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Kyle Richers
Real Estate Consultant

November 3, 2015

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

CC to Property Owner
American Tower Corporation
10 Presidential Way, Woburn, MA 01801

Unison Site Management, LLC
92 Thomas Johnson Drive (Suite 130), Frederick, MD 21702

RE: T-Mobile Northeast LLC (“T-Mobile”) notice of intent to modify an existing telecommunications facility located at 1320 Chopsey Hill Road, Bridgeport, CT 06610. Known to T-Mobile as site CT11680A.

Dear Ms. Bachman:

In order to accommodate technological changes, implement Code Division Multiple Access (“CDMA”) and/or Long Term Evolution (“LTE”) capabilities, and enhance system performance in the state of Connecticut, T-Mobile plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and its attachments is being sent to the chief elected official of the municipality in which affected cell site is located.

CDMA employs Spread-Spectrum technology and special coding scheme to allow multiple users to be multiplexed over the same physical channel.

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

Attached is a summary of the planned modifications, including power density calculations reflecting the change in T-Mobile's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

The changes to the facility do not constitute modification as defined Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for the R.C.S.A. Section 16-50j-72(b)(2).

1. The height of the overall structure will not be affected.
2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound.
3. The proposed changes will not increase the noise level at the existing facility by 6 decibels or more.
4. Radio Frequency power density may increase due to the use of one or more CDMA transmissions. Moreover, LTE will utilize additional radio frequencies newly licensed by the FCC for cellular mobile communications. However, the changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons T-Mobile respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (908)-447-4716 or email krichers@transcendwireless.com with questions concerning this matter. Thank you for your consideration.

Sincerely,

Kyle Richers
Real Estate Consultant

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

T-Mobile Existing Facility

Site ID: CT11680A

Bridgeport North
1320 Chopsey Hill Road
Bridgeport, CT 06610

November 2, 2015

EBI Project Number: 6215005469

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	7.24 %

November 2, 2015

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CT11680A – Bridgeport North**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1320 Chopsey Hill Road, Bridgeport, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile 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 limit for the 700 MHz Band is approximately 467 $\mu\text{W}/\text{cm}^2$, and the general population exposure limit for the PCS and AWS 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 T-Mobile Wireless antenna facility located at **1320 Chopsey Hill Road, Bridgeport, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile 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 GSM / UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel
- 2) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.
- 5) 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.

- 6) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 7) The antennas used in this modeling are the **Ericsson AIR21 (B4A/B2P & B2A/B4P)** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Commscope LNX-6515DS-VTM** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR21 (B4A/B2P & B2A/B4P)** have a maximum gain of **15.9 dBd** at their main lobe. The **Commscope LNX-6515DS-VTM** has a maximum gain of **14.6 dBd** at its main lobe. 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.
- 8) The antenna mounting height centerline of the proposed antennas is **202 feet** above ground level (AGL).
- 9) 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.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	202	Height (AGL):	202	Height (AGL):	202
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	2	Channel Count	2	# PCS Channels:	2
Total TX Power:	120	Total TX Power:	120	# AWS Channels:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE%	0.44	Antenna B1 MPE%	0.44	Antenna C1 MPE%	0.44
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	202	Height (AGL):	202	Height (AGL):	202
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power:	120	Total TX Power:	120	Total TX Power:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A2 MPE%	0.44	Antenna B2 MPE%	0.44	Antenna C2 MPE%	0.44
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	202	Height (AGL):	202	Height (AGL):	202
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power:	30	Total TX Power:	30	Total TX Power:	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A3 MPE%	0.17	Antenna B3 MPE%	0.17	Antenna C3 MPE%	0.17

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Max)	1.05 %
Marcus	0.25 %
AT&T	0.37 %
Red Star	0.06 %
MetroCall	0.40 %
Clinton Tower	0.41 %
AAT	0.37 %
Nextel	0.15 %
Verizon Wireless	1.48 %
Clearwire	0.05
Sprint	0.86
Sprint MW	1.30
MetroPCS	0.49
Site Total MPE %:	7.24 %

T-Mobile Sector 1 Total:	1.05 %
T-Mobile Sector 2 Total:	1.05 %
T-Mobile Sector 3 Total:	1.05 %
Site Total:	7.24 %



EBI Consulting

environmental | engineering | due diligence

T-Mobile _per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 2100 MHz (AWS) LTE	2	2334.27	202	4.37	2100	1000	0.44 %
T-Mobile 1900 MHz (PCS) GSM/UMTS	2	1167.14	202	2.18	1900	1000	0.22 %
T-Mobile 2100 MHz (AWS) UMTS	2	1167.14	202	2.18	2100	1000	0.22 %
T-Mobile 700 MHz LTE	1	865.21	202	0.81	700	467	0.17 %
						Total:	1.05%

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 T-Mobile 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:

T-Mobile Sector	Power Density Value (%)
Sector 1:	1.05 %
Sector 2:	1.05 %
Sector 3 :	1.05 %
T-Mobile Per Sector Maximum:	1.05 %
Site Total:	7.24 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **7.24%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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



Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803

**STRUCTURAL ANALYSIS REPORT
SELF SUPPORT TOWER**



Prepared For:

• • **T** • • **Mobile** •

**35 Griffin Road South
Bloomfield, CT 06002**



Site ID: CT11680A

Site Name: Bridgeport North

1320 Chopsey Hill Road

Bridgeport, CT, 06610

October 23, 2015

Submitted By:

Atlantis Group, Inc.

1340 Centre Street, Suite 212

Newton, Massachusetts 02459

Phone: 617-965-0789, Fax: 617-213-5056

**STRUCTURAL ANALYSIS REPORT
SELF SUPPORT TOWER**



Prepared For:



**35 Griffin Road South
Bloomfield, CT 06002**

RESULT: PASS

**Site ID: CT11680A
Site Name: Bridgeport North
1320 Chopsey Hill Road
Bridgeport, CT, 06610**

Prepared By:

**Destek Engineering, LLC
Professional Engineering Corporation
License # PEC 001429**



Ahmet Colakoglu, P.E.
Connecticut Professional Engineer
License No: 27057

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1.0 SUBJECT AND REFERENCES

The purpose of this analysis is to evaluate the structural capacity of the wireless telecommunication installation on the existing self support tower, located 1320 at Chopsey Hill Road, Bridgeport, CT, 06610 for additions and alterations proposed by T-Mobile.

The structural analysis is based on the following documentation provided to Destek Engineering, LLC (Destek):

- Structural Analysis for CT11680A prepared by GlenMartin Holding Inc., dated 04/05/2013.
- Network Modernization RFDS v3.0 provided by T-Mobile.

1.1 STRUCTURE

The subject structure is a 3-sided, 240'-0" tall self-support tower formed by (9) 20' sections and (2) 30' sections. Single pipe legs are K-braced with single angle diagonals. The tower is 10.93' wide at the top and 40.33' wide at the base. Please refer to the software output in Appendix A for tower geometry, member sizes, and other details.

2.0 EXISTING AND PROPOSED APPURTENANCES

Proposed changes to the antennas are tabulated below:

Existing Configuration of T-Mobile Appurtenances:

Rad Center (ft)	Antenna & TMA	Mount Type	Feedlines
202.0	(3) AIR21 B4A/B12P (3) AIR21 B2A/B4P (3) dd B4 TMA	(3) Sector Mounts	(12) 1-5/8" (9) Fiber Cables

Proposed and Final Configuration of T-Mobile Appurtenances:

Rad Center (ft)	Antenna & TMA	Mount Type	Feedlines
202.0	(3) AIR21 B4A/B12P (3) AIR21 B2A/B4P (3) LNX-6515DS-VTM (3) dd B4 TMA (3) RRUS11 B12	(3) Sector Mounts	(6) 1-5/8" (15) Fiber Cables

Existing Appurtenances by Others:

Rad Center (ft)	Antenna & TMA	Mount Type	Feedlines
240.0	(1) 5/8x5' Lightning Rod (1) Flash Beacon Lighting (1) 3" Dia 10' Omni	(1) Pipe Mount (1) 2' Side Arm Mount	(1) 1-1/4" (1) 1" Conduit
235.0	(1) 3" Dia 8' Omni	(1) 2' Side Arm Mount	-
230.0	(1) 4" Dia 8' Omni (1) 3" Dia 8' Omni	(3) 2' Side Arm Mounts	(2) 7/8"
223.0	(1) 4"x 12' Omni	(1) 2' Side Arm Mount	(1) 1-1/4"
212.0	(6) HBX-6515DS-VTM	(3) 10' Sector Frames	(12) 1-5/8"
196.0	(1) 3' Yagi	(1) Pipe Mount	(1) 7/8"
187.0	(1) VHLP800-11 (2) 2' HP Dishw/Shroud	(3) Pipe Mounts	(4) 1/2"
180.6	(2) APXVSPP 18-C-A20 (1) APXV9ERR 18-C (6) 1900MHz 2x40W RRU (3) LLPX310R (3) Notch Filters (3) DAP Heads	(3) 10' Sector Frames	(6) 1-5/8" (3) 1-1/4" (2) 2" Rigid Conduit
174.0	(2) 950F65T4E-M (4) 5'x5"x2" PCS panels	(3) 10' Sector Frames	(6) 1-5/8"
164.0	(12) LGP21901 Diplexer (6) RRU 11 (12) LGP 21401 (6)7770 (3) P65-16-XLH-RR (1) DC6-48-60-18-8F	(3) 10' Sector Frames	(12) 1-5/8" (3) 3/8" (1) 1-1/4"
155.0	(3) BXA-80063/6 (3) BXA-171063-8CF (3) BXA-70063-6CF-2 (6) FD9R6001/2C-3L Diplexer (6) ALU RRH2x40 AWS (1) DB T1 6Z 8AB OZ (3) MGD3-800	(3) 10' Sector Frames	(12) 1-5/8" (1) Hybrid Cable
140.0	(3) Small Light	-	-
137.0	(1) 1.5" Dia 8" Omni	(1) 2' Side Arm Mount	-
132.0	(1) 4' Yagi	(1) 2' Side Arm Mount	(1) 1/2"

118.0	(1) 2" Dia 10" Omni	(1) 2' Side Arm Mount	(1) 7/8"
108.0	(1) 3" Dia 10" Omni	(1) 2' Side Arm Mount	(1) 1-1/4"
99.0	(1) 3' Yagi	(1) 2' Side Arm Mount	(1) 1/2"
80.0	-	(1) Side Arm Mount	-
22.0	(2) 3' HP w/o Radome	(1) Pipe Mount	(1) 1/2"
20.0	(1) GPS Unit	-	-
8.0	(1) GPS Unit	-	-

3.0 CODES AND LOADING

The tower was analyzed per *TIA/EIA-222-F* as referenced by *2005 Connecticut State Building Code with* all of the adopted Addendums and Supplements, International Code Council. The following wind loading was used in compliance with the standard for Fairfield County:

- Basic wind speed 85 mph without ice (W)
- Basic wind speed 38 mph with 3/4" radial escalating ice (W_i)

The following load combinations were used with wind blowing at 0°, 60° and 90°, measured from a line normal to the face of the tower.

- $D + W_o$
- $D + W_i + I$

D: Dead Load

W_o : Wind Load, without ice

W_i : Wind Load with ice

I: Ice Gravity Load

4.0 STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING STRUCTURES

The analysis is based on the information provided to Destek and is assumed to be current and correct. Unless otherwise noted, the structure and the foundation system are assumed to be in good condition, free of defects and can achieve theoretical strength.

It is assumed that the structure has been maintained and shall be maintained during its service. The superstructure and the foundation system are assumed to be designed with proper engineering practice and fabricated, constructed and erected in accordance with the design documents. Destek will accept no liability which may arise due to any existing deficiency in design, material, fabrication, erection, construction, etc. or lack of maintenance.

The analysis results presented in this report are only applicable for the previously mentioned existing and proposed additions and alterations. Any deviation of the proposed equipment and placement, etc., will require Destek to generate an additional structural analysis.

5.0 ANALYSIS AND ASSUMPTIONS

The tower was analyzed by utilizing tnxTower, a non-linear, three-dimensional, finite element-analysis software package, a product of Tower Numerics, Inc. Software output for this analysis is provided in Appendix A of this report.

6.0 RESULTS AND CONCLUSION

Based on an analysis per *TIA/EIA-222-F*, the existing tower is found to have **adequate** structural capacity for the proposed modifications by T-Mobile. For the aforementioned load combinations and as a maximum, the tower diagonals between 30 feet and 60 feet are stressed to **99.9%** of capacity. Maximum usage of the tower legs and horizontals are **47.2%** and **95.6%**.

The tower foundation could not be analyzed due to lack of information.

Reactions:

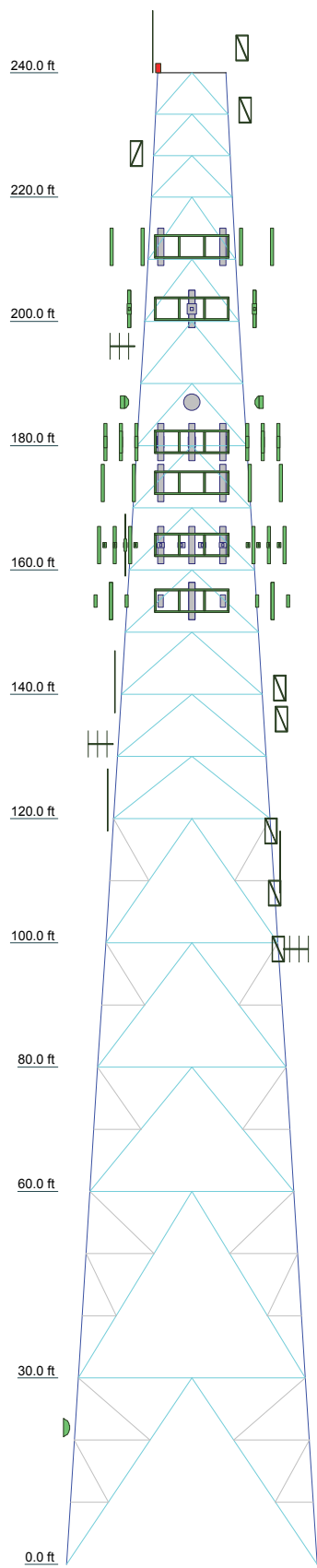
Maximums	Destek Analysis
Base Compression (kips)	316.1
Base Uplift (kips)	249.4
Base Shear (kips)	47.7
Base Moment (kip-ft)	9993

Therefore, the proposed additions and alterations by T-Mobile can be implemented as intended with the conditions outlined in this report.

Should you have any questions about this report, please contact Ahmet Colakoglu at (770) 693-0835 or acolakoglu@destekengineering.com.

APPENDIX A
SOFTWARE OUTPUT

T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
P10x.5	P10x.5	P3x.216	ROHN 8 EH	P8x.5	ROHN 8 EH	ROHN 8 EH	P8x.5	P2.5x.203	P2x.154	
P3STDw/L2.5x2.5x3/8		P3x.216	A572-50	A572-50	A572-50	A	P3x.216	P2.5x.203	P2x.154	P2x.154
P3.5x.226		P3x.216		N.A.			P2.5x.203		P2x.154	P2x.154
Red. Horizontals		P1.5x.145		P1.5x.145		N.A.	N.A.			
Red. Diagonals		P1.5x.145		P2x.154		N.A.	N.A.			
Red. Hips		P1.5x.145		P2x.154		N.A.	N.A.			
Inner Bracing		P3x.216		P2x.154		L3 1/2x3 1/2x1/4	L3x3x3/16	L2 1/2x2 1/2x3/16	L2x2x1/8	
Face Width (ft)	40.33	36.58	30.33	27.68	25.18	22.68	20.18	17.68	15.18	12.93
# Panels @ (ft)	2 @ 30	2 @ 30	3 @ 20	3 @ 20	3 @ 20	3 @ 20	10 @ 10	10 @ 10	3 @ 6.66667	3 @ 6.66667
Weight (lb)	64615.5	11327.8	9947.9	6943.8	5441.5	4067.7	5266.8	5525.3	4426.6	4019.7
										3836.2
										3074.1



SHEAR
24796 lb

38 mph

SHEAR
81698 lb

REA

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
5/8"x8" Lighting Rod	240	LLPX310R	180.6
Flash Beacon Lighting	240	(2) 950F65T4E-M	174
3' Dia 10' Omni	240	(2) 5'x5"x2" PCS panels	174
4"x4"pipe mount	240	(2) 5'x5"x2" PCS panels	174
2' Side Arm Mount	240	10' Sector Frames	174
3' Dia 8' Omni	235	(4) LGP21901	164
2' Side Arm Mount	235	DC6-48-60-18-8F	164
4' Dia 8' Omni	230	10' Sector Frames	164
3' Dia 8' Omni	230	4" Dia 20' Omni	164
2' Side Arm Mount	230	(2) 7770.00	164
2' Side Arm Mount	230	(2) 7770.00	164
2' Side Arm Mount	230	(2) 7770.00	164
4' Dia 12' Omni	223	P65-16-XLH-RR	164
2' Side Arm Mount	223	P65-16-XLH-RR	164
(2) HBX-6516DS-VTM	212	P65-16-XLH-RR	164
(2) HBX-6516DS-VTM	212	(2) RRU 11 Single	164
(2) HBX-6516DS-VTM	212	(2) RRU 11 Single	164
10' Sector Frames	212	(2) RRU 11 Single	164
AIR21 B2A/B4P	202	(4) LGP21401	164
AIR21 B2A/B4P	202	(4) LGP21401	164
AIR21 B2A/B4P	202	(4) LGP21401	164
AIR21 B4A/B2P	202	(4) LGP21901	164
AIR21 B4A/B2P	202	(4) LGP21901	164
AIR21 B4A/B2P	202	10' Sector Frames	155
LNX-6515DS-VTM	202	BXA-80063/6	155
LNX-6515DS-VTM	202	BXA-80063/6	155
LNX-6515DS-VTM	202	BXA-171063-8BF	155
RRUS 11 B12	202	BXA-80063/6	155
RRUS 11 B12	202	BXA-171063-8BF	155
RRUS 11 B12	202	BXA-171063-8BF	155
dd B4 TMA	202	BXA-70063-6CF-2	155
dd B4 TMA	202	BXA-70063-6CF-2	155
dd B4 TMA	202	BXA-70063-6CF-2	155
10' Sector Frames	202	MGD3-800	155
3' Yagi	196	MGD3-800	155
4"x4"pipe mount	196	MGD3-800	155
4"x4"pipe mount	187	(2) FD9R6004/2C-3L	155
4"x4"pipe mount	187	(2) FD9R6004/2C-3L	155
VHLPX800-11	187	(2) FD9R6004/2C-3L	155
2' Dish	187	(2) RRH2x40-AWS	155
2' Dish	187	(2) RRH2x40-AWS	155
Dap Head	180.6	(2) RRH2x40-AWS	155
Dap Head	180.6	DB T1 6Z 8AB OZ	155
Dap Head	180.6	Small Light	140
800MHZ 2X50W RRH	180.6	Small Light	140
Notch Filters	180.6	Small Light	140
Notch Filters	180.6	1.5' Dia 8' Omni	137
Notch Filters	180.6	2' Side Arm Mount	137
10' Sector Frames	180.6	2' Side Arm Mount	132
(2) RR90-11-00DBL	180.6	4' Yagi	132
(2) RR90-11-00DBL	180.6	2' Side Arm Mount	118
(2) RR90-11-00DBL	180.6	2' Dia 10' Omni	118
APXVSPP18-C-A20	180.6	3' Dia 10' Omni	108
APXVSPP18-C-A20	180.6	2' Side Arm Mount	108
APXVSPP18-C-A20	180.6	3' Yagi	99
(2) PCS 1900MHz 2x40W	180.6	2' Side Arm Mount	99
(2) PCS 1900MHz 2x40W	180.6	Side Arm Mount	80
(2) PCS 1900MHz 2x40W	180.6	3' dish w/o radome	22
800MHZ 2X50W RRH	180.6	4"x4"pipe mount	22
800MHZ 2X50W RRH	180.6	GPS	20
LLPX310R	180.6	GPS	8
LLPX310R	180.6		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	P2.5STD w/Half HSS3.5"x0.3"	B	P2.5STDw/L2.5x2.5x3/8

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.

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	Client: T-Mobile Code: TIA/EIA-222-F Path: Y:\2015\17 - Atlantis\1517045 - CT11680A\Tnx\CT11680A.eri

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Tower Input Data

The main tower is a 3x free standing tower with an overall height of 240.00 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 10.93 ft at the top and 40.33 ft at the base.

This tower is designed using the TIA/EIA-222-F standard.

The following design criteria apply:

Tower is located in Fairfield County, Connecticut.

Basic wind speed of 85 mph.

Nominal ice thickness of 0.7500 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 38 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 50 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

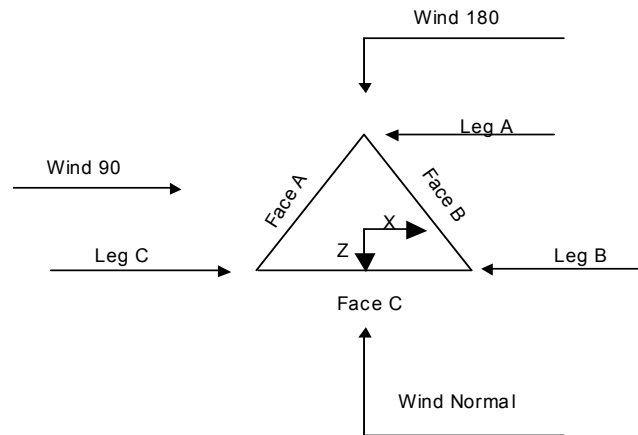
Stress ratio used in tower member design is 1.333.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

<ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys √ Escalate Ice Always Use Max Kz Use Special Wind Profile √ Include Bolts In Member Capacity Leg Bolts Are At Top Of Section √ Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) Add IBC .6D+W Combination 	<ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area √ Use Clear Spans For KL/r Retention Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt. Autocalc Torque Arm Areas SR Members Have Cut Ends √ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Use TIA-222-G Tension Splice Capacity Exemption 	<ul style="list-style-type: none"> Treat Feedline Bundles As Cylinder Use ASCE 10 X-Brace Ly Rules √ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA √ SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feedline Torque √ Include Angle Block Shear Check <div style="text-align: center; background-color: #e0e0e0; padding: 2px;">Poles</div> <ul style="list-style-type: none"> Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets
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Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	<i>ft</i>			<i>ft</i>		<i>ft</i>
T1	240.00-220.00			10.93	1	20.00
T2	220.00-200.00			12.93	1	20.00
T3	200.00-180.00			15.18	1	20.00
T4	180.00-160.00			17.68	1	20.00
T5	160.00-140.00			20.18	1	20.00
T6	140.00-120.00			22.68	1	20.00
T7	120.00-100.00			25.18	1	20.00
T8	100.00-80.00			27.68	1	20.00
T9	80.00-60.00			30.33	1	20.00
T10	60.00-30.00			32.83	1	30.00
T11	30.00-0.00			36.58	1	30.00

Tower Section Geometry (cont'd)

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T1	240.00-220.00	6.67	K Brace Down	No	Yes	0.0000	0.0000
T2	220.00-200.00	10.00	K Brace Down	No	Yes	0.0000	0.0000
T3	200.00-180.00	10.00	K Brace Down	No	Yes	0.0000	0.0000
T4	180.00-160.00	10.00	K Brace Down	No	Yes	0.0000	0.0000

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Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T5	160.00-140.00	10.00	K Brace Down	No	Yes	0.0000	0.0000
T6	140.00-120.00	10.00	K Brace Down	No	Yes	0.0000	0.0000
T7	120.00-100.00	20.00	K1 Down	No	Yes	0.0000	0.0000
T8	100.00-80.00	20.00	K1 Down	No	Yes	0.0000	0.0000
T9	80.00-60.00	20.00	K1 Down	No	Yes	0.0000	0.0000
T10	60.00-30.00	30.00	K2 Down	No	Yes	0.0000	0.0000
T11	30.00-0.00	30.00	K2 Down	No	Yes	0.0000	0.0000

Tower Section Geometry (cont'd)

Tower Elevation	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
ft						
T1 240.00-220.00	Pipe	P8x.5	A572-50 (50 ksi)	Pipe	P2x.154	A572-50 (50 ksi)
T2 220.00-200.00	Pipe	P8x.5	A572-50 (50 ksi)	Pipe	P2.5x.203	A572-50 (50 ksi)
T3 200.00-180.00	Pipe	P8x.5	A572-50 (50 ksi)	Pipe	P2.5x.203	A572-50 (50 ksi)
T4 180.00-160.00	Pipe	P8x.5	A572-50 (50 ksi)	Pipe	P2.5x.203	A572-50 (50 ksi)
T5 160.00-140.00	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Arbitrary Shape	P2.5STD w/Half HSS3.5"x0.3"	A572-50 (50 ksi)
T6 140.00-120.00	Pipe	P8x.5	A572-50 (50 ksi)	Pipe	P3x.216	A572-50 (50 ksi)
T7 120.00-100.00	Pipe	P8x.5	A572-50 (50 ksi)	Arbitrary Shape	P2.5STDw/L2.5x2.5x3/8	A572-50 (50 ksi)
T8 100.00-80.00	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Pipe	P3x.216	A572-50 (50 ksi)
T9 80.00-60.00	Pipe	P10x.5	A572-50 (50 ksi)	Pipe	P3x.216	A572-50 (50 ksi)
T10 60.00-30.00	Pipe	P10x.5	A572-50 (50 ksi)	Pipe	P3x.216	A572-50 (50 ksi)
T11 30.00-0.00	Pipe	P10x.5	A572-50 (50 ksi)	Arbitrary Shape	P3STDw/L2.5x2.5x3/8	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
ft							
T1 240.00-220.00	None	Flat Bar		A36 (36 ksi)	Pipe	P2x.154	A572-50 (50 ksi)
T2 220.00-200.00	None	Flat Bar		A36 (36 ksi)	Pipe	P2x.154	A572-50 (50 ksi)
T3 200.00-180.00	None	Flat Bar		A36 (36 ksi)	Pipe	P2x.154	A572-50 (50 ksi)
T4 180.00-160.00	None	Flat Bar		A36 (36 ksi)	Pipe	P2.5x.203	A572-50 (50 ksi)
T5 160.00-140.00	None	Flat Bar		A36 (36 ksi)	Pipe	P2.5x.203	A572-50 (50 ksi)

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Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T6 140.00-120.00	None	Flat Bar		A36 (36 ksi)	Pipe	P2.5x.203	A572-50 (50 ksi)
T7 120.00-100.00	None	Flat Bar		A36 (36 ksi)	Pipe	P2.5x.203	A572-50 (50 ksi)
T8 100.00-80.00	None	Flat Bar		A36 (36 ksi)	Pipe	P3x.216	A572-50 (50 ksi)
T9 80.00-60.00	None	Flat Bar		A36 (36 ksi)	Pipe	P3x.216	A572-50 (50 ksi)
T10 60.00-30.00	None	Flat Bar		A36 (36 ksi)	Pipe	P3x.216	A572-50 (50 ksi)
T11 30.00-0.00	None	Flat Bar		A36 (36 ksi)	Pipe	P3.5x.226	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T1 240.00-220.00	Solid Round		A572-50 (50 ksi)	Equal Angle	L2x2x1/8	A572-50 (50 ksi)
T2 220.00-200.00	Solid Round		A572-50 (50 ksi)	Equal Angle	L2x2x1/8	A572-50 (50 ksi)
T3 200.00-180.00	Solid Round		A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A572-50 (50 ksi)
T4 180.00-160.00	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x3/16	A572-50 (50 ksi)
T5 160.00-140.00	Solid Round		A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A572-50 (50 ksi)
T6 140.00-120.00	Solid Round		A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A572-50 (50 ksi)
T7 120.00-100.00	Solid Round		A572-50 (50 ksi)	Pipe	P2x.154	A572-50 (50 ksi)
T8 100.00-80.00	Solid Round		A572-50 (50 ksi)	Pipe	P3x.216	A572-50 (50 ksi)
T9 80.00-60.00	Solid Round		A572-50 (50 ksi)	Pipe	P3x.216	A572-50 (50 ksi)
T10 60.00-30.00	Solid Round		A572-50 (50 ksi)	Pipe	P3x.216	A572-50 (50 ksi)
T11 30.00-0.00	Solid Round		A572-50 (50 ksi)	Pipe	P3x.216	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Redundant Bracing Grade	Redundant Type	Redundant Size	K Factor
T7 120.00-100.00	A36 (36 ksi)	Horizontal (1) Diagonal (1) Hip (1)	Pipe Pipe Pipe	1 1 1

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Tower Elevation	Redundant Bracing Grade	Redundant Type	Redundant Size	K Factor	
ft					
T8 100.00-80.00	A36 (36 ksi)	Hip Diagonal	P2.5x.203	1	
		Horizontal (1)	Pipe	P1.5x.145	1
		Diagonal (1)	Pipe	P2x.154	1
		Hip (1)	Pipe	P1.5x.145	1
T9 80.00-60.00	A36 (36 ksi)	Hip Diagonal	P2.5x.203	1	
		Horizontal (1)	Pipe	P1.5x.145	1
		Diagonal (1)	Pipe	P2x.154	1
		Hip (1)	Pipe	P1.5x.145	1
T10 60.00-30.00	A36 (36 ksi)	Hip Diagonal	P3.5x0.216	1	
		Horizontal (1)	Pipe	P1.5x.145	1
		Horizontal (2)		P2x.154	
		Diagonal (1)	Pipe	P1.5x.145	1
		Diagonal (2)		P2x.154	
		Hip (1)	Pipe	P1.5x.145	1
T11 30.00-0.00	A36 (36 ksi)	Hip (2)		P1.5x.145	
		Hip Diagonal		P3.5x0.216	1
		Horizontal (1)	Pipe	P1.5x.145	1
		Horizontal (2)		P2x.154	
		Diagonal (1)	Arbitrary Shape	P1.5STD with half 2STD Pipe	1
		Diagonal (2)		Pipe 2.5STD	
		Hip (1)	Pipe	P1.5x.145	1
		Hip (2)		P2x.154	
		Hip Diagonal		P3.5x0.216	1

Tower Section Geometry (cont'd)

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
ft	ft ²	in						
T1 240.00-220.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T2 220.00-200.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T3 200.00-180.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T4 180.00-160.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T5 160.00-140.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T6 140.00-120.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T7 120.00-100.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T8 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T9 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T10 60.00-30.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T11 30.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000

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Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T10 60.00-30.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 30.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 240.00-220.00	Flange	1.0000 A325N	8	0.6250 A325N	3	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T2 220.00-200.00	Flange	1.0000 A325N	8	0.6250 A325N	3	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T3 200.00-180.00	Flange	1.0000 A325N	8	0.6250 A325N	3	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T4 180.00-160.00	Flange	1.0000 A325N	8	0.6250 A325N	3	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T5 160.00-140.00	Flange	1.0000 A325N	8	0.6250 A325N	3	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T6 140.00-120.00	Flange	1.0000 A325N	8	0.6250 A325N	3	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T7 120.00-100.00	Flange	1.0000 A325N	8	0.7500 A325N	3	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0
T8 100.00-80.00	Flange	1.0000 A325N	12	0.7500 A325N	3	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0
T9 80.00-60.00	Flange	1.0000 A325N	12	0.7500 A325N	3	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0
T10 60.00-30.00	Flange	1.0000 A325N	12	0.7500 A325N	3	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0
T11 30.00-0.00	Flange	0.7500 A325N	0	0.7500 A325N	3	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LDF6-50A(1-1/4")	C	Yes	Ar (CfAe)	240.00 - 5.00	0.0000	0.49	1	1	1.5500	1.5500		0.66
LDF5-50A(7/8")	A	Yes	Ar (CfAe)	230.00 - 5.00	0.0000	-0.48	2	2	0.5000	1.0900		0.33
LDF6-50A(1-1/4")	C	Yes	Ar (CfAe)	223.00 - 5.00	0.0000	0.47	1	1	1.5500	1.5500		0.66
LDF7-50A(1-5/8")	A	Yes	Ar (CfAe)	212.00 - 5.00	0.0000	0.4	12	6	0.5000	1.9800		0.82
LDF5-50A(7/8")	A	Yes	Ar (CfAe)	196.00 - 5.00	0.0000	-0.46	1	1	1.0900	1.0900		0.33

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Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
8")												
LDF4P-50A(1/2")	B	Yes	Ar (CfAe)	187.00 - 5.00	0.0000	0.25	4	4	0.5000	0.6300		0.15
LDF7-50A(1-5/8")	C	Yes	Ar (CfAe)	180.60 - 5.00	0.0000	0.4	6	6	0.5000	1.9800		0.82
2' Rigid Conduit	B	Yes	Ar (CfAe)	180.60 - 5.00	0.0000	0.3	2	2	1.0000 2.0000	2.0000		2.80
LDF6-50A(1-1/4")	C	Yes	Ar (CfAe)	180.60 - 5.00	0.0000	0.25	3	3	1.5500	1.5500		0.66
LDF7-50A(1-5/8")	B	Yes	Ar (CfAe)	174.00 - 5.00	0.0000	0.45	6	6	0.5000	1.9800		0.82
LDF6-50A(1-1/4")	C	Yes	Ar (CfAe)	164.00 - 5.00	0.0000	0.35	1	1	1.5500	1.5500		0.66
LDF7-50A(1-5/8")	A	Yes	Ar (CfAe)	164.00 - 5.00	0.0000	0.45	12	6	0.5000	1.9800		0.82
LDF2-50A(3/8")	A	Yes	Ar (CfAe)	164.00 - 5.00	0.0000	0.35	3	3	0.4400	0.4400		0.08
LDF7-50A(1-5/8")	A	Yes	Ar (CfAe)	155.00 - 5.00	0.0000	-0.35	12	6	0.5000	1.9800		0.82
LDF7-50A(1-5/8")	A	Yes	Ar (CfAe)	155.00 - 5.00	0.0000	-0.43	1	1	1.9800	1.9800		0.82
LDF4P-50A(1/2")	B	Yes	Ar (CfAe)	132.00 - 5.00	0.0000	0.49	1	1	0.6300	0.6300		0.15
LDF5-50A(7/8")	C	Yes	Ar (CfAe)	118.00 - 5.00	0.0000	0.2	1	1	1.0900	1.0900		0.33
LDF6-50A(1-1/4")	C	Yes	Ar (CfAe)	108.00 - 5.00	0.0000	0.42	1	1	1.5500	1.5500		0.66
LDF4P-50A(1/2")	B	Yes	Ar (CfAe)	99.00 - 5.00	0.0000	0.48	1	1	0.6300	0.6300		0.15
LDF4P-50A(1/2")	A	Yes	Ar (CfAe)	20.00 - 5.00	0.0000	-0.5	1	1	0.6300	0.6300		0.15
Cat 5	A	Yes	Ar (CfAe)	22.00 - 0.00	0.0000	-0.49	1	1	0.3750	0.3750		0.10
LDF4P-50A(1/2")	A	Yes	Ar (CfAe)	8.00 - 5.00	0.0000	-0.48	4	4	0.6300	0.6300		0.15

LDF7-50A(1-5/8")	B	Yes	Ar (CfAe)	202.00 - 5.00	0.0000	-0.45	6	6	0.5000	1.9800		0.82
LDF7-50A(1-5/8")	B	Yes	Ar (CfAe)	202.00 - 5.00	0.0000	-0.43	1	1	1.9800	1.9800		0.82

Feedline Ladder (Rail)	C	Yes	Af (CfAe)	240.00 - 5.00	0.0000	0.4	2	2	24.0000	1.7500	7.0000	3.00
Feedline Ladder (Rail)	A	Yes	Af (CfAe)	202.00 - 5.00	0.0000	-0.4	2	2	24.0000	1.7500	7.0000	3.00
Feedline Ladder (Rail)	A	Yes	Af (CfAe)	202.00 - 5.00	0.0000	0.4	2	2	24.0000	1.7500	7.0000	3.00
Feedline Ladder (Rail)	B	Yes	Af (CfAe)	202.00 - 5.00	0.0000	-0.4	2	2	24.0000	1.7500	7.0000	3.00
Feedline Ladder (Rail)	B	Yes	Af (CfAe)	202.00 - 5.00	0.0000	0.4	2	2	24.0000	1.7500	7.0000	3.00

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight lb
T1	240.00-220.00	A	1.817	0.000	0.000	0.000	6.60

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Tower Section	Tower Elevation ft	Face	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight lb
		B	0.000	0.000	0.000	0.000	0.00
		C	2.971	5.833	0.000	0.000	135.18
T2	220.00-200.00	A	15.513	1.167	0.000	0.000	155.28
		B	2.310	1.167	0.000	0.000	35.48
		C	5.167	5.833	0.000	0.000	146.40
T3	200.00-180.00	A	24.887	11.667	0.000	0.000	455.28
		B	24.770	11.667	0.000	0.000	362.36
		C	5.993	5.833	0.000	0.000	150.54
T4	180.00-160.00	A	29.650	11.667	0.000	0.000	496.92
		B	47.827	11.667	0.000	0.000	547.68
		C	33.233	5.833	0.000	0.000	287.04
T5	160.00-140.00	A	64.575	11.667	0.000	0.000	818.10
		B	53.767	11.667	0.000	0.000	577.20
		C	35.300	5.833	0.000	0.000	297.60
T6	140.00-120.00	A	70.350	11.667	0.000	0.000	871.40
		B	54.397	11.667	0.000	0.000	579.00
		C	35.300	5.833	0.000	0.000	297.60
T7	120.00-100.00	A	70.350	11.667	0.000	0.000	871.40
		B	54.817	11.667	0.000	0.000	580.20
		C	37.968	5.833	0.000	0.000	308.82
T8	100.00-80.00	A	70.350	11.667	0.000	0.000	871.40
		B	55.814	11.667	0.000	0.000	583.05
		C	39.700	5.833	0.000	0.000	317.40
T9	80.00-60.00	A	70.350	11.667	0.000	0.000	871.40
		B	55.867	11.667	0.000	0.000	583.20
		C	39.700	5.833	0.000	0.000	317.40
T10	60.00-30.00	A	105.525	17.500	0.000	0.000	1307.10
		B	83.800	17.500	0.000	0.000	874.80
		C	59.550	8.750	0.000	0.000	476.10
T11	30.00-0.00	A	90.043	14.583	0.000	0.000	1095.50
		B	69.833	14.583	0.000	0.000	729.00
		C	49.625	7.292	0.000	0.000	396.75

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight lb
T1	240.00-220.00	A	0.947	2.486	1.325	0.000	0.000	44.98
		B		0.000	0.000	0.000	0.000	0.00
		C		6.600	10.041	0.000	0.000	357.48
T2	220.00-200.00	A	0.936	8.791	17.049	0.000	0.000	554.80
		B		1.284	4.066	0.000	0.000	104.74
		C		11.410	9.996	0.000	0.000	413.81
T3	200.00-180.00	A	0.925	15.206	43.208	0.000	0.000	1353.52
		B		14.408	42.686	0.000	0.000	1082.39
		C		11.697	10.876	0.000	0.000	428.83
T4	180.00-160.00	A	0.913	18.088	47.819	0.000	0.000	1500.83
		B		27.598	65.566	0.000	0.000	1661.18
		C		24.349	40.891	0.000	0.000	1056.72
T5	160.00-140.00	A	0.899	35.404	82.078	0.000	0.000	2640.37
		B		29.274	71.645	0.000	0.000	1765.92
		C		28.624	40.831	0.000	0.000	1098.63
T6	140.00-120.00	A	0.884	38.196	87.109	0.000	0.000	2801.99
		B		31.417	71.509	0.000	0.000	1766.83
		C		28.369	40.763	0.000	0.000	1084.53
T7	120.00-100.00	A	0.867	37.787	86.953	0.000	0.000	2771.68
		B		32.665	71.353	0.000	0.000	1756.71

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Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight lb
T8	100.00-80.00	C		34.500	40.685	0.000	0.000	1137.45
		A	0.846	37.306	86.770	0.000	0.000	2736.29
		B		35.929	71.170	0.000	0.000	1760.08
T9	80.00-60.00	C		37.772	40.593	0.000	0.000	1159.09
		A	0.821	36.719	86.546	0.000	0.000	2693.48
		B		35.536	70.946	0.000	0.000	1725.95
T10	60.00-30.00	C		37.186	40.481	0.000	0.000	1132.81
		A	0.778	53.595	129.254	0.000	0.000	3933.18
		B		51.820	105.854	0.000	0.000	2499.60
T11	30.00-0.00	C		54.295	60.440	0.000	0.000	1633.70
		A	0.750	50.466	108.341	0.000	0.000	3278.51
		B		42.354	87.896	0.000	0.000	2033.78
		C		57.125	37.292	0.000	0.000	1283.59

Feed Line Shielding

Section	Elevation ft	Face	A_R ft ²	A_R Ice ft ²	A_F ft ²	A_F Ice ft ²
T1	240.00-220.00	A	0.134	0.504	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.648	2.479	0.000	0.000
T2	220.00-200.00	A	1.008	2.691	0.000	0.000
		B	0.210	0.591	0.000	0.000
		C	0.665	2.407	0.000	0.000
T3	200.00-180.00	A	2.074	5.998	0.000	0.000
		B	2.067	5.872	0.000	0.000
		C	0.671	2.363	0.000	0.000
T4	180.00-160.00	A	2.406	6.663	0.000	0.000
		B	3.465	9.258	0.000	0.000
		C	2.275	6.406	0.000	0.000
T5	160.00-140.00	A	1.827	4.732	3.003	6.423
		B	1.568	4.086	2.577	5.548
		C	0.985	2.783	1.620	3.778
T6	140.00-120.00	A	5.051	12.319	0.000	0.000
		B	4.068	10.186	0.000	0.000
		C	2.533	6.777	0.000	0.000
T7	120.00-100.00	A	2.946	8.356	2.121	4.413
		B	2.388	7.010	1.720	3.702
		C	1.573	5.011	1.133	2.646
T8	100.00-80.00	A	5.351	13.330	0.000	0.000
		B	4.403	11.560	0.000	0.000
		C	2.971	8.368	0.000	0.000
T9	80.00-60.00	A	5.149	12.591	0.000	0.000
		B	4.240	10.926	0.000	0.000
		C	2.859	7.886	0.000	0.000
T10	60.00-30.00	A	7.567	18.558	0.000	0.000
		B	6.231	16.074	0.000	0.000
		C	4.201	11.580	0.000	0.000
T11	30.00-0.00	A	4.751	11.748	1.840	3.677
		B	3.834	9.689	1.485	3.033
		C	2.585	6.956	1.001	2.177

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Feed Line Center of Pressure

Section	Elevation	CP _x	CP _z	CP _x Ice	CP _z Ice
	ft	in	in	in	in
T1	240.00-220.00	-4.2947	2.8264	-4.4593	2.9787
T2	220.00-200.00	-6.9983	-3.4397	-7.1258	-0.9518
T3	200.00-180.00	-6.2698	-17.3797	-6.7997	-11.9567
T4	180.00-160.00	-5.3970	-8.0618	-6.7434	-5.3876
T5	160.00-140.00	-9.6133	-10.6837	-10.5722	-6.8551
T6	140.00-120.00	-11.9371	-10.6396	-11.8628	-6.3181
T7	120.00-100.00	-13.4262	-10.7878	-13.3151	-5.5496
T8	100.00-80.00	-14.2895	-10.6783	-13.5525	-4.6267
T9	80.00-60.00	-14.3926	-10.7578	-13.8840	-4.8569
T10	60.00-30.00	-15.7165	-11.7454	-15.0638	-5.4967
T11	30.00-0.00	-15.6792	-10.6811	-17.2403	-3.3973

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral	Azimuth Adjustment	Placement	C _A A _{Front}	C _A A _{Side}	Weight	
			ft	°	ft	ft ²	ft ²	lb	
240ft									
5/8"x8' Lighting Rod	B	From Leg	0.00	0.0000	240.00	No Ice	0.50	0.50	10.00
			0.00			1/2" Ice	1.31	1.31	15.56
			5.00			1" Ice	2.12	2.12	21.12
						2" Ice	3.74	3.74	32.24
						4" Ice	6.98	6.98	54.48
Flash Beacon Lighting	C	From Leg	0.00	0.0000	240.00	No Ice	2.70	2.70	50.00
			0.00			1/2" Ice	3.10	3.10	70.00
			0.00			1" Ice	3.50	3.50	90.00
						2" Ice	4.30	4.30	130.00
						4" Ice	5.90	5.90	210.00
3' Dia 10' Omni	C	From Leg	1.00	0.0000	240.00	No Ice	3.00	3.00	25.00
			0.00			1/2" Ice	4.03	4.03	46.79
			5.00			1" Ice	5.06	5.06	68.58
						2" Ice	7.12	7.12	112.16
						4" Ice	11.24	11.24	199.32
4"x4'pipe mount	C	From Leg	0.00	0.0000	240.00	No Ice	1.21	1.21	43.20
			0.00			1/2" Ice	1.47	1.47	54.83
			0.00			1" Ice	1.73	1.73	66.46
						2" Ice	2.25	2.25	89.72
						4" Ice	3.29	3.29	136.24
2' Side Arm Mount	B	From Leg	3.00	0.0000	240.00	No Ice	2.00	2.00	50.00
			0.00			1/2" Ice	3.00	3.00	100.00
			4.00			1" Ice	4.00	4.00	150.00
						2" Ice	6.00	6.00	250.00
						4" Ice	10.00	10.00	450.00
235ft									
3' Dia 8' Omni	A	From Leg	3.00	0.0000	235.00	No Ice	2.40	2.40	20.00
			0.00			1/2" Ice	3.19	3.19	37.51
			4.00			1" Ice	5.06	5.06	68.58
						2" Ice	7.12	7.12	112.16
						4" Ice	11.24	11.24	199.32

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<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert</i> <i>ft ft ft</i>	<i>Azimuth Adjustment</i> <i>°</i>	<i>Placement</i> <i>ft</i>	<i>C_AA_{Front}</i> <i>ft²</i>	<i>C_AA_{Side}</i> <i>ft²</i>	<i>Weight</i> <i>lb</i>
3' Dia 8' Omni	A	From Leg	3.00 0.00 4.00	0.0000	230.00	No Ice 2.40 1/2" Ice 3.19 1" Ice 5.06 2" Ice 7.12 4" Ice 11.24	2.40 3.19 5.06 7.12 11.24	20.00 37.51 68.58 112.16 199.32
4' Dia 8' Omni	B	From Leg	3.00 0.00 4.00	0.0000	230.00	No Ice 2.40 1/2" Ice 3.19 1" Ice 5.06 2" Ice 7.12 4" Ice 11.24	2.40 3.19 5.06 7.12 11.24	20.00 37.51 68.58 112.16 199.32
4' Dia 12' Omni	C	From Leg	3.00 0.00 4.00	0.0000	223.00	No Ice 3.60 1/2" Ice 4.83 1" Ice 5.06 2" Ice 7.12 4" Ice 11.24	3.60 4.83 5.06 7.12 11.24	30.00 56.06 68.58 112.16 199.32
2' Side Arm Mount	C	From Leg	3.00 0.00 4.00	0.0000	235.00	No Ice 2.00 1/2" Ice 3.00 1" Ice 4.00 2" Ice 6.00 4" Ice 10.00	2.00 3.00 4.00 6.00 10.00	50.00 100.00 150.00 250.00 450.00
230ft								
2' Side Arm Mount	A	From Leg	3.00 0.00 4.00	0.0000	230.00	No Ice 2.00 1/2" Ice 3.00 1" Ice 4.00 2" Ice 6.00 4" Ice 10.00	2.00 3.00 4.00 6.00 10.00	50.00 100.00 150.00 250.00 450.00
2' Side Arm Mount	A	From Leg	3.00 0.00 4.00	0.0000	230.00	No Ice 2.00 1/2" Ice 3.00 1" Ice 4.00 2" Ice 6.00 4" Ice 10.00	2.00 3.00 4.00 6.00 10.00	50.00 100.00 150.00 250.00 450.00
2' Side Arm Mount	B	From Leg	3.00 0.00 4.00	0.0000	230.00	No Ice 2.00 1/2" Ice 3.00 1" Ice 4.00 2" Ice 6.00 4" Ice 10.00	2.00 3.00 4.00 6.00 10.00	50.00 100.00 150.00 250.00 450.00
223ft								
2' Side Arm Mount	C	From Leg	3.00 0.00 4.00	0.0000	223.00	No Ice 2.00 1/2" Ice 3.00 1" Ice 4.00 2" Ice 6.00 4" Ice 10.00	2.00 3.00 4.00 6.00 10.00	50.00 100.00 150.00 250.00 450.00
212ft								
(2) HBX-6516DS-VTM	A	From Leg	4.00 0.00 0.00	0.0000	212.00	No Ice 3.36 1/2" Ice 3.69 1" Ice 4.07 2" Ice 4.87 4" Ice 6.58	1.99 2.30 2.62 3.29 4.76	9.90 29.12 52.50 112.55 291.21
(2) HBX-6516DS-VTM	B	From Leg	4.00 0.00 0.00	0.0000	212.00	No Ice 3.36 1/2" Ice 3.69 1" Ice 4.07 2" Ice 4.87 4" Ice 6.58	1.99 2.30 2.62 3.29 4.76	9.90 29.12 52.50 112.55 291.21
(2) HBX-6516DS-VTM	C	From Leg	4.00 0.00 0.00	0.0000	212.00	No Ice 3.36 1/2" Ice 3.69 1" Ice 4.07 2" Ice 4.87	1.99 2.30 2.62 3.29	9.90 29.12 52.50 112.55

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<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert</i> <i>ft ft ft</i>	<i>Azimuth Adjustment</i> <i>°</i>	<i>Placement</i> <i>ft</i>	<i>C_AA_{Front}</i> <i>ft²</i>	<i>C_AA_{Side}</i> <i>ft²</i>	<i>Weight</i> <i>lb</i>
10' Sector Frames	C	None		0.0000	212.00	4" Ice 6.58 No Ice 23.00 1/2" Ice 34.00 1" Ice 45.00 2" Ice 67.00 4" Ice 111.00	4.76 23.00 34.00 45.00 67.00 111.00	291.21 700.00 1000.00 1300.00 1900.00 3100.00
196ft 3' Yagi	C	From Leg	1.50 0.00 0.00	0.0000	196.00	4" Ice 15.76 No Ice 2.08 1/2" Ice 3.79 1" Ice 5.50 2" Ice 8.92 4" Ice 15.76	15.76 2.08 3.79 5.50 8.92 15.76	196.47 30.95 51.64 72.33 113.71 196.47
4"x4'pipe mount	C	From Leg	0.00 0.00 0.00	0.0000	196.00	4" Ice 3.29 No Ice 1.21 1/2" Ice 1.47 1" Ice 1.73 2" Ice 2.25 4" Ice 3.29	3.29 1.21 1.47 1.73 2.25 3.29	136.24 43.20 54.83 66.46 89.72 136.24
187ft ***223ft*** 4"x4'pipe mount	B	From Leg	0.00 0.00 0.00	0.0000	187.00	4" Ice 3.29 No Ice 1.21 1/2" Ice 1.47 1" Ice 1.73 2" Ice 2.25 4" Ice 3.29	3.29 1.21 1.47 1.73 2.25 3.29	136.24 43.20 54.83 66.46 89.72 136.24
4"x4'pipe mount	C	From Leg	0.00 0.00 0.00	0.0000	187.00	4" Ice 3.29 No Ice 1.21 1/2" Ice 1.47 1" Ice 1.73 2" Ice 2.25 4" Ice 3.29	3.29 1.21 1.47 1.73 2.25 3.29	136.24 43.20 54.83 66.46 89.72 136.24
180ft 10' Sector Frames	C	None		0.0000	180.60	4" Ice 111.00 No Ice 23.00 1/2" Ice 34.00 1" Ice 45.00 2" Ice 67.00 4" Ice 111.00	111.00 23.00 34.00 45.00 67.00 111.00	3100.00 700.00 1000.00 1300.00 1900.00 3100.00
(2) RR90-11-00DBL	A	From Leg	3.00 0.00 0.00	0.0000	180.60	4" Ice 8.99 No Ice 5.60 1/2" Ice 5.99 1" Ice 6.40 2" Ice 7.22 4" Ice 8.99	6.40 3.27 3.63 4.00 4.76 6.40	434.78 21.00 55.48 94.50 186.93 434.78
(2) RR90-11-00DBL	B	From Leg	3.00 0.00 0.00	0.0000	180.60	4" Ice 8.99 No Ice 5.60 1/2" Ice 5.99 1" Ice 6.40 2" Ice 7.22 4" Ice 8.99	6.40 3.27 3.63 4.00 4.76 6.40	434.78 21.00 55.48 94.50 186.93 434.78
(2) RR90-11-00DBL	C	From Leg	3.00 0.00 0.00	0.0000	180.60	4" Ice 8.99 No Ice 5.60 1/2" Ice 5.99 1" Ice 6.40 2" Ice 7.22 4" Ice 8.99	6.40 3.27 3.63 4.00 4.76 6.40	434.78 21.00 55.48 94.50 186.93 434.78
APXVSP18-C-A20	A	From Leg	3.00 0.00 0.00	0.0000	180.60	4" Ice 12.88 No Ice 8.26 1/2" Ice 8.81 1" Ice 9.36 2" Ice 10.50 4" Ice 12.88	9.27 5.28 5.74 6.20 7.14 9.27	634.27 57.00 106.52 162.12 292.33 634.27
APXVSP18-C-A20	B	From Leg	3.00 0.00	0.0000	180.60	4" Ice 12.88 No Ice 8.26 1/2" Ice 8.81	9.27 5.28 5.74	634.27 57.00 106.52

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<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert</i> <i>ft ft ft</i>	<i>Azimuth Adjustment</i> <i>°</i>	<i>Placement</i> <i>ft</i>	<i>C_AA_{Front}</i> <i>ft²</i>	<i>C_AA_{Side}</i> <i>ft²</i>	<i>Weight</i> <i>lb</i>
			0.00			1" Ice 9.36	6.20	162.12
						2" Ice 10.50	7.14	292.33
						4" Ice 12.88	9.27	634.27
APXV9ERR18-C	C	From Leg	3.00	0.0000	180.60	No Ice 8.26	5.84	62.00
			0.00			1/2" Ice 8.81	6.30	114.13
			0.00			1" Ice 9.36	6.76	172.40
						2" Ice 10.50	7.71	308.14
						4" Ice 12.88	9.99	661.88
(2) PCS 1900MHz 2x40W	A	From Leg	3.00	0.0000	180.60	No Ice 2.74	1.46	44.10
			0.00			1/2" Ice 2.97	1.65	62.38
			0.00			1" Ice 3.21	1.84	83.55
						2" Ice 3.71	2.27	135.35
						4" Ice 4.82	3.22	282.19
(2) PCS 1900MHz 2x40W	B	From Leg	3.00	0.0000	180.60	No Ice 2.74	1.46	44.10
			0.00			1/2" Ice 2.97	1.65	62.38
			0.00			1" Ice 3.21	1.84	83.55
						2" Ice 3.71	2.27	135.35
						4" Ice 4.82	3.22	282.19
(2) PCS 1900MHz 2x40W	C	From Leg	3.00	0.0000	180.60	No Ice 2.74	1.46	44.10
			0.00			1/2" Ice 2.97	1.65	62.38
			0.00			1" Ice 3.21	1.84	83.55
						2" Ice 3.71	2.27	135.35
						4" Ice 4.82	3.22	282.19
800MHZ 2X50W RRH	A	From Leg	3.00	0.0000	180.60	No Ice 2.49	2.07	53.00
			0.00			1/2" Ice 2.71	2.27	74.19
			0.00			1" Ice 2.93	2.48	98.39
						2" Ice 3.41	2.93	156.61
						4" Ice 4.46	3.93	317.77
800MHZ 2X50W RRH	B	From Leg	3.00	0.0000	180.60	No Ice 2.49	2.07	53.00
			0.00			1/2" Ice 2.71	2.27	74.19
			0.00			1" Ice 2.93	2.48	98.39
						2" Ice 3.41	2.93	156.61
						4" Ice 4.46	3.93	317.77
800MHZ 2X50W RRH	C	From Leg	3.00	0.0000	180.60	No Ice 2.49	2.07	53.00
			0.00			1/2" Ice 2.71	2.27	74.19
			0.00			1" Ice 2.93	2.48	98.39
						2" Ice 3.41	2.93	156.61
						4" Ice 4.46	3.93	317.77
Notch Filters	A	From Leg	3.00	0.0000	180.60	No Ice 0.87	0.42	9.00
			0.00			1/2" Ice 0.99	0.52	15.75
			0.00			1" Ice 1.11	0.62	22.50
						2" Ice 1.35	0.82	36.00
						4" Ice 1.83	1.22	63.00
Notch Filters	B	From Leg	3.00	0.0000	180.60	No Ice 0.87	0.42	9.00
			0.00			1/2" Ice 0.99	0.52	15.75
			0.00			1" Ice 1.11	0.62	22.50
						2" Ice 1.35	0.82	36.00
						4" Ice 1.83	1.22	63.00
Notch Filters	C	From Leg	3.00	0.0000	180.60	No Ice 0.87	0.42	9.00
			0.00			1/2" Ice 0.99	0.52	15.75
			0.00			1" Ice 1.11	0.62	22.50
						2" Ice 1.35	0.82	36.00
						4" Ice 1.83	1.22	63.00
LLPX310R	A	From Leg	3.00	0.0000	180.60	No Ice 4.84	1.96	28.66
			0.00			1/2" Ice 5.19	2.23	54.63
			0.00			1" Ice 5.55	2.50	84.59
						2" Ice 6.30	3.13	157.22

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<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert</i> <i>ft ft ft</i>	<i>Azimuth Adjustment</i> <i>°</i>	<i>Placement</i> <i>ft</i>	<i>C_AA_{Front}</i> <i>ft²</i>	<i>C_AA_{Side}</i> <i>ft²</i>	<i>Weight</i> <i>lb</i>
LLPX310R	B	From Leg	3.00 0.00 0.00	0.0000	180.60	4" Ice 7.91 No Ice 4.84 1/2" Ice 5.19 1" Ice 5.55 2" Ice 6.30 4" Ice 7.91	4.55 1.96 2.23 2.50 3.13 4.55	358.87 28.66 54.63 84.59 157.22 358.87
LLPX310R	C	From Leg	3.00 0.00 0.00	0.0000	180.60	No Ice 4.84 1/2" Ice 5.19 1" Ice 5.55 2" Ice 6.30 4" Ice 7.91	1.96 2.23 2.50 3.13 4.55	28.66 54.63 84.59 157.22 358.87
Dap Head	A	From Leg	2.00 0.00 0.00	0.0000	180.60	No Ice 3.54 1/2" Ice 3.80 1" Ice 4.06 2" Ice 4.58 4" Ice 5.62	2.27 2.51 2.75 3.23 4.19	45.00 70.00 95.00 145.00 245.00
Dap Head	B	From Leg	2.00 0.00 0.00	0.0000	180.60	No Ice 3.54 1/2" Ice 3.80 1" Ice 4.06 2" Ice 4.58 4" Ice 5.62	2.27 2.51 2.75 3.23 4.19	45.00 70.00 95.00 145.00 245.00
Dap Head	C	From Leg	2.00 0.00 0.00	0.0000	180.60	No Ice 3.54 1/2" Ice 3.80 1" Ice 4.06 2" Ice 4.58 4" Ice 5.62	2.27 2.51 2.75 3.23 4.19	45.00 70.00 95.00 145.00 245.00
174ft (2) 950F65T4E-M	A	From Leg	3.00 0.00 0.00	0.0000	174.00	No Ice 6.42 1/2" Ice 6.88 1" Ice 7.35 2" Ice 8.33 4" Ice 10.37	4.24 4.62 5.01 5.89 7.83	16.00 56.06 101.36 208.50 494.33
(2) 5'x5"x2" PCS panels	B	From Leg	3.00 0.00 0.00	0.0000	174.00	No Ice 3.26 1/2" Ice 3.64 1" Ice 4.02 2" Ice 4.78 4" Ice 6.30	1.67 2.16 2.65 3.63 5.59	20.00 66.14 112.28 204.56 389.12
(2) 5'x5"x2" PCS panels	C	From Leg	3.00 0.00 0.00	0.0000	174.00	No Ice 3.26 1/2" Ice 3.64 1" Ice 4.02 2" Ice 4.78 4" Ice 6.30	1.67 2.16 2.65 3.63 5.59	20.00 66.14 112.28 204.56 389.12
10' Sector Frames	C	None		0.0000	174.00	No Ice 23.00 1/2" Ice 34.00 1" Ice 45.00 2" Ice 67.00 4" Ice 111.00	23.00 34.00 45.00 67.00 111.00	700.00 1000.00 1300.00 1900.00 3100.00
164ft 4" Dia 20' Omni	C	From Leg	1.00 0.00 0.00	0.0000	164.00	No Ice 4.00 1/2" Ice 6.00 1" Ice 8.00 2" Ice 12.00 4" Ice 20.00	4.00 6.00 8.00 12.00 20.00	55.00 100.00 145.00 235.00 415.00
(2) 7770.00	A	From Leg	3.00 0.00 0.00	0.0000	164.00	No Ice 5.88 1/2" Ice 6.31 1" Ice 6.75 2" Ice 7.66	2.93 3.27 3.63 4.35	35.00 67.63 105.06 195.09

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<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert</i> <i>ft ft ft</i>	<i>Azimuth Adjustment</i> <i>°</i>	<i>Placement</i> <i>ft</i>	<i>C_AA_{Front}</i> <i>ft²</i>	<i>C_AA_{Side}</i> <i>ft²</i>	<i>Weight</i> <i>lb</i>
(2) 7770.00	B	From Leg	3.00 0.00 0.00	0.0000	164.00	4" Ice 9.58 No Ice 5.88 1/2" Ice 6.31 1" Ice 6.75 2" Ice 7.66 4" Ice 9.58	6.06 2.93 3.27 3.63 4.35 6.06	441.26 35.00 67.63 105.06 195.09 441.26
(2) 7770.00	C	From Leg	3.00 0.00 0.00	0.0000	164.00	No Ice 5.88 1/2" Ice 6.31 1" Ice 6.75 2" Ice 7.66 4" Ice 9.58	2.93 3.27 3.63 4.35 6.06	35.00 67.63 105.06 195.09 441.26
P65-16-XLH-RR	A	From Leg	3.00 0.00 0.00	0.0000	164.00	No Ice 8.40 1/2" Ice 8.95 1" Ice 9.51 2" Ice 10.65 4" Ice 13.03	4.70 5.15 5.60 6.53 8.52	53.00 100.28 153.59 279.07 610.93
P65-16-XLH-RR	B	From Leg	3.00 0.00 0.00	0.0000	164.00	No Ice 8.40 1/2" Ice 8.95 1" Ice 9.51 2" Ice 10.65 4" Ice 13.03	4.70 5.15 5.60 6.53 8.52	53.00 100.28 153.59 279.07 610.93
P65-16-XLH-RR	C	From Leg	3.00 0.00 0.00	0.0000	164.00	No Ice 8.40 1/2" Ice 8.95 1" Ice 9.51 2" Ice 10.65 4" Ice 13.03	4.70 5.15 5.60 6.53 8.52	53.00 100.28 153.59 279.07 610.93
(2) RRU 11 Single	A	From Leg	2.00 0.00 0.00	0.0000	164.00	No Ice 2.94 1/2" Ice 3.17 1" Ice 9.51 2" Ice 10.65 4" Ice 13.03	1.52 1.68 5.60 6.53 8.52	54.00 75.64 153.59 279.07 610.93
(2) RRU 11 Single	B	From Leg	2.00 0.00 0.00	0.0000	164.00	No Ice 2.94 1/2" Ice 3.17 1" Ice 9.51 2" Ice 10.65 4" Ice 13.03	1.52 1.68 5.60 6.53 8.52	54.00 75.64 153.59 279.07 610.93
(2) RRU 11 Single	C	From Leg	2.00 0.00 0.00	0.0000	164.00	No Ice 2.94 1/2" Ice 3.17 1" Ice 9.51 2" Ice 10.65 4" Ice 13.03	1.52 1.68 5.60 6.53 8.52	54.00 75.64 153.59 279.07 610.93
(4) LGP21401	A	From Leg	2.00 0.00 0.00	0.0000	164.00	No Ice 1.29 1/2" Ice 1.45 1" Ice 1.61 2" Ice 1.97 4" Ice 2.79	0.23 0.31 0.40 0.61 1.12	14.10 21.26 30.32 54.89 135.29
(4) LGP21401	B	From Leg	2.00 0.00 0.00	0.0000	164.00	No Ice 1.29 1/2" Ice 1.45 1" Ice 1.61 2" Ice 1.97 4" Ice 2.79	0.23 0.31 0.40 0.61 1.12	14.10 21.26 30.32 54.89 135.29
(4) LGP21401	C	From Leg	2.00 0.00 0.00	0.0000	164.00	No Ice 1.29 1/2" Ice 1.45 1" Ice 1.61 2" Ice 1.97 4" Ice 2.79	0.23 0.31 0.40 0.61 1.12	14.10 21.26 30.32 54.89 135.29
(4) LGP21901	A	From Leg	2.00	0.0000	164.00	No Ice 0.27	0.18	5.50

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<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert</i> <i>ft ft ft</i>	<i>Azimuth Adjustment</i> <i>°</i>	<i>Placement</i> <i>ft</i>	<i>C_AA_{Front}</i> <i>ft²</i>	<i>C_AA_{Side}</i> <i>ft²</i>	<i>Weight</i> <i>lb</i>	
			0.00			1/2" Ice	0.34	0.25	7.92
			0.00			1" Ice	0.43	0.32	11.41
						2" Ice	0.62	0.49	22.43
						4" Ice	1.10	0.94	66.02
(4) LGP21901	B	From Leg	2.00	0.0000	164.00	No Ice	0.27	0.18	5.50
			0.00			1/2" Ice	0.34	0.25	7.92
			0.00			1" Ice	0.43	0.32	11.41
						2" Ice	0.62	0.49	22.43
						4" Ice	1.10	0.94	66.02
(4) LGP21901	C	From Leg	2.00	0.0000	164.00	No Ice	0.27	0.18	5.50
			0.00			1/2" Ice	0.34	0.25	7.92
			0.00			1" Ice	0.43	0.32	11.41
						2" Ice	0.62	0.49	22.43
						4" Ice	1.10	0.94	66.02
DC6-48-60-18-8F	C	From Leg	1.00	0.0000	164.00	No Ice	2.57	2.57	18.90
			0.00			1/2" Ice	2.80	2.80	41.46
			0.00			1" Ice	3.04	3.04	67.19
						2" Ice	3.54	3.54	128.96
						4" Ice	4.66	4.66	299.16
10' Sector Frames	C	None		0.0000	164.00	No Ice	23.00	23.00	700.00
						1/2" Ice	34.00	34.00	1000.00
						1" Ice	45.00	45.00	1300.00
						2" Ice	67.00	67.00	1900.00
						4" Ice	111.00	111.00	3100.00
155ft									
BXA-80063/6	A	From Leg	3.00	0.0000	155.00	No Ice	7.74	3.76	14.90
			0.00			1/2" Ice	8.28	4.20	55.55
			0.00			1" Ice	8.83	4.64	102.03
						2" Ice	9.94	5.54	213.22
						4" Ice	12.29	7.44	513.99
BXA-80063/6	B	From Leg	3.00	0.0000	155.00	No Ice	7.74	3.76	14.90
			0.00			1/2" Ice	8.28	4.20	55.55
			0.00			1" Ice	8.83	4.64	102.03
						2" Ice	9.94	5.54	213.22
						4" Ice	12.29	7.44	513.99
BXA-80063/6	C	From Leg	3.00	0.0000	155.00	No Ice	7.74	3.76	14.90
			0.00			1/2" Ice	8.28	4.20	55.55
			0.00			1" Ice	8.83	4.64	102.03
						2" Ice	9.94	5.54	213.22
						4" Ice	12.29	7.44	513.99
BXA-171063-8BF	A	From Leg	3.00	0.0000	155.00	No Ice	2.94	2.16	10.50
			0.00			1/2" Ice	3.26	2.46	29.28
			0.00			1" Ice	3.60	2.77	52.05
						2" Ice	4.36	3.41	110.38
						4" Ice	5.98	4.94	283.58
BXA-171063-8BF	B	From Leg	3.00	0.0000	155.00	No Ice	2.94	2.16	10.50
			0.00			1/2" Ice	3.26	2.46	29.28
			0.00			1" Ice	3.60	2.77	52.05
						2" Ice	4.36	3.41	110.38
						4" Ice	5.98	4.94	283.58
BXA-171063-8BF	C	From Leg	3.00	0.0000	155.00	No Ice	2.94	2.16	10.50
			0.00			1/2" Ice	3.26	2.46	29.28
			0.00			1" Ice	3.60	2.77	52.05
						2" Ice	4.36	3.41	110.38
						4" Ice	5.98	4.94	283.58
BXA-70063-6CF-2	A	From Leg	3.00	0.0000	155.00	No Ice	7.73	4.16	17.00
			0.00			1/2" Ice	8.27	4.60	59.49

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _{Front}	C _A A _{Side}	Weight
			Horz	Vert					
					°	ft	ft ²	ft ²	lb
				0.00			1" Ice 8.81	5.04	107.83
							2" Ice 9.93	5.95	222.88
							4" Ice 12.27	7.86	531.85
BXA-70063-6CF-2	B	From Leg	3.00	0.0000	155.00	No Ice 7.73	4.16	17.00	17.00
			0.00			1/2" Ice 8.27	4.60	59.49	59.49
			0.00			1" Ice 8.81	5.04	107.83	107.83
						2" Ice 9.93	5.95	222.88	222.88
						4" Ice 12.27	7.86	531.85	531.85
BXA-70063-6CF-2	C	From Leg	3.00	0.0000	155.00	No Ice 7.73	4.16	17.00	17.00
			0.00			1/2" Ice 8.27	4.60	59.49	59.49
			0.00			1" Ice 8.81	5.04	107.83	107.83
						2" Ice 9.93	5.95	222.88	222.88
						4" Ice 12.27	7.86	531.85	531.85
MGD3-800	A	From Leg	3.00	0.0000	155.00	No Ice 3.23	2.37	15.00	15.00
			0.00			1/2" Ice 3.57	2.70	35.03	35.03
			0.00			1" Ice 8.81	5.04	107.83	107.83
						2" Ice 9.93	5.95	222.88	222.88
						4" Ice 12.27	7.86	531.85	531.85
MGD3-800	B	From Leg	3.00	0.0000	155.00	No Ice 3.23	2.37	15.00	15.00
			0.00			1/2" Ice 3.57	2.70	35.03	35.03
			0.00			1" Ice 8.81	5.04	107.83	107.83
						2" Ice 9.93	5.95	222.88	222.88
						4" Ice 12.27	7.86	531.85	531.85
MGD3-800	C	From Leg	3.00	0.0000	155.00	No Ice 3.23	2.37	15.00	15.00
			0.00			1/2" Ice 3.57	2.70	35.03	35.03
			0.00			1" Ice 8.81	5.04	107.83	107.83
						2" Ice 9.93	5.95	222.88	222.88
						4" Ice 12.27	7.86	531.85	531.85
(2) FD9R6004/2C-3L	A	From Leg	3.00	0.0000	155.00	No Ice 0.37	0.08	3.10	3.10
			0.00			1/2" Ice 0.45	0.14	5.40	5.40
			0.00			1" Ice 0.54	0.20	8.79	8.79
						2" Ice 0.75	0.34	19.61	19.61
						4" Ice 1.28	0.74	62.87	62.87
(2) FD9R6004/2C-3L	B	From Leg	3.00	0.0000	155.00	No Ice 0.37	0.08	3.10	3.10
			0.00			1/2" Ice 0.45	0.14	5.40	5.40
			0.00			1" Ice 0.54	0.20	8.79	8.79
						2" Ice 0.75	0.34	19.61	19.61
						4" Ice 1.28	0.74	62.87	62.87
(2) FD9R6004/2C-3L	C	From Leg	3.00	0.0000	155.00	No Ice 0.37	0.08	3.10	3.10
			0.00			1/2" Ice 0.45	0.14	5.40	5.40
			0.00			1" Ice 0.54	0.20	8.79	8.79
						2" Ice 0.75	0.34	19.61	19.61
						4" Ice 1.28	0.74	62.87	62.87
(2) RRH2x40-AWS	A	From Leg	3.00	0.0000	155.00	No Ice 2.52	1.59	44.00	44.00
			0.00			1/2" Ice 2.75	1.80	61.40	61.40
			0.00			1" Ice 2.99	2.01	81.69	81.69
						2" Ice 3.50	2.46	131.76	131.76
						4" Ice 4.61	3.48	275.24	275.24
(2) RRH2x40-AWS	B	From Leg	3.00	0.0000	155.00	No Ice 2.52	1.59	44.00	44.00
			0.00			1/2" Ice 2.75	1.80	61.40	61.40
			0.00			1" Ice 2.99	2.01	81.69	81.69
						2" Ice 3.50	2.46	131.76	131.76
						4" Ice 4.61	3.48	275.24	275.24
(2) RRH2x40-AWS	C	From Leg	3.00	0.0000	155.00	No Ice 2.52	1.59	44.00	44.00
			0.00			1/2" Ice 2.75	1.80	61.40	61.40
			0.00			1" Ice 2.99	2.01	81.69	81.69
						2" Ice 3.50	2.46	131.76	131.76

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Vert					
			Lateral		°	ft	ft ²	ft ²	lb
DB T1 6Z 8AB OZ	C	From Leg	1.00	0.0000	155.00	4" Ice	4.61	3.48	275.24
			0.00	No Ice		5.60	2.33	44.00	
			0.00	1/2" Ice		5.92	2.56	80.13	
				1" Ice		6.24	2.79	116.26	
				2" Ice		6.88	3.25	188.52	
10' Sector Frames	C	None		0.0000	155.00	4" Ice	8.16	4.17	333.04
				No Ice		23.00	23.00	700.00	
				1/2" Ice		34.00	34.00	1000.00	
				1" Ice		45.00	45.00	1300.00	
				2" Ice		67.00	67.00	1900.00	
					4" Ice	111.00	111.00	3100.00	
140ft									
Small Light	A	From Leg	0.50	0.0000	140.00	No Ice	0.13	0.13	2.00
			0.00	1/2" Ice		0.19	0.19	4.01	
			0.00	1" Ice		0.25	0.25	6.02	
				2" Ice		0.37	0.37	10.04	
				4" Ice		0.61	0.61	18.08	
Small Light	B	From Leg	0.50	0.0000	140.00	No Ice	0.13	0.13	2.00
			0.00	1/2" Ice		0.19	0.19	4.01	
			0.00	1" Ice		0.25	0.25	6.02	
				2" Ice		0.37	0.37	10.04	
				4" Ice		0.61	0.61	18.08	
Small Light	C	From Leg	0.50	0.0000	140.00	No Ice	0.13	0.13	2.00
			0.00	1/2" Ice		0.19	0.19	4.01	
			0.00	1" Ice		0.25	0.25	6.02	
				2" Ice		0.37	0.37	10.04	
				4" Ice		0.61	0.61	18.08	
137ft									
1.5' Dia 8' Omni	C	From Leg	1.00	0.0000	137.00	No Ice	2.00	2.00	5.00
			0.00	1/2" Ice		3.03	3.03	18.00	
			5.00	1" Ice		5.06	5.06	68.58	
				2" Ice		7.12	7.12	112.16	
				4" Ice		11.24	11.24	199.32	
2' Side Arm Mount	B	From Leg	3.00	0.0000	137.00	No Ice	2.00	2.00	50.00
			0.00	1/2" Ice		3.00	3.00	100.00	
			4.00	1" Ice		4.00	4.00	150.00	
				2" Ice		6.00	6.00	250.00	
				4" Ice		10.00	10.00	450.00	
132ft									
2' Side Arm Mount	B	From Leg	3.00	0.0000	132.00	No Ice	2.00	2.00	50.00
			0.00	1/2" Ice		3.00	3.00	100.00	
			4.00	1" Ice		4.00	4.00	150.00	
				2" Ice		6.00	6.00	250.00	
				4" Ice		10.00	10.00	450.00	
4' Yagi	C	From Leg	1.00	0.0000	132.00	No Ice	2.08	2.08	30.95
			0.00	1/2" Ice		3.79	3.79	51.64	
			0.00	1" Ice		5.50	5.50	72.33	
				2" Ice		8.92	8.92	113.71	
				4" Ice		15.76	15.76	196.47	
118ft									
2' Side Arm Mount	B	From Leg	0.00	0.0000	118.00	No Ice	2.00	2.00	50.00
			0.00	1/2" Ice		3.00	3.00	100.00	
			0.00	1" Ice		4.00	4.00	150.00	
				2" Ice		6.00	6.00	250.00	
				4" Ice		10.00	10.00	450.00	
2' Dia 10' Omni	C	From Leg	1.00	0.0000	118.00	No Ice	3.00	2.00	10.00
			0.00	1/2" Ice		4.03	3.03	25.00	

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
				5.00					
						1" Ice	5.06	5.06	68.58
						2" Ice	7.12	7.12	112.16
						4" Ice	11.24	11.24	199.32
108ft									
3' Dia 10' Omni	B	From Leg	1.00		0.0000	108.00	No Ice	3.00	25.00
			0.00				1/2" Ice	4.03	46.79
			5.00				1" Ice	5.06	68.58
							2" Ice	7.12	112.16
							4" Ice	11.24	199.32
2' Side Arm Mount	B	From Leg	0.00		0.0000	108.00	No Ice	2.00	50.00
			0.00				1/2" Ice	3.00	100.00
			0.00				1" Ice	4.00	150.00
							2" Ice	6.00	250.00
							4" Ice	10.00	450.00
99ft									
3' Yagi	B	From Leg	1.00		0.0000	99.00	No Ice	2.08	30.95
			0.00				1/2" Ice	3.79	51.64
			0.00				1" Ice	5.50	72.33
							2" Ice	8.92	113.71
							4" Ice	15.76	196.47
2' Side Arm Mount	B	From Leg	0.00		0.0000	99.00	No Ice	2.00	50.00
			0.00				1/2" Ice	3.00	100.00
			0.00				1" Ice	4.00	150.00
							2" Ice	6.00	250.00
							4" Ice	10.00	450.00
80ft									
Side Arm Mount	C	None			0.0000	80.00	No Ice	6.00	100.00
							1/2" Ice	8.00	150.00
							1" Ice	4.00	150.00
							2" Ice	6.00	250.00
							4" Ice	10.00	450.00
22ft									
4"x4'pipe mount	C	None			0.0000	22.00	No Ice	1.21	43.20
							1/2" Ice	1.47	54.83
							1" Ice	1.73	66.46
							2" Ice	2.25	89.72
							4" Ice	3.29	136.24
20ft									
GPS	C	None			0.0000	20.00	No Ice	1.80	15.00
							1/2" Ice	2.30	19.50
							1" Ice	0.71	18.88
							2" Ice	1.17	39.30
							4" Ice	2.35	118.42
8ft									
GPS	C	None			0.0000	8.00	No Ice	1.80	15.00
							1/2" Ice	2.30	19.50
							1" Ice	0.71	18.88
							2" Ice	1.17	39.30
							4" Ice	2.35	118.42
*****202ft T Mobile*****									
AIR21 B2A/B4P	A	From Leg	3.00		0.0000	202.00	No Ice	6.53	70.00
			0.00				1/2" Ice	6.98	111.90
			0.00				1" Ice	7.43	158.93
							2" Ice	8.37	269.11
							4" Ice	10.34	559.48
AIR21 B2A/B4P	B	From Leg	3.00		0.0000	202.00	No Ice	6.53	70.00

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _A A _{Front} ft ²	C _A A _{Side} ft ²	Weight lb	
			0.00			1/2" Ice	6.98	4.77	111.90
			0.00			1" Ice	7.43	5.20	158.93
						2" Ice	8.37	6.08	269.11
						4" Ice	10.34	7.95	559.48
AIR21 B2A/B4P	C	From Leg	3.00	0.0000	202.00	No Ice	6.53	4.36	70.00
			0.00			1/2" Ice	6.98	4.77	111.90
			0.00			1" Ice	7.43	5.20	158.93
						2" Ice	8.37	6.08	269.11
						4" Ice	10.34	7.95	559.48
AIR21 B4A/B2P	A	From Leg	3.00	0.0000	202.00	No Ice	6.53	4.36	105.00
			0.00			1/2" Ice	6.98	4.77	146.90
			0.00			1" Ice	7.43	5.20	193.93
						2" Ice	8.37	6.08	304.11
						4" Ice	10.34	7.95	594.48
AIR21 B4A/B2P	B	From Leg	3.00	0.0000	202.00	No Ice	6.53	4.36	105.00
			0.00			1/2" Ice	6.98	4.77	146.90
			0.00			1" Ice	7.43	5.20	193.93
						2" Ice	8.37	6.08	304.11
						4" Ice	10.34	7.95	594.48
AIR21 B4A/B2P	C	From Leg	3.00	0.0000	202.00	No Ice	6.53	4.36	105.00
			0.00			1/2" Ice	6.98	4.77	146.90
			0.00			1" Ice	7.43	5.20	193.93
						2" Ice	8.37	6.08	304.11
						4" Ice	10.34	7.95	594.48
LNx-6515DS-VTM	A	From Leg	3.00	0.0000	202.00	No Ice	11.41	7.70	50.27
			0.00			1/2" Ice	12.03	8.29	115.98
			0.00			1" Ice	12.65	8.89	189.36
						2" Ice	13.98	10.11	359.93
						4" Ice	17.00	12.65	801.67
LNx-6515DS-VTM	B	From Leg	3.00	0.0000	202.00	No Ice	11.41	7.70	50.27
			0.00			1/2" Ice	12.03	8.29	115.98
			0.00			1" Ice	12.65	8.89	189.36
						2" Ice	13.98	10.11	359.93
						4" Ice	17.00	12.65	801.67
LNx-6515DS-VTM	C	From Leg	3.00	0.0000	202.00	No Ice	11.41	7.70	50.27
			0.00			1/2" Ice	12.03	8.29	115.98
			0.00			1" Ice	12.65	8.89	189.36
						2" Ice	13.98	10.11	359.93
						4" Ice	17.00	12.65	801.67
RRUS 11 B12	A	From Leg	3.00	0.0000	202.00	No Ice	3.31	1.36	50.70
			0.00			1/2" Ice	3.55	1.54	71.57
			0.00			1" Ice	3.80	1.73	95.49
						2" Ice	4.33	2.13	153.24
						4" Ice	5.50	3.04	313.85
RRUS 11 B12	B	From Leg	3.00	0.0000	202.00	No Ice	3.31	1.36	50.70
			0.00			1/2" Ice	3.55	1.54	71.57
			0.00			1" Ice	3.80	1.73	95.49
						2" Ice	4.33	2.13	153.24
						4" Ice	5.50	3.04	313.85
RRUS 11 B12	C	From Leg	3.00	0.0000	202.00	No Ice	3.31	1.36	50.70
			0.00			1/2" Ice	3.55	1.54	71.57
			0.00			1" Ice	3.80	1.73	95.49
						2" Ice	4.33	2.13	153.24
						4" Ice	5.50	3.04	313.85
dd B4 TMA	A	From Leg	3.00	0.0000	202.00	No Ice	0.64	0.52	22.43
			0.00			1/2" Ice	0.82	0.71	31.53
			0.00			1" Ice	1.00	0.91	43.17

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _A A _{Front} ft ²	C _A A _{Side} ft ²	Weight lb
dd B4 TMA	B	From Leg	3.00 0.00 0.00	0.0000	202.00	2" Ice	1.43	73.26
						4" Ice	2.47	178.83
						No Ice	0.64	22.43
						1/2" Ice	0.82	31.53
						1" Ice	1.00	43.17
dd B4 TMA	C	From Leg	3.00 0.00 0.00	0.0000	202.00	2" Ice	1.43	73.26
						4" Ice	2.47	178.83
						No Ice	0.64	22.43
						1/2" Ice	0.82	31.53
						1" Ice	1.00	43.17
10' Sector Frames	C	None		0.0000	202.00	2" Ice	1.43	73.26
						4" Ice	2.47	178.83
						No Ice	23.00	700.00
						1/2" Ice	34.00	1000.00
						1" Ice	45.00	1300.00
						2" Ice	67.00	1900.00
						4" Ice	111.00	3100.00

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft ²	Weight lb	
3' dish w/o radome	C	Paraboloid w/o Radome	From Leg	1.00 0.00 0.00	0.0000		22.00	3.00	No Ice	7.07	50.00
									1/2" Ice	7.47	88.35
									1" Ice	7.87	126.70
									2" Ice	8.67	203.40
									4" Ice	10.27	356.80
VHLPX800-11	A	Paraboloid w/Shroud (HP)	From Leg	2.00 0.00 0.00	0.0000		187.00	2.80	No Ice	6.16	49.00
									1/2" Ice	6.53	82.52
									1" Ice	6.90	116.04
									2" Ice	7.65	183.07
									4" Ice	9.13	317.15
2' Dish	B	Paraboloid w/Shroud (HP)	From Leg	2.00 0.00 0.00	0.0000		187.00	2.00	No Ice	3.14	27.00
									1/2" Ice	3.41	45.00
									1" Ice	3.68	65.00
									2" Ice	4.21	100.00
									4" Ice	5.28	170.00
2' Dish	C	Paraboloid w/Shroud (HP)	From Leg	2.00 0.00 0.00	0.0000		187.00	2.00	No Ice	3.14	27.00
									1/2" Ice	3.41	45.00
									1" Ice	3.68	65.00
									2" Ice	4.21	100.00
									4" Ice	5.28	170.00

Tower Pressures - No Ice

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$$G_H = 1.102$$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft ²	F a c e e	A_F ft ²	A_R ft ²	A_{leg} ft ²	Leg %	C_{AA} In Face ft ²	C_{AA} Out Face ft ²
T1 240.00-220.00	230.00	1.741	32	252.993	A	0.000	47.070	28.798	61.18	0.000	0.000
					B	0.000	45.387		63.45	0.000	0.000
					C	5.833	47.710		53.78	0.000	0.000
T2 220.00-200.00	210.00	1.697	31	295.498	A	1.167	59.665	28.811	47.36	0.000	0.000
					B	1.167	47.259		59.49	0.000	0.000
					C	5.833	49.661		51.92	0.000	0.000
T3 200.00-180.00	190.00	1.649	30	343.003	A	11.667	69.680	28.825	35.43	0.000	0.000
					B	11.667	69.570		35.48	0.000	0.000
					C	5.833	52.189		49.68	0.000	0.000
T4 180.00-160.00	170.00	1.597	30	393.003	A	11.667	77.412	28.825	32.36	0.000	0.000
					B	11.667	94.530		27.14	0.000	0.000
					C	5.833	81.126		33.15	0.000	0.000
T5 160.00-140.00	150.00	1.541	29	443.003	A	25.472	101.198	28.825	22.76	0.000	0.000
					B	25.898	90.648		24.73	0.000	0.000
					C	21.022	72.764		30.73	0.000	0.000
T6 140.00-120.00	130.00	1.48	27	493.003	A	11.667	122.886	28.825	21.42	0.000	0.000
					B	11.667	107.915		24.10	0.000	0.000
					C	5.833	90.353		29.97	0.000	0.000
T7 120.00-100.00	110.00	1.411	26	543.003	A	23.511	115.601	28.825	20.72	0.000	0.000
					B	23.913	97.014		23.84	0.000	0.000
					C	18.667	77.368		30.01	0.000	0.000
T8 100.00-80.00	90.00	1.332	25	594.507	A	11.667	131.203	28.834	20.18	0.000	0.000
					B	11.667	113.801		22.98	0.000	0.000
					C	5.833	95.305		28.51	0.000	0.000
T9 80.00-60.00	70.00	1.24	23	649.552	A	11.667	142.290	35.927	23.34	0.000	0.000
					B	11.667	123.814		26.52	0.000	0.000
					C	5.833	104.127		32.67	0.000	0.000
T10 60.00-30.00	45.00	1.093	20	1068.07	A	17.500	212.630	53.890	23.42	0.000	0.000
				7	B	17.500	187.049		26.35	0.000	0.000
					C	8.750	159.636		32.00	0.000	0.000
T11 30.00-0.00	15.00	1	18	1180.57	A	33.580	187.043	53.890	24.43	0.000	0.000
				7	B	33.935	162.154		27.48	0.000	0.000
					C	27.127	137.597		32.72	0.000	0.000

Tower Pressure - With Ice

$$G_H = 1.102$$

Section Elevation ft	z ft	K_Z	q_z psf	t_z in	A_G ft ²	F a c e e	A_F ft ²	A_R ft ²	A_{leg} ft ²	Leg %	C_{AA} In Face ft ²	C_{AA} Out Face ft ²
T1 240.00-220.00	230.00	1.741	6	0.9468	256.153	A	1.325	66.917	35.120	51.46	0.000	0.000
						B	0.000	64.935		54.09	0.000	0.000
						C	10.041	69.056		44.40	0.000	0.000
T2 220.00-200.00	210.00	1.697	6	0.9365	298.624	A	17.049	68.860	35.067	40.82	0.000	0.000
						B	4.066	63.453		51.94	0.000	0.000
						C	9.996	71.763		42.89	0.000	0.000
T3 200.00-180.00	190.00	1.649	6	0.9253	346.093	A	43.208	74.683	35.010	29.70	0.000	0.000
						B	42.686	74.011		30.00	0.000	0.000
						C	10.876	74.809		40.86	0.000	0.000
T4 180.00-160.00	170.00	1.597	6	0.9130	396.052	A	47.819	81.252	34.928	27.06	0.000	0.000
						B	65.566	88.166		22.72	0.000	0.000
						C	40.891	87.770		27.15	0.000	0.000

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Section Elevation ft	z ft	K _Z	q _z psf	t _z in	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
T5 160.00-140.00	150.00	1.541	6	0.8994	446.007	A	98.222	81.156	34.837	19.42	0.000	0.000
						B	88.665	75.671		21.20	0.000	0.000
						C	59.620	76.324		25.63	0.000	0.000
T6 140.00-120.00	130.00	1.48	5	0.8841	495.956	A	87.109	105.092	34.734	18.07	0.000	0.000
						B	71.509	100.446		20.20	0.000	0.000
						C	40.763	100.807		24.54	0.000	0.000
T7 120.00-100.00	110.00	1.411	5	0.8666	545.897	A	101.070	97.043	34.617	17.47	0.000	0.000
						B	86.181	87.479		19.93	0.000	0.000
						C	56.569	85.523		24.36	0.000	0.000
T8 100.00-80.00	90.00	1.332	5	0.8460	597.333	A	86.770	117.002	34.490	16.93	0.000	0.000
						B	71.170	111.338		18.90	0.000	0.000
						C	40.593	110.315		22.86	0.000	0.000
T9 80.00-60.00	70.00	1.24	5	0.8208	652.293	A	86.546	128.395	41.413	19.27	0.000	0.000
						B	70.946	121.676		21.50	0.000	0.000
						C	40.481	119.164		25.94	0.000	0.000
T10 60.00-30.00	45.00	1.093	4	0.7784	1071.977	A	129.254	189.340	61.694	19.36	0.000	0.000
						B	105.854	182.548		21.39	0.000	0.000
						C	60.440	182.014		25.45	0.000	0.000
T11 30.00-0.00	15.00	1	4	0.7500	1184.335	A	131.394	172.029	61.409	20.24	0.000	0.000
						B	111.593	157.979		22.78	0.000	0.000
						C	61.845	167.487		26.78	0.000	0.000

Tower Pressure - Service

$G_H = 1.102$

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
T1 240.00-220.00	230.00	1.741	11	252.993	A	0.000	47.070	28.798	61.18	0.000	0.000
					B	0.000	45.387		63.45	0.000	0.000
					C	5.833	47.710		53.78	0.000	0.000
T2 220.00-200.00	210.00	1.697	11	295.498	A	1.167	59.665	28.811	47.36	0.000	0.000
					B	1.167	47.259		59.49	0.000	0.000
					C	5.833	49.661		51.92	0.000	0.000
T3 200.00-180.00	190.00	1.649	11	343.003	A	11.667	69.680	28.825	35.43	0.000	0.000
					B	11.667	69.570		35.48	0.000	0.000
					C	5.833	52.189		49.68	0.000	0.000
T4 180.00-160.00	170.00	1.597	10	393.003	A	11.667	77.412	28.825	32.36	0.000	0.000
					B	11.667	94.530		27.14	0.000	0.000
					C	5.833	81.126		33.15	0.000	0.000
T5 160.00-140.00	150.00	1.541	10	443.003	A	25.472	101.198	28.825	22.76	0.000	0.000
					B	25.898	90.648		24.73	0.000	0.000
					C	21.022	72.764		30.73	0.000	0.000
T6 140.00-120.00	130.00	1.48	9	493.003	A	11.667	122.886	28.825	21.42	0.000	0.000
					B	11.667	107.915		24.10	0.000	0.000
					C	5.833	90.353		29.97	0.000	0.000
T7 120.00-100.00	110.00	1.411	9	543.003	A	23.511	115.601	28.825	20.72	0.000	0.000
					B	23.913	97.014		23.84	0.000	0.000
					C	18.667	77.368		30.01	0.000	0.000
T8 100.00-80.00	90.00	1.332	9	594.507	A	11.667	131.203	28.834	20.18	0.000	0.000
					B	11.667	113.801		22.98	0.000	0.000
					C	5.833	95.305		28.51	0.000	0.000
T9 80.00-60.00	70.00	1.24	8	649.552	A	11.667	142.290	35.927	23.34	0.000	0.000

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Section Elevation	z	K _Z	q _z	A _G	F _a	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		psf	ft ²	c	ft ²	ft ²	ft ²		ft ²	ft ²
T10 60.00-30.00	45.00	1.093	7	1068.07	B	11.667	123.814	53.890	26.52	0.000	0.000
					C	5.833	104.127		32.67	0.000	0.000
					A	17.500	212.630		23.42	0.000	0.000
T11 30.00-0.00	15.00	1	6	1180.57	B	17.500	187.049	53.890	26.35	0.000	0.000
					C	8.750	159.636		32.00	0.000	0.000
					A	33.580	187.043		24.43	0.000	0.000
					B	33.935	162.154		27.48	0.000	0.000
					C	27.127	137.597		32.72	0.000	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F _a	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb	c						ft ²	lb	plf	
T1 240.00-220.00	141.78	3674.12	A	0.186	2.643	0.588	1	1	27.661	3097.08	154.85	C
			B	0.179	2.666	0.586	1	1	26.615			
			C	0.212	2.558	0.593	1	1	34.118			
T2 220.00-200.00	337.16	3836.24	A	0.206	2.577	0.592	1	1	36.465	3249.14	162.46	A
			B	0.164	2.721	0.584	1	1	28.752			
			C	0.188	2.637	0.588	1	1	35.033			
T3 200.00-180.00	968.18	4019.74	A	0.237	2.477	0.599	1	1	53.383	4443.14	222.16	A
			B	0.237	2.478	0.599	1	1	53.312			
			C	0.169	2.702	0.585	1	1	36.343			
T4 180.00-160.00	1331.64	4426.65	A	0.227	2.509	0.596	1	1	57.820	5347.75	267.39	B
			B	0.27	2.378	0.607	1	1	69.069			
			C	0.221	2.526	0.595	1	1	54.101			
T5 160.00-140.00	1692.90	5525.30	A	0.286	2.334	0.612	1	1	87.375	6406.28	320.31	A
			B	0.263	2.399	0.605	1	1	80.767			
			C	0.212	2.557	0.593	1	1	64.160			
T6 140.00-120.00	1748.00	5266.76	A	0.273	2.371	0.608	1	1	86.380	6174.50	308.72	A
			B	0.243	2.46	0.6	1	1	76.416			
			C	0.195	2.612	0.589	1	1	59.089			
T7 120.00-100.00	1760.42	5441.47	A	0.256	2.419	0.603	1	1	93.273	6486.67	324.33	A
			B	0.223	2.522	0.595	1	1	81.665			
			C	0.177	2.675	0.586	1	1	64.001			
T8 100.00-80.00	1771.85	5405.66	A	0.24	2.467	0.599	1	1	90.317	6048.28	302.41	A
			B	0.211	2.56	0.593	1	1	79.119			
			C	0.17	2.699	0.585	1	1	61.564			
T9 80.00-60.00	1772.00	6343.78	A	0.237	2.477	0.599	1	1	96.849	6061.17	303.06	A
			B	0.209	2.568	0.592	1	1	84.988			
			C	0.169	2.702	0.585	1	1	66.708			
T10 60.00-30.00	2658.00	9347.92	A	0.215	2.545	0.594	1	1	143.733	8146.73	271.56	A
			B	0.192	2.625	0.589	1	1	127.617			
			C	0.158	2.744	0.583	1	1	101.766			
T11 30.00-0.00	2221.25	11327.82	A	0.187	2.64	0.588	1	1	143.526	7723.71	257.46	A
			B	0.166	2.713	0.584	1	1	128.644			
			C	0.14	2.81	0.58	1	1	106.924			
Sum Weight:	16403.18	64615.46						OTM	7076.21 kip-ft	63184.45		

Tower Forces - No Ice - Wind 60 To Face

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Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	R _R	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1 240.00-220.00	141.78	3674.12	A	0.186	2.643	0.588	0.8	1	27.661	2991.17	149.56	C
			B	0.179	2.666	0.586	0.8	1	26.615			
			C	0.212	2.558	0.593	0.8	1	32.951			
T2 220.00-200.00	337.16	3836.24	A	0.206	2.577	0.592	0.8	1	36.232	3228.35	161.42	A
			B	0.164	2.721	0.584	0.8	1	28.518			
			C	0.188	2.637	0.588	0.8	1	33.867			
T3 200.00-180.00	968.18	4019.74	A	0.237	2.477	0.599	0.8	1	51.050	4248.93	212.45	A
			B	0.237	2.478	0.599	0.8	1	50.978			
			C	0.169	2.702	0.585	0.8	1	35.176			
T4 180.00-160.00	1331.64	4426.65	A	0.227	2.509	0.596	0.8	1	55.486	5167.08	258.35	B
			B	0.27	2.378	0.607	0.8	1	66.735			
			C	0.221	2.526	0.595	0.8	1	52.934			
T5 160.00-140.00	1692.90	5525.30	A	0.286	2.334	0.612	0.8	1	82.280	6032.75	301.64	A
			B	0.263	2.399	0.605	0.8	1	75.588			
			C	0.212	2.557	0.593	0.8	1	59.956			
T6 140.00-120.00	1748.00	5266.76	A	0.273	2.371	0.608	0.8	1	84.047	6007.71	300.39	A
			B	0.243	2.46	0.6	0.8	1	74.083			
			C	0.195	2.612	0.589	0.8	1	57.922			
T7 120.00-100.00	1760.42	5441.47	A	0.256	2.419	0.603	0.8	1	88.571	6159.65	307.98	A
			B	0.223	2.522	0.595	0.8	1	76.882			
			C	0.177	2.675	0.586	0.8	1	60.267			
T8 100.00-80.00	1771.85	5405.66	A	0.24	2.467	0.599	0.8	1	87.983	5892.02	294.60	A
			B	0.211	2.56	0.593	0.8	1	76.785			
			C	0.17	2.699	0.585	0.8	1	60.397			
T9 80.00-60.00	1772.00	6343.78	A	0.237	2.477	0.599	0.8	1	94.516	5915.15	295.76	A
			B	0.209	2.568	0.592	0.8	1	82.655			
			C	0.169	2.702	0.585	0.8	1	65.541			
T10 60.00-30.00	2658.00	9347.92	A	0.215	2.545	0.594	0.8	1	140.233	7948.35	264.95	A
			B	0.192	2.625	0.589	0.8	1	124.117			
			C	0.158	2.744	0.583	0.8	1	100.016			
T11 30.00-0.00	2221.25	11327.82	A	0.187	2.64	0.588	0.8	1	136.810	7362.29	245.41	A
			B	0.166	2.713	0.584	0.8	1	121.857			
			C	0.14	2.81	0.58	0.8	1	101.498			
Sum Weight:	16403.18	64615.46						OTM	6827.55 kip-ft	60953.47		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	R _R	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1 240.00-220.00	141.78	3674.12	A	0.186	2.643	0.588	0.85	1	27.661	3017.65	150.88	C
			B	0.179	2.666	0.586	0.85	1	26.615			
			C	0.212	2.558	0.593	0.85	1	33.243			
T2 220.00-200.00	337.16	3836.24	A	0.206	2.577	0.592	0.85	1	36.290	3233.55	161.68	A
			B	0.164	2.721	0.584	0.85	1	28.577			
			C	0.188	2.637	0.588	0.85	1	34.158			
T3 200.00-180.00	968.18	4019.74	A	0.237	2.477	0.599	0.85	1	51.633	4297.49	214.87	A
			B	0.237	2.478	0.599	0.85	1	51.562			
			C	0.169	2.702	0.585	0.85	1	35.468			
T4 180.00-160.00	1331.64	4426.65	A	0.227	2.509	0.596	0.85	1	56.070	5212.25	260.61	B
			B	0.27	2.378	0.607	0.85	1	67.319			
			C	0.221	2.526	0.595	0.85	1	53.226			
T5 160.00-140.00	1692.90	5525.30	A	0.286	2.334	0.612	0.85	1	83.554	6126.13	306.31	A
			B	0.263	2.399	0.605	0.85	1	76.883			

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Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
T6 140.00-120.00	1748.00	5266.76	C	0.212	2.557	0.593	0.85	1	61.007	6049.40	302.47	A
			A	0.273	2.371	0.608	0.85	1	84.630			
			B	0.243	2.46	0.6	0.85	1	74.666			
T7 120.00-100.00	1760.42	5441.47	C	0.195	2.612	0.589	0.85	1	58.214	6241.41	312.07	A
			A	0.256	2.419	0.603	0.85	1	89.747			
			B	0.223	2.522	0.595	0.85	1	78.078			
T8 100.00-80.00	1771.85	5405.66	C	0.177	2.675	0.586	0.85	1	61.201	5931.09	296.55	A
			A	0.24	2.467	0.599	0.85	1	88.567			
			B	0.211	2.56	0.593	0.85	1	77.369			
T9 80.00-60.00	1772.00	6343.78	C	0.17	2.699	0.585	0.85	1	60.689	5951.65	297.58	A
			A	0.237	2.477	0.599	0.85	1	95.099			
			B	0.209	2.568	0.592	0.85	1	83.238			
T10 60.00-30.00	2658.00	9347.92	C	0.169	2.702	0.585	0.85	1	65.833	7997.95	266.60	A
			A	0.215	2.545	0.594	0.85	1	141.108			
			B	0.192	2.625	0.589	0.85	1	124.992			
T11 30.00-0.00	2221.25	11327.82	C	0.158	2.744	0.583	0.85	1	100.454	7452.65	248.42	A
			A	0.187	2.64	0.588	0.85	1	138.489			
			B	0.166	2.713	0.584	0.85	1	123.554			
Sum Weight:	16403.18	64615.46	C	0.14	2.81	0.58	0.85	1	102.854	61511.21		
								OTM	6889.72 kip-ft			

Tower Forces - With Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
T1 240.00-220.00	402.46	5592.44	A	0.266	2.389	0.606	1	1	41.890	850.67	42.53	C
			B	0.254	2.427	0.603	1	1	39.141			
			C	0.309	2.273	0.619	1	1	52.761			
T2 220.00-200.00	1073.35	5621.40	A	0.288	2.329	0.612	1	1	59.206	953.17	47.66	A
			B	0.226	2.511	0.596	1	1	41.888			
			C	0.274	2.368	0.608	1	1	53.644			
T3 200.00-180.00	2864.74	5933.55	A	0.341	2.194	0.629	1	1	90.197	1328.92	66.45	A
			B	0.337	2.202	0.628	1	1	89.164			
			C	0.248	2.445	0.601	1	1	55.855			
T4 180.00-160.00	4218.73	6544.18	A	0.326	2.229	0.624	1	1	98.534	1665.53	83.28	B
			B	0.388	2.088	0.647	1	1	122.596			
			C	0.325	2.232	0.624	1	1	95.644			
T5 160.00-140.00	5504.93	8201.89	A	0.402	2.06	0.652	1	1	151.176	1954.87	97.74	A
			B	0.368	2.13	0.639	1	1	137.037			
			C	0.305	2.283	0.617	1	1	106.741			
T6 140.00-120.00	5653.35	7772.56	A	0.388	2.089	0.647	1	1	155.061	1952.36	97.62	A
			B	0.347	2.179	0.631	1	1	134.922			
			C	0.285	2.335	0.612	1	1	102.412			
T7 120.00-100.00	5665.83	8202.87	A	0.363	2.142	0.637	1	1	162.903	2005.02	100.25	A
			B	0.318	2.249	0.622	1	1	140.559			
			C	0.26	2.407	0.605	1	1	108.272			
T8 100.00-80.00	5655.46	7827.08	A	0.341	2.192	0.629	1	1	160.405	1907.97	95.40	A
			B	0.306	2.281	0.618	1	1	139.933			
			C	0.253	2.43	0.603	1	1	107.064			
T9 80.00-60.00	5552.25	8945.18	A	0.33	2.22	0.625	1	1	166.842	1870.72	93.54	A
			B	0.295	2.309	0.614	1	1	145.713			
			C	0.245	2.453	0.601	1	1	112.045			
T10	8066.48	13019.88	A	0.297	2.303	0.615	1	1	245.707	2519.06	83.97	A

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	Client	T-Mobile	Designed by	Ahmet Colakoglu

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
60.00-30.00			B	0.269	2.382	0.607	1	1	216.645			
			C	0.226	2.511	0.596	1	1	168.936			
T11	6595.88	16076.25	A	0.256	2.419	0.603	1	1	235.209	2317.66	77.26	A
30.00-0.00			B	0.228	2.506	0.596	1	1	205.816			
			C	0.194	2.617	0.589	1	1	160.515			
Sum Weight:	51253.46	93737.25						OTM	2149.83 kip-ft	19325.95		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
T1	402.46	5592.44	A	0.266	2.389	0.606	0.8	1	41.625	818.30	40.91	C
240.00-220.00			B	0.254	2.427	0.603	0.8	1	39.141			
			C	0.309	2.273	0.619	0.8	1	50.753			
T2	1073.35	5621.40	A	0.288	2.329	0.612	0.8	1	55.796	898.27	44.91	A
220.00-200.00			B	0.226	2.511	0.596	0.8	1	41.075			
			C	0.274	2.368	0.608	0.8	1	51.644			
T3	2864.74	5933.55	A	0.341	2.194	0.629	0.8	1	81.555	1201.60	60.08	A
200.00-180.00			B	0.337	2.202	0.628	0.8	1	80.627			
			C	0.248	2.445	0.601	0.8	1	53.680			
T4	4218.73	6544.18	A	0.326	2.229	0.624	0.8	1	88.970	1487.38	74.37	B
180.00-160.00			B	0.388	2.088	0.647	0.8	1	109.482			
			C	0.325	2.232	0.624	0.8	1	87.466			
T5	5504.93	8201.89	A	0.402	2.06	0.652	0.8	1	131.532	1700.84	85.04	A
160.00-140.00			B	0.368	2.13	0.639	0.8	1	119.304			
			C	0.305	2.283	0.617	0.8	1	94.817			
T6	5653.35	7772.56	A	0.388	2.089	0.647	0.8	1	137.639	1733.00	86.65	A
140.00-120.00			B	0.347	2.179	0.631	0.8	1	120.620			
			C	0.285	2.335	0.612	0.8	1	94.259			
T7	5665.83	8202.87	A	0.363	2.142	0.637	0.8	1	142.689	1756.22	87.81	A
120.00-100.00			B	0.318	2.249	0.622	0.8	1	123.323			
			C	0.26	2.407	0.605	0.8	1	96.958			
T8	5655.46	7827.08	A	0.341	2.192	0.629	0.8	1	143.051	1701.55	85.08	A
100.00-80.00			B	0.306	2.281	0.618	0.8	1	125.699			
			C	0.253	2.43	0.603	0.8	1	98.945			
T9	5552.25	8945.18	A	0.33	2.22	0.625	0.8	1	149.532	1676.64	83.83	A
80.00-60.00			B	0.295	2.309	0.614	0.8	1	131.523			
			C	0.245	2.453	0.601	0.8	1	103.949			
T10	8066.48	13019.88	A	0.297	2.303	0.615	0.8	1	219.857	2254.03	75.13	A
60.00-30.00			B	0.269	2.382	0.607	0.8	1	195.474			
			C	0.226	2.511	0.596	0.8	1	156.848			
T11	6595.88	16076.25	A	0.256	2.419	0.603	0.8	1	208.931	2058.72	68.62	A
30.00-0.00			B	0.228	2.506	0.596	0.8	1	183.497			
			C	0.194	2.617	0.589	0.8	1	148.146			
Sum Weight:	51253.46	93737.25						OTM	1934.42 kip-ft	17286.55		

Tower Forces - With Ice - Wind 90 To Face

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Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	R _R	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1 240.00-220.00	402.46	5592.44	A	0.266	2.389	0.606	0.85	1	41.691	826.39	41.32	C
			B	0.254	2.427	0.603	0.85	1	39.141			
			C	0.309	2.273	0.619	0.85	1	51.255			
T2 220.00-200.00	1073.35	5621.40	A	0.288	2.329	0.612	0.85	1	56.648	912.00	45.60	A
			B	0.226	2.511	0.596	0.85	1	41.278			
			C	0.274	2.368	0.608	0.85	1	52.144			
T3 200.00-180.00	2864.74	5933.55	A	0.341	2.194	0.629	0.85	1	83.716	1233.43	61.67	A
			B	0.337	2.202	0.628	0.85	1	82.761			
			C	0.248	2.445	0.601	0.85	1	54.224			
T4 180.00-160.00	4218.73	6544.18	A	0.326	2.229	0.624	0.85	1	91.361	1531.91	76.60	B
			B	0.388	2.088	0.647	0.85	1	112.761			
			C	0.325	2.232	0.624	0.85	1	89.511			
T5 160.00-140.00	5504.93	8201.89	A	0.402	2.06	0.652	0.85	1	136.443	1764.35	88.22	A
			B	0.368	2.13	0.639	0.85	1	123.737			
			C	0.305	2.283	0.617	0.85	1	97.798			
T6 140.00-120.00	5653.35	7772.56	A	0.388	2.089	0.647	0.85	1	141.995	1787.84	89.39	A
			B	0.347	2.179	0.631	0.85	1	124.195			
			C	0.285	2.335	0.612	0.85	1	96.297			
T7 120.00-100.00	5665.83	8202.87	A	0.363	2.142	0.637	0.85	1	147.743	1818.42	90.92	A
			B	0.318	2.249	0.622	0.85	1	127.632			
			C	0.26	2.407	0.605	0.85	1	99.787			
T8 100.00-80.00	5655.46	7827.08	A	0.341	2.192	0.629	0.85	1	147.390	1753.16	87.66	A
			B	0.306	2.281	0.618	0.85	1	129.257			
			C	0.253	2.43	0.603	0.85	1	100.975			
T9 80.00-60.00	5552.25	8945.18	A	0.33	2.22	0.625	0.85	1	153.860	1725.16	86.26	A
			B	0.295	2.309	0.614	0.85	1	135.071			
			C	0.245	2.453	0.601	0.85	1	105.973			
T10 60.00-30.00	8066.48	13019.88	A	0.297	2.303	0.615	0.85	1	226.319	2320.29	77.34	A
			B	0.269	2.382	0.607	0.85	1	200.767			
			C	0.226	2.511	0.596	0.85	1	159.870			
T11 30.00-0.00	6595.88	16076.25	A	0.256	2.419	0.603	0.85	1	215.500	2123.46	70.78	A
			B	0.228	2.506	0.596	0.85	1	189.077			
			C	0.194	2.617	0.589	0.85	1	151.238			
Sum Weight:	51253.46	93737.25						OTM	1988.27 kip-ft	17796.40		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	R _R	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1 240.00-220.00	141.78	3674.12	A	0.186	2.643	0.588	1	1	27.661	1071.65	53.58	C
			B	0.179	2.666	0.586	1	1	26.615			
			C	0.212	2.558	0.593	1	1	34.118			
T2 220.00-200.00	337.16	3836.24	A	0.206	2.577	0.592	1	1	36.465	1124.27	56.21	A
			B	0.164	2.721	0.584	1	1	28.752			
			C	0.188	2.637	0.588	1	1	35.033			
T3 200.00-180.00	968.18	4019.74	A	0.237	2.477	0.599	1	1	53.383	1537.42	76.87	A
			B	0.237	2.478	0.599	1	1	53.312			
			C	0.169	2.702	0.585	1	1	36.343			
T4 180.00-160.00	1331.64	4426.65	A	0.227	2.509	0.596	1	1	57.820	1850.43	92.52	B
			B	0.27	2.378	0.607	1	1	69.069			
			C	0.221	2.526	0.595	1	1	54.101			
T5 160.00-140.00	1692.90	5525.30	A	0.286	2.334	0.612	1	1	87.375	2216.70	110.84	A
			B	0.263	2.399	0.605	1	1	80.767			

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Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
T6 140.00-120.00	1748.00	5266.76	C	0.212	2.557	0.593	1	1	64.160	2136.50	106.83	A
			A	0.273	2.371	0.608	1	1	86.380			
			B	0.243	2.46	0.6	1	1	76.416			
T7 120.00-100.00	1760.42	5441.47	C	0.195	2.612	0.589	1	1	59.089	2244.52	112.23	A
			A	0.256	2.419	0.603	1	1	93.273			
			B	0.223	2.522	0.595	1	1	81.665			
T8 100.00-80.00	1771.85	5405.66	C	0.177	2.675	0.586	1	1	64.001	2092.83	104.64	A
			A	0.24	2.467	0.599	1	1	90.317			
			B	0.211	2.56	0.593	1	1	79.119			
T9 80.00-60.00	1772.00	6343.78	C	0.17	2.699	0.585	1	1	61.564	2097.29	104.86	A
			A	0.237	2.477	0.599	1	1	96.849			
			B	0.209	2.568	0.592	1	1	84.988			
T10 60.00-30.00	2658.00	9347.92	C	0.169	2.702	0.585	1	1	66.708	2818.94	93.96	A
			A	0.215	2.545	0.594	1	1	143.733			
			B	0.192	2.625	0.589	1	1	127.617			
T11 30.00-0.00	2221.25	11327.82	C	0.158	2.744	0.583	1	1	101.766	2672.56	89.09	A
			A	0.187	2.64	0.588	1	1	143.526			
			B	0.166	2.713	0.584	1	1	128.644			
Sum Weight:	16403.18	64615.46						OTM	2448.51 kip-ft	21863.13		

Tower Forces - Service - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
T1 240.00-220.00	141.78	3674.12	A	0.186	2.643	0.588	0.8	1	27.661	1035.01	51.75	C
			B	0.179	2.666	0.586	0.8	1	26.615			
			C	0.212	2.558	0.593	0.8	1	32.951			
T2 220.00-200.00	337.16	3836.24	A	0.206	2.577	0.592	0.8	1	36.232	1117.08	55.85	A
			B	0.164	2.721	0.584	0.8	1	28.518			
			C	0.188	2.637	0.588	0.8	1	33.867			
T3 200.00-180.00	968.18	4019.74	A	0.237	2.477	0.599	0.8	1	51.050	1470.22	73.51	A
			B	0.237	2.478	0.599	0.8	1	50.978			
			C	0.169	2.702	0.585	0.8	1	35.176			
T4 180.00-160.00	1331.64	4426.65	A	0.227	2.509	0.596	0.8	1	55.486	1787.92	89.40	B
			B	0.27	2.378	0.607	0.8	1	66.735			
			C	0.221	2.526	0.595	0.8	1	52.934			
T5 160.00-140.00	1692.90	5525.30	A	0.286	2.334	0.612	0.8	1	82.280	2087.46	104.37	A
			B	0.263	2.399	0.605	0.8	1	75.588			
			C	0.212	2.557	0.593	0.8	1	59.956			
T6 140.00-120.00	1748.00	5266.76	A	0.273	2.371	0.608	0.8	1	84.047	2078.79	103.94	A
			B	0.243	2.46	0.6	0.8	1	74.083			
			C	0.195	2.612	0.589	0.8	1	57.922			
T7 120.00-100.00	1760.42	5441.47	A	0.256	2.419	0.603	0.8	1	88.571	2131.37	106.57	A
			B	0.223	2.522	0.595	0.8	1	76.882			
			C	0.177	2.675	0.586	0.8	1	60.267			
T8 100.00-80.00	1771.85	5405.66	A	0.24	2.467	0.599	0.8	1	87.983	2038.76	101.94	A
			B	0.211	2.56	0.593	0.8	1	76.785			
			C	0.17	2.699	0.585	0.8	1	60.397			
T9 80.00-60.00	1772.00	6343.78	A	0.237	2.477	0.599	0.8	1	94.516	2046.76	102.34	A
			B	0.209	2.568	0.592	0.8	1	82.655			
			C	0.169	2.702	0.585	0.8	1	65.541			
T10	2658.00	9347.92	A	0.215	2.545	0.594	0.8	1	140.233	2750.30	91.68	A

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Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	R _R	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
60.00-30.00			B	0.192	2.625	0.589	0.8	1	124.117			
			C	0.158	2.744	0.583	0.8	1	100.016			
T11	2221.25	11327.82	A	0.187	2.64	0.588	0.8	1	136.810	2547.51	84.92	A
30.00-0.00			B	0.166	2.713	0.584	0.8	1	121.857			
			C	0.14	2.81	0.58	0.8	1	101.498			
Sum Weight:	16403.18	64615.46						OTM	2362.48 kip-ft	21091.17		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C _F	R _R	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1	141.78	3674.12	A	0.186	2.643	0.588	0.85	1	27.661	1044.17	52.21	C
240.00-220.00			B	0.179	2.666	0.586	0.85	1	26.615			
			C	0.212	2.558	0.593	0.85	1	33.243			
T2	337.16	3836.24	A	0.206	2.577	0.592	0.85	1	36.290	1118.87	55.94	A
220.00-200.00			B	0.164	2.721	0.584	0.85	1	28.577			
			C	0.188	2.637	0.588	0.85	1	34.158			
T3	968.18	4019.74	A	0.237	2.477	0.599	0.85	1	51.633	1487.02	74.35	A
200.00-180.00			B	0.237	2.478	0.599	0.85	1	51.562			
			C	0.169	2.702	0.585	0.85	1	35.468			
T4	1331.64	4426.65	A	0.227	2.509	0.596	0.85	1	56.070	1803.55	90.18	B
180.00-160.00			B	0.27	2.378	0.607	0.85	1	67.319			
			C	0.221	2.526	0.595	0.85	1	53.226			
T5	1692.90	5525.30	A	0.286	2.334	0.612	0.85	1	83.554	2119.77	105.99	A
160.00-140.00			B	0.263	2.399	0.605	0.85	1	76.883			
			C	0.212	2.557	0.593	0.85	1	61.007			
T6	1748.00	5266.76	A	0.273	2.371	0.608	0.85	1	84.630	2093.22	104.66	A
140.00-120.00			B	0.243	2.46	0.6	0.85	1	74.666			
			C	0.195	2.612	0.589	0.85	1	58.214			
T7	1760.42	5441.47	A	0.256	2.419	0.603	0.85	1	89.747	2159.66	107.98	A
120.00-100.00			B	0.223	2.522	0.595	0.85	1	78.078			
			C	0.177	2.675	0.586	0.85	1	61.201			
T8	1771.85	5405.66	A	0.24	2.467	0.599	0.85	1	88.567	2052.28	102.61	A
100.00-80.00			B	0.211	2.56	0.593	0.85	1	77.369			
			C	0.17	2.699	0.585	0.85	1	60.689			
T9	1772.00	6343.78	A	0.237	2.477	0.599	0.85	1	95.099	2059.40	102.97	A
80.00-60.00			B	0.209	2.568	0.592	0.85	1	83.238			
			C	0.169	2.702	0.585	0.85	1	65.833			
T10	2658.00	9347.92	A	0.215	2.545	0.594	0.85	1	141.108	2767.46	92.25	A
60.00-30.00			B	0.192	2.625	0.589	0.85	1	124.992			
			C	0.158	2.744	0.583	0.85	1	100.454			
T11	2221.25	11327.82	A	0.187	2.64	0.588	0.85	1	138.489	2578.77	85.96	A
30.00-0.00			B	0.166	2.713	0.584	0.85	1	123.554			
			C	0.14	2.81	0.58	0.85	1	102.854			
Sum Weight:	16403.18	64615.46						OTM	2383.99 kip-ft	21284.16		

Force Totals

<p>tnxTower</p> <p>Destek Engineering, LLC 1281 Kennestone Circle, Suite 100 Marietta, GA 30066 Phone: (770) 693 0835 FAX:</p>	<p>Job</p> <p>CT11680A</p>	<p>Page</p> <p>32 of 58</p>
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	<p>Client</p> <p>T-Mobile</p>	<p>Designed by</p> <p>Ahmet Colakoglu</p>

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Leg Weight	34080.31					
Bracing Weight	30535.16					
Total Member Self-Weight	64615.46			-39.08	35.32	
Total Weight	90122.57			-39.08	35.32	
Wind 0 deg - No Ice		238.06	-81661.12	-10396.60	24.08	-64.56
Wind 30 deg - No Ice		40157.39	-69283.68	-8852.06	-5057.73	-76.52
Wind 60 deg - No Ice		68861.68	-39822.97	-5105.63	-8719.37	-70.52
Wind 90 deg - No Ice		80021.61	-196.26	-54.45	-10132.90	-46.86
Wind 120 deg - No Ice		70754.34	40668.60	5138.20	-8924.66	-8.60
Wind 150 deg - No Ice		39870.33	69214.65	8773.82	-5036.41	32.22
Wind 180 deg - No Ice		-73.91	79410.00	10075.75	42.96	63.20
Wind 210 deg - No Ice		-40001.65	69325.18	8782.26	5120.35	77.99
Wind 240 deg - No Ice		-70712.60	40919.38	5154.12	9000.39	73.16
Wind 270 deg - No Ice		-79954.52	26.23	-37.54	10202.07	45.42
Wind 300 deg - No Ice		-68708.32	-39649.09	-5091.40	8780.63	7.32
Wind 330 deg - No Ice		-39901.10	-69167.82	-8843.51	5112.32	-32.25
Member Ice	29121.79					
Total Weight Ice	165099.43			-114.47	126.93	
Wind 0 deg - Ice		49.27	-24795.33	-3239.62	124.78	-19.99
Wind 30 deg - Ice		11663.47	-20150.18	-2681.87	-1355.83	-18.35
Wind 60 deg - Ice		19716.55	-11399.34	-1571.72	-2392.06	-13.27
Wind 90 deg - Ice		23266.82	-40.44	-117.56	-2835.10	-5.44
Wind 120 deg - Ice		21476.37	12364.37	1448.00	-2576.70	4.89
Wind 150 deg - Ice		11604.77	20137.73	2453.23	-1351.62	13.48
Wind 180 deg - Ice		-13.68	22751.66	2796.57	128.29	18.06
Wind 210 deg - Ice		-11629.18	20159.35	2454.76	1607.85	18.67
Wind 240 deg - Ice		-21464.97	12414.68	1450.94	2831.36	15.09
Wind 270 deg - Ice		-23252.27	3.11	-114.48	3088.64	5.12
Wind 300 deg - Ice		-19685.64	-11365.70	-1569.14	2644.17	-4.80
Wind 330 deg - Ice		-11611.97	-20127.41	-2680.30	1606.71	-13.49
Total Weight	90122.57			-39.08	35.32	
Wind 0 deg - Service		82.37	-28256.44	-3578.88	-3.85	-22.34
Wind 30 deg - Service		13895.29	-23973.59	-3044.44	-1762.26	-26.48
Wind 60 deg - Service		23827.57	-13779.57	-1748.10	-3029.26	-24.40
Wind 90 deg - Service		27689.14	-67.91	-0.29	-3518.38	-16.21
Wind 120 deg - Service		24482.47	14072.18	1796.48	-3100.30	-2.98
Wind 150 deg - Service		13795.96	23949.71	3054.48	-1754.88	11.15
Wind 180 deg - Service		-25.57	27477.51	3504.97	2.68	21.87
Wind 210 deg - Service		-13841.40	23987.95	3057.40	1759.56	26.99
Wind 240 deg - Service		-24468.03	14158.96	1801.99	3102.14	25.31
Wind 270 deg - Service		-27665.92	9.08	5.57	3517.95	15.71
Wind 300 deg - Service		-23774.50	-13719.41	-1743.18	3026.10	2.53
Wind 330 deg - Service		-13806.61	-23933.50	-3041.48	1756.79	-11.16

Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice
3	Dead+Wind 30 deg - No Ice
4	Dead+Wind 60 deg - No Ice
5	Dead+Wind 90 deg - No Ice
6	Dead+Wind 120 deg - No Ice
7	Dead+Wind 150 deg - No Ice
8	Dead+Wind 180 deg - No Ice

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<i>Comb. No.</i>	<i>Description</i>
9	Dead+Wind 210 deg - No Ice
10	Dead+Wind 240 deg - No Ice
11	Dead+Wind 270 deg - No Ice
12	Dead+Wind 300 deg - No Ice
13	Dead+Wind 330 deg - No Ice
14	Dead+Ice+Temp
15	Dead+Wind 0 deg+Ice+Temp
16	Dead+Wind 30 deg+Ice+Temp
17	Dead+Wind 60 deg+Ice+Temp
18	Dead+Wind 90 deg+Ice+Temp
19	Dead+Wind 120 deg+Ice+Temp
20	Dead+Wind 150 deg+Ice+Temp
21	Dead+Wind 180 deg+Ice+Temp
22	Dead+Wind 210 deg+Ice+Temp
23	Dead+Wind 240 deg+Ice+Temp
24	Dead+Wind 270 deg+Ice+Temp
25	Dead+Wind 300 deg+Ice+Temp
26	Dead+Wind 330 deg+Ice+Temp
27	Dead+Wind 0 deg - Service
28	Dead+Wind 30 deg - Service
29	Dead+Wind 60 deg - Service
30	Dead+Wind 90 deg - Service
31	Dead+Wind 120 deg - Service
32	Dead+Wind 150 deg - Service
33	Dead+Wind 180 deg - Service
34	Dead+Wind 210 deg - Service
35	Dead+Wind 240 deg - Service
36	Dead+Wind 270 deg - Service
37	Dead+Wind 300 deg - Service
38	Dead+Wind 330 deg - Service

Maximum Member Forces

<i>Section No.</i>	<i>Elevation ft</i>	<i>Component Type</i>	<i>Condition</i>	<i>Gov. Load Comb.</i>	<i>Force lb</i>	<i>Major Axis Moment kip-ft</i>	<i>Minor Axis Moment kip-ft</i>
T1	240 - 220	Leg	Max Tension	12	955.52	0.01	-0.00
			Max. Compression	10	-3522.64	0.26	-0.04
			Max. Mx	8	147.48	0.37	0.01
			Max. My	5	-433.78	-0.02	-0.49
			Max. Vy	4	-222.36	0.00	-0.00
			Max. Vx	7	-304.96	-0.00	-0.00
		Diagonal	Max Tension	3	1457.83	0.00	0.00
			Max. Compression	3	-1558.19	0.00	0.00
			Max. Mx	26	317.60	0.06	0.00
			Max. My	10	-5.47	0.00	-0.00
			Max. Vy	26	-24.27	0.00	0.00
			Max. Vx	10	-0.04	0.00	0.00
		Horizontal	Max Tension	3	1058.33	-0.02	-0.00
			Max. Compression	2	-1042.22	-0.02	-0.00
			Max. Mx	25	40.85	-0.04	-0.00
			Max. My	2	-7.97	-0.02	0.00
			Max. Vy	25	-28.74	-0.04	-0.00
			Max. Vx	2	-0.48	-0.02	0.00
		Top Girt	Max Tension	12	327.71	-0.01	0.00
			Max. Compression	6	-349.33	-0.01	-0.00
			Max. Mx	21	-66.58	-0.03	-0.00
Max. My	2		67.33	-0.01	0.00		
Max. Vy	21		-25.56	-0.03	-0.00		

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft	
T2	220 - 200	Inner Bracing	Max. Vx	2	-0.20	-0.01	0.00	
			Max Tension	6	6.05	0.00	0.00	
			Max. Compression	6	-6.05	0.00	0.00	
			Max. Mx	14	-2.71	-0.03	0.00	
			Max. My	25	-3.18	0.00	0.00	
			Max. Vy	14	-18.28	0.00	0.00	
		Leg	Max. Vx	25	0.02	0.00	0.00	
			Max Tension	12	4959.54	-0.71	0.00	
			Max. Compression	10	-11060.14	0.60	-0.06	
			Max. Mx	8	4891.59	1.30	-0.01	
			Max. My	3	-2284.79	-0.05	1.39	
			Max. Vy	4	1014.93	-0.67	0.06	
			Diagonal	Max. Vx	13	-979.30	-0.04	0.55
				Max Tension	3	4289.59	0.00	0.00
				Max. Compression	3	-4435.50	0.00	0.00
				Max. Mx	26	1031.94	0.12	0.00
				Max. My	10	74.36	0.00	-0.00
				Max. Vy	26	-38.64	0.00	0.00
			Horizontal	Max. Vx	10	0.09	0.00	0.00
				Max Tension	8	2637.62	0.00	0.00
				Max. Compression	2	-2676.06	-0.02	-0.00
				Max. Mx	25	118.83	-0.05	-0.00
				Max. My	6	-6.67	-0.02	0.01
				Max. Vy	25	-32.88	-0.05	-0.00
Inner Bracing	Max. Vx	2	-0.90	-0.02	0.01			
	Max Tension	10	0.23	0.00	0.00			
	Max. Compression	25	-5.21	0.00	0.00			
	Max. Mx	14	-4.39	-0.04	0.00			
	Max. My	15	-3.55	0.00	-0.00			
	Max. Vy	14	20.74	0.00	0.00			
	Leg	Max. Vx	15	-0.02	0.00	0.00		
		Max Tension	12	16411.72	-0.28	-0.02		
		Max. Compression	10	-26834.08	0.72	-0.11		
		Max. Mx	8	15087.60	-0.80	-0.03		
		Max. My	11	-5693.46	-0.04	-0.68		
		Max. Vy	8	1430.41	-0.80	-0.03		
Diagonal		Max. Vx	5	-1397.48	-0.04	0.68		
		Max Tension	9	6795.99	0.00	0.00		
		Max. Compression	9	-6981.98	0.00	0.00		
		Max. Mx	26	1569.77	0.15	0.00		
		Max. My	10	288.53	0.00	-0.00		
		Max. Vy	26	-44.70	0.00	0.00		
Horizontal	Max. Vx	10	0.09	0.00	0.00			
	Max Tension	9	4565.39	0.00	0.00			
	Max. Compression	3	-4523.31	-0.03	-0.00			
	Max. Mx	25	232.11	-0.06	-0.00			
	Max. My	6	-6.67	-0.03	0.01			
	Max. Vy	25	-38.14	-0.06	-0.00			
Inner Bracing	Max. Vx	6	-1.10	-0.03	0.01			
	Max Tension	6	0.09	0.00	0.00			
	Max. Compression	25	-6.65	0.00	0.00			
	Max. Mx	14	-5.74	-0.07	0.00			
	Max. My	10	-0.20	0.00	-0.00			
	Max. Vy	14	32.76	0.00	0.00			
Leg	Max. Vx	10	0.04	0.00	0.00			
	Max Tension	12	33177.64	-0.87	-0.01			
	Max. Compression	2	-49190.84	2.36	0.15			
	Max. Mx	4	31715.18	-2.50	0.11			
	Max. My	13	-8384.19	-0.08	2.32			
	Max. Vy	4	971.82	-2.50	0.11			
T4	180 - 160	Leg	Max. Vx	7	949.34	-0.07	-2.32	

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft	
T5	160 - 140	Diagonal	Max Tension	9	10542.98	0.00	0.00	
			Max. Compression	9	-10804.89	0.00	0.00	
			Max. Mx	26	2546.37	0.18	0.00	
			Max. My	10	393.70	0.00	-0.00	
			Max. Vy	26	-50.65	0.00	0.00	
			Max. Vx	10	0.09	0.00	0.00	
			Horizontal	Max Tension	9	7586.05	0.00	0.00
				Max. Compression	9	-7526.19	-0.07	0.00
				Max. Mx	25	374.22	-0.12	-0.00
				Max. My	2	612.95	-0.06	0.02
		Max. Vy		25	-59.85	-0.12	-0.00	
		Max. Vx		2	-1.90	-0.05	0.02	
		Inner Bracing	Max Tension	6	1.06	0.00	0.00	
			Max. Compression	25	-8.74	0.00	0.00	
			Max. Mx	14	-7.24	-0.10	0.00	
			Max. My	2	0.86	0.00	-0.00	
			Max. Vy	14	43.74	0.00	0.00	
			Max. Vx	2	0.05	0.00	0.00	
		Leg	Max Tension	12	56920.64	-0.83	-0.01	
			Max. Compression	2	-79037.92	-0.08	0.01	
			Max. Mx	4	43259.87	-2.50	0.11	
			Max. My	13	-8901.37	-0.08	2.32	
			Max. Vy	4	-803.56	-2.50	0.11	
			Max. Vx	5	776.71	-0.06	2.29	
			Diagonal	Max Tension	9	13840.56	0.00	0.00
				Max. Compression	9	-14285.43	0.00	0.00
				Max. Mx	26	3313.00	0.36	0.00
				Max. My	15	-172.58	0.00	0.02
				Max. Vy	26	-94.45	0.00	0.00
			Horizontal	Max. Vx	15	-4.61	0.00	0.00
				Max Tension	9	10593.15	0.00	0.00
				Max. Compression	9	-10414.40	-0.08	-0.00
Max. Mx	25			537.16	-0.15	-0.01		
Max. My	6			1280.28	-0.07	0.02		
Inner Bracing	Max. Vy	25	-67.13	-0.15	-0.01			
	Max. Vx	10	-2.06	-0.07	0.02			
	Max Tension	1	0.00	0.00	0.00			
	Max. Compression	25	-12.35	0.00	0.00			
	Max. Mx	14	-10.65	-0.17	0.00			
	Max. My	2	-1.10	0.00	-0.00			
T6	140 - 120	Leg	Max. Vy	14	-63.66	0.00	0.00	
			Max. Vx	2	0.09	0.00	0.00	
			Max Tension	12	84533.47	-0.57	0.00	
			Max. Compression	2	-112204.58	-0.24	0.21	
			Max. Mx	21	1586.09	-0.86	-0.07	
			Max. My	11	-13786.87	-0.44	-2.74	
		Diagonal	Max. Vy	8	225.63	-0.57	-0.01	
			Max. Vx	5	-402.52	-0.43	2.74	
			Max Tension	9	14406.54	0.00	0.00	
			Max. Compression	9	-14852.60	0.00	0.00	
			Max. Mx	26	3432.12	0.31	0.00	
			Max. My	10	583.26	0.00	-0.00	
		Horizontal	Max. Vy	26	-77.63	0.00	0.00	
			Max. Vx	10	0.09	0.00	0.00	
			Max Tension	9	11558.97	0.00	0.00	
			Max. Compression	9	-11282.97	-0.11	-0.00	
Max. Mx	25		698.44	-0.18	-0.01			
Max. My	6		634.19	-0.09	0.02			
Inner Bracing	Max. Vy	25	-74.24	-0.18	-0.01			
	Max. Vx	10	-1.74	-0.09	0.02			
	Max Tension	1	0.00	0.00	0.00			

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft	
T7	120 - 100	Leg	Max. Compression	17	-11.55	0.00	0.00	
			Max. Mx	14	-10.09	-0.21	0.00	
			Max. My	2	-1.37	0.00	-0.00	
			Max. Vy	14	70.34	0.00	0.00	
			Max. Vx	2	0.09	0.00	0.00	
			Max Tension	12	97216.17	-0.60	-0.03	
			Max. Compression	2	-128430.43	-2.62	0.28	
			Max. Mx	2	-127920.77	3.12	-0.20	
			Max. My	5	-15764.78	-0.83	3.40	
			Max. Vy	2	703.36	3.12	-0.20	
			Max. Vx	5	-693.84	-0.83	3.40	
			Max Tension	3	21475.84	0.00	0.00	
		Diagonal	Max. Compression	9	-22122.97	0.00	0.00	
			Max. Mx	23	-250.14	-0.20	0.00	
			Max. My	10	18427.42	-0.09	0.06	
			Max. Vy	23	-83.19	-0.20	0.00	
			Max. Vx	9	-7.31	-0.11	0.06	
			Max Tension	9	12268.62	0.00	0.00	
			Horizontal	Max. Compression	9	-12322.84	-0.12	-0.00
				Max. Mx	25	-772.45	-0.21	-0.01
				Max. My	10	1578.22	-0.10	0.02
				Max. Vy	25	77.85	-0.21	-0.01
				Max. Vx	10	-1.62	-0.10	0.02
				Max Tension	2	2228.82	0.00	0.00
		Redund Horz 1 Bracing	Max. Compression	2	-2228.82	0.00	0.00	
			Max. Mx	14	429.43	0.03	0.00	
			Max. My	3	82.11	0.00	0.00	
			Max. Vy	14	-17.78	0.00	0.00	
			Max. Vx	3	-0.00	0.00	0.00	
			Max Tension	2	2036.08	0.00	0.00	
		Redund Diag 1 Bracing	Max. Compression	2	-2036.08	0.00	0.00	
			Max. Mx	26	914.52	0.05	0.00	
Max. My	9		1768.96	0.00	-0.00			
Max. Vy	26		-16.08	0.00	0.00			
Max. Vx	9		0.04	0.00	0.00			
Max Tension	1		0.00	0.00	0.00			
Redund Hip 1 Bracing	Max. Compression	9	-35.56	0.00	0.00			
	Max. Mx	14	-13.70	0.03	0.00			
	Max. My	9	-7.08	0.00	-0.00			
	Max. Vy	14	-17.78	0.00	0.00			
	Max. Vx	9	0.00	0.00	0.00			
	Max Tension	9	76.33	0.00	0.00			
Redund Hip Diagonal Bracing	Max. Compression	17	-56.23	0.00	0.00			
	Max. Mx	15	50.65	0.21	0.00			
	Max. My	5	25.92	0.00	0.00			
	Max. Vy	15	-55.08	0.00	0.00			
	Max. Vx	5	-0.06	0.00	0.00			
	Max Tension	9	1.36	0.00	0.00			
	Max. Compression	9	-18.36	0.00	0.00			
	Max. Mx	14	-10.12	0.14	0.00			
	Max. My	2	-1.78	0.00	0.00			
	Max. Vy	14	-44.62	0.00	0.00			
Inner Bracing	Max. Vx	2	0.06	0.00	0.00			
	Max Tension	12	123663.84	0.95	-0.04			
	Max. Compression	2	-160393.53	-2.35	0.45			
	Max. Mx	2	-159924.46	3.36	-0.31			
	Max. My	5	-18318.89	-0.97	4.83			
	Max. Vy	14	-44.62	0.00	0.00			
T8	100 - 80	Leg	Max. Compression	17	-11.55	0.00	0.00	
			Max. Mx	14	-10.09	-0.21	0.00	
			Max. My	2	-1.37	0.00	-0.00	
			Max. Vy	14	70.34	0.00	0.00	
			Max. Vx	2	0.09	0.00	0.00	
			Max Tension	12	97216.17	-0.60	-0.03	
			Max. Compression	2	-128430.43	-2.62	0.28	
			Max. Mx	2	-127920.77	3.12	-0.20	
			Max. My	5	-15764.78	-0.83	3.40	
			Max. Vy	2	703.36	3.12	-0.20	
			Max. Vx	5	-693.84	-0.83	3.40	
			Max Tension	3	21475.84	0.00	0.00	

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	2	-682.10	3.36	-0.31
			Max. Vx	5	-917.22	-0.97	4.83
		Diagonal	Max Tension	3	21403.87	0.00	0.00
			Max. Compression	9	-22007.50	0.00	0.00
			Max. Mx	23	-371.96	-0.14	-0.01
			Max. My	4	-18407.64	-0.10	-0.08
			Max. Vy	23	-56.91	-0.14	-0.01
			Max. Vx	4	-6.53	0.00	0.00
		Horizontal	Max Tension	9	12986.67	0.00	0.00
			Max. Compression	9	-13118.39	-0.19	0.00
			Max. Mx	25	-925.68	-0.31	-0.01
			Max. My	6	1311.74	-0.15	0.03
			Max. Vy	25	106.19	-0.31	-0.01
			Max. Vx	10	-2.24	-0.15	0.03
		Redund Horz 1 Bracing	Max Tension	2	2784.18	0.00	0.00
			Max. Compression	2	-2784.18	0.00	0.00
			Max. Mx	14	501.93	0.03	0.00
			Max. My	10	2774.42	0.00	0.00
			Max. Vy	14	-19.23	0.00	0.00
			Max. Vx	10	-0.00	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	2	2374.33	0.00	0.00
			Max. Compression	2	-2374.33	0.00	0.00
			Max. Mx	26	1034.44	0.06	0.00
			Max. My	9	2058.47	0.00	-0.00
			Max. Vy	26	-21.93	0.00	0.00
			Max. Vx	9	0.04	0.00	0.00
		Redund Hip 1 Bracing	Max Tension	1	0.00	0.00	0.00
			Max. Compression	9	-43.59	0.00	0.00
			Max. Mx	14	-10.49	0.03	0.00
			Max. My	2	-33.53	0.00	-0.00
			Max. Vy	14	19.23	0.00	0.00
			Max. Vx	2	0.00	0.00	0.00
		Redund Hip Diagonal Bracing	Max Tension	9	92.42	0.00	0.00
			Max. Compression	18	-57.68	0.00	0.00
			Max. Mx	15	52.08	0.24	0.00
			Max. My	2	39.06	0.00	0.00
			Max. Vy	15	59.75	0.00	0.00
			Max. Vx	2	-0.05	0.00	0.00
		Inner Bracing	Max Tension	9	2.38	0.00	0.00
			Max. Compression	9	-24.93	0.00	0.00
			Max. Mx	14	-12.19	0.29	0.00
			Max. My	2	-3.48	0.00	0.00
			Max. Vy	14	-83.56	0.00	0.00
			Max. Vx	2	-0.11	0.00	0.00
T9	80 - 60	Leg	Max Tension	12	149297.20	0.43	-0.05
			Max. Compression	2	-191896.55	-1.38	0.59
			Max. Mx	2	-191303.90	3.65	-0.49
			Max. My	5	-21124.24	-1.26	7.70
			Max. Vy	2	-693.54	3.65	-0.49
			Max. Vx	5	-1349.56	-1.26	7.70
		Diagonal	Max Tension	3	22550.27	0.00	0.00
			Max. Compression	3	-23093.80	-0.11	-0.07
			Max. Mx	22	-3482.99	-0.15	-0.02
			Max. My	4	-18989.30	-0.12	-0.07
			Max. Vy	23	-60.93	-0.15	-0.01
			Max. Vx	10	5.75	0.00	0.00
		Horizontal	Max Tension	9	14474.70	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	9	-14424.44	-0.23	-0.00
			Max. Mx	25	-1080.43	-0.36	-0.01
			Max. My	6	906.28	-0.20	0.03
			Max. Vy	25	114.12	-0.36	-0.01
			Max. Vx	10	-1.97	-0.20	0.03
		Redund Horz 1 Bracing	Max Tension	2	3330.22	0.00	0.00
			Max. Compression	2	-3330.22	0.00	0.00
			Max. Mx	14	575.61	0.04	0.00
			Max. My	11	2878.32	0.00	-0.00
			Max. Vy	14	-20.66	0.00	0.00
			Max. Vx	11	0.00	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	2	2676.38	0.00	0.00
			Max. Compression	2	-2676.38	0.00	0.00
			Max. Mx	26	1145.09	0.07	0.00
			Max. My	9	2316.76	0.00	-0.00
			Max. Vy	26	-23.93	0.00	0.00
			Max. Vx	9	0.04	0.00	0.00
		Redund Hip 1 Bracing	Max Tension	1	0.00	0.00	0.00
			Max. Compression	9	-40.65	0.00	0.00
			Max. Mx	14	-10.49	0.04	0.00
			Max. Vy	14	-20.66	0.00	0.00
			Max. Vx	2	0.00	0.00	0.00
		Redund Hip Diagonal Bracing	Max Tension	9	96.29	0.00	0.00
			Max. Compression	18	-69.22	0.00	0.00
			Max. Mx	15	61.97	0.34	0.00
			Max. My	2	49.31	0.00	0.00
			Max. Vy	15	-80.51	0.00	0.00
			Max. Vx	2	-0.05	0.00	0.00
		Inner Bracing	Max Tension	9	2.21	0.00	0.00
			Max. Compression	9	-25.10	0.00	0.00
			Max. Mx	14	-12.20	0.34	0.00
			Max. My	2	-4.95	0.00	0.00
			Max. Vy	14	-90.35	0.00	0.00
			Max. Vx	2	-0.10	0.00	0.00
T10	60 - 30	Leg	Max Tension	12	175513.84	-1.03	-0.06
			Max. Compression	2	-224225.90	-1.59	1.27
			Max. Mx	2	-223650.11	5.56	-0.64
			Max. My	5	-24665.52	-1.96	13.41
			Max. Vy	2	795.87	5.56	-0.64
			Max. Vx	5	-1966.27	-1.96	13.41
		Diagonal	Max Tension	9	29811.77	0.00	0.00
			Max. Compression	9	-30337.89	-0.11	0.07
			Max. Mx	3	-30185.76	-0.12	0.10
			Max. My	3	-29929.26	0.01	-0.17
			Max. Vy	16	44.09	-0.10	0.03
			Max. Vx	3	23.38	0.01	-0.17
		Horizontal	Max Tension	9	15586.32	0.00	0.00
			Max. Compression	9	-15633.84	-0.27	0.00
			Max. Mx	25	-1254.06	-0.42	-0.01
			Max. My	6	1084.61	-0.22	0.03
			Max. Vy	25	121.20	-0.42	-0.01
			Max. Vx	10	-1.83	-0.22	0.03
		Redund Horz 1 Bracing	Max Tension	2	3891.27	0.00	0.00
			Max. Compression	2	-3891.27	0.00	0.00
			Max. Mx	14	797.93	0.02	0.00
			Max. Vy	14	-14.41	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Redund Horz 2 Bracing	Max. Vx	2	0.00	0.00	0.00
			Max Tension	2	3891.27	0.00	0.00
		Redund Horz 2 Bracing	Max. Compression	2	-3891.27	0.00	0.00
			Max. Mx	14	797.93	0.10	0.00
			Max. My	2	3891.27	0.00	0.00
			Max. Vy	14	-36.42	0.00	0.00
			Max. Vx	2	-0.00	0.00	0.00
			Max Tension	2	3953.55	0.00	0.00
		Redund Diag 1 Bracing	Max. Compression	2	-3953.55	0.00	0.00
			Max. Mx	22	1652.62	0.04	0.00
			Max. My	9	3418.69	0.00	-0.00
			Max. Vy	22	-12.82	0.00	0.00
			Max. Vx	9	-0.02	0.00	0.00
			Max Tension	2	2555.50	0.00	0.00
		Redund Diag 2 Bracing	Max. Compression	2	-2555.50	0.00	0.00
			Max. Mx	15	1206.87	0.12	0.00
			Max. My	3	2219.07	0.00	0.00
			Max. Vy	15	-34.38	0.00	0.00
			Max. Vx	3	-0.03	0.00	0.00
			Max Tension	9	9.64	0.00	0.00
		Redund Hip 1 Bracing	Max. Compression	9	-102.97	0.00	0.00
			Max. Mx	14	-6.02	0.02	0.00
			Max. Vy	14	-14.41	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Redund Hip 2 Bracing	Max Tension	4	14.41	0.00	0.00
			Max. Compression	4	-48.30	0.00	0.00
			Max. Mx	14	-10.85	0.08	0.00
			Max. My	10	-28.50	0.00	0.00
			Max. Vy	14	-28.82	0.00	0.00
		Redund Hip Diagonal Bracing	Max. Vx	10	-0.00	0.00	0.00
			Max Tension	9	226.10	0.00	0.00
			Max. Compression	5	-90.86	0.00	0.00
			Max. Mx	15	56.67	0.38	0.00
			Max. My	5	6.45	0.00	0.00
		Inner Bracing	Max. Vy	15	-85.82	0.00	0.00
			Max. Vx	5	-0.06	0.00	0.00
			Max Tension	8	14.18	0.00	0.00
			Max. Compression	4	-35.36	0.00	0.00
			Max. Mx	14	-11.08	0.39	0.00
		Leg	Max. My	2	2.02	0.00	0.00
			Max. Vy	14	95.63	0.00	0.00
			Max. Vx	2	-0.09	0.00	0.00
T11	30 - 0		Max Tension	12	212582.12	-2.34	-0.13
			Max. Compression	2	-271016.85	-0.00	0.00
			Max. Mx	2	-270370.42	9.32	-0.42
			Max. My	5	-27309.32	-1.96	13.40
			Max. Vy	2	1020.40	9.32	-0.42
			Max. Vx	5	1745.01	-1.96	13.40
			Max Tension	9	30768.77	-0.23	0.16
		Diagonal	Max. Compression	9	-32228.63	0.00	0.00
			Max. Mx	4	23658.10	-0.27	0.12
			Max. My	3	-31191.28	0.08	-0.18
			Max. Vy	22	87.40	-0.20	0.00
			Max. Vx	3	25.63	-0.20	0.10
		Horizontal	Max Tension	9	16904.32	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	9	-17681.58	-0.40	0.00
			Max. Mx	25	1532.07	-0.57	-0.01
			Max. My	6	1833.97	-0.33	0.04
			Max. Vy	25	-154.52	-0.57	-0.01
			Max. Vx	10	-2.26	-0.33	0.04
		Redund Horz 1 Bracing	Max Tension	2	4703.30	0.00	0.00
			Max. Compression	2	-4703.30	0.00	0.00
			Max. Mx	21	1499.20	0.02	0.00
			Max. Vy	21	15.69	0.00	0.00
			Max. Vx	2	0.00	0.00	0.00
		Redund Horz 2 Bracing	Max Tension	2	4703.30	0.00	0.00
			Max. Compression	2	-4703.30	0.00	0.00
			Max. Mx	18	1826.78	0.12	0.00
			Max. Vy	18	-39.75	0.00	0.00
			Max. Vx	3	-0.00	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	2	4399.14	0.00	0.00
			Max. Compression	2	-4399.14	0.00	0.00
			Max. Mx	15	2060.36	0.07	0.00
			Max. My	16	350.32	0.00	0.00
			Max. Vy	15	-23.10	0.00	0.00
			Max. Vx	16	1.75	0.00	0.00
		Redund Diag 2 Bracing	Max Tension	2	2949.97	0.00	0.00
			Max. Compression	2	-2949.97	0.00	0.00
			Max. Mx	15	1381.64	0.18	0.00
			Max. My	22	518.12	0.00	-0.01
			Max. Vy	15	46.60	0.00	0.00
			Max. Vx	22	-2.23	0.00	0.00
		Redund Hip 1 Bracing	Max Tension	9	5.52	0.00	0.00
			Max. Compression	9	-91.20	0.00	0.00
			Max. Mx	14	-11.39	0.02	0.00
			Max. Vy	14	-15.69	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
		Redund Hip 2 Bracing	Max Tension	4	3.55	0.00	0.00
			Max. Compression	4	-34.26	0.00	0.00
			Max. Mx	14	-18.22	0.12	0.00
			Max. Vy	14	-39.75	0.00	0.00
			Max. Vx	10	-0.00	0.00	0.00
		Redund Hip Diagonal Bracing	Max Tension	9	166.04	0.00	0.00
			Max. Compression	5	-78.82	0.00	0.00
			Max. Mx	24	56.29	0.45	0.00
			Max. My	2	25.44	0.00	0.00
			Max. Vy	24	-94.01	0.00	0.00
			Max. Vx	2	-0.03	0.00	0.00
		Inner Bracing	Max Tension	11	8.17	0.00	0.00
			Max. Compression	3	-29.22	0.00	0.00
			Max. Mx	14	-14.88	0.48	0.00
			Max. My	2	5.34	0.00	0.00
			Max. Vy	14	-104.96	0.00	0.00
			Max. Vx	2	-0.06	0.00	0.00

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Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg C	Max. Vert	10	315426.57	40748.64	-24749.58
	Max. H _x	10	315426.57	40748.64	-24749.58
	Max. H _z	3	-212341.56	-28224.37	22862.23
	Min. Vert	4	-248097.47	-35459.24	21635.38
	Min. H _x	4	-248097.47	-35459.24	21635.38
	Min. H _z	9	272979.03	32620.48	-25270.14
Leg B	Max. Vert	6	313317.01	-41161.97	-23873.39
	Max. H _x	12	-249411.71	35843.83	20802.63
	Max. H _z	13	-213575.00	28893.05	21447.57
	Min. Vert	12	-249411.71	35843.83	20802.63
	Min. H _x	6	313317.01	-41161.97	-23873.39
	Min. H _z	6	313317.01	-41161.97	-23873.39
Leg A	Max. Vert	2	316142.06	-965.88	47657.57
	Max. H _x	11	31118.50	9692.89	2673.67
	Max. H _z	2	316142.06	-965.88	47657.57
	Min. Vert	8	-247286.89	913.81	-41448.33
	Min. H _x	5	31603.68	-9760.16	2789.45
	Min. H _z	8	-247286.89	913.81	-41448.33

Tower Mast Reaction Summary

Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	90122.57	0.00	0.00	-39.10	35.31	0.00
Dead+Wind 0 deg - No Ice	90122.57	238.07	-81660.36	-9992.60	24.14	-64.61
Dead+Wind 30 deg - No Ice	90122.57	40157.08	-69283.01	-8511.65	-4861.08	-76.59
Dead+Wind 60 deg - No Ice	90122.57	68861.11	-39822.59	-4911.00	-8381.95	-70.60
Dead+Wind 90 deg - No Ice	90122.57	80020.92	-196.26	-54.58	-9739.68	-46.92
Dead+Wind 120 deg - No Ice	90122.57	70753.70	40668.22	4936.11	-8574.66	-8.63
Dead+Wind 150 deg - No Ice	90122.57	39869.96	69214.04	8433.30	-4839.70	32.24
Dead+Wind 180 deg - No Ice	90122.57	-73.89	79409.33	9686.17	43.08	63.26
Dead+Wind 210 deg - No Ice	90122.57	-40001.25	69324.61	8441.72	4923.86	78.06
Dead+Wind 240 deg - No Ice	90122.57	-70711.93	40919.05	4952.03	8650.55	73.23
Dead+Wind 270 deg - No Ice	90122.57	-79953.80	26.22	-37.64	9808.95	45.48
Dead+Wind 300 deg - No Ice	90122.57	-68707.74	-39648.76	-4896.68	8443.23	7.34
Dead+Wind 330 deg - No Ice	90122.57	-39900.76	-69167.20	-8503.05	4915.79	-32.26
Dead+Ice+Temp	165099.43	0.04	0.04	-114.55	126.99	0.00
Dead+Wind 0 deg+Ice+Temp	165099.43	49.29	-24794.92	-3112.60	125.07	-20.04
Dead+Wind 30 deg+Ice+Temp	165099.43	11663.31	-20149.84	-2581.20	-1297.25	-18.42
Dead+Wind 60 deg+Ice+Temp	165099.43	19716.25	-11399.13	-1515.52	-2293.90	-13.34
Dead+Wind 90 deg+Ice+Temp	165099.43	23266.47	-40.42	-117.81	-2718.12	-5.49
Dead+Wind 120 deg+Ice+Temp	165099.43	21476.06	12364.19	1384.07	-2466.12	4.87
Dead+Wind 150 deg+Ice+Temp	165099.43	11604.61	20137.42	2351.91	-1292.97	13.50
Dead+Wind 180 deg+Ice+Temp	165099.43	-13.66	22751.31	2683.31	128.61	18.11
Dead+Wind 210 deg+Ice+Temp	165099.43	-11628.97	20159.04	2353.54	1549.88	18.74
Dead+Wind 240 deg+Ice+Temp	165099.43	-21464.62	12414.50	1387.02	2721.41	15.17
Dead+Wind 270 deg+Ice+Temp	165099.43	-23251.88	3.12	-114.74	2972.26	5.17
Dead+Wind 300 deg+Ice+Temp	165099.43	-19685.31	-11365.50	-1512.92	2546.61	-4.78
Dead+Wind 330 deg+Ice+Temp	165099.43	-11611.77	-20127.07	-2579.55	1548.64	-13.50
Dead+Wind 0 deg - Service	90122.57	82.38	-28256.19	-3483.25	31.47	-22.36
Dead+Wind 30 deg - Service	90122.57	13895.17	-23973.37	-2970.81	-1658.91	-26.50
Dead+Wind 60 deg - Service	90122.57	23827.37	-13779.45	-1724.90	-2877.22	-24.43
Dead+Wind 90 deg - Service	90122.57	27688.90	-67.91	-44.47	-3347.01	-16.24

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Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead+Wind 120 deg - Service	90122.57	24482.26	14072.05	1682.40	-2943.88	-2.99
Dead+Wind 150 deg - Service	90122.57	13795.84	23949.50	2892.50	-1651.52	11.15
Dead+Wind 180 deg - Service	90122.57	-25.57	27477.27	3326.03	38.04	21.89
Dead+Wind 210 deg - Service	90122.57	-13841.27	23987.75	2895.43	1726.89	27.01
Dead+Wind 240 deg - Service	90122.57	-24467.80	14158.84	1687.92	3016.41	25.34
Dead+Wind 270 deg - Service	90122.57	-27665.67	9.08	-38.60	3417.24	15.73
Dead+Wind 300 deg - Service	90122.57	-23774.30	-13719.29	-1719.99	2944.74	2.53
Dead+Wind 330 deg - Service	90122.57	-13806.49	-23933.28	-2967.85	1724.10	-11.16

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
1	-0.00	-90122.57	-0.00	-0.00	90122.57	-0.00	0.000%
2	238.06	-90122.57	-81661.12	-238.07	90122.57	81660.36	0.001%
3	40157.39	-90122.57	-69283.68	-40157.08	90122.57	69283.01	0.001%
4	68861.68	-90122.57	-39822.97	-68861.11	90122.57	39822.59	0.001%
5	80021.61	-90122.57	-196.26	-80020.92	90122.57	196.26	0.001%
6	70754.34	-90122.57	40668.60	-70753.70	90122.57	-40668.22	0.001%
7	39870.33	-90122.57	69214.65	-39869.96	90122.57	-69214.04	0.001%
8	-73.91	-90122.57	79410.00	73.89	90122.57	-79409.33	0.001%
9	-40001.65	-90122.57	69325.18	40001.25	90122.57	-69324.61	0.001%
10	-70712.60	-90122.57	40919.38	70711.93	90122.57	-40919.05	0.001%
11	-79954.52	-90122.57	26.23	79953.80	90122.57	-26.22	0.001%
12	-68708.32	-90122.57	-39649.09	68707.74	90122.57	39648.76	0.001%
13	-39901.10	-90122.57	-69167.82	39900.76	90122.57	69167.20	0.001%
14	-0.00	-165099.43	-0.00	-0.04	165099.43	-0.04	0.000%
15	49.27	-165099.43	-24795.33	-49.29	165099.43	24794.92	0.000%
16	11663.47	-165099.43	-20150.18	-11663.31	165099.43	20149.84	0.000%
17	19716.55	-165099.43	-11399.34	-19716.25	165099.43	11399.13	0.000%
18	23266.82	-165099.43	-40.44	-23266.47	165099.43	40.42	0.000%
19	21476.37	-165099.43	12364.37	-21476.06	165099.43	-12364.19	0.000%
20	11604.77	-165099.43	20137.73	-11604.61	165099.43	-20137.42	0.000%
21	-13.68	-165099.43	22751.66	13.66	165099.43	-22751.31	0.000%
22	-11629.18	-165099.43	20159.35	11628.97	165099.43	-20159.04	0.000%
23	-21464.97	-165099.43	12414.68	21464.62	165099.43	-12414.50	0.000%
24	-23252.27	-165099.43	3.11	23251.88	165099.43	-3.12	0.000%
25	-19685.64	-165099.43	-11365.70	19685.31	165099.43	11365.50	0.000%
26	-11611.97	-165099.43	-20127.41	11611.77	165099.43	20127.07	0.000%
27	82.37	-90122.57	-28256.44	-82.38	90122.57	28256.19	0.000%
28	13895.29	-90122.57	-23973.59	-13895.17	90122.57	23973.37	0.000%
29	23827.57	-90122.57	-13779.57	-23827.37	90122.57	13779.45	0.000%
30	27689.14	-90122.57	-67.91	-27688.90	90122.57	67.91	0.000%
31	24482.47	-90122.57	14072.18	-24482.26	90122.57	-14072.05	0.000%
32	13795.96	-90122.57	23949.71	-13795.84	90122.57	-23949.50	0.000%
33	-25.57	-90122.57	27477.51	25.57	90122.57	-27477.27	0.000%
34	-13841.40	-90122.57	23987.95	13841.27	90122.57	-23987.75	0.000%
35	-24468.03	-90122.57	14158.96	24467.80	90122.57	-14158.84	0.000%
36	-27665.92	-90122.57	9.08	27665.67	90122.57	-9.08	0.000%
37	-23774.50	-90122.57	-13719.41	23774.30	90122.57	13719.29	0.000%
38	-13806.61	-90122.57	-23933.50	13806.49	90122.57	23933.28	0.000%

Non-Linear Convergence Results

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<i>Load Combination</i>	<i>Converged?</i>	<i>Number of Cycles</i>	<i>Displacement Tolerance</i>	<i>Force Tolerance</i>
1	Yes	6	0.0000001	0.0000001
2	Yes	7	0.0000001	0.00008755
3	Yes	7	0.0000001	0.00008364
4	Yes	7	0.0000001	0.00007581
5	Yes	7	0.0000001	0.00007991
6	Yes	7	0.0000001	0.00008692
7	Yes	7	0.0000001	0.00008228
8	Yes	7	0.0000001	0.00007527
9	Yes	7	0.0000001	0.00008065
10	Yes	7	0.0000001	0.00008714
11	Yes	7	0.0000001	0.00008212
12	Yes	7	0.0000001	0.00007515
13	Yes	7	0.0000001	0.00008010
14	Yes	6	0.0000001	0.00001465
15	Yes	7	0.0000001	0.00010837
16	Yes	7	0.0000001	0.00010420
17	Yes	7	0.0000001	0.00009944
18	Yes	7	0.0000001	0.00009838
19	Yes	7	0.0000001	0.00010121
20	Yes	7	0.0000001	0.00009822
21	Yes	7	0.0000001	0.00009803
22	Yes	7	0.0000001	0.00010201
23	Yes	7	0.0000001	0.00010686
24	Yes	7	0.0000001	0.00010433
25	Yes	7	0.0000001	0.00010301
26	Yes	7	0.0000001	0.00010487
27	Yes	7	0.0000001	0.00007630
28	Yes	7	0.0000001	0.00007478
29	Yes	7	0.0000001	0.00007208
30	Yes	7	0.0000001	0.00007321
31	Yes	7	0.0000001	0.00007550
32	Yes	7	0.0000001	0.00007394
33	Yes	7	0.0000001	0.00007189
34	Yes	7	0.0000001	0.00007375
35	Yes	7	0.0000001	0.00007603
36	Yes	7	0.0000001	0.00007417
37	Yes	7	0.0000001	0.00007175
38	Yes	7	0.0000001	0.00007366

Maximum Tower Deflections - Service Wind

<i>Section No.</i>	<i>Elevation ft</i>	<i>Horz. Deflection in</i>	<i>Gov. Load Comb.</i>	<i>Tilt °</i>	<i>Twist °</i>
T1	240 - 220	2.526	27	0.0606	0.0246
T2	220 - 200	2.265	27	0.0608	0.0241
T3	200 - 180	1.996	27	0.0606	0.0229
T4	180 - 160	1.715	27	0.0597	0.0210
T5	160 - 140	1.430	27	0.0575	0.0187
T6	140 - 120	1.160	27	0.0532	0.0168
T7	120 - 100	0.899	27	0.0473	0.0144
T8	100 - 80	0.681	27	0.0400	0.0123
T9	80 - 60	0.482	27	0.0318	0.0099
T10	60 - 30	0.310	35	0.0247	0.0075
T11	30 - 0	0.090	31	0.0135	0.0029

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Critical Deflections and Radius of Curvature - Service Wind

<i>Elevation</i>	<i>Appurtenance</i>	<i>Gov. Load</i>	<i>Deflection</i>	<i>Tilt</i>	<i>Twist</i>	<i>Radius of Curvature</i>
<i>ft</i>		<i>Comb.</i>	<i>in</i>	<i>°</i>	<i>°</i>	<i>ft</i>
240.00	5/8"x8' Lighting Rod	27	2.526	0.0606	0.0246	Inf
235.00	3' Dia 8' Omni	27	2.461	0.0607	0.0245	Inf
230.00	3' Dia 8' Omni	27	2.396	0.0607	0.0244	960882
223.00	4' Dia 12' Omni	27	2.305	0.0608	0.0242	566540
212.00	(2) HBX-6516DS-VTM	27	2.159	0.0608	0.0237	434378
202.00	AIR21 B2A/B4P	27	2.023	0.0607	0.0230	388267
196.00	3' Yagi	27	1.941	0.0605	0.0225	381186
187.00	VHLPX800-11	27	1.815	0.0602	0.0217	380068
180.60	10' Sector Frames	27	1.724	0.0598	0.0210	419325
174.00	(2) 950F65T4E-M	27	1.629	0.0592	0.0203	Inf
164.00	4" Dia 20' Omni	27	1.486	0.0581	0.0191	216698
155.00	BXA-80063/6	27	1.361	0.0566	0.0182	241882
140.00	Small Light	27	1.160	0.0532	0.0168	525756
137.00	1.5' Dia 8' Omni	27	1.120	0.0524	0.0165	Inf
132.00	2' Side Arm Mount	27	1.053	0.0510	0.0159	240394
118.00	2' Side Arm Mount	27	0.875	0.0466	0.0142	78952
108.00	3' Dia 10' Omni	27	0.764	0.0431	0.0131	172541
99.00	3' Yagi	27	0.671	0.0396	0.0122	917816
80.00	Side Arm Mount	27	0.482	0.0318	0.0099	130303
22.00	3' dish w/o radome	31	0.055	0.0101	0.0019	73347
20.00	GPS	31	0.048	0.0092	0.0017	80681
8.00	GPS	31	0.016	0.0037	0.0006	201703

Maximum Tower Deflections - Design Wind

<i>Section No.</i>	<i>Elevation</i>	<i>Horz. Deflection</i>	<i>Gov. Load</i>	<i>Tilt</i>	<i>Twist</i>
	<i>ft</i>	<i>in</i>	<i>Comb.</i>	<i>°</i>	<i>°</i>
T1	240 - 220	7.245	2	0.1733	0.0712
T2	220 - 200	6.500	2	0.1737	0.0696
T3	200 - 180	5.730	2	0.1733	0.0661
T4	180 - 160	4.926	2	0.1707	0.0605
T5	160 - 140	4.108	2	0.1643	0.0541
T6	140 - 120	3.337	2	0.1520	0.0486
T7	120 - 100	2.587	2	0.1352	0.0416
T8	100 - 80	1.963	2	0.1144	0.0354
T9	80 - 60	1.391	2	0.0908	0.0283
T10	60 - 30	0.894	10	0.0706	0.0214
T11	30 - 0	0.258	6	0.0386	0.0082

Critical Deflections and Radius of Curvature - Design Wind

<i>Elevation</i>	<i>Appurtenance</i>	<i>Gov. Load</i>	<i>Deflection</i>	<i>Tilt</i>	<i>Twist</i>	<i>Radius of Curvature</i>
<i>ft</i>		<i>Comb.</i>	<i>in</i>	<i>°</i>	<i>°</i>	<i>ft</i>
240.00	5/8"x8' Lighting Rod	2	7.245	0.1733	0.0712	676147
235.00	3' Dia 8' Omni	2	7.060	0.1734	0.0709	676147

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Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
230.00	3' Dia 8' Omni	2	6.874	0.1736	0.0705	338074
223.00	4' Dia 12' Omni	2	6.613	0.1737	0.0699	199336
212.00	(2) HBX-6516DS-VTM	2	6.196	0.1737	0.0684	153714
202.00	AIR21 B2A/B4P	2	5.808	0.1734	0.0665	137753
196.00	3' Yagi	2	5.572	0.1730	0.0651	135274
187.00	VHLPX800-11	2	5.212	0.1719	0.0627	135153
180.60	10' Sector Frames	2	4.951	0.1708	0.0607	149752
174.00	(2) 950F65T4E-M	2	4.679	0.1693	0.0586	Inf
164.00	4" Dia 20' Omni	2	4.269	0.1660	0.0553	75685
155.00	BXA-80063/6	2	3.912	0.1618	0.0527	85026
140.00	Small Light	2	3.337	0.1520	0.0486	193404
137.00	1.5' Dia 8' Omni	2	3.221	0.1497	0.0476	Inf
132.00	2' Side Arm Mount	2	3.028	0.1458	0.0459	85446
118.00	2' Side Arm Mount	2	2.519	0.1333	0.0409	27509
108.00	3' Dia 10' Omni	2	2.202	0.1232	0.0379	60798
99.00	3' Yagi	2	1.933	0.1132	0.0351	365185
80.00	Side Arm Mount	2	1.391	0.0908	0.0283	45484
22.00	3' dish w/o radome	6	0.157	0.0288	0.0055	25465
20.00	GPS	6	0.136	0.0263	0.0049	28011
8.00	GPS	6	0.045	0.0107	0.0018	70027

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load lb	Ratio Load Allowable	Allowable Ratio	Criteria	
T1	240	Leg	A325N	1.0000	8	119.44	34557.50	0.003	✓	1.333	Bolt Tension
		Diagonal	A325N	0.6250	3	519.40	6442.72	0.081	✓	1.333	Bolt Shear
		Horizontal	A325N	0.6250	2	529.17	6442.72	0.082	✓	1.333	Bolt Shear
		Top Girt	A325N	0.6250	2	174.67	6442.72	0.027	✓	1.333	Bolt Shear
T2	220	Leg	A325N	1.0000	8	619.94	34556.50	0.018	✓	1.333	Bolt Tension
		Diagonal	A325N	0.6250	3	1478.50	6442.72	0.229	✓	1.333	Bolt Shear
		Horizontal	A325N	0.6250	2	1338.03	6442.72	0.208	✓	1.333	Bolt Shear
T3	200	Leg	A325N	1.0000	8	2051.47	34555.50	0.059	✓	1.333	Bolt Tension
		Diagonal	A325N	0.6250	3	2327.33	6442.72	0.361	✓	1.333	Bolt Shear
		Horizontal	A325N	0.6250	2	2282.70	6442.72	0.354	✓	1.333	Bolt Shear
T4	180	Leg	A325N	1.0000	8	4147.21	34556.60	0.120	✓	1.333	Bolt Tension
		Diagonal	A325N	0.6250	3	3601.63	6442.72	0.559	✓	1.333	Bolt Shear
		Horizontal	A325N	0.6250	2	3793.02	6442.72	0.589	✓	1.333	Bolt Shear
T5	160	Leg	A325N	1.0000	8	7115.08	34557.50	0.206	✓	1.333	Bolt Tension
		Diagonal	A325N	0.6250	3	4761.81	6442.72	0.739	✓	1.333	Bolt Shear
		Horizontal	A325N	0.6250	2	5296.58	6442.72	0.822	✓	1.333	Bolt Shear
T6	140	Leg	A325N	1.0000	8	10566.70	34557.50	0.306	✓	1.333	Bolt Tension
		Diagonal	A325N	0.6250	3	4950.87	6442.72	0.768	✓	1.333	Bolt Shear
		Horizontal	A325N	0.6250	2	5779.49	6442.72	0.897	✓	1.333	Bolt Shear

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Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load lb	Ratio Load Allowable	Allowable Ratio	Criteria
T7	120	Leg	A325N	1.0000	8	12101.90	34557.30	0.350	✓	1.333 Bolt Tension
		Diagonal	A325N	0.7500	3	7374.32	9277.52	0.795	✓	1.333 Bolt Shear
		Horizontal	A325N	0.7500	2	6161.42	9277.52	0.664	✓	1.333 Bolt Shear
T8	100	Leg	A325N	1.0000	12	10267.20	34557.50	0.297	✓	1.333 Bolt Tension
		Diagonal	A325N	0.7500	3	7335.83	9277.52	0.791	✓	1.333 Bolt Shear
		Horizontal	A325N	0.7500	2	6559.19	9277.52	0.707	✓	1.333 Bolt Shear
T9	80	Leg	A325N	1.0000	12	12399.50	34557.50	0.359	✓	1.333 Bolt Tension
		Diagonal	A325N	0.7500	3	7697.93	9277.52	0.830	✓	1.333 Bolt Shear
		Horizontal	A325N	0.7500	2	7237.35	9277.52	0.780	✓	1.333 Bolt Shear
T10	60	Leg	A325N	1.0000	12	14463.20	34557.50	0.419	✓	1.333 Bolt Tension
		Diagonal	A325N	0.7500	3	10112.60	9277.52	1.090	✓	1.333 Bolt Shear
		Horizontal	A325N	0.7500	2	7816.92	9277.52	0.843	✓	1.333 Bolt Shear
T11	30	Diagonal	A325N	0.7500	3	10742.90	9277.52	1.158	✓	1.333 Bolt Shear
		Horizontal	A325N	0.7500	2	8840.79	9277.52	0.953	✓	1.333 Bolt Shear

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P P _a
T1	240 - 220	P8x.5	20.03	6.68	27.8 K=1.00	27.415	12.7627	-3522.64	349895.00	0.010
T2	220 - 200	P8x.5	20.04	10.02	41.8 K=1.00	25.579	12.7627	-11060.10	326464.00	0.034
T3	200 - 180	P8x.5	20.05	10.03	41.8 K=1.00	25.576	12.7627	-26834.10	326426.00	0.082
T4	180 - 160	P8x.5	20.05	10.03	41.8 K=1.00	25.576	12.7627	-49190.80	326426.00	0.151
T5	160 - 140	ROHN 8 EH	20.05	10.03	41.8 K=1.00	25.576	12.7627	-79037.90	326426.00	0.242
T6	140 - 120	P8x.5	20.05	10.03	41.8 K=1.00	25.576	12.7627	-112205.00	326426.00	0.344
T7	120 - 100	P8x.5	20.05	10.03	41.8 K=1.00	25.576	12.7627	-128430.00	326426.00	0.393
T8	100 - 80	ROHN 8 EH	20.06	10.03	41.8 K=1.00	25.575	12.7627	-160394.00	326401.00	0.491
T9	80 - 60	P10x.5	20.05	10.03	33.2 K=1.00	26.753	16.1007	-191897.00	430750.00	0.445
T10	60 - 30	P10x.5	30.08	10.03	33.2 K=1.00	26.753	16.1007	-224226.00	430750.00	0.521

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P/P _a
T11	30 - 0	P10x.5	30.08	10.03	33.2 K=1.00	26.753	16.1007	-271017.00	430750.00	0.629 ✓

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P/P _a
T1	240 - 220	P2x.154	9.29	8.77	133.7 K=1.00	8.349	1.0745	-1558.19	8971.26	0.174 ✓
T2	220 - 200	P2.5x.203	12.56	11.96	151.5 K=1.00	6.503	1.7040	-4435.50	11080.90	0.400 ✓
T3	200 - 180	P2.5x.203	13.35	12.81	162.2 K=1.00	5.673	1.7040	-6981.98	9666.72	0.722 ✓
T4	180 - 160	P2.5x.203	14.21	13.70	173.6 K=1.00	4.956	1.7040	-10804.90	8445.30	1.279 ✓
T5	160 - 140	P2.5STD w/Half HSS3.5"x0.3"	15.12	14.64	189.1 K=1.00	4.175	3.0094	-14285.40	12563.80	1.137 ✓
T6	140 - 120	P3x.216	16.08	15.62	161.1 K=1.00	5.752	2.2285	-14852.60	12818.50	1.159 ✓
T7	120 - 100	P2.5STDw/L2.5x2.5x3/8	24.33	12.17	157.5 K=1.02	6.019	3.3188	-22123.00	19974.80	1.108 ✓
T8	100 - 80	P3x.216	25.11	12.56	129.5 K=1.00	8.907	2.2285	-22007.50	19848.10	1.109 ✓
T9	80 - 60	P3x.216	25.88	12.94	133.5 K=1.00	8.383	2.2285	-23093.80	18680.50	1.236 ✓
T10	60 - 30	P3x.216	35.15	11.72	120.8 K=1.00	10.226	2.2285	-30337.90	22788.60	1.331 ✓
T11	30 - 0	P3STDw/L2.5x2.5x3/8	36.16	12.05	137.8 K=1.02	7.859	3.8041	-32228.60	29898.20	1.078 ✓

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P/P _a
T1	240 - 220	P2x.154	12.26	5.77	88.0 K=1.00	17.365	1.0745	-1042.22	18659.20	0.056 ✓
T2	220 - 200	P2x.154	14.06	6.67	101.7 K=1.00	14.320	1.0745	-2676.06	15387.30	0.174 ✓
T3	200 - 180	P2x.154	16.43	7.86	119.8 K=1.00	10.412	1.0745	-4523.31	11187.60	0.404 ✓
T4	180 - 160	P2.5x.203	18.93	9.11	115.3 K=1.00	11.227	1.7040	-7526.19	19130.80	0.393 ✓
T5	160 - 140	P2.5x.203	21.43	10.36	131.2 K=1.00	8.680	1.7040	-10414.40	14791.10	0.704 ✓
T6	140 - 120	P2.5x.203	23.93	11.61	147.0	6.911	1.7040	-11283.00	11776.50	0.958 ✓

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T7	120 - 100	P2.5x.203	25.18	12.23	K=1.00 154.9	6.223	1.7040	-12322.80	10603.70	1.162
T8	100 - 80	P3x.216	27.68	13.48	K=1.00 139.0	7.726	2.2285	-13118.40	17217.40	0.762
T9	80 - 60	P3x.216	30.33	14.81	K=1.00 152.7	6.405	2.2285	-14424.40	14273.60	1.011
T10	60 - 30	P3x.216	32.83	15.97	K=1.00 164.7	5.507	2.2285	-15633.80	12272.60	1.274
T11	30 - 0	P3.5x.226	36.58	17.84	K=1.00 160.2	5.821	2.6795	-17681.60	15596.50	1.134

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T1	240 - 220	P2x.154	10.93	5.11	77.8 K=1.00	19.441	1.0745	-349.33	20890.30	0.017

Redundant Horizontal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T7	120 - 100	P1.5x.145	6.30	5.94	114.4 K=1.00	11.071	0.7995	-2228.82	8850.55	0.252
T8	100 - 80	P1.5x.145	6.92	6.56	126.4 K=1.00	9.339	0.7995	-2784.18	7466.41	0.373
T9	80 - 60	P1.5x.145	7.58	7.13	137.5 K=1.00	7.897	0.7995	-3330.22	6313.43	0.527
T10	60 - 30	P1.5x.145	5.47	5.02	96.8 K=1.00	13.375	0.7995	-3891.27	10693.00	0.364
T11	30 - 0	P1.5x.145	6.10	5.65	108.9 K=1.00	11.823	0.7995	-4703.30	9451.96	0.498

Redundant Horizontal (2) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T10	60 - 30	P2x.154	10.94	10.50	160.0 K=1.00	5.833	1.0745	-3891.27	6267.56	0.621
T11	30 - 0	P2x.154	12.19	11.75	179.1	4.657	1.0745	-4703.30	5004.50	0.940

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
K=1.00										
✓										

Redundant Diagonal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T7	120 - 100	P1.5x.145	11.50	10.77	207.7 K=1.00	3.463	0.7995	-2036.08	2768.65	0.735
T8	100 - 80	P2x.154	11.80	11.13	169.6 K=1.00	5.190	1.0745	-2374.33	5577.17	0.426
T9	80 - 60	P2x.154	12.19	11.56	176.2 K=1.00	4.809	1.0745	-2676.38	5167.32	0.518
T10	60 - 30	P1.5x.145	11.12	10.09	194.5 K=1.00	3.945	0.7995	-3953.55	3154.25	1.253
T11	30 - 0	P1.5STD with half 2STD Pipe	11.40	10.47	212.0 K=1.00	3.322	1.4449	-4399.14	4799.94	0.916

Redundant Diagonal (2) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T10	60 - 30	P2x.154	14.37	13.75	209.6 K=1.00	3.398	1.0745	-2555.50	3651.70	0.700
T11	30 - 0	Pipe 2.5STD	15.30	14.70	185.3 K=1.00	4.347	1.5948	-2949.97	6932.99	0.425

Redundant Hip (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T7	120 - 100	P1.5x.145	6.30	6.30	121.3 K=1.00	10.091	0.7995	-35.56	8067.38	0.004
T8	100 - 80	P1.5x.145	6.92	6.92	133.4 K=1.00	8.395	0.7995	-43.59	6711.05	0.006
T9	80 - 60	P1.5x.145	7.58	7.58	146.1 K=1.00	6.992	0.7995	-40.65	5589.56	0.007
T10	60 - 30	P1.5x.145	5.47	5.47	105.5 K=1.00	12.275	0.7995	-102.97	9813.06	0.010
T11	30 - 0	P1.5x.145	6.10	6.10	117.5 K=1.00	10.637	0.7995	-91.20	8503.78	0.011

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Redundant Hip (2) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T10	60 - 30	P1.5x.145	10.94	10.94	210.9 K=1.00	3.357	0.7995	-48.30	2683.51	0.018
T11	30 - 0	P2x.154	12.19	12.19	185.9 K=1.00	4.321	1.0745	-34.26	4643.58	0.007

Redundant Hip Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T7	120 - 100	P2.5x.203	15.08	15.08	190.9 K=1.00	4.096	1.7040	-52.84	6979.27	0.008*
T8	100 - 80	P2.5x.203	15.92	15.92	201.6 K=1.00	3.673	1.7040	-52.68	6259.27	0.008*
T9	80 - 60	P3.5x0.216	16.81	16.81	173.3 K=1.00	4.970	2.2285	-64.72	11076.30	0.006*
T10	60 - 30	P3.5x0.216	17.80	17.80	183.6 K=1.00	4.430	2.2285	-65.81	9872.27	0.007*
T11	30 - 0	P3.5x0.216	19.19	19.19	197.9 K=1.00	3.812	2.2285	-64.95	8494.79	0.008*

* DL controls

Inner Bracing Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T1	240 - 220	L2x2x1/8	5.47	5.47	165.0 K=1.00	5.487	0.4844	-6.05	2658.01	0.002
T2	220 - 200	L2x2x1/8	7.03	7.03	212.1 K=1.00	3.319	0.4844	-4.40	1607.44	0.003*
T3	200 - 180	L2 1/2x2 1/2x3/16	8.22	8.22	199.2 K=1.00	3.765	0.9020	-5.76	3396.18	0.002*
T4	180 - 160	L3x3x3/16	9.47	9.47	190.6 K=1.00	4.112	1.0900	-7.28	4481.94	0.002*
T5	160 - 140	L3 1/2x3 1/2x1/4	10.72	10.72	185.3 K=1.00	4.350	1.6900	-10.69	7352.08	0.001*
T6	140 - 120	L3 1/2x3 1/2x1/4	11.97	11.97	206.9 K=1.00	3.489	1.6900	-10.14	5896.15	0.002*
T7	120 - 100	P2x.154	12.59	12.59	191.9 K=1.00	4.053	1.0745	-18.36	4355.58	0.004

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T8	100 - 80	P3x.216	13.84	13.84	142.7 K=1.00	7.330	2.2285	-24.93	16334.80	0.002
T9	80 - 60	P3x.216	15.16	15.16	156.4 K=1.00	6.105	2.2285	-25.10	13605.10	0.002
T10	60 - 30	P3x.216	16.41	16.41	169.3 K=1.00	5.211	2.2285	-35.36	11611.90	0.003
T11	30 - 0	P3x.216	18.29	18.29	188.6 K=1.00	4.197	2.2285	-29.22	9353.18	0.003

* DL controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T1	240 - 220	P8x.5	20.03	6.68	27.8	30.000	12.7627	955.52	382882.00	0.002
T2	220 - 200	P8x.5	20.04	10.02	41.8	30.000	12.7627	4959.54	382882.00	0.013
T3	200 - 180	P8x.5	20.05	10.03	41.8	30.000	12.7627	16411.70	382882.00	0.043
T4	180 - 160	P8x.5	20.05	10.03	41.8	30.000	12.7627	33177.60	382882.00	0.087
T5	160 - 140	ROHN 8 EH	20.05	10.03	41.8	30.000	12.7627	56920.60	382882.00	0.149
T6	140 - 120	P8x.5	20.05	10.03	41.8	30.000	12.7627	84533.50	382882.00	0.221
T7	120 - 100	P8x.5	20.05	10.03	41.8	30.000	12.7627	97216.20	382882.00	0.254
T8	100 - 80	ROHN 8 EH	20.06	10.03	41.8	30.000	12.7627	123664.00	382882.00	0.323
T9	80 - 60	P10x.5	20.05	10.03	33.2	30.000	16.1007	149297.00	483020.00	0.309
T10	60 - 30	P10x.5	30.08	10.03	33.2	30.000	16.1007	175514.00	483020.00	0.363
T11	30 - 0	P10x.5	30.08	10.03	33.2	30.000	16.1007	212582.00	483020.00	0.440

Diagonal Design Data (Tension)

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T1	240 - 220	P2x.154	9.29	8.77	133.7	30.000	1.0745	1457.83	32235.90	0.045
T2	220 - 200	P2.5x.203	12.56	11.96	151.5	30.000	1.7040	4289.59	51121.50	0.084
T3	200 - 180	P2.5x.203	13.35	12.81	162.2	30.000	1.7040	6795.99	51121.50	0.133
T4	180 - 160	P2.5x.203	14.21	13.70	173.6	30.000	1.7040	10543.00	51121.50	0.206
T5	160 - 140	P2.5STD w/Half HSS3.5"x0.3"	15.12	14.64	189.1	30.000	3.0094	13840.60	90282.00	0.153
T6	140 - 120	P3x.216	16.08	15.62	161.1	30.000	2.2285	14406.50	66854.10	0.215
T7	120 - 100	P2.5STDw/L2.5x2.5x3/8	24.33	12.17	154.9	30.000	3.3188	21475.80	99564.00	0.216
T8	100 - 80	P3x.216	25.11	12.56	129.5	30.000	2.2285	21403.90	66854.10	0.320
T9	80 - 60	P3x.216	25.88	12.94	133.5	30.000	2.2285	22550.30	66854.10	0.337
T10	60 - 30	P3x.216	35.15	11.72	120.8	30.000	2.2285	29811.80	66854.10	0.446
T11	30 - 0	P3STDw/L2.5x2.5x3/8	36.16	12.05	135.4	30.000	3.8041	30768.80	114123.00	0.270

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T1	240 - 220	P2x.154	12.26	5.77	88.0	30.000	1.0745	1058.33	32235.90	0.033
T2	220 - 200	P2x.154	14.06	6.67	101.7	30.000	1.0745	2637.62	32235.90	0.082
T3	200 - 180	P2x.154	16.43	7.86	119.8	30.000	1.0745	4565.40	32235.90	0.142
T4	180 - 160	P2.5x.203	18.93	9.11	115.3	30.000	1.7040	7586.05	51121.50	0.148
T5	160 - 140	P2.5x.203	21.43	10.36	131.2	30.000	1.7040	10593.20	51121.50	0.207
T6	140 - 120	P2.5x.203	23.93	11.61	147.0	30.000	1.7040	11559.00	51121.50	0.226
T7	120 - 100	P2.5x.203	25.18	12.23	154.9	30.000	1.7040	12268.60	51121.50	0.240
T8	100 - 80	P3x.216	27.68	13.48	139.0	30.000	2.2285	12986.70	66854.10	0.194
T9	80 - 60	P3x.216	30.33	14.81	152.7	30.000	2.2285	14474.70	66854.10	0.217
T10	60 - 30	P3x.216	32.83	15.97	164.7	30.000	2.2285	15586.30	66854.10	0.233
T11	30 - 0	P3.5x.226	36.58	17.84	160.2	30.000	2.6795	16904.30	80386.20	0.210

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P P _a
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Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P P _a
T1	240 - 220	P2x.154	10.93	5.11	77.8	30.000	1.0745	327.71	32235.90	0.010

Redundant Horizontal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P P _a
T7	120 - 100	P1.5x.145	6.30	5.94	114.4	21.600	0.7995	2228.82	17268.30	0.129
T8	100 - 80	P1.5x.145	6.92	6.56	126.4	21.600	0.7995	2784.18	17268.30	0.161
T9	80 - 60	P1.5x.145	7.58	7.13	137.5	21.600	0.7995	3330.22	17268.30	0.193
T10	60 - 30	P1.5x.145	5.47	5.02	96.8	21.600	0.7995	3891.27	17268.30	0.225
T11	30 - 0	P1.5x.145	6.10	5.65	108.9	21.600	0.7995	4703.30	17268.30	0.272

Redundant Horizontal (2) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P P _a
T10	60 - 30	P2x.154	10.94	10.50	160.0	21.600	1.0745	3891.27	23209.90	0.168
T11	30 - 0	P2x.154	12.19	11.75	179.1	21.600	1.0745	4703.30	23209.90	0.203

Redundant Diagonal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P P _a
T7	120 - 100	P1.5x.145	11.50	10.77	207.7	21.600	0.7995	2036.08	17268.30	0.118

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T8	100 - 80	P2x.154	11.80	11.13	169.6	21.600	1.0745	2374.33	23209.90	0.102
T9	80 - 60	P2x.154	12.19	11.56	176.2	21.600	1.0745	2676.38	23209.90	0.115
T10	60 - 30	P1.5x.145	11.12	10.09	194.5	21.600	0.7995	3953.55	17268.30	0.229
T11	30 - 0	P1.5STD with half 2STD Pipe	11.40	10.47	212.0	21.600	1.4449	4399.14	31209.80	0.141

Redundant Diagonal (2) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T10	60 - 30	P2x.154	14.37	13.75	209.6	21.600	1.0745	2555.50	23209.90	0.110
T11	30 - 0	Pipe 2.5STD	15.30	14.70	185.3	21.600	1.5948	2949.97	34448.10	0.086

Redundant Hip (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T10	60 - 30	P1.5x.145	5.47	5.47	105.5	21.600	0.7995	9.64	17268.30	0.001
T11	30 - 0	P1.5x.145	6.10	6.10	117.5	21.600	0.7995	5.51	17268.30	0.000

Redundant Hip (2) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T10	60 - 30	P1.5x.145	10.94	10.94	210.9	21.600	0.7995	14.41	17268.30	0.001
T11	30 - 0	P2x.154	12.19	12.19	185.9	21.600	1.0745	3.55	23209.90	0.000

Redundant Hip Diagonal Design Data (Tension)

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P/P _a
T7	120 - 100	P2.5x.203	15.08	15.08	190.9	21.600	1.7040	76.33	36807.50	0.002
T8	100 - 80	P2.5x.203	15.92	15.92	201.6	21.600	1.7040	92.42	36807.50	0.003
T9	80 - 60	P3.5x0.216	16.81	16.81	173.3	21.600	2.2285	96.29	48134.90	0.002
T10	60 - 30	P3.5x0.216	14.04	14.04	144.8	21.600	2.2285	226.10	48134.90	0.005
T11	30 - 0	P3.5x0.216	14.82	14.82	152.8	21.600	2.2285	166.04	48134.90	0.003

Inner Bracing Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P/P _a
T1	240 - 220	L2x2x1/8	5.47	5.47	104.7	30.000	0.4844	6.05	14531.30	0.000
T2	220 - 200	L2x2x1/8	7.03	7.03	134.7	30.000	0.4844	0.23	14531.30	0.000
T3	200 - 180	L2 1/2x2 1/2x3/16	7.59	7.59	117.1	30.000	0.9020	0.09	27060.00	0.000
T4	180 - 160	L3x3x3/16	8.84	8.84	113.0	30.000	1.0900	1.06	32700.00	0.000
T7	120 - 100	P2x.154	12.59	12.59	191.9	30.000	1.0745	1.36	32235.90	0.000
T8	100 - 80	P3x.216	13.84	13.84	142.7	30.000	2.2285	2.38	66854.10	0.000
T9	80 - 60	P3x.216	15.16	15.16	156.4	30.000	2.2285	2.21	66854.10	0.000
T10	60 - 30	P3x.216	16.41	16.41	169.3	30.000	2.2285	14.18	66854.10	0.000
T11	30 - 0	P3x.216	18.29	18.29	188.6	30.000	2.2285	8.17	66854.10	0.000

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P _{allow} lb	% Capacity	Pass Fail
T1	240 - 220	Leg	P8x.5	1	-3522.64	466410.02	0.8	Pass
T2	220 - 200	Leg	P8x.5	40	-11060.10	435176.49	2.5	Pass
T3	200 - 180	Leg	P8x.5	67	-26834.10	435125.84	6.2	Pass
T4	180 - 160	Leg	P8x.5	96	-49190.80	435125.84	11.3	Pass
T5	160 - 140	Leg	ROHN 8 EH	123	-79037.90	435125.84	18.2	Pass
T6	140 - 120	Leg	P8x.5	150	-112205.00	435125.84	25.8	Pass
T7	120 - 100	Leg	P8x.5	177	-128430.00	435125.84	29.5	Pass
T8	100 - 80	Leg	ROHN 8 EH	210	-160394.00	435092.51	36.9	Pass
T9	80 - 60	Leg	P10x.5	243	-191897.00	574189.73	33.4	Pass

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Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P _{allow} lb	% Capacity	Pass Fail
T10	60 - 30	Leg	P10x.5	276	-224226.00	574189.73	39.1	Pass
T11	30 - 0	Leg	P10x.5	327	-271017.00	574189.73	47.2	Pass
T1	240 - 220	Diagonal	P2x.154	14	-1558.19	11958.69	13.0	Pass
T2	220 - 200	Diagonal	P2.5x.203	50	-4435.50	14770.84	30.0	Pass
T3	200 - 180	Diagonal	P2.5x.203	78	-6981.98	12885.74	54.2	Pass
T4	180 - 160	Diagonal	P2.5x.203	105	-10804.90	11257.58	96.0	Pass
T5	160 - 140	Diagonal	P2.5STD w/Half HSS3.5"x0.3"	132	-14285.40	16747.54	85.3	Pass
T6	140 - 120	Diagonal	P3x.216	159	-14852.60	17087.06	86.9	Pass
T7	120 - 100	Diagonal	P2.5STDw/L2.5x2.5x3/8	198	-22123.00	26626.41	83.1	Pass
T8	100 - 80	Diagonal	P3x.216	231	-22007.50	26457.52	83.2	Pass
T9	80 - 60	Diagonal	P3x.216	261	-23093.80	24901.11	92.7	Pass
T10	60 - 30	Diagonal	P3x.216	309	-30337.90	30377.20	99.9	Pass
T11	30 - 0	Diagonal	P3STDw/L2.5x2.5x3/8	360	-32228.60	39854.30	80.9	Pass
							86.9 (b)	
T1	240 - 220	Horizontal	P2x.154	13	-1042.22	24872.71	4.2	Pass
							6.2 (b)	
T2	220 - 200	Horizontal	P2x.154	49	-2676.06	20511.27	13.0	Pass
							15.6 (b)	
T3	200 - 180	Horizontal	P2x.154	76	-4523.31	14913.07	30.3	Pass
T4	180 - 160	Horizontal	P2.5x.203	103	-7526.19	25501.36	29.5	Pass
							44.2 (b)	
T5	160 - 140	Horizontal	P2.5x.203	130	-10414.40	19716.53	52.8	Pass
							61.7 (b)	
T6	140 - 120	Horizontal	P2.5x.203	157	-11283.00	15698.07	71.9	Pass
T7	120 - 100	Horizontal	P2.5x.203	194	-12322.80	14134.73	87.2	Pass
T8	100 - 80	Horizontal	P3x.216	227	-13118.40	22950.79	57.2	Pass
T9	80 - 60	Horizontal	P3x.216	260	-14424.40	19026.71	75.8	Pass
T10	60 - 30	Horizontal	P3x.216	303	-15633.80	16359.37	95.6	Pass
T11	30 - 0	Horizontal	P3.5x.226	354	-17681.60	20790.13	85.0	Pass
T1	240 - 220	Top Girt	P2x.154	4	-349.33	27846.77	1.3	Pass
							2.0 (b)	
T7	120 - 100	Redund Horz 1 Bracing	P1.5x.145	190	-2228.82	11797.78	18.9	Pass
T8	100 - 80	Redund Horz 1 Bracing	P1.5x.145	223	-2784.18	9952.72	28.0	Pass
T9	80 - 60	Redund Horz 1 Bracing	P1.5x.145	256	-3330.22	8415.80	39.6	Pass
T10	60 - 30	Redund Horz 1 Bracing	P1.5x.145	305	-3891.27	14253.77	27.3	Pass
T11	30 - 0	Redund Horz 1 Bracing	P1.5x.145	346	-4703.30	12599.46	37.3	Pass
T10	60 - 30	Redund Horz 2 Bracing	P2x.154	296	-3891.27	8354.66	46.6	Pass
T11	30 - 0	Redund Horz 2 Bracing	P2x.154	347	-4703.30	6671.00	70.5	Pass
T7	120 - 100	Redund Diag 1 Bracing	P1.5x.145	191	-2036.08	3690.61	55.2	Pass
T8	100 - 80	Redund Diag 1 Bracing	P2x.154	224	-2374.33	7434.37	31.9	Pass
T9	80 - 60	Redund Diag 1 Bracing	P2x.154	257	-2676.38	6888.04	38.9	Pass
T10	60 - 30	Redund Diag 1 Bracing	P1.5x.145	307	-3953.55	4204.62	94.0	Pass
T11	30 - 0	Redund Diag 1 Bracing	P1.5STD with half 2STD Pipe	358	-4399.14	6398.32	68.8	Pass
T10	60 - 30	Redund Diag 2 Bracing	P2x.154	298	-2555.50	4867.72	52.5	Pass
T11	30 - 0	Redund Diag 2 Bracing	Pipe 2.5STD	349	-2949.97	9241.68	31.9	Pass
T7	120 - 100	Redund Hip 1 Bracing	P1.5x.145	201	-35.56	10753.82	0.3	Pass

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Suite 100 Marietta, GA 30066 Phone: (770) 693 0835 FAX:	Job	CT11680A	Page	57 of 58
	Project	1517045	Date	16:33:57 10/23/15
	Client	T-Mobile	Designed by	Ahmet Colakoglu

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P _{allow} lb	% Capacity	Pass Fail	
T8	100 - 80	Redund Hip 1 Bracing	P1.5x.145	234	-43.59	8945.83	0.5	Pass	
T9	80 - 60	Redund Hip 1 Bracing	P1.5x.145	267	-40.65	7450.88	0.5	Pass	
T10	60 - 30	Redund Hip 1 Bracing	P1.5x.145	314	-102.97	13080.81	0.8	Pass	
T11	30 - 0	Redund Hip 1 Bracing	P1.5x.145	365	-91.20	11335.54	0.8	Pass	
T10	60 - 30	Redund Hip 2 Bracing	P1.5x.145	319	-48.30	3577.12	1.4	Pass	
T11	30 - 0	Redund Hip 2 Bracing	P2x.154	370	-34.26	6189.89	0.6	Pass	
T7	120 - 100	Redund Hip Diagonal Bracing	P2.5x.203	193	-52.84	6979.27	0.8	Pass	
T8	100 - 80	Redund Hip Diagonal Bracing	P2.5x.203	226	-52.68	6259.27	0.8	Pass	
T9	80 - 60	Redund Hip Diagonal Bracing	P3.5x0.216	259	-64.72	11076.30	0.6	Pass	
T10	60 - 30	Redund Hip Diagonal Bracing	P3.5x0.216	302	-65.81	9872.27	0.7	Pass	
T11	30 - 0	Redund Hip Diagonal Bracing	P3.5x0.216	353	-64.95	8494.79	0.8	Pass	
T1	240 - 220	Inner Bracing	L2x2x1/8	16	-2.71	2111.45	0.4	Pass	
T2	220 - 200	Inner Bracing	L2x2x1/8	54	-4.40	1607.44	0.4	Pass	
T3	200 - 180	Inner Bracing	L2 1/2x2 1/2x3/16	79	-5.74	3396.18	0.3	Pass	
T4	180 - 160	Inner Bracing	L3x3x3/16	107	-7.28	4481.94	0.4	Pass	
T5	160 - 140	Inner Bracing	L3 1/2x3 1/2x1/4	134	-10.69	7352.08	0.4	Pass	
T6	140 - 120	Inner Bracing	L3 1/2x3 1/2x1/4	160	-10.09	5896.15	0.4	Pass	
T7	120 - 100	Inner Bracing	P2x.154	207	-15.34	5805.99	0.3	Pass	
T8	100 - 80	Inner Bracing	P3x.216	239	-24.93	21774.29	0.3	Pass	
T9	80 - 60	Inner Bracing	P3x.216	271	-22.44	18135.60	0.3	Pass	
T10	60 - 30	Inner Bracing	P3x.216	324	-35.36	15478.66	0.4	Pass	
T11	30 - 0	Inner Bracing	P3x.216	375	-29.22	12467.79	0.4	Pass	
							Summary		
							Leg (T11)	47.2	Pass
							Diagonal (T10)	99.9	Pass
							Horizontal (T10)	95.6	Pass
							Top Girt (T1)	2.0	Pass
							Redund Horz 1 Bracing (T9)	39.6	Pass
							Redund Horz 2 Bracing (T11)	70.5	Pass
							Redund Diag 1 Bracing (T10)	94.0	Pass
							Redund Diag 2 Bracing (T10)	52.5	Pass
							Redund Hip 1 Bracing (T11)	0.8	Pass
							Redund Hip 2 Bracing	1.4	Pass

tnxTower Destek Engineering, LLC 1281 Kennestone Circle, Suite 100 Marietta, GA 30066 Phone: (770) 693 0835 FAX:	Job	CT11680A	Page	58 of 58
	Project	1517045	Date	16:33:57 10/23/15
	Client	T-Mobile	Designed by	Ahmet Colakoglu

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P _{allow} lb	% Capacity	Pass Fail
						(T10)		
						Redund Hip Diagonal	0.8	Pass
						Bracing (T8) Inner	0.4	Pass
						Bracing (T2)		
						Bolt Checks	86.9	Pass
						RATING =	99.9	Pass



T-MOBILE NORTHEAST LLC

SITE #: CT11680A

SITE NAME: BRIDGEPORT NORTH

SITE ADDRESS:

1320 CHOPSEY HILL ROAD

BRIDGEPORT, CT 06610

WIRELESS BROADBAND FACILITY

CONSTRUCTION DRAWINGS

(702CU CONFIGURATION)



T-MOBILE NORTHEAST, LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 OFFICE: (860) 692-7100
 FAX: (860) 692-7159



1340 Centre Street, Suite 212
 Newton Center, MA 02459
 Office: 617-965-0789
 Fax: 617-213-5056

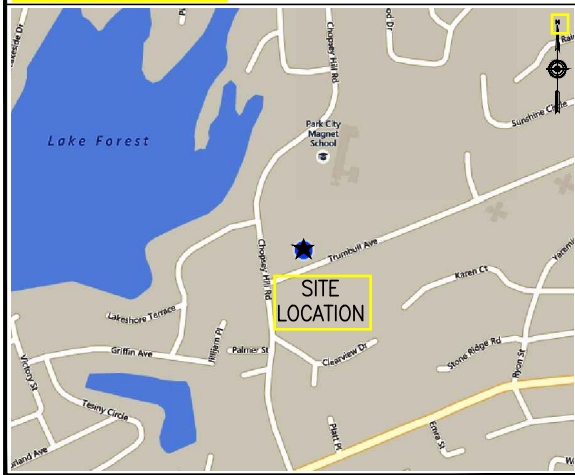
SUBMITTALS

DATE	DESCRIPTION	REVISION
10/20/15	ISSUED FOR REVIEW	A
10/26/15	FINAL CD	0

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: CT11680A
 DRAWN BY: MS
 CHECKED BY: SM

VICINITY MAP



GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONSTRUCT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE T-MOBILE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF THE CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXPENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING OF ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUM OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS AND INSPECTIONS WHICH ARE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY, OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC., DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS, AS WELL AS THE LATEST EDITIONS OF ANY PERTINENT STATE SAFETY REGULATIONS.
14. THE CONTRACTOR SHALL NOTIFY THE T-MOBILE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE T-MOBILE REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC., ON THE JOB.
16. THE CONTRACTOR SHALL RETURN ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION AT THE COMPLETION OF WORK.
17. REFER TO STRUCTURAL ANALYSIS DOCUMENT ENTITLED, "STRUCTURAL ANALYSIS REPORT - SELF SUPPORT TOWER" PREPARED BY ATLANTIS GROUP, INC., "T-MOBILE SITE ID CT11680A", DATED OCTOBER 23, 2015.

SITE INFORMATION

SITE NUMBER: CT11680A
 SITE NAME: BRIDGEPORT NORTH
 SITE ADDRESS: 1320 CHOPSEY HILL ROAD
 BRIDGEPORT, CT 06610
 LAT./LONG.: N 41.21692 / W -73.20121
 JURISDICTION: TOWN OF BRIDGEPORT, CT
 PROPERTY OWNER: UNISON

PROJECT SUB-CONTRACTORS

APPLICANT: T-MOBILE NORTHEAST, LLC.
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 (860) 692-7100
 PROJECT MANAGER: TRANSCEND WIRELESS LLC
 10 INDUSTRIAL AVE, SUITE #3
 MAHWAH, NJ 07430
 ARCHITECT/ENGINEER: ATLANTIS GROUP INC.
 1340 CENTRE STREET SUITE 212
 NEWTON CENTER, MA 02459
 (617) 965-0789

CODE COMPLIANCE

CONNECTICUT STATE BUILDING CODE
 2005 CONNECTICUT BUILDING CODE WITH 2013 AMENDMENT
 2011 NATIONAL ELECTRICAL CODE.
 CONSTRUCTION TYPE: 2B USE GROUP: N/A

SHEET INDEX

SHEET	DESCRIPTION
T-1	TITLE SHEET
N-1	GENERAL AND ELECTRICAL NOTES
A-1	SITE PLAN
A-2	ELEVATION
A-3	ANTENNA PLAN AND DETAILS
E-1	GROUNDING AND POWER ONE LINE DIAGRAM
E-2	GROUNDING DETAILS

DO NOT SCALE DRAWINGS

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

CALL BEFORE YOU DIG:
 WWW.CBYD.COM
CALL 800 922 4455, OR 811
 CALL THREE WORKING DAYS PRIOR TO DIGGING
 SAFETY PRECAUTIONS SHALL BE IMPLEMENTED BY CONTRACTOR(S) AT ALL TRENCHING IN ACCORDANCE WITH CURRENT OSHA STANDARDS.

COLOR CODE FOR UTILITY LOCATIONS

ELECTRIC - RED	SEWER - GREEN	WATER - BLUE
GAS/OIL - YELLOW	SURVEY - PINK	RECLAIMED WATER - PURPLE
TEL/CATV - ORANGE	PROPOSED EXCAVATION - WHITE	



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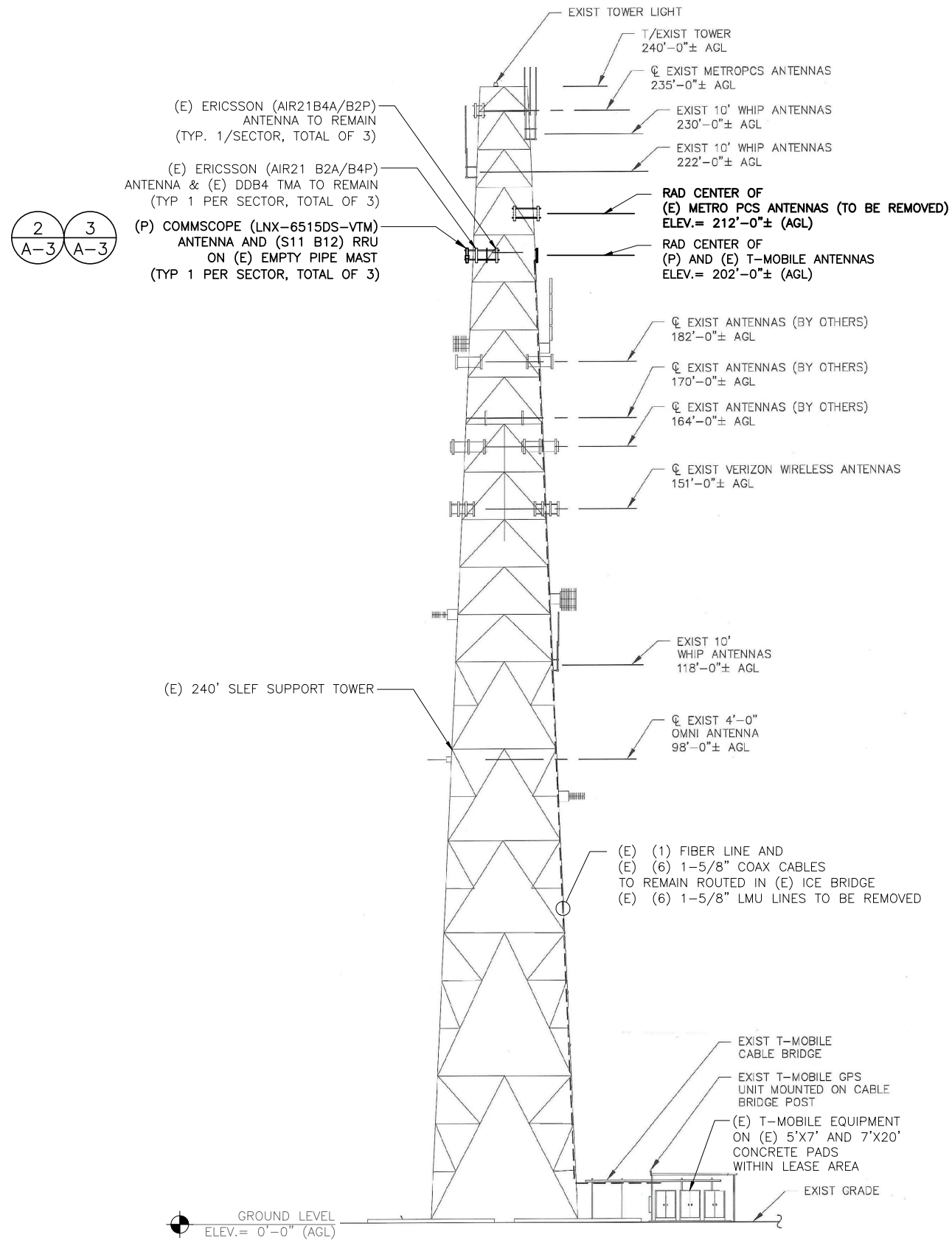
SITE NAME
CT11680A

SITE NAME
 BRIDGEPORT NORTH
 SITE ADDRESS
 1320 CHOPSEY HILL ROAD
 BRIDGEPORT, CT 06610

SHEET TITLE
 TITLE SHEET

SHEET NUMBER
T-1

REFER TO STRUCTURAL ANALYSIS DOCUMENT ENTITLED, "STRUCTURAL ANALYSIS REPORT - SELF SUPPORT TOWER" PREPARED BY ATLANTIS GROUP, INC., "T-MOBILE SITE ID CT11680A", DATED OCTOBER 23, 2015.

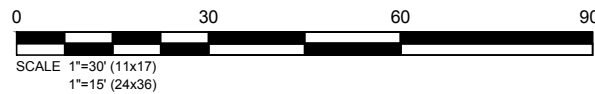


2
A-3

3
A-3

ELEVATION
SCALE: 1" = 30'-0" (11x17)
1" = 15'-0" (24x36)

1
A-2



T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX: (860) 692-7159



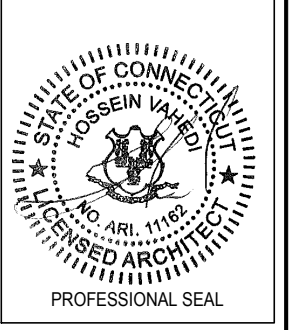
1340 Centre Street, Suite 212
Newton Center, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

SUBMITTALS

DATE	DESCRIPTION	REVISION
10/20/15	ISSUED FOR REVIEW	A
10/26/15	FINAL CD	0

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: CT11680A
DRAWN BY: MS
CHECKED BY: SM



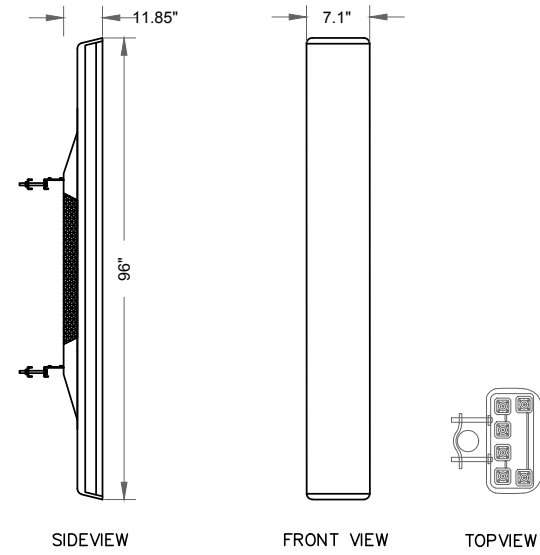
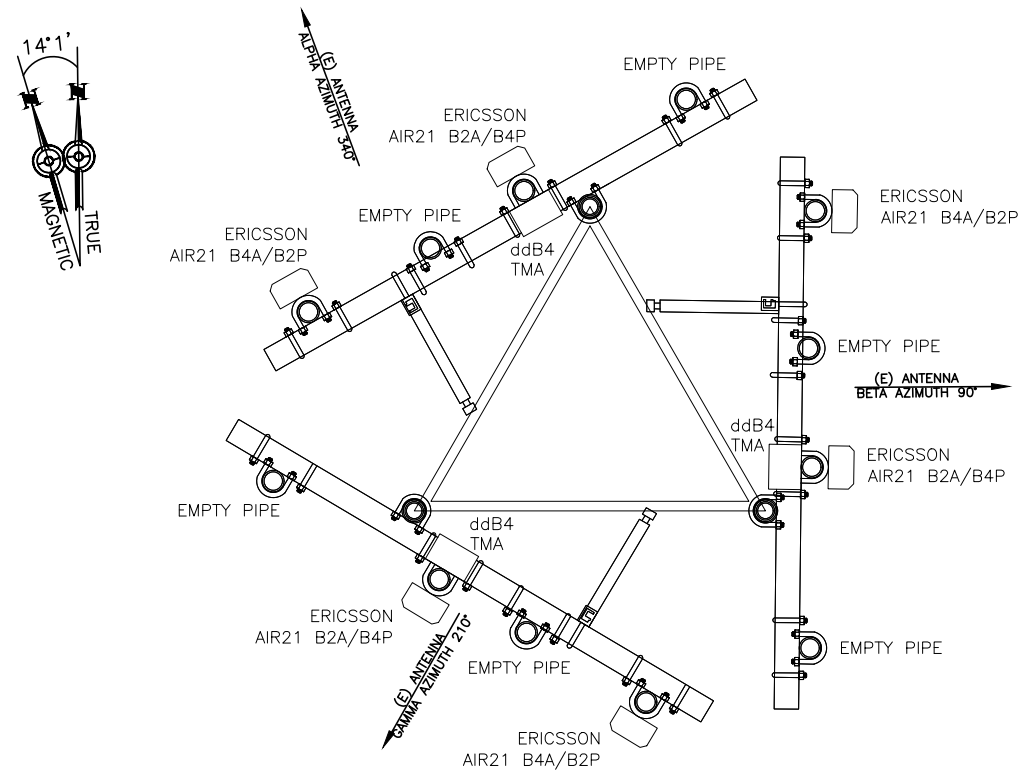
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SITE NAME
CT11680A
SITE NAME
BRIDGEPORT NORTH
SITE ADDRESS
1320 CHOPSEY HILL ROAD
BRIDGEPORT, CT 06610

SHEET TITLE
**ANTENNA PLAN
AND
DETAILS**

SHEET NUMBER
A-2

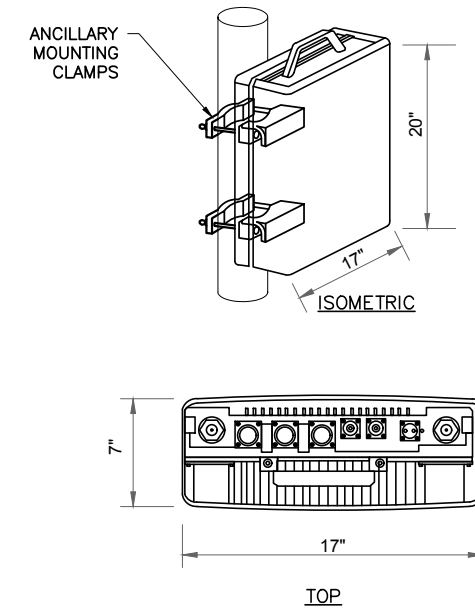
EXISTING ANTENNA PLAN



MANUFACTURER: COMMSCOPE
 MODEL NO.: LNX-6515DS-VTM
 DIMENSIONS - HxWxD, (IN) 96x11.85x7.1

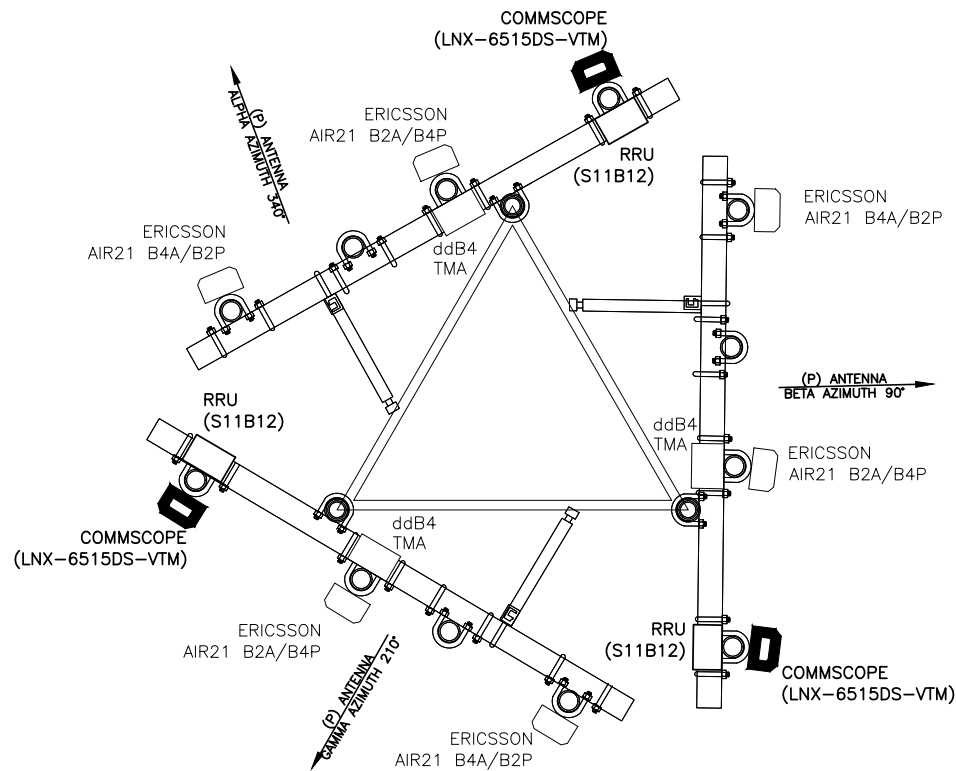
COMMSCOPE ANTENNA DETAIL (2)
 SCALE: N.T.S. (A-3)

REFER TO STRUCTURAL ANALYSIS DOCUMENT ENTITLED, "STRUCTURAL ANALYSIS REPORT - SELF SUPPORT TOWER" PREPARED BY ATLANTIS GROUP, INC., "T-MOBILE SITE ID CT11680A", DATED OCTOBER 23, 2015.

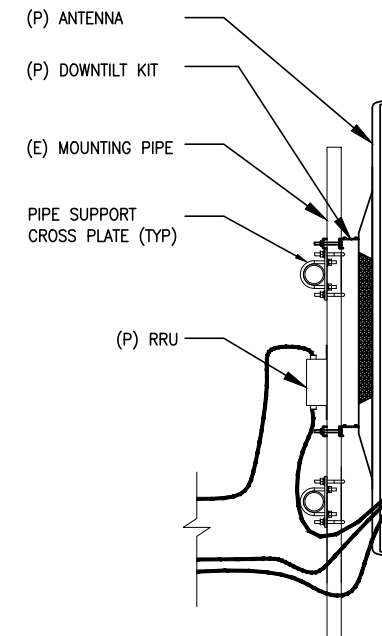


RRUS 11 B12 DETAILS (3)
 SCALE: N.T.S. (A-3)

FINAL ANTENNA PLAN



ANTENNA PLAN (1)
 SCALE: N.T.S. (A-3)



ANTENNA MOUNT DETAIL (4)
 SCALE: N.T.S. (A-3)



T-MOBILE NORTHEAST, LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
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 FAX: (860) 692-7159

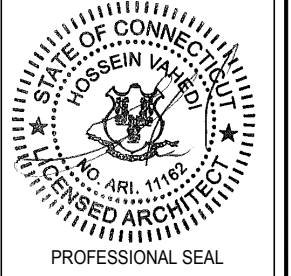


ATLANTIS GROUP
 1340 Centre Street, Suite 212
 Newton Center, MA 02459
 Office: 617-965-0789
 Fax: 617-213-5056

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10/26/15	FINAL CD	0

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RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: CT11680A
 DRAWN BY: MS
 CHECKED BY: SM



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SITE NAME
CT11680A
 SITE NAME
BRIDGEPORT NORTH
 SITE ADDRESS
 1320 CHOPSEY HILL ROAD
 BRIDGEPORT, CT 06610

SHEET TITLE
ANTENNA PLAN AND DETAILS

SHEET NUMBER
A-3

SUBMITTALS

DATE	DESCRIPTION	REVISION
10/20/15	ISSUED FOR REVIEW	A
10/28/15	FINAL CD	0

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RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

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 CHECKED BY: SM

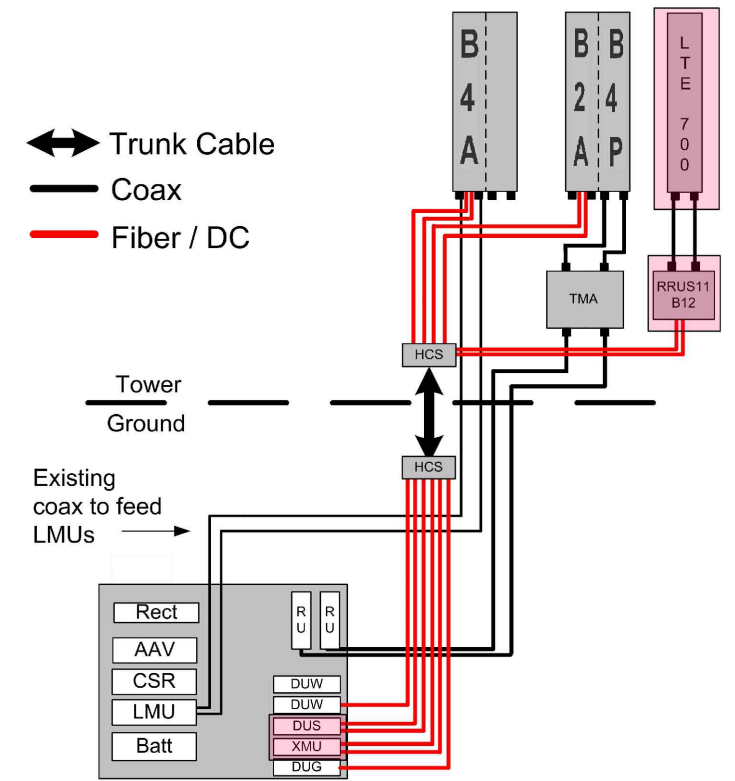


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SITE NAME
CT11680A
 SITE NAME
BRIDGEPORT NORTH
 SITE ADDRESS
 1320 CHOPSEY HILL ROAD
 BRIDGEPORT, CT 06610

SHEET TITLE
GROUNDING DIAGRAM AND POWER ONE LINE DIAGRAM

SHEET NUMBER
E-1



TRUNK FIBER NOTES:

1. IN GENERAL THIS CABLE WILL HANDLE SIMILARLY TO 3/8" COAXIAL CABLE, AND SIMILAR INSTALLATION TECHNIQUES APPLY. ALL CABLES ARE INDIVIDUALLY SERIALIZED, BE SURE TO WRITE DOWN THE CABLE SERIAL NUMBER FOR FUTURE REFERENCE.
2. THE TERMINATED FIBER ENDS (THE BROKEN OUT FIBERS PLUS CONNECTORS) HOWEVER ARE FRAGILE, AND THESE MUST BE PROTECTED DURING THE INSTALLATION PROCESS.
3. LEAVE THE PROTECTIVE TUBE AND SOCK AROUND THE FIBER TAILS AND CONNECTORS IN PLACE DURING HOISTING AND SECURING THE CABLE. REMOVE THIS ONLY JUST PRIOR TO MAKING THE FINAL CONNECTIONS TO THE OVP BOX.
4. DO NOT BEND THE FIBER ENDS (IN THE ORANGE FURCATION TUBES) TIGHTER THAN 3/4" (19MM) BEND RADIUS, ELSE THERE IS A RISK OF BREAKING THE GLASS FIBERS.
5. BE SURE THAT THE LACE UP ENDS AND FIBER CONNECTORS ARE NOT DAMAGED BY ATTACHMENT OF A HOISTING GRIP OR DURING THE HOISTING PROCESS. ATTACH A HOISTING GRIP ON THE JACKETED CABLE NO LESS THAN 6 INCHES BELOW THE FIBER BREAKOUT POINT. IF A HOISTING GRIP IS NOT EASILY ATTACHED, USE A SIMPLE LINE ATTACHED BELOW THE FIBER BREAK-OUT POINT (I.E. AT THE CABLE OUTER JACKET). PREVENT THE FIBER TAILS (IN PROTECTIVE TUBE) AT THE CABLE END FROM UNDUE MOVEMENT DURING HOISTING BY SECURING THE PROTECTIVE TUBE (WITH OUTER SOCK) TO THE HOISTING LINE.
6. DURING HOISTING ENSURE THAT THERE IS A FREE PATH AND THAT THE CABLE, AND ESPECIALLY THE FIBER ENDS, WILL NOT BE SNAGGED ON TOWER MEMBERS OR OTHER OBSTACLES.
7. INSTALLATION TEMPERATURE RANGE IS -22F TO 158F (-30C TO +70C).
8. MINIMUM CABLE BEND RADII ARE 22.2" (565MM) LOADED (WITH TENSION ON THE CABLE) AND 11.1" (280MM) UNLOADED.
9. MAXIMUM CABLE TENSILE LOAD IS 3560 N (800 LB) SHORT TERM (DURING INSTALLATION) AND 1070 N (240 LB) LONG TERM.
10. COMMSCOPE NON LACE UP GRIP RECOMMENDED FOR MONOPOLE INSTALLATIONS.
11. MAXIMUM HANGER SPACING 3FT (0.9 M).

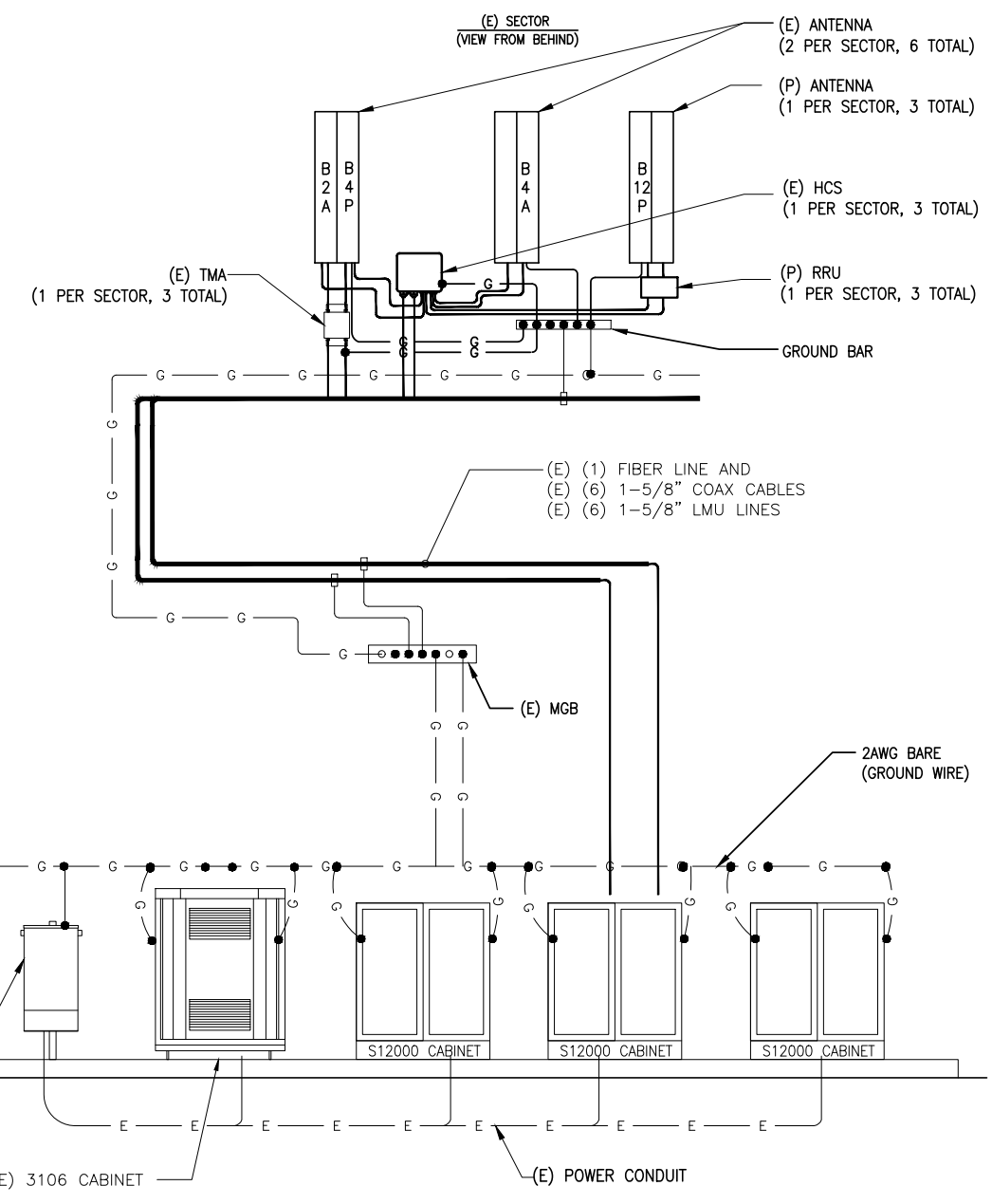
HYBRID FIBER/POWER JUMPER NOTES:

1. IN GENERAL THIS CABLE WILL HANDLE SIMILARLY TO A 3/8" COAXIAL CABLE.
2. THE TERMINATED FIBER ENDS HOWEVER ARE FRAGILE AND MUST BE PROTECTED DURING INSTALLATION. LEAVE THE PACKAGING AROUND THE FIBER ENDS IN PLACE UNTIL READY TO CONNECT THE JUMPER BETWEEN OVP AND RRU OR BBU.
3. DO NOT BEND THE FIBER BREAKOUT CABLE (BETWEEN THE MAIN CABLE AND THE FIBER CONNECTOR) TIGHTER THAN 3/4" (19MM) RADIUS, ELSE THERE IS A RISK OF BREAKING THE GLASS.
4. ATTACH THE MAIN CABLE SECURELY TO THE STRUCTURE OR EQUIPMENT USING HANGERS AND/OR CABLE TIES TO PREVENT STRAIN ON CONNECTIONS FROM MOVEMENT IN WIND OR SNOW/ICE CONDITIONS.
5. ENSURE THE LC FIBER CONNECTORS ARE SEATED FIRMLY IN PANEL IN OVP OR IN EQUIPMENT.
6. INSTALLATION TEMPERATURE RANGE IS -22F TO 158F (-30C TO 70C).
7. MINIMUM CABLE BEND RADII ARE 10.3 INCH (265MM) LOADED (WITH TENSION ON THE CABLE) AND 5.2 INCH (130MM) UNLOADED.
8. MAXIMUM CABLE TENSILE LOAD IS 350 LB (1560N) SHORT TERM (DURING INSTALLATION) AND 105 LB (470N) LONG TERM.
9. STANDARD LENGTHS AVAILABLE ARE 6 FEET, 15 FEET AND 20 FEET

702CU CONFIGURATION COAX/FIBER PLUMBING DIAGRAM

SCALE: N.T.S

2
E-1

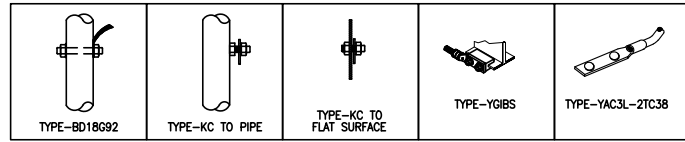


- NOTES:**
1. PROVIDE #2AWG GROUNDING CONDUCTOR, U.O.N.
 2. DO NOT INSTALL GROUND KIT AT BEND. DIRECT GROUND WIRE DOWN TO ANTENNA BUSSBAR.
 3. PROVIDE GROUNDING ELECTRODES IN QUANTITY, TYPE AND SIZE AS INDICATED ON SITE GROUNDING PLAN.
 4. ADD COAX GROUND KIT CONNECTION TO BUSSBAR WHEN LENGTH OF COAX RUN (FROM EQUIPMENT TO ANTENNA) IS GREATER THAN 20'-0".
 5. GROUND HCS BOX W/ #2AWG GROUNDING CONDUCTOR ATTACHED TO GOOD GROUND AS DIRECT AND SHORT AS POSSIBLE. USE GREEN STRANDED INSULATED CONDUCTOR TO CONNECT TO BUSSBAR/GROUND HALO OR BARE TINNED SOLID COPPER CONDUCTOR TO CONNECT TO GROUND RING.

GROUNDING DIAGRAM

SCALE: N.T.S

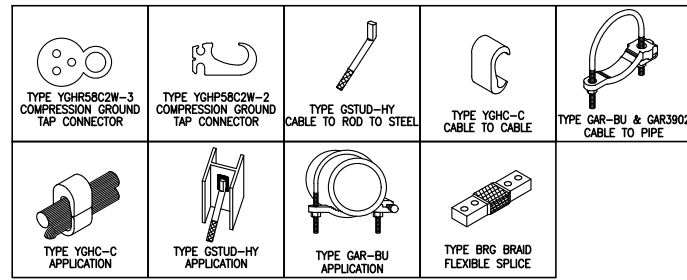
1
E-1



BURNDY GROUNDING DETAILS

SCALE: N.T.S

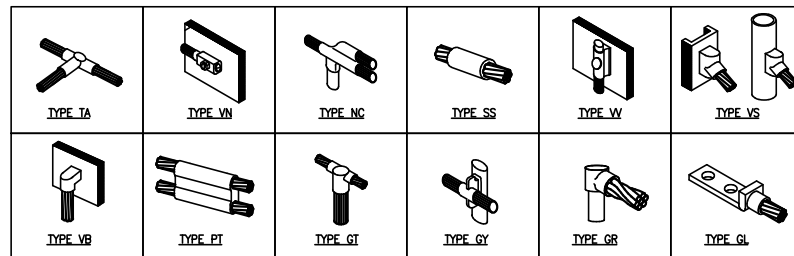
1
E-2



BURNDY GROUNDING PRODUCTS

SCALE: N.T.S

2
E-2



CADWELD GROUNDING CONNECTION PRODUCTS

SCALE: N.T.S

3
E-2

TERMINATION TYPES:

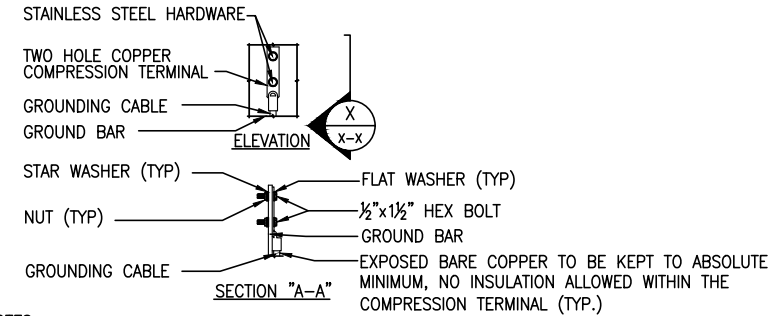
- A. MECHANICAL COMPRESSION LUG
- B. DOUBLE BARRELL COMPRESSION CONNECTOR
- C. EXOTHERMIC TERMINATION
- D. BEAM CLAMP

	SOLID #2 TINNED COPPER	#6 GROUND LEAD	#2/0 STRANDED MAIN DOWN CONDUCTOR	MASTER GRND BAR	STRUCTURAL OR TOWER STEEL	BLDG SERVICE ENTR OR GROUND RING	GROUND ROD
SOLID #2 TINNED COPPER	B OR C	B OR C		C	A, C, OR D		C
#6 GROUND LEAD	B OR C			A	A, C, OR D		
#2/0 STRANDED GRNDG ELECTRODE CONDUCTOR				A	A, C, OR D	A	
MASTER GROUND BAR	C	A	A				
STRUCTURAL OR TOWER STEEL	A, C, OR D	A, C, OR D	A, C, OR D				
GROUND RING	C		C				C

GROUNDING TERMINATION MATRIX

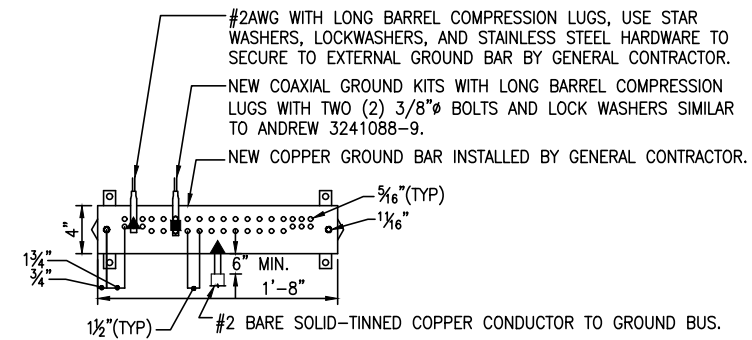
SCALE: N.T.S

7
E-2



NOTES:

- OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.



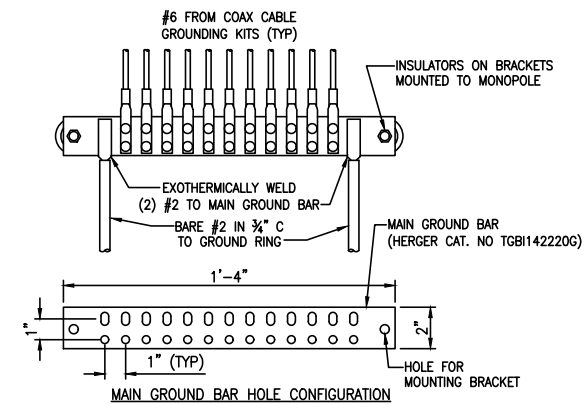
NOTES:

- ALL HARDWARE STAINLESS STEEL COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
- FOR GROUND BOND TO STEEL ONLY: INSERT A TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH KOPR-SHIELD.
- ALL HOLES ARE COUNTERSUNK 1/16".

TYPICAL GROUND BAR CONNECTIONS DETAIL

SCALE: N.T.S

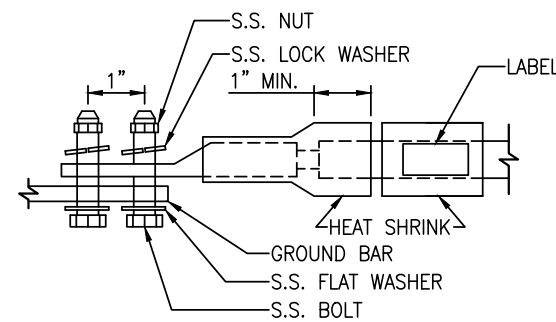
4
E-2



GROUND BAR DETAIL

SCALE: N.T.S

5
E-2



LUG NOTES:

- ALL HARDWARE IS 18-8 STAINLESS STEEL, INCLUDING LOCK WASHERS.
- ALL HARDWARE SHALL BE S.S. 3/8" OR LARGER.
- FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL. COAT ALL SURFACES WITH ANTI-OXIDIZATION COMPOUND PRIOR TO MATING.

GROUND BAR DETAIL

SCALE: N.T.S

6
E-2

T-Mobile
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 Fax: 617-213-5056

SUBMITTALS		
DATE	DESCRIPTION	REVISION
10/20/15	ISSUED FOR REVIEW	A
10/26/15	FINAL CD	0

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: CT11680A
 DRAWN BY: MS
 CHECKED BY: SM

STATE OF CONNECTICUT
 HOSEIN VAHEDI
 NO. ARI. 11167
 LICENSED ARCHITECT
 PROFESSIONAL SEAL

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SITE NAME
CT11680A
 SITE NAME
BRIDGEPORT NORTH
 SITE ADDRESS
 1320 CHOPSEY HILL ROAD
 BRIDGEPORT, CT 06610

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
E-2