



Filed by:

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

October 28, 2016

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

Notice of Exempt Modification

71 Moxley Road, Uncasville (Montville), CT 06381

41 26 6.76 N

-72 7 23.95 W

AT&T #: 10092216_LTE - CT5236

Dear Ms. Bachman:

AT&T currently maintains six (6) antennas as the 130-foot level of the existing 190-foot Guyed Tower at 71 Moxley Rd., Uncasville (Montville), CT. The tower is owned by SBA Towers II LLC. The property is owned by Ernest and Walter Wainwright. AT&T intends to replace three (3) of the existing antennas with (3) new LTE antennas at the 130-foot level of the tower. AT&T's full scope of proposed work is as follows:

Remove:

- (3) Ericsson RRUS-11

Remove and Replace:

- Remove (1) KMW AM-X-CD-16-65-OOT-RET panel antenna and replace with (1) CCI HPA 65R-BUU-H8 panel antenna
- Remove (1) Andrew SBNH 1D6565C panel antenna and replace with (1) CCI HPA-65R-BUU-H6 panel antenna
- Remove (1) KMW AM-X-CD-14-65-OOT-RET panel antenna and replace with (1) Andrew SBNHH-1D65A panel antenna

Install:

- (3) Ericsson RRUS-12
- (3) Ericsson RRUS-A2

Existing Equipment to Remain (Entitlements):

- (6) Powerwave LGP21401 TMAs
- (3) Ericsson RRUS-11
- (1) Raycap DC6-48-60-18-8F Surge Suppressor

This facility was approved by the Town of Montville with Site Plan Approval on January 13, 1998. The tower was approved at a height of 190' with appropriate guide wires and a chain link fence. There was initial approval for four utility sheds and a driveway. No other tower conditions were set. This modification complies with all aforementioned conditions.



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

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

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

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

Sincerely,

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

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

Attachments

cc: The Honorable Ronald K. McDaniel -- as elected official
Town of Montville, Town Hall, 2nd Floor, 310 Norwich-New London Tpke., Uncasville, CT 06382
Ernest Wainwright and Walter Wainwright, Jr. – as property owners
149 Great Neck Road, Waterford, CT 06385



POWER DENSITY

AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770
Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd
Height (AGL):	130 feet	Height (AGL):	130 feet	Height (AGL):	130 feet
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	6	Channel Count	6	Channel Count	6
Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts
ERP (W):	2,969.12	ERP (W):	2,969.12	ERP (W):	2,969.12
Antenna A1 MPE%	0.99 %	Antenna B1 MPE%	0.99 %	Antenna C1 MPE%	0.99 %
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	CCI HPA-65R-BUU-H8	Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	Commscope SBNHH-1D65A
Gain:	13.15 / 14.95 dBd	Gain:	11.95 / 14.75 dBd	Gain:	10.85 / 14.55 dBd
Height (AGL):	130 feet	Height (AGL):	130 feet	Height (AGL):	130 feet
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	6,229.75	ERP (W):	5,462.56	ERP (W):	4,880.65
Antenna A2 MPE%	2.12 %	Antenna B2 MPE%	1.78 %	Antenna C2 MPE%	1.53 %

Site Composite MPE%	
Carrier	MPE%
AT&T – Max per sector (Sector A)	3.11 %
Verizon	2.81 %
Omnipoint (T-Mobile)	0.15 %
Sprint	0.52 %
MetroPCS	0.17 %
Site Total MPE %:	6.76 %

AT&T Sector A Total:	3.11 %
AT&T Sector B Total:	2.77 %
AT&T Sector C Total:	2.52 %
Site Total:	6.76 %

AT&T_ Max Values Per Sector (Sector A)	# 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	414.12	130	1.94	850 MHz	567	0.34%
AT&T 1900 MHz (PCS) UMTS	2	656.33	130	3.07	1900 MHz (PCS)	1000	0.31%
AT&T 850 MHz GSM	2	414.12	130	1.94	850 MHz	567	0.34%
AT&T 700 MHz LTE	2	1,239.23	130	5.79	700 MHz	467	1.24%
AT&T 1900 MHz (PCS) LTE	2	1,875.65	130	8.77	1900 MHz (PCS)	1000	0.88%
						Total:	3.11%

CURRENT OWNER		TOPO.	UTILITIES	STRT./ROAD	LOCATION	CURRENT ASSESSMENT			
WAINWRIGHT ERNEST C & WALTER		4 Rolling		1 Paved	S1 Murphy Schl	Description	Code	Appraised Value	Assessed Value
149 GREAT NECK RD					F. Montville	Util Land	4-1	185,400	129,780
WATERFORD, CT 06385						Farm Land	6-1	68,890	4,020
Additional Owners:						Outbuild	6-4	21,890	15,330
SUPPLEMENTAL DATA									
Other ID: 017/012-000				Callback X		Total			
Census 695201								276,180	149,130
Dev Lot									
Subdiv									
Map #									
Zoning Notes LI									
GIS ID: 017/012-000				ASSOC PID#					

6086
MONTVILLE, CT

VISION

RECORD OF OWNERSHIP		BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.	PREVIOUS ASSESSMENTS (HISTORY)									
WAINWRIGHT ERNEST C & WALTER N JR		0151/1005	03/23/1983		V	0		Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	
WAINWRIGHT WALTER N JR		0151/1003	03/01/1983		V	0		2015	4-1	129,780	2014	4-1	129,780	2013	4-1	129,780	
JUDGE GORDAN A		0132/1007	10/01/1977		V	0		2015	6-1	4,020	2014	6-1	4,020	2013	6-1	4,020	
MILLER RICHARD D & HELEN I		0136/0948	01/01/1901		V	0		2015	6-4	15,330	2014	6-4	15,330	2013	6-4	15,330	
Total:										149,130	Total:		149,130		Total:		149,130

EXEMPTIONS				OTHER ASSESSMENTS				
Year	Type	Description	Amount	Code	Description	Number	Amount	Comm. Int.
Total:								

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD				
NBHD/SUB	NBHD Name	Street Index Name	Tracing	Batch
0001/A				

APPRAISED VALUE SUMMARY	
Appraised Bldg. Value (Card)	0
Appraised XF (B) Value (Bldg)	0
Appraised OB (L) Value (Bldg)	21,890
Appraised Land Value (Bldg)	185,400
Special Land Value	68,890
Total Appraised Parcel Value	276,180
Valuation Method:	C
Exemptions	0
Adjustment:	0
Net Total Appraised Parcel Value	276,180

NOTES									
8000 SF OF LAND LEASED FOR TOWER									
CELL SITE									
\$2,000 MO X 12 MO = \$24000									
LESS 15% EXP /11% CAP =									
\$185,400									

BUILDING PERMIT RECORD										VISIT/ CHANGE HISTORY					
Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments	Date	Type	IS	ID	Cd.	Purpose/Result	
E2012-0065	03/22/2012	00	Electrical	3,500		100	05/07/2012	CA-ELECTRICAL	04/18/2012			BAA	BN	BAA No Change	
B2012-0060	02/23/2012	79	Misc	35,000		100		TELECOMMUNICATIO	06/30/2011			KN	99	Vacant Lot	
B2011-0417	09/07/2011	79	Misc	17,553		100	12/29/2011	CA-HYDROGEN GENE	04/16/2007			BAA	BC	BAA Change	
B2011-0410	08/31/2011	79	Misc	10,000		100	12/29/2011	CA-CHANGE OUT ANT	12/08/2006			BK	40	Reval Hearing- No Change	
E2002-306	09/30/2002	00	ELECTRICAL SERVI	0		100		ELECTRICAL SERVI							
B2002-494	09/13/2002		INSTALL TELECOM	60,000		100	11/26/2002	CO ISSUED-INSTALL T							
B2002-489	08/21/2002		METAL BUILDING	11,500		100		METAL BUILDING							

LAND LINE VALUATION SECTION																			
B #	Use Code	Use Description	Zone	D	Front	Depth	Units	Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	S Adj Fact	Adj. Unit Price	Land Value
																Spec Use	Spec Calc		
1	602	Till C Farm	LI				3.67	AC	63,000.00	0.1422	5	1.0000	1.00	1.00	SHAPE	490	400	1.00	32,880
1	602	Till C Farm	LI				10.67	AC	4,500.00	1.0000	0	1.0000	0.75	C500		490	400	1.00	36,010
1	4340	Cell Tower					1.00	WF	185,400.00	1.0000	0	1.0000	1.00	0.00				1.00	185,400

CONSTRUCTION DETAIL				CONSTRUCTION DETAIL (CONTINUED)								
Element	Cd.	Ch.	Description	Element	Cd.	Ch.	Description					
Model	00		Vacant									
MIXED USE												
	<i>Code</i>		<i>Description</i>				<i>Percentage</i>					
	602		Till C Farm				100					
COST/MARKET VALUATION												
	Adj. Base Rate:							0.00				
	AYB											
	Dep Code											
	Remodel Rating											
	Year Remodeled											
	Dep %											
	Functional Obslnc											
	External Obslnc											
	Cost Trend Factor											
	Condition											
	% Complete											
	Overall % Cond											
	Apprais Val											
	Dep % Ovr							0				
	Dep Ovr Comment							0				
	Misc Imp Ovr							0				
	Misc Imp Ovr Comment							0				
	Cost to Cure Ovr							0				
	Cost to Cure Ovr Comment											
OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)												
Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
BRN1	Barn- 1 story			L	2,560	16.00	1984	A		AV	50	20,480
SHD1	Shed			L	168	12.00	1984	A		F	30	600
STB1	Stable			L	81	20.00	1984	A		AV	50	810
BUILDING SUB-AREA SUMMARY SECTION												
Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value						
Tot. Gross Liv./Gross Area:		0	0									





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

AT&T Existing Facility

Site ID: CT5236

Uncasville
71 Moxley Road
Uncasville, CT 06382

August 22, 2016

EBI Project Number: 6216003630

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	6.76 %



August 22, 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: **CT5236 – Uncasville**

EBI Consulting was directed to analyze the proposed AT&T facility located at **71 Moxley Road, Uncasville, 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 **71 Moxley Road, Uncasville, 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 GSM channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 5) 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.



- 6) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 7) For the following calculations the sample point was the top of a 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.
- 8) The antennas used in this modeling are the **Powerwave 7770, CCI HPA-65R-BUU-H6, CCI HPA-65R-BUU-H8 and the Commscope SBNHH-1D65A** for transmission in the 700 MHz, 850 MHz and 1900 MHz (PCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 9) The antenna mounting height centerlines of the proposed antennas are **130 feet** above ground level (AGL) for **Sector A**, **130 feet** above ground level (AGL) for **Sector B** and **130 feet** above ground level (AGL) for Sector C.
- 10) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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



AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770
Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd
Height (AGL):	130 feet	Height (AGL):	130 feet	Height (AGL):	130 feet
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	6	Channel Count	6	Channel Count	6
Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts
ERP (W):	2,969.12	ERP (W):	2,969.12	ERP (W):	2,969.12
Antenna A1 MPE%	0.99 %	Antenna B1 MPE%	0.99 %	Antenna C1 MPE%	0.99 %
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	CCI HPA-65R-BUU-H8	Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	Commscope SBNHH-1D65A
Gain:	13.15 / 14.95 dBd	Gain:	11.95 / 14.75 dBd	Gain:	10.85 / 14.55 dBd
Height (AGL):	130 feet	Height (AGL):	130 feet	Height (AGL):	130 feet
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	6,229.75	ERP (W):	5,462.56	ERP (W):	4,880.65
Antenna A2 MPE%	2.12 %	Antenna B2 MPE%	1.78 %	Antenna C2 MPE%	1.53 %

Site Composite MPE%	
Carrier	MPE%
AT&T – Max per sector (Sector A)	3.11 %
Verizon	2.81 %
Omnipoint (T-Mobile)	0.15 %
Sprint	0.52 %
MetroPCS	0.17 %
Site Total MPE %:	6.76 %

AT&T Sector A Total:	3.11 %
AT&T Sector B Total:	2.77 %
AT&T Sector C Total:	2.52 %
Site Total:	6.76 %

AT&T _ Max Values Per Sector (Sector A)	# 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	414.12	130	1.94	850 MHz	567	0.34%
AT&T 1900 MHz (PCS) UMTS	2	656.33	130	3.07	1900 MHz (PCS)	1000	0.31%
AT&T 850 MHz GSM	2	414.12	130	1.94	850 MHz	567	0.34%
AT&T 700 MHz LTE	2	1,239.23	130	5.79	700 MHz	467	1.24%
AT&T 1900 MHz (PCS) LTE	2	1,875.65	130	8.77	1900 MHz (PCS)	1000	0.88%
						Total:	3.11%



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:	3.11 %
Sector B:	2.77 %
Sector C:	2.52 %
AT&T Maximum Total (per sector):	3.11 %
Site Total:	6.76 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **6.76 %** 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 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 190 ft Rohn Guyed Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT10016-A

Customer Site Name: Montville 3, CT

Carrier Name: AT&T

Carrier Site ID / Name: 10092216

Site Location: 71 Moxley Road

Uncasville, Connecticut

New London County

Latitude: 41.435211

Longitude: -72.123319

Analysis Result:

Max Structural Usage: 99% [Pass]

Max Foundation Usage: 70% [Pass]

Report Prepared By : Ram Kodali



Introduction

The purpose of this report is to summarize the analysis results on the 190 ft Rohn Guyed Tower 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, Inc. Eng. File # 37183AE001 dated 04/21/1998.
Foundation Drawing	Rohn, Inc. Eng. File # 37183AE001 dated 04/21/1998.
Geotechnical Report	FDH Engineering, Inc. Project # 11-02193EG1 dated 08/10/2011.
Modification Drawings	FDH Velocitel, Project # 15BJIT1400 dated 04/22/2015. FDH Engineering, Inc. Project # 1465RU1400 dated 05/29/2014.
Previous Analysis	FDH Velocitel, Project # 15BJIT1400 dated 04/22/2015.

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 **TESTowers**, 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 $V_{ult} = 133$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 105$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	175.0	6	Kathrein - 800 10504 - Panel	(3) T-Frames	(12) 1 5/8" (1) 3/8"	Metro PCS
2		6	Kathrein - 860 10118 - RET			
3	160.0	3	RFS - APXVSP18-C-A20 - Panel	(3) T-Frames	(3) 1 1/4"	Sprint
4	159.0	3	RFS - APXVTM14-C-120 - Panel			
5		3	ALU - 1900MHz – RRH			
6		3	ALU - 800 MHz – RRH			
7		3	ALU - TD-RRH8x20-25 - RRH			
8		4	ALU - 800MHz External Notch - Filter			
9		4	RFS - ACU-A20-N – RET			
10	150.0	3	Ericsson - AIR 21 B2A-B4P – Panel	(3) T-Frames	(12) 1 5/8" (1) 1 5/8" Hybrid	T-Mobile
11		3	Ericsson - AIR 21 B4A-B2P – Panel			
12		3	Ericsson - KRY 112 144/1 – TMA			
13	141.0	3	Antel - BXA-70063-6CF-EDIN-0 – Panel	(3) T-Frames	(12) 1 5/8" (1) 1 5/8" Hybrid	Verizon
14		3	Commscope - LNX-8513DS-VTM - Panel			
15		6	Commscope - HBXX-6517DS-A2M - Panel			
16		6	RFS - FD9R6004/2C-3L – Diplexer			
17		3	ALU - RRH2X60-AWS – RRH			
18		1	RFS - DB-T1-6Z-8AB-0Z – DC Surge			
-	130.0	3	Powerwave - 7770.00 - Panel	(3) T-Frames	(12) 1 1/4" (1) 1/2" Hybrid (2) 3/4" DC	AT&T
-		1	KMW - AM-X-CD-16-65-00T-RET - Panel			
-		1	Andrew - SBNH-1D6565C - Panel			
-		1	KMW - AM-X-CD-14-65-00T-RET - Panel			
-		6	Powerwave - LGP21401 – TMA			
-		6	Ericsson - RRUS-11 – RRU			
-		1	Raycap - DC6-48-60-18-8F – Surge Supp.			
29	76.0	1	Andrew - GPS 7.5"X3" - GPS	(1) Stand-off Mount	(1) 1/2"	Verizon

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
19	130.0	3	Powerwave - 7770.00 - Panel	(3) T-Frames	(12) 1 1/4" (1) 1/2" Hybrid (2) 3/4" DC	AT&T
20		1	CCI - HPA-65R-BUU-H8 - Panel			
21		1	CCI - HPA-65R-BUU-H6 - Panel			
22		1	Andrew - SBNHH-1D65A - Panel			
23		6	Powerwave - LGP21401 – TMA			
24		6	Kathrein - 860 10025 - RET			
25		3	Ericsson - RRUS-11 – RRU			
26		3	Ericsson – RRUS-12 – RRU			
27		3	Ericsson – RRUS-A2 – RRU			
28		1	Raycap - DC6-48-60-18-8F – Surge Supp.			

There are no proposed coax lines.

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:

Tower Component	Legs	Diagonals	Horizontals	Guy Wires
Max. Usage:	86.0%	99.0%	21.0%	52.7%
Pass/Fail	Pass	Pass	Pass	Pass

Foundations

Reactions (kips)	Base Reactions		Inner Anchors	
	Axial	Shear	Uplift	Shear
Analysis Reactions	156.7	6.0	40.5	47.3

The foundation has been investigated using the supplied documents and soils report and was found to be 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 0.7214 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.

Structure: CT10016-A-SBA

Site Name: Montville 3, CT
Type: Guyed
Height: 190.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: Triangle
Base Width: 0.00
Top Width: 3.42

Code: EIA/TIA-222-G
Basic WS: 105.00
Basic Ice WS: 50.00
Operational WS: 60.00

10/25/2016
 Page: 1



Section Properties

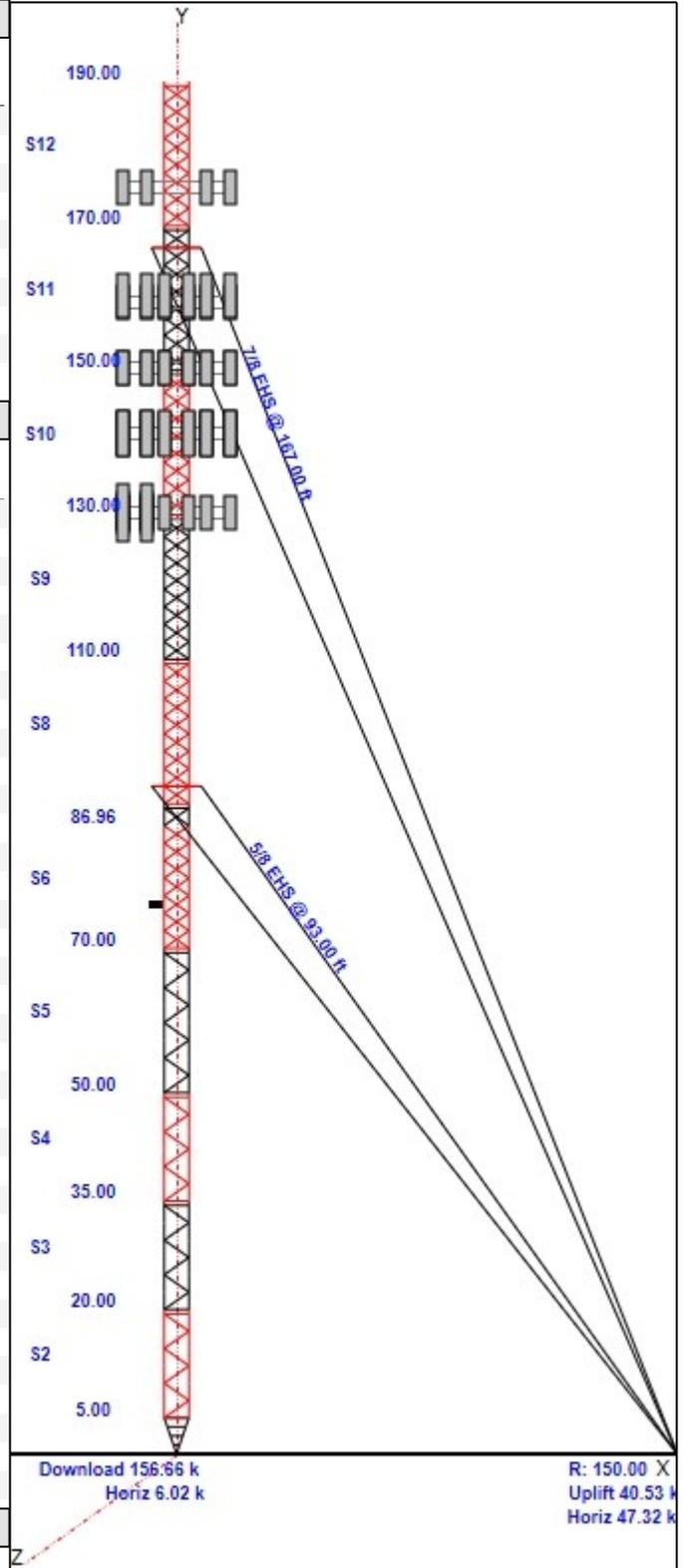
Sect	Leg Members	Diagonal Members	Horizontal Members
1	PX 3" DIA PIPE		SAE 8X8X0.75
2	PX 3" DIA PIPE	PSP ROHN 1 1/2X11GA	PSP ROHN 1 1/2X11GA
3-4	PX 3" DIA PIPE	PSP ROHN 1 1/2X16GA	PSP ROHN 1 1/2X16GA
5	PX 3" DIA PIPE	PSP ROHN 1 1/2X11GA	PSP ROHN 1 1/2X11GA
6	PX 3" DIA PIPE	PSP ROHN 1 1/2X16GA	PSP ROHN 1 1/2X16GA
7	PX 3" DIA PIPE	SAE 2X2X0.25	PSP ROHN 1 1/2X16GA
8	PX 3" DIA PIPE	PSP ROHN 1 1/2X11GA	PSP ROHN 1 1/2X11GA
9	MOD 2.5"PX+3"PX1/2P	PSP ROHN 1 1/2X11GA	PSP ROHN 1 1/2X11GA
10	MOD 2.5"PX+3"PX1/2P	PSP ROHN 1 1/2X16GA	PSP ROHN 1 1/2X16GA
11-12	PX 3" DIA PIPE	SAE 2X2X0.25	SAE 2X2X0.25

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description
175.00	175.00	6	800 10504
175.00	175.00	6	860 10118
175.00	175.00	3	Sector Frame
159.00	160.00	3	APXVSP18-C-A20
159.00	159.00	3	APXVTM14-C-120
159.00	159.00	3	1900MHz RRH
159.00	159.00	3	800 MHz RRH
159.00	159.00	3	TD-RRH8x20-25
159.00	159.00	4	ALU 800MHz External Notch Filt
159.00	159.00	4	ACU-A20-N
159.00	159.00	3	Sector Frame
150.00	150.00	3	AIR 21 B2A-B4P
150.00	150.00	3	AIR 21 B4A-B2P
150.00	150.00	3	KRY 112 144/1
150.00	150.00	3	Sector Frame
141.00	141.00	3	BXA-70063-6CF-EDIN-0
141.00	141.00	3	LNx-8513DS-VTM
141.00	141.00	6	HBXX-6517DS-A2M
141.00	141.00	6	FD9R6004/2C-3L
141.00	141.00	3	RRH2X60-AWS
141.00	141.00	1	DB-T1-6Z-8AB-0Z
141.00	141.00	3	Sector Frame
130.00	130.00	3	7770.00
130.00	130.00	1	HPA-65R-BUU-H8
130.00	130.00	1	HPA-65R-BUU-H6
130.00	130.00	1	SBNHH-1D65A
130.00	130.00	6	LGP21401
130.00	130.00	6	860 10025
130.00	130.00	3	RRUS 12
130.00	130.00	3	RRUS A2 Module
130.00	130.00	1	DC6-48-60-18-8F
130.00	130.00	3	RRUS-11
130.00	130.00	3	Sector Frame
76.00	76.00	1	Andrew - GPS 7.5"X3" - GPS
76.00	76.00	1	Stand-Off

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Qty	Description
0.00	175.00	12	1 5/8" Coax



Structure: CT10016-A-SBA

Site Name: Montville 3, CT

Code: EIA/TIA-222-G

10/25/2016

Type: Guyed

Base Shape: Triangle

Basic WS: 105.00

Height: 190.00 (ft)

Base Width: 0.00

Basic Ice WS: 50.00

Base Elev: 0.00 (ft)

Top Width: 3.42

Operational WS: 60.00

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0.00	175.00	1	3/8" Coax
0.00	160.00	3	1 1/4" Coax
0.00	150.00	12	1 5/8" Coax
0.00	150.00	1	1 5/8" Hybrid
0.00	141.00	6	1 5/8" Coax
0.00	141.00	6	1 5/8" Coax
0.00	141.00	1	1 5/8" Hybrid
0.00	130.00	12	1 1/4" Coax
0.00	130.00	1	1/2" Hybrid
0.00	130.00	2	3/4" DC
0.00	76.00	1	1/2" Coax

Max Guy Wire

52.72% @ 92.4221 ft - 5/8 EHS

Structure: CT10016-A-SBA

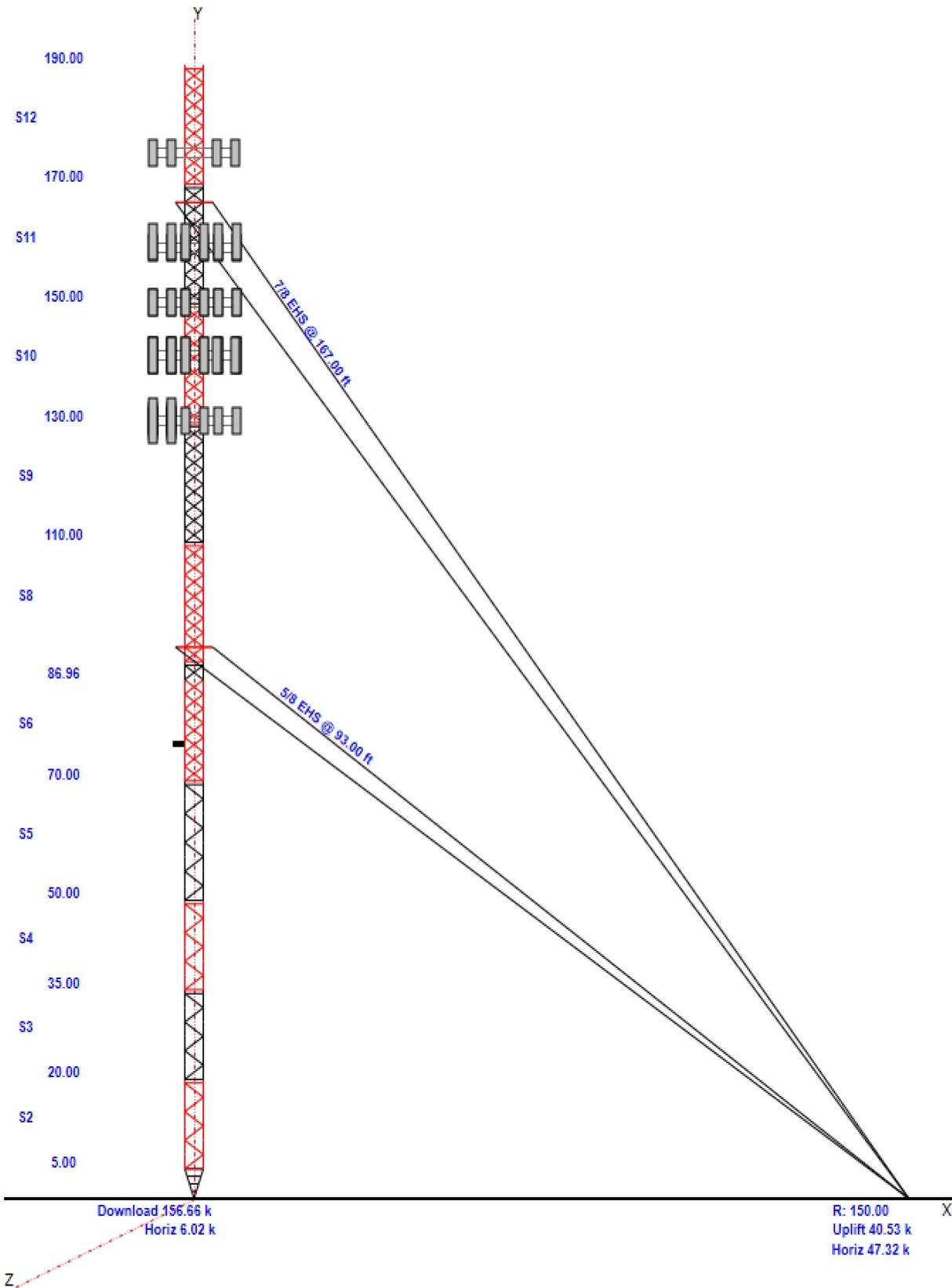
Site Name: Montville 3, CT
Type: Guyed
Height: 190.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: Triangle
Base Width: 0.00
Top Width: 3.42

Code: EIA/TIA-222-G
Basic WS: 105.00
Basic Ice WS: 50.00
Operational WS: 60.00

10/25/2016

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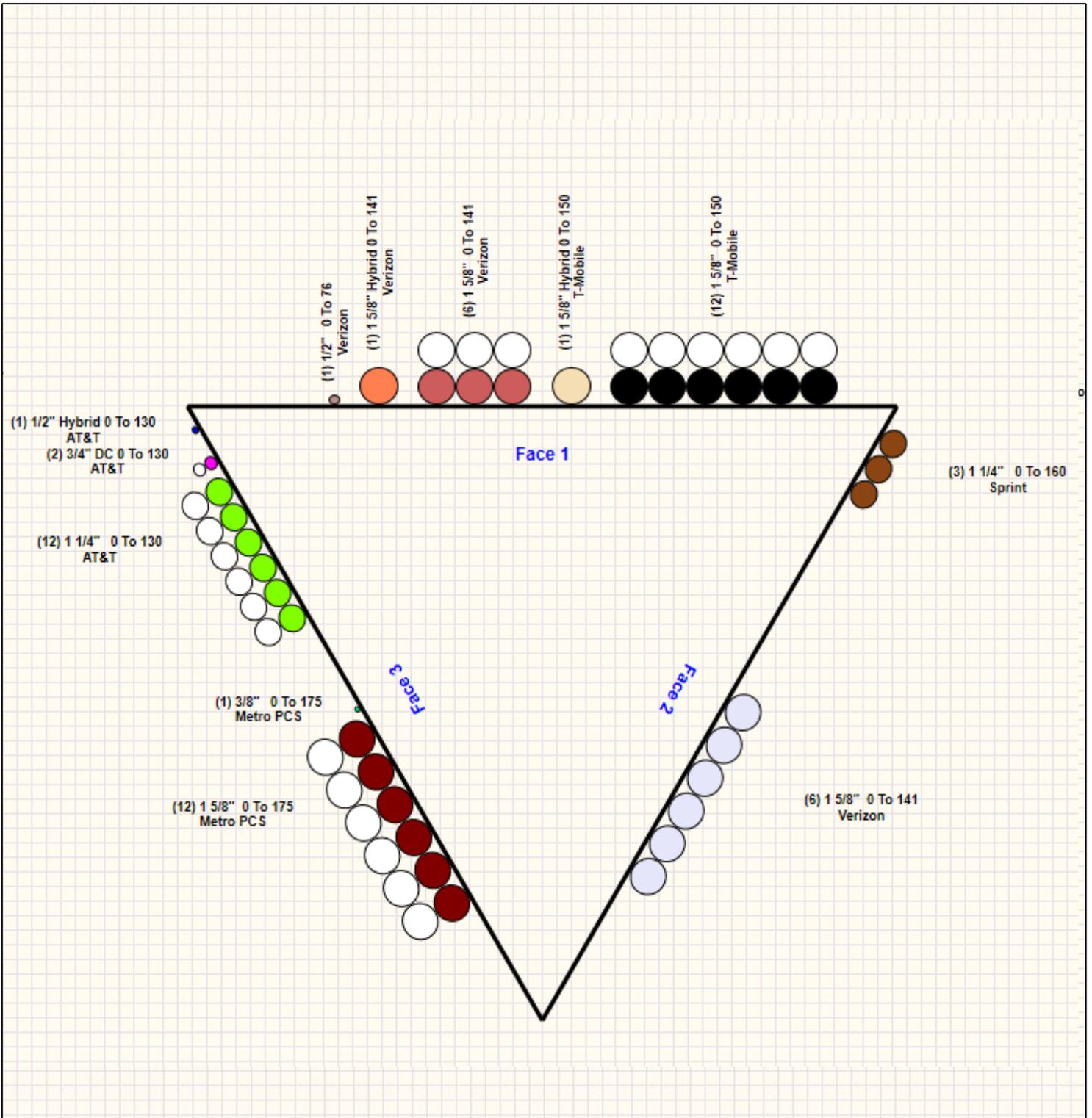
Structure: CT10016-A-SBA - Coax Line Placement

Type: Guyed
Site Name: Montville 3, CT
Height: 190.00 (ft)

10/25/2016



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Loading Summary

Structure: CT10016-A-SBA	Code: EIA/TIA-222-G	10/25/2016
Site Name: Montville 3, CT	Exposure: B	
Height: 190.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II



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Discrete Appurtenances Properties

Attach Elev (ft)	Description	Qty	No Ice		Ice		Len (in)	Width (in)	Depth (in)	Ka	Orientation Factor	Vert Ecc (ft)
			Weight (lb)	CaAa (sf)	Weight (lb)	CaAa (sf)						
175.00	800 10504	6	17.60	3.340	81.69	5.187	54.000	6.100	2.700	0.80	0.72	0.000
175.00	860 10118	6	1.10	0.160	6.34	0.512	7.000	2.400	2.000	0.80	0.67	0.000
175.00	Sector Frame	3	500.00	17.500	1210.93	31.683	0.000	0.000	0.000	0.75	0.75	0.000
159.00	APXVSP18-C-A20	3	57.00	8.020	258.23	9.324	72.000	11.800	7.000	0.80	0.83	1.000
159.00	APXVTM14-C-120	3	56.00	6.340	217.66	7.461	56.300	12.600	6.300	0.80	0.79	0.000
159.00	1900MHz RRH	3	60.00	2.770	143.98	4.047	25.000	11.100	11.400	0.80	0.67	0.000
159.00	800 MHz RRH	3	53.00	2.490	127.44	3.641	19.700	13.000	10.800	0.80	0.67	0.000
159.00	TD-RRH8x20-25	3	70.00	4.050	181.33	4.869	26.100	18.600	6.700	0.80	0.67	0.000
159.00	ALU 800MHz External Notch Filt	4	8.80	0.780	26.56	1.431	10.000	8.000	3.000	0.80	0.67	0.000
159.00	ACU-A20-N	4	1.00	0.140	5.32	0.439	4.000	2.000	3.500	0.80	0.67	0.000
159.00	Sector Frame	3	500.00	17.500	1202.61	31.517	0.000	0.000	0.000	0.75	0.75	0.000
150.00	AIR 21 B2A-B4P	3	91.50	6.090	259.00	7.179	56.000	12.100	7.900	0.80	0.86	0.000
150.00	AIR 21 B4A-B2P	3	90.40	6.090	257.90	7.179	56.000	12.100	7.900	0.80	0.86	0.000
150.00	KRY 112 144/1	3	20.00	0.410	39.47	0.882	12.000	7.000	4.000	0.80	0.67	0.000
150.00	Sector Frame	3	500.00	17.500	1193.29	31.331	0.000	0.000	0.000	0.75	0.75	0.000
141.00	BXA-70063-6CF-EDIN-0	3	17.00	7.570	189.73	8.821	71.000	11.200	5.200	0.80	0.73	0.000
141.00	LNX-8513DS-VTM	3	26.30	8.170	228.02	9.465	72.700	11.900	7.100	0.80	0.83	0.000
141.00	HBXX-6517DS-A2M	6	40.80	8.550	242.94	9.849	74.900	12.000	6.500	0.80	0.77	0.000
141.00	FD9R6004/2C-3L	6	3.10	0.360	11.07	0.800	5.800	6.500	1.500	0.80	0.67	0.000
141.00	RRH2X60-AWS	3	55.00	3.500	134.46	4.284	37.000	11.000	6.000	0.80	0.67	0.000
141.00	DB-T1-6Z-8AB-0Z	1	18.90	4.800	161.46	5.667	24.000	24.000	10.000	1.00	1.00	0.000
141.00	Sector Frame	3	500.00	17.500	1193.29	31.331	0.000	0.000	0.000	0.75	0.75	0.000
130.00	7770.00	3	35.00	5.500	166.53	6.540	55.000	11.000	5.000	0.80	0.73	0.000
130.00	HPA-65R-BUU-H8	1	68.00	12.980	351.59	14.557	92.400	14.800	7.400	0.80	0.85	0.000
130.00	HPA-65R-BUU-H6	1	51.00	9.660	292.75	10.994	72.000	14.800	9.000	0.80	0.85	0.000
130.00	SBNHH-1D65A	1	33.50	5.880	187.67	6.935	55.000	11.900	7.100	0.80	0.85	0.000
130.00	LGP21401	6	19.00	1.290	51.95	2.107	14.400	9.200	2.600	0.80	0.67	0.000
130.00	860 10025	6	1.20	0.180	7.06	0.550	7.600	2.400	2.000	0.80	0.67	0.000
130.00	RRUS 12	3	60.00	2.700	125.54	3.345	18.200	17.800	8.000	0.80	0.67	0.000
130.00	RRUS A2 Module	3	21.20	1.860	56.51	2.812	12.800	15.000	3.400	0.80	0.67	0.000
130.00	DC6-48-60-18-8F	1	31.80	0.920	92.26	1.348	24.000	11.000	11.000	1.00	1.00	0.000
130.00	RRUS-11	3	55.00	2.520	131.22	3.139	17.000	17.800	7.200	0.80	0.67	0.000
130.00	Sector Frame	3	500.00	17.500	1182.68	31.119	0.000	0.000	0.000	0.75	0.75	0.000
76.00	Andrew - GPS 7.5"X3" - GPS	1	1.00	0.130	8.92	0.340	7.500	3.000	3.000	1.00	1.00	0.000
76.00	Stand-Off	1	15.00	4.310	36.59	9.358	0.000	0.000	0.000	1.00	1.00	0.000
Totals:		111	10,557.40		29,164.55						Number of Appurtenances :	35

Loading Summary

Structure: CT10016-A-SBA	Code: EIA/TIA-222-G	10/25/2016
Site Name: Montville 3, CT	Exposure: B	
Height: 190.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II



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Linear Appurtenances Properties

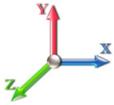
Elev. From (ft)	Elev. To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	175.00	1 5/8" Coax	12	1.98	1.04	50.00	3	Block		N	0.50	1.00	
0.00	175.00	3/8" Coax	1	0.44	0.08	100.00	3	Individual NR		N	1.00	1.00	
0.00	160.00	1 1/4" Coax	3	1.55	0.66	100.00	2	Individual IR		N	1.00	0.67	
0.00	150.00	1 5/8" Coax	12	1.98	1.04	50.00	1	Block		N	0.50	1.00	
0.00	150.00	1 5/8" Hybrid	1	2.00	1.10	100.00	1	Individual NR		N	1.00	1.00	
0.00	141.00	1 5/8" Coax	6	1.98	1.04	50.00	1	Block		N	0.50	1.00	
0.00	141.00	1 5/8" Coax	6	1.98	1.04	100.00	2	Individual IR		N	1.00	0.67	
0.00	141.00	1 5/8" Hybrid	1	2.00	1.10	100.00	1	Individual NR		N	1.00	1.00	
0.00	130.00	1 1/4" Coax	12	1.55	0.66	50.00	3	Block		N	0.50	1.00	
0.00	130.00	1/2" Hybrid	1	0.50	0.52	100.00	3	Individual NR		N	1.00	1.00	
0.00	130.00	3/4" DC	2	0.75	0.40	50.00	3	Block		N	1.00	1.00	
0.00	76.00	1/2" Coax	1	0.65	0.16	100.00	1	Individual NR		N	1.00	1.00	

Section Forces

Structure: CT10016-A-SBA
Site Name: Montville 3, CT
Height: 190.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Topography: 1

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

10/25/2016

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Load Case: 1.2D + 1.6W Normal Wind

1.2D + 1.6W 105 mph Wind at Normal To Face

Wind Load Factor: 1.60	Wind Importance Factor: 1.00
Dead Load Factor: 1.20	Ice Importance Factor: 1.00
Ice Dead Load Factor: 0.00	

Sect Seq	Wind Height (ft)	Wind qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	16.79	4.917	3.14	0.00	0.81	1.82	1.00	1.00	0.00	7.71	29.32	0.00	1,700.2	0.0	320.32	183.37	479.66
2	12.5	16.79	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	87.96	0.00	1,673.4	0.0	424.20	1694.40	2,118.59
3	27.5	16.79	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	87.96	0.00	1,584.5	0.0	424.20	1694.40	2,118.59
4	42.5	18.57	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	87.96	0.00	1,584.5	0.0	468.98	1873.27	2,342.25
5	60.0	20.49	0.000	16.35	0.00	0.22	2.53	1.00	1.00	0.00	9.66	117.28	0.00	2,217.4	0.0	681.12	2756.32	3,437.44
6	78.5	22.12	0.000	17.11	0.00	0.27	2.37	1.00	1.00	0.00	10.43	98.87	0.00	1,883.0	0.0	744.56	2511.17	3,255.73
7	88.5	22.89	1.299	2.16	0.00	0.31	2.28	1.00	1.00	0.00	2.62	17.64	0.00	405.5	0.0	185.78	463.99	649.77
8	100.0	23.71	0.000	20.24	0.00	0.27	2.37	1.00	1.00	0.00	12.35	116.20	0.00	2,427.1	0.0	943.99	3164.28	4,108.28
9	120.0	24.98	0.000	19.21	0.00	0.26	2.41	1.00	1.00	0.00	11.65	116.20	0.00	2,610.7	0.0	951.47	3333.49	4,284.96
10	140.0	26.10	0.000	19.22	0.00	0.26	2.40	1.00	1.00	0.00	11.65	78.84	0.00	2,040.6	0.0	994.24	2361.81	3,356.05
11	160.0	27.12	11.444	11.67	0.00	0.31	2.27	1.00	1.00	0.00	18.46	28.58	0.00	1,911.4	0.0	1542.05	917.85	2,459.90
12	180.0	28.04	11.435	11.67	0.00	0.31	2.27	1.00	1.00	0.00	18.43	6.18	0.00	1,661.6	0.0	1592.72	210.74	1,803.46
														21,699.9	0.0	30,414.67		

Load Case: 1.2D + 1.6W 60° Wind

1.2D + 1.6W 105 mph Wind at 60° From Face

Wind Load Factor: 1.60	Wind Importance Factor: 1.00
Dead Load Factor: 1.20	Ice Importance Factor: 1.00
Ice Dead Load Factor: 0.00	

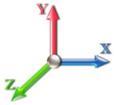
Sect Seq	Wind Height (ft)	Wind qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	16.79	4.917	3.14	0.00	0.81	1.82	0.80	1.00	0.00	6.72	29.32	0.00	1,700.2	0.0	279.44	183.37	462.81
2	12.5	16.79	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	87.96	0.00	1,673.4	0.0	424.20	1694.40	2,118.59
3	27.5	16.79	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	87.96	0.00	1,584.5	0.0	424.20	1694.40	2,118.59
4	42.5	18.57	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	87.96	0.00	1,584.5	0.0	468.98	1873.27	2,342.25
5	60.0	20.49	0.000	16.35	0.00	0.22	2.53	0.80	1.00	0.00	9.66	117.28	0.00	2,217.4	0.0	681.12	2756.32	3,437.44
6	78.5	22.12	0.000	17.11	0.00	0.27	2.37	0.80	1.00	0.00	10.43	98.87	0.00	1,883.0	0.0	744.56	2511.17	3,255.73
7	88.5	22.89	1.299	2.16	0.00	0.31	2.28	0.80	1.00	0.00	2.36	17.64	0.00	405.5	0.0	167.37	463.99	631.35
8	100.0	23.71	0.000	20.24	0.00	0.27	2.37	0.80	1.00	0.00	12.35	116.20	0.00	2,427.1	0.0	943.99	3164.28	4,108.28
9	120.0	24.98	0.000	19.21	0.00	0.26	2.41	0.80	1.00	0.00	11.65	116.20	0.00	2,610.7	0.0	951.47	3333.49	4,284.96
10	140.0	26.10	0.000	19.22	0.00	0.26	2.40	0.80	1.00	0.00	11.65	78.84	0.00	2,040.6	0.0	994.24	2361.81	3,356.05
11	160.0	27.12	11.444	11.67	0.00	0.31	2.27	0.80	1.00	0.00	16.17	28.58	0.00	1,911.4	0.0	1350.83	917.85	2,268.67
12	180.0	28.04	11.435	11.67	0.00	0.31	2.27	0.80	1.00	0.00	16.14	6.18	0.00	1,661.6	0.0	1395.08	210.74	1,605.82
														21,699.9	0.0	29,990.55		

Section Forces

Structure: CT10016-A-SBA
Site Name: Montville 3, CT
Height: 190.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Topography: 1

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

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Load Case: 1.2D + 1.6W 90° Wind										1.2D + 1.6W 105 mph Wind at 90° From Face									
Wind Load Factor: 1.60										Wind Importance Factor: 1.00									
Dead Load Factor: 1.20										Ice Importance Factor: 1.00									
Ice Dead Load Factor: 0.00																			

Sect Seq	Wind Height (ft)	Total Flat Area (psf) (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
1	2.5	16.79	4.917	3.14	0.00	0.81	1.82	0.85	1.00	0.00	6.97	29.32	0.00	1,700.2	0.0	289.66	183.37	473.03
2	12.5	16.79	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	87.96	0.00	1,673.4	0.0	424.20	1694.40	2,118.59
3	27.5	16.79	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	87.96	0.00	1,584.5	0.0	424.20	1694.40	2,118.59
4	42.5	18.57	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	87.96	0.00	1,584.5	0.0	468.98	1873.27	2,342.25
5	60.0	20.49	0.000	16.35	0.00	0.22	2.53	0.85	1.00	0.00	9.66	117.28	0.00	2,217.4	0.0	681.12	2756.32	3,437.44
6	78.5	22.12	0.000	17.11	0.00	0.27	2.37	0.85	1.00	0.00	10.43	98.87	0.00	1,883.0	0.0	744.56	2511.17	3,255.73
7	88.5	22.89	1.299	2.16	0.00	0.31	2.28	0.85	1.00	0.00	2.43	17.64	0.00	405.5	0.0	171.97	463.99	635.96
8	100.0	23.71	0.000	20.24	0.00	0.27	2.37	0.85	1.00	0.00	12.35	116.20	0.00	2,427.1	0.0	943.99	3164.28	4,108.28
9	120.0	24.98	0.000	19.21	0.00	0.26	2.41	0.85	1.00	0.00	11.65	116.20	0.00	2,610.7	0.0	951.47	3333.49	4,284.96
10	140.0	26.10	0.000	19.22	0.00	0.26	2.40	0.85	1.00	0.00	11.65	78.84	0.00	2,040.6	0.0	994.24	2361.81	3,356.05
11	160.0	27.12	11.444	11.67	0.00	0.31	2.27	0.85	1.00	0.00	16.74	28.58	0.00	1,911.4	0.0	1398.63	917.85	2,316.48
12	180.0	28.04	11.435	11.67	0.00	0.31	2.27	0.85	1.00	0.00	16.71	6.18	0.00	1,661.6	0.0	1444.49	210.74	1,655.23
													21,699.9	0.0	30,102.59			

Load Case: 0.9D + 1.6W Normal Wind										0.9D + 1.6W 105 mph Wind at Normal To Face									
Wind Load Factor: 1.60										Wind Importance Factor: 1.00									
Dead Load Factor: 0.90										Ice Importance Factor: 1.00									
Ice Dead Load Factor: 0.00																			

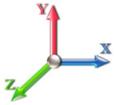
Sect Seq	Wind Height (ft)	Total Flat Area (psf) (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
1	2.5	16.79	4.917	3.14	0.00	0.81	1.82	1.00	1.00	0.00	7.71	29.32	0.00	1,275.2	0.0	320.32	183.37	503.69
2	12.5	16.79	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	87.96	0.00	1,255.0	0.0	424.20	1694.40	2,118.59
3	27.5	16.79	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	87.96	0.00	1,188.4	0.0	424.20	1694.40	2,118.59
4	42.5	18.57	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	87.96	0.00	1,188.4	0.0	468.98	1873.27	2,342.25
5	60.0	20.49	0.000	16.35	0.00	0.22	2.53	1.00	1.00	0.00	9.66	117.28	0.00	1,663.1	0.0	681.12	2756.32	3,437.44
6	78.5	22.12	0.000	17.11	0.00	0.27	2.37	1.00	1.00	0.00	10.43	98.87	0.00	1,412.2	0.0	744.56	2511.17	3,255.73
7	88.5	22.89	1.299	2.16	0.00	0.31	2.28	1.00	1.00	0.00	2.62	17.64	0.00	304.2	0.0	185.78	463.99	649.77
8	100.0	23.71	0.000	20.24	0.00	0.27	2.37	1.00	1.00	0.00	12.35	116.20	0.00	1,820.3	0.0	943.99	3164.28	4,108.28
9	120.0	24.98	0.000	19.21	0.00	0.26	2.41	1.00	1.00	0.00	11.65	116.20	0.00	1,958.0	0.0	951.47	3333.49	4,284.96
10	140.0	26.10	0.000	19.22	0.00	0.26	2.40	1.00	1.00	0.00	11.65	78.84	0.00	1,530.4	0.0	994.24	2361.81	3,356.05
11	160.0	27.12	11.444	11.67	0.00	0.31	2.27	1.00	1.00	0.00	18.46	28.58	0.00	1,433.5	0.0	1542.05	917.85	2,459.90
12	180.0	28.04	11.435	11.67	0.00	0.31	2.27	1.00	1.00	0.00	18.43	6.18	0.00	1,246.2	0.0	1592.72	210.74	1,803.46
													16,274.9	0.0	30,438.71			

Section Forces

Structure: CT10016-A-SBA
Site Name: Montville 3, CT
Height: 190.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Topography: 1

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

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Load Case: 0.9D + 1.6W 60° Wind

0.9D + 1.6W 105 mph Wind at 60° From Face

Wind Load Factor: 1.60
Dead Load Factor: 0.90
Ice Dead Load Factor: 0.00

Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	Total Flat Area (psf) (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
1	2.5	16.79	4.917	3.14	0.00	0.81	1.82	0.80	1.00	0.00	6.72	29.32	0.00	1,275.2	0.0	279.44	183.37	462.81
2	12.5	16.79	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	87.96	0.00	1,255.0	0.0	424.20	1694.40	2,118.59
3	27.5	16.79	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	87.96	0.00	1,188.4	0.0	424.20	1694.40	2,118.59
4	42.5	18.57	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	87.96	0.00	1,188.4	0.0	468.98	1873.27	2,342.25
5	60.0	20.49	0.000	16.35	0.00	0.22	2.53	0.80	1.00	0.00	9.66	117.28	0.00	1,663.1	0.0	681.12	2756.32	3,437.44
6	78.5	22.12	0.000	17.11	0.00	0.27	2.37	0.80	1.00	0.00	10.43	98.87	0.00	1,412.2	0.0	744.56	2511.17	3,255.73
7	88.5	22.89	1.299	2.16	0.00	0.31	2.28	0.80	1.00	0.00	2.36	17.64	0.00	304.2	0.0	167.37	463.99	631.35
8	100.0	23.71	0.000	20.24	0.00	0.27	2.37	0.80	1.00	0.00	12.35	116.20	0.00	1,820.3	0.0	943.99	3164.28	4,108.28
9	120.0	24.98	0.000	19.21	0.00	0.26	2.41	0.80	1.00	0.00	11.65	116.20	0.00	1,958.0	0.0	951.47	3333.49	4,284.96
10	140.0	26.10	0.000	19.22	0.00	0.26	2.40	0.80	1.00	0.00	11.65	78.84	0.00	1,530.4	0.0	994.24	2361.81	3,356.05
11	160.0	27.12	11.444	11.67	0.00	0.31	2.27	0.80	1.00	0.00	16.17	28.58	0.00	1,433.5	0.0	1350.83	917.85	2,268.67
12	180.0	28.04	11.435	11.67	0.00	0.31	2.27	0.80	1.00	0.00	16.14	6.18	0.00	1,246.2	0.0	1395.08	210.74	1,605.82
													16,274.9	0.0	29,990.55			

Load Case: 0.9D + 1.6W 90° Wind

0.9D + 1.6W 105 mph Wind at 90° From Face

Wind Load Factor: 1.60
Dead Load Factor: 0.90
Ice Dead Load Factor: 0.00

Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	Total Flat Area (psf) (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
1	2.5	16.79	4.917	3.14	0.00	0.81	1.82	0.85	1.00	0.00	6.97	29.32	0.00	1,275.2	0.0	289.66	183.37	473.03
2	12.5	16.79	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	87.96	0.00	1,255.0	0.0	424.20	1694.40	2,118.59
3	27.5	16.79	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	87.96	0.00	1,188.4	0.0	424.20	1694.40	2,118.59
4	42.5	18.57	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	87.96	0.00	1,188.4	0.0	468.98	1873.27	2,342.25
5	60.0	20.49	0.000	16.35	0.00	0.22	2.53	0.85	1.00	0.00	9.66	117.28	0.00	1,663.1	0.0	681.12	2756.32	3,437.44
6	78.5	22.12	0.000	17.11	0.00	0.27	2.37	0.85	1.00	0.00	10.43	98.87	0.00	1,412.2	0.0	744.56	2511.17	3,255.73
7	88.5	22.89	1.299	2.16	0.00	0.31	2.28	0.85	1.00	0.00	2.43	17.64	0.00	304.2	0.0	171.97	463.99	635.96
8	100.0	23.71	0.000	20.24	0.00	0.27	2.37	0.85	1.00	0.00	12.35	116.20	0.00	1,820.3	0.0	943.99	3164.28	4,108.28
9	120.0	24.98	0.000	19.21	0.00	0.26	2.41	0.85	1.00	0.00	11.65	116.20	0.00	1,958.0	0.0	951.47	3333.49	4,284.96
10	140.0	26.10	0.000	19.22	0.00	0.26	2.40	0.85	1.00	0.00	11.65	78.84	0.00	1,530.4	0.0	994.24	2361.81	3,356.05
11	160.0	27.12	11.444	11.67	0.00	0.31	2.27	0.85	1.00	0.00	16.74	28.58	0.00	1,433.5	0.0	1398.63	917.85	2,316.48
12	180.0	28.04	11.435	11.67	0.00	0.31	2.27	0.85	1.00	0.00	16.71	6.18	0.00	1,246.2	0.0	1444.49	210.74	1,655.23
													16,274.9	0.0	30,102.59			

Section Forces

Structure: CT10016-A-SBA
Site Name: Montville 3, CT
Height: 190.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Topography: 1

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

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Load Case: 1.2D + 1.0Di + 1.0Wi Normal Wind	1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face
Wind Load Factor: 1.00	Wind Importance Factor: 1.00
Dead Load Factor: 1.20	
Ice Dead Load Factor: 1.00	Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
			Flat Area (sqft)	Round Area (sqft)								Linear Area (sqft)	Linear Area (sqft)						
1	2.5	3.81	4.917	6.86	3.73	1.00	2.10	1.00	1.00	1.16	12.12	39.00	4.83	2,931.3	1231.0	82.40	0.00	82.40	
2	12.5	3.81	0.000	26.48	14.04	0.45	1.98	1.00	1.00	1.36	17.63	120.53	17.02	5,044.7	3371.3	112.77	323.40	436.16	
3	27.5	3.81	0.000	27.63	15.19	0.47	1.95	1.00	1.00	1.47	18.63	122.49	18.41	5,263.0	3678.5	117.49	320.73	438.22	
4	42.5	4.21	0.000	28.31	15.87	0.48	1.93	1.00	1.00	1.54	19.23	123.64	19.23	5,448.2	3863.7	133.03	352.66	485.69	
5	60.0	4.65	0.000	37.67	21.32	0.47	1.94	1.00	1.00	1.59	25.53	166.11	26.54	7,537.1	5319.7	195.21	526.73	721.94	
6	78.5	5.02	0.000	43.27	26.17	0.64	1.78	1.00	1.00	1.64	33.75	141.14	20.13	7,009.7	5126.7	256.81	325.67	582.48	
7	88.5	5.19	1.299	7.09	4.93	0.69	1.78	1.00	1.00	1.66	7.05	25.28	3.35	1,367.3	961.8	55.22	51.13	106.35	
8	100.0	5.38	0.000	52.04	31.80	0.65	1.78	1.00	1.00	1.68	41.01	166.97	22.34	8,628.8	6201.7	333.71	396.74	730.44	
9	120.0	5.66	0.000	51.60	32.39	0.65	1.78	1.00	1.00	1.71	40.55	167.69	22.76	8,908.7	6298.0	347.73	422.82	770.55	
10	140.0	5.92	0.000	52.11	32.89	0.66	1.78	1.00	1.00	1.73	41.14	110.44	14.73	7,002.5	4961.9	368.41	283.62	652.03	
11	160.0	6.15	11.444	45.00	33.33	0.71	1.78	1.00	1.00	1.76	48.11	39.03	5.86	5,355.8	3444.4	446.66	94.20	540.86	
12	180.0	6.36	11.435	45.39	33.73	0.71	1.78	1.00	1.00	1.78	48.56	7.66	1.48	4,333.0	2671.4	466.39	20.74	487.13	
														68,830.0	47130.2				6,034.25

Load Case: 1.2D + 1.0Di + 1.0Wi 60° Wind	1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face
Wind Load Factor: 1.00	Wind Importance Factor: 1.00
Dead Load Factor: 1.20	
Ice Dead Load Factor: 1.00	Ice Importance Factor: 1.00

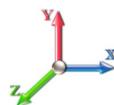
Sect Seq	Wind Height (ft)	qz (psf)	Total		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
			Flat Area (sqft)	Round Area (sqft)								Linear Area (sqft)	Linear Area (sqft)						
1	2.5	3.81	4.917	6.86	3.73	1.00	2.10	0.80	1.00	1.16	11.14	39.00	4.83	2,931.3	1231.0	75.71	0.00	75.71	
2	12.5	3.81	0.000	26.48	14.04	0.45	1.98	0.80	1.00	1.36	17.63	120.53	17.02	5,044.7	3371.3	112.77	323.40	436.16	
3	27.5	3.81	0.000	27.63	15.19	0.47	1.95	0.80	1.00	1.47	18.63	122.49	18.41	5,263.0	3678.5	117.49	320.73	438.22	
4	42.5	4.21	0.000	28.31	15.87	0.48	1.93	0.80	1.00	1.54	19.23	123.64	19.23	5,448.2	3863.7	133.03	352.66	485.69	
5	60.0	4.65	0.000	37.67	21.32	0.47	1.94	0.80	1.00	1.59	25.53	166.11	26.54	7,537.1	5319.7	195.21	526.73	721.94	
6	78.5	5.02	0.000	43.27	26.17	0.64	1.78	0.80	1.00	1.64	33.75	141.14	20.13	7,009.7	5126.7	256.81	325.67	582.48	
7	88.5	5.19	1.299	7.09	4.93	0.69	1.78	0.80	1.00	1.66	6.79	25.28	3.35	1,367.3	961.8	53.19	51.13	104.31	
8	100.0	5.38	0.000	52.04	31.80	0.65	1.78	0.80	1.00	1.68	41.01	166.97	22.34	8,628.8	6201.7	333.71	396.74	730.44	
9	120.0	5.66	0.000	51.60	32.39	0.65	1.78	0.80	1.00	1.71	40.55	167.69	22.76	8,908.7	6298.0	347.73	422.82	770.55	
10	140.0	5.92	0.000	52.11	32.89	0.66	1.78	0.80	1.00	1.73	41.14	110.44	14.73	7,002.5	4961.9	368.41	283.62	652.03	
11	160.0	6.15	11.444	45.00	33.33	0.71	1.78	0.80	1.00	1.76	45.82	39.03	5.86	5,355.8	3444.4	425.41	94.20	519.61	
12	180.0	6.36	11.435	45.39	33.73	0.71	1.78	0.80	1.00	1.78	46.27	7.66	1.48	4,333.0	2671.4	444.42	20.74	465.17	
														68,830.0	47130.2				5,982.31

Section Forces

Structure: CT10016-A-SBA
Site Name: Montville 3, CT
Height: 190.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Topography: 1

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

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Load Case: 1.2D + 1.0Di + 1.0Wi 90° Wind

1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00

Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	3.81	4.917	6.86	3.73	1.00	2.10	0.85	1.00	1.16	11.38	39.00	4.83	2,931.3	1231.0	77.38	0.00	77.38
2	12.5	3.81	0.000	26.48	14.04	0.45	1.98	0.85	1.00	1.36	17.63	120.53	17.02	5,044.7	3371.3	112.77	323.40	436.16
3	27.5	3.81	0.000	27.63	15.19	0.47	1.95	0.85	1.00	1.47	18.63	122.49	18.41	5,263.0	3678.5	117.49	320.73	438.22
4	42.5	4.21	0.000	28.31	15.87	0.48	1.93	0.85	1.00	1.54	19.23	123.64	19.23	5,448.2	3863.7	133.03	352.66	485.69
5	60.0	4.65	0.000	37.67	21.32	0.47	1.94	0.85	1.00	1.59	25.53	166.11	26.54	7,537.1	5319.7	195.21	526.73	721.94
6	78.5	5.02	0.000	43.27	26.17	0.64	1.78	0.85	1.00	1.64	33.75	141.14	20.13	7,009.7	5126.7	256.81	325.67	582.48
7	88.5	5.19	1.299	7.09	4.93	0.69	1.78	0.85	1.00	1.66	6.85	25.28	3.35	1,367.3	961.8	53.69	51.13	104.82
8	100.0	5.38	0.000	52.04	31.80	0.65	1.78	0.85	1.00	1.68	41.01	166.97	22.34	8,628.8	6201.7	333.71	396.74	730.44
9	120.0	5.66	0.000	51.60	32.39	0.65	1.78	0.85	1.00	1.71	40.55	167.69	22.76	8,908.7	6298.0	347.73	422.82	770.55
10	140.0	5.92	0.000	52.11	32.89	0.66	1.78	0.85	1.00	1.73	41.14	110.44	14.73	7,002.5	4961.9	368.41	283.62	652.03
11	160.0	6.15	11.444	45.00	33.33	0.71	1.78	0.85	1.00	1.76	46.39	39.03	5.86	5,355.8	3444.4	430.73	94.20	524.92
12	180.0	6.36	11.435	45.39	33.73	0.71	1.78	0.85	1.00	1.78	46.84	7.66	1.48	4,333.0	2671.4	449.91	20.74	470.66
														68,830.0	47130.2			5,995.30

Load Case: 1.0D + 1.0W Normal Wind

1.0D + 1.0W 60 mph Wind at Normal To Face

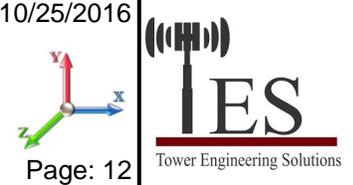
Wind Load Factor: 1.00
Dead Load Factor: 1.00
Ice Dead Load Factor: 0.00

Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	5.48	4.917	3.14	0.00	0.81	1.82	1.00	1.00	0.00	7.71	29.32	0.00	1,416.8	0.0	65.37	37.42	102.79
2	12.5	5.48	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	87.96	0.00	1,394.5	0.0	86.57	345.80	432.37
3	27.5	5.48	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	87.96	0.00	1,320.5	0.0	86.57	345.80	432.37
4	42.5	6.06	0.000	12.44	0.00	0.22	2.52	1.00	1.00	0.00	7.37	87.96	0.00	1,320.5	0.0	95.71	382.30	478.01
5	60.0	6.69	0.000	16.35	0.00	0.22	2.53	1.00	1.00	0.00	9.66	117.28	0.00	1,847.8	0.0	139.00	562.51	701.52
6	78.5	7.22	0.000	17.11	0.00	0.27	2.37	1.00	1.00	0.00	10.43	98.87	0.00	1,569.1	0.0	151.95	512.48	664.43
7	88.5	7.48	1.299	2.16	0.00	0.31	2.28	1.00	1.00	0.00	2.62	17.64	0.00	338.0	0.0	37.91	94.69	132.61
8	100.0	7.74	0.000	20.24	0.00	0.27	2.37	1.00	1.00	0.00	12.35	116.20	0.00	2,022.6	0.0	192.65	645.77	838.42
9	120.0	8.16	0.000	19.21	0.00	0.26	2.41	1.00	1.00	0.00	11.65	116.20	0.00	2,175.6	0.0	194.18	680.30	874.48
10	140.0	8.52	0.000	19.22	0.00	0.26	2.40	1.00	1.00	0.00	11.65	78.84	0.00	1,700.5	0.0	202.91	482.00	684.91
11	160.0	8.85	11.444	11.67	0.00	0.31	2.27	1.00	1.00	0.00	18.47	28.58	0.00	1,592.8	0.0	315.00	187.32	502.32
12	180.0	9.16	11.435	11.67	0.00	0.31	2.27	1.00	1.00	0.00	18.46	6.18	0.00	1,384.6	0.0	325.66	43.01	368.67
														18,083.2	0.0			6,212.90

Section Forces

Structure: CT10016-A-SBA	Code: EIA/TIA-222-G	10/25/2016
Site Name: Montville 3, CT	Exposure: B	
Height: 190.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II



Load Case: 1.0D + 1.0W 60° Wind	1.0D + 1.0W 60 mph Wind at 60° From Face
Wind Load Factor: 1.00	Wind Importance Factor: 1.00
Dead Load Factor: 1.00	
Ice Dead Load Factor: 0.00	Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	Wind qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
1	2.5	5.48	4.917	3.14	0.00	0.81	1.82	0.80	1.00	0.00	6.72	29.32	0.00	1,416.8	0.0	57.03	37.42	94.45	
2	12.5	5.48	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	87.96	0.00	1,394.5	0.0	86.57	345.80	432.37	
3	27.5	5.48	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	87.96	0.00	1,320.5	0.0	86.57	345.80	432.37	
4	42.5	6.06	0.000	12.44	0.00	0.22	2.52	0.80	1.00	0.00	7.37	87.96	0.00	1,320.5	0.0	95.71	382.30	478.01	
5	60.0	6.69	0.000	16.35	0.00	0.22	2.53	0.80	1.00	0.00	9.66	117.28	0.00	1,847.8	0.0	139.00	562.51	701.52	
6	78.5	7.22	0.000	17.11	0.00	0.27	2.37	0.80	1.00	0.00	10.43	98.87	0.00	1,569.1	0.0	151.95	512.48	664.43	
7	88.5	7.48	1.299	2.16	0.00	0.31	2.28	0.80	1.00	0.00	2.36	17.64	0.00	338.0	0.0	34.16	94.69	128.85	
8	100.0	7.74	0.000	20.24	0.00	0.27	2.37	0.80	1.00	0.00	12.35	116.20	0.00	2,022.6	0.0	192.65	645.77	838.42	
9	120.0	8.16	0.000	19.21	0.00	0.26	2.41	0.80	1.00	0.00	11.65	116.20	0.00	2,175.6	0.0	194.18	680.30	874.48	
10	140.0	8.52	0.000	19.22	0.00	0.26	2.40	0.80	1.00	0.00	11.65	78.84	0.00	1,700.5	0.0	202.91	482.00	684.91	
11	160.0	8.85	11.444	11.67	0.00	0.31	2.27	0.80	1.00	0.00	16.19	28.58	0.00	1,592.8	0.0	275.98	187.32	463.29	
12	180.0	9.16	11.435	11.67	0.00	0.31	2.27	0.80	1.00	0.00	16.18	6.18	0.00	1,384.6	0.0	285.33	43.01	328.34	
														18,083.2	0.0				6,121.44

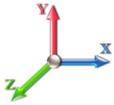
Load Case: 1.0D + 1.0W 90° Wind	1.0D + 1.0W 60 mph Wind at 90° From Face
Wind Load Factor: 1.00	Wind Importance Factor: 1.00
Dead Load Factor: 1.00	
Ice Dead Load Factor: 0.00	Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	Wind qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
1	2.5	5.48	4.917	3.14	0.00	0.81	1.82	0.85	1.00	0.00	6.97	29.32	0.00	1,416.8	0.0	59.11	37.42	96.54	
2	12.5	5.48	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	87.96	0.00	1,394.5	0.0	86.57	345.80	432.37	
3	27.5	5.48	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	87.96	0.00	1,320.5	0.0	86.57	345.80	432.37	
4	42.5	6.06	0.000	12.44	0.00	0.22	2.52	0.85	1.00	0.00	7.37	87.96	0.00	1,320.5	0.0	95.71	382.30	478.01	
5	60.0	6.69	0.000	16.35	0.00	0.22	2.53	0.85	1.00	0.00	9.66	117.28	0.00	1,847.8	0.0	139.00	562.51	701.52	
6	78.5	7.22	0.000	17.11	0.00	0.27	2.37	0.85	1.00	0.00	10.43	98.87	0.00	1,569.1	0.0	151.95	512.48	664.43	
7	88.5	7.48	1.299	2.16	0.00	0.31	2.28	0.85	1.00	0.00	2.43	17.64	0.00	338.0	0.0	35.10	94.69	129.79	
8	100.0	7.74	0.000	20.24	0.00	0.27	2.37	0.85	1.00	0.00	12.35	116.20	0.00	2,022.6	0.0	192.65	645.77	838.42	
9	120.0	8.16	0.000	19.21	0.00	0.26	2.41	0.85	1.00	0.00	11.65	116.20	0.00	2,175.6	0.0	194.18	680.30	874.48	
10	140.0	8.52	0.000	19.22	0.00	0.26	2.40	0.85	1.00	0.00	11.65	78.84	0.00	1,700.5	0.0	202.91	482.00	684.91	
11	160.0	8.85	11.444	11.67	0.00	0.31	2.27	0.85	1.00	0.00	16.76	28.58	0.00	1,592.8	0.0	285.74	187.32	473.05	
12	180.0	9.16	11.435	11.67	0.00	0.31	2.27	0.85	1.00	0.00	16.75	6.18	0.00	1,384.6	0.0	295.41	43.01	338.42	
														18,083.2	0.0				6,144.30

Force/Stress Compression Summary

Structure: CT10016-A-SBA
Site Name: Montville 3, CT
Height: 190.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

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

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LEG MEMBERS

Sect	Top Elev	Member	Force (kips)		Load Case	Len (ft)	Bracing %			Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls	
							X	Y	Z					
1	5	PX - 3" DIA PIPE	-60.27	1.2D + 1.0Di + 1.0Wi	60° Wind	1.34	100	100	100	14.15	50.00	133.93	45.0	Member X
2	20	PX - 3" DIA PIPE	-70.80	1.2D + 1.6W	60° Wind	2.40	200	200	200	50.47	50.00	112.80	62.0	Member X
3	35	PX - 3" DIA PIPE	-90.57	1.2D + 1.6W	60° Wind	2.40	200	200	200	50.47	50.00	112.80	80.0	Member X
4	50	PX - 3" DIA PIPE	-97.49	1.2D + 1.6W	90° Wind	2.40	200	200	200	50.47	50.00	112.80	86.0	Member X
5	70	PX - 3" DIA PIPE	-97.24	1.2D + 1.6W	90° Wind	2.42	200	200	200	51.01	50.00	112.35	86.0	Member X
6	86.96	PX - 3" DIA PIPE	-83.95	1.2D + 1.6W	Normal Wind	2.42	100	100	100	25.51	50.00	129.59	64.0	Member X
7	89.99	PX - 3" DIA PIPE	-83.76	1.2D + 1.6W	90° Wind	2.42	100	100	100	25.49	50.00	129.59	64.0	Member X
8	109.9	PX - 3" DIA PIPE	-82.63	1.2D + 1.6W	90° Wind	2.42	100	100	100	25.51	50.00	129.59	63.0	Member X
9	129.9	MOD - 2.5"PX+3"PX1/2P	-111.66	1.2D + 1.6W	60° Wind	2.42	100	100	100	29.67	50.00	158.72	70.0	Member X
10	149.9	MOD - 2.5"PX+3"PX1/2P	-111.92	1.2D + 1.6W	60° Wind	2.42	100	100	100	29.67	50.00	158.72	70.0	Member X
11	169.9	PX - 3" DIA PIPE	-80.60	1.2D + 1.6W	60° Wind	2.42	100	100	100	25.51	50.00	129.59	62.0	Member X
12	189.9	PX - 3" DIA PIPE	-9.25	1.2D + 1.6W	Normal Wind	2.42	100	100	100	25.51	50.00	129.59	7.0	Member X

HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)		Load Case	Len (ft)	Bracing %			Fy (ksi)	Mem Cap (kips)	Shear Bear		Use %	Controls			
							X	Y	Z			Num Bolts	Num Holes			Cap (kips)	Cap (kips)	
1	5	SAE - 8X8X0.75	-15.3	1.2D + 1.6W	90° Wind	0.85	100	100	100	6.49	36.00	369.84	0	0	4	Member Z		
2	20	PSP - ROHN 1 1/2X11G	-1.50	1.2D + 1.6W	Normal Wind	3.42	100	100	100	42.00	9.72	1	2	15	User Input			
3	35	PSP - ROHN 1 1/2X16G	-0.85	1.2D + 1.6W	Normal Wind	3.42	100	100	100	42.00	6.49	1	2	13	User Input			
4	50	PSP - ROHN 1 1/2X16G	-0.53	1.2D + 1.6W	Normal Wind	3.42	100	100	100	42.00	6.49	1	2	8	User Input			
5	70	PSP - ROHN 1 1/2X11G	-1.15	1.2D + 1.6W	90° Wind	3.42	100	100	100	42.00	9.72	1	2	11	User Input			
6	86.9	PSP - ROHN 1 1/2X16G	-0.30	1.2D + 1.6W	60° Wind	3.42	100	100	100	42.00	6.49	1	2	4	User Input			
7	89.9	PSP - ROHN 1 1/2X16G	-0.14	0.9D + 1.6W	90° Wind	3.42	100	100	100	42.00	6.49	1	2	2	User Input			
8	109.	PSP - ROHN 1 1/2X11G	-0.78	0.9D + 1.6W	60° Wind	3.42	100	100	100	42.00	9.72	1	2	8	User Input			
9	129.	PSP - ROHN 1 1/2X11G	-0.82	1.2D + 1.6W	60° Wind	3.42	100	100	100	42.00	9.72	1	2	8	User Input			
10	149.	PSP - ROHN 1 1/2X16G	-0.41	1.2D + 1.6W	60° Wind	3.42	100	100	100	42.00	6.49	1	2	6	User Input			
11	169.	SAE - 2X2X0.25	-1.60	1.2D + 1.6W	60° Wind	3.42	100	100	100	112.43	36.00	15.65	2	1	24.86	33.49	10	Member Z
12	189.	SAE - 2X2X0.25	-1.68	1.2D + 1.6W	Normal Wind	3.42	100	100	100	112.43	36.00	15.65	2	1	24.86	33.49	10	Member Z

DIAGONAL MEMBERS

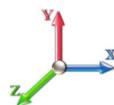
Sect	Top Elev	Member	Force (kips)		Load Case	Len (ft)	Bracing %			Fy (ksi)	Mem Cap (kips)	Shear Bear		Use %	Controls			
							X	Y	Z			Num Bolts	Num Holes			Cap (kips)	Cap (kips)	
1	5					0.00					0.00	0	0					
2	20	PSP - ROHN 1 1/2X11G7.03		1.2D + 1.6W	90° Wind	4.17	100	100	100	42.00	9.72	1	2	72	User Input			
3	35	PSP - ROHN 1 1/2X16G5.61		1.2D + 1.6W	Normal Wind	4.17	100	100	100	42.00	6.49	1	2	86	User Input			
4	50	PSP - ROHN 1 1/2X16G3.52		1.2D + 1.6W	Normal Wind	4.17	100	100	100	42.00	6.49	1	2	54	User Input			
5	70	PSP - ROHN 1 1/2X11G3.20		1.2D + 1.6W	60° Wind	4.19	100	100	100	42.00	9.72	1	2	32	User Input			
6	86.9	PSP - ROHN 1 1/2X16G2.88		1.2D + 1.6W	90° Wind	4.19	100	100	100	42.00	6.49	1	2	44	User Input			
7	89.9	SAE - 2X2X0.25	-3.99	1.2D + 1.6W	60° Wind	4.19	100	100	100	128.54	36.00	12.76	1	1	7.95	10.0	50	Bolt Shear
8	109.	PSP - ROHN 1 1/2X11G5.07		1.2D + 1.6W	90° Wind	4.19	100	100	100	42.00	9.72	1	2	52	User Input			
9	129.	PSP - ROHN 1 1/2X11G3.12		1.2D + 1.6W	60° Wind	4.19	100	100	100	42.00	9.72	1	2	32	User Input			
10	149.	PSP - ROHN 1 1/2X16G4.24		1.2D + 1.6W	90° Wind	4.19	100	100	100	42.00	6.49	1	2	65	User Input			
11	169.	SAE - 2X2X0.25	-8.72	1.2D + 1.6W	90° Wind	4.19	100	100	100	126.56	36.00	13.11	2	1	24.86	33.4	66	Member Z
12	189.	SAE - 2X2X0.25	-1.72	1.2D + 1.6W	90° Wind	4.19	100	100	100	126.56	36.00	13.11	2	1	24.86	33.4	13	Member Z

Force/Stress Tension Summary

Structure: CT10016-A-SBA
Site Name: Montville 3, CT
Height: 190.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Topography: 1

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

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LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	5				0	0.00		
2	20	PX - 3" DIA PIPE	28.96	0.9D + 1.6W Normal Wind	50	135.90	21.00	Member
3	35	PX - 3" DIA PIPE	59.97	1.2D + 1.6W Normal Wind	50	135.90	44.00	Member
4	50	PX - 3" DIA PIPE	76.75	1.2D + 1.6W Normal Wind	50	135.90	56.00	Member
5	70	PX - 3" DIA PIPE	79.10	0.9D + 1.6W Normal Wind	50	135.90	58.00	Member
6	86.962	PX - 3" DIA PIPE	71.19	0.9D + 1.6W Normal Wind	50	135.90	52.00	Member
7	89.999	PX - 3" DIA PIPE	42.18	0.9D + 1.6W 90° Wind	50	135.90	31.00	Member
8	109.99	PX - 3" DIA PIPE	83.93	0.9D + 1.6W Normal Wind	50	135.90	61.00	Member
9	129.99	MOD - 2.5"PX+3"PX1/2P	98.63	0.9D + 1.6W Normal Wind	50	169.27	58.00	Member
10	149.99	MOD - 2.5"PX+3"PX1/2P	98.37	0.9D + 1.6W Normal Wind	50	169.27	58.00	Member
11	169.99	PX - 3" DIA PIPE	52.04	1.2D + 1.6W Normal Wind	50	135.90	38.00	Member
12	189.99	PX - 3" DIA PIPE	7.01	0.9D + 1.6W 60° Wind	50	135.90	5.00	Member

HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	5	SAE - 8X8X0.75	24.41	1.2D + 1.6W Normal Wi	36	370.66	0	0				6	Member
2	20	PSP - ROHN 1 1/2X11GA	1.48	1.2D + 1.6W 90° Wind	42	9.72	1	2				15	User Input
3	35	PSP - ROHN 1 1/2X16GA	1.17	1.2D + 1.6W Normal Wi	42	5.47	1	2				21	User Input
4	50	PSP - ROHN 1 1/2X16GA	0.57	1.2D + 1.6W Normal Wi	42	5.47	1	2				10	User Input
5	70	PSP - ROHN 1 1/2X11GA	1.34	1.2D + 1.6W 90° Wind	42	9.72	1	2				13	User Input
6	86.962	PSP - ROHN 1 1/2X16GA	1.03	1.2D + 1.6W 90° Wind	42	5.47	1	2				18	User Input
7	89.999	PSP - ROHN 1 1/2X16GA	1.00	1.2D + 1.0Di + 1.0Wi Nc	42	5.47	1	2				18	User Input
8	109.99	PSP - ROHN 1 1/2X11GA	2.05	1.2D + 1.6W Normal Wi	42	9.72	1	2				21	User Input
9	129.99	PSP - ROHN 1 1/2X11GA	1.36	1.2D + 1.6W Normal Wi	42	9.72	1	2				14	User Input
10	149.99	PSP - ROHN 1 1/2X16GA	0.95	1.2D + 1.6W Normal Wi	42	5.47	1	2				17	User Input
11	169.99	SAE - 2X2X0.25	2.67	1.2D + 1.6W Normal Wi	36	30.46	2	1	24.86	33.49	19.45	13	Blck Shear
12	189.99	SAE - 2X2X0.25	0.07	1.2D + 1.6W Normal Wi	36	30.46	2	1	24.86	33.49	19.45		Blck Shear

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	5	-	0.00		36	0.00	0	0					
2	20	PSP - ROHN 1 1/2X11GA	6.81	1.2D + 1.6W 90° Wind	42	9.72	1	2				70	User Input
3	35	PSP - ROHN 1 1/2X16GA	5.43	1.2D + 1.6W 90° Wind	42	5.47	1	2				99	User Input
4	50	PSP - ROHN 1 1/2X16GA	3.27	1.2D + 1.6W Normal Wi	42	5.47	1	2				59	User Input
5	70	PSP - ROHN 1 1/2X11GA	2.83	1.2D + 1.6W 60° Wind	42	9.72	1	2				29	User Input
6	86.962	PSP - ROHN 1 1/2X16GA	2.88	1.2D + 1.6W 60° Wind	42	5.47	1	2				52	User Input
7	89.999	SAE - 2X2X0.25	3.91	1.2D + 1.6W 90° Wind	36	30.46	1	1	7.95	10.01	9.66	49	Bolt Shear
8	109.99	PSP - ROHN 1 1/2X11GA	3.82	1.2D + 1.6W 60° Wind	42	9.72	1	2				39	User Input
9	129.99	PSP - ROHN 1 1/2X11GA	2.37	1.2D + 1.6W 60° Wind	42	9.72	1	2				24	User Input
10	149.99	PSP - ROHN 1 1/2X16GA	4.00	1.2D + 1.6W Normal Wi	42	5.47	1	2				73	User Input
11	169.99	SAE - 2X2X0.25	6.75	1.2D + 1.6W 90° Wind	36	30.46	2	1	24.86	33.49	18.09	37	Blck Shear
12	189.99	SAE - 2X2X0.25	1.35	1.2D + 1.6W 90° Wind	36	30.46	2	1	24.86	33.49	18.09	7	Blck Shear

Support Forces Summary

Structure: CT10016-A-SBA
Site Name: Montville 3, CT
Height: 190.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Topography: 1

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

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Load Case	Node	FX (kips)	FY (kips)	FZ (kips)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal Wind	1	0.00	107.40	-5.78	
	A1	0.00	-1.03	0.74	
	A1b	-33.82	-34.45	-21.05	
	A1a	33.82	-34.45	-21.05	
1.2D + 1.6W 60° Wind	1	-4.54	92.47	-2.62	
	A1	-0.89	-7.55	7.20	
	A1b	-40.86	-40.40	-23.59	
	A1a	5.80	-7.56	-4.37	
1.2D + 1.6W 90° Wind	1	-5.68	101.69	0.84	
	A1	-1.34	-21.56	23.44	
	A1b	-41.40	-40.53	-22.92	
	A1a	1.59	-2.39	-1.38	
0.9D + 1.6W Normal Wind	1	0.00	98.69	-6.02	
	A1	0.00	-1.04	0.75	
	A1b	-33.66	-34.38	-20.94	
	A1a	33.66	-34.38	-20.94	
0.9D + 1.6W 60° Wind	1	-4.64	84.04	-2.68	
	A1	-0.89	-7.61	7.26	
	A1b	-40.80	-40.42	-23.56	
	A1a	5.85	-7.62	-4.40	
0.9D + 1.6W 90° Wind	1	-5.86	93.03	0.91	
	A1	-1.34	-21.51	23.29	
	A1b	-41.24	-40.47	-22.83	
	A1a	1.61	-2.41	-1.38	
1.2D + 1.0Di + 1.0Wi Normal Wind	1	0.00	156.66	-1.18	
	A1	0.00	-10.18	11.81	
	A1b	-17.95	-17.96	-11.13	
	A1a	17.95	-17.96	-11.13	
1.2D + 1.0Di + 1.0Wi 60° Wind	1	-0.91	155.93	-0.52	
	A1	-0.63	-12.69	14.54	
	A1b	-20.76	-20.37	-11.99	
	A1a	12.28	-12.70	-7.82	
1.2D + 1.0Di + 1.0Wi 90° Wind	1	-1.11	156.26	0.07	
	A1	-0.80	-15.31	17.77	
	A1b	-20.32	-19.74	-11.36	
	A1a	10.64	-10.84	-6.49	
1.0D + 1.0W Normal Wind	1	0.00	60.43	-2.43	
	A1	0.00	-5.06	4.96	
	A1b	-10.06	-11.91	-6.07	
	A1a	10.06	-11.91	-6.07	
1.0D + 1.0W 60° Wind	1	-1.72	61.30	-0.99	
	A1	-0.21	-7.71	7.43	
	A1b	-12.66	-14.44	-7.31	
	A1a	6.33	-7.71	-3.90	

1.0D + 1.0W 90° Wind	1	-2.20	60.88	0.19
	A1	-0.27	-9.80	9.52
	A1b	-11.98	-13.70	-6.77
	A1a	4.89	-5.88	-2.94

Max Reactions (kips)	Base	Anchor 1
Vertical	156.66	40.53
Horizontal	6.02	47.32

Cable Forces Summary

Structure: CT10016-A-SBA	Code: EIA/TIA-222-G	10/25/2016
Site Name: Montville 3, CT	Exposure: B	
Height: 190.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II
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Load Case	Elevation (ft)	Cable	Node 1	Node 2	Allow Tension (kips)	Applied Tension (kips)	Use %			
1.2D + 1.6W Normal	92.42	5/8 EHS	A1	T1	25.44	0.10	0			
			A1b	T1b	25.44	11.25	44			
			A1a	T1a	25.44	9.62	38			
			A1a	T1	25.44	11.25	44			
			A1b	T1a	25.44	9.61	38			
			A1	T1b	25.44	0.10	0			
	166.96	7/8 EHS	A1	T2	47.82	0.88	2			
			A1b	T2b	47.82	20.13	42			
			A1a	T2a	47.82	12.91	27			
			A1a	T2	47.82	20.12	42			
			A1b	T2a	47.82	12.91	27			
			A1	T2b	47.82	0.88	2			
			1.2D + 1.6W 60° Wind	92.42	5/8 EHS	A1	T1	25.44	0.73	3
						A1b	T1b	25.44	12.77	50
A1a	T1a	25.44				0.69	3			
A1a	T1	25.44				0.73	3			
A1b	T1a	25.44				12.72	50			
A1	T1b	25.44				0.69	3			
166.96	7/8 EHS	A1	T2	47.82	5.68	12				
		A1b	T2b	47.82	18.99	40				
		A1a	T2a	47.82	4.14	9				
		A1a	T2	47.82	5.67	12				
		A1b	T2a	47.82	18.97	40				
		A1	T2b	47.82	4.13	9				
		1.2D + 1.6W 90° Wind	92.42	5/8 EHS	A1	T1	25.44	5.54	22	
					A1b	T1b	25.44	12.14	48	
A1a	T1a				25.44	0.23	1			
A1a	T1				25.44	0.25	1			
A1b	T1a				25.44	13.41	53			
A1	T1b				25.44	4.22	17			
166.96	7/8 EHS	A1	T2	47.82	14.77	31				
		A1b	T2b	47.82	16.06	34				
		A1a	T2a	47.82	1.63	3				
		A1a	T2	47.82	1.78	4				
		A1b	T2a	47.82	22.03	46				
		A1	T2b	47.82	8.33	17				
		0.9D + 1.6W Normal	92.42	5/8 EHS	A1	T1	25.44	0.10	0	
					A1b	T1b	25.44	11.08	44	
A1a	T1a				25.44	9.47	37			
A1a	T1				25.44	11.08	44			
A1b	T1a				25.44	9.46	37			
A1	T1b				25.44	0.10	0			
166.96	7/8 EHS		A1	T2	47.82	0.89	2			
			A1b	T2b	47.82	20.17	42			
			A1a	T2a	47.82	12.98	27			
			A1a	T2	47.82	20.17	42			
			A1b	T2a	47.82	12.98	27			
			A1	T2b	47.82	0.89	2			
			0.9D + 1.6W 60° Wind	92.42	5/8 EHS	A1	T1	25.44	0.73	3
						A1b	T1b	25.44	12.68	50
A1a	T1a	25.44				0.69	3			
A1a	T1	25.44				0.73	3			
A1b	T1a	25.44				12.62	50			

0.9D + 1.6W 60° Wind	92.42	5/8 EHS	A1	T1b	25.44	0.69	3	
	166.96		A1	T2	47.82	5.73	12	
			A1b	T2b	47.82	19.06	40	
			A1a	T2a	47.82	4.17	9	
			A1a	T2	47.82	5.72	12	
			A1b	T2a	47.82	19.04	40	
0.9D + 1.6W 90° Wind	92.42	5/8 EHS	A1	T2b	47.82	4.16	9	
			A1	T1	25.44	5.38	21	
			A1b	T1b	25.44	12.00	47	
			A1a	T1a	25.44	0.23	1	
			A1a	T1	25.44	0.25	1	
			A1b	T1a	25.44	13.24	52	
	166.96	7/8 EHS	A1	T1b	25.44	4.11	16	
			A1	T2	47.82	14.83	31	
			A1b	T2b	47.82	16.14	34	
			A1a	T2a	47.82	1.64	3	
			A1a	T2	47.82	1.79	4	
			A1b	T2a	47.82	22.08	46	
1.2D + 1.0Di + 1.0Wi	92.42	5/8 EHS	A1	T2b	47.82	8.39	18	
			A1	T1	25.44	1.81	7	
			A1b	T1b	25.44	3.82	15	
			A1a	T1a	25.44	3.76	15	
			A1a	T1	25.44	3.82	15	
			A1b	T1a	25.44	3.76	15	
	166.96	7/8 EHS	A1	T1b	25.44	1.81	7	
			A1	T2	47.82	7.67	16	
			A1b	T2b	47.82	12.55	26	
			A1a	T2a	47.82	11.04	23	
			A1a	T2	47.82	12.55	26	
			A1b	T2a	47.82	11.04	23	
	1.2D + 1.0Di + 1.0Wi	92.42	5/8 EHS	A1	T2b	47.82	7.67	16
				A1	T1	25.44	2.25	9
				A1b	T1b	25.44	4.49	18
				A1a	T1a	25.44	2.23	9
				A1a	T1	25.44	2.25	9
				A1b	T1a	25.44	4.49	18
166.96		7/8 EHS	A1	T1b	25.44	2.23	9	
			A1	T2	47.82	9.66	20	
			A1b	T2b	47.82	12.98	27	
			A1a	T2a	47.82	8.57	18	
			A1a	T2	47.82	9.65	20	
			A1b	T2a	47.82	12.97	27	
1.2D + 1.0Di + 1.0Wi	92.42	5/8 EHS	A1	T2b	47.82	8.56	18	
			A1	T1	25.44	2.99	12	
			A1b	T1b	25.44	4.31	17	
			A1a	T1a	25.44	1.88	7	
			A1a	T1	25.44	1.88	7	
			A1b	T1a	25.44	4.35	17	
	166.96	7/8 EHS	A1	T1b	25.44	2.93	12	
			A1	T2	47.82	11.25	24	
			A1b	T2b	47.82	12.20	26	
			A1a	T2a	47.82	7.83	16	
			A1a	T2	47.82	8.30	17	
			A1b	T2a	47.82	13.13	27	
1.0D + 1.0W Normal	92.42	5/8 EHS	A1	T2b	47.82	9.72	20	
			A1	T1	25.44	0.27	1	
			A1b	T1b	25.44	0.88	3	
			A1a	T1a	25.44	0.84	3	
			A1a	T1	25.44	0.88	3	
			A1b	T1a	25.44	0.84	3	
	166.96	7/8 EHS	A1	T1b	25.44	0.27	1	
			A1	T2	47.82	3.63	8	
			A1b	T2b	47.82	9.39	20	
			A1a	T2a	47.82	6.38	13	
			A1a	T2	47.82	9.39	20	
			A1b	T2a	47.82	6.38	13	
			A1	T2b	47.82	3.63	8	

1.0D + 1.0W 60° Wind	92.42	5/8 EHS	A1	T1	25.44	0.37	1	
			A1b	T1b	25.44	1.59	6	
			A1a	T1a	25.44	0.36	1	
			A1a	T1	25.44	0.37	1	
			A1b	T1a	25.44	1.58	6	
		166.96	7/8 EHS	A1	T1b	25.44	0.36	1
				A1	T2	47.82	6.41	13
				A1b	T2b	47.82	9.10	19
				A1a	T2a	47.82	4.30	9
				A1a	T2	47.82	6.41	13
1.0D + 1.0W 90° Wind	92.42	5/8 EHS	A1b	T2a	47.82	9.10	19	
			A1	T2b	47.82	4.29	9	
			A1	T1	25.44	0.55	2	
			A1b	T1b	25.44	1.31	5	
			A1a	T1a	25.44	0.28	1	
		166.96	7/8 EHS	A1a	T1	25.44	0.29	1
				A1b	T1a	25.44	1.37	5
				A1	T1b	25.44	0.54	2
				A1	T2	47.82	8.14	17
				A1b	T2b	47.82	7.85	16
			A1a	T2a	47.82	3.67	8	
			A1a	T2	47.82	4.68	10	
			A1b	T2a	47.82	9.69	20	
			A1	T2b	47.82	5.18	11	

Analysis Summary

Structure: CT10016-A-SBA	Code: EIA/TIA-222-G	10/25/2016
Site Name: Montville 3, CT	Exposure: B	
Height: 190.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II
		Page: 20



Max Reactions

Base:	156.66 (Vertical)	6.02 (Horizontal)
Anchor 1:	40.53 (Vertical)	47.32 (Horizontal)

Max Usages

Max Leg: 86.0% (1.2D + 1.6W 90° Wind - Sect 4)
 Max Diag: 99.0% (1.2D + 1.6W 90° Wind - Sect 3)
 Max Horiz: 21.0% (1.2D + 1.6W Normal Wind - Sect 3)
 Max Cable: 52.7% (1.2D + 1.6W 90° Wind) - Elev: 92 ft

Max Deflection, Twist and Sway

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
0.9D + 1.6W 105 mph Wind at 60° From Face	74.85	1.2068	0.0311	0.1661
	130.00	1.1244	0.0198	0.5514
	142.11	0.9722	0.0153	0.8840
	150.00	0.8359	0.0121	1.1116
	159.69	0.6449	0.0085	1.2106
	174.85	0.3230	0.0103	1.1979
0.9D + 1.6W 105 mph Wind at 90° From Face	74.85	2.0787	0.1552	0.4040
	130.00	1.7769	0.1367	1.1335
	142.11	1.5037	0.1325	1.4872
	150.00	1.2843	0.1287	1.7282
	159.69	0.9913	0.1296	1.8237
	174.85	0.5125	0.1300	1.8009
0.9D + 1.6W 105 mph Wind at Normal To Face	74.85	2.2200	-0.0009	0.4334
	130.00	1.9244	0.0001	1.1558
	142.11	1.6398	0.0007	1.5436
	150.00	1.4106	0.0001	1.8047
	159.69	1.1040	0.0036	1.8901
	174.85	0.6021	0.0064	1.8726
1.0D + 1.0W 60 mph Wind at 60° From Face	74.85	0.7166	0.0082	0.1326
	130.00	0.5265	0.0059	0.5147
	142.11	0.4080	0.0043	0.6139
	150.00	0.3192	0.0032	0.6862
	159.69	0.2037	0.0021	0.7049
	174.85	0.0173	0.0020	0.7000
1.0D + 1.0W 60 mph Wind at 90° From Face	74.85	0.8468	0.0508	0.1602
	130.00	0.6096	0.0370	0.6191
	142.11	0.4674	0.0309	0.7318
	150.00	0.3619	0.0272	0.8046
	159.69	0.2259	0.0245	0.8291
	174.85	0.0133	0.0226	0.8237

1.0D + 1.0W 60 mph Wind at Normal To Face	74.85	0.9682	-0.0013	0.1888
	130.00	0.6890	0.0002	0.7214
	142.11	0.5248	0.0004	0.8401
	150.00	0.4041	0.0003	0.9216
	159.69	0.2485	0.0006	0.9433
	174.85	0.0017	0.0014	0.9390

1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face	74.85	0.5630	0.0119	0.0664
	130.00	0.4214	0.0088	0.3703
	142.11	0.3349	0.0069	0.4535
	150.00	0.2692	0.0057	0.5155
	159.69	0.1824	0.0046	0.5334
	174.85	0.0415	0.0040	0.5287

1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face	74.85	0.6668	0.0629	0.0796
	130.00	0.4780	0.0526	0.4630
	142.11	0.3710	0.0479	0.5561
	150.00	0.2909	0.0451	0.6182
	159.69	0.1869	0.0432	0.6419
	174.85	0.0326	0.0418	0.6377

1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face	74.85	0.7590	-0.0022	0.0897
	130.00	0.5320	-0.0002	0.5424
	142.11	0.4069	-0.0001	0.6444
	150.00	0.3142	-0.0002	0.7085
	159.69	0.1938	-0.0009	0.7341
	174.85	0.0014	-0.0015	0.7314

1.2D + 1.6W 105 mph Wind at 60° From Face	74.85	1.2133	0.0311	0.1614
	130.00	1.1277	0.0198	0.5540
	142.11	0.9750	0.0154	0.8867
	150.00	0.8383	0.0122	1.1144
	159.69	0.6469	0.0086	1.2133
	174.85	0.3242	0.0104	1.2008

1.2D + 1.6W 105 mph Wind at 90° From Face	74.85	2.0980	0.1522	0.3988
	130.00	1.7883	0.1366	1.1436
	142.11	1.5131	0.1337	1.4972
	150.00	1.2923	0.1306	1.7383
	159.69	0.9977	0.1321	1.8334
	174.85	0.5162	0.1330	1.8111

1.2D + 1.6W 105 mph Wind at Normal To Face	74.85	2.2387	-0.0009	0.4268
	130.00	1.9355	0.0001	1.1644
	142.11	1.6491	0.0008	1.5522
	150.00	1.4187	0.0001	1.8133
	159.69	1.1107	0.0036	1.8985
	174.85	0.6065	0.0064	1.8812



Guyed Tower Base Design

Date

10/25/2016

Customer Name:	SBA Communications Corp	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	190
Site Number:	CT10016-A-SBA	Engineer Name:	Rama K.
Engr. Number:	27169	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations

Structure Type:

Guyed Tower

Analysis or Design?

Analysis

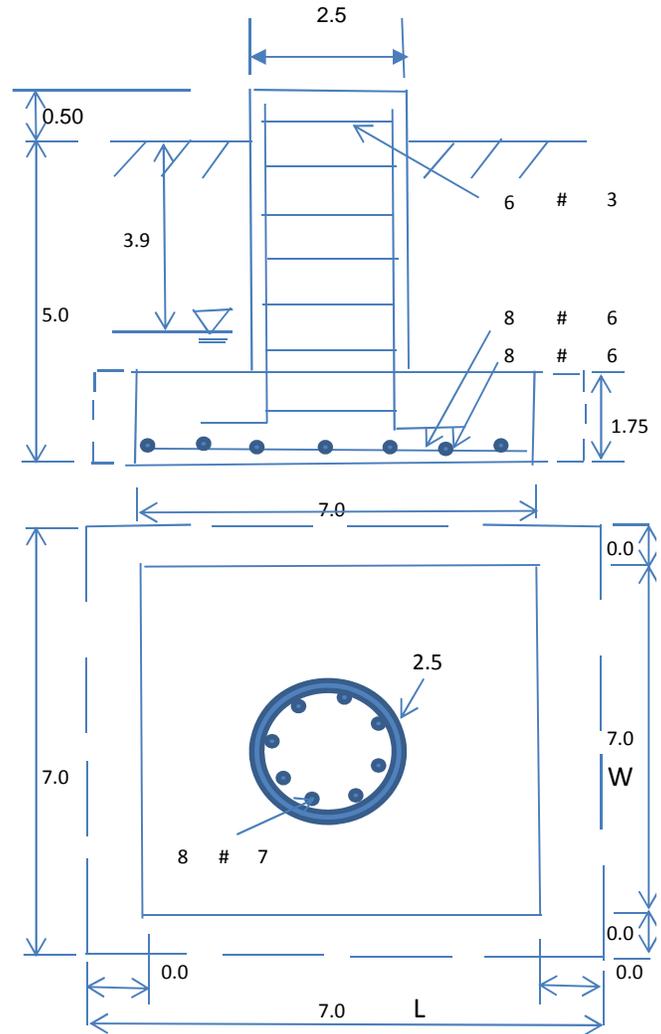
Base Reactions (Factored):

Axial Load (Kips):	156.7	Shear Force (Kips):	6.0
Uplift Force (Kips):	0.0	Moment (Kips-ft):	

Allowable overstress %: 5.00%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	2.5	Depth of Base BG (ft.):	5.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	1.75
Length of Pad (ft.):	7	Width of Pad (ft.):	7
Final Length of pad (ft)	7.0	Final width of pad (ft):	7.0



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	36	
Vertical Rebar Size #:	7	Tie / Stirrup Size #:	3	
Qty. of Vertical Rebars:	8	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	6	
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):	8	Qty. of Rebar in Pad (W):	8	

Soil Design Parameters:

Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	3.9	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	30000	Ultimate Skin Friction:	0	Psf
		Angle from Top of Pad:	30	
		Angle from Bottm of Pad:	30	
		Angle from Bottm of Pad:	25	

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.6
Total Dry Soil Volume (cu. Ft.):	143.30	Total Dry Soil Weight (Kips):	16.48
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	16.48	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	50.26	Total Dry Concrete Weight (Kips):	7.54
Total Buoyant Concrete Volume (cu. Ft.):	53.90	Total Buoyant Concrete Weight (Kips):	4.72
Total Effective Concrete Weight (Kips):	12.26	Total Vertical Load on Base (Kips):	185.40

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	4019.5	<	Allowable Factored Soil Bearing (psf):	18000	0.22	OK!
Calculated Foundation Allowable Axail Capacity (Kips):	863.8	>	Design Factored Axial Load (Kips):	157	0.18	OK!

Load/
Capacity
Ratio

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):	0.60	Tie / Stirrup Area (sq. in./each):	0.11		
Calculated Moment Capacity (Mn,Kips-Ft):	248.7	> Design Factored Moment (Mu, Kips-Ft)	22.6	0.09	OK!
Calculated Shear Capacity (Kips):	73.9	> Design Factored Shear (Kips):	6.0	0.08	OK!
Calculated Tension Capacity (Tn, Kips):	259.2	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	930.9	> Design Factored Axial Load (Pu Kips):	156.7	0.17	OK!
Moment & Axial Strength Combination(Pu/Pn+Mu/Mn):	0.26	OK! Check Tie Spacing (Design/Required):		1	
Pier Reinforcement Ratio:	0.007				

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Dir. Kips);	121.6	> One-Way Factored Shear (L-Dir Kips):	17.9	0.15	OK!
One-Way Design Shear Capacity (W-Dir. Kips):	121.6	> One-Way Factored Shear (W-Dir Kips)	17.9	0.15	OK!
Two-Way Design Shear Capacity (Kips):	433.3	> Two-Way Factored Shear (Kips):	117.2	0.27	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0024	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0024		OK!
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	271.4	> Moment at Bottom (L-Direct. K-Ft):	58.1	0.21	OK!
Lower Steel Pad Moment Capacity (W-Dir. Kips-ft):	271.4	> Moment at Bottom (W-Dir. Kips-Ft):	58.1	0.21	OK!



Guy Anchor Analysis and Design

Date

10/25/2016

Customer Name:	SBA Communications Corp	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	190
Site Number:	CT10016-A-SBA	Engineer Name:	Rama K.
Engr. Number:	27169	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations

Number of Anchors:

1 Set

Soil Design Parameters:

Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	53.0	Pcf	Cohesion of Soils (psf):	
Water Table B.G.S. (ft):	3.9	Unit Weight of Water:	62.4	pcf	Internal Angle of Friction (°)	34
Ultimate lateral pressure (psf):	0	Ultimate Skin Friction:		Psf	Coefficient of Shear Friction:	0.28
Conical Failure Angle from Top:	30	Failure Angle from Bottom:	20			

Material Properties:

Concrete Strength (psi):	3000	Unit Weight of Concrete:	150.0	psf	Horizontal Rebar Yield (psi):	60000
Shear Strength Reduction Factor:	0.75				Flexure Strength Reduction Factor:	0.9

A. Inner Anchors:

Radius (ft.): 150

1. Design Reactions (Factored):

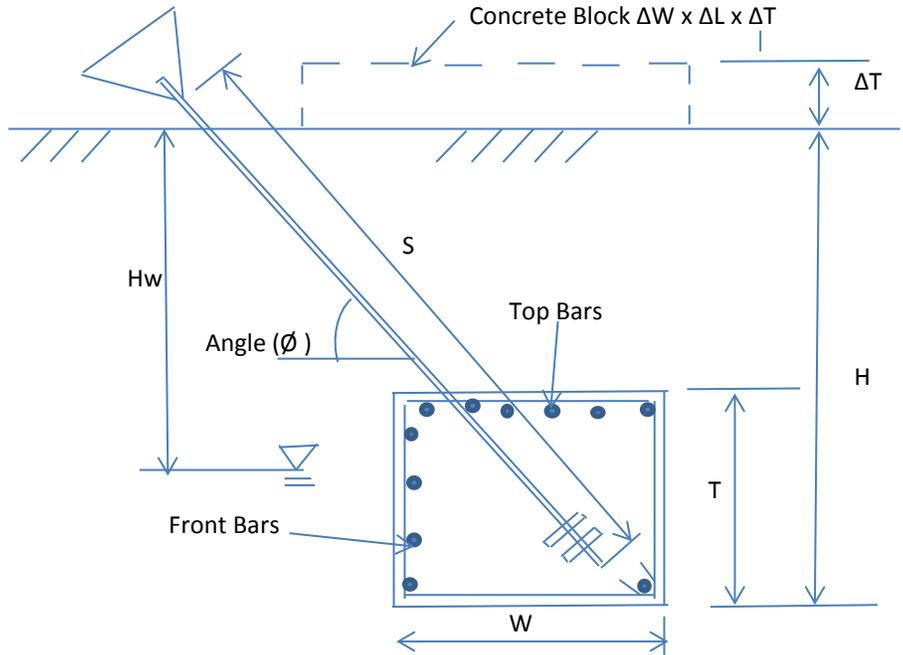
Uplift (Kips): 40.5 Shear (Kips): 47.3 Angle of force resultant (ϕ): 40.6

2. Foundation Geometries:

Block Base Depth B.G.S. (ft):	12.0	Block with/without toe?	No	Water Table below grade (ft):	3.90
Length of Anchor Block (L, ft.):	10.0	Width of Anchor Block:	3.0 ft.	Thickness of Anchor Block (ft.):	3.0
Concrete Block @ top of Anchor?	No				

(1). Inner Anchors:

Radius (ft.):	150
H (ft.):	12.0
Hw (ft.):	3.9
L (ft.):	10.0
W (ft.):	3.0
T (ft.):	3.0
Angle (ϕ):	40.6
S (ft.):	19.22
Top bars:	3 # 7
Front bars:	4 # 7
Concrete Volume (Cu. Yd.)/Each:	3.33



3. Foundation Analysis and Design:

Total Dry Soil Volume (cu. Ft.):	662.25	Total Dry Soil Weight (Kips):	68.26
Total Buoyant Soil Volume (cu. Ft.):	510.38	Total Buoyant Soil Weight (Kips):	27.05
Total Effective Soil Weight (Kips):	96.18	Weight of the Concrete Block at Top (Kips):	0.00
Total Dry Concrete Volume (cu. Ft.):	0.00	Total Dry Concrete Weight (Kip):	0.00
Total Buoyant Concrete Volume (cu. Ft.):	90.00	Total Buoyant Concrete Weight (Kips):	7.88
Total Effective Concrete Weight (Kips):	7.88	Weight Reduction Factor:	0.9
Uplift Strength Reduction Factor:	0.75	Shear Strength Reduction Factor:	0.75

4. Check Soil and Foundation Capacities:

Nominal Factored Uplift Resistance:	85.10	Kips > Design Uplift Force (Kips):	40.5	OK!
Ultimate Shear Friction Resistance at base:	6.31	Kips Ultimate Resistance Pressure:	2823.7	Psf
Factored Shear Resistance:	68.26	Kips > Design Shear Force (Kips):	47.3	OK!

5. Design Concrete Block:

Rebar Size (#):	7	Wind Load Factor on Concrete Design:	1.00	
Qty. of the Rebar at top of the block:	3	Qty. of the Rebar in the front of the block:	4	
Area of Single Rebar (sq. in.):	0.60	Factor for concrete compression zone:	0.85	
One Way Shear due to Shear Force (Kips):	23.7	One Way Shear Capacity for shear (kips):	94.6	OK!
One Way Shear due to Uplift (Kips):	20.3	One Way Shear Capacity for uplift (kips):	94.6	OK!
Moment due to Shear Load (Kips-ft):	59.2	Flexural Capacity for Shear Load (Kips-ft):	345.3	OK!
Moment due to uplift Load (Kips-ft):	50.7	Flexural Capacity for uplift Load (Kips-ft):	259.1	OK!
Ratio of Design Moment/Moment capacity:	0.20	Minimum ratio of rebar (top & front) :	0.22	OK!
Max. Ratio of Shear Force/Shear capacity:	0.25	OK!		

0.0	0.0	
9.0		99.0
8.0	4.0	4.0



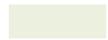
27.4
0.0

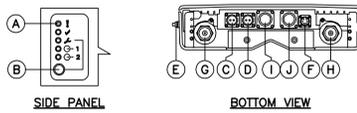
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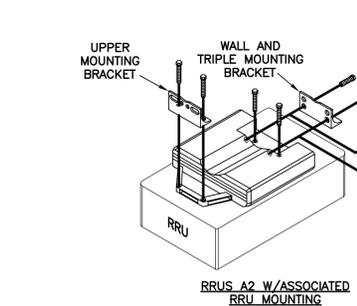
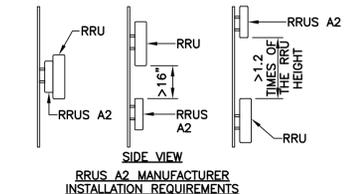
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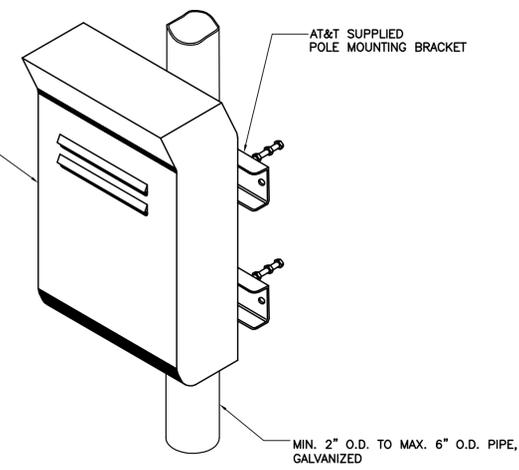


POSITION (ID)	DESCRIPTION	MARKING
A	OPTICAL INDICATORS	1, 2, 3 O-1, O-2
B	MAINTENANCE	▲
C	-48V DC POWER SUPPLY	▲ POW IN
D	-48V DC POWER SUPPLY TO RRU	▲ POW OUT
E	GROUNDING	≡
F	RET	RET
G	ANTENNA B	▲ - B
H	ANTENNA A	▲ - A
I	OPTICAL CABLE 1	○-1
J	OPTICAL CABLE 2	○-2

- NOTES:**
1. STACKING OF RRU's IS NOT PERMITTED.
 2. NO PAINTING OF RRU OR THE SOLAR SHIELD IS ALLOWED.
 3. A SINGLE RRU/A2 CAN BE INSTALLED AS A STAND ALONE UNIT OR MOUNTED TO THE BACK OF ITS ASSOCIATED RRU.

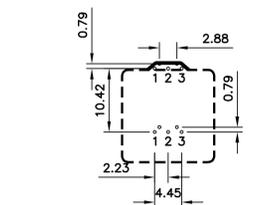


1 ERICSSON RRU A2 DETAILS
N-1 NOT TO SCALE



- NOTES:**
1. AT&T SHALL SUPPLY RRU, AND RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL SUPPLY POLE/PIPE AND INSTALL ALL MOUNTING HARDWARE INCLUDING ERICSSON RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL INSTALLS RRU AND MAKES CABLE TERMINATIONS.
 2. NO PAINTING OF THE RRU OR SOLAR SHIELD IS ALLOWED.

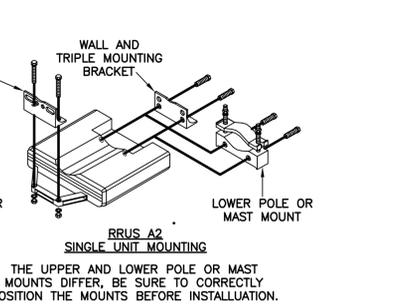
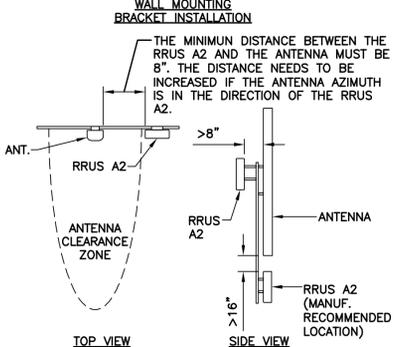
2 TYPICAL RRUS MOUNTING DETAILS
N-1 SCALE: NTS



THE NUMBER OF BOLT HOLES DEPENDS ON THE WALL MATERIAL AS SPECIFIED BY THE SITE ENGINEER. A MINIMUM OF TWO BOLT HOLES ARE RECOMMENDED FOR EACH BRACKET.

ONE OF THE FOLLOWING SOLUTIONS FOR HOLE POSITIONS MUST BE USED:

- 1, 3
- 1, 2, 3



THE UPPER AND LOWER POLE OR MAST MOUNTS DIFFER, BE SURE TO CORRECTLY POSITION THE MOUNTS BEFORE INSTALLATION.

NOTES AND SPECIFICATIONS

DESIGN BASIS:

- GOVERNING CODE: 2003 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2005 CT STATE BUILDING CODE AND 2009 AMENDMENTS.
1. DESIGN CRITERIA:
 - WIND LOAD: PER EIA/TIA 222 F-96 (ANTENNA MOUNTS): 85 MPH (FASTEST MILE), EQUIVALENT TO 105 MPH (3 SECOND GUST)
 - BUILDING CLASSIFICATION: II (BASED ON IBC TABLE 1604.5)
 - BASIC WIND SPEED (OTHER STRUCTURE): 115 MPH (3 SECOND GUST) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-02) PER 2003 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2005 CONNECTICUT SUPPLEMENT AND 2009 AMMENDMENT.
 - SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-02 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
2. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
3. BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
4. DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST EXISTING FIELD CONDITIONS.
5. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
6. ALL DIMENSIONS, ELEVATIONS, AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS, ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
7. AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.
8. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE SHORING, BRACING, AND BARRICADES AS MAY BE REQUIRED FOR THE PROTECTION OF EXISTING PROPERTY, CONSTRUCTION WORKERS, AND FOR PUBLIC SAFETY.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING SITE OPERATIONS, COORDINATE WORK WITH NORTHEAST UTILITIES
10. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER FOUNDATION REMEDIATION WORK IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, TEMPORARY BRACING, GUYS OR TIEDOWNS, WHICH MIGHT BE NECESSARY.
11. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
12. SHOP DRAWINGS, CONCRETE MIX DESIGNS, TEST REPORTS, AND OTHER SUBMITTALS PERTAINING TO STRUCTURAL WORK SHALL BE FORWARDED TO THE OWNER FOR REVIEW BEFORE FABRICATION AND/OR INSTALLATION IS MADE. SHOP DRAWINGS SHALL INCLUDE ERECTION DRAWINGS AND COMPLETE DETAILS OF CONNECTIONS AS WELL AS MANUFACTURER'S SPECIFICATION DATA WHERE APPROPRIATE. SHOP DRAWINGS SHALL BE CHECKED BY THE CONTRACTOR AND BEAR THE CHECKER'S INITIALS BEFORE BEING SUBMITTED FOR REVIEW.
13. NO DRILLING WELDING OR TAPING ON CL&P OWNED EQUIPMENT.
14. REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)
 - A. STRUCTURAL STEEL (W SHAPES)---ASTM A992 (FY = 50 KSI)
 - B. STRUCTURAL STEEL (OTHER SHAPES)---ASTM A36 (FY = 36 KSI)
 - C. STRUCTURAL HSS (RECTANGULAR SHAPES)---ASTM A500 GRADE B, (FY = 46 KSI)
 - D. STRUCTURAL HSS (ROUND SHAPES)---ASTM A500 GRADE B, (FY = 42 KSI)
 - E. PIPE---ASTM A53 (FY = 35 KSI)
 - F. CONNECTION BOLTS---ASTM A325-N
 - G. U-BOLTS---ASTM A36
 - H. ANCHOR RODS---ASTM F 1554
 - I. WELDING ELECTRODE---ASTM E 70XX
2. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING: SECTION PROFILES, SIZES, CONNECTION ATTACHMENTS, REINFORCING, ANCHORAGE, SIZE AND TYPE OF FASTENERS AND ACCESSORIES. INCLUDE ERECTION DRAWINGS, ELEVATIONS AND DETAILS.
3. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST PROVISIONS OF AISC MANUAL OF STEEL CONSTRUCTION.
4. PROVIDE ALL PLATES, CLIP ANGLES, CLOSURE PIECES, STRAP ANCHORS, MISCELLANEOUS PIECES AND HOLES REQUIRED TO COMPLETE THE STRUCTURE.
5. FIT AND SHOP ASSEMBLE FABRICATIONS IN THE LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
6. INSTALL FABRICATIONS PLUMB AND LEVEL, ACCURATELY FITTED, AND FREE FROM DISTORTIONS OR DEFECTS.
7. AFTER ERECTION OF STRUCTURES, TOUCHUP ALL WELDS, ABRASIONS AND NON-GALVANIZED SURFACES WITH A 95% ORGANIC ZINC RICH PAINT IN ACCORDANCE WITH ASTM 780.
8. ALL STEEL MATERIAL (EXPOSED TO WEATHER) SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT DIPPED GALVANIZED) COATINGS" ON IRONS AND STEEL PRODUCTS.
9. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE".
10. THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON CONFORMING MATERIALS OR CONDITIONS TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER REVIEW.
11. CONNECTION ANGLES SHALL HAVE A MINIMUM THICKNESS OF 1/4 INCHES.
12. STRUCTURAL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. ALL BOLTS SHALL BE 3/4" DIAMETER MINIMUM AND SHALL HAVE A MINIMUM OF TWO BOLTS, UNLESS OTHERWISE ON THE DRAWINGS.
13. LOCK WASHER ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES.
14. SHOP CONNECTIONS SHALL BE WELDED OR HIGH STRENGTH BOLTED.
15. MILL BEARING ENDS OF COLUMNS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.
16. FABRICATE BEAMS WITH MILL CAMBER UP.
17. LEVEL AND PLUMB INDIVIDUAL MEMBERS OF THE STRUCTURE TO AN ACCURACY OF 1:500, BUT NOT TO EXCEED 1/4" IN THE FULL HEIGHT OF THE COLUMN.
18. COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.
19. INSPECTION AND TESTING OF ALL WELDING AND HIGH STRENGTH BOLTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
20. FOUR COPIES OF ALL INSPECTION TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN (10) WORKING DAYS OF THE DATE OF INSPECTION.

PAINT NOTES

- PAINTING SCHEDULE:**
1. **ANTENNA PANELS:**
 - A. SHERWIN WILLIAMS POLANE-B
 - B. COLOR TO BE MATCHED WITH EXISTING TOWER STRUCTURE.
 2. **COAXIAL CABLES:**
 - A. ONE COAT OF DTM BONDING PRIMER (2-5 MILS. DRY FINISH)
 - B. TWO COATS OF DTM ACRYLIC PRIMER/FINISH (2.5-5 MILS. DRY FINISH)
 - C. COLOR TO BE FIELD MATCHED WITH EXISTING STRUCTURE.
- EXAMINATION AND PREPARATION:**
1. DO NOT APPLY PAINT IN SNOW, RAIN, FOG OR MIST OR WHEN RELATIVE HUMIDITY EXCEEDS 85%. DO NOT APPLY PAINT TO DAMP OR WET SURFACES.
 2. VERIFY THAT SUBSTRATE CONDITIONS ARE READY TO RECEIVE WORK. EXAMINE SURFACE SCHEDULED TO BE FINISHED PRIOR TO COMMENCEMENT OF WORK. REPORT ANY CONDITION THAT MAY POTENTIALLY AFFECT PROPER APPLICATION.
 3. TEST SHOP APPLIED PRIMER FOR COMPATIBILITY WITH SUBSEQUENT COVER MATERIALS.
 4. PERFORM PREPARATION AND CLEANING PROCEDURE IN STRICT ACCORDANCE WITH COATING MANUFACTURER'S INSTRUCTIONS FOR EACH SUBSTRATE CONDITION.
 5. CORRECT DEFECTS AND CLEAN SURFACES WHICH AFFECT WORK OF THIS SECTION. REMOVE EXISTING COATINGS THAT EXHIBIT LOOSE SURFACE DEFECTS.
 6. IMPERVIOUS SURFACE: REMOVE MILDEW BY SCRUBBING WITH SOLUTION OF TRI-SODIUM PHOSPHATE AND BLEACH. RINSE WITH CLEAN WATER AND ALLOW SURFACE TO DRY.
 7. ALUMINUM SURFACE SCHEDULED FOR PAINT FINISH: REMOVE SURFACE CONTAMINATION BY STEAM OR HIGH-PRESSURE WATER. REMOVE OXIDATION WITH ACID ETCH AND SOLVENT WASHING. APPLY ETCHING PRIMER IMMEDIATELY FOLLOWING CLEANING.
 8. FERROUS METALS: CLEAN UNGALVANIZED FERROUS METAL SURFACES THAT HAVE NOT BEEN SHOP COATED; REMOVE OIL, GREASE, DIRT, LOOSE MILL SCALE, AND OTHER FOREIGN SUBSTANCES. USE SOLVENT OR MECHANICAL CLEANING METHODS THAT COMPLY WITH THE STEEL STRUCTURES PAINTING COUNCIL'S (SSPC) RECOMMENDATIONS. TOUCH UP BARE AREAS AND SHOP APPLIED PRIME COATS THAT HAVE BEEN DAMAGED. WIRE BRUSH, CLEAN WITH SOLVENTS RECOMMENDED BY PAINT MANUFACTURER, AND TOUCH UP WITH THE SAME PRIMER AS THE SHOP COAT.
 9. GALVANIZED SURFACES: CLEAN GALVANIZED SURFACES WITH NON-PETROLEUM-BASED SOLVENTS SO SURFACE IS FREE OF OIL AND SURFACE CONTAMINANTS. REMOVE PRETREATMENT FROM GALVANIZED SHEET METAL FABRICATED FROM COIL STOCK BY MECHANICAL METHODS.
 10. ANTENNA PANELS: REMOVE ALL OIL, DUST, GREASE, DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION. PANELS MUST BE WIPED WITH METHYL ETHYL KETONE (MEK).
 11. COAXIAL CABLES: REMOVE ALL OIL, DUST, GREASE, DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION.
- CLEANING:**
1. COLLECT WASTE MATERIAL, WHICH MAY CONSTITUTE A FIRE HAZARD, PLACE IN CLOSED METAL CONTAINERS AND REMOVE DAILY FROM SITE.
- APPLICATION:**
1. APPLY PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 2. DO NOT APPLY FINISHES TO SURFACES THAT ARE NOT DRY.
 3. APPLY EACH COAT TO UNIFORM FINISH.
 4. APPLY EACH COAT OF PAINT SLIGHTLY DARKER THAN PRECEDING COAT UNLESS OTHERWISE APPROVED.
 5. SAND METAL LIGHTLY BETWEEN COATS TO ACHIEVE REQUIRED FINISH.
 6. VACUUM CLEAN SURFACES FREE OF LOOSE PARTICLES. USE TACK CLOTH JUST PRIOR TO APPLYING NEXT COAT.
 7. ALLOW APPLIED COAT TO DRY BEFORE NEXT COAT IS APPLIED.
- COMPLETED WORK:**
1. SAMPLES: PREPARE 24" X 24" SAMPLE AREA FOR REVIEW.
 2. MATCH APPROVED SAMPLES FOR COLOR, TEXTURE AND COVERAGE. REMOVE REFINISH OR REPAINT WORK NOT IN COMPLIANCE WITH SPECIFIED REQUIREMENTS.

CONSTRUCTION DOCUMENTS - ISSUED FOR CONSTRUCTION

DRAWN BY: CHK/D

DATE: 08/10/16

REV: 0

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DATE: 07/27/16

SCALE: AS NOTED

JOB NO. 16071.24

NOTES AND SPECIFICATIONS

N-1

Sheet No. 2 of 7

TOP OF EXISTING GUYED TOWER
EL. ±190' A.G.L.

AT&T ANTENNAS
EL. ±130' A.G.L.

EXISTING ±190' TALL GUYED TOWER
EXISTING AT&T CABLES ROUTED ALONG
FACE OF EXISTING GUY TOWER

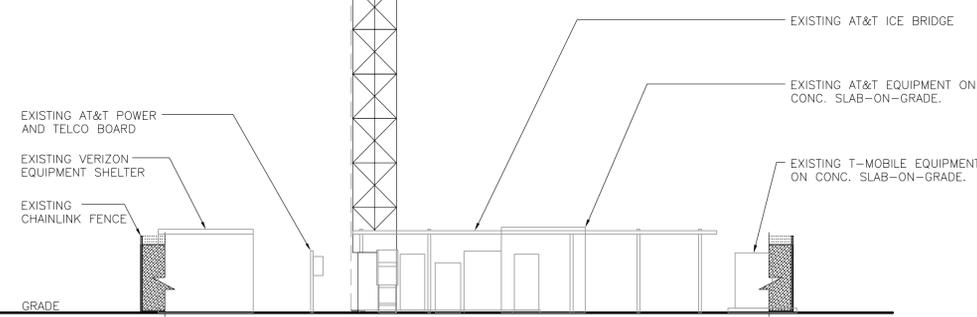
TOWER STRUCTURAL NOTES:

1. TOWER STRUCTURAL ANALYSIS SIGNED AND SEALED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT TO BE PROVIDED PRIOR TO INSTALLATION OF THE ADDITIONAL TOWER LOADING DEPICTED HEREIN.
2. ALL ANTENNAS AND COAX TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY SBA COMMUNICATIONS, CORP. AND FINAL AT&T RF DATA SHEET.

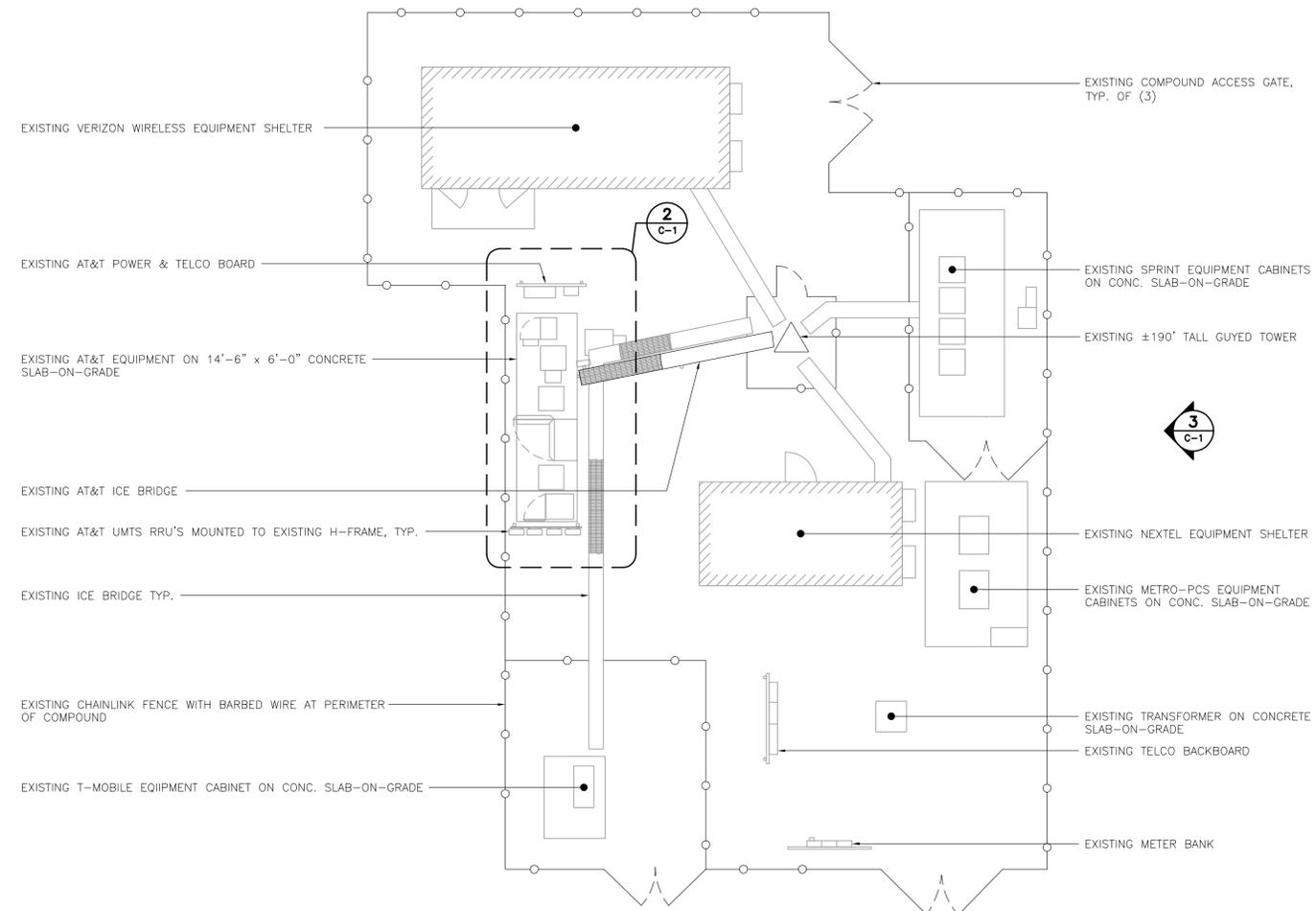
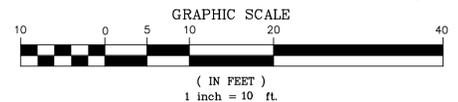
NOTES:

1. OTHER CARRIER EQUIPMENT NOT SHOWN FOR CLARITY
2. A.G.L. = ABOVE GRADE LEVEL

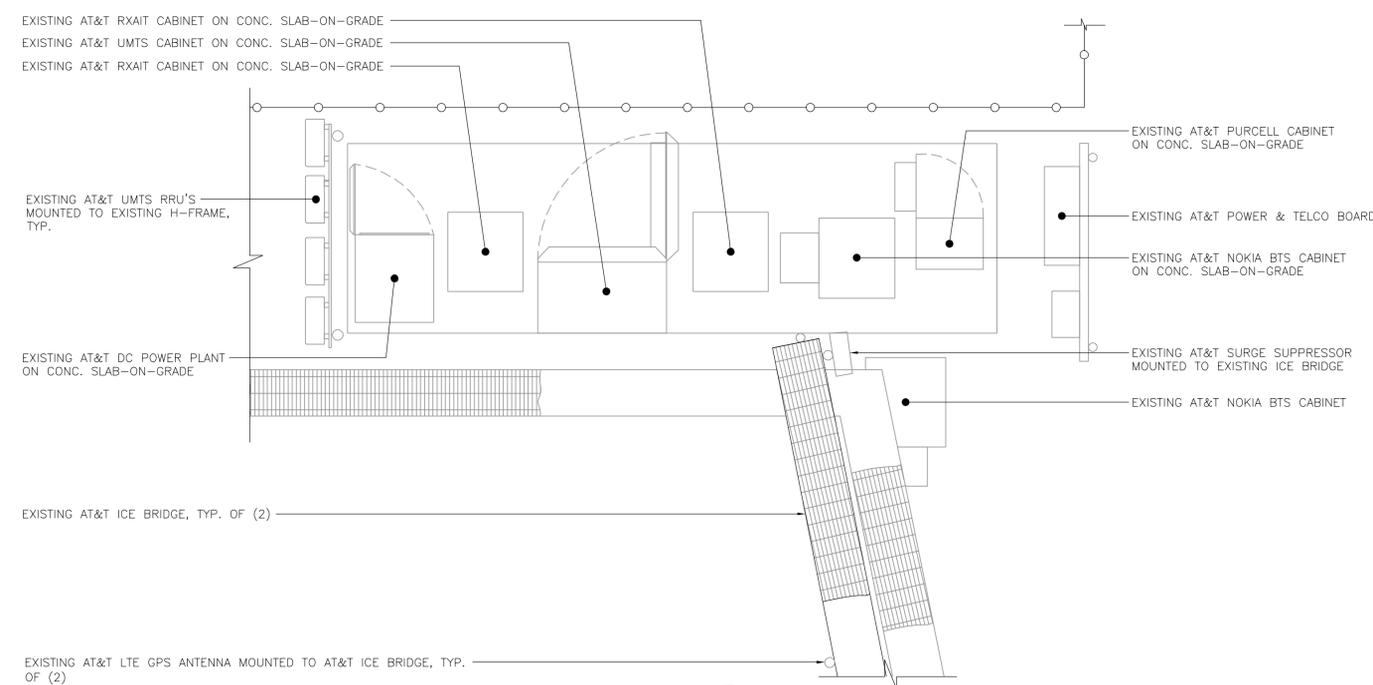
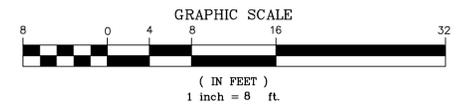
NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY.



3 WEST TOWER ELEVATION
C-1 SCALE: 1" = 10'-0"



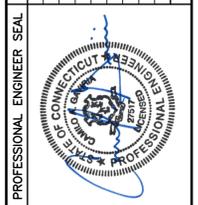
1 COMPOUND PLAN
C-1 SCALE: 1/8" = 1'-0"



2 EQUIPMENT LAYOUT PLAN
C-1 SCALE: 3/8" = 1'-0"



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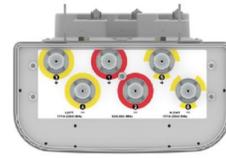
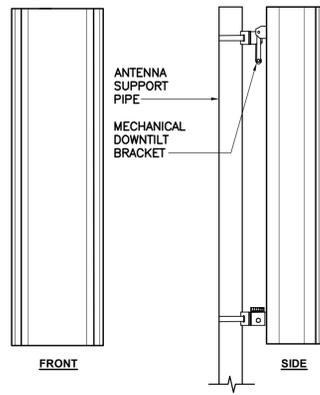
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PLANS, ELEVATION AND DETAILS

C-1
Sheet No. 3 of 7



CCI-H6 BOTTOM



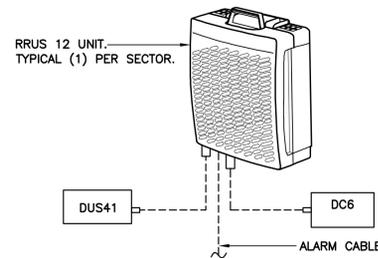
CCI-H8 BOTTOM



ANDREW BOTTOM

ALPHA/BETA/GAMMA ANTENNA		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: CCI MODEL: HPA-65R-BUU-H6	72.3"L x 14.4"W x 7.3"D	42.9 LBS.
MAKE: CCI MODEL: HPA-65R-BUU-H8	92.4"L x 14.8"W x 7.4"D	68 LBS.
MAKE: ANDREW MODEL: SBNHH-1D65A	55"L x 11.9"W x 7.1"D	33.5 LBS.

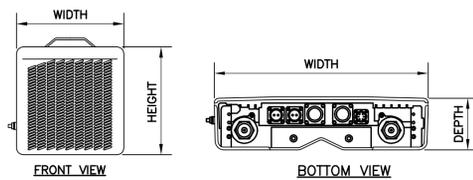
5 PROPOSED ANTENNA DETAIL
C-2 SCALE: 1/2" = 1'-0"



RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRUS 12	20.4"L x 18.5"W x 7.5"D	50 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.

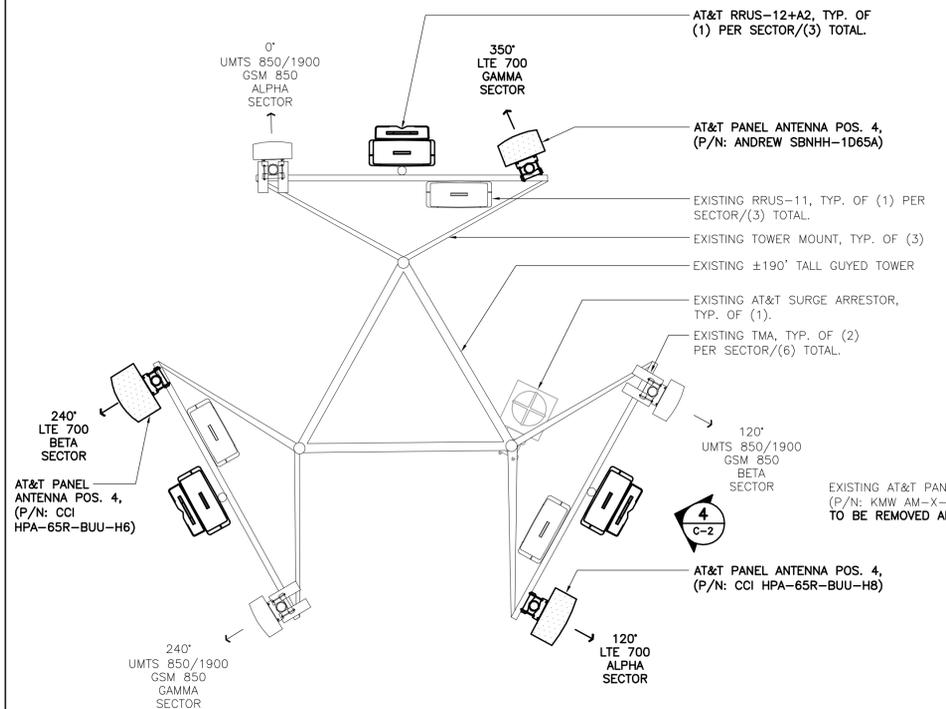
6 ERICSSON RRUS 12 DETAIL
C-2 SCALE: 1" = 1'-0"



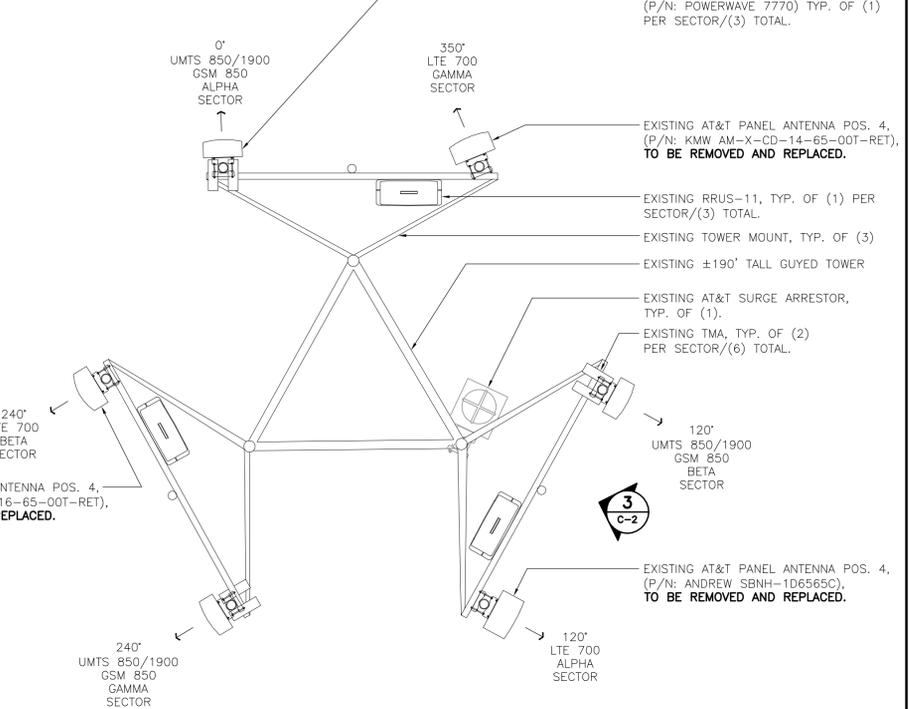
RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRUS A2	16.42"L x 15.19"W x 3.35"D	22.05 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.

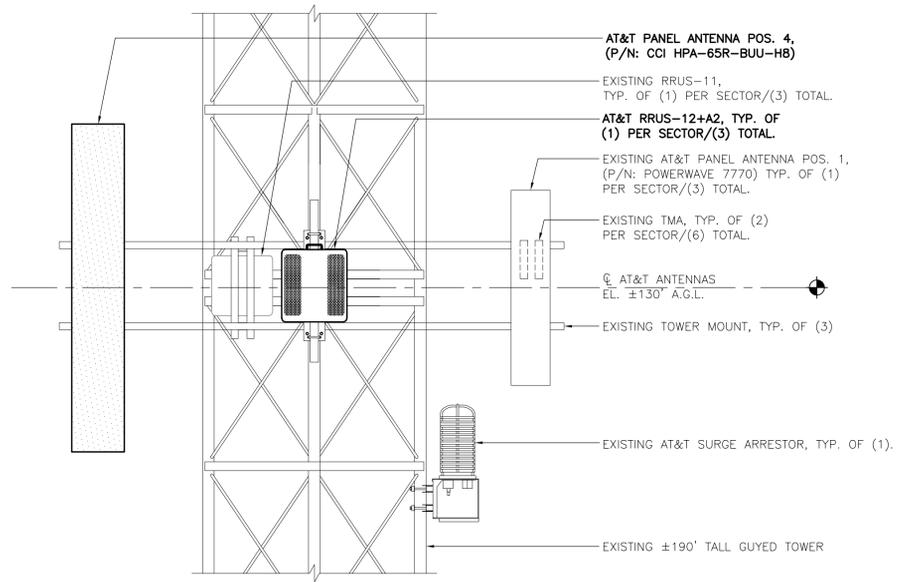
7 ERICSSON RRUS A2 DETAIL
C-2 SCALE: 1" = 1'-0"



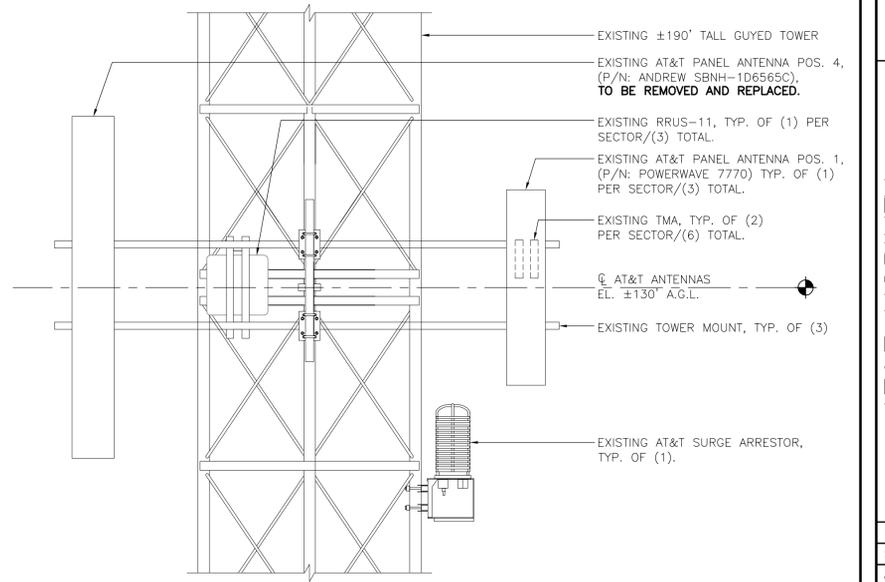
2 PROPOSED ANTENNA PLAN
C-2 SCALE: 1/2" = 1'-0" NORTH



1 EXISTING ANTENNA PLAN
C-2 SCALE: 1/2" = 1'-0" NORTH

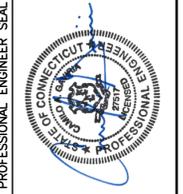


4 PROPOSED ANTENNA PLAN
C-2 SCALE: 1/2" = 1'-0"



3 EXISTING ANTENNA PLAN
C-2 SCALE: 1/2" = 1'-0"

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LTE 2C
EQUIPMENT
DETAILS

