	Sprint

- The empty low profile platform at 128 ft. in elevation is to be removed prior to the installation of AT&T's proposed equipment and was not included in this analysis. The results of this analysis are valid only if the platform is removed prior to installation.

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
13	139.0	3	CCI HPA-65R-BUU-H8 - Panel	13' Low Profile Platform	(12) 1-1/4" Hybrid (1) 1/2" (2) 3/4" DC	AT&T
14		3	Commscope ABT-DRDM-ADBH			
15		6	Ericsson RRUS 11 RRUs			
16		3	Ericsson RRUS 12 RRUs			
17		3	Ericsson RRUS A2 Module			
18		6	Powerave 7770.00 - Panel			
19		6	Powerave LGP13519 Diplexer			
20		12	Powerave LGP21401 TMAs			
21		1	Raycap DC6-48-60-18-8F			

AT&T 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:	99.3%	98.9%	88.0%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	4184.0	39.0
Analysis Reactions	4180.6	39.0
% of Design Reactions	99.9%	100.0%

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-F for the installed antennas. Maximum twist/sway at the elevation of the proposed equipment is 1.8818 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Please note that the empty low profile platform at 128 ft. in elevation is to be removed prior to the installation of AT&T's proposed equipment and was not included in this analysis. The results of this analysis are valid only if the platform is removed prior to installation.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.
4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.
5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.
6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed or/and ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Stress 99.3% at 0.0ft

Structure: CT13056-A-SBA
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

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

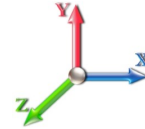
1/8/2016



Page: 1

Dead Load Factor: 1.00
 Wind Load Factor: 1.00

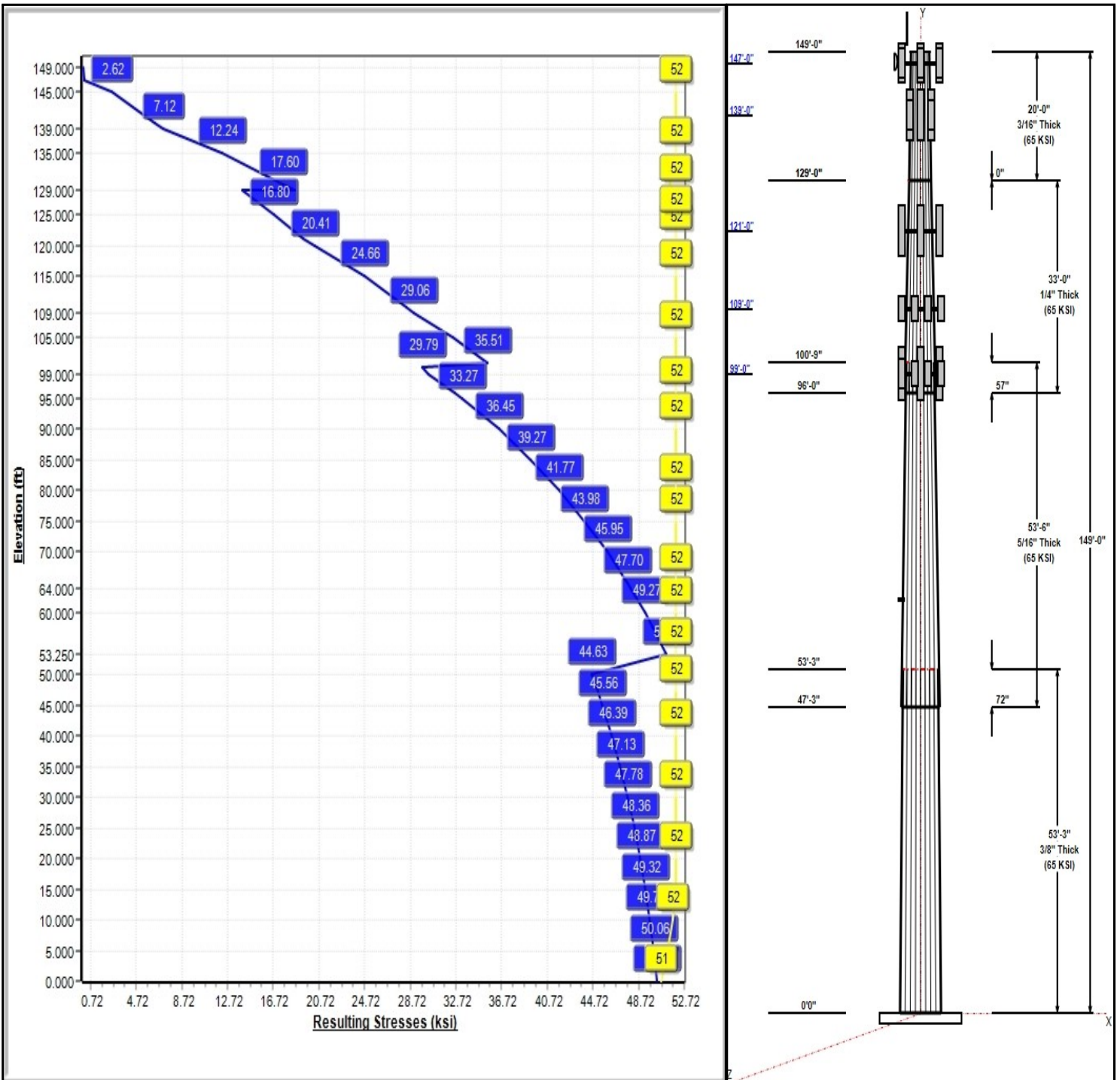
Load Case : 85 mph Wind with 0 in Ice



Iterations: 23

- 51 Allowable Stress
- 50 Resulting Stress

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Structure: CT13056-A-SBA

Type: Tapered
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.24185

1/8/2016

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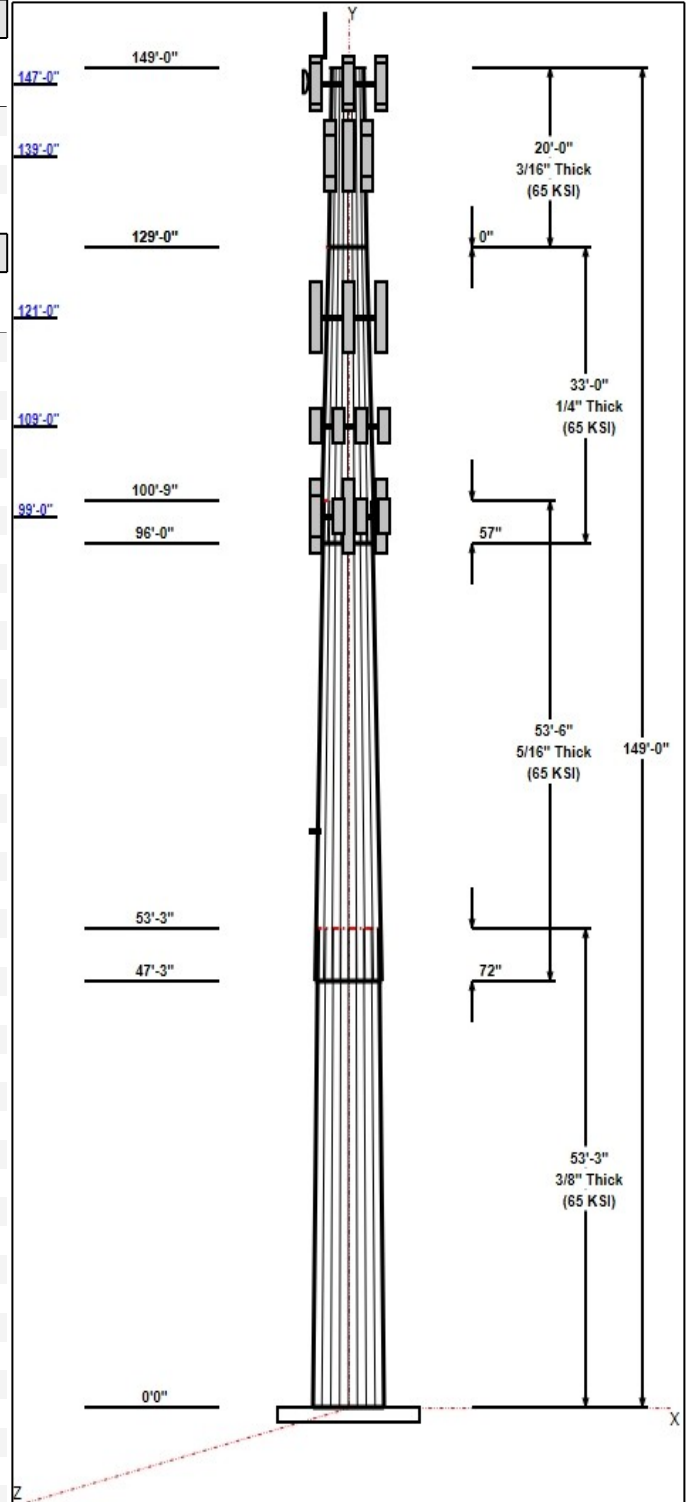


Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	46.03	58.91	0.375		0.24185	65
2	53.50	35.17	48.11	0.313	Slip	0.24185	65
3	33.00	28.84	36.82	0.250	Slip	0.24185	65
4	20.00	24.00	28.84	0.188	Butt	0.24185	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
149.00	152.50	1	Decibel DB404-B	Town of Monroe
149.00	149.00	1	Pipe Mount	Town of Monroe
147.00	147.00	1	12.5' Low Profile Platform	Sprint/Clearwire
147.00	147.00	3	800MHz RRH w/ filter	Sprint/Clearwire
147.00	147.00	3	ALU 1900MHz RRH	Sprint/Clearwire
147.00	147.00	3	ALU 800MHz RRH	Sprint/Clearwire
147.00	147.00	3	ALU TD-RRH8x20-25	Sprint/Clearwire
147.00	147.00	1	Andrew VHLP2-11	Sprint/Clearwire
147.00	147.00	1	Andrew VHLP800-11-DW1	Sprint/Clearwire
147.00	147.00	3	Argus LLPX310R	Sprint/Clearwire
147.00	147.00	4	RFS ACU-A20-N	Sprint/Clearwire
147.00	147.00	3	RFS APXVSP18-C-A20	Sprint/Clearwire
147.00	147.00	3	RFS APXVTM14-C-120	Sprint/Clearwire
147.00	147.00	3	U-RAS Flexible RRH	Sprint/Clearwire
139.00	139.00	3	CCI HPA-65R-BUU-H8	AT&T
139.00	139.00	3	Commscope	AT&T
139.00	139.00	1	DC6-48-60-18-8F	AT&T
139.00	139.00	6	Ericsson RRUS 11 RRUs	AT&T
139.00	139.00	3	Ericsson RRUS 12 RRUs	AT&T
139.00	139.00	3	Ericsson RRUS A2 Module	AT&T
139.00	139.00	6	Powerave 7770.00	AT&T
139.00	139.00	6	Powerave LGP13519	AT&T
139.00	139.00	12	Powerave LGP21401	AT&T
121.00	121.00	3	Commscope LNX-6515DS	T-Mobile
121.00	121.00	3	Ericsson Air 21 B2A/B4P	T-Mobile
121.00	121.00	3	Ericsson AIR21 B4A/B12P	T-Mobile
121.00	121.00	3	Ericsson KRY 112 144/1	T-Mobile
121.00	121.00	3	Ericsson S11B12	T-Mobile
121.00	121.00	1	Low Profile Platform	T-Mobile
121.00	121.00	1	SitePro PRK1245	T-Mobile
109.00	109.00	12	Decibel DB844H90E-XY	Nextel
109.00	109.00	1	Low Profile Platform	Nextel
99.00	99.00	1	12.5' Low Profile Platform	Verizon
99.00	99.00	3	ALU RRH2x40-AWS	Verizon
99.00	99.00	2	Antel BXA-171063-8BF	Verizon
99.00	99.00	1	Antel BXA-70063-4CF	Verizon
99.00	99.00	1	Antel BXA-70063-6CF	Verizon
99.00	99.00	2	Antel LPA-80063-6CF	Verizon
99.00	99.00	1	AXA-171063-12BF	Verizon
99.00	99.00	3	Kathrein	Verizon
99.00	99.00	4	RFS APL866513-42T0	Verizon
99.00	99.00	1	RFS DB-T1-6Z-8AB-0Z	Verizon
99.00	99.00	6	RFS FD9R6004/2C-3L	Verizon
99.00	99.00	1	Swedcom SLCP 2x6014F	Verizon
65.50	65.50	1	Decibel 260B	Sprint



Structure: CT13056-A-SBA

Type: Tapered
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.24185

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64.00 64.00 1 3 ft Standoff Sprint

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	152.50	Inside	7/8" Coax	Town of Monroe
0.00	147.00	Outside	1 1/4" Coax	Sprint/Clearwire
0.00	147.00	Inside	1/2" Coax	Sprint/Clearwire
0.00	147.00	Inside	5/16" Coax	Sprint/Clearwire
0.00	139.00	Inside	1-1/4" Hybrid	AT&T
0.00	139.00	Inside	1/2" Coax	AT&T
0.00	139.00	Inside	3/4" DC	AT&T
0.00	121.00	Inside	1 5/8" Coax	T-Mobile
0.00	121.00	Inside	1 5/8" Fiber	T-Mobile
0.00	109.00	Inside	7/8" Coax	Nextel
0.00	99.00	Outside	1 5/8" Coax	Verizon
0.00	99.00	Inside	1 5/8" Fiber	Verizon
0.00	64.00	Outside	1/2" Coax	Sprint

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
16	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.0000	64.0	60.0	Clipped

Reactions

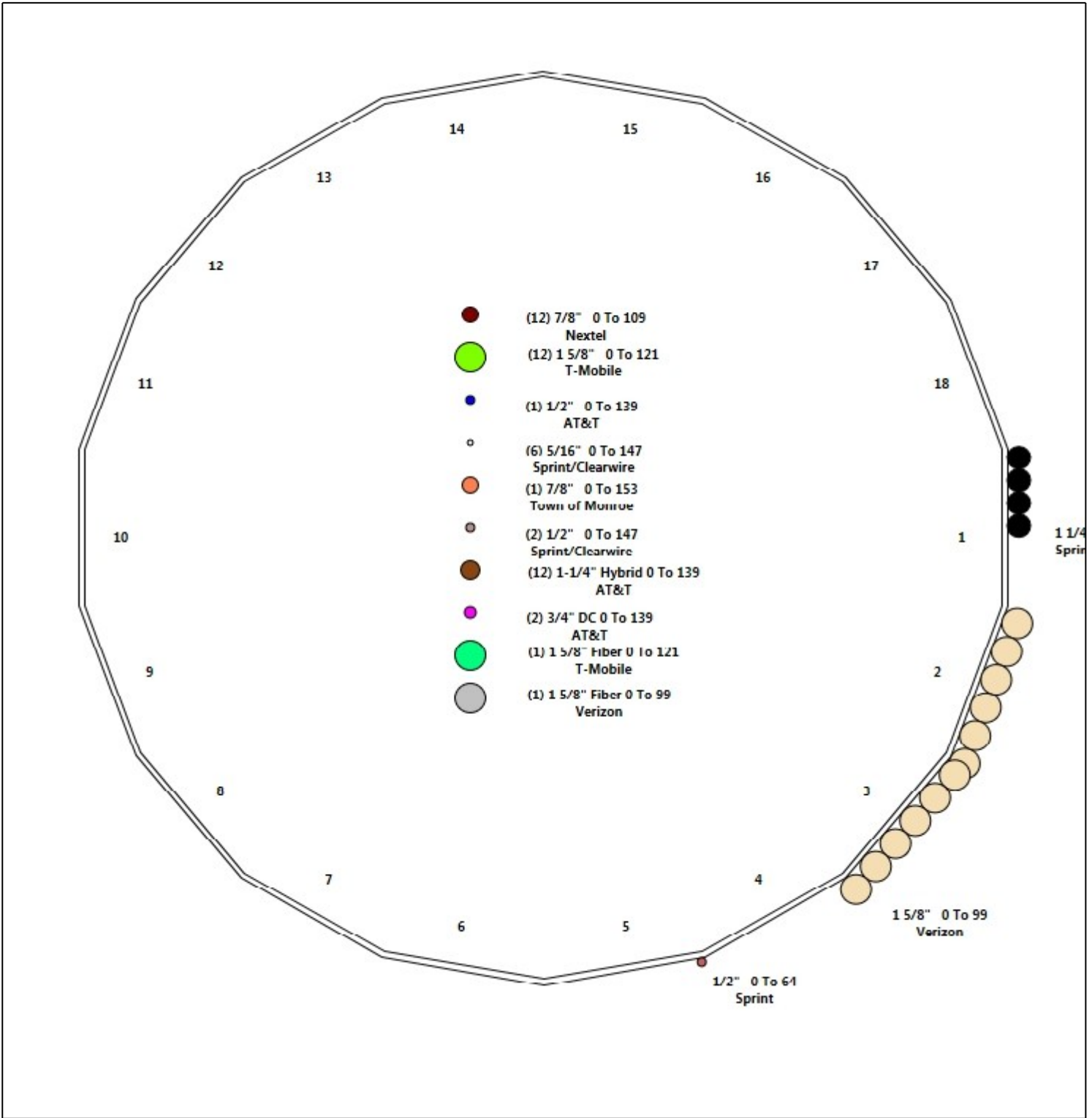
Load Case	Moment	Shear	Axial
85 mph Wind with 0" Ice	4180.6	39.0	39.7
73.61 mph Wind with 0.5" Ice	3522.8	32.6	45.5
50 mph Wind with 0" Ice	1448.3	13.5	39.7

Structure: CT13056-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Moosehill
Height: 149.00 (ft)

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Shaft Properties

Structure: CT13056-A-SBA
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

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

1/8/2016
 Page: 5



Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.250	0.3750	65		0.00	11,235
2	18	53.500	0.3125	65	Slip	72.00	7,462
3	18	33.000	0.2500	65	Slip	57.00	2,903
4	18	20.000	0.1875	65	Flange	0.00	1,062
Total Shaft Weight:							22,662

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	58.91	0.00	69.67	30159.39	26.28	157.0	46.03	53.25	54.34	14311.6	20.23	122.7	0.241846
2	48.11	47.25	47.41	13682.01	25.73	153.9	35.17	100.7	34.57	5306.98	18.43	112.5	0.241846
3	36.82	96.00	29.02	4902.09	24.55	147.2	28.84	129.0	22.68	2342.00	18.92	115.3	0.241846
4	28.84	129.00	17.05	1768.04	25.70	153.7	24.00	149.0	14.17	1015.22	21.15	128	0.241846

Loading Summary

Structure: CT13056-A-SBA
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

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

1/8/2016
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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	149.0	Decibel DB404-B	1	14.00	0.00	1.00	0.00	0.000	1.00	0.00	3.50
2	149.0	Pipe Mount	1	350.00	5.00	1.00	450.00	6.000	1.00	0.00	0.00
3	147.0	12.5' Low Profile Platform	1	1500.00	22.00	1.00	1800.00	27.00	1.00	0.00	0.00
4	147.0	800MHz RRH w/ filter	3	68.30	3.46	1.00	94.20	3.840	1.00	0.00	0.00
5	147.0	ALU 1900MHz RRH	3	44.00	3.80	0.88	75.20	4.200	0.88	0.00	0.00
6	147.0	ALU 800MHz RRH	3	59.50	2.64	0.87	81.90	2.970	0.87	0.00	0.00
7	147.0	ALU TD-RRH8x20-25	3	70.00	4.72	0.69	92.00	4.970	0.69	0.00	0.00
8	147.0	Andrew VHLP2-11	1	27.00	4.68	1.00	55.00	5.050	1.00	0.00	0.00
9	147.0	Andrew VHLP800-11-DW1	1	49.00	6.70	1.00	88.50	7.140	1.00	0.00	0.00
10	147.0	Argus LLPX310R	3	28.60	4.83	0.69	54.50	5.360	0.69	0.00	0.00
11	147.0	RFS ACU-A20-N	4	1.00	0.14	0.79	2.30	0.220	0.79	0.00	0.00
12	147.0	RFS APXVSP18-C-A20	3	57.00	8.26	0.83	106.50	9.080	0.83	0.00	0.00
13	147.0	RFS APXVTM14-C-120	3	56.00	6.90	0.79	91.90	7.290	0.79	0.00	0.00
14	147.0	U-RAS Flexible RRH ODUs	3	50.70	2.23	0.78	67.50	2.540	0.78	0.00	0.00
15	139.0	CCI HPA-65R-BUU-H8	3	68.00	13.30	0.79	137.00	13.90	0.79	0.00	0.00
16	139.0	Commscope ABT-DRDM-ADBH	3	1.10	0.05	0.98	1.80	0.110	0.98	0.00	0.00
17	139.0	DC6-48-60-18-8F	1	32.80	1.47	1.00	50.50	1.670	1.00	0.00	0.00
18	139.0	Ericsson RRUS 11 RRUs	6	55.00	2.94	0.71	74.30	3.290	0.71	0.00	0.00
19	139.0	Ericsson RRUS 12 RRUs	3	58.00	3.67	0.70	75.70	3.890	0.75	0.00	0.00
20	139.0	Ericsson RRUS A2 Module	3	21.20	1.86	0.62	31.40	2.150	0.62	0.00	0.00
21	139.0	Powerave 7770.00	6	35.00	5.88	0.73	0.00	6.530	0.73	0.00	0.00
22	139.0	Powerave LGP13519	6	5.30	0.34	1.00	8.00	0.470	1.00	0.00	0.00
23	139.0	Powerave LGP21401 TMAs	12	14.10	1.29	1.00	21.20	1.530	1.00	0.00	0.00
24	121.0	Commscope LNX-6515DS	3	49.80	11.41	0.80	115.60	12.34	0.80	0.00	0.00
25	121.0	Ericsson Air 21 B2A/B4P	3	91.50	6.58	0.86	129.20	6.970	0.86	0.00	0.00
26	121.0	Ericsson AIR21 B4A/B12P	3	123.00	11.54	0.89	190.20	12.02	0.89	0.00	0.00
27	121.0	Ericsson KRY 112 144/1	3	11.00	0.41	0.70	14.10	0.550	0.70	0.00	0.00
28	121.0	Ericsson S11B12	3	51.00	3.31	0.70	67.10	3.520	0.70	0.00	0.00
29	121.0	Low Profile Platform	1	1500.00	22.00	1.00	1800.00	27.00	1.00	0.00	0.00
30	121.0	SitePro PRK1245	1	350.00	5.00	1.00	450.00	6.000	1.00	0.00	0.00
31	109.0	Decibel DB844H90E-XY	12	14.00	3.73	1.12	0.00	4.290	1.12	0.00	0.00
32	109.0	Low Profile Platform	1	1500.00	22.00	1.00	1800.00	27.00	1.00	0.00	0.00
33	99.00	12.5' Low Profile Platform	1	1500.00	22.00	1.00	1800.00	27.00	1.00	0.00	0.00
34	99.00	ALU RRH2x40-AWS	3	44.00	2.52	0.82	61.40	2.870	0.82	0.00	0.00
35	99.00	Antel BXA-171063-8BF	2	10.50	2.94	0.84	29.30	3.410	0.84	0.00	0.00
36	99.00	Antel BXA-70063-4CF	1	9.90	5.16	0.73	39.00	5.740	0.73	0.00	0.00
37	99.00	Antel BXA-70063-6CF	1	17.00	7.73	0.73	0.00	8.540	0.73	0.00	0.00
38	99.00	Antel LPA-80063-6CF	2	27.00	10.50	0.93	101.90	11.35	0.93	0.00	0.00
39	99.00	AXA-171063-12BF	1	15.00	4.73	0.84	42.20	5.400	0.84	0.00	0.00
40	99.00	Kathrein 7442213_2110_P45_02.0	3	57.30	10.54	0.77	113.60	11.48	0.77	0.00	0.00
41	99.00	RFS APL866513-42T0	4	15.70	4.29	0.93	47.00	4.860	0.93	0.00	0.00
42	99.00	RFS DB-T1-6Z-8AB-0Z	1	18.90	5.60	0.71	46.00	5.870	0.71	0.00	0.00
43	99.00	RFS FD9R6004/2C-3L	6	3.10	0.36	1.00	5.40	0.500	1.00	0.00	0.00
44	99.00	Swedcom SLCP 2x6014F	1	20.00	7.21	0.89	70.40	7.880	0.89	0.00	0.00
45	65.50	Decibel 26OB	1	50.00	2.00	1.00	100.00	3.000	1.00	0.00	0.00
46	64.00	3 ft Standoff	1	40.00	2.63	1.00	63.00	4.340	1.00	0.00	0.00
Totals:			134	11,093.00			14,697.20				

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	No Ice		Ice		Exposed
			Weight (lb/ft)	CaAa (sf/ft)	Weight (lb/ft)	CaAa (sf/ft)	
0.00	152.5	(1) 7/8" Coax	0.52	0.00	0.00	0.00	Inside
0.00	147.0	(4) 1 1/4" Coax	2.64	0.13	0.00	0.22	Outside
0.00	147.0	(2) 1/2" Coax	0.32	0.00	0.00	0.00	Inside
0.00	147.0	(6) 5/16" Coax	0.48	0.00	0.00	0.00	Inside
0.00	139.0	(12) 1-1/4" Hybrid	11.45	0.00	0.00	0.00	Inside
0.00	139.0	(1) 1/2" Coax	0.16	0.00	0.00	0.00	Inside
0.00	139.0	(2) 3/4" DC	0.80	0.00	0.00	0.00	Inside
0.00	121.0	(12) 1 5/8" Coax	12.48	0.00	0.00	0.00	Inside
0.00	121.0	(1) 1 5/8" Fiber	1.10	0.00	0.00	0.00	Inside
0.00	109.0	(12) 7/8" Coax	6.24	0.00	0.00	0.00	Inside
0.00	99.00	(12) 1 5/8" Coax	12.48	0.33	0.00	0.42	Outside
0.00	99.00	(1) 1 5/8" Fiber	1.10	0.00	0.00	0.00	Inside
0.00	64.00	(1) 1/2" Coax	0.16	0.05	0.00	0.14	Outside
Totals:			5,987.69		0.00		

Shaft Section Properties

Structure: CT13056-A-SBA

Code: EIA/TIA-222-F

1/8/2016

Site Name: Moosehill

Exposure: C

Height: 149.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)
0.00		0.3750	58.910	69.669	30159.4	26.29	157.09	65	51	0.0
5.00		0.3750	57.701	68.230	28328.6	25.72	153.87	65	51	1173.1
10.00		0.3750	56.492	66.790	26573.5	25.15	150.64	65	52	1148.6
15.00		0.3750	55.282	65.351	24892.4	24.58	147.42	65	52	1124.1
20.00		0.3750	54.073	63.912	23283.7	24.01	144.19	65	52	1099.6
25.00		0.3750	52.864	62.473	21745.9	23.45	140.97	65	52	1075.1
30.00		0.3750	51.655	61.033	20277.3	22.88	137.75	65	52	1050.7
35.00		0.3750	50.445	59.594	18876.4	22.31	134.52	65	52	1026.2
40.00		0.3750	49.236	58.155	17541.5	21.74	131.30	65	52	1001.7
45.00		0.3750	48.027	56.716	16271.1	21.17	128.07	65	52	977.2
47.25	Bot - Section 2	0.3750	47.483	56.068	15720.1	20.92	126.62	65	52	431.8
50.00		0.3750	46.818	55.276	15063.6	20.60	124.85	65	52	961.5
53.25	Top - Section 1	0.3125	46.657	45.966	12473.3	24.92	149.30	65	52	1118.8
55.00		0.3125	46.233	45.546	12134.7	24.68	147.95	65	52	272.5
60.00		0.3125	45.024	44.347	11201.1	23.99	144.08	65	52	764.7
64.00		0.3125	44.057	43.387	10489.7	23.45	140.98	65	52	597.1
65.00		0.3125	43.815	43.148	10316.6	23.31	140.21	65	52	147.2
65.50		0.3125	43.694	43.028	10230.8	23.24	139.82	65	52	73.3
70.00		0.3125	42.606	41.948	9480.0	22.63	136.34	65	52	650.6
75.00		0.3125	41.397	40.749	8689.9	21.95	132.47	65	52	703.5
80.00		0.3125	40.187	39.549	7945.0	21.26	128.60	65	52	683.1
85.00		0.3125	38.978	38.350	7243.8	20.58	124.73	65	52	662.7
90.00		0.3125	37.769	37.151	6585.2	19.90	120.86	65	52	642.3
95.00		0.3125	36.560	35.951	5967.8	19.22	116.99	65	52	621.9
96.00	Bot - Section 3	0.3125	36.318	35.711	5849.2	19.08	116.22	65	52	121.9
99.00		0.3125	35.592	34.992	5502.7	18.67	113.90	65	52	654.1
100.00		0.3125	35.350	34.752	5390.3	18.54	113.12	65	52	215.1
100.75	Top - Section 2	0.2500	35.669	28.104	4454.5	23.75	142.68	65	52	160.4
105.00		0.2500	34.641	27.288	4077.8	23.02	138.56	65	52	400.5
109.00		0.2500	33.674	26.521	3743.3	22.34	134.70	65	52	366.2
110.00		0.2500	33.432	26.329	3662.6	22.17	133.73	65	52	89.9
115.00		0.2500	32.223	25.369	3276.6	21.32	128.89	65	52	439.8
120.00		0.2500	31.014	24.410	2918.7	20.46	124.05	65	52	423.5
121.00		0.2500	30.772	24.218	2850.4	20.29	123.09	65	52	82.7
125.00		0.2500	29.804	23.450	2587.9	19.61	119.22	65	52	324.4
129.00	Top - Section 3	0.0000	0.000	0.000	0.0	NAN	NAN	0	0	314.0
129.00	Bot - Section 4	0.2500	28.837	22.683	2342.0	18.93	115.35	65	52	
130.00		0.1875	28.595	16.905	1723.6	25.48	152.51	65	51	57.8
135.00		0.1875	27.386	16.186	1512.8	24.34	146.06	65	52	281.5
139.00		0.1875	26.418	15.610	1357.0	23.43	140.90	65	52	216.4
140.00		0.1875	26.177	15.466	1319.8	23.21	139.61	65	52	52.9
145.00		0.1875	24.967	14.747	1144.0	22.07	133.16	65	52	257.0
147.00		0.1875	24.484	14.459	1078.4	21.61	130.58	65	52	99.4
149.00		0.1875	24.000	14.171	1015.2	21.16	128.00	65	52	97.4

22662.1

Wind Loading - Shaft

Structure: CT13056-A-SBA
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

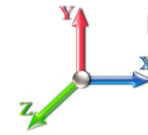
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/8/2016
 Page: 9



Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		0.00	1.00	18.496	31.26	417.28	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	18.496	31.26	408.71	0.650	0.000	5.00	24.294	15.79	493.6	0.0	1173.1
10.00		0.00	1.00	18.496	31.26	400.15	0.650	0.000	5.00	23.790	15.46	483.4	0.0	1148.6
15.00		0.00	1.00	18.496	31.26	391.58	0.650	0.000	5.00	23.286	15.14	473.1	0.0	1124.1
20.00		0.00	1.00	18.496	31.26	383.02	0.650	0.000	5.00	22.782	14.81	462.9	0.0	1099.6
25.00		0.00	1.00	18.496	31.26	374.45	0.650	0.000	5.00	22.279	14.48	452.7	0.0	1075.1
30.00		0.00	1.00	18.496	31.26	365.89	0.650	0.000	5.00	21.775	14.15	442.4	0.0	1050.7
35.00		0.00	1.02	18.810	31.79	360.34	0.650	0.000	5.00	21.271	13.83	439.5	0.0	1026.2
40.00		0.00	1.06	19.541	33.02	358.47	0.650	0.000	5.00	20.767	13.50	445.8	0.0	1001.7
45.00		0.00	1.09	20.210	34.15	355.60	0.650	0.000	5.00	20.263	13.17	449.9	0.0	977.2
47.25	Bot - Section 2	0.00	1.11	20.494	34.63	354.03	0.650	0.000	2.25	8.954	5.82	201.6	0.0	431.8
50.00		0.00	1.13	20.827	35.20	351.91	0.650	0.000	2.75	10.948	7.12	250.5	0.0	961.5
53.25	Top - Section 1	0.00	1.15	21.206	35.84	349.13	0.650	0.000	3.25	12.743	8.28	296.8	0.0	1118.8
55.00		0.00	1.16	21.402	36.17	352.28	0.650	0.000	1.75	6.773	4.40	159.2	0.0	272.5
60.00		0.00	1.19	21.941	37.08	347.36	0.650	0.000	5.00	19.012	12.36	458.2	0.0	764.7
64.00	Appurtenance(s)	0.00	1.21	22.350	37.77	343.04	0.650	0.000	4.00	14.847	9.65	364.5	0.0	597.1
65.00		0.00	1.21	22.449	37.94	341.91	0.650	0.000	1.00	3.661	2.38	90.3	0.0	147.2
65.50	Appurtenance(s)	0.00	1.22	22.498	38.02	341.34	0.650	0.000	0.50	1.823	1.19	45.1	0.0	73.3
70.00		0.00	1.24	22.929	38.75	336.02	0.650	0.000	4.50	16.181	10.52	407.6	0.0	650.6
75.00		0.00	1.26	23.386	39.52	329.71	0.650	0.000	5.00	17.500	11.38	449.6	0.0	703.5
80.00		0.00	1.29	23.821	40.26	323.05	0.650	0.000	5.00	16.997	11.05	444.8	0.0	683.1
85.00		0.00	1.31	24.237	40.96	316.05	0.650	0.000	5.00	16.493	10.72	439.1	0.0	662.7
90.00		0.00	1.33	24.636	41.63	308.76	0.650	0.000	5.00	15.989	10.39	432.7	0.0	642.3
95.00		0.00	1.35	25.020	42.28	301.19	0.650	0.000	5.00	15.485	10.07	425.6	0.0	621.9
96.00	Bot - Section 3	0.00	1.36	25.095	42.41	299.65	0.650	0.000	1.00	3.037	1.97	83.7	0.0	121.9
99.00	Appurtenance(s)	0.00	1.37	25.316	42.78	294.95	0.650	0.000	3.00	9.114	5.92	253.5	0.0	654.1
100.00		0.00	1.37	25.389	42.91	293.37	0.650	0.000	1.00	2.998	1.95	83.6	0.0	215.1
100.75	Top - Section 2	0.00	1.38	25.443	43.00	292.18	0.650	0.000	0.75	2.235	1.45	62.5	0.0	160.4
105.00		0.00	1.39	25.745	43.51	289.50	0.650	0.000	4.25	12.451	8.09	352.1	0.0	400.5
109.00	Appurtenance(s)	0.00	1.41	26.022	43.98	282.92	0.650	0.000	4.00	11.386	7.40	325.5	0.0	366.2
110.00		0.00	1.41	26.090	44.09	281.25	0.650	0.000	1.00	2.796	1.82	80.1	0.0	89.9
115.00		0.00	1.43	26.423	44.66	272.81	0.650	0.000	5.00	13.678	8.89	397.0	0.0	439.8
120.00		0.00	1.45	26.747	45.20	264.17	0.650	0.000	5.00	13.174	8.56	387.1	0.0	423.5
121.00	Appurtenance(s)	0.00	1.45	26.810	45.31	262.42	0.650	0.000	1.00	2.574	1.67	75.8	0.0	82.7
125.00		0.00	1.46	27.060	45.73	255.36	0.650	0.000	4.00	10.096	6.56	300.1	0.0	324.4
129.00	Top - Section 3	0.00	1.48	27.305	46.15	248.18	0.650	0.000	4.00	9.774	6.35	293.2	0.0	314.0
130.00		0.00	1.48	27.365	46.25	246.37	0.650	0.000	1.00	2.393	1.56	71.9	0.0	57.8
135.00		0.00	1.50	27.662	46.75	237.23	0.650	0.000	5.00	11.663	7.58	354.4	0.0	281.5
139.00	Appurtenance(s)	0.00	1.51	27.894	47.14	229.81	0.650	0.000	4.00	8.967	5.83	274.8	0.0	216.4
140.00		0.00	1.51	27.951	47.24	227.93	0.650	0.000	1.00	2.191	1.42	67.3	0.0	52.9
145.00		0.00	1.53	28.233	47.71	218.50	0.650	0.000	5.00	10.655	6.93	330.4	0.0	257.0
147.00	Appurtenance(s)	0.00	1.53	28.343	47.90	214.68	0.650	0.000	2.00	4.121	2.68	128.3	0.0	99.4
149.00	Appurtenance(s)	0.00	1.54	28.453	48.09	210.85	0.650	0.000	2.00	4.040	2.63	126.3	0.0	97.4
Totals:									149.00			12,656.3		22,662.1

Discrete Appurtenance Forces

Structure: CT13056-A-SB
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

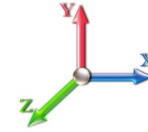
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/8/2016
 Page: 10



Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	149.00	Decibel DB404-B	1	28.642	48.406	1.00	0.00	14.00	0.000	3.500	0.00	0.00	0.00
2	149.00	Pipe Mount	1	28.453	48.085	1.00	5.00	350.00	0.000	0.000	240.43	0.00	0.00
3	147.00	Andrew VHLP2-11	1	28.343	47.900	1.00	4.68	27.00	0.000	0.000	224.17	0.00	0.00
4	147.00	12.5' Low Profile Platform	1	28.343	47.900	1.00	22.00	1500.00	0.000	0.000	1053.80	0.00	0.00
5	147.00	800MHz RRH w/ filter	3	28.343	47.900	1.00	10.38	204.90	0.000	0.000	497.20	0.00	0.00
6	147.00	ALU 800MHz RRH	3	28.343	47.900	0.87	6.89	178.50	0.000	0.000	330.05	0.00	0.00
7	147.00	ALU TD-RRH8x20-25	3	28.343	47.900	0.69	9.77	210.00	0.000	0.000	468.00	0.00	0.00
8	147.00	ALU 1900MHz RRH	3	28.343	47.900	0.88	10.03	132.00	0.000	0.000	480.53	0.00	0.00
9	147.00	Argus LLPX310R	3	28.343	47.900	0.69	10.00	85.80	0.000	0.000	478.91	0.00	0.00
10	147.00	RFS ACU-A20-N	4	28.343	47.900	0.79	0.44	4.00	0.000	0.000	21.19	0.00	0.00
11	147.00	RFS APXVSP18-C-A20	3	28.343	47.900	0.83	20.57	171.00	0.000	0.000	985.18	0.00	0.00
12	147.00	RFS APXVTM14-C-120	3	28.343	47.900	0.79	16.35	168.00	0.000	0.000	783.31	0.00	0.00
13	147.00	U-RAS Flexible RRH ODUs	3	28.343	47.900	0.78	5.22	152.10	0.000	0.000	249.95	0.00	0.00
14	147.00	Andrew VHLP800-11-DW1	1	28.343	47.900	1.00	6.70	49.00	0.000	0.000	320.93	0.00	0.00
15	139.00	Ericsson RRUS 11 RRUs	6	27.894	47.140	0.71	12.52	330.00	0.000	0.000	590.41	0.00	0.00
16	139.00	CCI HPA-65R-BUU-H8	3	27.894	47.140	0.79	31.52	204.00	0.000	0.000	1485.91	0.00	0.00
17	139.00	Commscope	3	27.894	47.140	0.98	0.15	3.30	0.000	0.000	6.93	0.00	0.00
18	139.00	DC6-48-60-18-8F	1	27.894	47.140	1.00	1.47	32.80	0.000	0.000	69.30	0.00	0.00
19	139.00	Powerave LGP13519	6	27.894	47.140	1.00	2.04	31.80	0.000	0.000	96.17	0.00	0.00
20	139.00	Ericsson RRUS 12 RRUs	3	27.894	47.140	0.70	7.71	174.00	0.000	0.000	363.31	0.00	0.00
21	139.00	Ericsson RRUS A2 Module	3	27.894	47.140	0.62	3.46	63.60	0.000	0.000	163.09	0.00	0.00
22	139.00	Powerave 7770.00	6	27.894	47.140	0.73	25.75	210.00	0.000	0.000	1214.07	0.00	0.00
23	139.00	Powerave LGP21401 TMAs	12	27.894	47.140	1.00	15.48	169.20	0.000	0.000	729.73	0.00	0.00
24	121.00	SitePro PRK1245	1	26.810	45.309	1.00	5.00	350.00	0.000	0.000	226.55	0.00	0.00
25	121.00	Ericsson AIR21 B4A/B12P	3	26.810	45.309	0.89	30.81	369.00	0.000	0.000	1396.05	0.00	0.00
26	121.00	Commscope LNX-6515DS	3	26.810	45.309	0.80	27.38	149.40	0.000	0.000	1240.74	0.00	0.00
27	121.00	Ericsson Air 21 B2A/B4P	3	26.810	45.309	0.86	16.98	274.50	0.000	0.000	769.18	0.00	0.00
28	121.00	Low Profile Platform	1	26.810	45.309	1.00	22.00	1500.00	0.000	0.000	996.80	0.00	0.00
29	121.00	Ericsson KRY 112 144/1	3	26.810	45.309	0.70	0.86	33.00	0.000	0.000	39.01	0.00	0.00
30	121.00	Ericsson S11B12	3	26.810	45.309	0.70	6.95	153.00	0.000	0.000	314.94	0.00	0.00
31	109.00	Low Profile Platform	1	26.022	43.977	1.00	22.00	1500.00	0.000	0.000	967.49	0.00	0.00
32	109.00	Decibel DB844H90E-XY	12	26.022	43.977	1.12	50.13	168.00	0.000	0.000	2204.62	0.00	0.00
33	99.00	Antel BXA-70063-6CF	1	25.316	42.784	0.73	5.64	17.00	0.000	0.000	241.43	0.00	0.00
34	99.00	Antel BXA-70063-4CF	1	25.316	42.784	0.73	3.77	9.90	0.000	0.000	161.16	0.00	0.00
35	99.00	Antel BXA-171063-8BF	2	25.316	42.784	0.84	4.94	21.00	0.000	0.000	211.32	0.00	0.00
36	99.00	Antel LPA-80063-6CF	2	25.316	42.784	0.93	19.53	54.00	0.000	0.000	835.58	0.00	0.00
37	99.00	ALU RRH2x40-AWS	3	25.316	42.784	0.82	6.20	132.00	0.000	0.000	265.23	0.00	0.00
38	99.00	12.5' Low Profile Platform	1	25.316	42.784	1.00	22.00	1500.00	0.000	0.000	941.26	0.00	0.00
39	99.00	RFS DB-T1-6Z-8AB-0Z	1	25.316	42.784	0.71	3.98	18.90	0.000	0.000	170.11	0.00	0.00
40	99.00	AXA-171063-12BF	1	25.316	42.784	0.84	3.97	15.00	0.000	0.000	169.99	0.00	0.00
41	99.00	Kathrein	3	25.316	42.784	0.77	24.35	171.90	0.000	0.000	1041.69	0.00	0.00
42	99.00	RFS APL866513-42T0	4	25.316	42.784	0.93	15.96	62.80	0.000	0.000	682.79	0.00	0.00
43	99.00	RFS FD9R6004/2C-3L	6	25.316	42.784	1.00	2.16	18.60	0.000	0.000	92.41	0.00	0.00
44	99.00	Swedcom SLCP 2x6014F	1	25.316	42.784	0.89	6.42	20.00	0.000	0.000	274.54	0.00	0.00
45	65.50	Decibel 26OB	1	22.498	38.022	1.00	2.00	50.00	0.000	0.000	76.04	0.00	0.00
46	64.00	3 ft Standoff	1	22.350	37.771	1.00	2.63	40.00	0.000	0.000	99.34	0.00	0.00

Totals: 11,093.00

24,270.86

Total Applied Force Summary

Structure: CT13056-A-SB
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

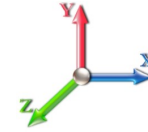
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/8/2016
 Page: 11



Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 23

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		573.31	1422.73	0.00	0.00
10.00		563.07	1398.25	0.00	0.00
15.00		552.83	1373.76	0.00	0.00
20.00		542.60	1349.27	0.00	0.00
25.00		532.36	1324.79	0.00	0.00
30.00		522.12	1300.30	0.00	0.00
35.00		520.56	1275.81	0.00	0.00
40.00		529.99	1251.32	0.00	0.00
45.00		536.95	1226.84	0.00	0.00
47.25		241.32	544.09	0.00	0.00
50.00		299.86	1098.78	0.00	0.00
53.25		356.23	1281.05	0.00	0.00
55.00		191.52	359.85	0.00	0.00
60.00		552.79	1014.36	0.00	0.00
64.00	(1) appurtenances	540.89	836.79	0.00	0.00
65.00		107.74	197.00	0.00	0.00
65.50	(1) appurtenances	129.84	148.19	0.00	0.00
70.00		487.78	874.55	0.00	0.00
75.00		540.47	952.34	0.00	0.00
80.00		537.35	931.93	0.00	0.00
85.00		533.32	911.53	0.00	0.00
90.00		528.47	891.12	0.00	0.00
95.00		522.84	870.72	0.00	0.00
96.00		103.22	171.69	0.00	0.00
99.00	(26) appurtenances	5400.00	2844.55	0.00	0.00
100.00		89.18	251.30	0.00	0.00
100.75		66.66	187.51	0.00	0.00
105.00		376.16	554.34	0.00	0.00
109.00	(13) appurtenances	3520.44	2178.95	0.00	0.00
110.00		85.87	119.87	0.00	0.00
115.00		426.05	589.54	0.00	0.00
120.00		416.45	573.21	0.00	0.00
121.00	(17) appurtenances	5064.99	2941.58	0.00	0.00
125.00		323.89	389.88	0.00	0.00
129.00		317.15	379.44	0.00	0.00
130.00		77.95	74.14	0.00	0.00
135.00		384.78	363.35	0.00	0.00
139.00	(43) appurtenances	5018.20	1500.56	0.00	0.00
140.00		73.43	56.83	0.00	0.00
145.00		361.46	276.82	0.00	0.00
147.00	(31) appurtenances	6034.01	2989.60	0.00	0.00
149.00	(2) appurtenances	366.71	462.46	0.00	0.00
Totals:		38,950.81	39,740.96	0.00	0.00

Resulting Forces and Deflections

Structure: CT13056-A-SB
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

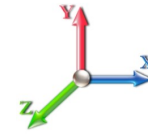
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/8/2016
 Page: 12



Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 23

Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	Deflect X (in)	Deflect Z (in)	Deflect Resultant (in)	Rotation Sway (deg)	Rotation Twist (deg)
0.00	-39.018	-39.673	0.000	0.000	0.000	-4180.5	0.000	0.000	0.000	0.000	0.000
5.00	-38.572	-38.121	0.000	0.000	0.000	-3985.4	-0.104	0.000	0.104	-0.193	0.000
10.00	-38.127	-36.595	0.000	0.000	0.000	-3792.6	-0.411	0.000	0.411	-0.388	0.000
15.00	-37.685	-35.095	0.000	0.000	0.000	-3601.9	-0.924	0.000	0.924	-0.586	0.000
20.00	-37.245	-33.622	0.000	0.000	0.000	-3413.5	-1.646	0.000	1.646	-0.786	0.000
25.00	-36.807	-32.175	0.000	0.000	0.000	-3227.3	-2.579	0.000	2.579	-0.989	0.000
30.00	-36.371	-30.754	0.000	0.000	0.000	-3043.3	-3.725	0.000	3.725	-1.194	0.000
35.00	-35.928	-29.360	0.000	0.000	0.000	-2861.4	-5.088	0.000	5.088	-1.401	0.000
40.00	-35.468	-27.993	0.000	0.000	0.000	-2681.8	-6.668	0.000	6.668	-1.610	0.000
45.00	-34.966	-26.690	0.000	0.000	0.000	-2504.4	-8.468	0.000	8.468	-1.820	0.000
47.25	-34.756	-26.089	0.000	0.000	0.000	-2425.8	-9.350	0.000	9.350	-1.917	0.000
50.00	-34.475	-24.923	0.000	0.000	0.000	-2330.2	-10.490	0.000	10.490	-2.036	0.000
53.25	-34.116	-23.592	0.000	0.000	0.000	-2218.1	-11.925	0.000	11.925	-2.175	0.000
55.00	-33.976	-23.145	0.000	0.000	0.000	-2158.4	-12.737	0.000	12.737	-2.252	0.000
60.00	-33.466	-22.026	0.000	0.000	0.000	-1988.6	-15.226	0.000	15.226	-2.495	0.000
64.00	-32.933	-21.145	0.000	0.000	0.000	-1854.7	-17.400	0.000	17.400	-2.690	0.000
65.00	-32.830	-20.932	0.000	0.000	0.000	-1821.8	-17.969	0.000	17.969	-2.740	0.000
65.50	-32.737	-20.721	0.000	0.000	0.000	-1805.4	-18.257	0.000	18.257	-2.765	0.000
70.00	-32.285	-19.744	0.000	0.000	0.000	-1658.0	-20.968	0.000	20.968	-2.981	0.000
75.00	-31.770	-18.692	0.000	0.000	0.000	-1496.6	-24.218	0.000	24.218	-3.218	0.000
80.00	-31.250	-17.668	0.000	0.000	0.000	-1337.8	-27.713	0.000	27.713	-3.450	0.000
85.00	-30.726	-16.673	0.000	0.000	0.000	-1181.5	-31.447	0.000	31.447	-3.676	0.000
90.00	-30.198	-15.708	0.000	0.000	0.000	-1027.9	-35.413	0.000	35.413	-3.893	0.000
95.00	-29.647	-14.813	0.000	0.000	0.000	-876.95	-39.600	0.000	39.600	-4.098	0.000
96.00	-29.552	-14.608	0.000	0.000	0.000	-847.31	-40.463	0.000	40.463	-4.139	0.000
99.00	-23.975	-12.135	0.000	0.000	0.000	-758.65	-43.101	0.000	43.101	-4.257	0.000
100.00	-23.874	-11.877	0.000	0.000	0.000	-734.68	-43.996	0.000	43.996	-4.295	0.000
100.75	-23.812	-11.656	0.000	0.000	0.000	-716.77	-44.673	0.000	44.673	-4.324	0.000
105.00	-23.425	-11.069	0.000	0.000	0.000	-615.57	-48.589	0.000	48.589	-4.476	0.000
109.00	-19.758	-9.143	0.000	0.000	0.000	-521.87	-52.406	0.000	52.406	-4.634	0.000
110.00	-19.680	-8.993	0.000	0.000	0.000	-502.12	-53.380	0.000	53.380	-4.673	0.000
115.00	-19.231	-8.385	0.000	0.000	0.000	-403.72	-58.367	0.000	58.367	-4.849	0.000
120.00	-18.778	-7.821	0.000	0.000	0.000	-307.57	-63.526	0.000	63.526	-5.004	0.000
121.00	-13.482	-5.318	0.000	0.000	0.000	-288.79	-64.577	0.000	64.577	-5.033	0.000
125.00	-13.133	-4.936	0.000	0.000	0.000	-234.86	-68.834	0.000	68.834	-5.137	0.000
129.00	-12.787	-4.575	0.000	0.000	0.000	-182.33	-73.174	0.000	73.174	-5.229	0.000
130.00	-12.709	-4.492	0.000	0.000	0.000	-169.54	-74.270	0.000	74.270	-5.250	0.000
135.00	-12.298	-4.147	0.000	0.000	0.000	-106.00	-79.828	0.000	79.828	-5.364	0.000
139.00	-7.163	-3.122	0.000	0.000	0.000	-56.812	-84.346	0.000	84.346	-5.425	0.000
140.00	-7.086	-3.069	0.000	0.000	0.000	-49.649	-85.482	0.000	85.482	-5.437	0.000
145.00	-6.701	-2.826	0.000	0.000	0.000	-14.219	-91.189	0.000	91.189	-5.471	0.000
147.00	-0.409	-0.425	0.000	0.000	0.000	-0.818	-93.479	0.000	93.479	-5.475	0.000
149.00	-0.367	0.000	0.000	0.000	0.000	0.000	0.000	0.000	95.769	-5.475	0.000

Resulting Stresses

Structure: CT13056-A-SBA
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

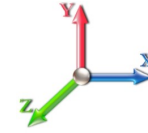
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/8/2016
 Page: 13



Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 23

Applied Stresses

Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvT Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	Fb Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.57	1.13	0.00	0.00	0.00	49.75	50.36	50.7	0.993
5.00	0.56	1.14	0.00	0.00	0.00	49.46	50.06	51.2	0.978
10.00	0.55	1.15	0.00	0.00	0.00	49.12	49.71	51.7	0.962
15.00	0.54	1.16	0.00	0.00	0.00	48.74	49.32	52.0	0.949
20.00	0.53	1.17	0.00	0.00	0.00	48.30	48.87	52.0	0.940
25.00	0.52	1.19	0.00	0.00	0.00	47.80	48.36	52.0	0.930
30.00	0.50	1.20	0.00	0.00	0.00	47.23	47.78	52.0	0.919
35.00	0.49	1.22	0.00	0.00	0.00	46.59	47.13	52.0	0.907
40.00	0.48	1.23	0.00	0.00	0.00	45.86	46.39	52.0	0.892
45.00	0.47	1.24	0.00	0.00	0.00	45.04	45.56	52.0	0.876
47.25	0.47	1.25	0.00	0.00	0.00	44.64	45.16	52.0	0.869
50.00	0.45	1.26	0.00	0.00	0.00	44.12	44.63	52.0	0.859
53.25	0.51	1.50	0.00	0.00	0.00	50.55	51.13	52.0	0.984
55.00	0.51	1.50	0.00	0.00	0.00	50.10	50.68	52.0	0.975
60.00	0.50	1.52	0.00	0.00	0.00	48.70	49.27	52.0	0.948
64.00	0.49	1.53	0.00	0.00	0.00	47.46	48.02	52.0	0.924
65.00	0.49	1.53	0.00	0.00	0.00	47.14	47.70	52.0	0.918
65.50	0.48	1.53	0.00	0.00	0.00	46.98	47.53	52.0	0.914
70.00	0.47	1.55	0.00	0.00	0.00	45.40	45.95	52.0	0.884
75.00	0.46	1.57	0.00	0.00	0.00	43.44	43.98	52.0	0.846
80.00	0.45	1.59	0.00	0.00	0.00	41.23	41.77	52.0	0.803
85.00	0.43	1.61	0.00	0.00	0.00	38.74	39.27	52.0	0.755
90.00	0.42	1.64	0.00	0.00	0.00	35.92	36.45	52.0	0.701
95.00	0.41	1.66	0.00	0.00	0.00	32.73	33.27	52.0	0.640
96.00	0.41	1.67	0.00	0.00	0.00	32.05	32.59	52.0	0.627
99.00	0.35	1.38	0.00	0.00	0.00	29.90	30.34	52.0	0.584
100.00	0.34	1.38	0.00	0.00	0.00	29.36	29.79	52.0	0.573
100.75	0.41	1.71	0.00	0.00	0.00	34.97	35.51	52.0	0.683
105.00	0.41	1.73	0.00	0.00	0.00	31.86	32.40	52.0	0.623
109.00	0.34	1.50	0.00	0.00	0.00	28.60	29.06	52.0	0.559
110.00	0.34	1.51	0.00	0.00	0.00	27.92	28.39	52.0	0.546
115.00	0.33	1.53	0.00	0.00	0.00	24.19	24.66	52.0	0.474
120.00	0.32	1.55	0.00	0.00	0.00	19.91	20.41	52.0	0.393
121.00	0.22	1.12	0.00	0.00	0.00	18.99	19.31	52.0	0.372
125.00	0.21	1.13	0.00	0.00	0.00	16.48	16.80	52.0	0.323
129.00	0.20	1.14	0.00	0.00	0.00	13.68	14.02	52.0	0.270
129.00	0.20	1.14	0.00	0.00	0.00	13.68	14.02	52.0	0.357
130.00	0.27	1.52	0.00	0.00	0.00	17.14	17.60	51.4	0.342
135.00	0.26	1.53	0.00	0.00	0.00	11.69	12.24	52.0	0.235
139.00	0.20	0.92	0.00	0.00	0.00	6.74	7.12	52.0	0.137
140.00	0.20	0.92	0.00	0.00	0.00	6.00	6.40	52.0	0.123
145.00	0.19	0.92	0.00	0.00	0.00	1.89	2.62	52.0	0.050
147.00	0.03	0.06	0.00	0.00	0.00	0.11	0.17	52.0	0.003
149.00	0.00	0.05	0.00	0.00	0.00	0.00	0.09	52.0	0.002

Wind Loading - Shaft

Structure: CT13056-A-SBA
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

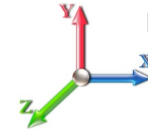
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/8/2016
 Page: 14



Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		0.00	1.00	13.871	23.44	361.36	0.650	0.500	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	13.871	23.44	353.95	0.650	0.500	5.00	24.711	16.06	376.5	179.6	1352.7
10.00		0.00	1.00	13.871	23.44	346.53	0.650	0.500	5.00	24.207	15.73	368.9	175.9	1324.5
15.00		0.00	1.00	13.871	23.44	339.11	0.650	0.500	5.00	23.703	15.41	361.2	172.1	1296.2
20.00		0.00	1.00	13.871	23.44	331.69	0.650	0.500	5.00	23.199	15.08	353.5	168.4	1268.0
25.00		0.00	1.00	13.871	23.44	324.28	0.650	0.500	5.00	22.695	14.75	345.8	164.7	1239.8
30.00		0.00	1.00	13.871	23.44	316.86	0.650	0.500	5.00	22.191	14.42	338.1	160.9	1211.6
35.00		0.00	1.02	14.106	23.84	312.05	0.650	0.500	5.00	21.688	14.10	336.1	157.2	1183.4
40.00		0.00	1.06	14.655	24.77	310.44	0.650	0.500	5.00	21.184	13.77	341.0	153.5	1155.2
45.00		0.00	1.09	15.156	25.61	307.95	0.650	0.500	5.00	20.680	13.44	344.3	149.7	1126.9
47.25	Bot - Section 2	0.00	1.11	15.369	25.97	306.59	0.650	0.500	2.25	9.142	5.94	154.3	66.6	498.4
50.00		0.00	1.13	15.620	26.40	304.75	0.650	0.500	2.75	11.178	7.27	191.8	81.4	1042.8
53.25	Top - Section 1	0.00	1.15	15.903	26.88	302.34	0.650	0.500	3.25	13.013	8.46	227.3	94.6	1213.4
55.00		0.00	1.16	16.051	27.13	305.07	0.650	0.500	1.75	6.919	4.50	122.0	50.5	322.9
60.00		0.00	1.19	16.455	27.81	300.81	0.650	0.500	5.00	19.429	12.63	351.2	140.5	905.2
64.00	Appurtenance(s)	0.00	1.21	16.761	28.33	297.07	0.650	0.500	4.00	15.180	9.87	279.5	110.0	707.1
65.00		0.00	1.21	16.836	28.45	296.10	0.650	0.500	1.00	3.745	2.43	69.3	27.3	174.6
65.50	Appurtenance(s)	0.00	1.22	16.872	28.51	295.60	0.650	0.500	0.50	1.865	1.21	34.6	13.6	86.9
70.00		0.00	1.24	17.196	29.06	290.99	0.650	0.500	4.50	16.556	10.76	312.7	119.7	770.3
75.00		0.00	1.26	17.538	29.64	285.53	0.650	0.500	5.00	17.917	11.65	345.2	129.3	832.8
80.00		0.00	1.29	17.865	30.19	279.76	0.650	0.500	5.00	17.413	11.32	341.7	125.5	808.6
85.00		0.00	1.31	18.177	30.72	273.70	0.650	0.500	5.00	16.909	10.99	337.6	121.8	784.5
90.00		0.00	1.33	18.476	31.22	267.38	0.650	0.500	5.00	16.406	10.66	333.0	118.1	760.4
95.00		0.00	1.35	18.764	31.71	260.83	0.650	0.500	5.00	15.902	10.34	327.8	114.4	736.2
96.00	Bot - Section 3	0.00	1.36	18.820	31.81	259.49	0.650	0.500	1.00	3.120	2.03	64.5	22.7	144.6
99.00	Appurtenance(s)	0.00	1.37	18.986	32.09	255.43	0.650	0.500	3.00	9.364	6.09	195.3	67.7	721.9
100.00		0.00	1.37	19.041	32.18	254.06	0.650	0.500	1.00	3.081	2.00	64.4	22.4	237.5
100.75	Top - Section 2	0.00	1.38	19.081	32.25	253.03	0.650	0.500	0.75	2.297	1.49	48.2	16.7	177.1
105.00		0.00	1.39	19.308	32.63	250.70	0.650	0.500	4.25	12.805	8.32	271.6	92.2	492.7
109.00	Appurtenance(s)	0.00	1.41	19.515	32.98	245.01	0.650	0.500	4.00	11.719	7.62	251.2	84.4	450.6
110.00		0.00	1.41	19.566	33.07	243.56	0.650	0.500	1.00	2.879	1.87	61.9	20.9	110.9
115.00		0.00	1.43	19.816	33.49	236.25	0.650	0.500	5.00	14.095	9.16	306.8	101.0	540.8
120.00		0.00	1.45	20.059	33.90	228.77	0.650	0.500	5.00	13.591	8.83	299.5	97.2	520.7
121.00	Appurtenance(s)	0.00	1.45	20.106	33.98	227.26	0.650	0.500	1.00	2.658	1.73	58.7	19.3	102.0
125.00		0.00	1.46	20.294	34.30	221.14	0.650	0.500	4.00	10.429	6.78	232.5	74.8	399.2
129.00	Top - Section 3	0.00	1.48	20.478	34.61	214.92	0.650	0.500	4.00	10.107	6.57	227.3	72.4	386.4
130.00		0.00	1.48	20.523	34.68	213.36	0.650	0.500	1.00	2.476	1.61	55.8	18.0	75.7
135.00		0.00	1.50	20.745	35.06	205.44	0.650	0.500	5.00	12.079	7.85	275.3	86.0	367.6
139.00	Appurtenance(s)	0.00	1.51	20.919	35.35	199.01	0.650	0.500	4.00	9.301	6.05	213.7	66.5	282.8
140.00		0.00	1.51	20.962	35.43	197.39	0.650	0.500	1.00	2.275	1.48	52.4	16.5	69.3
145.00		0.00	1.53	21.173	35.78	189.22	0.650	0.500	5.00	11.072	7.20	257.5	78.6	335.6
147.00	Appurtenance(s)	0.00	1.53	21.256	35.92	185.92	0.650	0.500	2.00	4.288	2.79	100.1	30.8	130.2
149.00	Appurtenance(s)	0.00	1.54	21.338	36.06	182.60	0.650	0.500	2.00	4.207	2.73	98.6	30.2	127.7
Totals:									149.00			9,728.8	26,475.8	

Discrete Appurtenance Forces

Structure: CT13056-A-SB
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

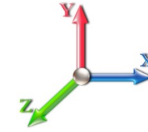
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/8/2016
 Page: 15



Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	149.00	Decibel DB404-B	1	21.480	36.302	1.00	0.00	0.00	0.000	3.500	0.00	0.00	0.00
2	149.00	Pipe Mount	1	21.338	36.062	1.00	6.00	450.00	0.000	0.000	216.37	0.00	0.00
3	147.00	Andrew VHLP2-11	1	21.256	35.923	1.00	5.05	55.00	0.000	0.000	181.41	0.00	0.00
4	147.00	12.5' Low Profile Platform	1	21.256	35.923	1.00	27.00	1800.00	0.000	0.000	969.92	0.00	0.00
5	147.00	800MHz RRH w/ filter	3	21.256	35.923	1.00	11.52	282.60	0.000	0.000	413.83	0.00	0.00
6	147.00	ALU 800MHz RRH	3	21.256	35.923	0.87	7.75	245.70	0.000	0.000	278.46	0.00	0.00
7	147.00	ALU TD-RRH8x20-25	3	21.256	35.923	0.69	10.29	276.00	0.000	0.000	369.57	0.00	0.00
8	147.00	ALU 1900MHz RRH	3	21.256	35.923	0.88	11.09	225.60	0.000	0.000	398.31	0.00	0.00
9	147.00	Argus LLPX310R	3	21.256	35.923	0.69	11.10	163.50	0.000	0.000	398.57	0.00	0.00
10	147.00	RFS ACU-A20-N	4	21.256	35.923	0.79	0.70	9.20	0.000	0.000	24.97	0.00	0.00
11	147.00	RFS APXVSP18-C-A20	3	21.256	35.923	0.83	22.61	319.50	0.000	0.000	812.19	0.00	0.00
12	147.00	RFS APXVTM14-C-120	3	21.256	35.923	0.79	17.28	275.70	0.000	0.000	620.65	0.00	0.00
13	147.00	U-RAS Flexible RRH ODUs	3	21.256	35.923	0.78	5.94	202.50	0.000	0.000	213.51	0.00	0.00
14	147.00	Andrew VHLP800-11-DW1	1	21.256	35.923	1.00	7.14	88.50	0.000	0.000	256.49	0.00	0.00
15	139.00	Ericsson RRUS 11 RRUs	6	20.919	35.353	0.71	14.02	445.80	0.000	0.000	495.49	0.00	0.00
16	139.00	CCI HPA-65R-BUU-H8	3	20.919	35.353	0.79	32.94	411.00	0.000	0.000	1164.64	0.00	0.00
17	139.00	Commscope	3	20.919	35.353	0.98	0.32	5.40	0.000	0.000	11.43	0.00	0.00
18	139.00	DC6-48-60-18-8F	1	20.919	35.353	1.00	1.67	50.50	0.000	0.000	59.04	0.00	0.00
19	139.00	Powerave LGP13519	6	20.919	35.353	1.00	2.82	48.00	0.000	0.000	99.70	0.00	0.00
20	139.00	Ericsson RRUS 12 RRUs	3	20.919	35.353	0.75	8.75	227.10	0.000	0.000	309.43	0.00	0.00
21	139.00	Ericsson RRUS A2 Module	3	20.919	35.353	0.62	4.00	94.20	0.000	0.000	141.38	0.00	0.00
22	139.00	Powerave 7770.00	6	20.919	35.353	0.73	28.60	0.00	0.000	0.000	1011.15	0.00	0.00
23	139.00	Powerave LGP21401 TMAs	12	20.919	35.353	1.00	18.36	254.40	0.000	0.000	649.09	0.00	0.00
24	121.00	SitePro PRK1245	1	20.106	33.980	1.00	6.00	450.00	0.000	0.000	203.88	0.00	0.00
25	121.00	Ericsson AIR21 B4A/B12P	3	20.106	33.980	0.89	32.09	570.60	0.000	0.000	1090.53	0.00	0.00
26	121.00	Commscope LNX-6515DS	3	20.106	33.980	0.80	29.62	346.80	0.000	0.000	1006.35	0.00	0.00
27	121.00	Ericsson Air 21 B2A/B4P	3	20.106	33.980	0.86	17.98	387.60	0.000	0.000	611.05	0.00	0.00
28	121.00	Low Profile Platform	1	20.106	33.980	1.00	27.00	1800.00	0.000	0.000	917.45	0.00	0.00
29	121.00	Ericsson KRY 112 144/1	3	20.106	33.980	0.70	1.16	42.30	0.000	0.000	39.25	0.00	0.00
30	121.00	Ericsson S11B12	3	20.106	33.980	0.70	7.39	201.30	0.000	0.000	251.18	0.00	0.00
31	109.00	Low Profile Platform	1	19.515	32.981	1.00	27.00	1800.00	0.000	0.000	890.48	0.00	0.00
32	109.00	Decibel DB844H90E-XY	12	19.515	32.981	1.12	57.66	0.00	0.000	0.000	1901.59	0.00	0.00
33	99.00	Antel BXA-70063-6CF	1	18.986	32.086	0.73	6.23	0.00	0.000	0.000	200.03	0.00	0.00
34	99.00	Antel BXA-70063-4CF	1	18.986	32.086	0.73	4.19	39.00	0.000	0.000	134.45	0.00	0.00
35	99.00	Antel BXA-171063-8BF	2	18.986	32.086	0.84	5.73	58.60	0.000	0.000	183.82	0.00	0.00
36	99.00	Antel LPA-80063-6CF	2	18.986	32.086	0.93	21.11	203.80	0.000	0.000	677.38	0.00	0.00
37	99.00	ALU RRH2x40-AWS	3	18.986	32.086	0.82	7.06	184.20	0.000	0.000	226.54	0.00	0.00
38	99.00	12.5' Low Profile Platform	1	18.986	32.086	1.00	27.00	1800.00	0.000	0.000	866.33	0.00	0.00
39	99.00	RFS DB-T1-6Z-8AB-0Z	1	18.986	32.086	0.71	4.17	46.00	0.000	0.000	133.73	0.00	0.00
40	99.00	AXA-171063-12BF	1	18.986	32.086	0.84	4.54	42.20	0.000	0.000	145.54	0.00	0.00
41	99.00	Kathrein	3	18.986	32.086	0.77	26.52	340.80	0.000	0.000	850.89	0.00	0.00
42	99.00	RFS APL866513-42T0	4	18.986	32.086	0.93	18.08	188.00	0.000	0.000	580.10	0.00	0.00
43	99.00	RFS FD9R6004/2C-3L	6	18.986	32.086	1.00	3.00	32.40	0.000	0.000	96.26	0.00	0.00
44	99.00	Swedcom SLCP 2x6014F	1	18.986	32.086	0.89	7.01	70.40	0.000	0.000	225.03	0.00	0.00
45	65.50	Decibel 26OB	1	16.872	28.514	1.00	3.00	100.00	0.000	0.000	85.54	0.00	0.00
46	64.00	3 ft Standoff	1	16.761	28.326	1.00	4.34	63.00	0.000	0.000	122.94	0.00	0.00

Totals: 14,697.20

20,535.94

Total Applied Force Summary

Structure: CT13056-A-SB
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

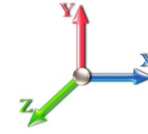
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/8/2016
 Page: 16



Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 23

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		467.95	1525.92	0.00	0.00
10.00		460.28	1497.71	0.00	0.00
15.00		452.60	1469.49	0.00	0.00
20.00		444.92	1441.27	0.00	0.00
25.00		437.24	1413.05	0.00	0.00
30.00		429.57	1384.83	0.00	0.00
35.00		429.04	1356.62	0.00	0.00
40.00		437.61	1328.40	0.00	0.00
45.00		444.20	1300.18	0.00	0.00
47.25		199.92	576.34	0.00	0.00
50.00		248.41	1138.12	0.00	0.00
53.25		295.47	1325.97	0.00	0.00
55.00		159.02	383.58	0.00	0.00
60.00		459.64	1078.43	0.00	0.00
64.00	(1) appurtenances	490.81	908.66	0.00	0.00
65.00		87.46	209.23	0.00	0.00
65.50	(1) appurtenances	129.23	204.27	0.00	0.00
70.00		396.44	926.22	0.00	0.00
75.00		440.03	1006.02	0.00	0.00
80.00		438.33	981.88	0.00	0.00
85.00		435.93	957.75	0.00	0.00
90.00		432.88	933.61	0.00	0.00
95.00		429.24	909.47	0.00	0.00
96.00		84.85	179.30	0.00	0.00
99.00	(26) appurtenances	4576.98	3831.24	0.00	0.00
100.00		71.52	271.09	0.00	0.00
100.75		53.48	202.27	0.00	0.00
105.00		302.10	635.29	0.00	0.00
109.00	(13) appurtenances	3072.33	2384.75	0.00	0.00
110.00		69.16	138.17	0.00	0.00
115.00		343.66	677.31	0.00	0.00
120.00		336.76	657.25	0.00	0.00
121.00	(17) appurtenances	4185.85	3927.94	0.00	0.00
125.00		262.68	454.13	0.00	0.00
129.00		257.80	441.30	0.00	0.00
130.00		63.46	89.45	0.00	0.00
135.00		313.84	436.19	0.00	0.00
139.00	(43) appurtenances	4186.18	1874.15	0.00	0.00
140.00		60.17	70.66	0.00	0.00
145.00		296.87	342.20	0.00	0.00
147.00	(31) appurtenances	5053.83	4076.66	0.00	0.00
149.00	(2) appurtenances	314.98	578.70	0.00	0.00
Totals:		32,552.78	45,525.06	0.00	0.00

Resulting Forces and Deflections

Structure: CT13056-A-SB
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

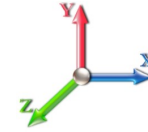
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/8/2016
 Page: 17



Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 23

Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	Deflect X (in)	Deflect Z (in)	Deflect Resultant (in)	Rotation Sway (deg)	Rotation Twist (deg)
0.00	-32.618	-45.477	0.000	0.000	0.000	-3522.8	0.000	0.000	0.000	0.000	0.000
5.00	-32.273	-43.860	0.000	0.000	0.000	-3359.7	-0.088	0.000	0.088	-0.162	0.000
10.00	-31.929	-42.272	0.000	0.000	0.000	-3198.3	-0.346	0.000	0.346	-0.327	0.000
15.00	-31.585	-40.714	0.000	0.000	0.000	-3038.7	-0.779	0.000	0.779	-0.494	0.000
20.00	-31.242	-39.184	0.000	0.000	0.000	-2880.8	-1.388	0.000	1.388	-0.663	0.000
25.00	-30.900	-37.684	0.000	0.000	0.000	-2724.5	-2.174	0.000	2.174	-0.834	0.000
30.00	-30.558	-36.214	0.000	0.000	0.000	-2570.0	-3.142	0.000	3.142	-1.007	0.000
35.00	-30.210	-34.773	0.000	0.000	0.000	-2417.3	-4.291	0.000	4.291	-1.182	0.000
40.00	-29.847	-33.363	0.000	0.000	0.000	-2266.2	-5.625	0.000	5.625	-1.359	0.000
45.00	-29.442	-32.008	0.000	0.000	0.000	-2117.0	-7.144	0.000	7.144	-1.537	0.000
47.25	-29.276	-31.391	0.000	0.000	0.000	-2050.7	-7.888	0.000	7.888	-1.619	0.000
50.00	-29.052	-30.205	0.000	0.000	0.000	-1970.2	-8.850	0.000	8.850	-1.719	0.000
53.25	-28.761	-28.843	0.000	0.000	0.000	-1875.8	-10.062	0.000	10.062	-1.837	0.000
55.00	-28.658	-28.397	0.000	0.000	0.000	-1825.5	-10.748	0.000	10.748	-1.901	0.000
60.00	-28.249	-27.244	0.000	0.000	0.000	-1682.2	-12.850	0.000	12.850	-2.107	0.000
64.00	-27.771	-26.305	0.000	0.000	0.000	-1569.2	-14.686	0.000	14.686	-2.272	0.000
65.00	-27.689	-26.084	0.000	0.000	0.000	-1541.4	-15.167	0.000	15.167	-2.314	0.000
65.50	-27.599	-25.836	0.000	0.000	0.000	-1527.6	-15.410	0.000	15.410	-2.335	0.000
70.00	-27.247	-24.836	0.000	0.000	0.000	-1403.4	-17.701	0.000	17.701	-2.519	0.000
75.00	-26.844	-23.758	0.000	0.000	0.000	-1267.2	-20.446	0.000	20.446	-2.719	0.000
80.00	-26.435	-22.710	0.000	0.000	0.000	-1132.9	-23.400	0.000	23.400	-2.915	0.000
85.00	-26.020	-21.691	0.000	0.000	0.000	-1000.8	-26.556	0.000	26.556	-3.106	0.000
90.00	-25.601	-20.703	0.000	0.000	0.000	-870.72	-29.909	0.000	29.909	-3.290	0.000
95.00	-25.154	-19.776	0.000	0.000	0.000	-742.72	-33.449	0.000	33.449	-3.464	0.000
96.00	-25.082	-19.572	0.000	0.000	0.000	-717.57	-34.178	0.000	34.178	-3.499	0.000
99.00	-20.294	-16.009	0.000	0.000	0.000	-642.32	-36.409	0.000	36.409	-3.599	0.000
100.00	-20.214	-15.733	0.000	0.000	0.000	-622.03	-37.166	0.000	37.166	-3.631	0.000
100.75	-20.169	-15.507	0.000	0.000	0.000	-606.87	-37.738	0.000	37.738	-3.656	0.000
105.00	-19.860	-14.847	0.000	0.000	0.000	-521.16	-41.050	0.000	41.050	-3.784	0.000
109.00	-16.652	-12.651	0.000	0.000	0.000	-441.72	-44.278	0.000	44.278	-3.918	0.000
110.00	-16.594	-12.490	0.000	0.000	0.000	-425.06	-45.102	0.000	45.102	-3.951	0.000
115.00	-16.233	-11.799	0.000	0.000	0.000	-342.09	-49.320	0.000	49.320	-4.100	0.000
120.00	-15.864	-11.147	0.000	0.000	0.000	-260.93	-53.684	0.000	53.684	-4.231	0.000
121.00	-11.406	-7.529	0.000	0.000	0.000	-245.07	-54.572	0.000	54.572	-4.256	0.000
125.00	-11.121	-7.079	0.000	0.000	0.000	-199.44	-58.174	0.000	58.174	-4.345	0.000
129.00	-10.835	-6.650	0.000	0.000	0.000	-154.96	-61.846	0.000	61.846	-4.423	0.000
130.00	-10.772	-6.554	0.000	0.000	0.000	-144.12	-62.774	0.000	62.774	-4.441	0.000
135.00	-10.433	-6.131	0.000	0.000	0.000	-90.267	-67.476	0.000	67.476	-4.537	0.000
139.00	-6.113	-4.593	0.000	0.000	0.000	-48.535	-71.299	0.000	71.299	-4.590	0.000
140.00	-6.049	-4.525	0.000	0.000	0.000	-42.422	-72.261	0.000	72.261	-4.599	0.000
145.00	-5.727	-4.207	0.000	0.000	0.000	-12.175	-77.092	0.000	77.092	-4.629	0.000
147.00	-0.361	-0.551	0.000	0.000	0.000	-0.721	-79.030	0.000	79.030	-4.632	0.000
149.00	-0.315	0.000	0.000	0.000	0.000	0.000	0.000	0.000	80.968	-4.632	0.000

Resulting Stresses

Structure: CT13056-A-SBA
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

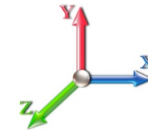
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/8/2016
 Page: 18



Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 23

Applied Stresses

Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvT Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	Fb Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.65	0.94	0.00	0.00	0.00	41.92	42.61	50.7	0.840
5.00	0.64	0.95	0.00	0.00	0.00	41.69	42.37	51.2	0.827
10.00	0.63	0.96	0.00	0.00	0.00	41.43	42.09	51.7	0.814
15.00	0.62	0.97	0.00	0.00	0.00	41.12	41.77	52.0	0.804
20.00	0.61	0.99	0.00	0.00	0.00	40.76	41.41	52.0	0.797
25.00	0.60	1.00	0.00	0.00	0.00	40.35	40.99	52.0	0.789
30.00	0.59	1.01	0.00	0.00	0.00	39.89	40.52	52.0	0.780
35.00	0.58	1.02	0.00	0.00	0.00	39.36	39.98	52.0	0.769
40.00	0.57	1.03	0.00	0.00	0.00	38.75	39.37	52.0	0.757
45.00	0.56	1.05	0.00	0.00	0.00	38.07	38.68	52.0	0.744
47.25	0.56	1.05	0.00	0.00	0.00	37.74	38.34	52.0	0.738
50.00	0.55	1.06	0.00	0.00	0.00	37.31	37.90	52.0	0.729
53.25	0.63	1.26	0.00	0.00	0.00	42.75	43.43	52.0	0.836
55.00	0.62	1.27	0.00	0.00	0.00	42.38	43.06	52.0	0.828
60.00	0.61	1.28	0.00	0.00	0.00	41.20	41.87	52.0	0.806
64.00	0.61	1.29	0.00	0.00	0.00	40.16	40.82	52.0	0.785
65.00	0.60	1.29	0.00	0.00	0.00	39.89	40.55	52.0	0.780
65.50	0.60	1.29	0.00	0.00	0.00	39.75	40.41	52.0	0.777
70.00	0.59	1.31	0.00	0.00	0.00	38.43	39.09	52.0	0.752
75.00	0.58	1.33	0.00	0.00	0.00	36.78	37.43	52.0	0.720
80.00	0.57	1.35	0.00	0.00	0.00	34.92	35.57	52.0	0.684
85.00	0.57	1.37	0.00	0.00	0.00	32.81	33.46	52.0	0.644
90.00	0.56	1.39	0.00	0.00	0.00	30.43	31.08	52.0	0.598
95.00	0.55	1.41	0.00	0.00	0.00	27.72	28.38	52.0	0.546
96.00	0.55	1.42	0.00	0.00	0.00	27.15	27.80	52.0	0.535
99.00	0.46	1.17	0.00	0.00	0.00	25.31	25.85	52.0	0.497
100.00	0.45	1.17	0.00	0.00	0.00	24.85	25.39	52.0	0.488
100.75	0.55	1.45	0.00	0.00	0.00	29.61	30.26	52.0	0.582
105.00	0.54	1.47	0.00	0.00	0.00	26.97	27.63	52.0	0.532
109.00	0.48	1.27	0.00	0.00	0.00	24.21	24.78	52.0	0.477
110.00	0.47	1.27	0.00	0.00	0.00	23.64	24.21	52.0	0.466
115.00	0.47	1.29	0.00	0.00	0.00	20.50	21.08	52.0	0.406
120.00	0.46	1.31	0.00	0.00	0.00	16.89	17.50	52.0	0.337
121.00	0.31	0.95	0.00	0.00	0.00	16.12	16.51	52.0	0.318
125.00	0.30	0.96	0.00	0.00	0.00	13.99	14.39	52.0	0.277
129.00	0.29	0.96	0.00	0.00	0.00	11.62	12.03	52.0	0.232
129.00	0.29	0.96	0.00	0.00	0.00	11.62	12.03	52.0	0.307
130.00	0.39	1.28	0.00	0.00	0.00	14.57	15.12	51.4	0.294
135.00	0.38	1.30	0.00	0.00	0.00	9.96	10.58	52.0	0.203
139.00	0.29	0.79	0.00	0.00	0.00	5.76	6.20	52.0	0.119
140.00	0.29	0.79	0.00	0.00	0.00	5.13	5.59	52.0	0.108
145.00	0.29	0.78	0.00	0.00	0.00	1.62	2.34	52.0	0.045
147.00	0.04	0.05	0.00	0.00	0.00	0.10	0.16	52.0	0.003
149.00	0.00	0.04	0.00	0.00	0.00	0.00	0.08	52.0	0.001

Wind Loading - Shaft

Structure: CT13056-A-SBA
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

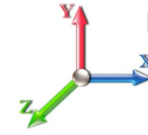
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/8/2016
 Page: 19



Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		0.00	1.00	6.400	10.82	245.46	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	6.400	10.82	240.42	0.650	0.000	5.00	24.294	15.79	170.8	0.0	1173.1
10.00		0.00	1.00	6.400	10.82	235.38	0.650	0.000	5.00	23.790	15.46	167.3	0.0	1148.6
15.00		0.00	1.00	6.400	10.82	230.34	0.650	0.000	5.00	23.286	15.14	163.7	0.0	1124.1
20.00		0.00	1.00	6.400	10.82	225.30	0.650	0.000	5.00	22.782	14.81	160.2	0.0	1099.6
25.00		0.00	1.00	6.400	10.82	220.27	0.650	0.000	5.00	22.279	14.48	156.6	0.0	1075.1
30.00		0.00	1.00	6.400	10.82	215.23	0.650	0.000	5.00	21.775	14.15	153.1	0.0	1050.7
35.00		0.00	1.02	6.509	11.00	211.96	0.650	0.000	5.00	21.271	13.83	152.1	0.0	1026.2
40.00		0.00	1.06	6.762	11.43	210.87	0.650	0.000	5.00	20.767	13.50	154.2	0.0	1001.7
45.00		0.00	1.09	6.993	11.82	209.18	0.650	0.000	5.00	20.263	13.17	155.7	0.0	977.2
47.25	Bot - Section 2	0.00	1.11	7.091	11.98	208.25	0.650	0.000	2.25	8.954	5.82	69.7	0.0	431.8
50.00		0.00	1.13	7.207	12.18	207.00	0.650	0.000	2.75	10.948	7.12	86.7	0.0	961.5
53.25	Top - Section 1	0.00	1.15	7.338	12.40	205.37	0.650	0.000	3.25	12.743	8.28	102.7	0.0	1118.8
55.00		0.00	1.16	7.406	12.52	207.22	0.650	0.000	1.75	6.773	4.40	55.1	0.0	272.5
60.00		0.00	1.19	7.592	12.83	204.33	0.650	0.000	5.00	19.012	12.36	158.6	0.0	764.7
64.00	Appurtenance(s)	0.00	1.21	7.733	13.07	201.79	0.650	0.000	4.00	14.847	9.65	126.1	0.0	597.1
65.00		0.00	1.21	7.768	13.13	201.13	0.650	0.000	1.00	3.661	2.38	31.2	0.0	147.2
65.50	Appurtenance(s)	0.00	1.22	7.785	13.16	200.79	0.650	0.000	0.50	1.823	1.19	15.6	0.0	73.3
70.00		0.00	1.24	7.934	13.41	197.66	0.650	0.000	4.50	16.181	10.52	141.0	0.0	650.6
75.00		0.00	1.26	8.092	13.68	193.95	0.650	0.000	5.00	17.500	11.38	155.6	0.0	703.5
80.00		0.00	1.29	8.242	13.93	190.03	0.650	0.000	5.00	16.997	11.05	153.9	0.0	683.1
85.00		0.00	1.31	8.387	14.17	185.91	0.650	0.000	5.00	16.493	10.72	151.9	0.0	662.7
90.00		0.00	1.33	8.525	14.41	181.62	0.650	0.000	5.00	15.989	10.39	149.7	0.0	642.3
95.00		0.00	1.35	8.657	14.63	177.17	0.650	0.000	5.00	15.485	10.07	147.3	0.0	621.9
96.00	Bot - Section 3	0.00	1.36	8.683	14.67	176.26	0.650	0.000	1.00	3.037	1.97	29.0	0.0	121.9
99.00	Appurtenance(s)	0.00	1.37	8.760	14.80	173.50	0.650	0.000	3.00	9.114	5.92	87.7	0.0	654.1
100.00		0.00	1.37	8.785	14.85	172.57	0.650	0.000	1.00	2.998	1.95	28.9	0.0	215.1
100.75	Top - Section 2	0.00	1.38	8.804	14.88	171.87	0.650	0.000	0.75	2.235	1.45	21.6	0.0	160.4
105.00		0.00	1.39	8.908	15.06	170.29	0.650	0.000	4.25	12.451	8.09	121.8	0.0	400.5
109.00	Appurtenance(s)	0.00	1.41	9.004	15.22	166.42	0.650	0.000	4.00	11.386	7.40	112.6	0.0	366.2
110.00		0.00	1.41	9.028	15.26	165.44	0.650	0.000	1.00	2.796	1.82	27.7	0.0	89.9
115.00		0.00	1.43	9.143	15.45	160.47	0.650	0.000	5.00	13.678	8.89	137.4	0.0	439.8
120.00		0.00	1.45	9.255	15.64	155.39	0.650	0.000	5.00	13.174	8.56	133.9	0.0	423.5
121.00	Appurtenance(s)	0.00	1.45	9.277	15.68	154.37	0.650	0.000	1.00	2.574	1.67	26.2	0.0	82.7
125.00		0.00	1.46	9.363	15.82	150.21	0.650	0.000	4.00	10.096	6.56	103.8	0.0	324.4
129.00	Top - Section 3	0.00	1.48	9.448	15.97	145.99	0.650	0.000	4.00	9.774	6.35	101.4	0.0	314.0
130.00		0.00	1.48	9.469	16.00	144.92	0.650	0.000	1.00	2.393	1.56	24.9	0.0	57.8
135.00		0.00	1.50	9.572	16.18	139.55	0.650	0.000	5.00	11.663	7.58	122.6	0.0	281.5
139.00	Appurtenance(s)	0.00	1.51	9.652	16.31	135.18	0.650	0.000	4.00	8.967	5.83	95.1	0.0	216.4
140.00		0.00	1.51	9.672	16.35	134.08	0.650	0.000	1.00	2.191	1.42	23.3	0.0	52.9
145.00		0.00	1.53	9.769	16.51	128.53	0.650	0.000	5.00	10.655	6.93	114.3	0.0	257.0
147.00	Appurtenance(s)	0.00	1.53	9.807	16.57	126.29	0.650	0.000	2.00	4.121	2.68	44.4	0.0	99.4
149.00	Appurtenance(s)	0.00	1.54	9.845	16.64	124.03	0.650	0.000	2.00	4.040	2.63	43.7	0.0	97.4
Totals:									149.00			4,379.3		22,662.1

Discrete Appurtenance Forces

Structure: CT13056-A-SB
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

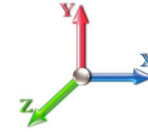
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/8/2016
 Page: 20



Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	149.00	Decibel DB404-B	1	9.911	16.749	1.00	0.00	14.00	0.000	3.500	0.00	0.00	0.00
2	149.00	Pipe Mount	1	9.845	16.639	1.00	5.00	350.00	0.000	0.000	83.19	0.00	0.00
3	147.00	Andrew VHLP2-11	1	9.807	16.574	1.00	4.68	27.00	0.000	0.000	77.57	0.00	0.00
4	147.00	12.5' Low Profile Platform	1	9.807	16.574	1.00	22.00	1500.00	0.000	0.000	364.64	0.00	0.00
5	147.00	800MHz RRH w/ filter	3	9.807	16.574	1.00	10.38	204.90	0.000	0.000	172.04	0.00	0.00
6	147.00	ALU 800MHz RRH	3	9.807	16.574	0.87	6.89	178.50	0.000	0.000	114.20	0.00	0.00
7	147.00	ALU TD-RRH8x20-25	3	9.807	16.574	0.69	9.77	210.00	0.000	0.000	161.94	0.00	0.00
8	147.00	ALU 1900MHz RRH	3	9.807	16.574	0.88	10.03	132.00	0.000	0.000	166.27	0.00	0.00
9	147.00	Argus LLPX310R	3	9.807	16.574	0.69	10.00	85.80	0.000	0.000	165.71	0.00	0.00
10	147.00	RFS ACU-A20-N	4	9.807	16.574	0.79	0.44	4.00	0.000	0.000	7.33	0.00	0.00
11	147.00	RFS APXVSP18-C-A20	3	9.807	16.574	0.83	20.57	171.00	0.000	0.000	340.89	0.00	0.00
12	147.00	RFS APXVTM14-C-120	3	9.807	16.574	0.79	16.35	168.00	0.000	0.000	271.04	0.00	0.00
13	147.00	U-RAS Flexible RRH ODU's	3	9.807	16.574	0.78	5.22	152.10	0.000	0.000	86.49	0.00	0.00
14	147.00	Andrew VHLP800-11-DW1	1	9.807	16.574	1.00	6.70	49.00	0.000	0.000	111.05	0.00	0.00
15	139.00	Ericsson RRUS 11 RRUs	6	9.652	16.312	0.71	12.52	330.00	0.000	0.000	204.29	0.00	0.00
16	139.00	CCI HPA-65R-BUU-H8	3	9.652	16.312	0.79	31.52	204.00	0.000	0.000	514.16	0.00	0.00
17	139.00	Commscope	3	9.652	16.312	0.98	0.15	3.30	0.000	0.000	2.40	0.00	0.00
18	139.00	DC6-48-60-18-8F	1	9.652	16.312	1.00	1.47	32.80	0.000	0.000	23.98	0.00	0.00
19	139.00	Powerave LGP13519	6	9.652	16.312	1.00	2.04	31.80	0.000	0.000	33.28	0.00	0.00
20	139.00	Ericsson RRUS 12 RRUs	3	9.652	16.312	0.70	7.71	174.00	0.000	0.000	125.71	0.00	0.00
21	139.00	Ericsson RRUS A2 Module	3	9.652	16.312	0.62	3.46	63.60	0.000	0.000	56.43	0.00	0.00
22	139.00	Powerave 7770.00	6	9.652	16.312	0.73	25.75	210.00	0.000	0.000	420.09	0.00	0.00
23	139.00	Powerave LGP21401 TMAs	12	9.652	16.312	1.00	15.48	169.20	0.000	0.000	252.50	0.00	0.00
24	121.00	SitePro PRK1245	1	9.277	15.678	1.00	5.00	350.00	0.000	0.000	78.39	0.00	0.00
25	121.00	Ericsson AIR21 B4A/B12P	3	9.277	15.678	0.89	30.81	369.00	0.000	0.000	483.06	0.00	0.00
26	121.00	Commscope LNX-6515DS	3	9.277	15.678	0.80	27.38	149.40	0.000	0.000	429.32	0.00	0.00
27	121.00	Ericsson Air 21 B2A/B4P	3	9.277	15.678	0.86	16.98	274.50	0.000	0.000	266.15	0.00	0.00
28	121.00	Low Profile Platform	1	9.277	15.678	1.00	22.00	1500.00	0.000	0.000	344.91	0.00	0.00
29	121.00	Ericsson KRY 112 144/1	3	9.277	15.678	0.70	0.86	33.00	0.000	0.000	13.50	0.00	0.00
30	121.00	Ericsson S11B12	3	9.277	15.678	0.70	6.95	153.00	0.000	0.000	108.98	0.00	0.00
31	109.00	Low Profile Platform	1	9.004	15.217	1.00	22.00	1500.00	0.000	0.000	334.77	0.00	0.00
32	109.00	Decibel DB844H90E-XY	12	9.004	15.217	1.12	50.13	168.00	0.000	0.000	762.84	0.00	0.00
33	99.00	Antel BXA-70063-6CF	1	8.760	14.804	0.73	5.64	17.00	0.000	0.000	83.54	0.00	0.00
34	99.00	Antel BXA-70063-4CF	1	8.760	14.804	0.73	3.77	9.90	0.000	0.000	55.76	0.00	0.00
35	99.00	Antel BXA-171063-8BF	2	8.760	14.804	0.84	4.94	21.00	0.000	0.000	73.12	0.00	0.00
36	99.00	Antel LPA-80063-6CF	2	8.760	14.804	0.93	19.53	54.00	0.000	0.000	289.13	0.00	0.00
37	99.00	ALU RRH2x40-AWS	3	8.760	14.804	0.82	6.20	132.00	0.000	0.000	91.77	0.00	0.00
38	99.00	12.5' Low Profile Platform	1	8.760	14.804	1.00	22.00	1500.00	0.000	0.000	325.69	0.00	0.00
39	99.00	RFS DB-T1-6Z-8AB-0Z	1	8.760	14.804	0.71	3.98	18.90	0.000	0.000	58.86	0.00	0.00
40	99.00	AXA-171063-12BF	1	8.760	14.804	0.84	3.97	15.00	0.000	0.000	58.82	0.00	0.00
41	99.00	Kathrein	3	8.760	14.804	0.77	24.35	171.90	0.000	0.000	360.45	0.00	0.00
42	99.00	RFS APL866513-42T0	4	8.760	14.804	0.93	15.96	62.80	0.000	0.000	236.26	0.00	0.00
43	99.00	RFS FD9R6004/2C-3L	6	8.760	14.804	1.00	2.16	18.60	0.000	0.000	31.98	0.00	0.00
44	99.00	Swedcom SLCP 2x6014F	1	8.760	14.804	0.89	6.42	20.00	0.000	0.000	95.00	0.00	0.00
45	65.50	Decibel 26OB	1	7.785	13.156	1.00	2.00	50.00	0.000	0.000	26.31	0.00	0.00
46	64.00	3 ft Standoff	1	7.733	13.069	1.00	2.63	40.00	0.000	0.000	34.37	0.00	0.00

Totals: 11,093.00

8,398.22

Total Applied Force Summary

Structure: CT13056-A-SB
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

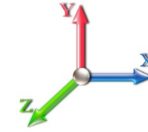
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/8/2016
 Page: 21



Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 23

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		198.38	1422.73	0.00	0.00
10.00		194.83	1398.25	0.00	0.00
15.00		191.29	1373.76	0.00	0.00
20.00		187.75	1349.27	0.00	0.00
25.00		184.21	1324.79	0.00	0.00
30.00		180.67	1300.30	0.00	0.00
35.00		180.13	1275.81	0.00	0.00
40.00		183.39	1251.32	0.00	0.00
45.00		185.79	1226.84	0.00	0.00
47.25		83.50	544.09	0.00	0.00
50.00		103.76	1098.78	0.00	0.00
53.25		123.26	1281.05	0.00	0.00
55.00		66.27	359.85	0.00	0.00
60.00		191.28	1014.36	0.00	0.00
64.00	(1) appurtenances	187.16	836.79	0.00	0.00
65.00		37.28	197.00	0.00	0.00
65.50	(1) appurtenances	44.93	148.19	0.00	0.00
70.00		168.78	874.55	0.00	0.00
75.00		187.01	952.34	0.00	0.00
80.00		185.93	931.93	0.00	0.00
85.00		184.54	911.53	0.00	0.00
90.00		182.86	891.12	0.00	0.00
95.00		180.92	870.72	0.00	0.00
96.00		35.71	171.69	0.00	0.00
99.00	(26) appurtenances	1868.51	2844.55	0.00	0.00
100.00		30.86	251.30	0.00	0.00
100.75		23.07	187.51	0.00	0.00
105.00		130.16	554.34	0.00	0.00
109.00	(13) appurtenances	1218.15	2178.95	0.00	0.00
110.00		29.71	119.87	0.00	0.00
115.00		147.42	589.54	0.00	0.00
120.00		144.10	573.21	0.00	0.00
121.00	(17) appurtenances	1752.59	2941.58	0.00	0.00
125.00		112.07	389.88	0.00	0.00
129.00		109.74	379.44	0.00	0.00
130.00		26.97	74.14	0.00	0.00
135.00		133.14	363.35	0.00	0.00
139.00	(43) appurtenances	1736.40	1500.56	0.00	0.00
140.00		25.41	56.83	0.00	0.00
145.00		125.07	276.82	0.00	0.00
147.00	(31) appurtenances	2087.89	2989.60	0.00	0.00
149.00	(2) appurtenances	126.89	462.46	0.00	0.00
Totals:		13,477.79	39,740.96	0.00	0.00

Resulting Forces and Deflections

Structure: CT13056-A-SB
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

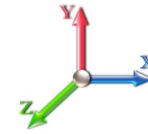
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/8/2016
 Page: 22



Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 23

Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	Deflect X (in)	Deflect Z (in)	Deflect Resultant (in)	Rotation Sway (deg)	Rotation Twist (deg)
0.00	-13.501	-39.733	0.000	0.000	0.000	-1448.3	0.000	0.000	0.000	0.000	0.000
5.00	-13.347	-38.295	0.000	0.000	0.000	-1380.8	-0.036	0.000	0.036	-0.067	0.000
10.00	-13.193	-36.881	0.000	0.000	0.000	-1314.0	-0.142	0.000	0.142	-0.134	0.000
15.00	-13.041	-35.492	0.000	0.000	0.000	-1248.1	-0.320	0.000	0.320	-0.203	0.000
20.00	-12.889	-34.128	0.000	0.000	0.000	-1182.8	-0.570	0.000	0.570	-0.272	0.000
25.00	-12.738	-32.789	0.000	0.000	0.000	-1118.4	-0.893	0.000	0.893	-0.343	0.000
30.00	-12.588	-31.474	0.000	0.000	0.000	-1054.7	-1.291	0.000	1.291	-0.414	0.000
35.00	-12.436	-30.184	0.000	0.000	0.000	-991.82	-1.763	0.000	1.763	-0.486	0.000
40.00	-12.278	-28.919	0.000	0.000	0.000	-929.64	-2.311	0.000	2.311	-0.558	0.000
45.00	-12.105	-27.683	0.000	0.000	0.000	-868.25	-2.934	0.000	2.934	-0.631	0.000
47.25	-12.033	-27.132	0.000	0.000	0.000	-841.02	-3.240	0.000	3.240	-0.665	0.000
50.00	-11.937	-26.025	0.000	0.000	0.000	-807.93	-3.635	0.000	3.635	-0.706	0.000
53.25	-11.813	-24.738	0.000	0.000	0.000	-769.13	-4.133	0.000	4.133	-0.754	0.000
55.00	-11.766	-24.367	0.000	0.000	0.000	-748.46	-4.414	0.000	4.414	-0.780	0.000
60.00	-11.591	-23.341	0.000	0.000	0.000	-689.63	-5.277	0.000	5.277	-0.865	0.000
64.00	-11.407	-22.498	0.000	0.000	0.000	-643.27	-6.031	0.000	6.031	-0.932	0.000
65.00	-11.372	-22.300	0.000	0.000	0.000	-631.86	-6.228	0.000	6.228	-0.950	0.000
65.50	-11.341	-22.144	0.000	0.000	0.000	-626.18	-6.328	0.000	6.328	-0.958	0.000
70.00	-11.186	-21.257	0.000	0.000	0.000	-575.15	-7.268	0.000	7.268	-1.033	0.000
75.00	-11.010	-20.293	0.000	0.000	0.000	-519.22	-8.395	0.000	8.395	-1.116	0.000
80.00	-10.832	-19.350	0.000	0.000	0.000	-464.17	-9.607	0.000	9.607	-1.196	0.000
85.00	-10.653	-18.428	0.000	0.000	0.000	-410.01	-10.903	0.000	10.903	-1.274	0.000
90.00	-10.472	-17.528	0.000	0.000	0.000	-356.75	-12.279	0.000	12.279	-1.350	0.000
95.00	-10.282	-16.654	0.000	0.000	0.000	-304.39	-13.731	0.000	13.731	-1.421	0.000
96.00	-10.250	-16.479	0.000	0.000	0.000	-294.11	-14.031	0.000	14.031	-1.435	0.000
99.00	-8.316	-13.679	0.000	0.000	0.000	-263.36	-14.946	0.000	14.946	-1.476	0.000
100.00	-8.282	-13.427	0.000	0.000	0.000	-255.04	-15.257	0.000	15.257	-1.489	0.000
100.75	-8.261	-13.235	0.000	0.000	0.000	-248.83	-15.492	0.000	15.492	-1.499	0.000
105.00	-8.128	-12.677	0.000	0.000	0.000	-213.72	-16.851	0.000	16.851	-1.552	0.000
109.00	-6.857	-10.528	0.000	0.000	0.000	-181.21	-18.176	0.000	18.176	-1.607	0.000
110.00	-6.830	-10.405	0.000	0.000	0.000	-174.35	-18.514	0.000	18.514	-1.621	0.000
115.00	-6.676	-9.813	0.000	0.000	0.000	-140.20	-20.245	0.000	20.245	-1.682	0.000
120.00	-6.520	-9.241	0.000	0.000	0.000	-106.82	-22.036	0.000	22.036	-1.735	0.000
121.00	-4.681	-6.352	0.000	0.000	0.000	-100.30	-22.401	0.000	22.401	-1.745	0.000
125.00	-4.561	-5.963	0.000	0.000	0.000	-81.580	-23.879	0.000	23.879	-1.782	0.000
129.00	-4.441	-5.586	0.000	0.000	0.000	-63.337	-25.386	0.000	25.386	-1.814	0.000
130.00	-4.414	-5.510	0.000	0.000	0.000	-58.896	-25.767	0.000	25.767	-1.821	0.000
135.00	-4.272	-5.149	0.000	0.000	0.000	-36.825	-27.697	0.000	27.697	-1.861	0.000
139.00	-2.488	-3.706	0.000	0.000	0.000	-19.737	-29.266	0.000	29.266	-1.882	0.000
140.00	-2.462	-3.650	0.000	0.000	0.000	-17.248	-29.661	0.000	29.661	-1.886	0.000
145.00	-2.328	-3.377	0.000	0.000	0.000	-4.940	-31.643	0.000	31.643	-1.898	0.000
147.00	-0.142	-0.458	0.000	0.000	0.000	-0.284	-32.438	0.000	32.438	-1.899	0.000
149.00	-0.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	33.234	-1.899	0.000

Resulting Stresses

Structure: CT13056-A-SBA
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

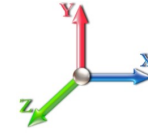
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

1/8/2016
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Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 23

Applied Stresses

Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvT Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	Fb Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.57	0.39	0.00	0.00	0.00	17.24	17.82	50.7	0.351
5.00	0.56	0.39	0.00	0.00	0.00	17.14	17.71	51.2	0.346
10.00	0.55	0.40	0.00	0.00	0.00	17.02	17.59	51.7	0.340
15.00	0.54	0.40	0.00	0.00	0.00	16.89	17.44	52.0	0.336
20.00	0.53	0.41	0.00	0.00	0.00	16.74	17.29	52.0	0.333
25.00	0.52	0.41	0.00	0.00	0.00	16.57	17.10	52.0	0.329
30.00	0.52	0.42	0.00	0.00	0.00	16.37	16.90	52.0	0.325
35.00	0.51	0.42	0.00	0.00	0.00	16.15	16.67	52.0	0.321
40.00	0.50	0.43	0.00	0.00	0.00	15.90	16.41	52.0	0.316
45.00	0.49	0.43	0.00	0.00	0.00	15.61	16.12	52.0	0.310
47.25	0.48	0.43	0.00	0.00	0.00	15.48	15.98	52.0	0.307
50.00	0.47	0.44	0.00	0.00	0.00	15.30	15.79	52.0	0.304
53.25	0.54	0.52	0.00	0.00	0.00	17.53	18.09	52.0	0.348
55.00	0.54	0.52	0.00	0.00	0.00	17.37	17.93	52.0	0.345
60.00	0.53	0.53	0.00	0.00	0.00	16.89	17.44	52.0	0.335
64.00	0.52	0.53	0.00	0.00	0.00	16.46	17.00	52.0	0.327
65.00	0.52	0.53	0.00	0.00	0.00	16.35	16.89	52.0	0.325
65.50	0.51	0.53	0.00	0.00	0.00	16.29	16.83	52.0	0.324
70.00	0.51	0.54	0.00	0.00	0.00	15.75	16.28	52.0	0.313
75.00	0.50	0.54	0.00	0.00	0.00	15.07	15.60	52.0	0.300
80.00	0.49	0.55	0.00	0.00	0.00	14.30	14.82	52.0	0.285
85.00	0.48	0.56	0.00	0.00	0.00	13.44	13.96	52.0	0.268
90.00	0.47	0.57	0.00	0.00	0.00	12.47	12.98	52.0	0.250
95.00	0.46	0.58	0.00	0.00	0.00	11.36	11.87	52.0	0.228
96.00	0.46	0.58	0.00	0.00	0.00	11.13	11.63	52.0	0.224
99.00	0.39	0.48	0.00	0.00	0.00	10.38	10.80	52.0	0.208
100.00	0.39	0.48	0.00	0.00	0.00	10.19	10.61	52.0	0.204
100.75	0.47	0.59	0.00	0.00	0.00	12.14	12.65	52.0	0.243
105.00	0.46	0.60	0.00	0.00	0.00	11.06	11.57	52.0	0.223
109.00	0.40	0.52	0.00	0.00	0.00	9.93	10.37	52.0	0.199
110.00	0.40	0.52	0.00	0.00	0.00	9.70	10.13	52.0	0.195
115.00	0.39	0.53	0.00	0.00	0.00	8.40	8.84	52.0	0.170
120.00	0.38	0.54	0.00	0.00	0.00	6.92	7.35	52.0	0.141
121.00	0.26	0.39	0.00	0.00	0.00	6.60	6.89	52.0	0.133
125.00	0.25	0.39	0.00	0.00	0.00	5.72	6.02	52.0	0.116
129.00	0.25	0.39	0.00	0.00	0.00	4.75	5.04	52.0	0.097
129.00	0.25	0.39	0.00	0.00	0.00	4.75	5.04	52.0	0.129
130.00	0.33	0.53	0.00	0.00	0.00	5.95	6.34	51.4	0.123
135.00	0.32	0.53	0.00	0.00	0.00	4.06	4.48	52.0	0.086
139.00	0.24	0.32	0.00	0.00	0.00	2.34	2.64	52.0	0.051
140.00	0.24	0.32	0.00	0.00	0.00	2.08	2.39	52.0	0.046
145.00	0.23	0.32	0.00	0.00	0.00	0.66	1.04	52.0	0.020
147.00	0.03	0.02	0.00	0.00	0.00	0.04	0.08	52.0	0.002
149.00	0.00	0.02	0.00	0.00	0.00	0.00	0.03	52.0	0.001

Final Analysis Summary

Structure: CT13056-A-SBA
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

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

1/8/2016
 Page: 24



Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
85 mph Wind with 0" Ice	39.0	0.00	39.67	0.00	0.00	4180.56
73.61 mph Wind with 0.5" Ice	32.6	0.00	45.48	0.00	0.00	3522.81
50 mph Wind with 0" Ice	13.5	0.00	39.73	0.00	0.00	1448.31

Max Stresses

Load Case	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvT Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	Combined Stress (ksi)	Allowable Stress (ksi)	Elev (ft)	Stress Ratio
85 mph Wind with 0" Ice	0.57	1.13	0.00	0.00	0.00	49.75	50.36	50.7	0.00	0.993
73.61 mph Wind with 0.5" Ice	0.65	0.94	0.00	0.00	0.00	41.92	42.61	50.7	0.00	0.840
50 mph Wind with 0" Ice	0.57	0.39	0.00	0.00	0.00	17.24	17.82	50.7	0.00	0.351



Monopole Mat Foundation Design

Date

1/8/2016

Customer Name:	AT&T	EIA/TIA Standard:	EIA-222-F
Site Name:		Structure Height (Ft.):	149
Site Number:	CT13056-A-SBA	Engineer Name:	T. Alajaj
Engr. Number:	19860	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations

Structure Type:

Monopole

Analysis or Design?

Analysis

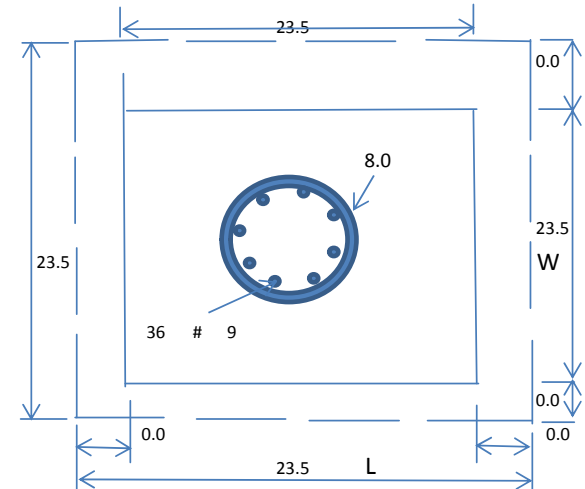
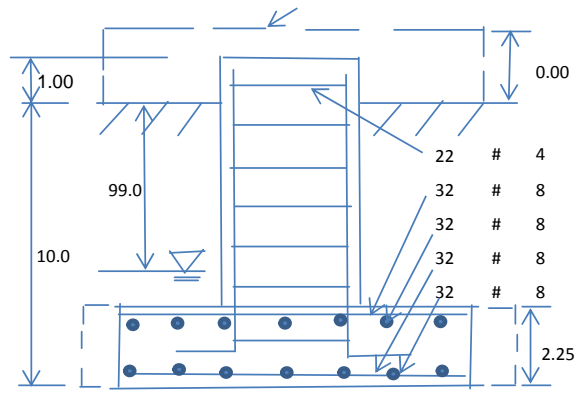
Base Reactions (Unfactored)

Axial Load (Kips):	45.5	Shear Force (Kips):	39.0
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4180.6

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	10.0
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.25
Length of Pad (ft.):	23.5	Width of Pad (ft.):	23.5
Final Length of pad (ft)	23.5	Final width of pad (ft):	23.5
Control Value for Cell D18:	0	Control Value for Cell F18:	0



Material Properties and Rebar 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:	36	Tie Spacing (in):	6.0	
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):	32	Qty. of Rebar in Pad (W):	32	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	32	Qty. of Rebar in Pad (W):	32	

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

Soil Unit Weight (pcf):	100.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf
Allowable Net Soil Bearing (psf):	8000	Allowable Skin Friction:	0	Psf
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No	Angle from Bottm of Pad:
Consider soil hori. force for O.T.M.:	No	Reduction factor on the maximum soil bearing pressure:	1.00	25
				30

Foundation Analysis and Design:

Total Dry Soil Volume (cu. Ft.):	3890.38	Total Dry Soil Weight (Kips):	389.04
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	389.04	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1682.39	Total Dry Concrete Weight (Kips):	252.36
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	252.36	Total Vertical Load on Base (Kips):	686.90

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	4149	<	Allowable Soil Bearing (psf):	8000	0.52	OK!
Allowable Foundation Overturning Resistance (SF=1.5, kips-ft.):	5380.7	>	Applied Momnt (kips-ft):	4610	0.86	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.75					OK!

Load/
Capacity
Ratio

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 compression):	0.65	Wind Load Factor on Concrete Design:	1.30

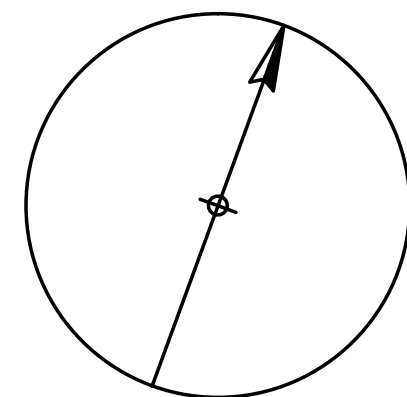
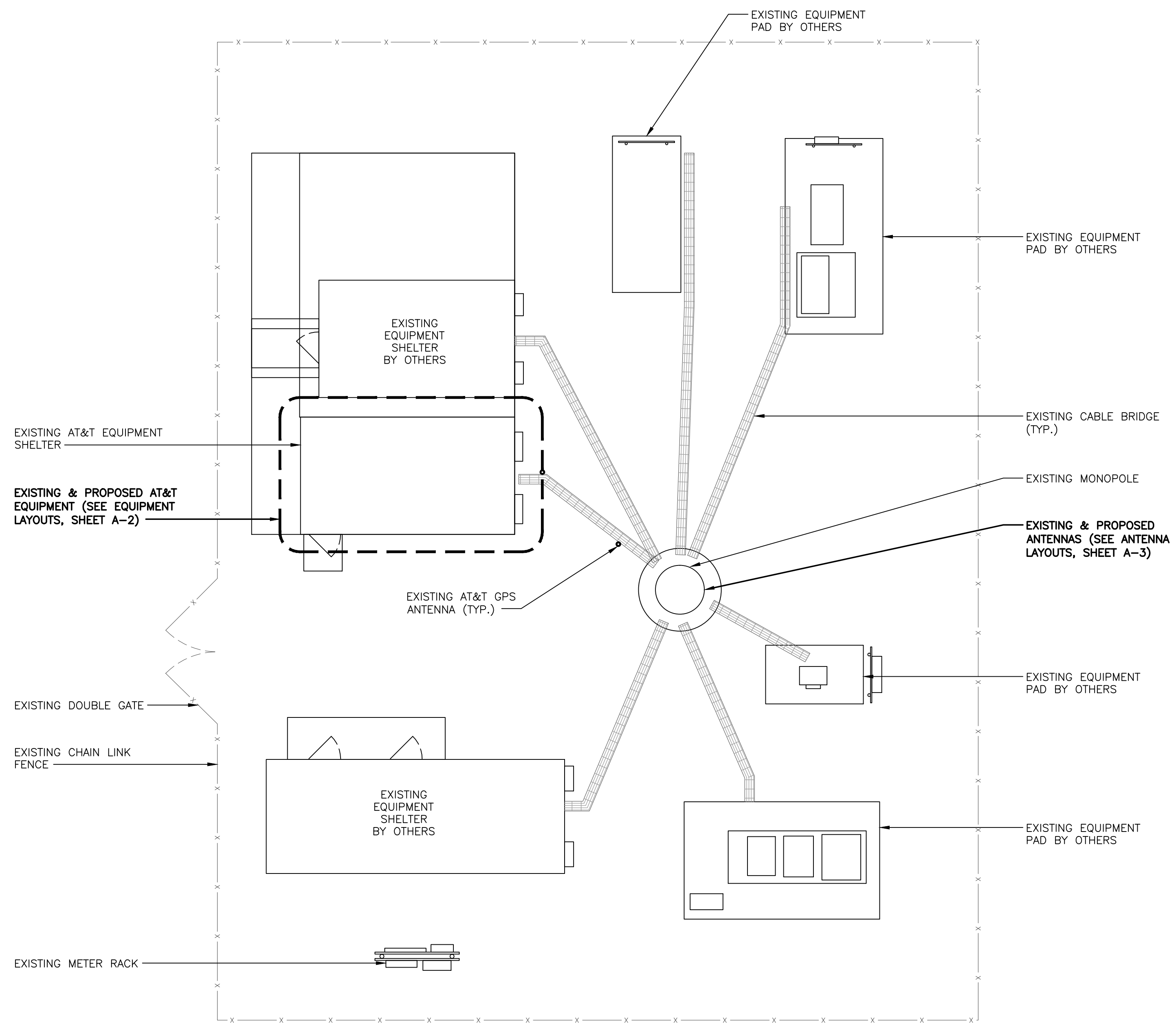
Load/
Capacity
Ratio

(1) Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	1.00	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	7016.1	>	Design Factored Moment (Mu, Kips-Ft)	4521.9	0.64 OK!
Calculated Shear Capacity (Kips):	993.9	>	Design Factored Shear (Kips):	50.7	0.05 OK!
Calculated Tension Capacity (Tn, Kips):	1944.0	>	Design Factored Tension (Tu Kips):	0.0	0.00 OK!
Calculated Compression Capacity (Pn, Kips):	12733.5	>	Design Factored Axial Load (Pu Kips):	59.2	0.00 OK!
Moment & Axial Strength Combination:	0.64	OK!	Check Tie Spacing (Design/Required):		0.5 OK!
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

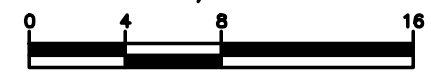
One-Way Design Shear Capacity (L-Direction, Kips):	628.7	>	One-Way Factored Shear (L-D. Kips):	376.4	0.60 OK!
One-Way Design Shear Capacity (W-Direction, Kips):	628.7	>	One-Way Factored Shear (W-D., Kips)	376.4	0.60 OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	675.1	>	One-Way Factored Shear (C-C, Kips):	568.8	0.84 OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0038	OK!	Lower Steel Pad Reinf. Ratio (W-Direct	0.0038	
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	2583.4	>	Moment at Bottom (L-Direct. K-Ft):	838.5	0.32 OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	2583.4	>	Moment at Bottom (W-Direct. K-Ft):	838.5	0.32 OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	3613.1	>	Moment at Bottom (C-C Dir. K-Ft):	1185.8	0.33 OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0038	OK!	Upper Steel Reinf. Ratio (W-Direct.):	0.0038	
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	2583.4	>	Moment at the top (L-Dir Kips-Ft):	529.4	0.20 OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	2583.4	>	Moment at the top (W-Dir Kips-Ft):	529.4	0.20 OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	3613.1	>	Moment at the top (C-C Direc. K-Ft):	829.5	0.23 OK!



NORTH

COMPOUND LAYOUT

SCALE: 1/8" = 1'-0"



GRAPHIC SCALE: 1/8" = 1'-0"

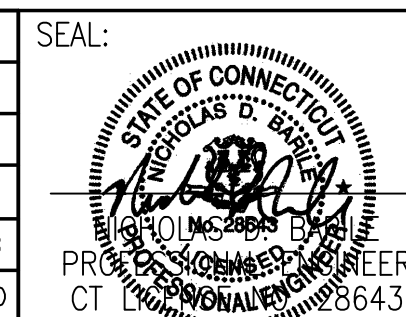
COM-EX
Consultants
115 ROUTE 46
SUITE E39
MOUNTAIN LAKES, NJ 07046
PHONE: 862.209.4300
FAX: 862.209.4301

EMPIRE
telecom
16 ESQUIRE ROAD
BILLERICA, MA 01821

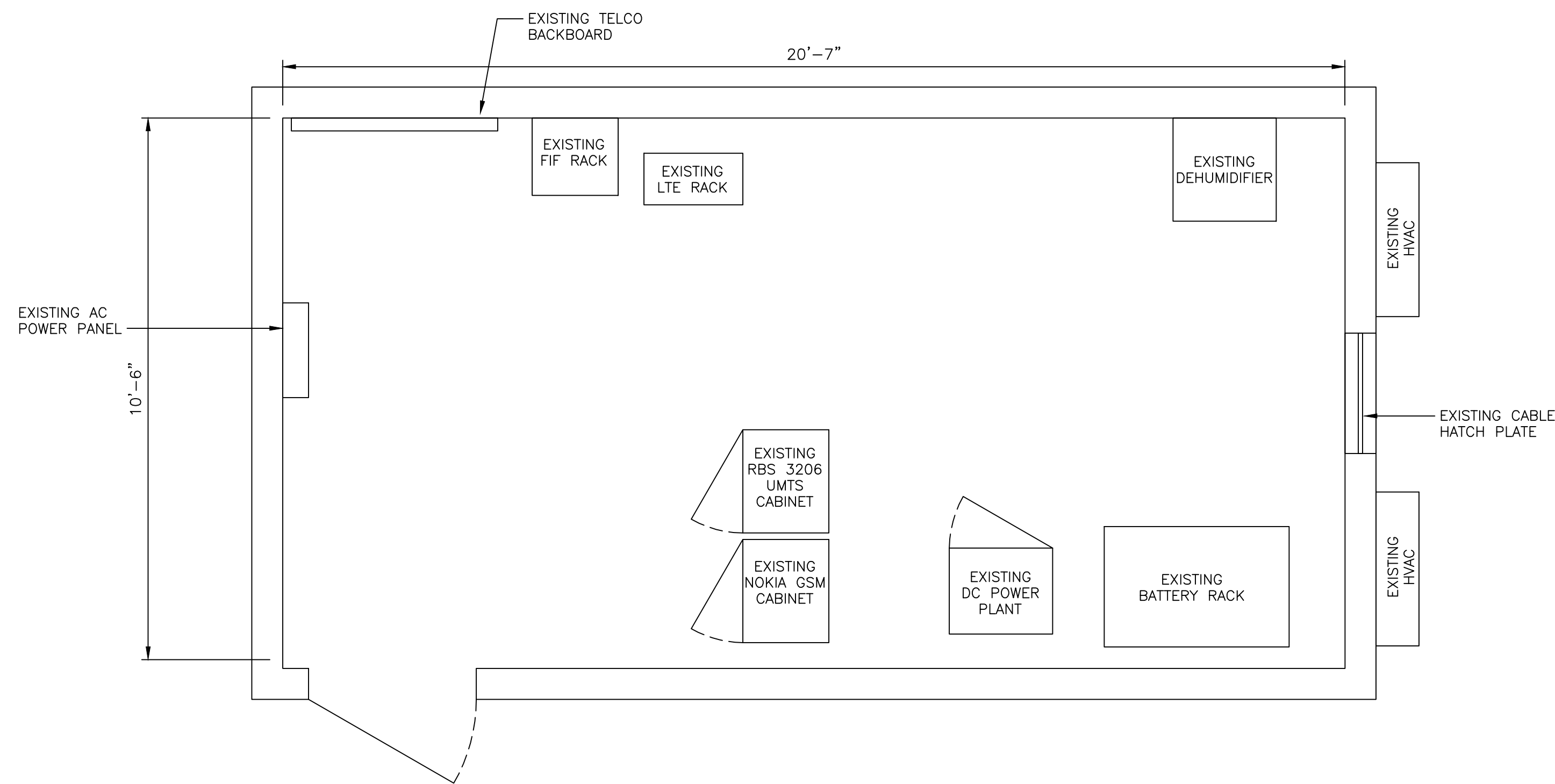
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SITE NAME: MONROE CENTER
500 MOOSE HILL RD.
MONROE, CT 06468
FAIRFIELD COUNTY

 **at&t**
MOBILITY
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

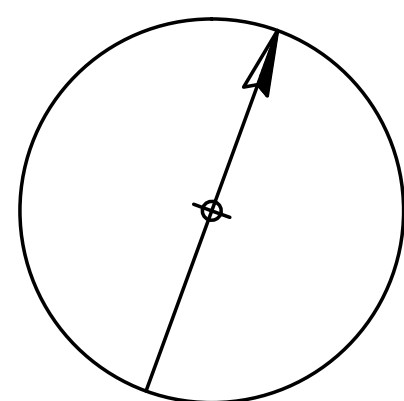
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NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN			DESIGNED BY: JW		DRAWN BY: JW



AT&T		
DRAWING TITLE: COMPOUND LAYOUT		
JOB NUMBER 15135-EMP	DRAWING NUMBER A-1	REV 0

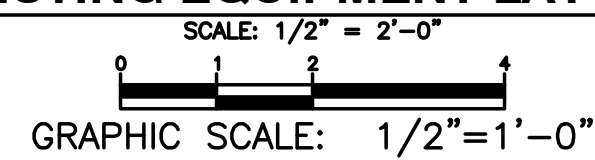


NOTE:
NO GROUND EQUIPMENT MODIFICATIONS ARE BEING MADE AS PART OF THIS SCOPE. EXISTING GROUND EQUIPMENT CONFIGURATION TO REMAIN.



NORTH

EXISTING EQUIPMENT LAYOUT



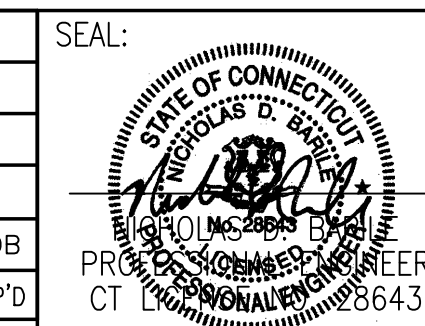
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115 ROUTE 46
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PHONE: 862.209.4300
FAX: 862.209.4301

EMPIRE
telecom
16 ESQUIRE ROAD
BILLERICA, MA 01821

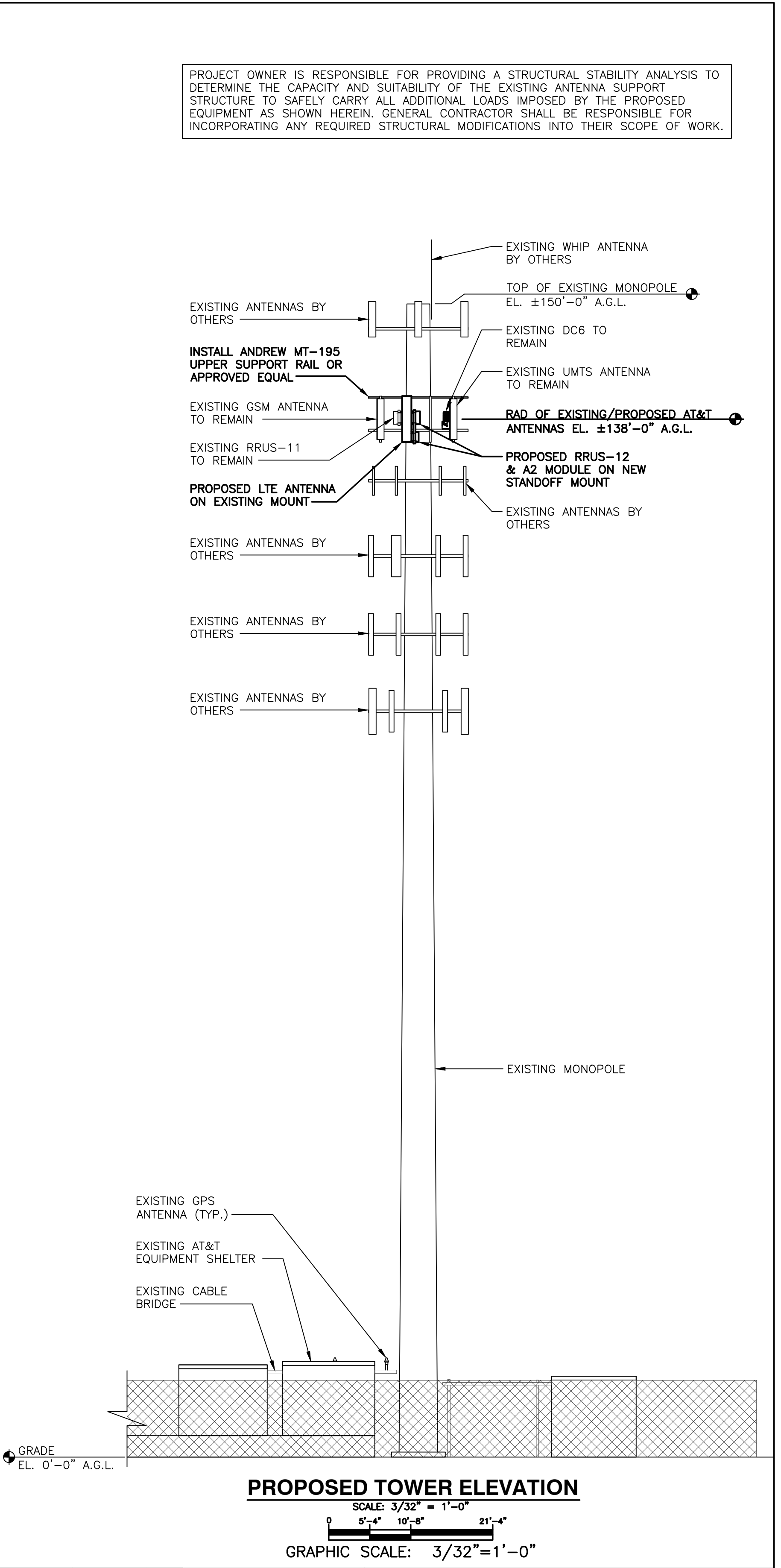
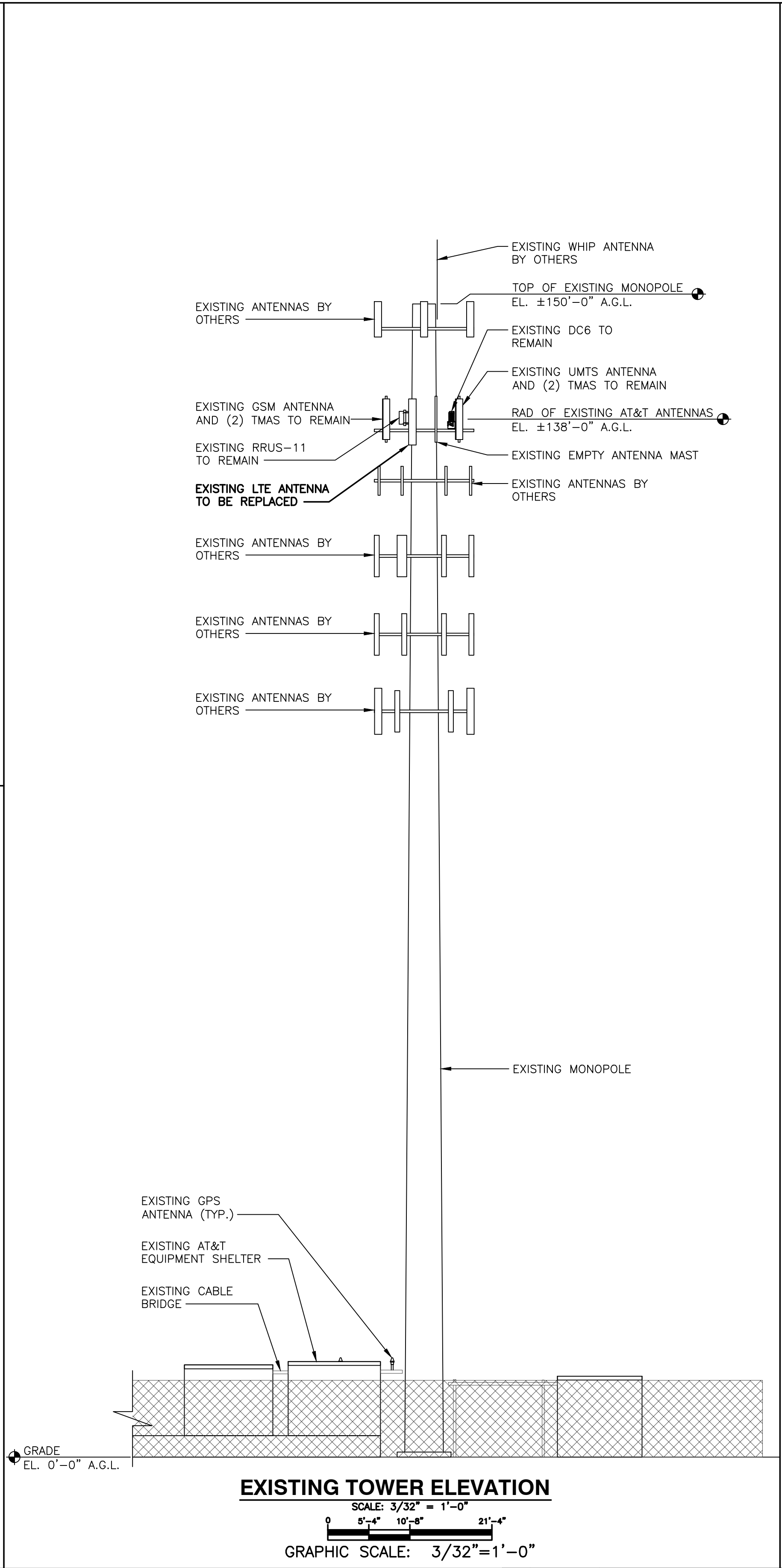
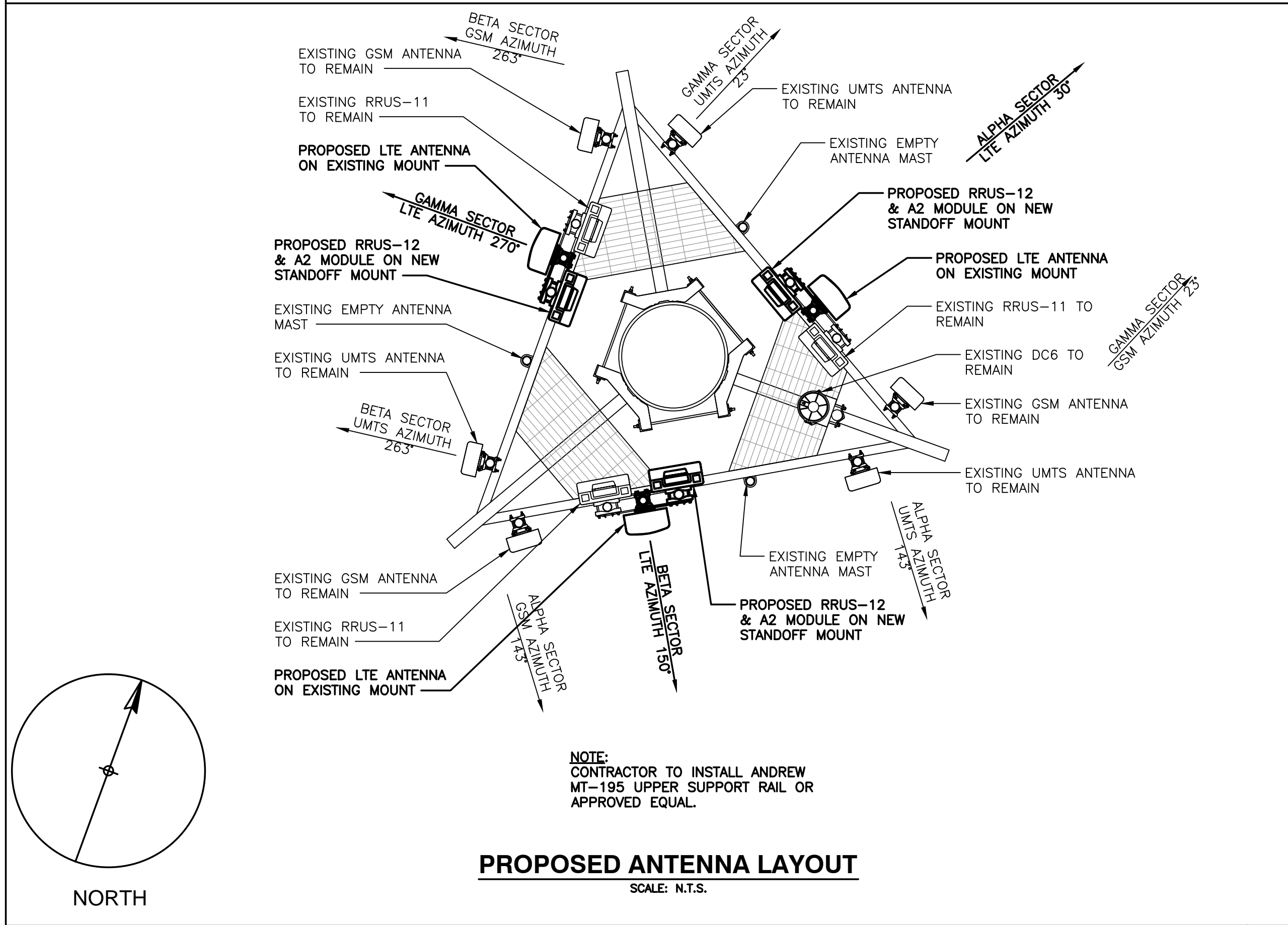
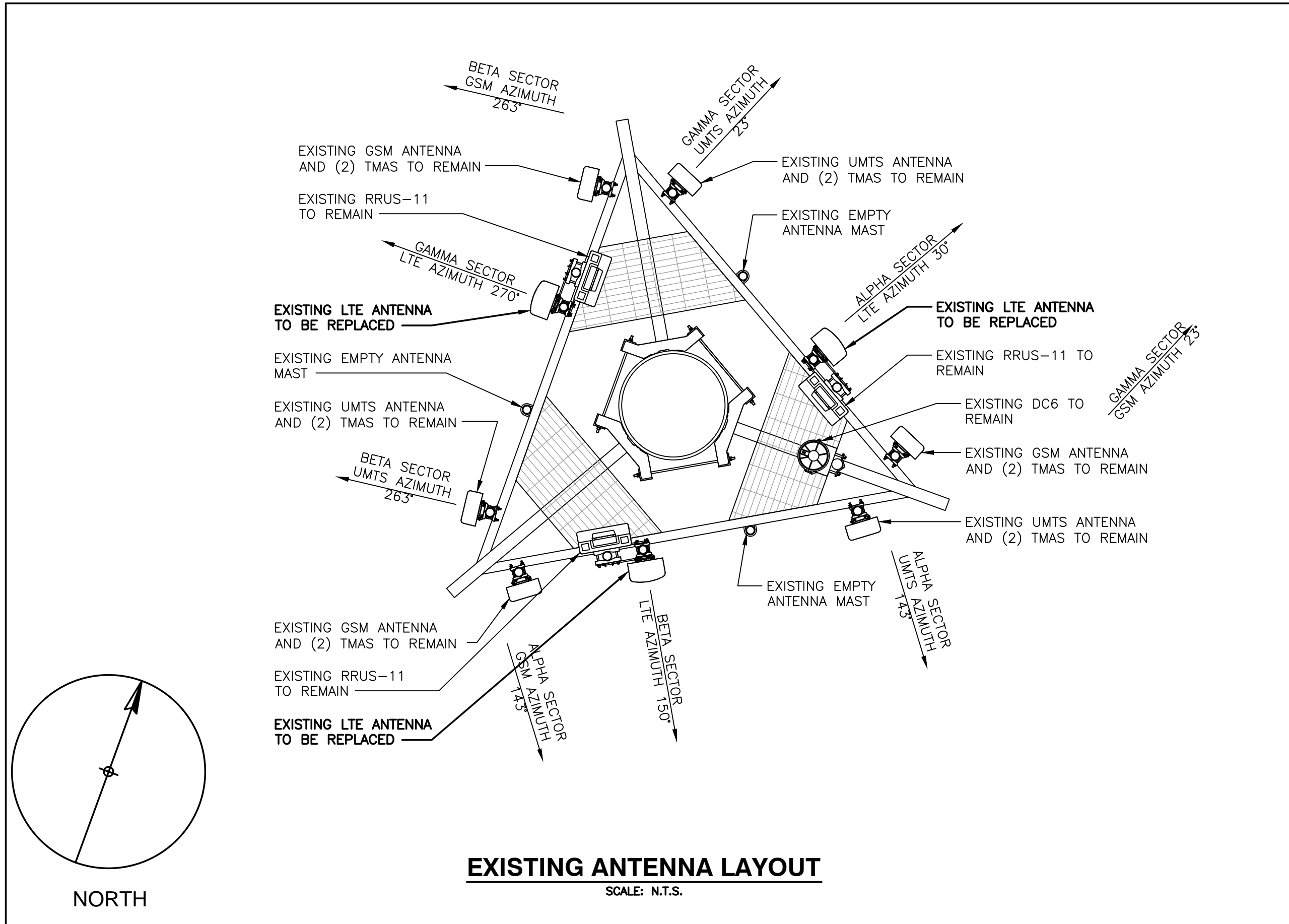
SITE NUMBER: CT2203
SITE NAME: MONROE CENTER
500 MOOSE HILL RD.
MONROE, CT 06468
FAIRFIELD COUNTY

at&t
MOBILITY
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

0	01/27/16	ISSUED AS FINAL	JW	NDB	NDB
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN			DESIGNED BY: JW		DRAWN BY: JW



AT&T		
DRAWING TITLE: EQUIPMENT LAYOUTS		
JOB NUMBER 15135-EMP	DRAWING NUMBER A-2	REV 0



PROJECT OWNER IS RESPONSIBLE FOR PROVIDING A STRUCTURAL STABILITY ANALYSIS TO DETERMINE THE CAPACITY AND SUITABILITY OF THE EXISTING ANTENNA SUPPORT STRUCTURE TO SAFELY CARRY ALL ADDITIONAL LOADS IMPOSED BY THE PROPOSED EQUIPMENT AS SHOWN HEREIN. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCORPORATING ANY REQUIRED STRUCTURAL MODIFICATIONS INTO THEIR SCOPE OF WORK.

COM-EX
Consultants
115 ROUTE 46
SUITE E39
MOUNTAIN LAKES, NJ 07046
PHONE: 862.209.4300
FAX: 862.209.4301

EMPIRE
telecom
16 ESQUIRE ROAD
BILLERICA, MA 01821

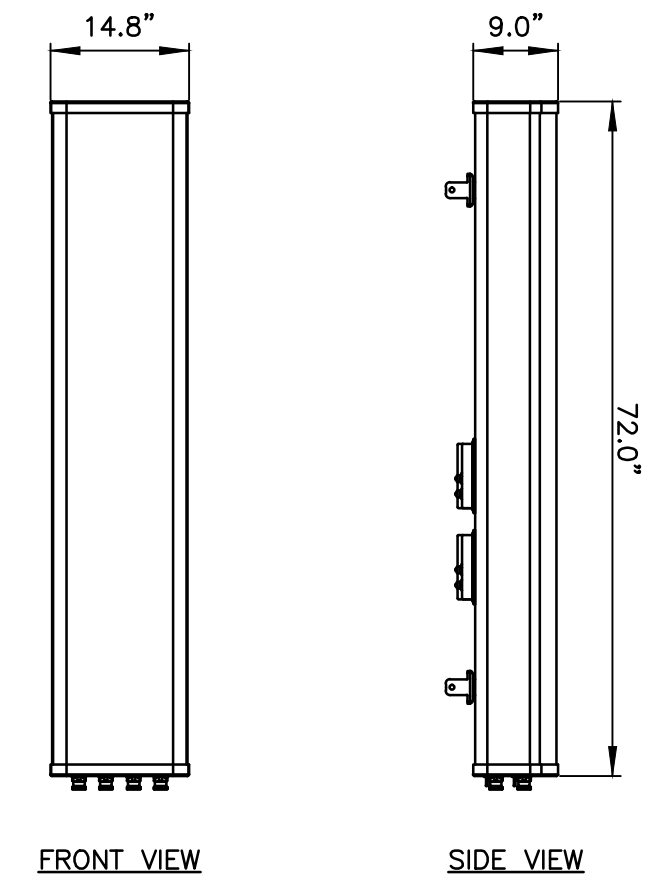
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500 MOOSE HILL RD.
MONROE, CT 06468
FAIRFIELD COUNTY

at&t
MOBILITY
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

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NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: JW	DRAWN BY: JW		

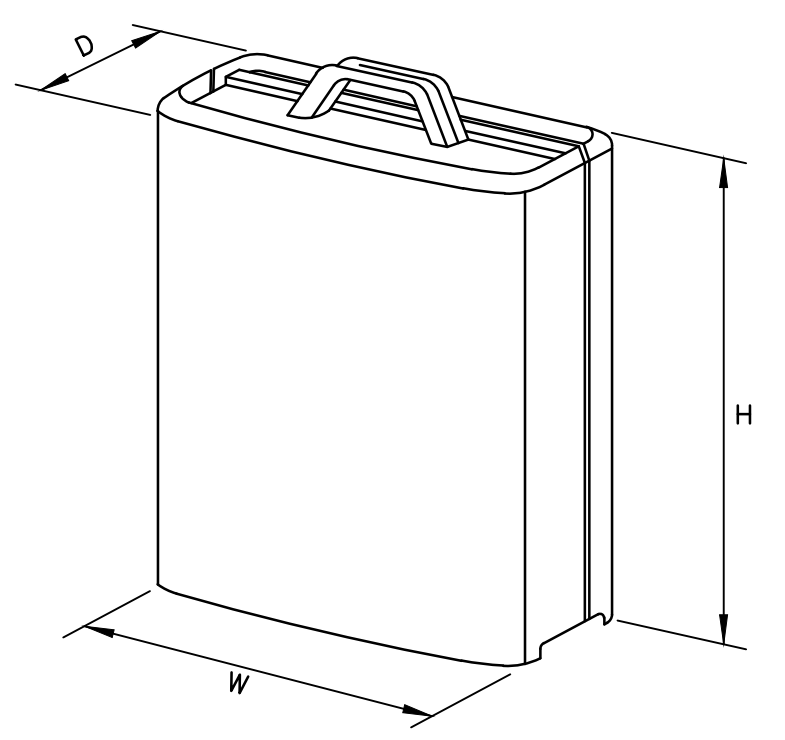
SEAL:
STATE OF CONNECTICUT
PROFESSIONAL ENGINEER
CT LICENSE NO. 28643

AT&T
DRAWING TITLE:
ANTENNA LAYOUTS & ELEVATIONS
JOB NUMBER: 15135-EMP
DRAWING NUMBER: A-3
REV: 0



FRONT VIEW	
SIDE VIEW	
BOTTOM VIEW	
MANUFACTURER	CCI
MODEL	HPA-65R-BUU-H6
WEIGHT	42.9 LBS

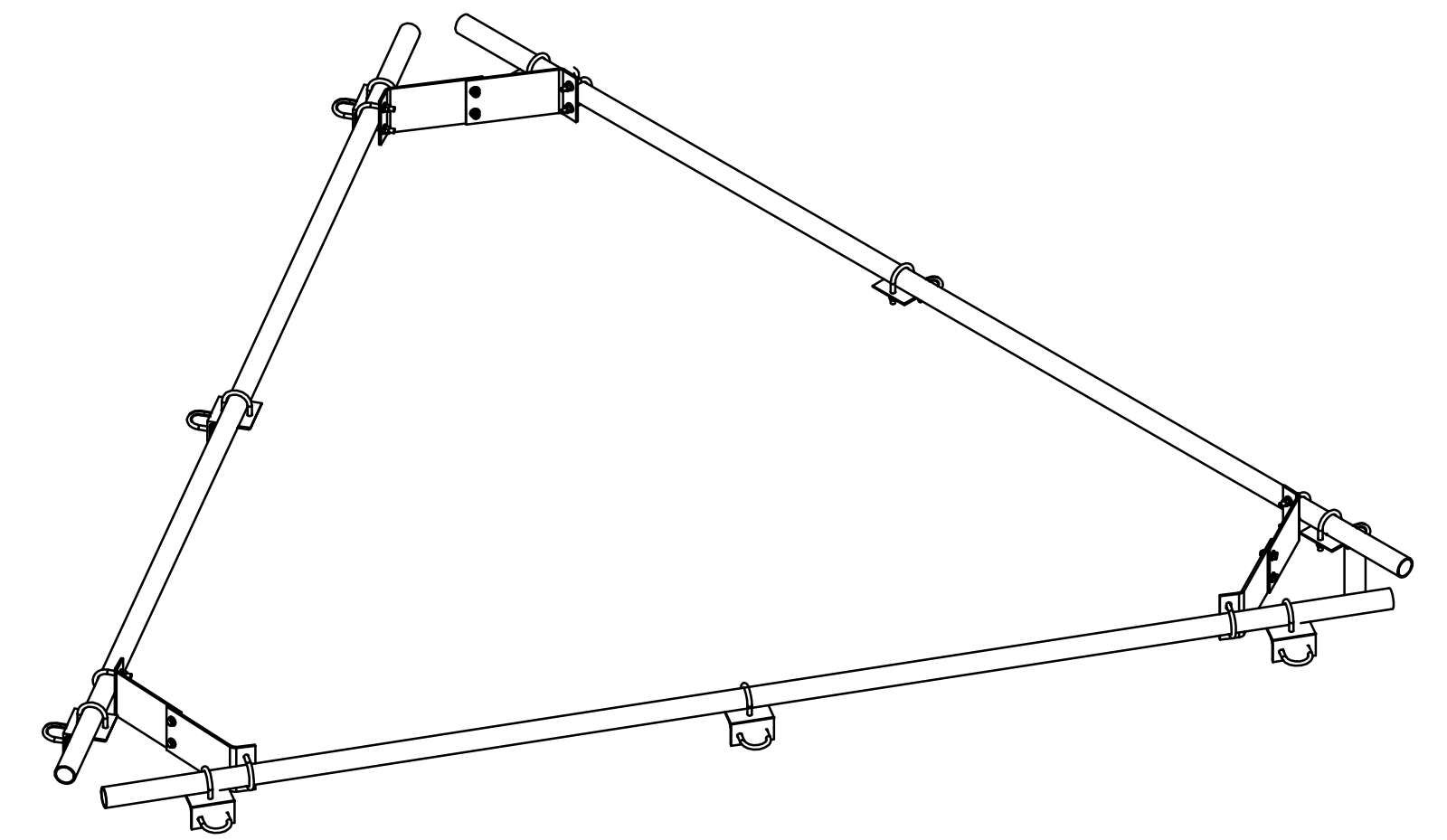
LTE ANTENNA DETAIL
SCALE: N.T.S.



MODEL	L x W x H	WEIGHT
* RRUS-11	19.69" x 16.97" x 7.17"	50.7 LBS
RRUS-12	19.69" x 16.97" x 7.17"	50.7 LBS

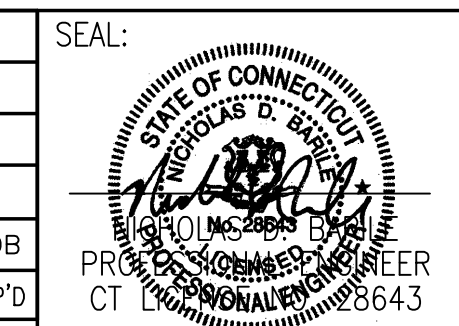
* DENOTES EXISTING

RRUS DETAIL
SCALE: N.T.S.

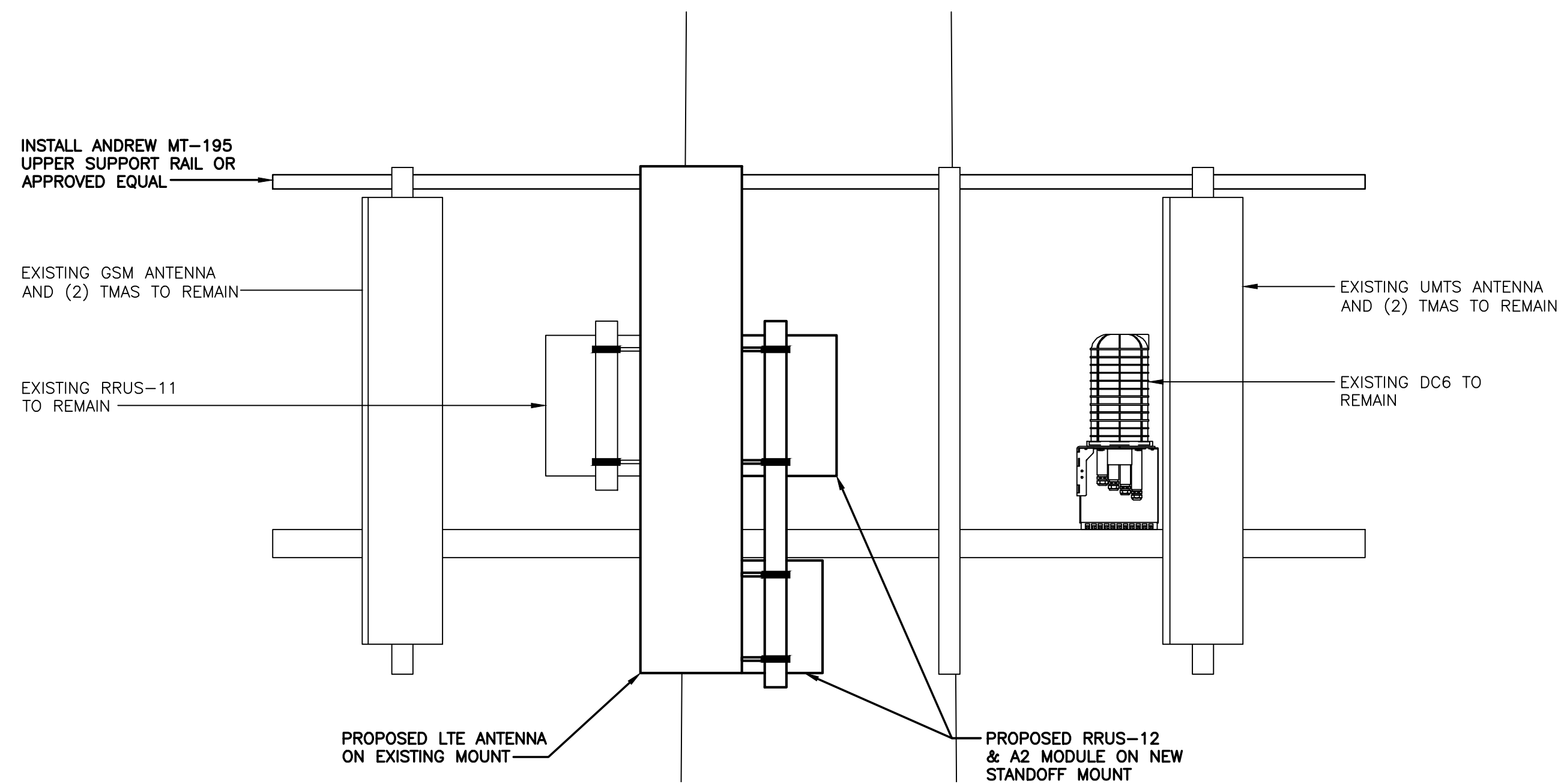


ANDREW MT-195 UPPER SUPPORT RAIL
SCALE: N.T.S.

0	01/27/16	ISSUED AS FINAL	JW	NDB	NDB
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN			DESIGNED BY: JW		DRAWN BY: JW

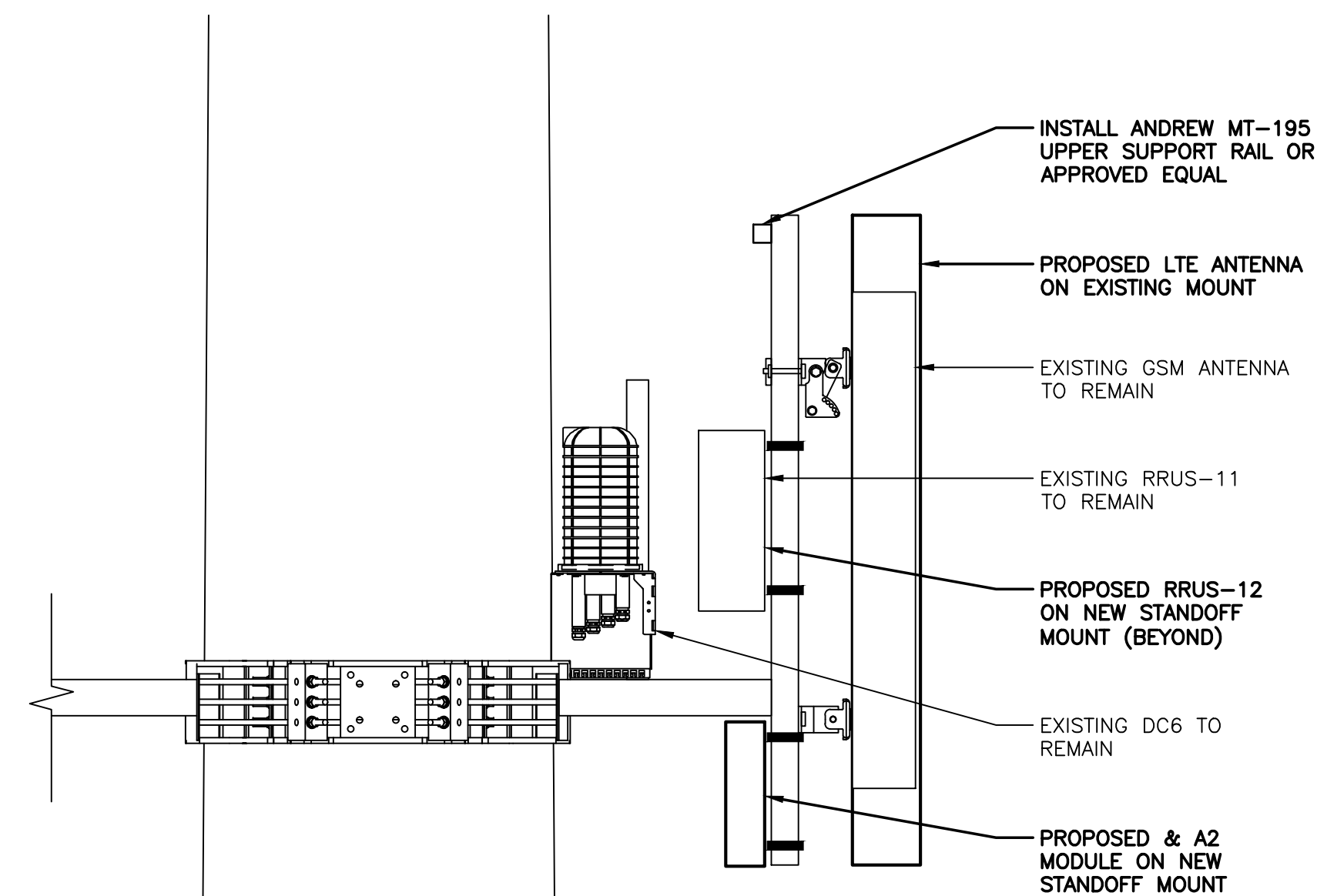


AT&T		
DRAWING TITLE:		
DETAILS		
JOB NUMBER	DRAWING NUMBER	REV
15135-EMP	A-4	0



PROPOSED ANTENNA MOUNTING DETAIL (FRONT VIEW)

SCALE: N.T.S.



PROPOSED ANTENNA MOUNTING DETAIL (SIDE VIEW)

SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE

SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	POWERWAVE	7770	55"x11"x5"
	A2	-	-	-
	A3	POWERWAVE	P65-16-XLH-RR	72"x12"x6"
	A4	POWERWAVE	7770	55"x11"x5"
BETA	B1	POWERWAVE	7770	55"x11"x5"
	B2	-	-	-
	B3	POWERWAVE	P65-16-XLH-RR	72"x12"x6"
	B4	POWERWAVE	7770	55"x11"x5"
GAMMA	C1	POWERWAVE	7770	55"x11"x5"
	C2	-	-	-
	C3	POWERWAVE	P65-16-XLH-RR	72"x12"x6"
	C4	POWERWAVE	7770	55"x11"x5"

FINAL ANTENNA SCHEDULE

SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	POWERWAVE	7770	55"x11"x5"
	A2	-	-	-
	A3	CCI	HPA-65R-BUU-H6	72"x14.8"x9"
	A4	POWERWAVE	7770	55"x11"x5"
BETA	B1	POWERWAVE	7770	55"x11"x5"
	B2	-	-	-
	B3	CCI	HPA-65R-BUU-H6	72"x14.8"x9"
	B4	POWERWAVE	7770	55"x11"x5"
GAMMA	C1	POWERWAVE	7770	55"x11"x5"
	C2	-	-	-
	C3	CCI	HPA-65R-BUU-H6	72"x14.8"x9"
	C4	POWERWAVE	7770	55"x11"x5"

PROPOSED RRU SCHEDULE

SECTOR	MAKE	MODEL	SIZE (INCHES)	ADDITIONAL COMPONENT	SIZE (INCHES)
ALPHA	ERICSSON	RRUS-11 (EXISTING)	19.7"x16.9"x7.2"		
	ERICSSON	RRUS-12	19.7"x16.9"x7.2"	ERICSSON A2 MODULE	16.4"x15.2"x3.4"
BETA	ERICSSON	RRUS-11 (EXISTING)	19.7"x16.9"x7.2"		
	ERICSSON	RRUS-12	19.7"x16.9"x7.2"	ERICSSON A2 MODULE	16.4"x15.2"x3.4"
GAMMA	ERICSSON	RRUS-11 (EXISTING)	19.7"x16.9"x7.2"		
	ERICSSON	RRUS-12	19.7"x16.9"x7.2"	ERICSSON A2 MODULE	16.4"x15.2"x3.4"

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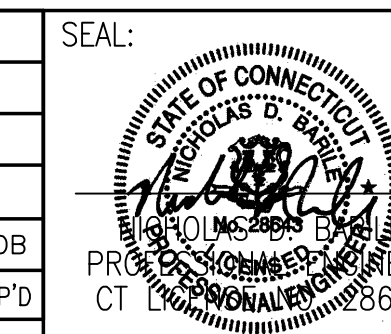


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SCALE: AS SHOWN DESIGNED BY: JW DRAWN BY: JW



AT&T		
DRAWING TITLE:		
ANTENNA MOUNTING DETAILS		
JOB NUMBER	DRAWING NUMBER	REV
15135-EMP	A-5	0