



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

December 16, 2016

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

Notice of Exempt Modification
225 Grist Mill Road, Simsbury, CT 06070
41.8667231 N
-72.815805 W
AT&T #: 10035290_LTE

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 150-foot level of the existing 150-foot Monopole Tower at 225 Grist Mill Road. The tower is owned by SBA Towers II, LLC. The property is owned by Ensign-Bickford Realty Corporation. AT&T does not propose any antenna modifications at this time. It does, however, intend to swap (3) existing RRUs with (3) newer RRUs at the 150-foot level of the tower. AT&T's full scope of proposed work is as follows:

Remove:

- None

Remove and Replace:

- Remove (3) LTE RRUS-11 and replace with (3) RRUS-32 B2 mounted on new D21 bracket (D21BRRUDSM)

Install:

- (1) Commscope ABT-DRDM-ADBH-Bias T Surge Arrester

Existing Equipment to Remain (Including entitlements):

- (2) Powerwave P65-17-XLH-RR Panel Antennas
- (1) KMW AM-X-CD-16-65-OOT-RET Panel Antenna
- (3) Kathrein 800-10121 Panel Antennas
- (2) CCI TPA-65R-LCUUUU-H8 Panel Antennas
- (1) Quintel QS66512-3 Panel Antennas
- (6) CCI DTMA BP7819VG12A TMAs
- (3) Ericsson RRUS-11
- (3) Ericsson RRUS-32



- (3) Kathrein 782-10250 Diplexers
- (6) CCI TPX-070821 Deplexers
- (2) Raycap DC6-48-60-18-8F Surge Protectors
- (3) CSS DBC-750 Combiners
- (3) Commscope ABT-DRDM-ADBH Bias Ts
- (1) LMU
- (12) 1-5/8" lines
- (2) 1/2" DC
- (4) 3/8" Fiber
- (1) 3" Conduit

This facility was approved by the Council in docket #203 dated 11/7/01. This approval included the condition that the tower be 130' unless sufficient carriers commit to placement of antennas on the tower and no space on the tower exists below 130', which through petition can be authorized to a maximum of 150'. This modification complies with the aforementioned condition(s).

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 Lisa Heavner, First Selectman for the Town of Simsbury, as well as the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

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

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

The logo for the Small Business Administration (SBA), featuring the letters "SBA" in a bold, blue, sans-serif font.

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,

A handwritten signature in black ink, appearing to read "Kri Pelletier".

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 Lisa Heavner—as elected official
933 Hopmeadow Street, Simsbury CT 06070
Ensign-Bickford Realty Corporation—as property owner
PO Box 711 Simsbury, CT 06070



POWER DENSITY

AT&T Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Kathrein 800-10121	Make / Model:	Kathrein 800-10121	Make / Model:	Kathrein 800-10121
Gain:	11.45 / 14.35 dBd	Gain:	11.45 / 14.35 dBd	Gain:	11.45 / 14.35 dBd
Height (AGL):	150 feet	Height (AGL):	150 feet	Height (AGL):	150 feet
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	2,471.44	ERP (W):	2,471.44	ERP (W):	2,471.44
Antenna A1 MPE%	0.54 %	Antenna B1 MPE%	0.54 %	Antenna C1 MPE%	0.54 %
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	KMW AM-X-CD-16-65-00T-RET	Make / Model:	Powerwave P65-17-XLH-RR	Make / Model:	Powerwave P65-17-XLH-RR
Gain:	13.35 dBd	Gain:	13.35 dBd	Gain:	13.35 dBd
Height (AGL):	150 feet	Height (AGL):	150 feet	Height (AGL):	150 feet
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	2,595.26	ERP (W):	3,229.84	ERP (W):	3,229.84
Antenna A2 MPE%	0.96 %	Antenna B2 MPE%	1.20 %	Antenna C2 MPE%	1.20 %
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Quintel QS66512-3	Make / Model:	CCI TPA-65R-LCUUUU-H8	Make / Model:	CCI TPA-65R-LCUUUU-H8
Gain:	11.4 / 12.78 / 15.15 dBd	Gain:	11.4 / 12.78 / 15.15 dBd	Gain:	11.4 / 12.78 / 15.15 dBd
Height (AGL):	150 feet	Height (AGL):	150 feet	Height (AGL):	150 feet
Frequency Bands	850 MHz / 1900 MHz (PCS) / 2300 MHz (WCS)	Frequency Bands	850 MHz / 1900 MHz (PCS) / 2300 MHz (WCS)	Frequency Bands	850 MHz / 1900 MHz (PCS) / 2300 MHz (WCS)
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	360 Watts	Total TX Power(W):	360 Watts	Total TX Power(W):	360 Watts
ERP (W):	8,170.39	ERP (W):	8,939.67	ERP (W):	8,939.67
Antenna A3 MPE%	1.53 %	Antenna B3 MPE%	1.73 %	Antenna C3 MPE%	1.73 %

Site Composite MPE%	
Carrier	MPE%
AT&T – Max per sector	3.46 %
Verizon	3.63 %
T-Mobile	4.06 %
Nextel	0.52 %
Sprint	0.02 %
Site Total MPE %:	11.69 %

AT&T Sector A Total:	3.03 %
AT&T Sector B Total:	3.46 %
AT&T Sector C Total:	3.46 %
Site Total:	11.69 %

AT&T _ Frequency Band / Technology Max Power Values (Sectors B & C)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (µW/cm²)	Frequency (MHz)	Allowable MPE (µW/cm²)	Calculated % MPE
AT&T 850 MHz UMTS	2	418.91	150	1.45	850 MHz	567	0.26%
AT&T 1900 MHz (PCS) UMTS	2	816.81	150	2.83	1900 MHz (PCS)	1000	0.28%
AT&T 700 MHz LTE	2	1,614.92	150	5.60	700 MHz	467	1.20%
AT&T 850 MHz GSM	2	663.93	150	2.30	850 MHz	567	0.41%
AT&T 1900 MHz (PCS) GSM	2	711.41	150	2.47	1900 MHz (PCS)	1000	0.25%
AT&T 2300 MHz (WCS) LTE	2	1,671.67	150	5.80	2300 MHz (WCS)	1000	0.58%
AT&T 1900 MHz (PCS) LTE	2	1,422.82	150	4.93	1900 MHz (PCS)	1000	0.49%
						Total:	3.46%

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2012.



Information on the Property Records for the Municipality of Simsbury was last updated on 12/16/2016.

Property Summary Information

- Parcel Data And Values
- Outbuildings
- Sales
- Google Map

Parcel Information

Location:	225 GRIST MILL ROAD	Property Use:	Vacant Land	Primary Use:	Commercial Vacant Land
Unique ID:	30569027	Map Block Lot:	F11 103 005	Acres:	0.23
490 Acres:	0.00	Zone:	I-2	Volume / Page:	0294/0600
Developers Map / Lot:		Census:			

Value Information

	Appraised Value	70% Assessed Value
Land	480,700	336,490
Buildings	0	0
Detached Outbuildings	120,000	84,000
Total	600,700	420,490

Owner's Information

Owner's Data

ENSIGN-BICKFORD REALTY CORPORATION
P O BOX 711
SIMSBURY CT 06070

[Back To Search \(JavaScript:window.history.back\(1\);\)](#)

[Print View \(PrintPage.aspx?towncode=128&uniqueid=30569027\)](#)

Information Published With Permission From The Assessor



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

AT&T Existing Facility

Site ID: CT1151

Simsbury Central
Grist Mill Road
Simsbury, CT 06070

December 7, 2016

EBI Project Number: 6216005602

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	11.69 %



December 7, 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: **CT1151 – Simsbury Central**

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

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

- 1) 2 UMTS channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 2 UMTS channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) 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.
- 5) 2 GSM channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 6) 2 LTE channels (2300 MHz (WCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.



- 7) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 8) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 9) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 10) The antennas used in this modeling are the **Kathrein 800-10121, KMW AM-X-CD-16-65-00T-RET, Powerwave P65-16-XLH-RR, Quintel QS66512-3 and the CCI TPA-65R-LCUUUU-H8** for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 11) The antenna mounting height centerlines of the proposed antennas are **150 feet** above ground level (AGL) for **Sector A**, **150 feet** above ground level (AGL) for **Sector B** and **150 feet** above ground level (AGL) for Sector C.
- 12) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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



AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Kathrein 800-10121	Make / Model:	Kathrein 800-10121	Make / Model:	Kathrein 800-10121
Gain:	11.45 / 14.35 dBd	Gain:	11.45 / 14.35 dBd	Gain:	11.45 / 14.35 dBd
Height (AGL):	150 feet	Height (AGL):	150 feet	Height (AGL):	150 feet
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	2,471.44	ERP (W):	2,471.44	ERP (W):	2,471.44
Antenna A1 MPE%	0.54 %	Antenna B1 MPE%	0.54 %	Antenna C1 MPE%	0.54 %
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	KMW AM-X-CD-16-65-00T-RET	Make / Model:	Powerwave P65-17-XLH-RR	Make / Model:	Powerwave P65-17-XLH-RR
Gain:	13.35 dBd	Gain:	13.35 dBd	Gain:	13.35 dBd
Height (AGL):	150 feet	Height (AGL):	150 feet	Height (AGL):	150 feet
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	2,595.26	ERP (W):	3,229.84	ERP (W):	3,229.84
Antenna A2 MPE%	0.96 %	Antenna B2 MPE%	1.20 %	Antenna C2 MPE%	1.20 %
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Quintel QS66512-3	Make / Model:	CCI TPA-65R-LCUUUU-H8	Make / Model:	CCI TPA-65R-LCUUUU-H8
Gain:	11.4 / 12.78 / 15.15 dBd	Gain:	11.4 / 12.78 / 15.15 dBd	Gain:	11.4 / 12.78 / 15.15 dBd
Height (AGL):	150 feet	Height (AGL):	150 feet	Height (AGL):	150 feet
Frequency Bands	850 MHz / 1900 MHz (PCS) / 2300 MHz (WCS)	Frequency Bands	850 MHz / 1900 MHz (PCS) / 2300 MHz (WCS)	Frequency Bands	850 MHz / 1900 MHz (PCS) / 2300 MHz (WCS)
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	360 Watts	Total TX Power(W):	360 Watts	Total TX Power(W):	360 Watts
ERP (W):	8,170.39	ERP (W):	8,939.67	ERP (W):	8,939.67
Antenna A3 MPE%	1.53 %	Antenna B3 MPE%	1.73 %	Antenna C3 MPE%	1.73 %

Site Composite MPE%	
Carrier	MPE%
AT&T – Max per sector	3.46 %
Verizon	3.63 %
T-Mobile	4.06 %
Nextel	0.52 %
Sprint	0.02 %
Site Total MPE %:	11.69 %

AT&T Sector A Total:	3.03 %
AT&T Sector B Total:	3.46 %
AT&T Sector C Total:	3.46 %
Site Total:	11.69 %

AT&T Frequency Band / Technology Max Power Values (Sectors B & C)	# 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 850 MHz UMTS	2	418.91	150	1.45	850 MHz	567	0.26%
AT&T 1900 MHz (PCS) UMTS	2	816.81	150	2.83	1900 MHz (PCS)	1000	0.28%
AT&T 700 MHz LTE	2	1,614.92	150	5.60	700 MHz	467	1.20%
AT&T 850 MHz GSM	2	663.93	150	2.30	850 MHz	567	0.41%
AT&T 1900 MHz (PCS) GSM	2	711.41	150	2.47	1900 MHz (PCS)	1000	0.25%
AT&T 2300 MHz (WCS) LTE	2	1,671.67	150	5.80	2300 MHz (WCS)	1000	0.58%
AT&T 1900 MHz (PCS) LTE	2	1,422.82	150	4.93	1900 MHz (PCS)	1000	0.49%
						Total:	3.46%



Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	3.03 %
Sector B:	3.46 %
Sector C:	3.46 %
AT&T Maximum Total (per sector):	3.46 %
Site Total:	11.69 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **11.69 %** 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.



Tower Engineering Solutions

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

Structural Analysis Report

Existing 150 ft Rohn Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT10022-A

Customer Site Name: Simsbury 2, CT

Carrier Name: AT&T

Carrier Site ID / Name: USID 25937 FA# 10035290 / Simsbury Central

Site Location: 225 Grist Mill Road

Simsbury, Connecticut

Hartford County

Latitude: 41.866708

Longitude: -72.815772

Analysis Result:

Max Structural Usage: 85.4% [Pass]

Max Foundation Usage: 65.0% [Pass]

Report Prepared By : Uma S Atluri



Introduction

The purpose of this report is to summarize the analysis results on the 150 ft Rohn 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	Rohn Industries, Inc., File No. 50754AE, Drawing No. A020293, dated February 13, 2002
Foundation Drawing	Rohn Industries, Inc., File No. 50754AE, Drawing No. A020294 1-3, dated February 13, 2002
Geotechnical Report	FDH Engineering, Inc., Project No. 15BGSH1600, dated March 19, 2015
Modification Drawings	N/A

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 120.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 93.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.179$, $S_1 = 0.064$

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
-	150.0	2	Powerwave P65-17-XLH-RR - Panel	Low Profile Platform	(12) 1 5/8" (2) 1/2" DC (4) 3/8" Fiber (1) 3" Conduit	AT&T
		1	KMW AM-X-CD-16-65-00T-RET - Panel			
		3	Kathrein 800-10121 - Panel			
		2	CCI TPA-65R-LCUUUU-H8 - Panel			
		1	Quintel QS66512-3 - Panel			
		6	CCI DTMA BP7819VG12A - TMA/TTA			
		6	Ericsson RRUS-11 - RRU			
		3	Ericsson RRUS-32 - RRU			
		3	Kathrein 782-10250 - Diplexer			
		6	CCI TPX-070821 - Diplexer			
		2	Raycap DC6-48-60-18-8F - Surge Protector			
		3	CSS DBC-750 - Combiner			
		3	Commscope ABT-DRDM-ADBH - Bias T			
		1	LMU			
15	141.0	3	Alcatel Lucent RRH2X60-700 - RRU	Low Profile Platform	(12) 1 5/8" (2) 1 5/8" Hybrid	Verizon
16		3	Alcatel Lucent RRH2X60-AWS - RRU			
17		3	Alcatel Lucent RRH2X60-PCS - RRU			
18		3	Antel BXA-70063-6CF-EDIN-0 - Panel			
19		3	Antel BXA-70080-4CF-EDIN-0 - Panel			
20		6	Commscope SBNHH-1D65B - Panel			
21		2	RFS DB-T1-6Z-8AB-OZ – Distribution Box			
22	131.0	3	Commscope LNX-6515DS - Panel	(3) T-Arms (Site Pro P/N UDS-NPL)	(18) 7/8"	T-Mobile
23		3	Ericsson KRY 144/1			
24		3	Kathrein 782 11056			
25		3	RFS APX16DWV-16DWVS-C - Panel			
26		3	RFS ATM1412D-1A20			
27	123.0	3	Alcatel Lucent 1900 MHz	Low Profile Platform	(4) 1-1/4" Fiber	Sprint
28		6	Alcatel Lucent 800 MHz			
29		3	Alcatel Lucent TD-RRH8x20-25			
30		4	RFS ACU-A20-N			
31		3	RFS APXVSP18-C-A20 - Panel			
32		3	RFS APXVTM14-C-I30 - Panel			

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	150.0	2	Powerwave P65-17-XLH-RR - Panel	Low Profile Platform	(12) 1 5/8" (2) 1/2" DC (4) 3/8" Fiber (1) 3" Conduit	AT&T
2		1	KMW AM-X-CD-16-65-00T-RET - Panel			
3		3	Kathrein 800 10121 - Panel			
4		2	CCI TPA-65R-LCUUUU-H8 - Panel			
5		1	Quintel QS66512-3 - Panel			
6		6	CCI DTMABP7819VG12A-TMAs			
7		3	Ericsson RRUS-11-RRUs			
8		3	Ericsson RRUS-32-RRHs			
9		3	Ericsson RRUS 32 B2-RRHs			
10		6	CCI TPX-070821-Diplexers			
11		3	CSS DBC-750-Combiners			
12		1	Commscope ABT-DRDM-ADBH-Bias Tee Surge Arrester			
13		1	LMU			
14		2	Raycap DC6-48-60-18-8F-DC Surge Suppressor			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	85.4%	74.3%	79.8%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	3605.8	32.4	81.3

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.1926 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

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

Usage Diagram - Max Ratio 85.39% at 0.0ft

Structure: CT10022-A-SBA
Site Name: Simsbury 2, CT
Height: 150.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-G
Exposure: C
Gh: 1.1

12/8/2016

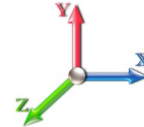


Page: 1

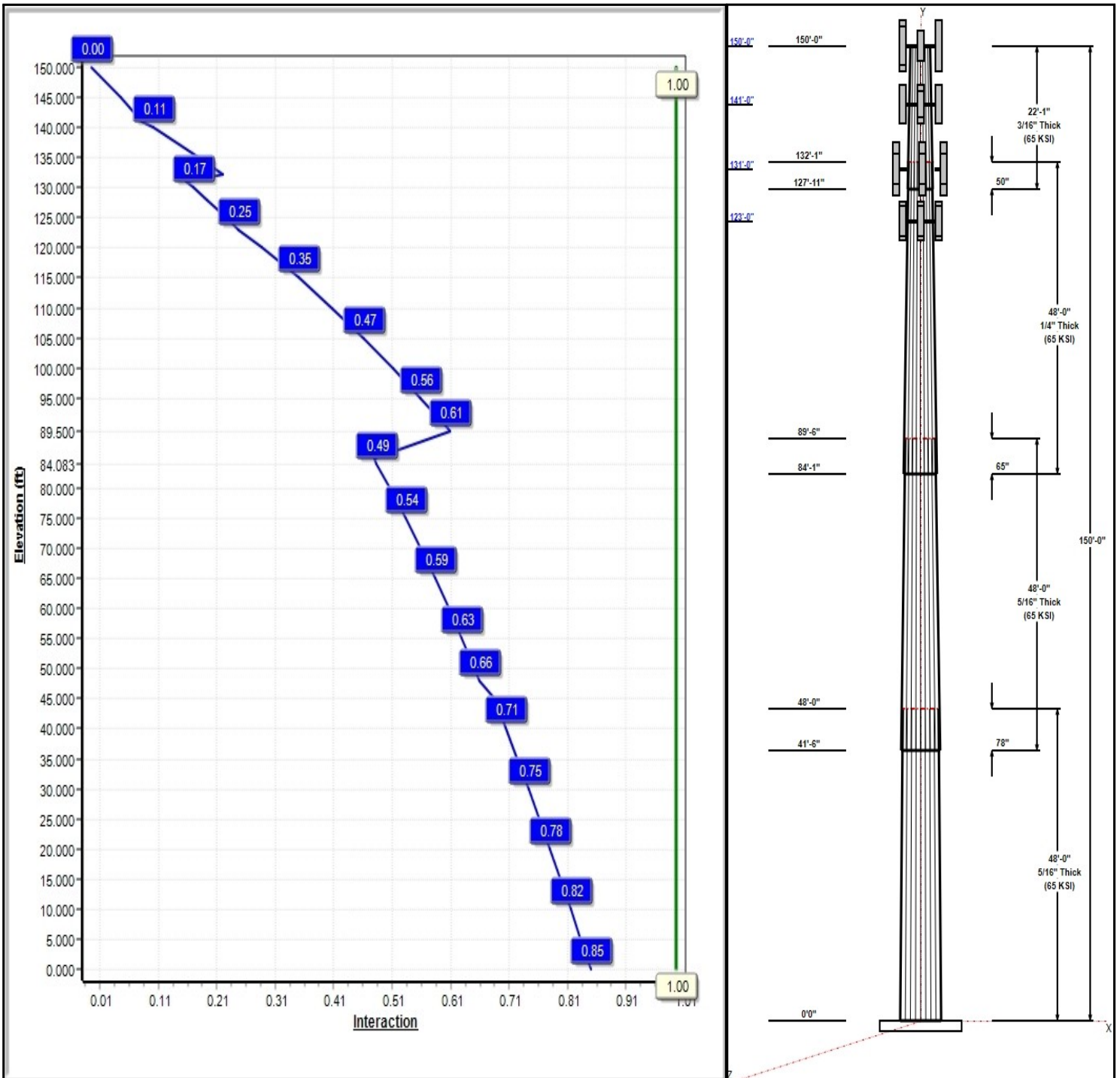
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Iterations: 23

Load Case : 1.2D + 1.6W 93 mph Wind



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Structure: CT10022-A-SBA

Type: Tapered
Site Name: Simsbury 2, CT
Height: 150.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23136

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Shaft Properties

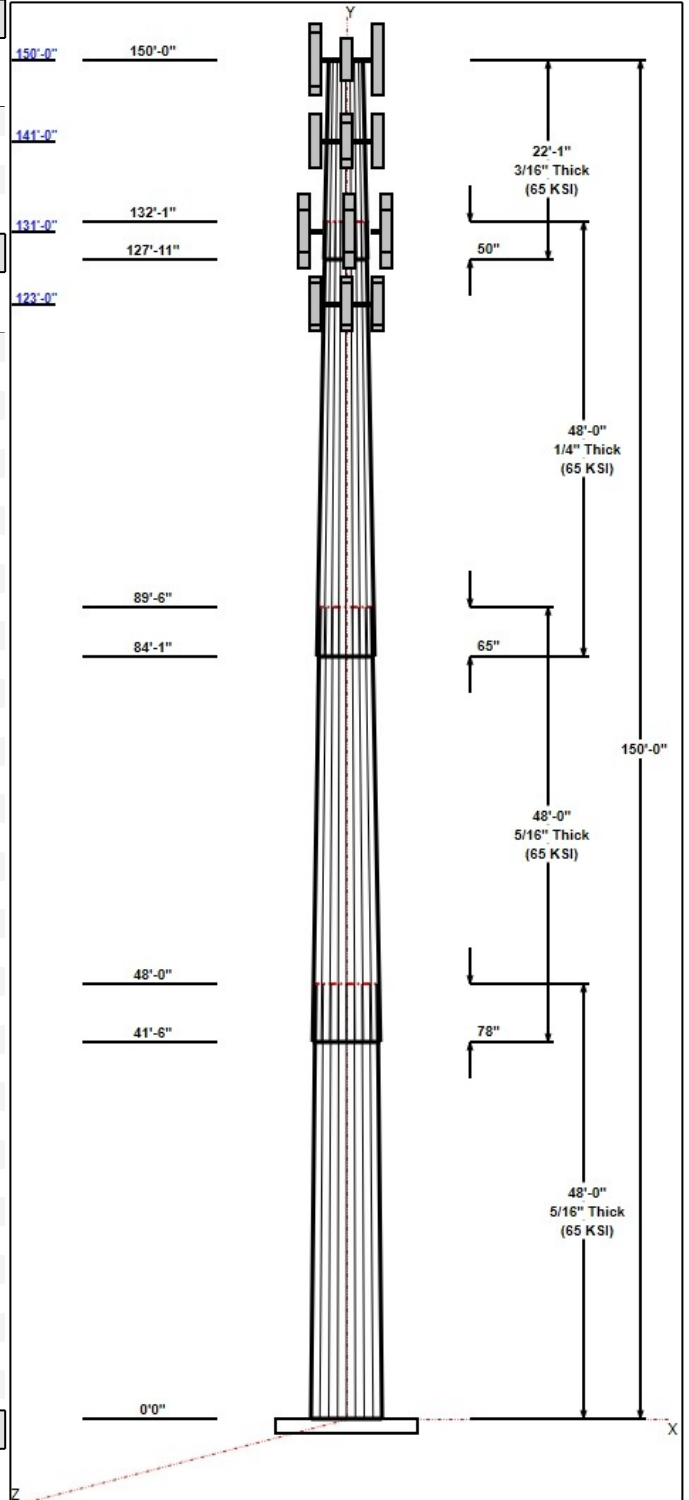
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	48.00	50.39	61.50	0.313		0.23136	65
2	48.00	41.42	52.52	0.313	Slip	0.23136	65
3	48.00	32.07	43.17	0.250	Slip	0.23136	65
4	22.08	28.30	33.41	0.188	Slip	0.23136	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
150.00	150.00	1	KMW	AT&T
150.00	150.00	2	Powerwave	AT&T
150.00	150.00	3	Kathrein 800 10121	AT&T
150.00	150.00	6	CCI	AT&T
150.00	150.00	3	Ericsson RRUS-11-RRUs	AT&T
150.00	150.00	1	Commscope	AT&T
150.00	150.00	3	CSS DBC-750-Combiners	AT&T
150.00	149.00	1	Low Profile Platform	AT&T
150.00	150.00	3	Ericsson RRUS-32-RRHs	AT&T
150.00	150.00	3	Ericsson RRUS 32	AT&T
150.00	150.00	1	LMU	AT&T
150.00	151.00	2	Raycap	AT&T
150.00	150.00	2	CCI	AT&T
150.00	150.00	1	Quintel QS66512-3	AT&T
150.00	150.00	6	CCI TPX-070821-Diplexers	AT&T
141.00	141.00	3	Antel	Verizon
141.00	141.00	6	Commscope	Verizon
141.00	141.00	3	Antel	Verizon
141.00	141.00	3	Alcatel Lucent	Verizon
141.00	141.00	3	Alcatel Lucent	Verizon
141.00	141.00	3	Alcatel Lucent	Verizon
141.00	141.00	1	RFS DB-T1-6Z-8AB-0Z	Verizon
141.00	141.00	1	Low Profile Platform	Verizon
141.00	141.00	1	RFS DB-T1-6Z-8AB-0Z	Verizon
131.00	131.00	3	RFS	T-Mobile
131.00	131.00	3	Commscope LNX-6515DS	T-Mobile
131.00	131.00	3	RFS ATM1412D-1A20	T-Mobile
131.00	131.00	3	Ericsson KRY 144/1	T-Mobile
131.00	131.00	3	Kathrein 782 11056	T-Mobile
131.00	131.00	3	T-Arms (Site Pro P/N)	T-Mobile
123.00	123.00	3	RFS APXVTM14-C-I30	Sprint
123.00	123.00	3	RFS APXVSPP18-C-A20	Sprint
123.00	123.00	3	Alcatel Lucent	Sprint
123.00	123.00	3	Alcatel Lucent 1900 MHz	Sprint
123.00	123.00	6	Alcatel Lucent 800 MHz	Sprint
123.00	123.00	4	RFS ACU-A20-N	Sprint
123.00	123.00	1	Low Profile Platform	Sprint

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	150.00	Inside	1 5/8" Coax	AT&T
0.00	150.00	Inside	1/2" DC	AT&T
0.00	150.00	Inside	3" Conduit	AT&T
0.00	150.00	Inside	3/8" Fiber	AT&T
0.00	141.00	Inside	1 5/8" Coax	Verizon



Structure: CT10022-A-SBA

Type: Tapered
Site Name: Simsbury 2, CT
Height: 150.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23136

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0.00	141.00	Inside	1 5/8" Hybrid	Verizon
0.00	131.00	Inside	7/8" Coax	T-Mobile
0.00	123.00	Inside	1-1/4" Fiber	Sprint

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
14	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.0000	73.5	50.0	Round

Reactions

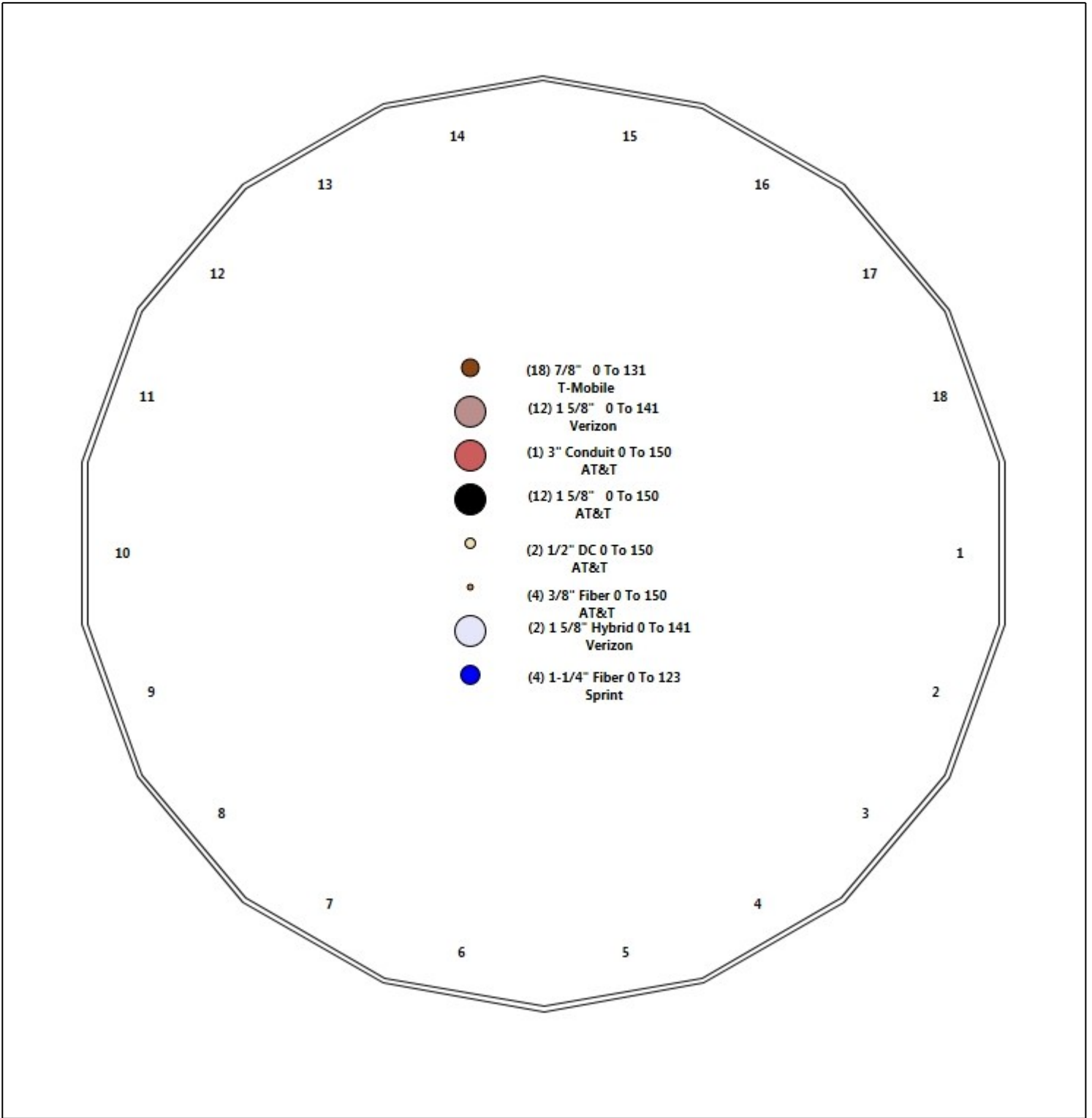
Load Case	Moment	Shear	Axial
1.2D + 1.6W 93 mph Wind	3605.8	32.4	45.6
0.9D + 1.6W 93 mph Wind	3572.3	32.4	34.2
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1224.0	10.8	81.3
1.2D + 1.0E	249.4	2.0	45.7
0.9D + 1.0E	246.9	2.0	34.3
1.0D + 1.0W 60 mph Wind	933.1	8.4	38.1

Structure: CT10022-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Simsbury 2, CT
Height: 150.00 (ft)

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Shaft Properties

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	48.000	0.3125	65		0.00	9,013
2	18	48.000	0.3125	65	Slip	78.00	7,559
3	18	48.000	0.2500	65	Slip	65.00	4,843
4	18	22.083	0.1875	65	Slip	50.00	1,371
Total Shaft Weight:							22,786

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	61.50	0.00	60.69	28706.65	33.29	196.80	50.39	48.00	49.67	15741.4	27.02	161.2	0.231360
2	52.52	41.50	51.78	17835.36	28.23	168.08	41.42	89.50	40.77	8703.68	21.96	132.5	0.231360
3	43.17	84.08	34.06	7926.99	29.04	172.69	32.07	132.08	25.25	3228.71	21.21	128.2	0.231360
4	33.41	127.9	19.77	2755.84	30.00	178.16	28.30	150.00	16.73	1669.78	25.20	150.9	0.231360

Load Summary

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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	150.00	KMW AM-X-CD-16-65-00T-RET	1	70.50	8.02	0.87	385.02	11.745	0.90	0.00	0.00
2	150.00	Powerwave P65-17-XLH-RR	2	88.30	11.44	0.88	520.53	15.752	0.92	0.00	0.00
3	150.00	Kathrein 800 10121	3	62.40	5.15	0.90	279.10	7.959	0.92	0.00	0.00
4	150.00	CCI DTMABP7819VG12A-TMAs	6	19.20	1.14	0.67	53.23	2.166	0.70	0.00	0.00
5	150.00	Ericsson RRUS-11-RRUs	3	55.00	2.52	0.67	158.92	3.364	1.00	0.00	0.00
6	150.00	Commscope ABT-DRDM-ADBH-Bias	1	1.10	0.05	0.67	4.07	0.307	1.00	0.00	0.00
7	150.00	CSS DBC-750-Combiners	3	4.80	0.51	0.67	17.69	1.216	1.00	0.00	0.00
8	150.00	Low Profile Platform	1	1500.00	22.00	1.00	3245.22	45.549	1.00	0.00	-1.00
9	150.00	Ericsson RRUS-32-RRHs	3	77.00	3.87	0.67	239.13	4.396	1.00	0.00	0.00
10	150.00	Ericsson RRUS 32 B2-RRHs	3	53.00	2.74	0.67	179.89	3.737	1.00	0.00	0.00
11	150.00	LMU	1	28.00	0.88	0.67	100.43	1.765	1.00	0.00	0.00
12	150.00	Raycap DC6-48-60-18-8F-DC Surge	2	32.80	1.47	0.67	117.83	2.403	1.00	0.00	1.00
13	150.00	CCI TPA-65R-LCUUUU-H8	2	75.00	13.43	0.79	641.29	18.405	0.84	0.00	0.00
14	150.00	Quintel QS66512-3	1	105.00	8.13	0.90	425.90	9.900	0.96	0.00	0.00
15	150.00	CCI TPX-070821-Diplexers	6	3.30	0.43	0.67	15.18	1.122	0.75	0.00	0.00
16	141.00	Antel BXA-70080-4CF-EDIN-0	3	30.30	3.56	1.02	325.95	6.007	1.04	0.00	0.00
17	141.00	Commscope SBNHH-1D65B	6	72.70	8.08	0.91	356.08	9.802	0.93	0.00	0.00
18	141.00	Antel BXA-70063-6CF-EDIN-0	3	39.00	7.57	0.86	286.06	9.279	0.89	0.00	0.00
19	141.00	Alcatel Lucent RRH2X60-AWS	3	60.00	3.50	0.50	175.67	4.546	0.79	0.00	0.00
20	141.00	Alcatel Lucent RRH2X60-PCS	3	55.00	1.51	0.90	175.77	3.068	0.90	0.00	0.00
21	141.00	Alcatel Lucent RRH2X60-700	3	60.00	3.50	0.50	175.67	4.546	0.79	0.00	0.00
22	141.00	RFS DB-T1-6Z-8AB-OZ	1	21.40	4.10	0.96	178.58	5.162	0.99	0.00	0.00
23	141.00	Low Profile Platform	1	1500.00	22.00	1.00	3234.45	45.404	1.00	0.00	0.00
24	141.00	RFS DB-T1-6Z-8AB-OZ	1	21.40	4.10	0.96	178.58	5.162	0.99	0.00	0.00
25	131.00	RFS APX16DWV-16DWVS-C	3	62.70	6.46	0.74	295.76	9.313	0.78	0.00	0.00
26	131.00	Commscope LNX-6515DS	3	79.10	11.47	0.92	558.70	15.767	0.95	0.00	0.00
27	131.00	RFS ATM1412D-1A20	3	13.00	1.17	0.73	47.96	2.199	0.76	0.00	0.00
28	131.00	Ericsson KRY 144/1	3	11.00	0.41	0.70	25.18	1.035	0.73	0.00	0.00
29	131.00	Kathrein 782 11056	3	11.00	0.66	0.76	31.75	1.462	0.79	0.00	0.00
30	131.00	T-Arms (Site Pro P/N UDS-NPL)	3	132.00	8.00	0.75	253.21	17.183	1.00	0.00	0.00
31	123.00	RFS APXVTM14-C-I30	3	78.00	6.34	0.85	300.88	7.824	0.88	0.00	0.00
32	123.00	RFS APXVSP18-C-A20	3	79.00	8.02	0.91	392.15	11.672	0.83	0.00	0.00
33	123.00	Alcatel Lucent TD-RRH8x20-25	3	70.00	4.05	0.69	223.81	5.138	0.75	0.00	0.00
34	123.00	Alcatel Lucent 1900 MHz	3	60.00	2.71	0.98	165.56	4.362	1.00	0.00	0.00
35	123.00	Alcatel Lucent 800 MHz	6	53.00	2.49	0.92	149.68	3.985	0.95	0.00	0.00
36	123.00	RFS ACU-A20-N	4	1.00	0.14	0.79	6.62	0.528	0.82	0.00	0.00
37	123.00	Low Profile Platform	1	1500.00	22.00	1.00	3210.92	45.086	1.00	0.00	0.00
Totals:			103	9,309.70			29,920.32				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	150.00	(12) 1 5/8" Coax	0.00	Inside
0.00	150.00	(2) 1/2" DC	0.00	Inside
0.00	150.00	(1) 3" Conduit	0.00	Inside
0.00	150.00	(4) 3/8" Fiber	0.00	Inside

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		
0.00	141.00	(12) 1 5/8" Coax		0.00		Inside					
0.00	141.00	(2) 1 5/8" Hybrid		0.00		Inside					
0.00	131.00	(18) 7/8" Coax		0.00		Inside					
0.00	123.00	(4) 1-1/4" Fiber		0.00		Inside					

Shaft Section Properties

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	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	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.3125	61.500	60.688	28706.7	33.29	196.80	62.2	919.4	0.0
5.00		0.3125	60.343	59.541	27109.1	32.64	193.10	63.0	884.8	1022.8
10.00		0.3125	59.186	58.393	25571.9	31.99	189.40	63.8	851.0	1003.3
15.00		0.3125	58.030	57.246	24093.9	31.33	185.69	64.5	817.8	983.7
20.00		0.3125	56.873	56.099	22674.1	30.68	181.99	65.3	785.2	964.2
25.00		0.3125	55.716	54.951	21311.1	30.03	178.29	66.1	753.4	944.7
30.00		0.3125	54.559	53.804	20003.9	29.37	174.59	66.9	722.2	925.2
35.00		0.3125	53.402	52.657	18751.2	28.72	170.89	67.6	691.6	905.7
40.00		0.3125	52.246	51.509	17552.0	28.07	167.19	68.4	661.7	886.1
41.50	Bot - Section 2	0.3125	51.899	51.165	17202.5	27.87	166.08	68.6	652.9	262.0
45.00		0.3125	51.089	50.362	16405.0	27.42	163.48	69.2	632.5	1216.5
48.00	Top - Section 1	0.3125	51.020	50.293	16338.2	27.38	163.26	0.0	0.0	1027.5
50.00		0.3125	50.557	49.834	15895.0	27.12	161.78	69.5	619.2	340.7
55.00		0.3125	49.400	48.687	14822.2	26.46	158.08	70.3	591.0	838.1
60.00		0.3125	48.243	47.540	13798.8	25.81	154.38	71.0	563.4	818.6
65.00		0.3125	47.087	46.392	12823.6	25.16	150.68	71.8	536.4	799.1
70.00		0.3125	45.930	45.245	11895.5	24.51	146.98	72.6	510.1	779.6
75.00		0.3125	44.773	44.098	11013.3	23.85	143.27	73.3	484.5	760.0
80.00		0.3125	43.616	42.950	10175.8	23.20	139.57	74.1	459.5	740.5
84.08	Bot - Section 3	0.3125	42.671	42.013	9524.3	22.67	136.55	74.7	439.6	590.3
85.00		0.3125	42.459	41.803	9381.9	22.55	135.87	74.9	435.2	236.7
89.50	Top - Section 2	0.2500	41.918	33.063	7252.7	28.15	167.67	0.0	0.0	1144.8
90.00		0.2500	41.803	32.971	7192.5	28.07	167.21	68.4	338.9	56.2
95.00		0.2500	40.646	32.053	6608.3	27.26	162.58	69.3	320.2	553.2
100.00		0.2500	39.489	31.135	6056.7	26.44	157.96	70.3	302.1	537.5
105.00		0.2500	38.332	30.217	5536.7	25.63	153.33	71.3	284.5	521.9
110.00		0.2500	37.175	29.299	5047.3	24.81	148.70	72.2	267.4	506.3
115.00		0.2500	36.019	28.381	4587.6	23.99	144.07	73.2	250.9	490.7
120.00		0.2500	34.862	27.463	4156.8	23.18	139.45	74.1	234.8	475.1
123.00		0.2500	34.168	26.913	3911.7	22.69	136.67	74.7	225.5	277.5
125.00		0.2500	33.705	26.546	3753.8	22.36	134.82	75.1	219.4	181.9
127.92	Bot - Section 4	0.2500	33.030	26.010	3531.2	21.89	132.12	75.7	210.6	260.8
130.00		0.2500	32.548	25.628	3377.7	21.55	130.19	76.1	204.4	322.2
131.00		0.2500	32.317	25.444	3305.6	21.38	129.27	76.3	201.5	152.9
132.08	Top - Section 3	0.1875	32.441	19.194	2522.8	29.10	173.02	0.0	0.0	164.5
135.00		0.1875	31.766	18.793	2367.8	28.46	169.42	67.9	146.8	188.5
140.00		0.1875	30.610	18.104	2117.0	27.37	163.25	69.2	136.2	313.9
141.00		0.1875	30.378	17.967	2069.0	27.16	162.02	69.5	134.1	61.4
145.00		0.1875	29.453	17.416	1884.5	26.29	157.08	70.5	126.0	240.8
150.00		0.1875	28.296	16.727	1669.8	25.20	150.91	71.8	116.2	290.5
22785.8										

Wind Loading - Shaft

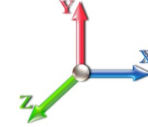
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



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		1.00	0.85	17.879	19.67	446.21	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	437.81	0.650	0.000	5.00	25.776	16.75	527.2	0.0	1227.3
10.00		1.00	0.85	17.879	19.67	429.42	0.650	0.000	5.00	25.286	16.44	517.2	0.0	1203.9
15.00		1.00	0.85	17.879	19.67	421.03	0.650	0.000	5.00	24.797	16.12	507.2	0.0	1180.5
20.00		1.00	0.90	18.971	20.87	425.04	0.650	0.000	5.00	24.307	15.80	527.5	0.0	1157.1
25.00		1.00	0.95	19.883	21.87	426.29	0.650	0.000	5.00	23.818	15.48	541.8	0.0	1133.6
30.00		1.00	0.98	20.661	22.73	425.53	0.650	0.000	5.00	23.328	15.16	551.4	0.0	1110.2
35.00		1.00	1.01	21.343	23.48	423.32	0.650	0.000	5.00	22.839	14.85	557.6	0.0	1086.8
40.00		1.00	1.04	21.951	24.15	420.01	0.650	0.000	5.00	22.350	14.53	561.2	0.0	1063.4
41.50	Bot - Section 2	1.00	1.05	22.122	24.33	418.84	0.650	0.000	1.50	6.609	4.30	167.3	0.0	314.4
45.00		1.00	1.07	22.502	24.75	415.84	0.650	0.000	3.50	15.436	10.03	397.4	0.0	1459.8
48.00	Top - Section 1	1.00	1.08	22.810	25.09	412.98	0.650	0.000	3.00	13.040	8.48	340.3	0.0	1233.0
50.00		1.00	1.09	23.007	25.31	416.10	0.650	0.000	2.00	8.595	5.59	226.2	0.0	408.9
55.00		1.00	1.12	23.473	25.82	410.68	0.650	0.000	5.00	21.146	13.74	567.8	0.0	1005.7
60.00		1.00	1.14	23.907	26.30	404.75	0.650	0.000	5.00	20.656	13.43	564.9	0.0	982.3
65.00		1.00	1.16	24.313	26.74	398.39	0.650	0.000	5.00	20.167	13.11	560.9	0.0	958.9
70.00		1.00	1.17	24.696	27.17	391.64	0.650	0.000	5.00	19.677	12.79	555.9	0.0	935.5
75.00		1.00	1.19	25.057	27.56	384.56	0.650	0.000	5.00	19.188	12.47	550.0	0.0	912.0
80.00		1.00	1.21	25.400	27.94	377.18	0.650	0.000	5.00	18.698	12.15	543.3	0.0	888.6
84.08	Bot - Section 3	1.00	1.22	25.667	28.23	370.95	0.650	0.000	4.08	14.907	9.69	437.7	0.0	708.3
85.00		1.00	1.22	25.726	28.30	369.53	0.650	0.000	0.92	3.340	2.17	98.3	0.0	284.0
89.50	Top - Section 2	1.00	1.24	26.007	28.61	362.43	0.650	0.000	4.50	16.160	10.50	480.8	0.0	1373.8
90.00		1.00	1.24	26.037	28.64	366.01	0.650	0.000	0.50	1.771	1.15	52.8	0.0	67.4
95.00		1.00	1.25	26.336	28.97	357.91	0.650	0.000	5.00	17.442	11.34	525.5	0.0	663.8
100.00		1.00	1.27	26.621	29.28	349.61	0.650	0.000	5.00	16.952	11.02	516.3	0.0	645.0
105.00		1.00	1.28	26.896	29.59	341.11	0.650	0.000	5.00	16.463	10.70	506.6	0.0	626.3
110.00		1.00	1.29	27.161	29.88	332.44	0.650	0.000	5.00	15.973	10.38	496.3	0.0	607.6
115.00		1.00	1.30	27.416	30.16	323.61	0.650	0.000	5.00	15.484	10.06	485.6	0.0	588.8
120.00		1.00	1.32	27.663	30.43	314.62	0.650	0.000	5.00	14.995	9.75	474.5	0.0	570.1
123.08	Appurtenance(s)	1.00	1.32	27.807	30.59	309.16	0.650	0.000	3.00	8.762	5.70	278.7	0.0	333.1
125.00		1.00	1.33	27.902	30.69	305.49	0.650	0.000	2.00	5.743	3.73	183.3	0.0	218.3
127.92	Bot - Section 4	1.00	1.33	28.038	30.84	300.10	0.650	0.000	2.92	8.235	5.35	264.1	0.0	313.0
130.00		1.00	1.34	28.133	30.95	296.23	0.650	0.000	2.08	5.846	3.80	188.2	0.0	386.6
131.00	Appurtenance(s)	1.00	1.34	28.179	31.00	294.36	0.650	0.000	1.00	2.776	1.80	89.5	0.0	183.5
132.08	Top - Section 3	1.00	1.34	28.228	31.05	292.33	0.650	0.000	1.08	2.985	1.94	96.4	0.0	197.4
135.00		1.00	1.35	28.358	31.19	290.26	0.650	0.000	2.92	7.923	5.15	257.0	0.0	226.2
140.00		1.00	1.36	28.576	31.43	280.76	0.650	0.000	5.00	13.195	8.58	431.4	0.0	376.7
141.00	Appurtenance(s)	1.00	1.36	28.619	31.48	278.85	0.650	0.000	1.00	2.580	1.68	84.5	0.0	73.6
145.00		1.00	1.37	28.788	31.67	271.15	0.650	0.000	4.00	10.126	6.58	333.5	0.0	289.0
150.00	Appurtenance(s)	1.00	1.38	28.994	31.89	261.43	0.650	0.000	5.00	12.217	7.94	405.2	0.0	348.5
Totals:								150.00			15,451.5	27,342.9		

Discrete Appurtenance Forces

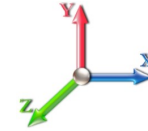
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	CSS DBC-750-Combiners	3	28.994	31.893	0.60	0.90	0.92	17.28	0.000	0.000	47.08	0.00	0.00
2	150.00	KMW	1	28.994	31.893	0.78	0.90	6.26	84.60	0.000	0.000	319.34	0.00	0.00
3	150.00	Powerwave	2	28.994	31.893	0.79	0.90	18.10	211.92	0.000	0.000	923.64	0.00	0.00
4	150.00	Kathrein 800 10121	3	28.994	31.893	0.81	0.90	12.57	224.64	0.000	0.000	641.44	0.00	0.00
5	150.00	CCI	6	28.994	31.893	0.60	0.90	4.12	138.24	0.000	0.000	210.47	0.00	0.00
6	150.00	Ericsson RRUS-11-RRUs	3	28.994	31.893	0.60	0.90	4.56	198.00	0.000	0.000	232.62	0.00	0.00
7	150.00	Commscope	1	28.994	31.893	0.60	0.90	0.03	1.32	0.000	0.000	1.54	0.00	0.00
8	150.00	CCI	6	28.994	31.893	0.60	0.90	1.56	23.76	0.000	0.000	79.39	0.00	0.00
9	150.00	Low Profile Platform	1	28.953	31.848	1.00	1.00	22.00	1800.00	0.000	-1.000	1121.06	0.00	-1121.06
10	150.00	Ericsson RRUS-32-RRHs	3	28.994	31.893	0.60	0.90	7.00	277.20	0.000	0.000	357.25	0.00	0.00
11	150.00	Ericsson RRUS 32	3	28.994	31.893	0.60	0.90	4.96	190.80	0.000	0.000	252.93	0.00	0.00
12	150.00	LMU	1	28.994	31.893	0.60	0.90	0.53	33.60	0.000	0.000	27.08	0.00	0.00
13	150.00	Raycap	2	29.034	31.938	0.60	0.90	1.77	78.72	0.000	1.000	90.59	0.00	90.59
14	150.00	CCI	2	28.994	31.893	0.71	0.90	19.10	180.00	0.000	0.000	974.52	0.00	0.00
15	150.00	Quintel QS66512-3	1	28.994	31.893	0.81	0.90	6.59	126.00	0.000	0.000	336.04	0.00	0.00
16	141.00	RFS DB-T1-6Z-8AB-0Z	1	28.619	31.480	0.77	0.80	3.15	25.68	0.000	0.000	158.60	0.00	0.00
17	141.00	Low Profile Platform	1	28.619	31.480	0.80	0.80	17.60	1800.00	0.000	0.000	886.49	0.00	0.00
18	141.00	RFS DB-T1-6Z-8AB-0Z	1	28.619	31.480	0.77	0.80	3.15	25.68	0.000	0.000	158.60	0.00	0.00
19	141.00	Alcatel Lucent	3	28.619	31.480	0.40	0.80	4.20	216.00	0.000	0.000	211.55	0.00	0.00
20	141.00	Alcatel Lucent	3	28.619	31.480	0.72	0.80	3.26	198.00	0.000	0.000	164.28	0.00	0.00
21	141.00	Alcatel Lucent	3	28.619	31.480	0.40	0.80	4.20	216.00	0.000	0.000	211.55	0.00	0.00
22	141.00	Antel	3	28.619	31.480	0.69	0.80	15.62	140.40	0.000	0.000	786.98	0.00	0.00
23	141.00	Commscope	6	28.619	31.480	0.73	0.80	35.22	523.44	0.000	0.000	1773.77	0.00	0.00
24	141.00	Antel	3	28.619	31.480	0.82	0.80	8.71	109.08	0.000	0.000	438.96	0.00	0.00
25	131.00	RFS	3	28.179	30.997	0.60	0.80	11.55	225.72	0.000	0.000	572.84	0.00	0.00
26	131.00	Commscope LNX-6515DS	3	28.179	30.997	0.74	0.80	25.30	284.76	0.000	0.000	1254.65	0.00	0.00
27	131.00	RFS ATM1412D-1A20	3	28.179	30.997	0.58	0.80	2.05	46.80	0.000	0.000	101.66	0.00	0.00
28	131.00	Ericsson KRY 144/1	3	28.179	30.997	0.56	0.80	0.69	39.60	0.000	0.000	34.16	0.00	0.00
29	131.00	Kathrein 782 11056	3	28.179	30.997	0.61	0.80	1.20	39.60	0.000	0.000	59.70	0.00	0.00
30	131.00	T-Arms (Site Pro P/N	3	28.179	30.997	0.56	0.75	13.50	475.20	0.000	0.000	669.53	0.00	0.00
31	123.00	Low Profile Platform	1	27.807	30.588	1.00	1.00	22.00	1800.00	0.000	0.000	1076.70	0.00	0.00
32	123.00	RFS ACU-A20-N	4	27.807	30.588	0.63	0.80	0.35	4.80	0.000	0.000	17.32	0.00	0.00
33	123.00	Alcatel Lucent 800 MHz	6	27.807	30.588	0.74	0.80	11.00	381.60	0.000	0.000	538.15	0.00	0.00
34	123.00	Alcatel Lucent 1900 MHz	3	27.807	30.588	0.78	0.80	6.37	216.00	0.000	0.000	311.95	0.00	0.00
35	123.00	Alcatel Lucent	3	27.807	30.588	0.55	0.80	6.71	252.00	0.000	0.000	328.24	0.00	0.00
36	123.00	RFS APXVSP18-C-A20	3	27.807	30.588	0.72	0.80	17.44	284.40	0.000	0.000	853.47	0.00	0.00
37	123.00	RFS APXVTM14-C-I30	3	27.807	30.588	0.68	0.80	12.96	280.80	0.000	0.000	634.47	0.00	0.00

Totals: 11,171.64

16,858.61

Total Applied Force Summary

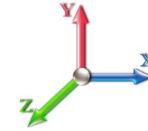
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



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		527.21	1482.37	0.00	0.00
10.00		517.20	1458.95	0.00	0.00
15.00		507.19	1435.52	0.00	0.00
20.00		527.53	1412.10	0.00	0.00
25.00		541.77	1388.67	0.00	0.00
30.00		551.40	1365.25	0.00	0.00
35.00		557.63	1341.82	0.00	0.00
40.00		561.24	1318.40	0.00	0.00
41.50		167.27	390.95	0.00	0.00
45.00		397.36	1638.37	0.00	0.00
48.00		340.27	1386.05	0.00	0.00
50.00		226.23	510.87	0.00	0.00
55.00		567.83	1260.78	0.00	0.00
60.00		564.94	1237.35	0.00	0.00
65.00		560.93	1213.93	0.00	0.00
70.00		555.92	1190.50	0.00	0.00
75.00		550.03	1167.08	0.00	0.00
80.00		543.33	1143.65	0.00	0.00
84.08		437.73	916.60	0.00	0.00
85.00		98.31	330.78	0.00	0.00
89.50		480.79	1603.29	0.00	0.00
90.00		52.76	92.91	0.00	0.00
95.00		525.48	918.82	0.00	0.00
100.00		516.28	900.08	0.00	0.00
105.00		506.55	881.34	0.00	0.00
110.00		496.33	862.60	0.00	0.00
115.00		485.65	843.86	0.00	0.00
120.00		474.53	825.12	0.00	0.00
123.00	(23) attachments	4039.02	3705.68	0.00	0.00
125.00		183.33	311.14	0.00	0.00
127.92		264.15	448.38	0.00	0.00
130.00		188.17	483.31	0.00	0.00
131.00	(18) attachments	2782.04	1341.65	0.00	0.00
132.08		96.41	235.48	0.00	0.00
135.00		257.04	328.86	0.00	0.00
140.00		431.37	552.64	0.00	0.00
141.00	(24) attachments	4875.26	3363.12	0.00	0.00
145.00		333.47	359.28	0.00	0.00
150.00	(38) attachments	6020.20	4022.53	0.00	-1030.47
	Totals:	32,310.12	45,670.07	0.00	-1,030.47

Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

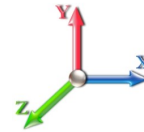


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Load Case: 1.2D + 1.6W 93 mph Wind

Iterations 23

Dead Load Factor 1.20
Wind Load Factor 1.60



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-45.62	-32.38	0.00	-3605.8	0.00	3605.82	3399.80	1699.90	8571.22	4291.98	0.00	0.000	0.000	0.854
5.00	-44.04	-31.99	0.00	-3443.9	0.00	3443.92	3376.67	1688.33	8351.12	4181.77	0.09	-0.175	0.000	0.837
10.00	-42.49	-31.59	0.00	-3283.9	0.00	3283.99	3351.94	1675.97	8129.40	4070.74	0.37	-0.351	0.000	0.820
15.00	-40.96	-31.20	0.00	-3126.0	0.00	3126.02	3325.63	1662.82	7906.28	3959.02	0.84	-0.529	0.000	0.802
20.00	-39.45	-30.79	0.00	-2970.0	0.00	2970.00	3297.74	1648.87	7681.99	3846.70	1.49	-0.709	0.000	0.784
25.00	-37.98	-30.35	0.00	-2816.0	0.00	2816.07	3268.26	1634.13	7456.75	3733.92	2.33	-0.891	0.000	0.766
30.00	-36.53	-29.89	0.00	-2664.3	0.00	2664.35	3237.20	1618.60	7230.79	3620.77	3.36	-1.074	0.000	0.747
35.00	-35.10	-29.42	0.00	-2514.9	0.00	2514.91	3204.54	1602.27	7004.35	3507.38	4.59	-1.258	0.000	0.728
40.00	-33.73	-28.90	0.00	-2367.8	0.00	2367.83	3170.31	1585.15	6777.64	3393.86	6.00	-1.443	0.000	0.709
41.50	-33.30	-28.77	0.00	-2324.4	0.00	2324.48	3159.73	1579.86	6709.61	3359.79	6.47	-1.500	0.000	0.703
45.00	-31.61	-28.40	0.00	-2223.7	0.00	2223.78	3134.49	1567.24	6550.90	3280.32	7.62	-1.632	0.000	0.688
48.00	-30.19	-28.07	0.00	-2138.5	0.00	2138.58	3132.30	1566.15	6537.37	3273.54	8.68	-1.745	0.000	0.663
50.00	-29.63	-27.89	0.00	-2082.4	0.00	2082.45	3117.49	1558.74	6446.72	3228.15	9.43	-1.822	0.000	0.655
55.00	-28.30	-27.37	0.00	-1942.9	0.00	1942.99	3079.35	1539.68	6220.34	3114.79	11.43	-2.002	0.000	0.633
60.00	-27.00	-26.85	0.00	-1806.1	0.00	1806.13	3039.63	1519.81	5994.49	3001.70	13.62	-2.182	0.000	0.611
65.00	-25.73	-26.32	0.00	-1671.9	0.00	1671.90	2998.32	1499.16	5769.39	2888.98	16.01	-2.361	0.000	0.588
70.00	-24.48	-25.79	0.00	-1540.3	0.00	1540.31	2955.43	1477.72	5545.28	2776.76	18.57	-2.539	0.000	0.563
75.00	-23.26	-25.26	0.00	-1411.3	0.00	1411.37	2910.95	1455.48	5322.38	2665.15	21.33	-2.716	0.000	0.538
80.00	-22.08	-24.72	0.00	-1285.0	0.00	1285.08	2864.89	1432.44	5100.92	2554.25	24.27	-2.890	0.000	0.511
84.08	-21.15	-24.27	0.00	-1184.1	0.00	1184.15	2826.09	1413.05	4921.28	2464.30	26.80	-3.031	0.000	0.488
85.00	-20.79	-24.18	0.00	-1161.9	0.00	1161.91	2817.24	1408.62	4881.12	2444.19	27.38	-3.063	0.000	0.483
89.50	-19.18	-23.64	0.00	-1053.0	0.00	1053.08	2031.94	1015.97	3485.43	1745.31	30.34	-3.214	0.000	0.613
90.00	-19.04	-23.62	0.00	-1041.2	0.00	1041.26	2029.15	1014.57	3470.92	1738.04	30.68	-3.231	0.000	0.609
95.00	-18.08	-23.10	0.00	-923.15	0.00	923.15	2000.34	1000.17	3325.82	1665.38	34.17	-3.425	0.000	0.564
100.00	-17.14	-22.59	0.00	-807.64	0.00	807.64	1969.95	984.97	3180.92	1592.82	37.86	-3.612	0.000	0.516
105.00	-16.23	-22.07	0.00	-694.70	0.00	694.70	1937.97	968.98	3036.44	1520.48	41.73	-3.788	0.000	0.466
110.00	-15.34	-21.56	0.00	-584.33	0.00	584.33	1904.40	952.20	2892.62	1448.46	45.79	-3.952	0.000	0.412
115.00	-14.48	-21.05	0.00	-476.52	0.00	476.52	1869.25	934.63	2749.69	1376.89	50.01	-4.102	0.000	0.354
120.00	-13.66	-20.54	0.00	-371.25	0.00	371.25	1832.52	916.26	2607.87	1305.87	54.37	-4.233	0.000	0.292
123.00	-10.25	-16.25	0.00	-309.62	0.00	309.62	1809.72	904.86	2523.40	1263.58	57.06	-4.303	0.000	0.251
125.00	-9.94	-16.05	0.00	-277.12	0.00	277.12	1794.20	897.10	2467.38	1235.52	58.87	-4.346	0.000	0.230
127.92	-9.50	-15.76	0.00	-230.30	0.00	230.30	1771.11	885.56	2386.14	1194.84	61.54	-4.402	0.000	0.198
130.00	-9.03	-15.54	0.00	-197.46	0.00	197.46	1754.29	877.15	2328.47	1165.96	63.47	-4.438	0.000	0.175
131.00	-7.90	-12.67	0.00	-181.91	0.00	181.91	1746.12	873.06	2300.89	1152.16	64.40	-4.454	0.000	0.163
132.08	-7.67	-12.56	0.00	-168.19	0.00	168.19	1160.48	580.24	1541.12	771.71	65.41	-4.470	0.000	0.225
135.00	-7.35	-12.28	0.00	-131.57	0.00	131.57	1148.82	574.41	1493.54	747.88	68.15	-4.509	0.000	0.183
140.00	-6.82	-11.81	0.00	-70.17	0.00	70.17	1127.58	563.79	1411.91	707.01	72.90	-4.569	0.000	0.106
141.00	-3.86	-6.68	0.00	-58.36	0.00	58.36	1123.15	561.57	1395.60	698.84	73.86	-4.578	0.000	0.087
145.00	-3.53	-6.32	0.00	-31.62	0.00	31.62	1104.76	552.38	1330.41	666.20	77.71	-4.603	0.000	0.051
150.00	0.00	-6.02	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	82.53	-4.615	0.000	0.000

Wind Loading - Shaft

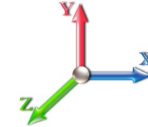
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



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		1.00	0.85	17.879	19.67	446.21	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	437.81	0.650	0.000	5.00	25.776	16.75	527.2	0.0	920.5
10.00		1.00	0.85	17.879	19.67	429.42	0.650	0.000	5.00	25.286	16.44	517.2	0.0	902.9
15.00		1.00	0.85	17.879	19.67	421.03	0.650	0.000	5.00	24.797	16.12	507.2	0.0	885.4
20.00		1.00	0.90	18.971	20.87	425.04	0.650	0.000	5.00	24.307	15.80	527.5	0.0	867.8
25.00		1.00	0.95	19.883	21.87	426.29	0.650	0.000	5.00	23.818	15.48	541.8	0.0	850.2
30.00		1.00	0.98	20.661	22.73	425.53	0.650	0.000	5.00	23.328	15.16	551.4	0.0	832.7
35.00		1.00	1.01	21.343	23.48	423.32	0.650	0.000	5.00	22.839	14.85	557.6	0.0	815.1
40.00		1.00	1.04	21.951	24.15	420.01	0.650	0.000	5.00	22.350	14.53	561.2	0.0	797.5
41.50	Bot - Section 2	1.00	1.05	22.122	24.33	418.84	0.650	0.000	1.50	6.609	4.30	167.3	0.0	235.8
45.00		1.00	1.07	22.502	24.75	415.84	0.650	0.000	3.50	15.436	10.03	397.4	0.0	1094.9
48.00	Top - Section 1	1.00	1.08	22.810	25.09	412.98	0.650	0.000	3.00	13.040	8.48	340.3	0.0	924.8
50.00		1.00	1.09	23.007	25.31	416.10	0.650	0.000	2.00	8.595	5.59	226.2	0.0	306.6
55.00		1.00	1.12	23.473	25.82	410.68	0.650	0.000	5.00	21.146	13.74	567.8	0.0	754.3
60.00		1.00	1.14	23.907	26.30	404.75	0.650	0.000	5.00	20.656	13.43	564.9	0.0	736.7
65.00		1.00	1.16	24.313	26.74	398.39	0.650	0.000	5.00	20.167	13.11	560.9	0.0	719.2
70.00		1.00	1.17	24.696	27.17	391.64	0.650	0.000	5.00	19.677	12.79	555.9	0.0	701.6
75.00		1.00	1.19	25.057	27.56	384.56	0.650	0.000	5.00	19.188	12.47	550.0	0.0	684.0
80.00		1.00	1.21	25.400	27.94	377.18	0.650	0.000	5.00	18.698	12.15	543.3	0.0	666.5
84.08	Bot - Section 3	1.00	1.22	25.667	28.23	370.95	0.650	0.000	4.08	14.907	9.69	437.7	0.0	531.2
85.00		1.00	1.22	25.726	28.30	369.53	0.650	0.000	0.92	3.340	2.17	98.3	0.0	213.0
89.50	Top - Section 2	1.00	1.24	26.007	28.61	362.43	0.650	0.000	4.50	16.160	10.50	480.8	0.0	1030.3
90.00		1.00	1.24	26.037	28.64	366.01	0.650	0.000	0.50	1.771	1.15	52.8	0.0	50.6
95.00		1.00	1.25	26.336	28.97	357.91	0.650	0.000	5.00	17.442	11.34	525.5	0.0	497.8
100.00		1.00	1.27	26.621	29.28	349.61	0.650	0.000	5.00	16.952	11.02	516.3	0.0	483.8
105.00		1.00	1.28	26.896	29.59	341.11	0.650	0.000	5.00	16.463	10.70	506.6	0.0	469.7
110.00		1.00	1.29	27.161	29.88	332.44	0.650	0.000	5.00	15.973	10.38	496.3	0.0	455.7
115.00		1.00	1.30	27.416	30.16	323.61	0.650	0.000	5.00	15.484	10.06	485.6	0.0	441.6
120.00		1.00	1.32	27.663	30.43	314.62	0.650	0.000	5.00	14.995	9.75	474.5	0.0	427.6
123.00	Appurtenance(s)	1.00	1.32	27.807	30.59	309.16	0.650	0.000	3.00	8.762	5.70	278.7	0.0	249.8
125.00		1.00	1.33	27.902	30.69	305.49	0.650	0.000	2.00	5.743	3.73	183.3	0.0	163.7
127.92	Bot - Section 4	1.00	1.33	28.038	30.84	300.10	0.650	0.000	2.92	8.235	5.35	264.1	0.0	234.7
130.00		1.00	1.34	28.133	30.95	296.23	0.650	0.000	2.08	5.846	3.80	188.2	0.0	289.9
131.00	Appurtenance(s)	1.00	1.34	28.179	31.00	294.36	0.650	0.000	1.00	2.776	1.80	89.5	0.0	137.7
132.08	Top - Section 3	1.00	1.34	28.228	31.05	292.33	0.650	0.000	1.08	2.985	1.94	96.4	0.0	148.0
135.00		1.00	1.35	28.358	31.19	290.26	0.650	0.000	2.92	7.923	5.15	257.0	0.0	169.7
140.00		1.00	1.36	28.576	31.43	280.76	0.650	0.000	5.00	13.195	8.58	431.4	0.0	282.5
141.00	Appurtenance(s)	1.00	1.36	28.619	31.48	278.85	0.650	0.000	1.00	2.580	1.68	84.5	0.0	55.2
145.00		1.00	1.37	28.788	31.67	271.15	0.650	0.000	4.00	10.126	6.58	333.5	0.0	216.7
150.00	Appurtenance(s)	1.00	1.38	28.994	31.89	261.43	0.650	0.000	5.00	12.217	7.94	405.2	0.0	261.4
Totals:								150.00			15,451.5	20,507.2		

Discrete Appurtenance Forces

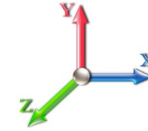
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	
1	150.00	CSS DBC-750-Combiners	3	28.994	31.893	0.60	0.90	0.92	12.96	0.000	0.000	47.08	0.00	0.00	
2	150.00	KMW	1	28.994	31.893	0.78	0.90	6.26	63.45	0.000	0.000	319.34	0.00	0.00	
3	150.00	Powerwave	2	28.994	31.893	0.79	0.90	18.10	158.94	0.000	0.000	923.64	0.00	0.00	
4	150.00	Kathrein 800 10121	3	28.994	31.893	0.81	0.90	12.57	168.48	0.000	0.000	641.44	0.00	0.00	
5	150.00	CCI	6	28.994	31.893	0.60	0.90	4.12	103.68	0.000	0.000	210.47	0.00	0.00	
6	150.00	Ericsson RRUS-11-RRUs	3	28.994	31.893	0.60	0.90	4.56	148.50	0.000	0.000	232.62	0.00	0.00	
7	150.00	Commscope	1	28.994	31.893	0.60	0.90	0.03	0.99	0.000	0.000	1.54	0.00	0.00	
8	150.00	CCI	6	28.994	31.893	0.60	0.90	1.56	17.82	0.000	0.000	79.39	0.00	0.00	
9	150.00	Low Profile Platform	1	28.953	31.848	1.00	1.00	22.00	1350.00	0.000	-1.000	1121.06	0.00	-1121.06	
10	150.00	Ericsson RRUS-32-RRHs	3	28.994	31.893	0.60	0.90	7.00	207.90	0.000	0.000	357.25	0.00	0.00	
11	150.00	Ericsson RRUS 32	3	28.994	31.893	0.60	0.90	4.96	143.10	0.000	0.000	252.93	0.00	0.00	
12	150.00	LMU	1	28.994	31.893	0.60	0.90	0.53	25.20	0.000	0.000	27.08	0.00	0.00	
13	150.00	Raycap	2	29.034	31.938	0.60	0.90	1.77	59.04	0.000	1.000	90.59	0.00	90.59	
14	150.00	CCI	2	28.994	31.893	0.71	0.90	19.10	135.00	0.000	0.000	974.52	0.00	0.00	
15	150.00	Quintel QS66512-3	1	28.994	31.893	0.81	0.90	6.59	94.50	0.000	0.000	336.04	0.00	0.00	
16	141.00	RFS DB-T1-6Z-8AB-0Z	1	28.619	31.480	0.77	0.80	3.15	19.26	0.000	0.000	158.60	0.00	0.00	
17	141.00	Low Profile Platform	1	28.619	31.480	0.80	0.80	17.60	1350.00	0.000	0.000	886.49	0.00	0.00	
18	141.00	RFS DB-T1-6Z-8AB-0Z	1	28.619	31.480	0.77	0.80	3.15	19.26	0.000	0.000	158.60	0.00	0.00	
19	141.00	Alcatel Lucent	3	28.619	31.480	0.40	0.80	4.20	162.00	0.000	0.000	211.55	0.00	0.00	
20	141.00	Alcatel Lucent	3	28.619	31.480	0.72	0.80	3.26	148.50	0.000	0.000	164.28	0.00	0.00	
21	141.00	Alcatel Lucent	3	28.619	31.480	0.40	0.80	4.20	162.00	0.000	0.000	211.55	0.00	0.00	
22	141.00	Antel	3	28.619	31.480	0.69	0.80	15.62	105.30	0.000	0.000	786.98	0.00	0.00	
23	141.00	Commscope	6	28.619	31.480	0.73	0.80	35.22	392.58	0.000	0.000	1773.77	0.00	0.00	
24	141.00	Antel	3	28.619	31.480	0.82	0.80	8.71	81.81	0.000	0.000	438.96	0.00	0.00	
25	131.00	RFS	3	28.179	30.997	0.60	0.80	11.55	169.29	0.000	0.000	572.84	0.00	0.00	
26	131.00	Commscope LNX-6515DS	3	28.179	30.997	0.74	0.80	25.30	213.57	0.000	0.000	1254.65	0.00	0.00	
27	131.00	RFS ATM1412D-1A20	3	28.179	30.997	0.58	0.80	2.05	35.10	0.000	0.000	101.66	0.00	0.00	
28	131.00	Ericsson KRY 144/1	3	28.179	30.997	0.56	0.80	0.69	29.70	0.000	0.000	34.16	0.00	0.00	
29	131.00	Kathrein 782 11056	3	28.179	30.997	0.61	0.80	1.20	29.70	0.000	0.000	59.70	0.00	0.00	
30	131.00	T-Arms (Site Pro P/N	3	28.179	30.997	0.56	0.75	13.50	356.40	0.000	0.000	669.53	0.00	0.00	
31	123.00	Low Profile Platform	1	27.807	30.588	1.00	1.00	22.00	1350.00	0.000	0.000	1076.70	0.00	0.00	
32	123.00	RFS ACU-A20-N	4	27.807	30.588	0.63	0.80	0.35	3.60	0.000	0.000	17.32	0.00	0.00	
33	123.00	Alcatel Lucent 800 MHz	6	27.807	30.588	0.74	0.80	11.00	286.20	0.000	0.000	538.15	0.00	0.00	
34	123.00	Alcatel Lucent 1900 MHz	3	27.807	30.588	0.78	0.80	6.37	162.00	0.000	0.000	311.95	0.00	0.00	
35	123.00	Alcatel Lucent	3	27.807	30.588	0.55	0.80	6.71	189.00	0.000	0.000	328.24	0.00	0.00	
36	123.00	RFS APXVSP18-C-A20	3	27.807	30.588	0.72	0.80	17.44	213.30	0.000	0.000	853.47	0.00	0.00	
37	123.00	RFS APXVTM14-C-I30	3	27.807	30.588	0.68	0.80	12.96	210.60	0.000	0.000	634.47	0.00	0.00	
Totals:									8,378.73						16,858.61

Total Applied Force Summary

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

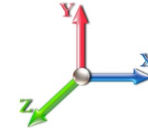


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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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		527.21	1111.78	0.00	0.00
10.00		517.20	1094.21	0.00	0.00
15.00		507.19	1076.64	0.00	0.00
20.00		527.53	1059.07	0.00	0.00
25.00		541.77	1041.50	0.00	0.00
30.00		551.40	1023.94	0.00	0.00
35.00		557.63	1006.37	0.00	0.00
40.00		561.24	988.80	0.00	0.00
41.50		167.27	293.21	0.00	0.00
45.00		397.36	1228.78	0.00	0.00
48.00		340.27	1039.54	0.00	0.00
50.00		226.23	383.15	0.00	0.00
55.00		567.83	945.58	0.00	0.00
60.00		564.94	928.01	0.00	0.00
65.00		560.93	910.44	0.00	0.00
70.00		555.92	892.88	0.00	0.00
75.00		550.03	875.31	0.00	0.00
80.00		543.33	857.74	0.00	0.00
84.08		437.73	687.45	0.00	0.00
85.00		98.31	248.09	0.00	0.00
89.50		480.79	1202.47	0.00	0.00
90.00		52.76	69.68	0.00	0.00
95.00		525.48	689.11	0.00	0.00
100.00		516.28	675.06	0.00	0.00
105.00		506.55	661.00	0.00	0.00
110.00		496.33	646.95	0.00	0.00
115.00		485.65	632.89	0.00	0.00
120.00		474.53	618.84	0.00	0.00
123.00	(23) attachments	4039.02	2779.26	0.00	0.00
125.00		183.33	233.36	0.00	0.00
127.92		264.15	336.28	0.00	0.00
130.00		188.17	362.48	0.00	0.00
131.00	(18) attachments	2782.04	1006.23	0.00	0.00
132.08		96.41	176.61	0.00	0.00
135.00		257.04	246.65	0.00	0.00
140.00		431.37	414.48	0.00	0.00
141.00	(24) attachments	4875.26	2522.34	0.00	0.00
145.00		333.47	269.46	0.00	0.00
150.00	(38) attachments	6020.20	3016.90	0.00	-1030.47
	Totals:	32,310.12	34,252.56	0.00	-1,030.47

Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

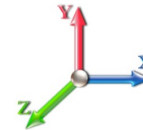


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Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 23

Dead Load Factor 0.90
Wind Load Factor 1.60



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-34.20	-32.36	0.00	-3572.3	0.00	3572.34	3399.80	1699.90	8571.22	4291.98	0.00	0.000	0.000	0.843
5.00	-32.99	-31.93	0.00	-3410.5	0.00	3410.53	3376.67	1688.33	8351.12	4181.77	0.09	-0.173	0.000	0.826
10.00	-31.81	-31.51	0.00	-3250.8	0.00	3250.86	3351.94	1675.97	8129.40	4070.74	0.37	-0.348	0.000	0.808
15.00	-30.64	-31.09	0.00	-3093.3	0.00	3093.32	3325.63	1662.82	7906.28	3959.02	0.83	-0.524	0.000	0.791
20.00	-29.49	-30.64	0.00	-2937.8	0.00	2937.88	3297.74	1648.87	7681.99	3846.70	1.47	-0.702	0.000	0.773
25.00	-28.36	-30.18	0.00	-2784.6	0.00	2784.67	3268.26	1634.13	7456.75	3733.92	2.31	-0.882	0.000	0.755
30.00	-27.25	-29.69	0.00	-2633.7	0.00	2633.79	3237.20	1618.60	7230.79	3620.77	3.33	-1.063	0.000	0.736
35.00	-26.16	-29.20	0.00	-2485.3	0.00	2485.33	3204.54	1602.27	7004.35	3507.38	4.54	-1.245	0.000	0.717
40.00	-25.13	-28.67	0.00	-2339.3	0.00	2339.33	3170.31	1585.15	6777.64	3393.86	5.94	-1.428	0.000	0.698
41.50	-24.79	-28.53	0.00	-2296.3	0.00	2296.33	3159.73	1579.86	6709.61	3359.79	6.40	-1.484	0.000	0.692
45.00	-23.52	-28.15	0.00	-2196.4	0.00	2196.47	3134.49	1567.24	6550.90	3280.32	7.54	-1.614	0.000	0.677
48.00	-22.44	-27.82	0.00	-2112.0	0.00	2112.02	3132.30	1566.15	6537.37	3273.54	8.59	-1.726	0.000	0.653
50.00	-22.00	-27.63	0.00	-2056.3	0.00	2056.38	3117.49	1558.74	6446.72	3228.15	9.33	-1.801	0.000	0.644
55.00	-20.99	-27.10	0.00	-1918.2	0.00	1918.23	3079.35	1539.68	6220.34	3114.79	11.31	-1.979	0.000	0.623
60.00	-20.01	-26.56	0.00	-1782.7	0.00	1782.76	3039.63	1519.81	5994.49	3001.70	13.48	-2.157	0.000	0.601
65.00	-19.04	-26.02	0.00	-1649.9	0.00	1649.96	2998.32	1499.16	5769.39	2888.98	15.83	-2.334	0.000	0.578
70.00	-18.09	-25.48	0.00	-1519.8	0.00	1519.85	2955.43	1477.72	5545.28	2776.76	18.37	-2.510	0.000	0.554
75.00	-17.17	-24.95	0.00	-1392.4	0.00	1392.43	2910.95	1455.48	5322.38	2665.15	21.09	-2.684	0.000	0.529
80.00	-16.27	-24.41	0.00	-1267.6	0.00	1267.69	2864.89	1432.44	5100.92	2554.25	24.00	-2.856	0.000	0.502
84.08	-15.57	-23.96	0.00	-1168.0	0.00	1168.03	2826.09	1413.05	4921.28	2464.30	26.50	-2.995	0.000	0.480
85.00	-15.29	-23.87	0.00	-1146.0	0.00	1146.07	2817.24	1408.62	4881.12	2444.19	27.08	-3.026	0.000	0.475
89.50	-14.08	-23.35	0.00	-1038.6	0.00	1038.65	2031.94	1015.97	3485.43	1745.31	30.00	-3.175	0.000	0.603
90.00	-13.97	-23.32	0.00	-1026.9	0.00	1026.98	2029.15	1014.57	3470.92	1738.04	30.34	-3.192	0.000	0.598
95.00	-13.24	-22.80	0.00	-910.40	0.00	910.40	2000.34	1000.17	3325.82	1665.38	33.78	-3.384	0.000	0.554
100.00	-12.53	-22.28	0.00	-796.43	0.00	796.43	1969.95	984.97	3180.92	1592.82	37.42	-3.568	0.000	0.507
105.00	-11.84	-21.77	0.00	-685.04	0.00	685.04	1937.97	968.98	3036.44	1520.48	41.25	-3.742	0.000	0.457
110.00	-11.17	-21.26	0.00	-576.21	0.00	576.21	1904.40	952.20	2892.62	1448.46	45.26	-3.904	0.000	0.404
115.00	-10.52	-20.75	0.00	-469.93	0.00	469.93	1869.25	934.63	2749.69	1376.89	49.43	-4.051	0.000	0.347
120.00	-9.90	-20.25	0.00	-366.16	0.00	366.16	1832.52	916.26	2607.87	1305.87	53.74	-4.181	0.000	0.286
123.00	-7.41	-16.03	0.00	-305.40	0.00	305.40	1809.72	904.86	2523.40	1263.58	56.39	-4.250	0.000	0.246
125.00	-7.18	-15.83	0.00	-273.34	0.00	273.34	1794.20	897.10	2467.38	1235.52	58.18	-4.292	0.000	0.226
127.92	-6.85	-15.55	0.00	-227.16	0.00	227.16	1771.11	885.56	2386.14	1194.84	60.81	-4.347	0.000	0.194
130.00	-6.50	-15.34	0.00	-194.77	0.00	194.77	1754.29	877.15	2328.47	1165.96	62.72	-4.382	0.000	0.171
131.00	-5.70	-12.49	0.00	-179.43	0.00	179.43	1746.12	873.06	2300.89	1152.16	63.64	-4.398	0.000	0.159
132.08	-5.53	-12.38	0.00	-165.90	0.00	165.90	1160.48	580.24	1541.12	771.71	64.64	-4.414	0.000	0.220
135.00	-5.29	-12.11	0.00	-129.78	0.00	129.78	1148.82	574.41	1493.54	747.88	67.34	-4.452	0.000	0.179
140.00	-4.91	-11.65	0.00	-69.23	0.00	69.23	1127.58	563.79	1411.91	707.01	72.04	-4.512	0.000	0.103
141.00	-2.77	-6.59	0.00	-57.58	0.00	57.58	1123.15	561.57	1395.60	698.84	72.98	-4.521	0.000	0.085
145.00	-2.53	-6.24	0.00	-31.20	0.00	31.20	1104.76	552.38	1330.41	666.20	76.78	-4.545	0.000	0.049
150.00	0.00	-6.02	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	81.54	-4.557	0.000	0.000

Wind Loading - Shaft

Structure: CT10022-A-SBA
Site Name: Simsbury 2, CT
Height: 150.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

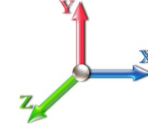
12/8/2016



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

Dead Load Factor 1.20
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		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.656	5.00	27.156	32.59	185.2	643.2	1870.5
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.775	5.00	26.765	32.12	182.6	677.8	1881.7
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.848	5.00	26.337	31.60	179.7	693.2	1873.7
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.902	5.00	25.893	31.07	187.4	700.3	1857.4
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.945	5.00	25.439	30.53	193.0	702.5	1836.2
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.981	5.00	24.979	29.98	196.9	701.5	1811.8
35.00		1.00	1.01	6.169	6.79	0.00	1.200	2.012	5.00	24.515	29.42	199.6	698.2	1785.0
40.00		1.00	1.04	6.345	6.98	0.00	1.200	2.039	5.00	24.049	28.86	201.4	693.2	1756.5
41.50	Bot - Section 2	1.00	1.05	6.394	7.03	0.00	1.200	2.046	1.50	7.121	8.55	60.1	207.4	521.9
45.00		1.00	1.07	6.504	7.15	0.00	1.200	2.063	3.50	16.639	19.97	142.9	486.4	1946.2
48.00	Top - Section 1	1.00	1.08	6.593	7.25	0.00	1.200	2.076	3.00	14.078	16.89	122.5	414.3	1647.3
50.00		1.00	1.09	6.650	7.32	0.00	1.200	2.085	2.00	9.290	11.15	81.6	274.9	683.8
55.00		1.00	1.12	6.785	7.46	0.00	1.200	2.105	5.00	22.900	27.48	205.1	678.9	1684.7
60.00		1.00	1.14	6.910	7.60	0.00	1.200	2.123	5.00	22.426	26.91	204.6	669.7	1652.0
65.00		1.00	1.16	7.028	7.73	0.00	1.200	2.140	5.00	21.950	26.34	203.6	659.8	1618.7
70.00		1.00	1.17	7.138	7.85	0.00	1.200	2.156	5.00	21.474	25.77	202.3	649.3	1584.8
75.00		1.00	1.19	7.243	7.97	0.00	1.200	2.171	5.00	20.997	25.20	200.7	638.3	1550.3
80.00		1.00	1.21	7.342	8.08	0.00	1.200	2.185	5.00	20.519	24.62	198.9	626.7	1515.4
84.08	Bot - Section 3	1.00	1.22	7.419	8.16	0.00	1.200	2.196	4.08	16.402	19.68	160.6	503.9	1212.2
85.00		1.00	1.22	7.436	8.18	0.00	1.200	2.198	0.92	3.676	4.41	36.1	114.0	398.0
89.50	Top - Section 2	1.00	1.24	7.517	8.27	0.00	1.200	2.210	4.50	17.817	21.38	176.8	549.6	1923.3
90.00		1.00	1.24	7.526	8.28	0.00	1.200	2.211	0.50	1.955	2.35	19.4	60.9	128.3
95.00		1.00	1.25	7.612	8.37	0.00	1.200	2.223	5.00	19.294	23.15	193.9	596.7	1260.5
100.00		1.00	1.27	7.695	8.46	0.00	1.200	2.234	5.00	18.814	22.58	191.1	583.8	1228.8
105.00		1.00	1.28	7.774	8.55	0.00	1.200	2.245	5.00	18.334	22.00	188.1	570.5	1196.8
110.00		1.00	1.29	7.851	8.64	0.00	1.200	2.256	5.00	17.853	21.42	185.0	557.0	1164.5
115.00		1.00	1.30	7.925	8.72	0.00	1.200	2.266	5.00	17.372	20.85	181.7	543.1	1132.0
120.00		1.00	1.32	7.996	8.80	0.00	1.200	2.276	5.00	16.891	20.27	178.3	529.1	1099.2
123.00	Appurtenance(s)	1.00	1.32	8.038	8.84	0.00	1.200	2.281	3.00	9.902	11.88	105.1	312.3	645.4
125.00		1.00	1.33	8.065	8.87	0.00	1.200	2.285	2.00	6.505	7.81	69.3	205.9	424.2
127.92	Bot - Section 4	1.00	1.33	8.104	8.91	0.00	1.200	2.290	2.92	9.349	11.22	100.0	295.4	608.4
130.00		1.00	1.34	8.132	8.95	0.00	1.200	2.294	2.08	6.643	7.97	71.3	210.7	597.3
131.00	Appurtenance(s)	1.00	1.34	8.145	8.96	0.00	1.200	2.296	1.00	3.159	3.79	34.0	100.6	284.1
132.08	Top - Section 3	1.00	1.34	8.159	8.98	0.00	1.200	2.298	1.08	3.400	4.08	36.6	108.3	305.6
135.00		1.00	1.35	8.197	9.02	0.00	1.200	2.303	2.92	9.043	10.85	97.8	286.5	512.7
140.00		1.00	1.36	8.260	9.09	0.00	1.200	2.311	5.00	15.121	18.15	164.9	476.2	852.9
141.00	Appurtenance(s)	1.00	1.36	8.272	9.10	0.00	1.200	2.313	1.00	2.966	3.56	32.4	94.7	168.3
145.00		1.00	1.37	8.321	9.15	0.00	1.200	2.319	4.00	11.672	14.01	128.2	369.0	657.9
150.00	Appurtenance(s)	1.00	1.38	8.381	9.22	0.00	1.200	2.327	5.00	14.156	16.99	156.6	446.0	794.6
Totals:								150.00				5,655.3	45,672.9	

Discrete Appurtenance Forces

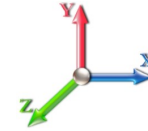
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	CSS DBC-750-Combiners	3	8.381	9.219	0.90	0.90	3.28	47.25	0.000	0.000	30.26	0.00	0.00
2	150.00	KMW	1	8.381	9.219	0.81	0.90	9.46	345.42	0.000	0.000	87.21	0.00	0.00
3	150.00	Powerwave	2	8.381	9.219	0.82	0.90	25.97	931.37	0.000	0.000	239.44	0.00	0.00
4	150.00	Kathrein 800 10121	3	8.381	9.219	0.83	0.90	19.86	758.34	0.000	0.000	183.05	0.00	0.00
5	150.00	CCI	6	8.381	9.219	0.63	0.90	8.19	298.60	0.000	0.000	75.48	0.00	0.00
6	150.00	Ericsson RRUS-11-RRUs	3	8.381	9.219	0.90	0.90	9.08	499.57	0.000	0.000	83.74	0.00	0.00
7	150.00	Commscope	1	8.381	9.219	0.90	0.90	0.28	3.59	0.000	0.000	2.54	0.00	0.00
8	150.00	CCI	6	8.381	9.219	0.68	0.90	4.54	80.05	0.000	0.000	41.89	0.00	0.00
9	150.00	Low Profile Platform	1	8.369	9.206	1.00	1.00	45.55	3245.22	0.000	-1.000	419.31	0.00	-419.31
10	150.00	Ericsson RRUS-32-RRHs	3	8.381	9.219	0.90	0.90	11.87	763.59	0.000	0.000	109.43	0.00	0.00
11	150.00	Ericsson RRUS 32	3	8.381	9.219	0.90	0.90	10.09	571.48	0.000	0.000	93.02	0.00	0.00
12	150.00	LMU	1	8.381	9.219	0.90	0.90	1.59	113.83	0.000	0.000	14.65	0.00	0.00
13	150.00	Raycap	2	8.392	9.232	0.90	0.90	4.33	215.37	0.000	1.000	39.93	0.00	39.93
14	150.00	CCI	2	8.381	9.219	0.76	0.90	27.83	1203.57	0.000	0.000	256.54	0.00	0.00
15	150.00	Quintel QS66512-3	1	8.381	9.219	0.86	0.90	8.55	446.90	0.000	0.000	78.86	0.00	0.00
16	141.00	RFS DB-T1-6Z-8AB-0Z	1	8.272	9.099	0.79	0.80	4.09	153.16	0.000	0.000	37.20	0.00	0.00
17	141.00	Low Profile Platform	1	8.272	9.099	0.80	0.80	36.32	3234.45	0.000	0.000	330.52	0.00	0.00
18	141.00	RFS DB-T1-6Z-8AB-0Z	1	8.272	9.099	0.79	0.80	4.09	153.16	0.000	0.000	37.20	0.00	0.00
19	141.00	Alcatel Lucent	3	8.272	9.099	0.63	0.80	8.62	502.70	0.000	0.000	78.43	0.00	0.00
20	141.00	Alcatel Lucent	3	8.272	9.099	0.72	0.80	6.61	560.31	0.000	0.000	60.18	0.00	0.00
21	141.00	Alcatel Lucent	3	8.272	9.099	0.63	0.80	8.62	502.70	0.000	0.000	78.43	0.00	0.00
22	141.00	Antel	3	8.272	9.099	0.71	0.80	19.80	881.58	0.000	0.000	180.15	0.00	0.00
23	141.00	Commscope	6	8.272	9.099	0.75	0.80	43.94	2223.73	0.000	0.000	399.85	0.00	0.00
24	141.00	Antel	3	8.272	9.099	0.83	0.80	14.95	900.92	0.000	0.000	136.03	0.00	0.00
25	131.00	RFS	3	8.145	8.960	0.62	0.80	17.35	801.01	0.000	0.000	155.40	0.00	0.00
26	131.00	Commscope LNX-6515DS	3	8.145	8.960	0.76	0.80	36.14	1495.87	0.000	0.000	323.79	0.00	0.00
27	131.00	RFS ATM1412D-1A20	3	8.145	8.960	0.61	0.80	4.01	128.89	0.000	0.000	35.94	0.00	0.00
28	131.00	Ericsson KRY 144/1	3	8.145	8.960	0.58	0.80	1.81	72.84	0.000	0.000	16.25	0.00	0.00
29	131.00	Kathrein 782 11056	3	8.145	8.960	0.63	0.80	2.77	88.04	0.000	0.000	24.84	0.00	0.00
30	131.00	T-Arms (Site Pro P/N	3	8.145	8.960	0.75	0.75	38.66	-25.17	0.000	0.000	346.39	0.00	0.00
31	123.00	Low Profile Platform	1	8.038	8.842	1.00	1.00	45.09	3210.92	0.000	0.000	398.63	0.00	0.00
32	123.00	RFS ACU-A20-N	4	8.038	8.842	0.66	0.80	1.39	22.06	0.000	0.000	12.25	0.00	0.00
33	123.00	Alcatel Lucent 800 MHz	6	8.038	8.842	0.76	0.80	18.17	835.05	0.000	0.000	160.67	0.00	0.00
34	123.00	Alcatel Lucent 1900 MHz	3	8.038	8.842	0.80	0.80	10.47	463.37	0.000	0.000	92.56	0.00	0.00
35	123.00	Alcatel Lucent	3	8.038	8.842	0.60	0.80	9.25	713.44	0.000	0.000	81.77	0.00	0.00
36	123.00	RFS APXVSP18-C-A20	3	8.038	8.842	0.67	0.80	23.31	1055.24	0.000	0.000	206.06	0.00	0.00
37	123.00	RFS APXVTM14-C-I30	3	8.038	8.842	0.70	0.80	16.51	949.42	0.000	0.000	145.93	0.00	0.00

Totals: 28,447.86

5,093.81

Total Applied Force Summary

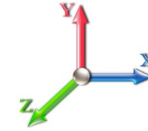
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
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		185.25	2125.54	0.00	0.00
10.00		182.59	2136.71	0.00	0.00
15.00		179.66	2128.77	0.00	0.00
20.00		187.41	2112.42	0.00	0.00
25.00		192.99	2091.21	0.00	0.00
30.00		196.92	2066.79	0.00	0.00
35.00		199.63	2040.06	0.00	0.00
40.00		201.42	2011.58	0.00	0.00
41.50		60.11	598.37	0.00	0.00
45.00		142.86	2124.75	0.00	0.00
48.00		122.52	1800.33	0.00	0.00
50.00		81.55	785.81	0.00	0.00
55.00		205.09	1939.72	0.00	0.00
60.00		204.56	1907.07	0.00	0.00
65.00		203.63	1873.74	0.00	0.00
70.00		202.34	1839.80	0.00	0.00
75.00		200.74	1805.33	0.00	0.00
80.00		198.86	1770.39	0.00	0.00
84.08		160.63	1420.50	0.00	0.00
85.00		36.09	444.76	0.00	0.00
89.50		176.80	2152.86	0.00	0.00
90.00		19.43	153.85	0.00	0.00
95.00		193.87	1515.56	0.00	0.00
100.00		191.10	1483.85	0.00	0.00
105.00		188.15	1451.84	0.00	0.00
110.00		185.02	1419.55	0.00	0.00
115.00		181.73	1387.00	0.00	0.00
120.00		178.28	1354.22	0.00	0.00
123.00	(23) attachments	1202.93	8047.93	0.00	0.00
125.00		69.25	517.08	0.00	0.00
127.92		100.01	743.78	0.00	0.00
130.00		71.31	694.04	0.00	0.00
131.00	(18) attachments	936.57	2892.03	0.00	0.00
132.08		36.62	343.74	0.00	0.00
135.00		97.84	615.33	0.00	0.00
140.00		164.87	1028.88	0.00	0.00
141.00	(24) attachments	1370.36	9316.21	0.00	0.00
145.00		128.20	728.26	0.00	0.00
150.00	(38) attachments	1911.96	10406.62	0.00	-379.38
	Totals:	10,749.13	81,276.26	0.00	-379.38

Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

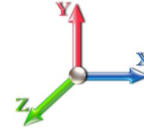


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 23

Dead Load Factor 1.20
Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-81.27	-10.79	0.00	-1224.0	0.00	1224.01	3399.80	1699.90	8571.22	4291.98	0.00	0.000	0.000	0.309
5.00	-79.13	-10.69	0.00	-1170.0	0.00	1170.05	3376.67	1688.33	8351.12	4181.77	0.03	-0.059	0.000	0.303
10.00	-76.99	-10.58	0.00	-1116.6	0.00	1116.61	3351.94	1675.97	8129.40	4070.74	0.13	-0.119	0.000	0.297
15.00	-74.85	-10.48	0.00	-1063.7	0.00	1063.70	3325.63	1662.82	7906.28	3959.02	0.28	-0.180	0.000	0.291
20.00	-72.72	-10.36	0.00	-1011.3	0.00	1011.31	3297.74	1648.87	7681.99	3846.70	0.51	-0.241	0.000	0.285
25.00	-70.62	-10.23	0.00	-959.51	0.00	959.51	3268.26	1634.13	7456.75	3733.92	0.79	-0.303	0.000	0.279
30.00	-68.55	-10.10	0.00	-908.34	0.00	908.34	3237.20	1618.60	7230.79	3620.77	1.14	-0.365	0.000	0.272
35.00	-66.50	-9.96	0.00	-857.84	0.00	857.84	3204.54	1602.27	7004.35	3507.38	1.56	-0.428	0.000	0.265
40.00	-64.48	-9.79	0.00	-808.04	0.00	808.04	3170.31	1585.15	6777.64	3393.86	2.04	-0.491	0.000	0.258
41.50	-63.88	-9.76	0.00	-793.36	0.00	793.36	3159.73	1579.86	6709.61	3359.79	2.20	-0.511	0.000	0.256
45.00	-61.75	-9.64	0.00	-759.21	0.00	759.21	3134.49	1567.24	6550.90	3280.32	2.59	-0.556	0.000	0.251
48.00	-59.94	-9.53	0.00	-730.29	0.00	730.29	3132.30	1566.15	6537.37	3273.54	2.95	-0.595	0.000	0.242
50.00	-59.15	-9.49	0.00	-711.22	0.00	711.22	3117.49	1558.74	6446.72	3228.15	3.21	-0.621	0.000	0.239
55.00	-57.20	-9.32	0.00	-663.77	0.00	663.77	3079.35	1539.68	6220.34	3114.79	3.89	-0.682	0.000	0.232
60.00	-55.29	-9.16	0.00	-617.15	0.00	617.15	3039.63	1519.81	5994.49	3001.70	4.64	-0.744	0.000	0.224
65.00	-53.41	-8.98	0.00	-571.38	0.00	571.38	2998.32	1499.16	5769.39	2888.98	5.45	-0.805	0.000	0.216
70.00	-51.56	-8.81	0.00	-526.46	0.00	526.46	2955.43	1477.72	5545.28	2776.76	6.33	-0.866	0.000	0.207
75.00	-49.75	-8.63	0.00	-482.42	0.00	482.42	2910.95	1455.48	5322.38	2665.15	7.27	-0.926	0.000	0.198
80.00	-47.98	-8.45	0.00	-439.26	0.00	439.26	2864.89	1432.44	5100.92	2554.25	8.27	-0.986	0.000	0.189
84.08	-46.55	-8.29	0.00	-404.77	0.00	404.77	2826.09	1413.05	4921.28	2464.30	9.13	-1.034	0.000	0.181
85.00	-46.11	-8.27	0.00	-397.17	0.00	397.17	2817.24	1408.62	4881.12	2444.19	9.33	-1.045	0.000	0.179
89.50	-43.95	-8.07	0.00	-359.97	0.00	359.97	2031.94	1015.97	3485.43	1745.31	10.34	-1.096	0.000	0.228
90.00	-43.79	-8.08	0.00	-355.93	0.00	355.93	2029.15	1014.57	3470.92	1738.04	10.46	-1.102	0.000	0.226
95.00	-42.27	-7.90	0.00	-315.54	0.00	315.54	2000.34	1000.17	3325.82	1665.38	11.65	-1.169	0.000	0.211
100.00	-40.79	-7.72	0.00	-276.03	0.00	276.03	1969.95	984.97	3180.92	1592.82	12.91	-1.232	0.000	0.194
105.00	-39.33	-7.54	0.00	-237.41	0.00	237.41	1937.97	968.98	3036.44	1520.48	14.23	-1.293	0.000	0.176
110.00	-37.91	-7.36	0.00	-199.69	0.00	199.69	1904.40	952.20	2892.62	1448.46	15.61	-1.349	0.000	0.158
115.00	-36.52	-7.18	0.00	-162.88	0.00	162.88	1869.25	934.63	2749.69	1376.89	17.06	-1.400	0.000	0.138
120.00	-35.17	-6.99	0.00	-126.99	0.00	126.99	1832.52	916.26	2607.87	1305.87	18.55	-1.445	0.000	0.116
123.00	-27.15	-5.59	0.00	-106.03	0.00	106.03	1809.72	904.86	2523.40	1263.58	19.46	-1.469	0.000	0.099
125.00	-26.63	-5.51	0.00	-94.85	0.00	94.85	1794.20	897.10	2467.38	1235.52	20.08	-1.483	0.000	0.092
127.92	-25.89	-5.40	0.00	-78.77	0.00	78.77	1771.11	885.56	2386.14	1194.84	20.99	-1.502	0.000	0.081
130.00	-25.20	-5.32	0.00	-67.52	0.00	67.52	1754.29	877.15	2328.47	1165.96	21.65	-1.515	0.000	0.072
131.00	-22.33	-4.31	0.00	-62.20	0.00	62.20	1746.12	873.06	2300.89	1152.16	21.97	-1.520	0.000	0.067
132.08	-21.99	-4.26	0.00	-57.54	0.00	57.54	1160.48	580.24	1541.12	771.71	22.32	-1.526	0.000	0.094
135.00	-21.38	-4.16	0.00	-45.11	0.00	45.11	1148.82	574.41	1493.54	747.88	23.25	-1.539	0.000	0.079
140.00	-20.35	-3.97	0.00	-24.33	0.00	24.33	1127.58	563.79	1411.91	707.01	24.88	-1.560	0.000	0.053
141.00	-11.07	-2.34	0.00	-20.36	0.00	20.36	1123.15	561.57	1395.60	698.84	25.20	-1.563	0.000	0.039
145.00	-10.35	-2.20	0.00	-10.99	0.00	10.99	1104.76	552.38	1330.41	666.20	26.52	-1.571	0.000	0.026
150.00	0.00	-1.91	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	28.17	-1.576	0.000	0.000

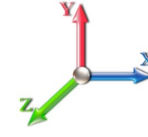
Seismic Segment Forces (Factored)

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E				Iterations 21
Gust Response Factor	1.10	Sds	0.19	Ss 0.18
Dead Load Factor	1.20	Seismic Load Factor	1.00	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.39	SA 0.04
				Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1022.7	0.00	0.03	0.02	17.20	
10.00		1003.2	0.01	0.05	0.03	24.86	
15.00		983.74	0.02	0.06	0.04	28.33	
20.00		964.22	0.03	0.07	0.04	29.80	
25.00		944.70	0.05	0.07	0.04	30.36	
30.00		925.18	0.08	0.07	0.04	30.58	
35.00		905.65	0.10	0.07	0.04	30.69	
40.00		886.13	0.13	0.07	0.03	30.73	
41.50	Bot - Section 2	262.03	0.14	0.07	0.03	9.14	
45.00		1216.5	0.17	0.07	0.03	42.86	
48.00	Top - Section 1	1027.5	0.19	0.06	0.02	36.29	
50.00		340.71	0.21	0.06	0.02	12.00	
55.00		838.12	0.25	0.05	0.02	28.58	
60.00		818.60	0.30	0.04	0.01	25.63	
65.00		799.08	0.35	0.03	0.01	20.95	
70.00		779.55	0.41	0.01	0.01	14.36	
75.00		760.03	0.47	-0.01	0.01	6.16	
80.00		740.51	0.54	-0.03	0.01	-2.79	
84.08	Bot - Section 3	590.27	0.59	-0.05	0.01	-7.89	
85.00		236.69	0.61	-0.06	0.02	-3.64	
89.50	Top - Section 2	1144.8	0.67	-0.08	0.02	-27.52	
90.00		56.17	0.68	-0.08	0.03	-1.39	
95.00		553.15	0.76	-0.10	0.04	-16.87	
100.00		537.54	0.84	-0.12	0.07	-16.93	
105.00		521.92	0.93	-0.12	0.10	-14.34	
110.00		506.30	1.02	-0.11	0.14	-9.28	
115.00		490.69	1.11	-0.06	0.19	-2.01	
120.00		475.07	1.21	0.01	0.26	7.24	
123.00	Appurtenance(s)	2960.5	1.27	0.08	0.31	86.74	
125.00		181.91	1.31	0.14	0.35	7.22	
127.92	Bot - Section 4	260.80	1.37	0.24	0.41	14.69	
130.00		322.15	1.42	0.32	0.45	22.33	
131.00	Appurtenance(s)	1079.3	1.44	0.37	0.48	81.87	
132.08	Top - Section 3	164.46	1.47	0.42	0.50	13.68	
135.00		188.51	1.53	0.58	0.58	19.64	
140.00		313.88	1.65	0.93	0.73	45.31	
141.00	Appurtenance(s)	2773.2	1.67	1.01	0.77	424.47	
145.00		240.80	1.77	1.39	0.92	45.76	
150.00	Appurtenance(s)	3278.8	1.89	1.98	1.14	791.02	
Totals:		32,095.5				1,875.8	Total Wind: 32,310.1

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

Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E							Iterations 21
Gust Response Factor	1.10			Sds	0.19		Ss 0.18
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10		S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.39	SA	0.04	Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-45.67	-1.98	0.00	-249.38	0.00	249.38	3399.80	1699.90	8571.22	4291.98	0.00	0.00	0.00	0.072
5.00	-44.19	-1.97	0.00	-239.47	0.00	239.47	3376.67	1688.33	8351.12	4181.77	0.01	-0.01	0.070	
10.00	-42.73	-1.96	0.00	-229.60	0.00	229.60	3351.94	1675.97	8129.40	4070.74	0.03	-0.02	0.069	
15.00	-41.29	-1.94	0.00	-219.80	0.00	219.80	3325.63	1662.82	7906.28	3959.02	0.06	-0.04	0.068	
20.00	-39.88	-1.92	0.00	-210.11	0.00	210.11	3297.74	1648.87	7681.99	3846.70	0.10	-0.05	0.067	
25.00	-38.49	-1.89	0.00	-200.53	0.00	200.53	3268.26	1634.13	7456.75	3733.92	0.16	-0.06	0.065	
30.00	-37.12	-1.87	0.00	-191.06	0.00	191.06	3237.20	1618.60	7230.79	3620.77	0.23	-0.08	0.064	
35.00	-35.78	-1.85	0.00	-181.71	0.00	181.71	3204.54	1602.27	7004.35	3507.38	0.32	-0.09	0.063	
40.00	-34.46	-1.82	0.00	-172.48	0.00	172.48	3170.31	1585.15	6777.64	3393.86	0.42	-0.10	0.062	
41.50	-34.07	-1.81	0.00	-169.75	0.00	169.75	3159.73	1579.86	6709.61	3359.79	0.45	-0.11	0.061	
45.00	-32.43	-1.77	0.00	-163.41	0.00	163.41	3134.49	1567.24	6550.90	3280.32	0.54	-0.12	0.060	
48.00	-31.05	-1.74	0.00	-158.10	0.00	158.10	3132.30	1566.15	6537.37	3273.54	0.61	-0.12	0.058	
50.00	-30.54	-1.73	0.00	-154.62	0.00	154.62	3117.49	1558.74	6446.72	3228.15	0.66	-0.13	0.058	
55.00	-29.28	-1.70	0.00	-145.98	0.00	145.98	3079.35	1539.68	6220.34	3114.79	0.81	-0.14	0.056	
60.00	-28.04	-1.68	0.00	-137.47	0.00	137.47	3039.63	1519.81	5994.49	3001.70	0.97	-0.16	0.055	
65.00	-26.82	-1.66	0.00	-129.06	0.00	129.06	2998.32	1499.16	5769.39	2888.98	1.14	-0.17	0.054	
70.00	-25.63	-1.65	0.00	-120.75	0.00	120.75	2955.43	1477.72	5545.28	2776.76	1.32	-0.18	0.052	
75.00	-24.47	-1.65	0.00	-112.49	0.00	112.49	2910.95	1455.48	5322.38	2665.15	1.53	-0.20	0.051	
80.00	-23.32	-1.65	0.00	-104.25	0.00	104.25	2864.89	1432.44	5100.92	2554.25	1.74	-0.21	0.049	
84.08	-22.40	-1.65	0.00	-97.52	0.00	97.52	2826.09	1413.05	4921.28	2464.30	1.93	-0.22	0.048	
85.00	-22.07	-1.65	0.00	-96.01	0.00	96.01	2817.24	1408.62	4881.12	2444.19	1.97	-0.23	0.047	
89.50	-20.47	-1.65	0.00	-88.59	0.00	88.59	2031.94	1015.97	3485.43	1745.31	2.19	-0.24	0.061	
90.00	-20.38	-1.65	0.00	-87.77	0.00	87.77	2029.15	1014.57	3470.92	1738.04	2.22	-0.24	0.061	
95.00	-19.46	-1.65	0.00	-79.53	0.00	79.53	2000.34	1000.17	3325.82	1665.38	2.48	-0.26	0.057	
100.00	-18.56	-1.65	0.00	-71.28	0.00	71.28	1969.95	984.97	3180.92	1592.82	2.76	-0.27	0.054	
105.00	-17.68	-1.65	0.00	-63.03	0.00	63.03	1937.97	968.98	3036.44	1520.48	3.05	-0.29	0.051	
110.00	-16.81	-1.65	0.00	-54.77	0.00	54.77	1904.40	952.20	2892.62	1448.46	3.36	-0.30	0.047	
115.00	-15.97	-1.65	0.00	-46.52	0.00	46.52	1869.25	934.63	2749.69	1376.89	3.69	-0.32	0.042	
120.00	-15.14	-1.64	0.00	-38.26	0.00	38.26	1832.52	916.26	2607.87	1305.87	4.03	-0.33	0.038	
123.00	-11.44	-1.53	0.00	-33.34	0.00	33.34	1809.72	904.86	2523.40	1263.58	4.24	-0.34	0.033	
125.00	-11.13	-1.53	0.00	-30.27	0.00	30.27	1794.20	897.10	2467.38	1235.52	4.38	-0.34	0.031	
127.92	-10.68	-1.51	0.00	-25.82	0.00	25.82	1771.11	885.56	2386.14	1194.84	4.60	-0.35	0.028	
130.00	-10.19	-1.48	0.00	-22.68	0.00	22.68	1754.29	877.15	2328.47	1165.96	4.75	-0.35	0.025	
131.00	-8.85	-1.39	0.00	-21.19	0.00	21.19	1746.12	873.06	2300.89	1152.16	4.83	-0.36	0.023	
132.08	-8.62	-1.38	0.00	-19.68	0.00	19.68	1160.48	580.24	1541.12	771.71	4.91	-0.36	0.033	
135.00	-8.29	-1.36	0.00	-15.66	0.00	15.66	1148.82	574.41	1493.54	747.88	5.13	-0.36	0.028	
140.00	-7.74	-1.31	0.00	-8.86	0.00	8.86	1127.58	563.79	1411.91	707.01	5.51	-0.37	0.019	
141.00	-4.38	-0.87	0.00	-7.55	0.00	7.55	1123.15	561.57	1395.60	698.84	5.59	-0.37	0.015	
145.00	-4.02	-0.82	0.00	-4.09	0.00	4.09	1104.76	552.38	1330.41	666.20	5.90	-0.37	0.010	
150.00	0.00	-0.79	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	6.29	-0.38	0.000	

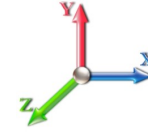
Seismic Segment Forces (Factored)

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E					Iterations 21
Gust Response Factor	1.10	Sds	0.19		Ss 0.18
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1 0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.39	SA 0.04	Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1022.7	0.00	0.03	0.02	17.20	
10.00		1003.2	0.01	0.05	0.03	24.86	
15.00		983.74	0.02	0.06	0.04	28.33	
20.00		964.22	0.03	0.07	0.04	29.80	
25.00		944.70	0.05	0.07	0.04	30.36	
30.00		925.18	0.08	0.07	0.04	30.58	
35.00		905.65	0.10	0.07	0.04	30.69	
40.00		886.13	0.13	0.07	0.03	30.73	
41.50	Bot - Section 2	262.03	0.14	0.07	0.03	9.14	
45.00		1216.5	0.17	0.07	0.03	42.86	
48.00	Top - Section 1	1027.5	0.19	0.06	0.02	36.29	
50.00		340.71	0.21	0.06	0.02	12.00	
55.00		838.12	0.25	0.05	0.02	28.58	
60.00		818.60	0.30	0.04	0.01	25.63	
65.00		799.08	0.35	0.03	0.01	20.95	
70.00		779.55	0.41	0.01	0.01	14.36	
75.00		760.03	0.47	-0.01	0.01	6.16	
80.00		740.51	0.54	-0.03	0.01	-2.79	
84.08	Bot - Section 3	590.27	0.59	-0.05	0.01	-7.89	
85.00		236.69	0.61	-0.06	0.02	-3.64	
89.50	Top - Section 2	1144.8	0.67	-0.08	0.02	-27.52	
90.00		56.17	0.68	-0.08	0.03	-1.39	
95.00		553.15	0.76	-0.10	0.04	-16.87	
100.00		537.54	0.84	-0.12	0.07	-16.93	
105.00		521.92	0.93	-0.12	0.10	-14.34	
110.00		506.30	1.02	-0.11	0.14	-9.28	
115.00		490.69	1.11	-0.06	0.19	-2.01	
120.00		475.07	1.21	0.01	0.26	7.24	
123.00	Appurtenance(s)	2960.5	1.27	0.08	0.31	86.74	
125.00		181.91	1.31	0.14	0.35	7.22	
127.92	Bot - Section 4	260.80	1.37	0.24	0.41	14.69	
130.00		322.15	1.42	0.32	0.45	22.33	
131.00	Appurtenance(s)	1079.3	1.44	0.37	0.48	81.87	
132.08	Top - Section 3	164.46	1.47	0.42	0.50	13.68	
135.00		188.51	1.53	0.58	0.58	19.64	
140.00		313.88	1.65	0.93	0.73	45.31	
141.00	Appurtenance(s)	2773.2	1.67	1.01	0.77	424.47	
145.00		240.80	1.77	1.39	0.92	45.76	
150.00	Appurtenance(s)	3278.8	1.89	1.98	1.14	791.02	
Totals:		32,095.5				1,875.8	Total Wind: 32,310.1

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

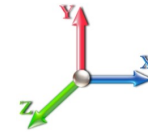
Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E						Iterations 21
Gust Response Factor	1.10		Sds	0.19		Ss 0.18
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.39	SA	0.04	Seismic Importance Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-34.25	-1.98	0.00	-246.89	0.00	246.89	3399.80	1699.90	8571.22	4291.98	0.00	0.00	0.00	0.068
5.00	-33.14	-1.97	0.00	-236.98	0.00	236.98	3376.67	1688.33	8351.12	4181.77	0.01	-0.01	0.066	
10.00	-32.05	-1.95	0.00	-227.13	0.00	227.13	3351.94	1675.97	8129.40	4070.74	0.03	-0.02	0.065	
15.00	-30.97	-1.93	0.00	-217.36	0.00	217.36	3325.63	1662.82	7906.28	3959.02	0.06	-0.04	0.064	
20.00	-29.91	-1.91	0.00	-207.71	0.00	207.71	3297.74	1648.87	7681.99	3846.70	0.10	-0.05	0.063	
25.00	-28.87	-1.88	0.00	-198.18	0.00	198.18	3268.26	1634.13	7456.75	3733.92	0.16	-0.06	0.062	
30.00	-27.84	-1.86	0.00	-188.77	0.00	188.77	3237.20	1618.60	7230.79	3620.77	0.23	-0.07	0.061	
35.00	-26.84	-1.83	0.00	-179.49	0.00	179.49	3204.54	1602.27	7004.35	3507.38	0.32	-0.09	0.060	
40.00	-25.85	-1.80	0.00	-170.33	0.00	170.33	3170.31	1585.15	6777.64	3393.86	0.42	-0.10	0.058	
41.50	-25.55	-1.80	0.00	-167.63	0.00	167.63	3159.73	1579.86	6709.61	3359.79	0.45	-0.11	0.058	
45.00	-24.32	-1.75	0.00	-161.35	0.00	161.35	3134.49	1567.24	6550.90	3280.32	0.53	-0.11	0.057	
48.00	-23.28	-1.72	0.00	-156.09	0.00	156.09	3132.30	1566.15	6537.37	3273.54	0.60	-0.12	0.055	
50.00	-22.90	-1.71	0.00	-152.65	0.00	152.65	3117.49	1558.74	6446.72	3228.15	0.66	-0.13	0.055	
55.00	-21.96	-1.68	0.00	-144.11	0.00	144.11	3079.35	1539.68	6220.34	3114.79	0.80	-0.14	0.053	
60.00	-21.03	-1.66	0.00	-135.69	0.00	135.69	3039.63	1519.81	5994.49	3001.70	0.96	-0.16	0.052	
65.00	-20.12	-1.64	0.00	-127.39	0.00	127.39	2998.32	1499.16	5769.39	2888.98	1.13	-0.17	0.051	
70.00	-19.22	-1.63	0.00	-119.18	0.00	119.18	2955.43	1477.72	5545.28	2776.76	1.31	-0.18	0.049	
75.00	-18.35	-1.62	0.00	-111.03	0.00	111.03	2910.95	1455.48	5322.38	2665.15	1.51	-0.20	0.048	
80.00	-17.49	-1.63	0.00	-102.91	0.00	102.91	2864.89	1432.44	5100.92	2554.25	1.72	-0.21	0.046	
84.08	-16.80	-1.62	0.00	-96.27	0.00	96.27	2826.09	1413.05	4921.28	2464.30	1.91	-0.22	0.045	
85.00	-16.55	-1.63	0.00	-94.78	0.00	94.78	2817.24	1408.62	4881.12	2444.19	1.95	-0.22	0.045	
89.50	-15.35	-1.62	0.00	-87.47	0.00	87.47	2031.94	1015.97	3485.43	1745.31	2.17	-0.24	0.058	
90.00	-15.28	-1.63	0.00	-86.66	0.00	86.66	2029.15	1014.57	3470.92	1738.04	2.19	-0.24	0.057	
95.00	-14.59	-1.63	0.00	-78.53	0.00	78.53	2000.34	1000.17	3325.82	1665.38	2.45	-0.25	0.054	
100.00	-13.92	-1.63	0.00	-70.40	0.00	70.40	1969.95	984.97	3180.92	1592.82	2.72	-0.27	0.051	
105.00	-13.25	-1.63	0.00	-62.26	0.00	62.26	1937.97	968.98	3036.44	1520.48	3.01	-0.29	0.048	
110.00	-12.61	-1.63	0.00	-54.13	0.00	54.13	1904.40	952.20	2892.62	1448.46	3.32	-0.30	0.044	
115.00	-11.97	-1.63	0.00	-45.99	0.00	45.99	1869.25	934.63	2749.69	1376.89	3.65	-0.31	0.040	
120.00	-11.35	-1.62	0.00	-37.85	0.00	37.85	1832.52	916.26	2607.87	1305.87	3.98	-0.33	0.035	
123.00	-8.58	-1.52	0.00	-33.00	0.00	33.00	1809.72	904.86	2523.40	1263.58	4.19	-0.34	0.031	
125.00	-8.34	-1.51	0.00	-29.97	0.00	29.97	1794.20	897.10	2467.38	1235.52	4.33	-0.34	0.029	
127.92	-8.01	-1.49	0.00	-25.57	0.00	25.57	1771.11	885.56	2386.14	1194.84	4.54	-0.35	0.026	
130.00	-7.64	-1.47	0.00	-22.46	0.00	22.46	1754.29	877.15	2328.47	1165.96	4.69	-0.35	0.024	
131.00	-6.64	-1.38	0.00	-20.99	0.00	20.99	1746.12	873.06	2300.89	1152.16	4.77	-0.35	0.022	
132.08	-6.46	-1.37	0.00	-19.50	0.00	19.50	1160.48	580.24	1541.12	771.71	4.85	-0.35	0.031	
135.00	-6.21	-1.35	0.00	-15.51	0.00	15.51	1148.82	574.41	1493.54	747.88	5.07	-0.36	0.026	
140.00	-5.80	-1.30	0.00	-8.78	0.00	8.78	1127.58	563.79	1411.91	707.01	5.44	-0.37	0.018	
141.00	-3.28	-0.86	0.00	-7.48	0.00	7.48	1123.15	561.57	1395.60	698.84	5.52	-0.37	0.014	
145.00	-3.01	-0.81	0.00	-4.05	0.00	4.05	1104.76	552.38	1330.41	666.20	5.83	-0.37	0.009	
150.00	0.00	-0.79	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	6.22	-0.37	0.000	

Wind Loading - Shaft

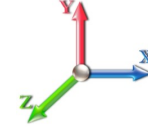
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	287.87	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	282.46	0.650	0.000	5.00	25.776	16.75	137.2	0.0	1022.8
10.00		1.00	0.85	7.442	8.19	277.04	0.650	0.000	5.00	25.286	16.44	134.5	0.0	1003.3
15.00		1.00	0.85	7.442	8.19	271.63	0.650	0.000	5.00	24.797	16.12	131.9	0.0	983.7
20.00		1.00	0.90	7.896	8.69	274.22	0.650	0.000	5.00	24.307	15.80	137.2	0.0	964.2
25.00		1.00	0.95	8.276	9.10	275.03	0.650	0.000	5.00	23.818	15.48	140.9	0.0	944.7
30.00		1.00	0.98	8.600	9.46	274.54	0.650	0.000	5.00	23.328	15.16	143.4	0.0	925.2
35.00		1.00	1.01	8.883	9.77	273.11	0.650	0.000	5.00	22.839	14.85	145.1	0.0	905.7
40.00		1.00	1.04	9.137	10.05	270.98	0.650	0.000	5.00	22.350	14.53	146.0	0.0	886.1
41.50	Bot - Section 2	1.00	1.05	9.208	10.13	270.22	0.650	0.000	1.50	6.609	4.30	43.5	0.0	262.0
45.00		1.00	1.07	9.366	10.30	268.28	0.650	0.000	3.50	15.436	10.03	103.4	0.0	1216.5
48.00	Top - Section 1	1.00	1.08	9.494	10.44	266.44	0.650	0.000	3.00	13.040	8.48	88.5	0.0	1027.5
50.00		1.00	1.09	9.576	10.53	268.45	0.650	0.000	2.00	8.595	5.59	58.9	0.0	340.7
55.00		1.00	1.12	9.770	10.75	264.95	0.650	0.000	5.00	21.146	13.74	147.7	0.0	838.1
60.00		1.00	1.14	9.951	10.95	261.13	0.650	0.000	5.00	20.656	13.43	147.0	0.0	818.6
65.00		1.00	1.16	10.120	11.13	257.02	0.650	0.000	5.00	20.167	13.11	145.9	0.0	799.1
70.00		1.00	1.17	10.279	11.31	252.67	0.650	0.000	5.00	19.677	12.79	144.6	0.0	779.6
75.00		1.00	1.19	10.430	11.47	248.10	0.650	0.000	5.00	19.188	12.47	143.1	0.0	760.0
80.00		1.00	1.21	10.572	11.63	243.34	0.650	0.000	5.00	18.698	12.15	141.3	0.0	740.5
84.08	Bot - Section 3	1.00	1.22	10.684	11.75	239.32	0.650	0.000	4.08	14.907	9.69	113.9	0.0	590.3
85.00		1.00	1.22	10.708	11.78	238.40	0.650	0.000	0.92	3.340	2.17	25.6	0.0	236.7
89.50	Top - Section 2	1.00	1.24	10.825	11.91	233.82	0.650	0.000	4.50	16.160	10.50	125.1	0.0	1144.8
90.00		1.00	1.24	10.838	11.92	236.13	0.650	0.000	0.50	1.771	1.15	13.7	0.0	56.2
95.00		1.00	1.25	10.962	12.06	230.91	0.650	0.000	5.00	17.442	11.34	136.7	0.0	553.2
100.00		1.00	1.27	11.081	12.19	225.55	0.650	0.000	5.00	16.952	11.02	134.3	0.0	537.5
105.00		1.00	1.28	11.195	12.31	220.07	0.650	0.000	5.00	16.463	10.70	131.8	0.0	521.9
110.00		1.00	1.29	11.305	12.44	214.48	0.650	0.000	5.00	15.973	10.38	129.1	0.0	506.3
115.00		1.00	1.30	11.412	12.55	208.78	0.650	0.000	5.00	15.484	10.06	126.3	0.0	490.7
120.00		1.00	1.32	11.514	12.67	202.98	0.650	0.000	5.00	14.995	9.75	123.4	0.0	475.1
123.00	Appurtenance(s)	1.00	1.32	11.574	12.73	199.46	0.650	0.000	3.00	8.762	5.70	72.5	0.0	277.5
125.00		1.00	1.33	11.614	12.78	197.09	0.650	0.000	2.00	5.743	3.73	47.7	0.0	181.9
127.92	Bot - Section 4	1.00	1.33	11.670	12.84	193.61	0.650	0.000	2.92	8.235	5.35	68.7	0.0	260.8
130.00		1.00	1.34	11.710	12.88	191.11	0.650	0.000	2.08	5.846	3.80	49.0	0.0	322.2
131.00	Appurtenance(s)	1.00	1.34	11.729	12.90	189.91	0.650	0.000	1.00	2.776	1.80	23.3	0.0	152.9
132.08	Top - Section 3	1.00	1.34	11.749	12.92	188.60	0.650	0.000	1.08	2.985	1.94	25.1	0.0	164.5
135.00		1.00	1.35	11.803	12.98	187.27	0.650	0.000	2.92	7.923	5.15	66.9	0.0	188.5
140.00		1.00	1.36	11.894	13.08	181.14	0.650	0.000	5.00	13.195	8.58	112.2	0.0	313.9
141.00	Appurtenance(s)	1.00	1.36	11.912	13.10	179.90	0.650	0.000	1.00	2.580	1.68	22.0	0.0	61.4
145.00		1.00	1.37	11.982	13.18	174.94	0.650	0.000	4.00	10.126	6.58	86.8	0.0	240.8
150.00	Appurtenance(s)	1.00	1.38	12.068	13.27	168.67	0.650	0.000	5.00	12.217	7.94	105.4	0.0	290.5
Totals:								150.00			4,019.6	22,785.8		

Discrete Appurtenance Forces

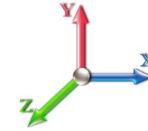
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 22

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	CSS DBC-750-Combiners	3	12.068	13.275	0.60	0.90	0.92	14.40	0.000	0.000	12.25	0.00	0.00
2	150.00	KMW	1	12.068	13.275	0.78	0.90	6.26	70.50	0.000	0.000	83.07	0.00	0.00
3	150.00	Powerwave	2	12.068	13.275	0.79	0.90	18.10	176.60	0.000	0.000	240.28	0.00	0.00
4	150.00	Kathrein 800 10121	3	12.068	13.275	0.81	0.90	12.57	187.20	0.000	0.000	166.87	0.00	0.00
5	150.00	CCI	6	12.068	13.275	0.60	0.90	4.12	115.20	0.000	0.000	54.75	0.00	0.00
6	150.00	Ericsson RRUS-11-RRUs	3	12.068	13.275	0.60	0.90	4.56	165.00	0.000	0.000	60.52	0.00	0.00
7	150.00	Commscope	1	12.068	13.275	0.60	0.90	0.03	1.10	0.000	0.000	0.40	0.00	0.00
8	150.00	CCI	6	12.068	13.275	0.60	0.90	1.56	19.80	0.000	0.000	20.65	0.00	0.00
9	150.00	Low Profile Platform	1	12.051	13.256	1.00	1.00	22.00	1500.00	0.000	-1.000	291.64	0.00	-291.64
10	150.00	Ericsson RRUS-32-RRHs	3	12.068	13.275	0.60	0.90	7.00	231.00	0.000	0.000	92.94	0.00	0.00
11	150.00	Ericsson RRUS 32	3	12.068	13.275	0.60	0.90	4.96	159.00	0.000	0.000	65.80	0.00	0.00
12	150.00	LMU	1	12.068	13.275	0.60	0.90	0.53	28.00	0.000	0.000	7.04	0.00	0.00
13	150.00	Raycap	2	12.085	13.294	0.60	0.90	1.77	65.60	0.000	1.000	23.57	0.00	23.57
14	150.00	CCI	2	12.068	13.275	0.71	0.90	19.10	150.00	0.000	0.000	253.52	0.00	0.00
15	150.00	Quintel QS66512-3	1	12.068	13.275	0.81	0.90	6.59	105.00	0.000	0.000	87.42	0.00	0.00
16	141.00	RFS DB-T1-6Z-8AB-0Z	1	11.912	13.103	0.77	0.80	3.15	21.40	0.000	0.000	41.26	0.00	0.00
17	141.00	Low Profile Platform	1	11.912	13.103	0.80	0.80	17.60	1500.00	0.000	0.000	230.62	0.00	0.00
18	141.00	RFS DB-T1-6Z-8AB-0Z	1	11.912	13.103	0.77	0.80	3.15	21.40	0.000	0.000	41.26	0.00	0.00
19	141.00	Alcatel Lucent	3	11.912	13.103	0.40	0.80	4.20	180.00	0.000	0.000	55.03	0.00	0.00
20	141.00	Alcatel Lucent	3	11.912	13.103	0.72	0.80	3.26	165.00	0.000	0.000	42.74	0.00	0.00
21	141.00	Alcatel Lucent	3	11.912	13.103	0.40	0.80	4.20	180.00	0.000	0.000	55.03	0.00	0.00
22	141.00	Antel	3	11.912	13.103	0.69	0.80	15.62	117.00	0.000	0.000	204.73	0.00	0.00
23	141.00	Commscope	6	11.912	13.103	0.73	0.80	35.22	436.20	0.000	0.000	461.44	0.00	0.00
24	141.00	Antel	3	11.912	13.103	0.82	0.80	8.71	90.90	0.000	0.000	114.19	0.00	0.00
25	131.00	RFS	3	11.729	12.902	0.60	0.80	11.55	188.10	0.000	0.000	149.02	0.00	0.00
26	131.00	Commscope LNX-6515DS	3	11.729	12.902	0.74	0.80	25.30	237.30	0.000	0.000	326.39	0.00	0.00
27	131.00	RFS ATM1412D-1A20	3	11.729	12.902	0.58	0.80	2.05	39.00	0.000	0.000	26.45	0.00	0.00
28	131.00	Ericsson KRY 144/1	3	11.729	12.902	0.56	0.80	0.69	33.00	0.000	0.000	8.89	0.00	0.00
29	131.00	Kathrein 782 11056	3	11.729	12.902	0.61	0.80	1.20	33.00	0.000	0.000	15.53	0.00	0.00
30	131.00	T-Arms (Site Pro P/N	3	11.729	12.902	0.56	0.75	13.50	396.00	0.000	0.000	174.17	0.00	0.00
31	123.00	Low Profile Platform	1	11.574	12.732	1.00	1.00	22.00	1500.00	0.000	0.000	280.10	0.00	0.00
32	123.00	RFS ACU-A20-N	4	11.574	12.732	0.63	0.80	0.35	4.00	0.000	0.000	4.51	0.00	0.00
33	123.00	Alcatel Lucent 800 MHz	6	11.574	12.732	0.74	0.80	11.00	318.00	0.000	0.000	140.00	0.00	0.00
34	123.00	Alcatel Lucent 1900 MHz	3	11.574	12.732	0.78	0.80	6.37	180.00	0.000	0.000	81.15	0.00	0.00
35	123.00	Alcatel Lucent	3	11.574	12.732	0.55	0.80	6.71	210.00	0.000	0.000	85.39	0.00	0.00
36	123.00	RFS APXVSP18-C-A20	3	11.574	12.732	0.72	0.80	17.44	237.00	0.000	0.000	222.03	0.00	0.00
37	123.00	RFS APXVTM14-C-I30	3	11.574	12.732	0.68	0.80	12.96	234.00	0.000	0.000	165.06	0.00	0.00

Totals: 9,309.70

4,385.69

Total Applied Force Summary

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

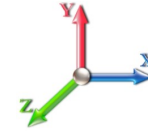


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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

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		137.15	1235.31	0.00	0.00
10.00		134.55	1215.79	0.00	0.00
15.00		131.94	1196.27	0.00	0.00
20.00		137.23	1176.75	0.00	0.00
25.00		140.94	1157.23	0.00	0.00
30.00		143.44	1137.71	0.00	0.00
35.00		145.07	1118.18	0.00	0.00
40.00		146.00	1098.66	0.00	0.00
41.50		43.51	325.79	0.00	0.00
45.00		103.37	1365.31	0.00	0.00
48.00		88.52	1155.04	0.00	0.00
50.00		58.85	425.72	0.00	0.00
55.00		147.72	1050.65	0.00	0.00
60.00		146.97	1031.13	0.00	0.00
65.00		145.92	1011.61	0.00	0.00
70.00		144.62	992.08	0.00	0.00
75.00		143.09	972.56	0.00	0.00
80.00		141.34	953.04	0.00	0.00
84.08		113.87	763.84	0.00	0.00
85.00		25.58	275.65	0.00	0.00
89.50		125.08	1336.07	0.00	0.00
90.00		13.72	77.43	0.00	0.00
95.00		136.70	765.68	0.00	0.00
100.00		134.31	750.07	0.00	0.00
105.00		131.78	734.45	0.00	0.00
110.00		129.12	718.83	0.00	0.00
115.00		126.34	703.22	0.00	0.00
120.00		123.45	687.60	0.00	0.00
123.00	(23) attachments	1050.73	3088.06	0.00	0.00
125.00		47.69	259.29	0.00	0.00
127.92		68.72	373.65	0.00	0.00
130.00		48.95	402.76	0.00	0.00
131.00	(18) attachments	723.74	1118.04	0.00	0.00
132.08		25.08	196.24	0.00	0.00
135.00		66.87	274.05	0.00	0.00
140.00		112.22	460.53	0.00	0.00
141.00	(24) attachments	1268.28	2802.60	0.00	0.00
145.00		86.75	299.40	0.00	0.00
150.00	(38) attachments	1566.13	3352.11	0.00	-268.07
	Totals:	8,405.34	38,058.39	0.00	-268.07

Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



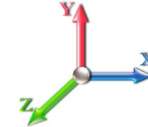
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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 22

Dead Load Factor 1.00

Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-38.05	-8.42	0.00	-933.08	0.00	933.08	3399.80	1699.90	8571.22	4291.98	0.00	0.000	0.000	0.229
5.00	-36.81	-8.31	0.00	-890.98	0.00	890.98	3376.67	1688.33	8351.12	4181.77	0.02	-0.045	0.000	0.224
10.00	-35.59	-8.20	0.00	-849.42	0.00	849.42	3351.94	1675.97	8129.40	4070.74	0.10	-0.091	0.000	0.219
15.00	-34.39	-8.10	0.00	-808.40	0.00	808.40	3325.63	1662.82	7906.28	3959.02	0.22	-0.137	0.000	0.215
20.00	-33.21	-7.98	0.00	-767.91	0.00	767.91	3297.74	1648.87	7681.99	3846.70	0.39	-0.184	0.000	0.210
25.00	-32.04	-7.87	0.00	-727.99	0.00	727.99	3268.26	1634.13	7456.75	3733.92	0.60	-0.230	0.000	0.205
30.00	-30.90	-7.74	0.00	-688.67	0.00	688.67	3237.20	1618.60	7230.79	3620.77	0.87	-0.278	0.000	0.200
35.00	-29.78	-7.62	0.00	-649.96	0.00	649.96	3204.54	1602.27	7004.35	3507.38	1.19	-0.325	0.000	0.195
40.00	-28.67	-7.48	0.00	-611.87	0.00	611.87	3170.31	1585.15	6777.64	3393.86	1.55	-0.373	0.000	0.189
41.50	-28.34	-7.45	0.00	-600.66	0.00	600.66	3159.73	1579.86	6709.61	3359.79	1.67	-0.388	0.000	0.188
45.00	-26.98	-7.35	0.00	-574.60	0.00	574.60	3134.49	1567.24	6550.90	3280.32	1.97	-0.422	0.000	0.184
48.00	-25.82	-7.26	0.00	-552.55	0.00	552.55	3132.30	1566.15	6537.37	3273.54	2.24	-0.451	0.000	0.177
50.00	-25.39	-7.21	0.00	-538.03	0.00	538.03	3117.49	1558.74	6446.72	3228.15	2.44	-0.471	0.000	0.175
55.00	-24.33	-7.08	0.00	-501.96	0.00	501.96	3079.35	1539.68	6220.34	3114.79	2.96	-0.517	0.000	0.169
60.00	-23.30	-6.94	0.00	-466.58	0.00	466.58	3039.63	1519.81	5994.49	3001.70	3.52	-0.564	0.000	0.163
65.00	-22.28	-6.80	0.00	-431.89	0.00	431.89	2998.32	1499.16	5769.39	2888.98	4.14	-0.610	0.000	0.157
70.00	-21.29	-6.66	0.00	-397.88	0.00	397.88	2955.43	1477.72	5545.28	2776.76	4.80	-0.656	0.000	0.151
75.00	-20.31	-6.52	0.00	-364.57	0.00	364.57	2910.95	1455.48	5322.38	2665.15	5.52	-0.702	0.000	0.144
80.00	-19.36	-6.38	0.00	-331.96	0.00	331.96	2864.89	1432.44	5100.92	2554.25	6.27	-0.747	0.000	0.137
84.08	-18.59	-6.27	0.00	-305.89	0.00	305.89	2826.09	1413.05	4921.28	2464.30	6.93	-0.783	0.000	0.131
85.00	-18.31	-6.25	0.00	-300.15	0.00	300.15	2817.24	1408.62	4881.12	2444.19	7.08	-0.792	0.000	0.129
89.50	-16.98	-6.11	0.00	-272.04	0.00	272.04	2031.94	1015.97	3485.43	1745.31	7.85	-0.831	0.000	0.164
90.00	-16.90	-6.10	0.00	-268.99	0.00	268.99	2029.15	1014.57	3470.92	1738.04	7.93	-0.835	0.000	0.163
95.00	-16.13	-5.97	0.00	-238.48	0.00	238.48	2000.34	1000.17	3325.82	1665.38	8.84	-0.885	0.000	0.151
100.00	-15.38	-5.83	0.00	-208.65	0.00	208.65	1969.95	984.97	3180.92	1592.82	9.79	-0.933	0.000	0.139
105.00	-14.64	-5.70	0.00	-179.49	0.00	179.49	1937.97	968.98	3036.44	1520.48	10.79	-0.979	0.000	0.126
110.00	-13.92	-5.57	0.00	-150.98	0.00	150.98	1904.40	952.20	2892.62	1448.46	11.84	-1.021	0.000	0.112
115.00	-13.21	-5.44	0.00	-123.14	0.00	123.14	1869.25	934.63	2749.69	1376.89	12.93	-1.060	0.000	0.097
120.00	-12.53	-5.31	0.00	-95.95	0.00	95.95	1832.52	916.26	2607.87	1305.87	14.06	-1.094	0.000	0.080
123.00	-9.46	-4.20	0.00	-80.03	0.00	80.03	1809.72	904.86	2523.40	1263.58	14.75	-1.112	0.000	0.069
125.00	-9.20	-4.15	0.00	-71.63	0.00	71.63	1794.20	897.10	2467.38	1235.52	15.22	-1.123	0.000	0.063
127.92	-8.83	-4.07	0.00	-59.53	0.00	59.53	1771.11	885.56	2386.14	1194.84	15.91	-1.138	0.000	0.055
130.00	-8.42	-4.02	0.00	-51.04	0.00	51.04	1754.29	877.15	2328.47	1165.96	16.41	-1.147	0.000	0.049
131.00	-7.32	-3.27	0.00	-47.03	0.00	47.03	1746.12	873.06	2300.89	1152.16	16.65	-1.151	0.000	0.045
132.08	-7.12	-3.25	0.00	-43.48	0.00	43.48	1160.48	580.24	1541.12	771.71	16.91	-1.155	0.000	0.063
135.00	-6.85	-3.17	0.00	-34.01	0.00	34.01	1148.82	574.41	1493.54	747.88	17.62	-1.165	0.000	0.051
140.00	-6.39	-3.05	0.00	-18.14	0.00	18.14	1127.58	563.79	1411.91	707.01	18.85	-1.181	0.000	0.031
141.00	-3.62	-1.73	0.00	-15.09	0.00	15.09	1123.15	561.57	1395.60	698.84	19.10	-1.183	0.000	0.025
145.00	-3.32	-1.64	0.00	-8.18	0.00	8.18	1104.76	552.38	1330.41	666.20	20.10	-1.189	0.000	0.015
150.00	0.00	-1.57	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	21.34	-1.193	0.000	0.000

Final Analysis Summary

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	12/8/2016
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 29

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 93 mph Wind	32.4	0.00	45.62	0.00	0.00	3605.82
0.9D + 1.6W 93 mph Wind	32.4	0.00	34.20	0.00	0.00	3572.34
1.2D + 1.0Di + 1.0Wi 50 mph Wind	10.8	0.00	81.27	0.00	0.00	1224.01
1.2D + 1.0E	2.0	0.00	45.67	0.00	0.00	249.38
0.9D + 1.0E	2.0	0.00	34.25	0.00	0.00	246.89
1.0D + 1.0W 60 mph Wind	8.4	0.00	38.05	0.00	0.00	933.08

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 93 mph Wind	-45.62	-32.38	0.00	-3605.8	0.00	-3605.8	3399.80	1699.9	8571.22	4291.98	0.00	0.854
0.9D + 1.6W 93 mph Wind	-34.20	-32.36	0.00	-3572.3	0.00	-3572.3	3399.80	1699.9	8571.22	4291.98	0.00	0.843
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-81.27	-10.79	0.00	-1224.0	0.00	-1224.0	3399.80	1699.9	8571.22	4291.98	0.00	0.309
1.2D + 1.0E	-45.67	-1.98	0.00	-249.38	0.00	-249.38	3399.80	1699.9	8571.22	4291.98	0.00	0.072
0.9D + 1.0E	-34.25	-1.98	0.00	-246.89	0.00	-246.89	3399.80	1699.9	8571.22	4291.98	0.00	0.068
1.0D + 1.0W 60 mph Wind	-38.05	-8.42	0.00	-933.08	0.00	-933.08	3399.80	1699.9	8571.22	4291.98	0.00	0.229



Monopole Mat Foundation Design

Date
12/8/2016

Customer Name:	AT&T	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	150
Site Number:	CT10022-A-SBA	Engineer Name:	U. Atluri
Engr. Number:	28217	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations

Structure Type:

Monopole

Analysis or Design?

Analysis

Base Reactions (Factored):

Axial Load (Kips):	81.3	Shear Force (Kips):	32.4
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3605.8

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.5	Depth of Base BG (ft.):	6.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft.):	3.50
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):	3000	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:	34	Tie Spacing (in):	3.0	
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):	24	Qty. of Rebar in Pad (W):	24
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Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	24	Qty. of Rebar in Pad (W):	24
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Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

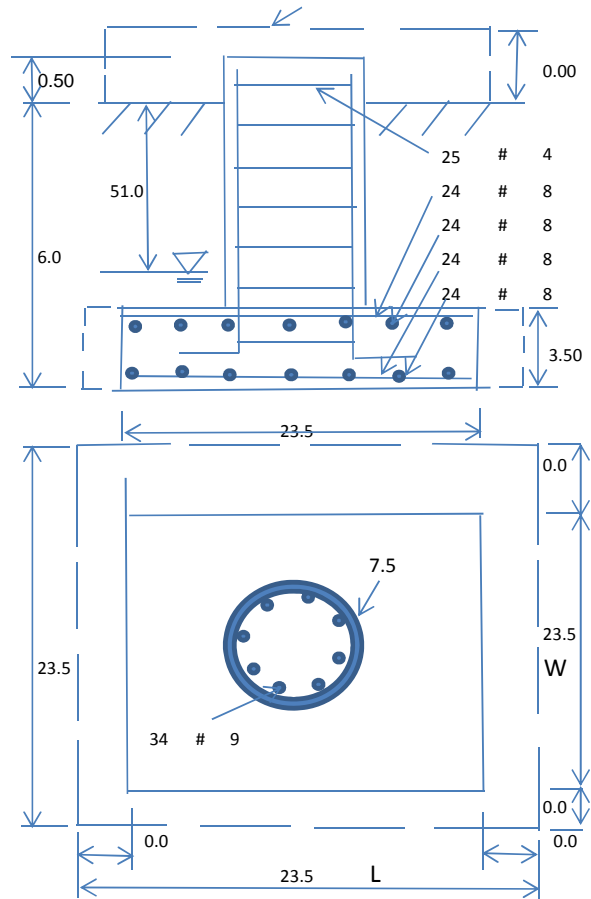
Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	60.0	Pcf		
Water Table B.G.S. (ft):	51.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	14000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hori. force for O.T.M.:	No	Reduction factor on the maximum soil bearing pressure:	1.00			

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	1270.18	Total Dry Soil Weight (Kips):	158.77
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	158.77	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2065.41	Total Dry Concrete Weight (Kips):	309.81
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	309.81	Total Vertical Load on Base (Kips):	549.88

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	3242	<	Allowable Factored Soil Bearing (psf):	10500	0.31	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	5910.6	>	Design Factored Momont (kips-ft):	3816	0.65	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.55					OK!



Check the capacities of Reinforcing 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:	1.00	

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):	6200.6	> Design Factored Moment (Mu, Kips-Ft):	3703.0	0.60	OK!
Calculated Shear Capacity (Kips):	1098.7	> Design Factored Shear (Kips):	32.4	0.03	OK!
Calculated Tension Capacity (Tn, Kips):	1836.0	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	8390.6	> Design Factored Axial Load (Pu Kips):	81.3	0.01	OK!
Moment & Axial Strength Combination(Pu/Pn+Mu/Mn):	0.61	OK! Check Tie Spacing (Design/Required):		0.25	OK!
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	881.9	> One-Way Factored Shear (L-D. Kips):	214.2	0.24	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	881.9	> One-Way Factored Shear (W-D., Kips)	214.2	0.24	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	965.7	> One-Way Factored Shear (C-C, Kips):	413.8	0.43	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0018		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3180.0	> Moment at Bottom (L-Direct. K-Ft):	517.1	0.16	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3180.0	> Moment at Bottom (W-Direct. K-Ft):	517.1	0.16	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	4469.4	> Moment at Bottom (C-C Dir. K-Ft):	731.3	0.16	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK! Upper Steel Reinf. Ratio (W-Direct.):	0.0018		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	3180.0	> Moment at the top (L-Dir Kips-Ft):	194.5	0.06	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	3180.0	> Moment at the top (W-Dir Kips-Ft):	194.5	0.06	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	4469.4	> Moment at the top (C-C Direc. K-Ft):	384.0	0.09	OK!

PROJECT TEAM

SITE ACQUISITION & ZONING:

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581

ENGINEERING:

TRYLON TSF
1825 W. WALNUT HILL LANE SUITE 302
IRVING, TX 75038
PHONE: 1-855-669-5421

RF ENGINEER:

AT&T MOBILITY - NEW ENGLAND
550 COCHITUATE ROAD
SUITE 550 13 & 14
FRAMINGHAM, MA 01701
CAMERON SYME
508-596-7146
cs6970@att.com

CONSTRUCTION MANAGEMENT:

EMPIRE TELECOM
16 ESQUIRE ROAD
BILLERICA, MA 01821
GRZEGORZ "GREG" DORMAN
484-683-1750
gdorman@empiretelecomm.com

TOWER OWNER:

TBD

SBA SITE ID: CT10022
SBA SITE NAME: TBD

SBA REGIONAL SITE MANAGER: STEPHEN ROTH
(860)539-4920
sroth@sbasite.com

GENERAL NOTES

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

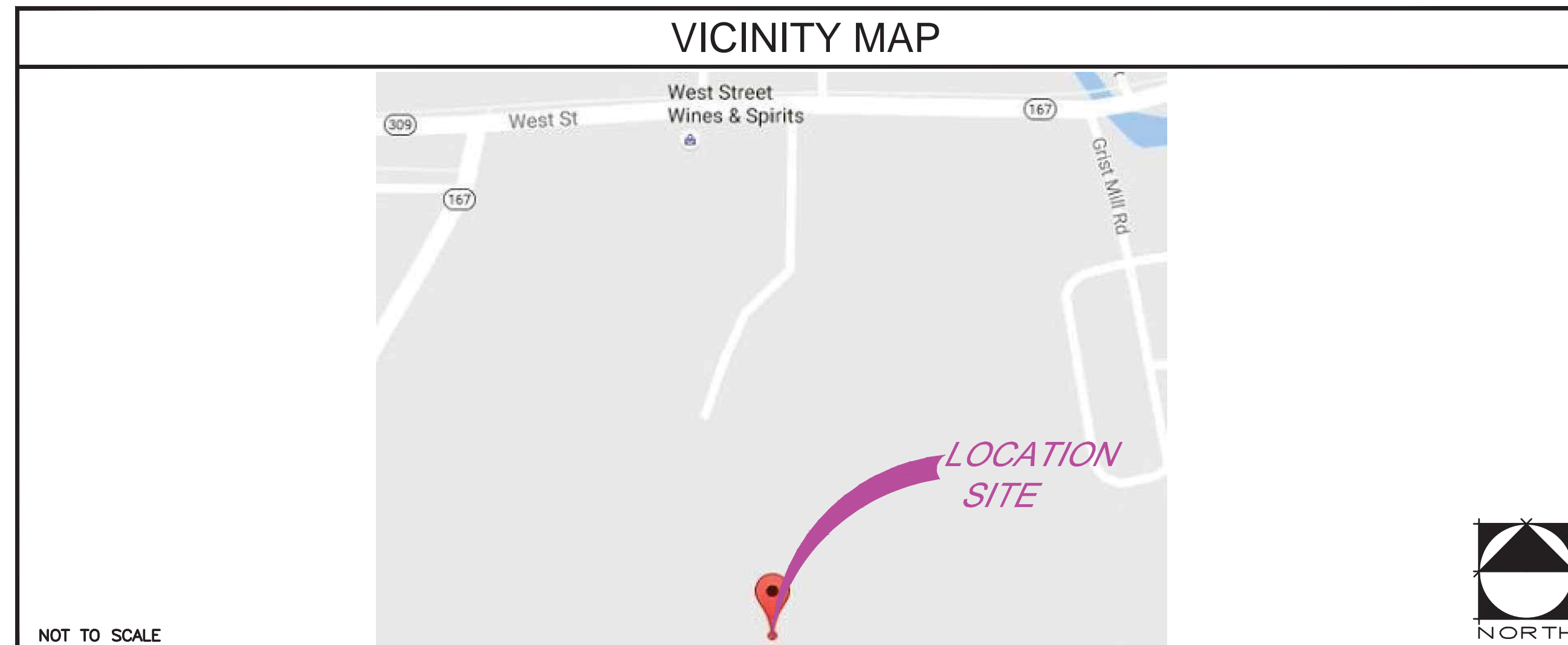
SITE INFORMATION

LATITUDE: 41° 52' 0.20316" N
LONGITUDE: -72° 48' 56.898" W
LAT./LONG. TYPE: NAD 83
GROUND ELEVATION: N/A
APN/UPC: N/A
AREA OF CONSTRUCTION: EXISTING
ZONING/JURISDICTION: UNKNOWN
CURRENT ZONING: UNKNOWN
EXISTING USE: UNMANNED TELECOMMUNICATIONS FACILITY
COUNTY: HARTFORD
HANDICAP REQUIREMENTS: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS NOT REQUIRED.



**LTE MULTI CARRIER RRU ADD
CT1151
SIMSBURY CENTRAL
GRIST MILL ROAD
SIMSBURY, CT 06070
FA CODE: 10035290**

VICINITY MAP



NOT TO SCALE

DRIVING DIRECTIONS

LEGACY ORANGE UPDATED 1/10/91S TO RTE 9N TO I 84W TO EXIT 39 RTE 4 TO FARMINGTON IN FARMINGTON TURN RIGHT ONTO RTE 10 TO RTE 44 IN AVON LEFT ON 44 RIGHT ON 202 TO SIMSBURY IN SIMSBURY TURN LEFT ONTO 167 LEFT ONTO GRISTMILL LN ACCESS RD IS AT END OF CUL DE SAC ON THE LEFT FOLLOW UP THE HILL SITE ON LEFT GATE

CODE COMPLIANCE

BUILDING CODE: 2016 CONNECTICUT STATE BUILDING CODE
ELECTRICAL CODE: 2014 NATIONAL ELECTRICAL CODE WITH CONNECTICUT STATE AMENDMENTS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

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



**CONNECTICUT LAW REQUIRES
TWO WORKING DAYS NOTICE PRIOR
TO ANY EARTH MOVING ACTIVITIES
BY CALLING 800-922-4455 OR
DIAL 811**

APPROVALS

AT&T (RF): _____ DATE: _____

AT&T (CONST.): _____ DATE: _____

AT&T (OPS): _____ DATE: _____

TOWER OWNER: _____ DATE: _____

JURISDICTIONAL APPROVAL

BASED ON INFORMATION PROVIDED BY AT&T REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE FACILITY REQUEST, EXPEDITED REVIEW AND LIMITED/PARTIAL ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW OR ADMINISTRATIVE REVIEW).

PROJECT DESCRIPTION

THIS PROJECT WILL BE COMPRISED OF:
CHANGES ON THE EXISTING MONOPINE TOWER:

- REMOVE (3) EXISTING RRUS-11, (1) PER SECTOR FOR (3) SECTORS.
- INSTALL (3) NEW RRUS-32 B2, (1) PER SECTOR FOR (3) SECTORS.
- REUSE (2) EXISTING FIBER TRUNK.
- REUSE (4) EXISTING DC TRUNK.
- REUSE (2) EXISTING DC/FIBER SQUID.
- REUSE (12) EXISTING RF CABLES.

Michael Plahovinsak
Digitally signed by Michael Plahovinsak
Date: 2016.11.25 13:09:22 -05'00'

SHEET	DESCRIPTION
T-1	TITLE SHEET
GN-1	GROUNDING & GENERAL NOTES
A-1	SITE PLAN
A-2	EQUIPMENT LAYOUT
A-3	ANTENNA LAYOUTS & TOWER ELEVATION
A-4	DETAILS
G-1	GROUNDING, ONE-LINE DIAGRAM & DETAILS



550 COCHITUATE ROAD
FRAMINGHAM, MA 01701



16 ESQUIRE ROAD
BILLERICA, MA 01821



SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE
125 WESTBOROUGH, MA 01581

PLANS PREPARED BY:



1825 W. WALNUT HILL LANE SUITE 302
IRVING, TX 5038
1-855-669-5421

NO.	DATE	DESCRIPTION	BY
A	11/22/16	FOR REVIEW	GI

SITE INFORMATION:

CT1151
SIMSBURY CENTRAL
FA CODE: 10035290

GRIST MILL ROAD
SIMSBURY, CT 06070



SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
T-1

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 - CONTRACTOR - EMPIRE TELECOM
 - SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
 - OWNER - AT&T MOBILITY
 - OEM - ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR. ROUTING OF TRENCHING SHALL BE APPROVED BY CONTRACTOR
9. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
10. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OFF ALL SCR1 'AP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
12. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
13. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS UNLESS OTHERWISE SPECIFIED. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
14. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy=36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
15. CONSTRUCTION SHALL COMPLY WITH SPECIFICATION 25741-000-3APS-A00Z-00002, "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
17. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK MAY NEED TO BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
18. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
19. SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
 - INTERNATIONAL BUILDING CODE: IBC 2009 WITH LOCAL & COUNTY AMENDMENTS
 - NATIONAL ELECTRICAL CODE: NEC 2011 WITH LOCAL & COUNTY AMENDMENTS
 - FIRE/LIFE SAFETY CODE: NFPA-101 2009 WITH LOCAL & COUNTY AMENDMENTS
20. SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
 - AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, THIRTEENTH EDITION
 - AMERICAN SOCIETY OF TESTING OF MATERIALS, ASTM
 - TELECOMMUNICATIONS INDUSTRY ASSOCIATION (ANSI/TIA-222-G-1), STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
 - TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS
 - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, OSHA
 - INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVELY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT
 - TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS
21. FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

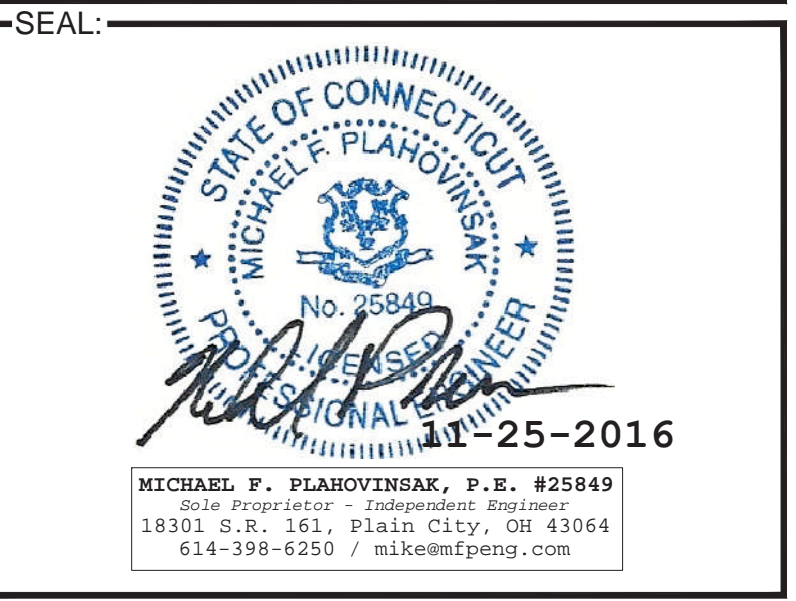
GROUNDING NOTES:

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS. TESTS SHALL BE PERFORMED IN ACCORDANCE WITH 25471-000-3PS-EG00-0001, DESIGN & TESTING OF FACILITY GROUNDING FOR CELL SITES.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED WITH STAINLESS STEEL HARDWARE TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT AND TRAY SHALL BE GROUNDING AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
13. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF ANSI/TIA 222. FOR TOWERS BEING BUILT TO REV-G OF THE STANDARD, THE WIRE SIZE OF THE BURIED GROUND RING AND CONNECTIONS BETWEEN THE TOWER AND THE BURIED GROUND RING SHALL BE CHANGED FROM 2 AWG TO 2/0 AWG. IN ADDITION, THE MINIMUM LENGTH OF THE GROUND RODS SHALL BE INCREASED FROM EIGHT FEET (8') TO TEN FEET (10').
14. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE 1/2" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID TINNED COPPER GROUND WIRE, PER NEC 250.50.



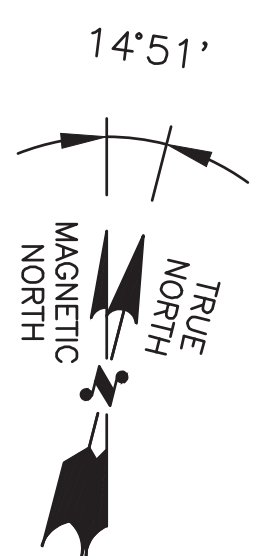
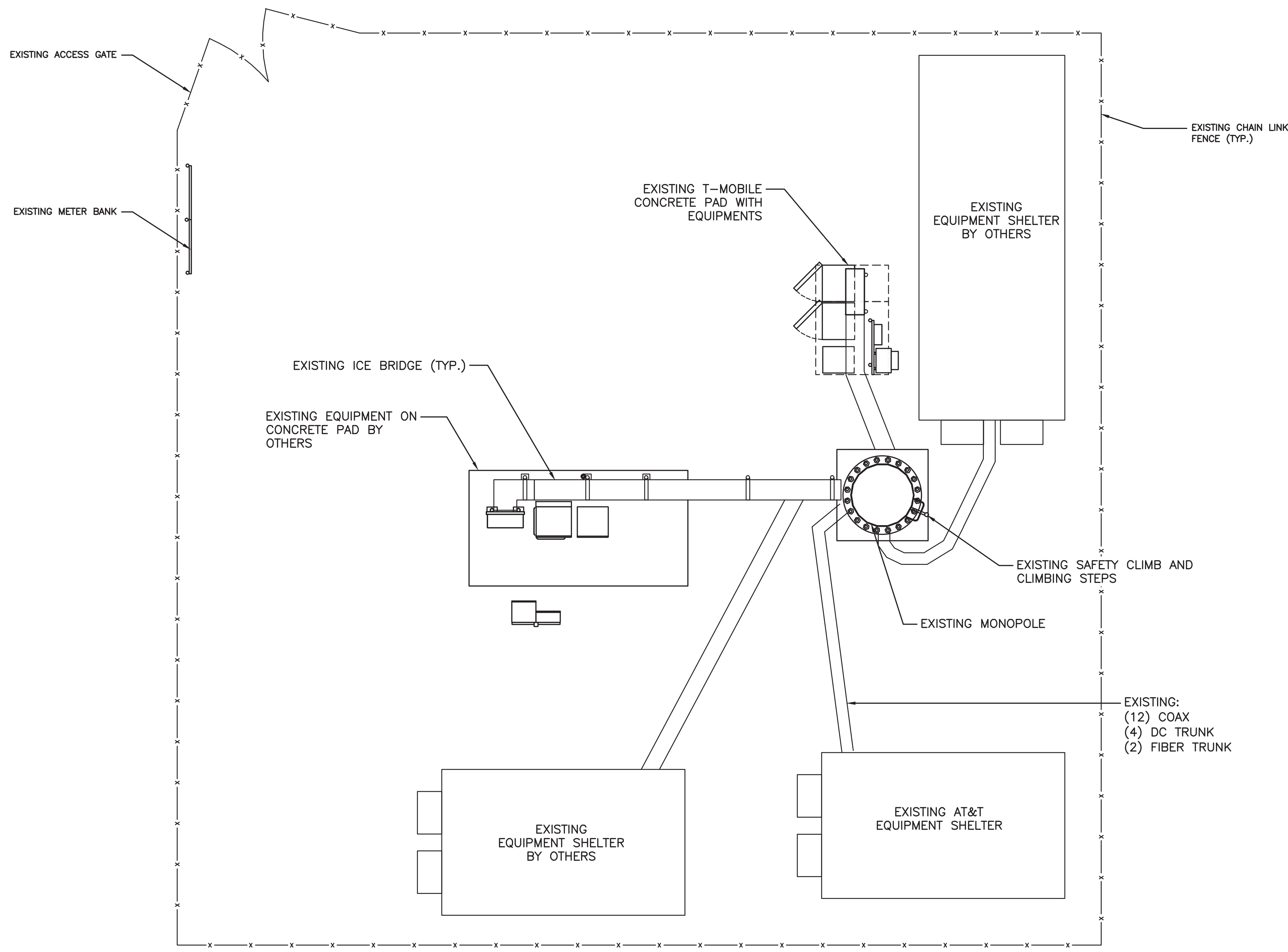
NO.	DATE	DESCRIPTION	BY
A	11/22/16	FOR REVIEW	GI

SITE INFORMATION:
CT1151
SIMSBURY CENTRAL
FA CODE: 10035290
 GRIST MILL ROAD
 SIMSBURY, CT 06070



SHEET TITLE:
GENERAL NOTES & GROUNDING NOTES

SHEET NUMBER:
GN-1



at&t
Mobility
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

EMPIRE
telecom
16 ESQUIRE ROAD
BILLERICA, MA 01821

SBA 
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE
125 WESTBOROUGH, MA 01581

PLANS PREPARED BY:

1825 W. WALNUT HILL LANE SUITE 302
IRVING, TX 5038
1-855-669-5421

NO.	DATE	DESCRIPTION	BY
A	11/22/16	FOR REVIEW	GI

SITE INFORMATION:
CT1151
SIMSBURY CENTRAL
FA CODE: 10035290
GRIST MILL ROAD
SIMSBURY, CT 06070

SEAL:

MICHAEL F. PLAHOVINSAK, P.E. #25849
18903 S.R. 161, Plainville, CT 06064
614-398-6250 / mike@mpeng.com

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
A-1



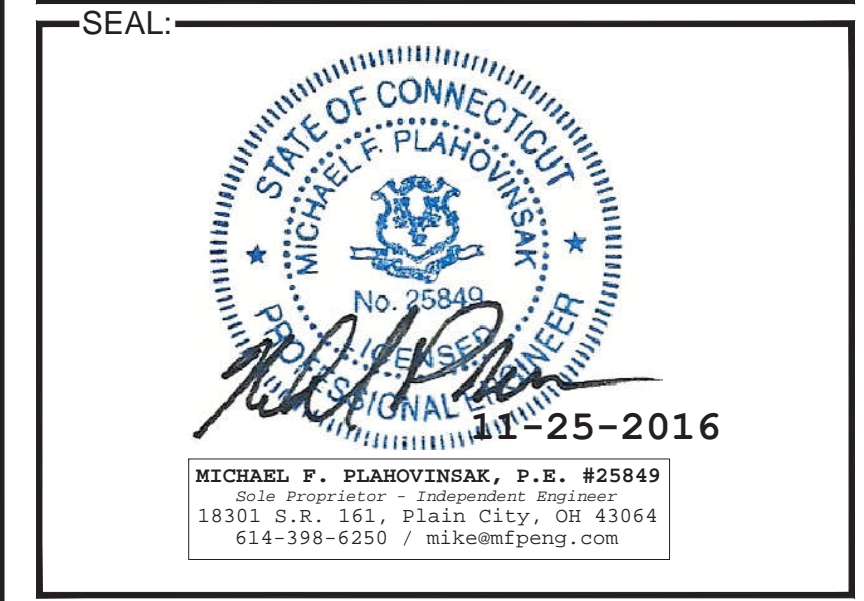
PLANS PREPARED BY:

NO.	DATE	DESCRIPTION	BY
A	11/22/16	FOR REVIEW	GI

SITE INFORMATION:

CT1151
SIMSBURY CENTRAL
FA CODE: 10035290

GRIST MILL ROAD
SIMSBURY, CT 06070

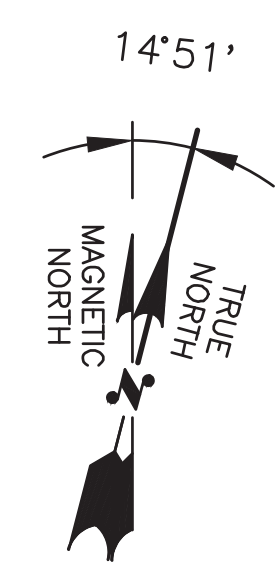
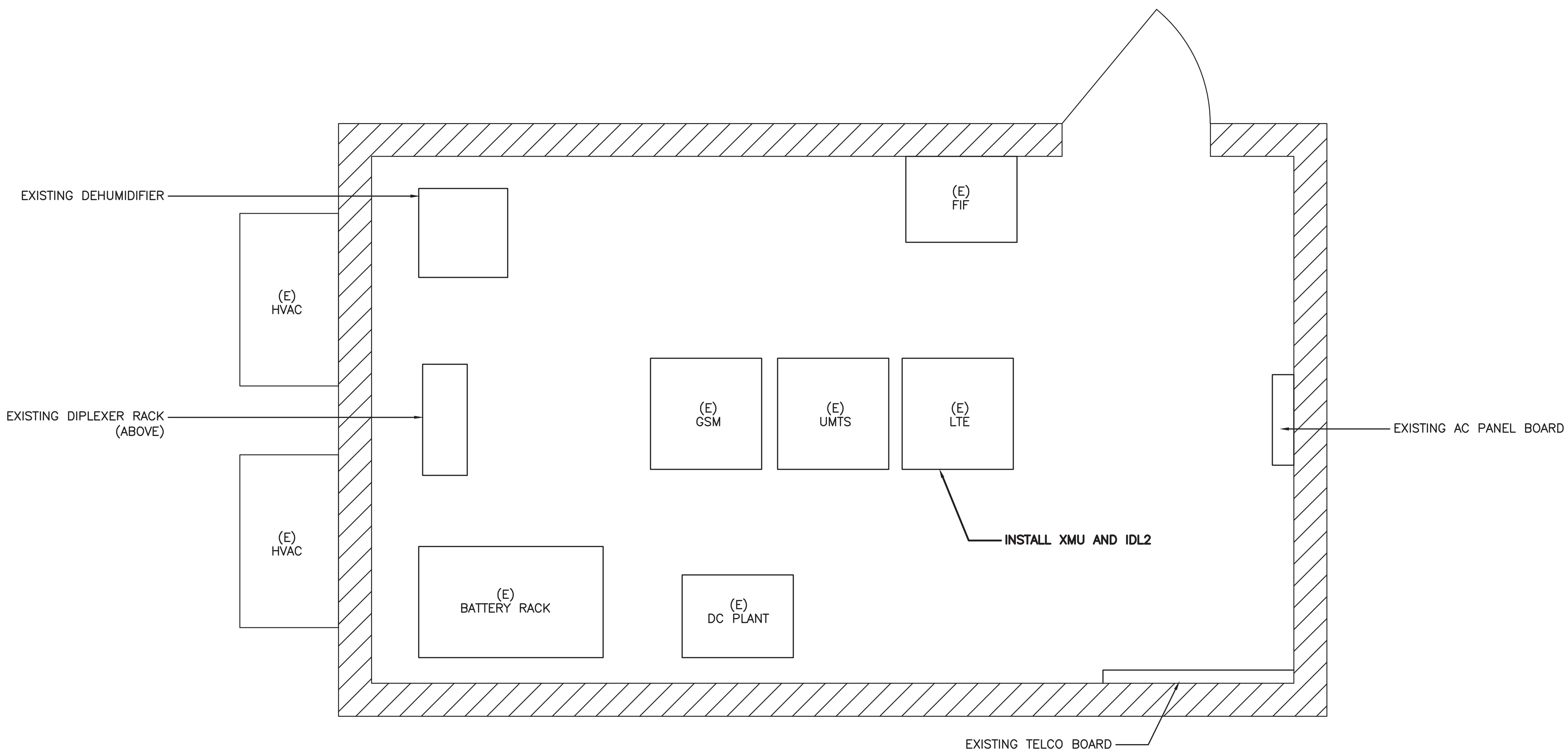


SHEET TITLE:

EQUIPMENT LAYOUTS

SHEET NUMBER:

A-2



EQUIPMENT LAYOUT

22"x34" SCALE: 3/4" = 1'-0"
11"x17" SCALE: 3/8" = 1'-0"

1

NO.	DATE	DESCRIPTION	BY
A	11/22/16	FOR REVIEW	GI

SITE INFORMATION:

CT1151
SIMSBURY CENTRAL
FA CODE: 10035290

GRIST MILL ROAD
SIMSBURY, CT 06070

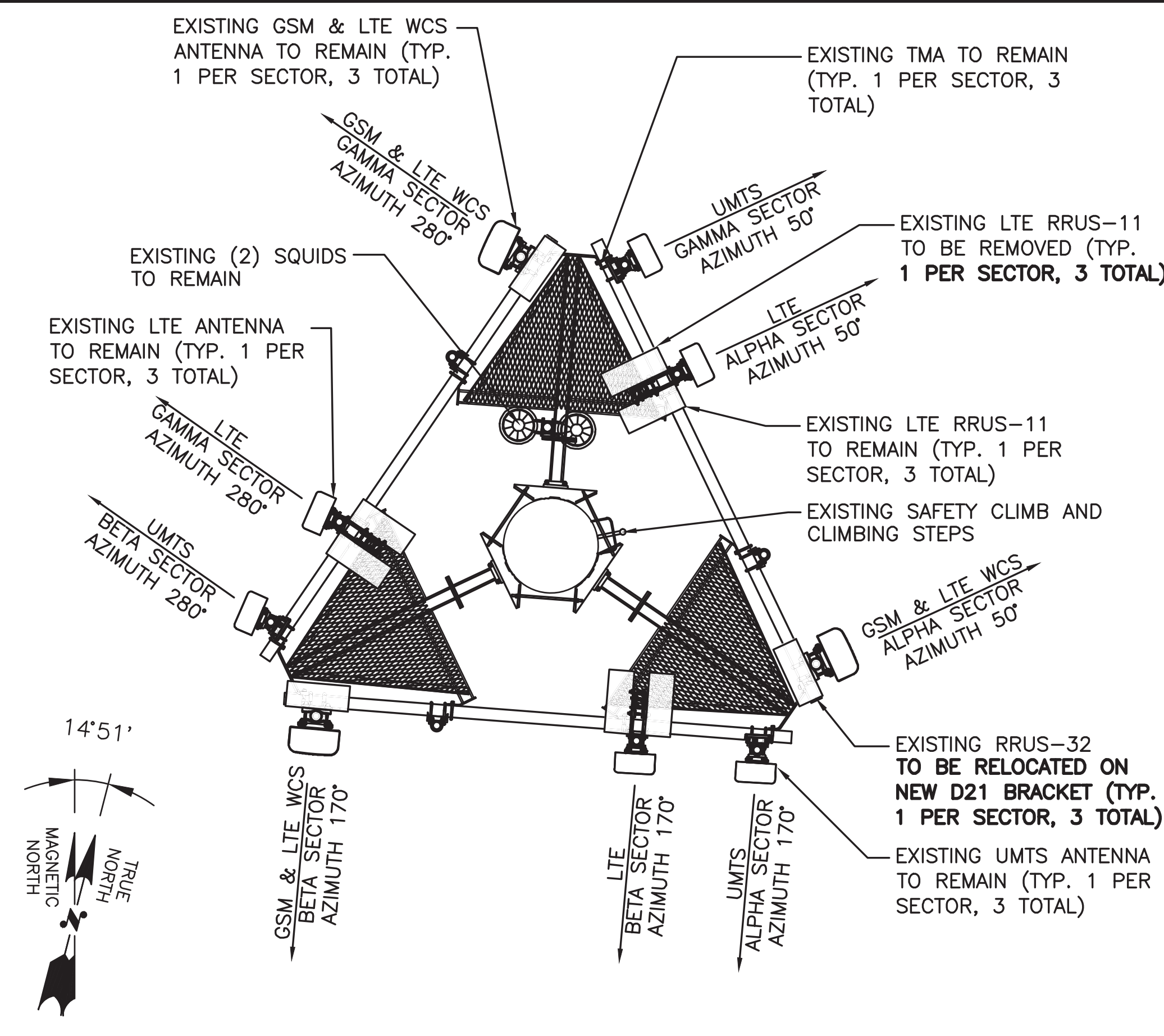
SEAL:

11-25-2016
MICHAEL F. PLACHOVINSAK, P.E. #25849
Professional Engineer - Independent Engineer
18301 S.R. 153, Plain City, OH 43064
614-398-6250 / mlke@mpeng.com

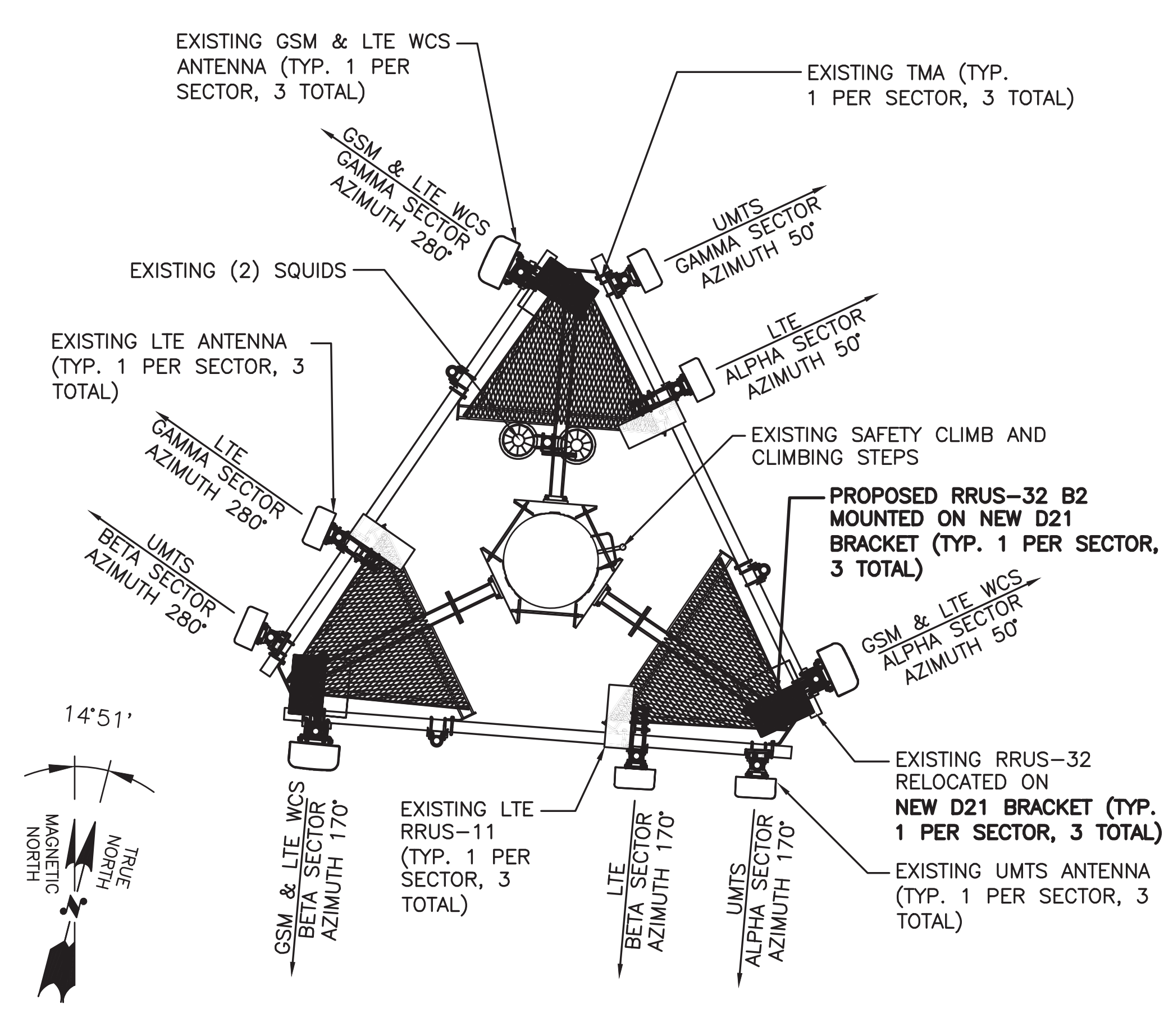
SHEET TITLE:
**ANTENNA LAYOUTS,
TOWER ELEVATION &
MOUNTING DETAILS**

SHEET NUMBER:
A-3

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

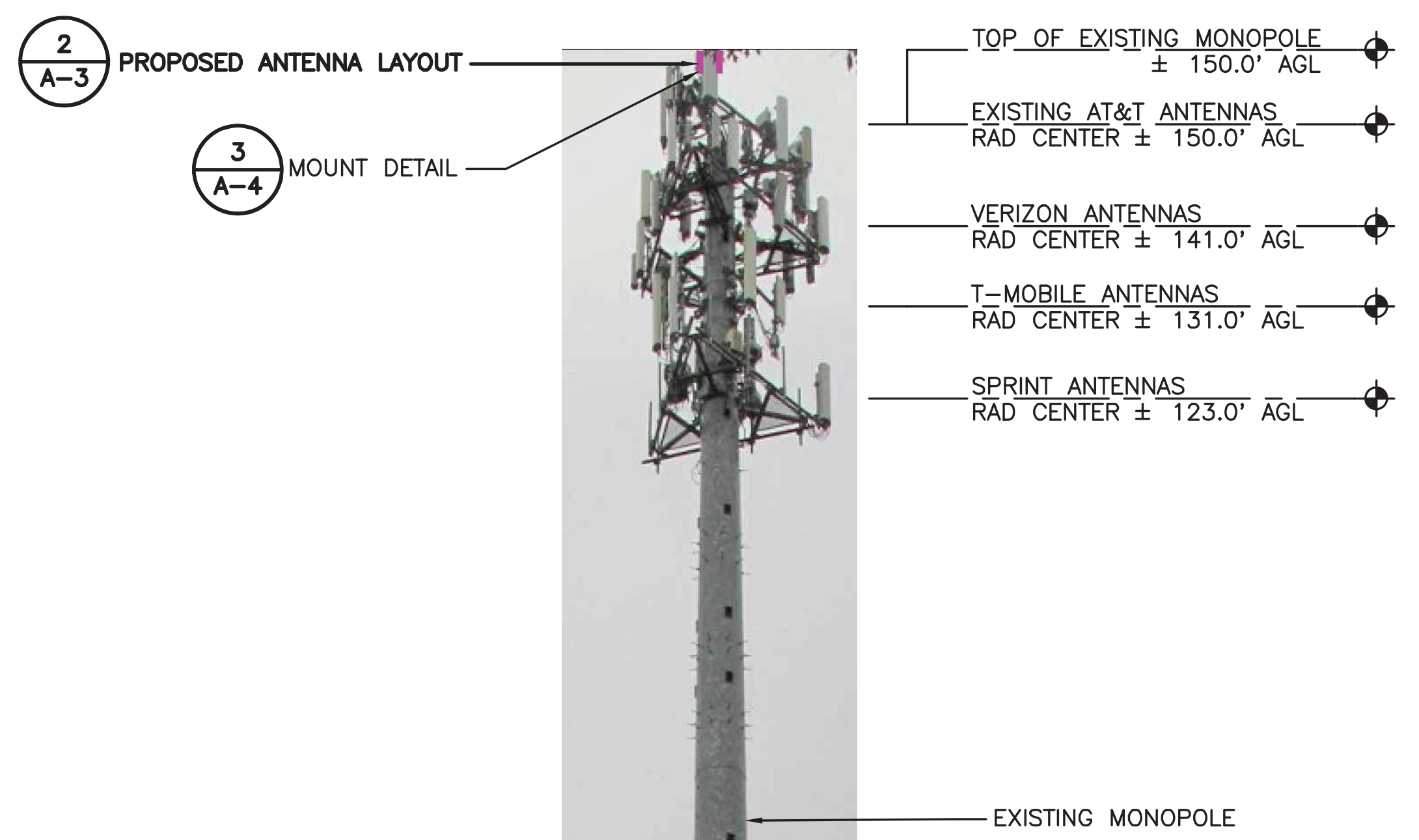


EXISTING ANTENNA LAYOUT 22"x34" SCALE: 3/8" = 1'-0"
11"x17" SCALE: 3/16" = 1'-0" 1

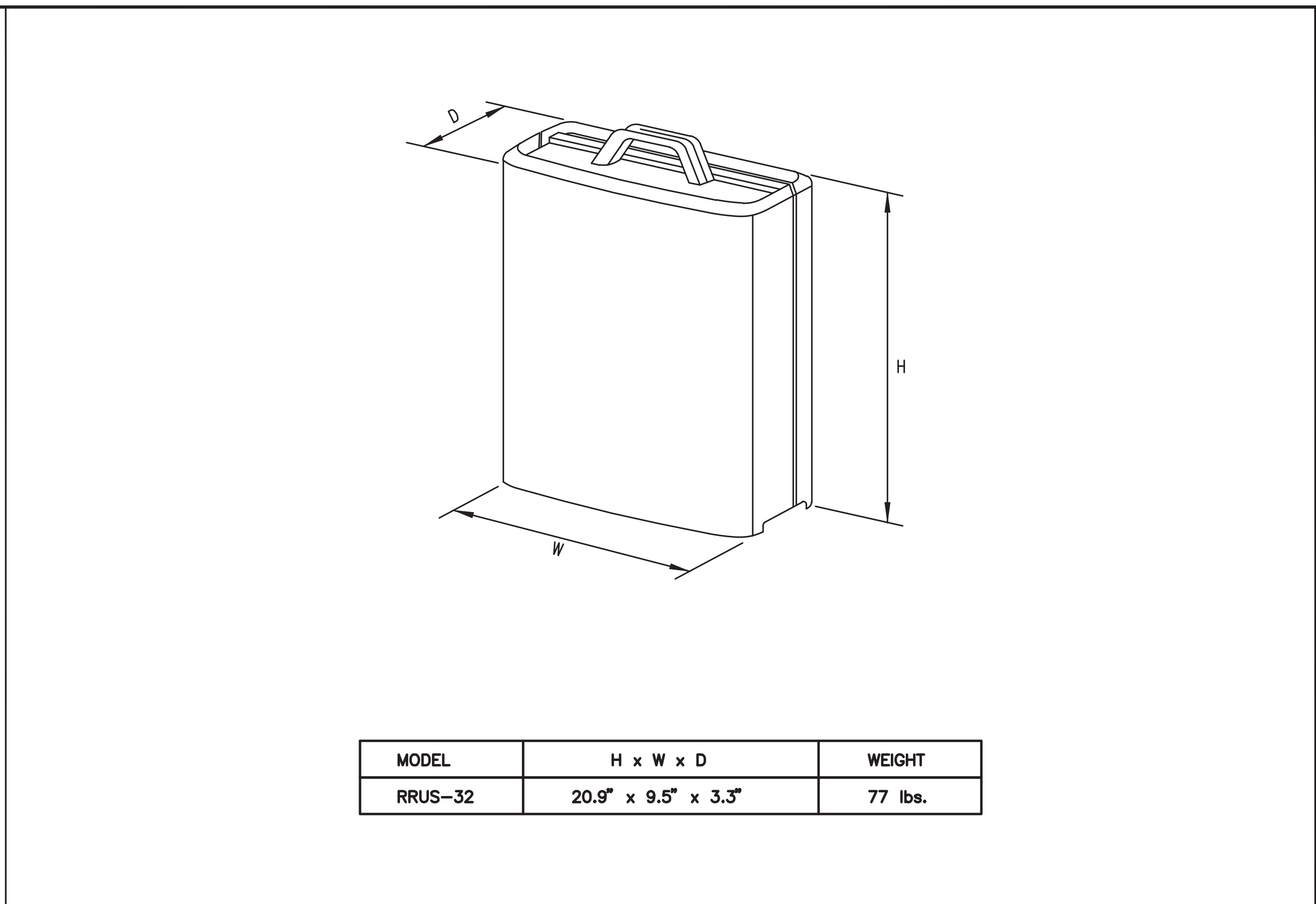
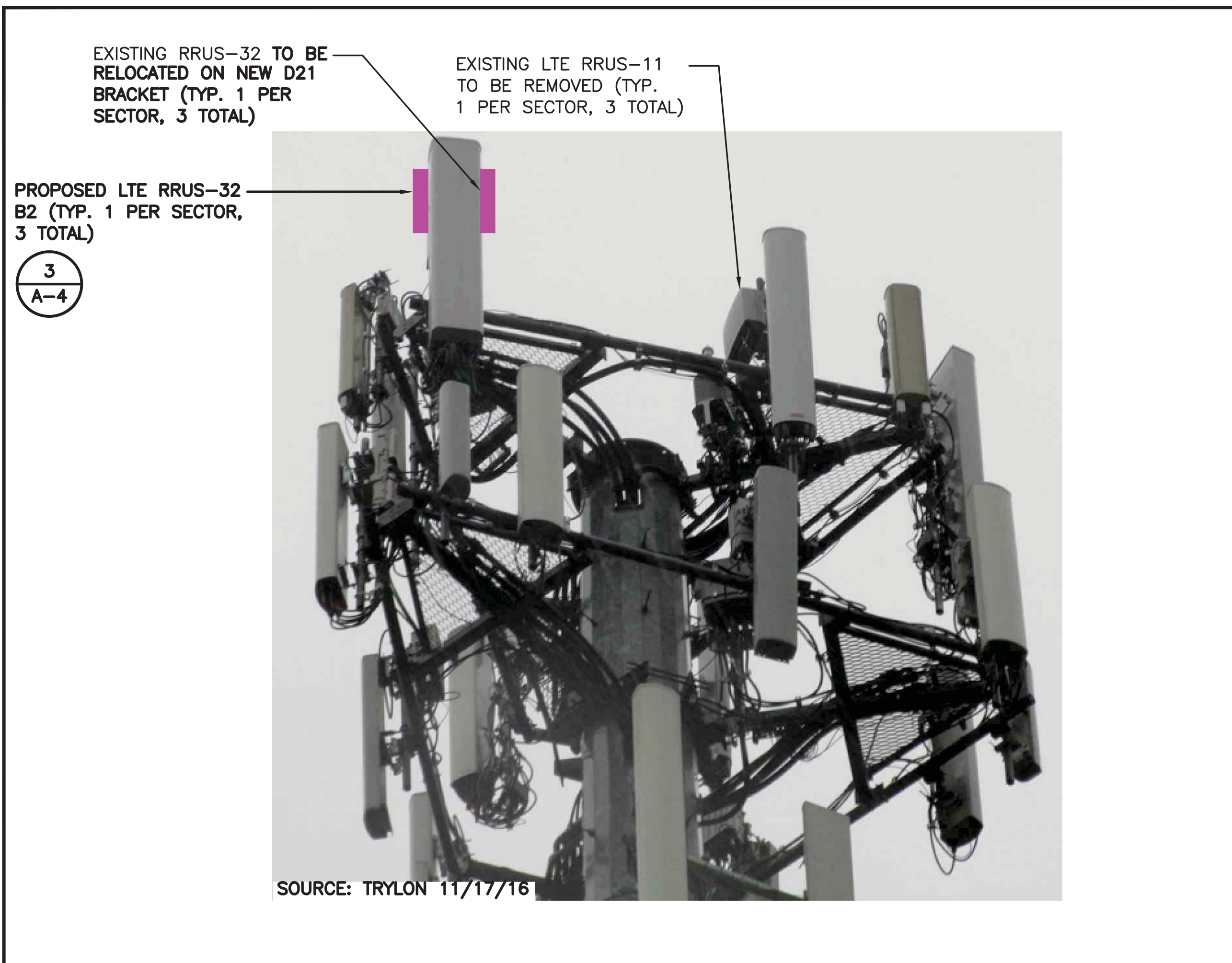


PROPOSED ANTENNA LAYOUT 22"x34" SCALE: 3/8" = 1'-0"
11"x17" SCALE: 3/16" = 1'-0" 2

NOTE:
CARRIER POSITIONS AND RAD ELEVATIONS PROVIDED BY SBA, TRYLON HAS NOT INDEPENDENTLY FIELD VERIFIED.

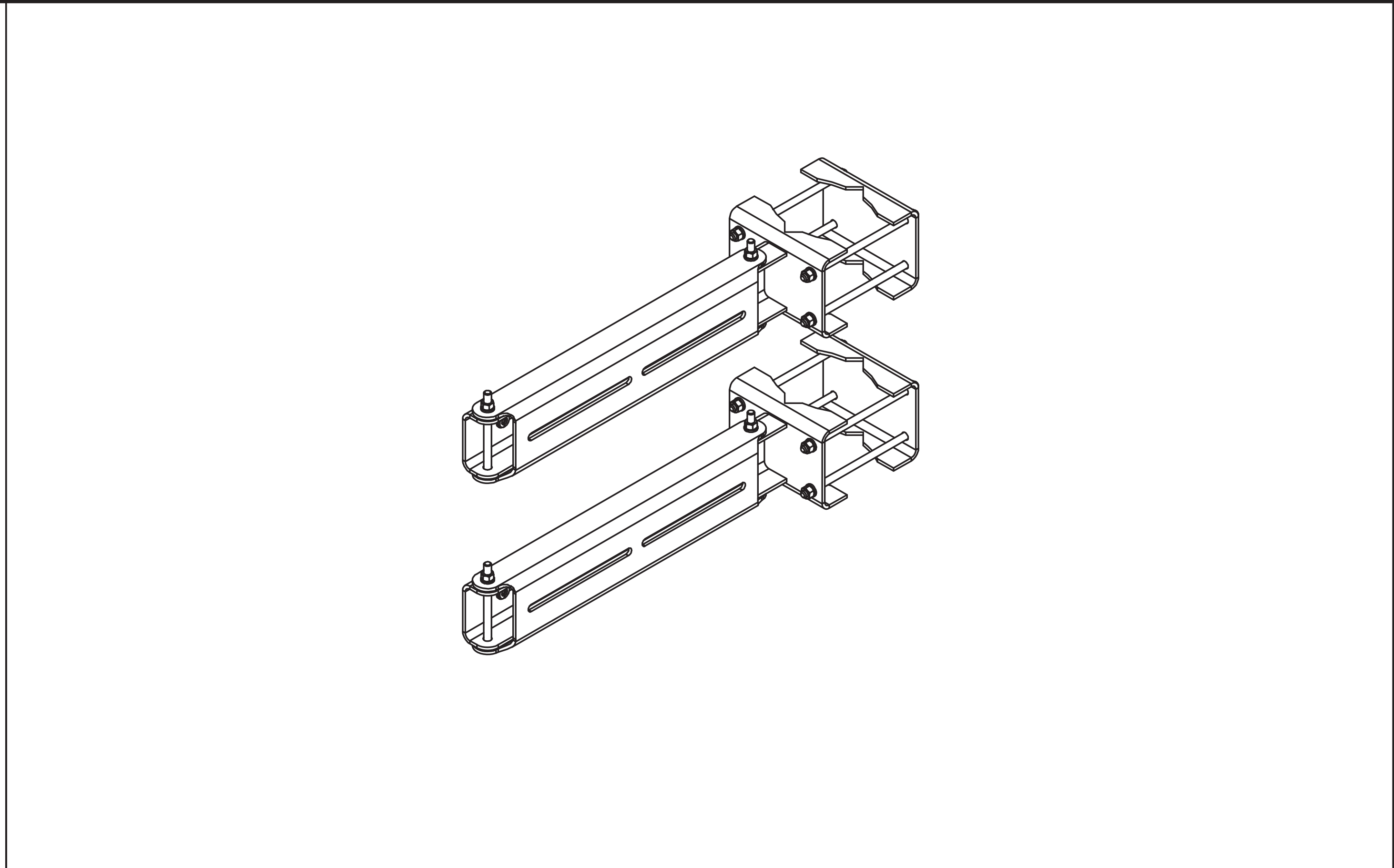
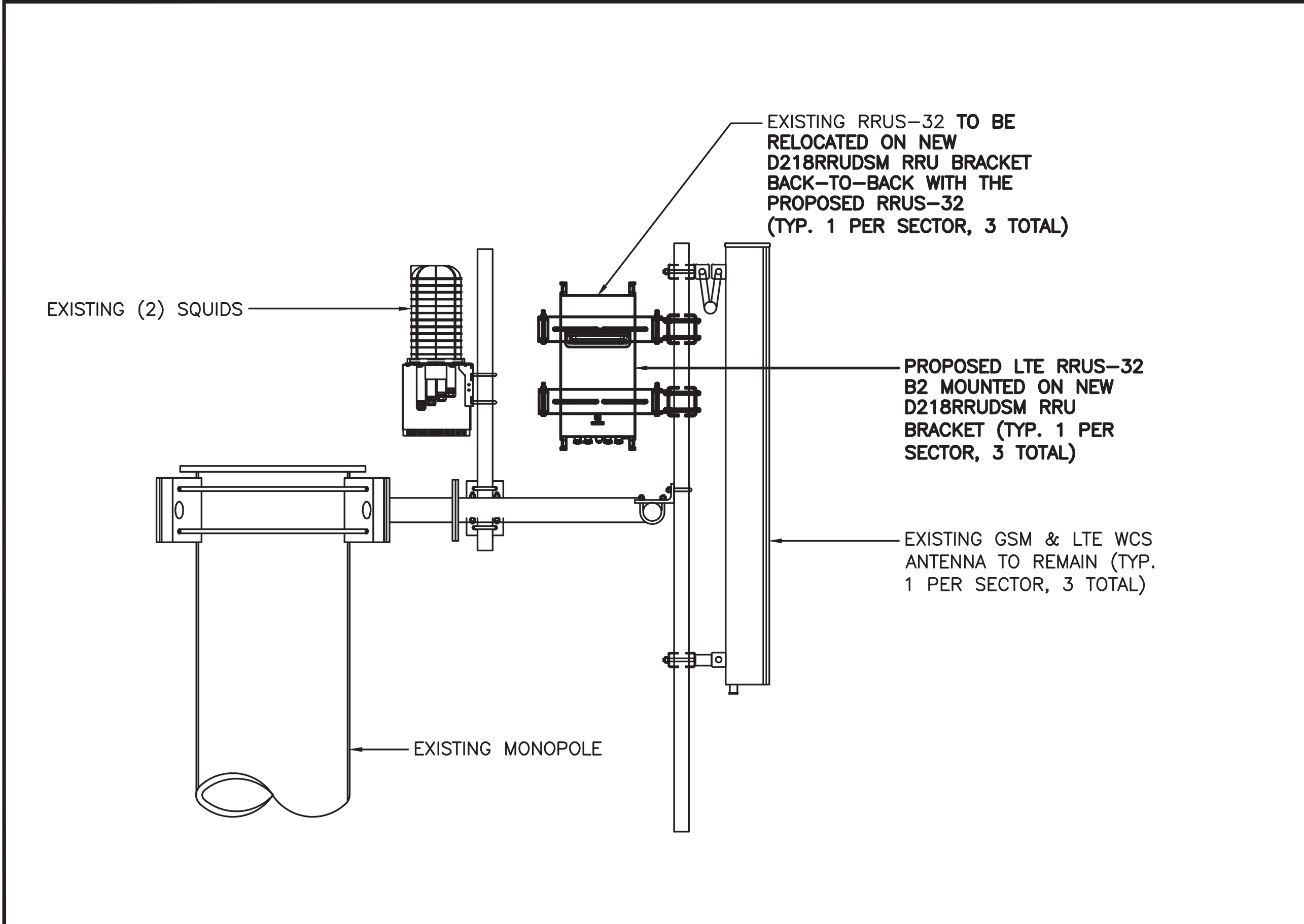


PROPOSED ELEVATION NTS 3



RRUS MOUNT DETAILS N.T.S 1

RRUS DETAILS N.T.S 2



MOUNTING DETAIL 22"x34" SCALE: 3/4" = 1'-0" 11"x17" SCALE: 3/8" = 1'-0" 3

D218RRUDSM RRU BRACKET DETAIL N.T.S 4

550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

16 ESQUIRE ROAD
BILLERICA, MA 01821

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE
125 WESTBOROUGH, MA 01581

PLANS PREPARED BY:

1825 W. WALNUT HILL LANE SUITE 302
IRVING, TX 5038
1-855-669-5421

NO.	DATE	DESCRIPTION	BY
A	11/22/16	FOR REVIEW	GI

SITE INFORMATION:

CT1151
SIMSBURY CENTRAL
FA CODE: 10035290

GRIST MILL ROAD
SIMSBURY, CT 06070

SEAL:

MICHAEL F. PLAROVINSAK, P.E. #25849
Sole Proprietor - Independent Engineer
18301 S.R. 161, Plain City, OH 43064
614-398-6250 / mikemfeng.com

SHEET TITLE:

DETAILS

SHEET NUMBER:

A-4



550 COCHITUATE ROAD
FRAMINGHAM, MA 01701



16 ESQUIRE ROAD
BILLERICA, MA 01821



SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE
125 WESTBOROUGH, MA 01581

PLANS PREPARED BY:



1825 W. WALNUT HILL LANE SUITE 302
IRVING, TX 5038
1-855-669-5421

NO.	DATE	DESCRIPTION	BY
A	11/22/16	FOR REVIEW	GI

SITE INFORMATION:

CT1151
SIMSBURY CENTRAL
FA CODE: 10035290

GRIST MILL ROAD
SIMSBURY, CT 06070

SEAL:

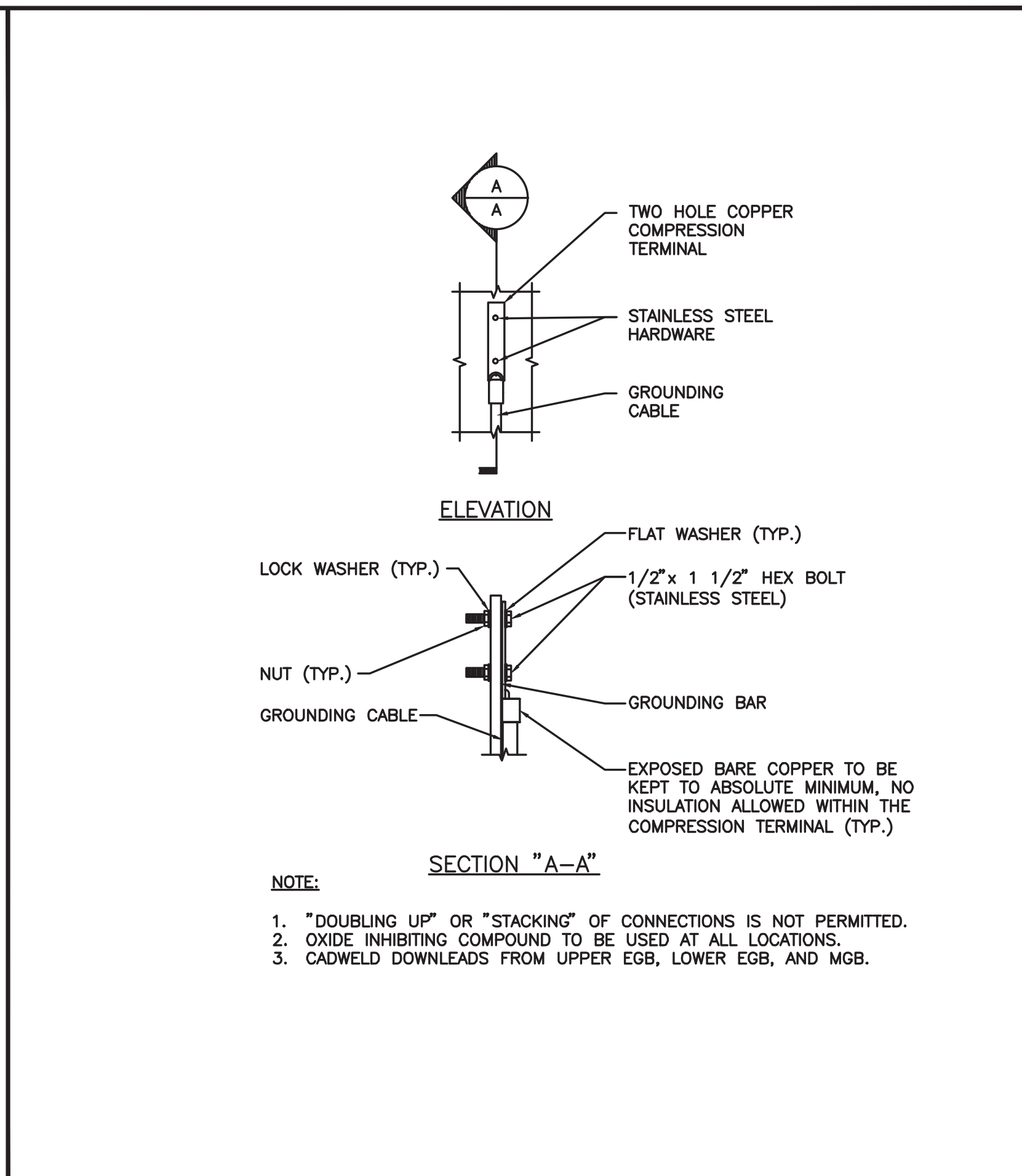
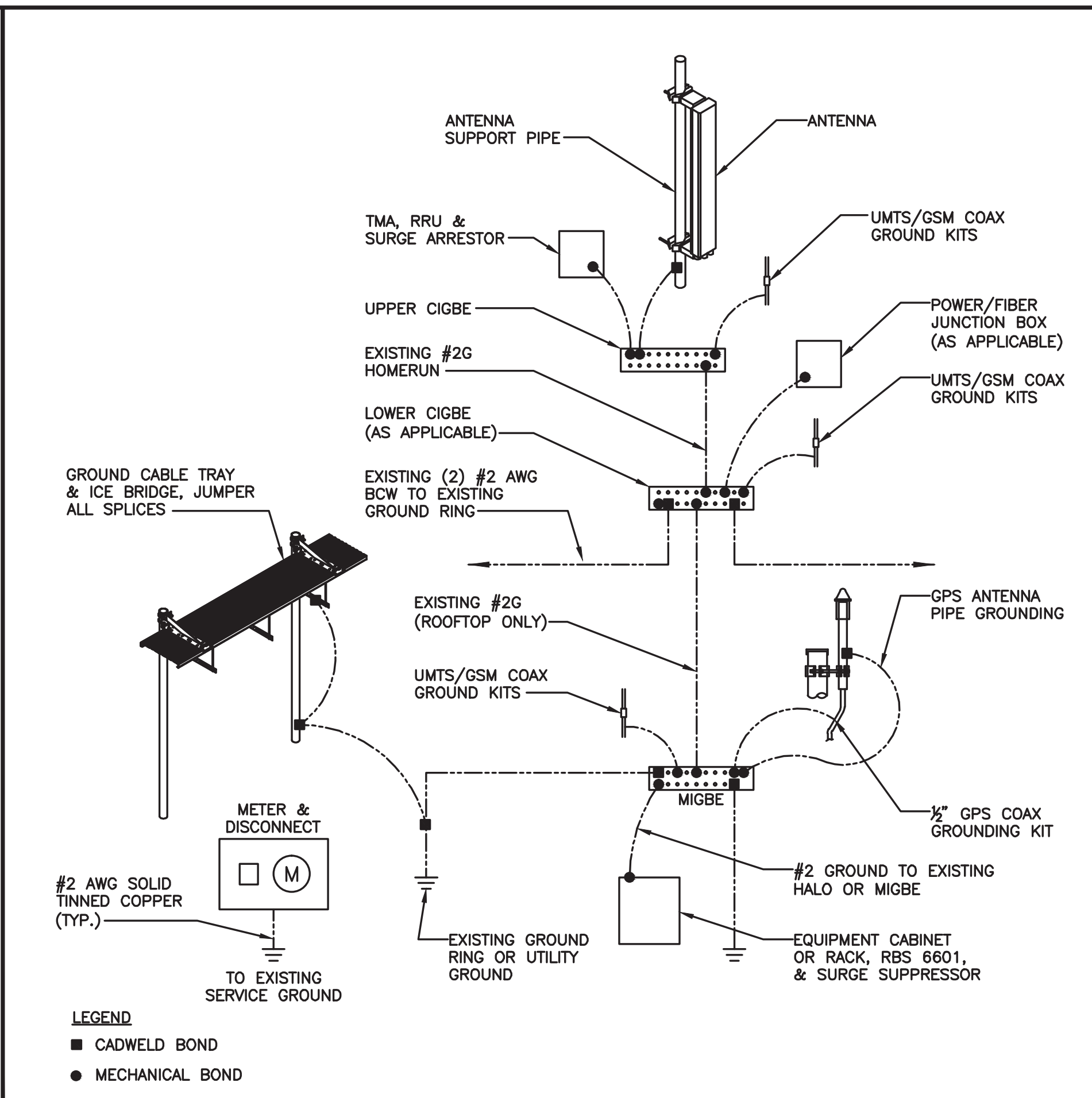
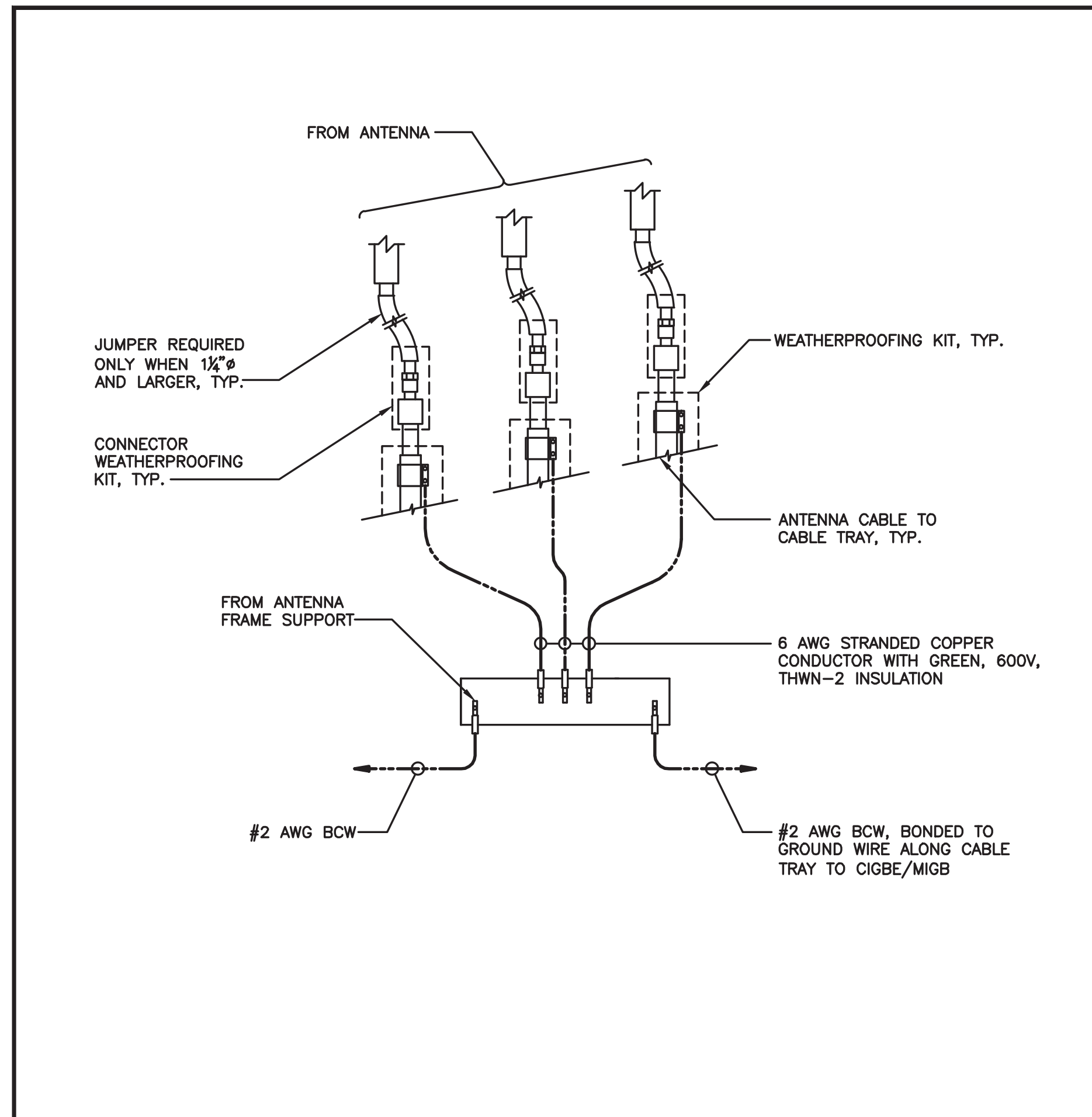


SHEET TITLE:

GROUNDING, ONE-LINE
DIAGRAM & DETAILS

SHEET NUMBER:

G-1



GROUND WIRE TO GROUND BAR CONNECTION DETAILS

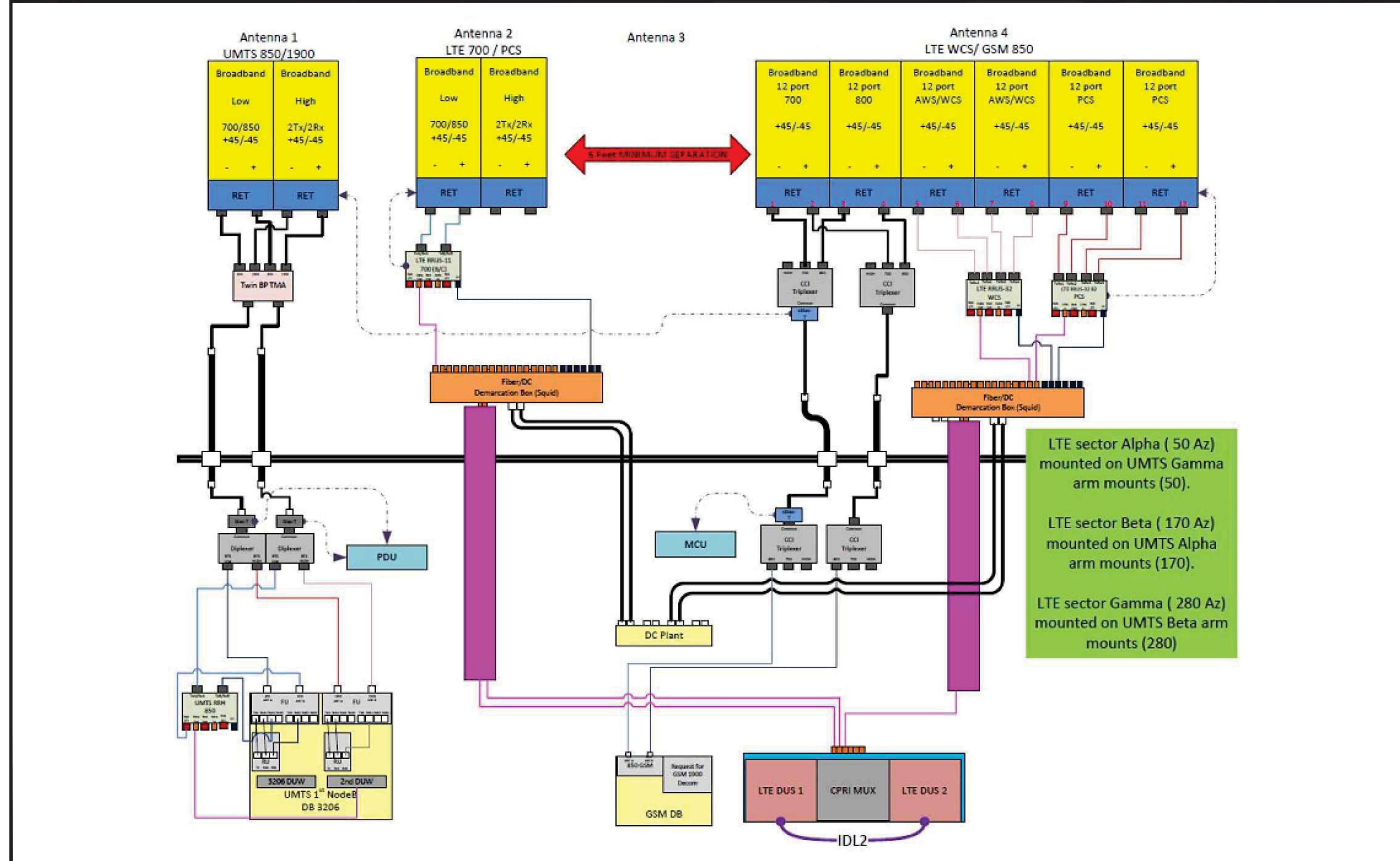
N.T.S 1

GROUND RISER DIAGRAM

N.T.S 2

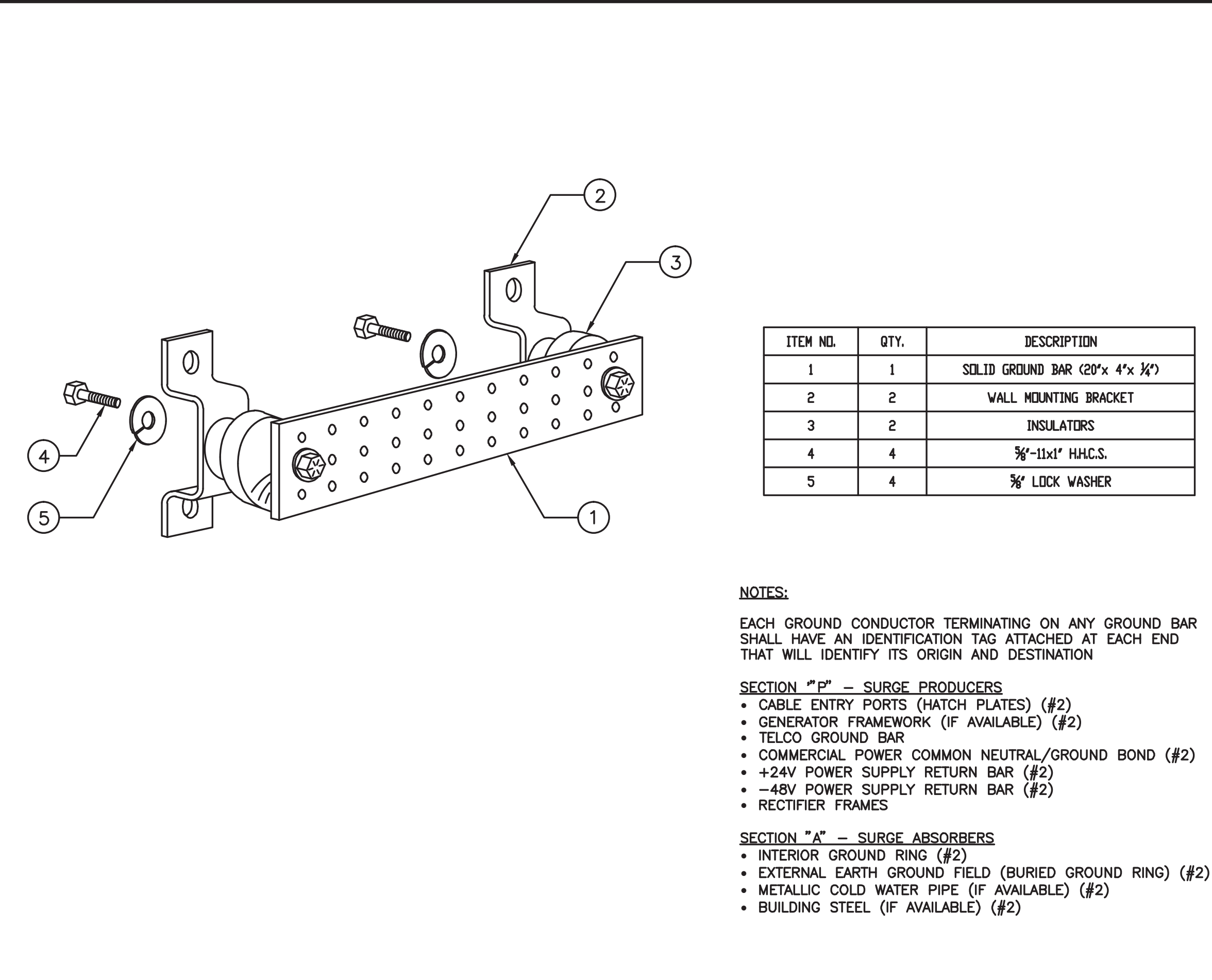
TYPICAL GROUND BAR CONNECTION DETAILS

N.T.S 3



RUN WIRING DIAGRAM

N.T.S 4



GROUND BAR DETAILS

N.T.S 5

- NOTES:
- EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION
- SECTION "P" - SURGE PRODUCERS
- CABLE ENTRY PORTS (HATCH PLATES) (#2)
 - GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
 - TELCO GROUND BAR
 - COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
 - +24V POWER SUPPLY RETURN BAR (#2)
 - 48V POWER SUPPLY RETURN BAR (#2)
 - RECTIFIER FRAMES
- SECTION "A" - SURGE ABSORBERS
- INTERIOR GROUND RING (#2)
 - EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
 - METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
 - BUILDING STEEL (IF AVAILABLE) (#2)