EMPIRE telecom
A QualTek Company

November 7, 2017

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

RE: NOTICE OF EXEMPT MODIFICATION
60 North Eagleville Road, Mansfield, CT 06268

Dear Ms. Bachman:

Enclosed please find and original and two (2) copies of a Notice of Exempt Modification including drawings, structural analyses, RF emissions reports, parcel maps, and a check in the amount of six hundred twenty five dollars ($625.00) for the filing fee. In addition, I have included a single copy of each notification letter to the municipality, the Department of Planning and Zoning, and to the property and tower owner. The proof of delivery is likewise enclosed and consists of a copy of the Certified Mail receipt and a copy of the USPS Tracking Results from the USPS website, acknowledging the date and time of delivery.

I have submitted electronic copies of these documents via email to the CSC today.

Please feel free to contact me with any questions or comments. Thank you for your kind cooperation in this matter.

Respectfully submitted,

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-286-4006
jandrews@empiretelecomm.com

Enclosures

EMPIRE telecom
A QualTek Company

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-286-4007
jandrews@empiretelecomm.com

November 1, 2017

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

NOTICE OF EXEMPT MODIFICATION

60 North Eagleville Road, Mansfield, CT 06268

Lat: 41-48-50.62 (41.81406111)
Long. 72-15-33.88 (-72.25941111)

Dear Ms. Bachman:

AT&T Wireless currently maintains nine (9) antennas at the 185-foot level of an existing 291-foot guyed tower located at 60 North Eagleville Road, in Mansfield, CT. The tower is owned by the University of Connecticut. The property is owned by University of Connecticut. AT&T Wireless now seeks to install three (3) additional antennas at the 291-foot level of the tower, to be mounted on the existing tower, as well as install six (6) new RRUS-32 Remote Radio Units ("RRU"), and install 3 new RRUS-B14 RRUs on the tower, behind the antennas. In addition, a single new surge suppressor will be installed behind the Gamma sector antennas.

The facility was approved by the Connecticut Siting Council in EM-AT&T-078-161021 on November 22, 2016. Eight (8) conditions were enumerated in the Council's decision: 1) AT&T shall ensure that the foundation does not exceed 100 percent of its post-construction structural rating; 2) within 45 days following completion of equipment installation, AT&T shall provide documentation certified by the Professional Engineer that its installation complied with the modifications listed on the Construction Site Plans; 3) Any deviation from the modification as specified in the Notice and supporting documentation shall render the acknowledgement invalid; 4) Any material changes to the modification as proposed shall require the filing of a new Notice with the Council; 5) Within 45 days after the completion of construction the Council shall be notified in writing that the construction has been completed; 6) Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by AT&T shall be removed within 60 days of the date the antenna ceased to function; 7) the validity of the action shall expire one year from the date of the letter; and 8) the applicant may file a request an extension of time beyond the one year deadline provided that such a request is submitted to the Council not less than 60 days prior to the expiration.

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A QualTek Company

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies section 16-50j-73 for construction that constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2). In accordance with RCSA section 16-50j-73, a copy of this letter and attachments is being sent to the Honorable Paul Shapiro, Mayor of Mansfield; Linda Painter, the Mansfield Director of Planning & Development, as well as to the University of Connecticut, the tower owner, and to by the University of Connecticut, the property owner. Michael Jednak AVP, of the Facilities Operations & Building Services of the University of Connecticut is our point of contact.

The planned modifications to the facility fall squarely within those activities expressly provided for in RCSA section 50j-72(b)(2).

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

For the foregoing reasons, AT&T Wireless respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under RCSA section 16-50j-72(b)(2).

Respectfully submitted,

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-286-4007
jandrews@empiretelecomm.com

Enclosures

cc: Honorable Paul Shapiro, Mayor of Mansfield
Linda Painter, the Mansfield Director of Planning & Development
Michael Jednak AVP, University of Connecticut, the tower owner and property owner.

EMPIRE telecom
A QualTek Company

November 1, 2017

Linda Painter, Director of Planning & Development
Audrey P. Beck Municipal Building
4 South Eagleville Road, Mansfield, CT 06268

RE: AT&T Wireless Modifications to Telecommunication Facility –
60 North Eagleville Road, Mansfield, CT 06268

Dear Ms. Painter:

In order to accommodate technological changes, implement the Uniform Mobile Telecommunications System and enhance system performance in the State of Connecticut, AT&T Wireless ("AT&T") will be changing its equipment configuration at the above referenced telecommunications facility. AT&T Wireless currently maintains nine (9) antennas at the 185-foot level of an existing 291-foot guyed tower located at 60 North Eagleville Road, in Mansfield, CT. The tower is owned by the University of Connecticut. The property is owned by University of Connecticut.

AT&T Wireless now seeks to install three (3) additional antennas at the 291-foot level of the tower, to be mounted on the existing tower, as well as install six (6) new RRUS-32 Remote Radio Units ("RRU"), and install 3 new RRUS-B14 RRUs on the tower, behind the antennas. In addition, a single new surge suppressor will be installed behind the Gamma sector antennas.

This letter is intended to serve as the required notice to the municipality's Planning and Zoning Department. As required by the Regulations of Connecticut State Agencies ("RCSA") section 16-50j-73, the Connecticut Siting Council ("CSC") has been notified of the proposed changes and will review AT&T's proposal. Please accept this letter as notification under RCSA section 16-50j-73 of construction which constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2).

10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

EMPIRE telecom
A QualTek Company

The enclosed letter and documents to the CSC fully describes AT&T's proposal for the above referenced site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-286-4006 or contact Melanie Bachman, Acting Executive Director of the CSC at 860-872-2935.

Respectfully submitted,

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144
jandrews@empiretelecomm.com

Enclosures

cc: Melanie Bachman, Connecticut Siting Council

EMPIRE telecom
A QualTek Company

November 1, 2017

The Honorable Paul Shapiro
Audrey P. Beck Municipal Building
4 South Eagleville Road, Mansfield, CT 06268

RE: AT&T Wireless Modifications to Telecommunication Facility –
60 North Eagleville Road, Mansfield, CT 06268

Dear Mayor Shapiro:

In order to accommodate technological changes, implement the Uniform Mobile Telecommunications System and enhance system performance in the State of Connecticut, AT&T Wireless ("AT&T") will be changing its equipment configuration at the above referenced telecommunications facility. AT&T Wireless currently maintains nine (9) antennas at the 185-foot level of an existing 291-foot guyed tower located at 60 North Eagleville Road, in Mansfield, CT. The tower is owned by the University of Connecticut. The property is owned by University of Connecticut.

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This letter is intended to serve as the required notice to the municipality. As required by the Regulations of Connecticut State Agencies ("RCSA") section 16-50j-73, the Connecticut Siting Council ("CSC") has been notified of the proposed changes and will review AT&T's proposal. Please accept this letter as notification under RCSA section 16-50j-73 of construction which constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2).

10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

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Respectfully submitted,

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144
jandrews@empiretelecomm.com

Enclosures

cc: Melanie Bachman, Connecticut Siting Council

EMPIRE telecom
A QualTek Company

November 1, 2017

University of Connecticut
Michael Jednak AVP,
Facilities Operations & Building Services
25 LeDoyt Road, Unit 3252
Storrs CT 06269

RE: AT&T Wireless Modifications to Telecommunication Facility –
60 North Eagleville Road, Mansfield, CT 06268

Dear Mr. Jednak:

In order to accommodate technological changes, implement the Uniform Mobile Telecommunications System and enhance system performance in the State of Connecticut, AT&T Wireless ("AT&T") will be changing its equipment configuration at the above referenced telecommunications facility. AT&T Wireless currently maintains nine (9) antennas at the 185-foot level of an existing 291-foot guyed tower located at 60 North Eagleville Road, in Mansfield, CT. The tower is owned by the University of Connecticut. The property is owned by University of Connecticut.

AT&T Wireless now seeks to install three (3) additional antennas at the 291-foot level of the tower, to be mounted on the existing tower, as well as install six (6) new RRUS-32 Remote Radio Units ("RRU"), and install 3 new RRUS-B14 RRUs on the tower, behind the antennas. In addition, a single new surge suppressor will be installed behind the Gamma sector antennas.

This letter is intended to serve as the required notice to the tower owner and the property owner. As required by the Regulations of Connecticut State Agencies ("RCSA") section 16-50j-73, the Connecticut Siting Council ("CSC") has been notified of the proposed changes and will review AT&T's proposal. Please accept this letter as notification under RCSA section 16-50j-73 of construction which constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2).

10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

EMPIRE telecom
A QualTek Company

The enclosed letter and documents to the CSC fully describes AT&T's proposal for the above referenced site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-286-4006 or contact Melanie Bachman, Acting Executive Director of the CSC at 860-872-2935.

Respectfully submitted,

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144
jandrews@empiretelecomm.com

Enclosures

cc: Melanie Bachman, Connecticut Siting Council

Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT1077

Storrs UCONN
60 North Eagleville Road
Mansfield, CT 06268

September 19, 2017

Centerline Communications Project Number: 950006-075

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**35.11 %**

September 19, 2017

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

Emissions Analysis for Site: **CT1077 – Storrs UCONN**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility located at **60 North Eagleville Road, Mansfield, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

General population/uncontrolled exposure limits apply to situations in which the general population 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 population 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.

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **60 North Eagleville Road, Mansfield, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves. For this study the composite MPE values from the two listed adjacent towers are added into the composite value for this site.

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	850 MHz	2	30
LTE	850 MHz	2	60
LTE	700 MHz	6	60
LTE	2300 MHz (WCS)	2	60
LTE	2100 MHz (AWS)	2	60
LTE	1900 MHz (PCS)	4	60

Table 1: Channel Data Table

The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS), 2100 MHz and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Powerwave 7770	185
A	2	CCI OPA-65R-LCUU-H8	185
A	3	CCI TPA-65R-LCUUUU-H8	185
A	4	CCI HPA-65R-BUU-H8	185
B	1	Powerwave 7770	185
B	2	CCI OPA-65R-LCUU-H6	185
B	3	Quintel QS66512-2	185
B	4	CCI HPA-65R-BUU-H6	185
C	1	Powerwave 7770	185
C	2	CCI OPA-65R-LCUU-H8	185
C	3	CCI TPA-65R-LCUUUU-H8	185
C	4	CCI HPA-65R-BUU-H8	185

Table 2: Antenna Data

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

RESULTS

Per the calculations completed for the proposed AT&T configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.16
Antenna A2	CCI OPA-65R-LCUU-H8	850 MHz / 700 MHz / 2300 MHz (WCS)	13.35 / 12.55 / 14.95	6	360	8,505.20	1.45
Antenna A3	CCI TPA-65R-LCUUUU-H8	700 MHz / 2100 MHz (AWS) / 1900 MHz (PCS)	12.95 / 14.25 / 13.75	6	360	8,405.43	1.25
Antenna A4	CCI HPA-65R-BUU-H8	700 MHz / 1900 MHz (PCS)	13.15 / 14.95	4	240	6,229.75	1.02
						Sector A Composite MPE%	**3.88**
Antenna B1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.16
Antenna B2	CCI OPA-65R-LCUU-H6	850 MHz / 700 MHz / 2300 MHz (WCS)	12.45 / 11.65 / 15.45	6	360	8,073.14	1.31
Antenna B3	Quintel QS66512-2	700 MHz / 2100 MHz (AWS) / 1900 MHz (PCS)	10.85 / 14.35 / 13.85	6	360	7,638.60	1.04
Antenna B4	CCI HPA-65R-BUU-H6	700 MHz / 1900 MHz (PCS)	11.95 / 14.75	4	240	5,462.56	0.85
						Sector B Composite MPE%	**3.37**
Antenna C1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.16
Antenna C2	CCI OPA-65R-LCUU-H8	850 MHz / 700 MHz / 2300 MHz (WCS)	13.35 / 12.55 / 14.95	6	360	8,505.20	1.45
Antenna C3	CCI TPA-65R-LCUUUU-H8	700 MHz / 2100 MHz (AWS) / 1900 MHz (PCS)	12.95 / 14.25 / 13.75	6	360	8,405.43	1.25
Antenna C4	CCI HPA-65R-BUU-H8	700 MHz / 1900 MHz (PCS)	13.15 / 14.95	4	240	6,229.75	1.02
						Sector C Composite MPE%	**3.88**

Table 3: AT&T Emissions Levels

The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum AT&T MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, the sectors with the largest calculated MPE% are Sectors A & C. *Table 5* below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max Sector Value	**3.88 %**
UCONN Police	0.12 %
Existing	14.12 %
Nextel	0.10 %
MetroPCS	0.14 %
Verizon Wireless	6.60 %
Adjacent Tower 1 - 82 No. Eagleville (Sprint)	2.19 %
Adjacent Tower 2 - No. Eagleville (SNET)	7.96 %
Site Total MPE %:	**35.11 %**

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	3.88 %
AT&T Sector B Total:	3.37 %
AT&T Sector C Total:	3.88 %
Site Total:	35.11 %

Table 5: Site MPE Summary

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s). For this site, the sectors with the largest calculated MPE% are Sectors A & C.

AT&T _ Frequency Band / Technology (Sector A & C)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS – Antenna 1	2	414.12	185	0.93	850 MHz	567	0.16%
AT&T 850 MHz LTE– Antenna 2	2	1,297.63	185	2.91	850 MHz	567	0.51%
AT&T 700 MHz LTE– Antenna 2	2	1,079.32	185	2.42	700 MHz	467	0.52%
AT&T 2300 MHz (WCS) LTE– Antenna 2	2	1,875.65	185	4.21	2300 MHz (WCS)	1000	0.42%
AT&T 700 MHz LTE– Antenna 3	2	1,183.45	185	2.66	700 MHz	467	0.57%
AT&T 2100 MHz (AWS) LTE– Antenna 3	2	1,596.44	185	3.58	2100 MHz (AWS)	1000	0.36%
AT&T 1900 MHz (PCS) LTE– Antenna 3	2	1,422.82	185	3.19	1900 MHz (PCS)	1000	0.32%
AT&T 700 MHz LTE– Antenna 4	2	1,239.23	185	2.78	700 MHz	467	0.60%
AT&T 1900 MHz (PCS) LTE– Antenna 4	2	1,875.65	185	4.21	1900 MHz (PCS)	1000	0.42%
						Total:	**3.88%**

Table 6: AT&T Maximum Sector MPE Power Values

Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	3.88 %
Sector B:	3.37 %
Sector C:	3.88 %
AT&T Maximum Total (per sector):	3.88 %
Site Total:	35.11 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **35.11 %** of the allowable FCC established general population 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
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767

CENTEK engineering

Centered on Solutions℠

Structural Analysis Report

327' Existing Guyed Lattice Tower

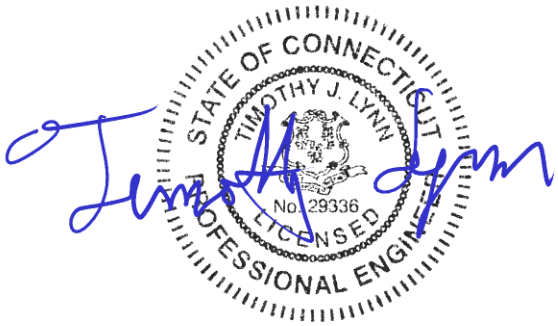
AT&T Mobility – LTE 6C/7C

AT&T Site Ref: CT1077
Storrs-Uconn

60 North Eagleville Road
Mansfield, CT

Centek Project No. 17004.42

Date: September 11, 2017



Prepared for:

AT&T Mobility
500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06067

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Introduction

The purpose of this report is to summarize the results of the non-linear, P-Δ structural analysis of the antenna upgrade proposed by AT&T on the existing guyed lattice tower located in Storrs, CT.

The host tower is a 327-ft, three legged, guyed lattice tower. The original tower design documents were unavailable for use in this report. The tower geometry, structure member sizes and foundation information were obtained from a previous structural report prepared by Destek job no. 1629069 dated October 17, 2016.

Antenna and appurtenance information were obtained from the aforementioned structural report and a AT&T RF data sheet.

The tower consists of one (1) pole section, fifteen (15) straight and one (1) tapered base vertical sections consisting of solid round legs steel grade of ASTM A572-50. Diagonal and horizontal lateral support bracing consists of solid round steel grade of ASTM A36. The vertical tower sections are connected by bolted flanges with the diagonal and horizontal bracing to legs consisting of welded connections. The width of the tower face is 3.67-ft throughout its length.

Antenna and Appurtenance Summary

The existing and proposed loads considered in the analysis consist of the following:

- UNKNOWN (EXISTING):
  Antennas: One (1) 4-ft lighting rod and one (1) light beacon mounted to the top of the tower.
  Cables: One (1) 1/2" rigid conduit
- UNKNOWN (EXISTING):
  Antennas: One (1) Shively Labs 6813 FM antenna flush mounted with an elevation of 305-ft above grade.
  Cables: One (1) 7/8" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (FUTURE):
  Antennas: Three (3) 6-ft microwave dishes leg mounted with a RAD center elevation of 290-ft above grade.
  Cables: Three (3) WE65 cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: Two (2) Celwave PD1110 omni-directional antennas mounted on one (1) 4-ft sidearm with an elevation of 277-ft above grade.
  Cables: Two (2) 1/2" ∅ coax cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: One (1) Kathrein Scala OGT9-840 and one (1) Decibel DB810K omni-directional antennas leg mounted with an elevation of 267-ft above grade.
  Cables: Two (2) 1-5/8" ∅ coax cables running on a leg/face of the existing tower as specified in Section 3 of this report.

- UNKNOWN (EXISTING):
  Antennas: Two (2) Kathrein Scala AP14-850/105 panel antennas mounted on a 3-ft standoff with an elevation of 255-ft above grade.
  Cables: Two (2) 1-5/8 ∅ coax cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (FUTURE):
  Antennas: Five (5) Sinclair SC479-HF1LDF omni-directional antennas (3 inverted), two (2) Bird 432-83H-01T tower top amplifiers and one (1) Sinclair SE419-SF3P4LDF panel antenna leg mounted with an elevation of 250-ft above grade.
  Cables: Six (6) 1-5/8" ∅ and two (2) 1/2 "∅ coax cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: Two (2) Kathrein Scala OGT9-840 omni-directional antennas (inverted) leg mounted with an elevation of 253-ft above grade.
  Cables: Two (2) 1-5/8" ∅ coax cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (FUTURE):
  Antennas: Five (5) Sinclair SC479-HF1LDF omni-directional antennas (3 inverted) and two (2) Bird 432-83H-01T tower top amplifiers leg mounted with an elevation of 240-ft above grade.
  Cables: Five (5) 1-5/8" ∅ and two (2) 1/2 "∅ coax cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: One (1) Shively Labs 6813 FM antenna flush mounted with an elevation of 211-ft above grade.
  Cables: One (1) 7/8" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: One (1) Shively Labs 6813 FM antenna flush mounted with an elevation of 305-ft above grade.
  Cables: One (1) 7/8" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: One (1) Shively Labs 6812 FM antenna flush mounted with an elevation of 305-ft above grade.
  Cables: One (1) 1/2" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: One (1) 6-ft Yagi antenna flush mounted with an elevation of 190-ft above grade.
  Cables: One (1) 1/2" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.

- UNKNOWN (EXISTING):
  Antennas: One (1) 2'x1'x5" panel antenna flush mounted with an elevation of 172'-2"-ft above grade.
  Cables: One (1) 7/8" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: One (1) 8' omni-directional antenna flush mounted with an elevation of 172-ft above grade.
  Cables: One (1) 7/8" ∅ coax cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: One (1) 5' grid dish antenna flush mounted with an elevation of 171'-6"-ft above grade.
  Cables: One (1) 1/2" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: One (1) 2'x1'x5" panel antenna flush mounted with an elevation of 158'-10"-ft above grade.
  Cables: One (1) 1/2" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: Three (3) light beacons mounted to the tower with an elevation of 157'.
  Cables: One (1) 1/2" rigid conduit.
- UNKNOWN (FUTURE):
  Antennas: Two (2) 6-ft microwave dishes w/ ice shields pipe mounted with a RAD center elevation of 116-ft above grade.
  Cables: Two (2) EW63 cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: One (1) Celwave PD1110 omni-directional antenna mounted on one (1) 2-ft sidearm with an elevation of 112-ft above grade.
  Cables: One (1) 7/8" ∅ coax cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (FUTURE):
  Antennas: One (1) 6-ft microwave dish pipe mounted with a RAD center elevation of 104-ft above grade.
  Cables: One (1) EW63 cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: One (1) Kathrein PR-850 paraflector leg mounted with an elevation of 94-ft above grade.
  Cables: One (1) 1/2" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.

- UNKNOWN (EXISTING):
  Antennas: One (1) Decibel ASP-962 yagi leg mounted with an elevation of 94-ft above grade.
  Cables: One (1) 1/2" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: One (1) Decibel DB212-1 dipole leg mounted with an elevation of 70-ft above grade.
  Cables: One (1) 7/8" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: One (1) 6-ft yagi mounted on a 2-ft sidearm with an elevation of 18-ft above grade.
  Cables: One (1) 1/2" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (EXISTING):
  Antennas: One (1) 4-ft microwave dish mounted on a 2-ft sidearm with an elevation of 13-ft above grade.
  Cables: One (1) 1/2" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- VERIZON (EXISTING):
  Antennas: Three (3) Antel BXA-80063-4CF panel antennas, three (3) JMA X7C-FRO-440 panel antennas, six (6) Andrew HBXX-6517DS panel antennas, three (3) Alcatel-Lucent RRH-2x40-700, three (3) Alcatel-Lucent RRH-2x60-AWS, three (3) Alcatel-Lucent RRH-2x90-PCS one (1) Raycap RC2DC-3315-PF-48 distribution box mounted on (1) 13-ft platform w/ handrails with a rad center elevation of 84-ft above grade level.
  Cables: Twelve (12) 1-1/4" ∅ coax cables and one (1) 1-5/8" ∅ fiber cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- AT&T (EXISTING TO REMAIN):
  Antennas: Three (3) Powerwave 7770 panel antennas, one (1) CCI OPA-65R-LCUU-H6 panel antenna, two (2) CCI OPA-65R-LCUU-H8 panel antennas, one (1) CCI HPA-65R-BUU-H6 panel antenna, two (2) CCI HPA-65R-BUU-H8 panel antennas, three (3) CCI DTMABP7819VG12A TMAs, six (6) CCI TPX-070821 triplexers, three (3) Ericsson RRUS-11, six (6) Ericsson RRUS-32 and two (2) Raycap DC6-48-60-18-8F surge arrestors mounted on three (3) 12-ft V-Frames with a RAD center elevation of 185-ft above grade level.
  Coax Cables: Twelve (12) 1-5/8" ∅ coax cables, two (2) fiber cables and four (4) dc control cables running on the inside of the existing tower.
- **AT&T (PROPOSED):**
  Antennas: Two (2) CCI TPA-65R-LCUUUU-H8 panel antenna, one (1) Qunitel QS66512-2 panel antenna, six (6) Ericsson RRUS-32, three (3) B14 4478 and one (1) Raycap DC6-48-60-18-8F surge arrestor mounted on three (3) 12-ft V-Frames with a RAD center elevation of 185-ft above grade level.
  Coax Cables: One (1) fiber cable and two (2) dc control cables running on the inside of the existing tower.

Primary Assumptions Used in the Analysis

- The tower structure's theoretical capacity not including any assessment of the condition of the tower.
- The tower carries the horizontal and vertical loads due to the weight of antennas, ice load and wind.
- Tower is properly installed and maintained.
- Tower is in plumb condition.
- Tower loading for antennas and mounts as listed in this report.
- All bolts are appropriately tightened providing the necessary connection continuity.
- All welds are fabricated with ER-70S-6 electrodes.
- All members are assumed to be as specified in the original tower design documents.
- All members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
- All member protective coatings are in good condition.
- All tower members were properly designed, detailed, fabricated, installed and have been properly maintained since erection.
- Any deviation from the analyzed antenna loading will require a new analysis for verification of structural adequacy.
- All coax cables routed as specified in Section 3 of this report.

Analysis

The existing tower was analyzed using a comprehensive computer program entitled tnxTower. The program analyzes the tower, considering the worst case loading condition. The tower is considered as loaded by concentric forces along the tower, and the model assumes that the tower members are subjected to bending, axial, and shear forces.

The existing tower was analyzed for the controlling basic wind speed (3-second gust) with no ice and the applicable wind and ice combination to determine stresses in members as per guidelines of TIA-222-G-2005 entitled "Structural Standard for Antenna Support Structures and Antennas", the American Institute of Steel Construction (AISC) and the Manual of Steel Construction; Load and Resistance Factor Design (LRFD).

The controlling wind speed is determined by evaluating the local available wind speed data as provided in Appendix N of the CSBC[1] and the wind speed data available in the TIA-222-G-2005 Standard.

Tower Loading

Tower loading was determined by the basic wind speed as applied to projected surface areas with modification factors per TIA-222-G-2005, gravity loads of the tower structure and its components, and the application of 1.00" radial ice on the tower structure and its components.

Basic Wind Speed:	Tolland County; v = 95-105 mph (3-second gust)	*[Annex B of TIA-222-G-2005]*
	Storrs; v = 101 mph (3 second gust)	*[Appendix N of the 2016 CT Building Code]*
Load Cases:	Load Case 1; 101 mph wind speed w/ no ice plus gravity load – used in calculation of tower stresses and rotation.	*[Appendix N of the 2016 CT Building Code]*
	Load Case 2; 40 mph wind speed w/ 1.00" radial ice plus gravity load – used in calculation of tower stresses.	*[Annex B of TIA-222-G-2005]*

[1] The 2012 International Building Code as amended by the 2016 Connecticut State Building Code (CSBC).

Tower Capacity

- Calculated stresses were found to be within allowable limits. In Load Case 2, per tnxTower "Section Capacity Table", this tower was found to be at **89.7%** of its total capacity.

Tower Section	Elevation	Stress Ratio (percentage of capacity)	Result
Leg (T16)	0'-0"-6'-6"	89.7%	**PASS**
Diagonal (T13)	39'-10"-59'-10"	45.9%	**PASS**
Top Girt (T16)	0'-0"-6'-6"	25.1%	**PASS**
Guy A @ 235-ft radius (T7)	166.5-ft	49.7%	**PASS**

Foundations and Anchorage

The existing tower base foundation consists of a 3.0-ft diameter x 2.5-ft long reinforced concrete pier on a 10-ft square x 2.0-ft thick reinforced concrete pad bearing directly on the existing sub grade. Additionally, guy wire loading is transferred to three (3) 4.5'x4.0'x24.0' concrete support blocks. The sub-grade conditions used as the basis for the foundation analysis were derived from the aforementioned structural report.

- The worst case tower base and guy anchor reactions developed from the governing Load Case 1 were used in the verification of the anchorage foundations:

Tower Guy Reactions	
Vector	**Inner**
Horizontal (In Plane of GW)	139 kips
Horizontal (Out of Plane of GW)	5 kips
Vertical	109 kips
Resultant Force at end of Guy Wire	176 kips
Tower Base Reactions	
Vector	**Proposed Reaction**
Horizontal Shear	4.0 kips
Axial Compression	580.0 kips

Foundation	Design Limit	TIA-222-G Section 9.4 FS[(1)]	Proposed Loading (FS)[(1)]	Result
Reinf. Conc. Anchor Block	Uplift	1.0	2.27	**PASS**
	Sliding	1.0	2.90	**PASS**
		Ultimate Bearing	**Proposed**	
Base Foundation	Bearing	11.0 ksf	6.13 ksf	**PASS**

Note 1: FS denotes 'Factor of Safety'.

Conclusion

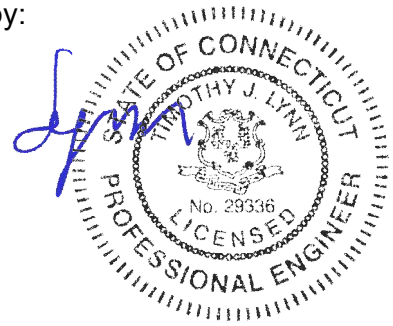
This analysis shows that the subject tower **is adequate** to support the proposed modified antenna configuration with the below recommendations.

The analysis is based, in part, on the information provided to this office by AT&T. If the existing conditions are different than the information in this report, Centek Engineering, Inc. must be contacted for resolution of any potential issues.

Please feel free to call with any questions or comments.

Respectfully Submitted by:

Timothy J. Lynn, PE
Structural Engineer



Standard Conditions for Furnishing of Professional Engineering Services on Existing Structures

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessarily limited to:

- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from the field and/or drawings in the possession of Centek Engineering, Inc. or generated by field inspections or measurements of the structure.
- It is the responsibility of the client to ensure that the information provided to Centek Engineering, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated. It is therefore assumed that its capacity has not significantly changed from the “as new” condition.
- All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest revision of ANSI/ASCE10 & ANSI/EIA-222
- All services performed, results obtained, and recommendations made are in accordance with generally accepted engineering principles and practices. Centek Engineering, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

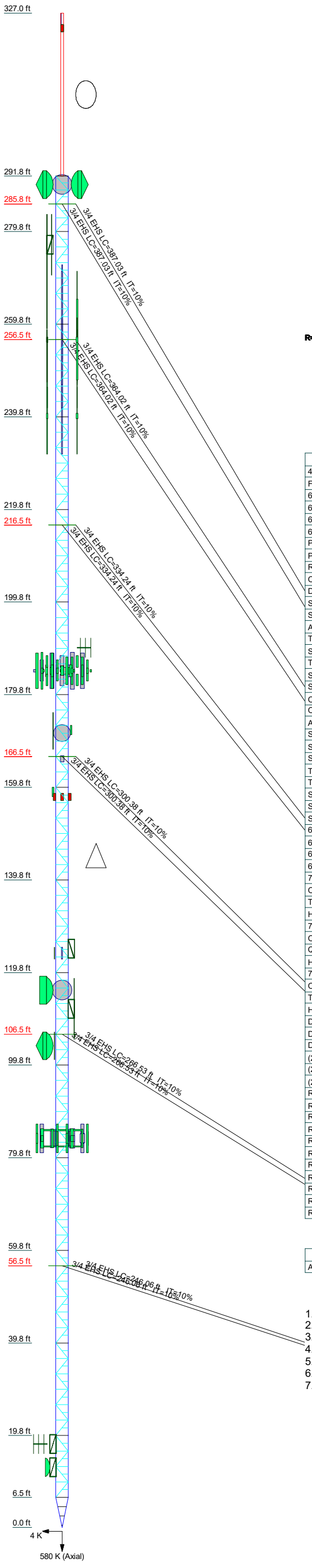
GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM

tnxTower, is an integrated structural analysis and design software package for Designed specifically for the telecommunications industry, tnxTower, formerly ERITower, automates much of the tower analysis and design required by the TIA/EIA 222 Standard.

tnxTower Features:

- tnxTower can analyze and design 3- and 4-sided guyed towers, 3- and 4-sided self-supporting towers and either round or tapered ground mounted poles with or without guys.
- The program analyzes towers using the TIA-222-G (2005) standard or any of the previous TIA/EIA standards back to RS-222 (1959). Steel design is checked using the AISC ASD 9th Edition or the AISC LRFD specifications.
- Linear and non-linear (P-delta) analyses can be used in determining displacements and forces in the structure. Wind pressures and forces are automatically calculated.
- Extensive graphics plots include material take-off, shear-moment, leg compression, displacement, twist, feed line, guy anchor and stress plots.
- tnxTower contains unique features such as True Cable behavior, hog rod take-up, foundation stiffness and much more.

Section	Legs	Leg Grade	Diagonals	Diagonal Grade	Top Girts	Mid Girts	Bottom Girts	Horizontals	Sec. Horizontals	Top Guy Pull-Offs	Face Width (ft)	# Panels @ (ft)	Weight (K)
T1	L1												3.1
T2	P10.75x0.843												
T3	SR 2												2.0
T4												3.67	
T5	SR 2 1/4	A53-B-35								MC12x35		0.895833	
T6													1.3
T7	SR 2 1/2		SR 1 3/8	N.A.						N.A.		N.A.	
T8													2.7
T9	SR 2 3/4									MC12x35		4 @ 3	
T10													1.5
T11	SR 2 1/2		SR 1 1/2	N.A.						N.A.		N.A.	
T12													2.9
T13	SR 3		SR 1 1/4	N.A.						MC12x35		N.A.	
T14													1.6
T15													
T16		A572-50	N.A.	N.A.	12x3/8	9x3/8	12x3/8	N.A.	N.A.	N.A.		7 @ 1	0.8
												4 @ 3.335	1.3
													2.0
													3.2
													2.0
													1.7
													1.8
													3.2
													2.1
													2.0
												78 @ 3.33333	36.4



DESIGNED APPURTENANCE LOADING

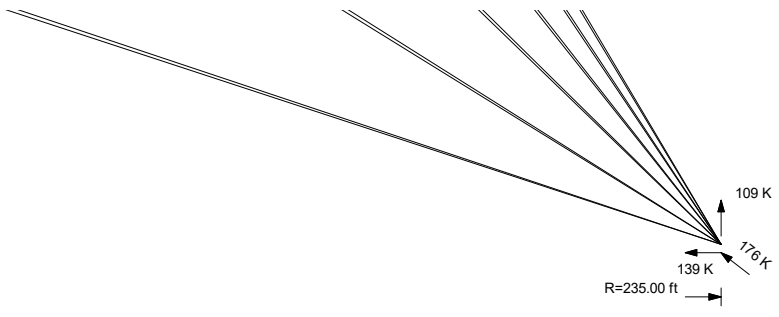
TYPE	ELEVATION	TYPE	ELEVATION
4-ft Lightning Rod	325	RRUS-32 (AT⌶ - Proposed)	185
Flash Beacon Lighting	323	RRUS-32 (AT⌶ - Proposed)	185
6813 1-Bay w/radome (WHUS-34)	305	RRUS-32 (AT⌶ - Proposed)	185
6-ft Dish (CSP - Future)	290	RRUS-32 (AT⌶ - Proposed)	185
6-ft Dish (CSP - Future)	290	B14 4478 (AT⌶ - Proposed)	185
6-ft Dish (CSP - Future)	290	B14 4478 (AT⌶ - Proposed)	185
PD1110 (WHUS-40)	277	B14 4478 (AT⌶ - Proposed)	185
PD1110 (WHUS-39)	277	DC6-48-60-18-8F Surge Arrestor (AT⌶ - Existing)	185
ROHN 4-ft Side Arm (WHUS-40,39)	277	DC6-48-60-18-8F Surge Arrestor (AT⌶ - Existing)	185
OGT9-840 (CSP-9)	267	DC6-48-60-18-8F Surge Arrestor (AT⌶ - Existing)	185
DB810K (CSP-5)	267	12' V-Frame (AT⌶ - Existing)	185
SC479-HF1LDF (CSP-12 Future)	264	12' V-Frame (AT⌶ - Existing)	185
SC479-HF1LDF (CSP-13 Future)	264	12' V-Frame (AT⌶ - Existing)	185
AP14-850/105 (CSP-4)	261	24"x12"x5" Panel	172.17
TTA 432-83H-01T (CSP-19 Future)	256.5	8' x 3" Dia Omni	172
SE419-SF3P4LDF (CSP-16 Future)	256.5	5' Gird Dish	171.5
TTA 432-83H-01T (CSP-15 Future)	256.5	16"x12"x3" TTA	166
SC479-HF1LDF (CSP-20 Future)	254	24"x12"x5" Panel	158.83
SC479-HF1LDF (CSP-21 Future)	254	Beacon	157
OGT9-840 (CSP-7 - Inverted)	253	Beacon	157
OGT9-840 (CSP-11 - Inverted)	253	Beacon	157
AP14-850/105 (CSP-6)	252	Sabre 2' Sidearm	125
SC479-HF1LDF (CSP-18 Future - Inverted)	249	6'x4' Ice Shield	124
SC479-HF1LDF (CSP-14 Future - Inverted)	249	9'x10' Ice Shield	124
SC479-HF1LDF (CSP-17 Future - Inverted)	249	2'6"x4" Pipe Mount	124
TTA 432-83H-01T (CSP-23 Future)	240	2'6"x4" Pipe Mount	124
TTA 432-83H-01T (CSP-26 Future)	240	6-ft Dish	116
SC479-HF1LDF (CSP-22 Future - Inverted)	239	6-ft Dish	116
SC479-HF1LDF (CSP-24 Future - Inverted)	239	Sabre 2' Sidearm	112
SC479-HF1LDF (CSP-25 Future - Inverted)	239	PD1110	112
6813 1-Bay w/radome (WHUS-36)	211	6'x4" Pipe Mount	104
6813 1-Bay w/radome (WHUS-34)	198	6-ft Dish	104
6812 (CPR-32 - Future)	198	PR-850	94
6' Yagi (CPR-33 - Future)	190	ASP-962	94
7770.00 (AT⌶ - Existing)	185	HBXX-6517DS (Verizon)	84
OPA-65R-LCUU-H8 (AT⌶ - Existing)	185	BXA-80063-4CF (Verizon)	84
TPA-65R-LCUUUU-H8 (AT⌶ - Proposed)	185	X7C-FRO-440 (Verizon)	84
HPA-65R-BUU-H8 (AT⌶ - Existing)	185	HBXX-6517DS (Verizon)	84
7770.00 (AT⌶ - Existing)	185	HBXX-6517DS (Verizon)	84
OPA-65R-LCUU-H6 (AT⌶ - Existing)	185	BXA-80063-4CF (Verizon)	84
QS66512-2 (AT⌶ - Proposed)	185	X7C-FRO-440 (Verizon)	84
HPA-65R-BUU-H6 (AT⌶ - Existing)	185	HBXX-6517DS (Verizon)	84
7770.00 (AT⌶ - Existing)	185	RRH2x60-AWS (Verizon)	84
OPA-65R-LCUU-H8 (AT⌶ - Existing)	185	RRH2x60-AWS (Verizon)	84
TPA-65R-LCUUUU-H8 (AT⌶ - Proposed)	185	RRH2x60-AWS (Verizon)	84
HPA-65R-BUU-H8 (AT⌶ - Existing)	185	RRH2x40-07-U (Verizon)	84
DTMABP7819VG12A TMA (AT⌶ - Existing)	185	RRH2x40-07-U (Verizon)	84
DTMABP7819VG12A TMA (AT⌶ - Existing)	185	RRH2x40-07-U (Verizon)	84
DTMABP7819VG12A TMA (AT⌶ - Existing)	185	FD-RRH 4x45 1900 (Verizon)	84
(2) TPX-070821 (AT⌶ - Existing)	185	FD-RRH 4x45 1900 (Verizon)	84
(2) TPX-070821 (AT⌶ - Existing)	185	FD-RRH 4x45 1900 (Verizon)	84
(2) TPX-070821 (AT⌶ - Existing)	185	RC2DC-3315-PF-48 (Verizon)	84
RRUS-11 (AT⌶ - Existing)	185	13' Platform w/rails (Verizon)	84
RRUS-11 (AT⌶ - Existing)	185	HBXX-6517DS (Verizon)	84
RRUS-11 (AT⌶ - Existing)	185	X7C-FRO-440 (Verizon)	84
RRUS-32 (AT⌶ - Existing)	185	HBXX-6517DS (Verizon)	84
RRUS-32 (AT⌶ - Existing)	185	BXA-80063-4CF (Verizon)	84
RRUS-32 (AT⌶ - Existing)	185	DB212-1 (CSP-10)	70
RRUS-32 (AT⌶ - Existing)	185	Sabre 2' Sidearm	18
RRUS-32 (AT⌶ - Existing)	185	6' Yagi	18
RRUS-32 (AT⌶ - Existing)	185	Sabre 2' Sidearm	13
RRUS-32 (AT⌶ - Proposed)	185	4-ft Dish	13
RRUS-32 (AT⌶ - Proposed)	185		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-G Standard.
2. Tower designed for a 101 mph basic wind in accordance with the TIA-222-G Standard.
3. Tower is also designed for a 40 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Structure Class II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 89.7%



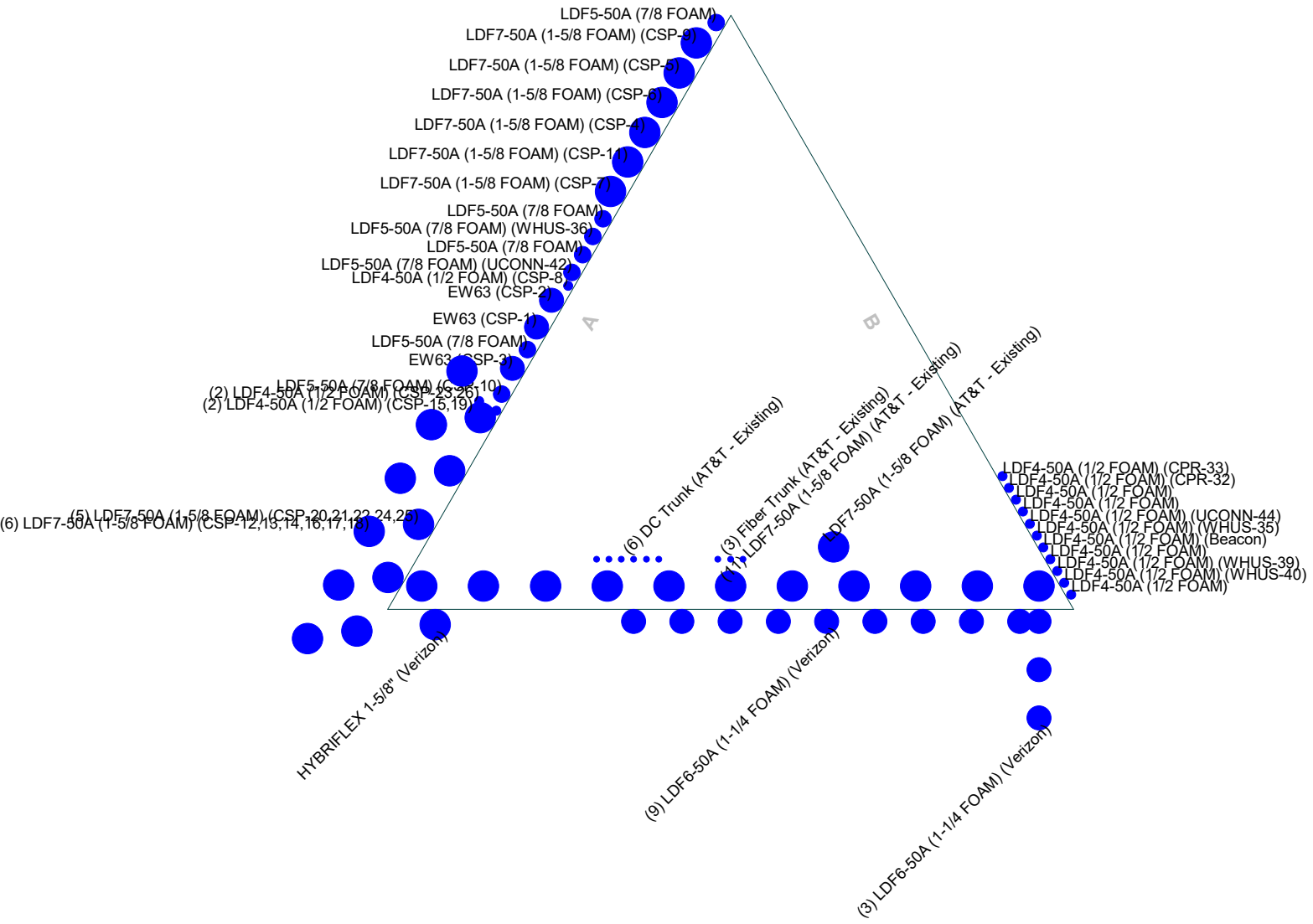
ALL REACTIONS ARE FACTORED

Centek Engineering Inc.
63-2 North Branford Rd.
Branford, CT 06405
Phone: (203) 488-0580
FAX: (203) 488-8587

Job:	***17004.42 - CT1077***		
Project:	***327' Guyed Tower - N. Eagleville Road Storrs, CT***		
Client: AT&T	Drawn by: TJL	App'd:	
Code: TIA-222-G	Date: 09/11/17	Scale: NTS	
Path:		Dwg No. E-1	

Feed Line Plan

Round Flat App In Face App Out Face



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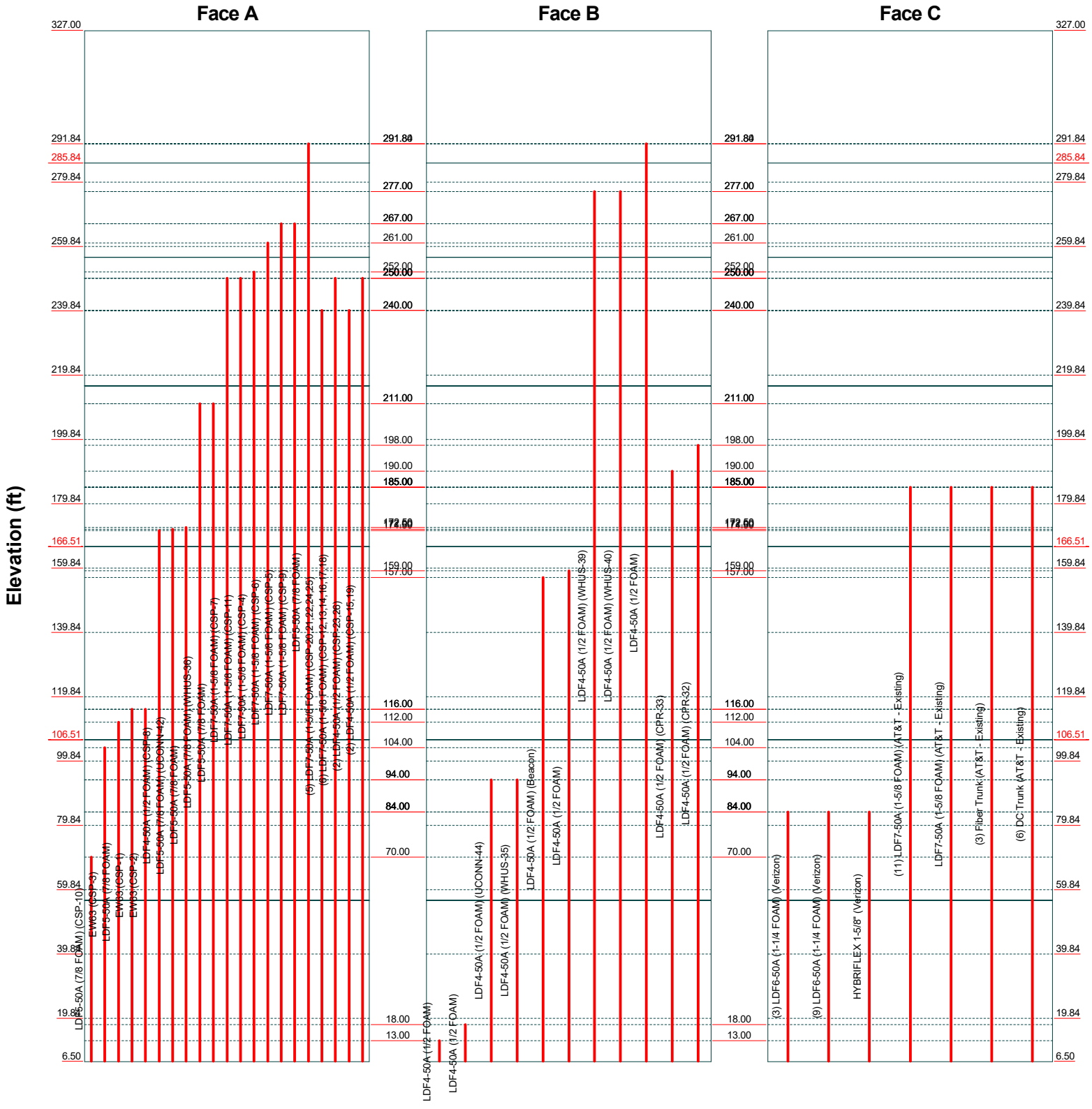
Client: AT&T	Drawn by: TJL	App'd:	
Code: TIA-222-G	Date: 09/11/17	Scale: NTS	
Path:		Dwg No. E-7	

Feed Line Distribution Chart
6'6" - 327'

Round | Flat | App In Face | App Out Face | Truss Leg



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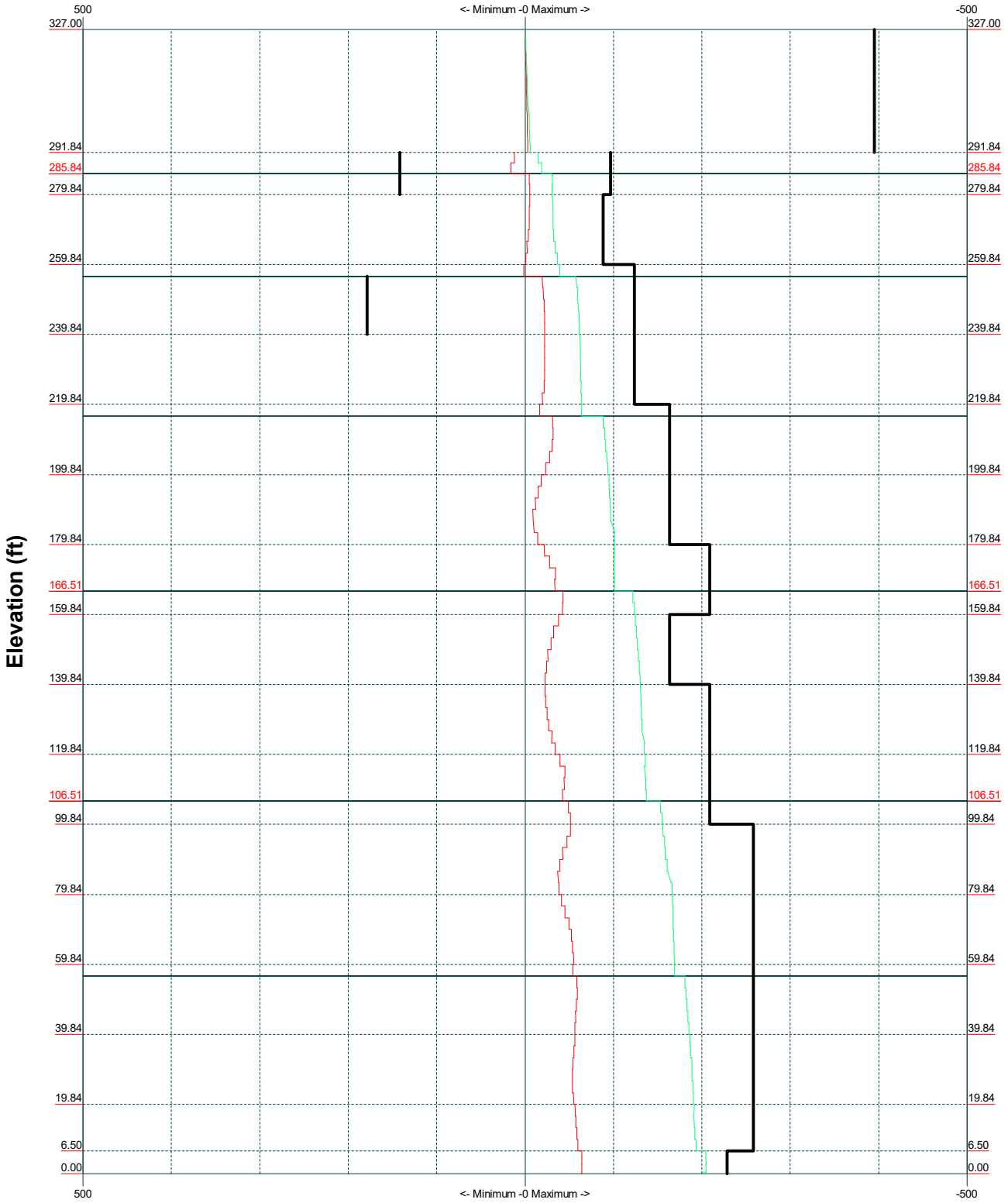
Client: AT&T	Drawn by: TJL	App'd:	
Code: TIA-222-G	Date: 09/11/17	Scale: NTS	
Path:		Dwg No. E-7	

TIA-222-G - 101 mph/40 mph 1.0000 in Ice Exposure C

Leg Capacity ——— **Leg Compression (K)**



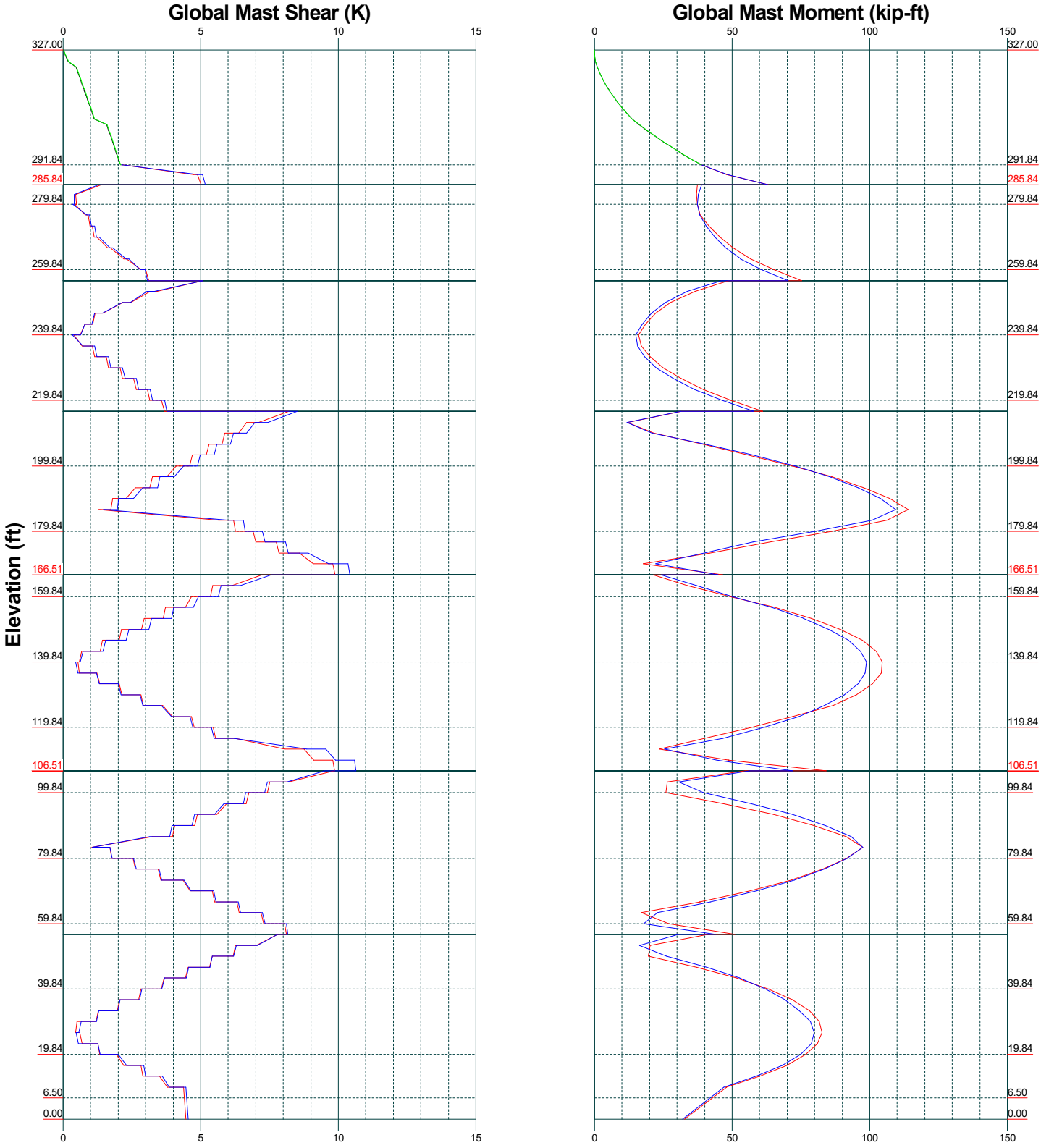
Centek Engineering Inc.
63-2 North Branford Rd.
Branford, CT 06405
Phone: (203) 488-0580
FAX: (203) 488-8587

Job: ***17004.42 - CT1077***			
Project: ***327' Guyed Tower - N. Eagleville Road Storrs, CT***			
Client: AT&T	Drawn by: TJL	App'd:	
Code: TIA-222-G	Date: 09/11/17	Scale: NTS	
Path:		Dwg No. E-3	

TIA-222-G - 101 mph/40 mph 1.0000 in Ice Exposure C

Maximum Values

Vx Vz Mx Mz



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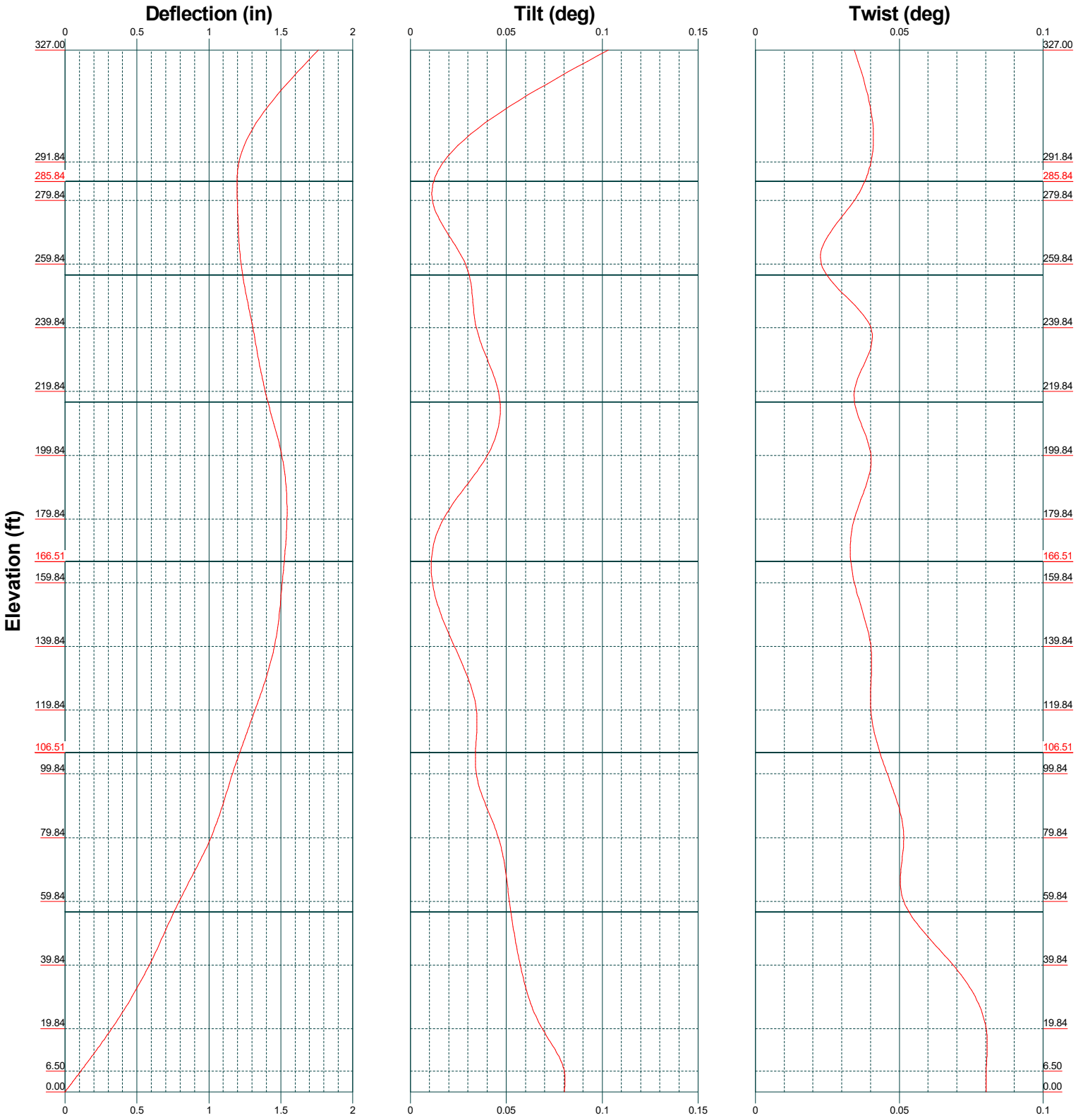
Job: ***17004.42 - CT1077***			
Project: ***327' Guyed Tower - N. Eagleville Road Storrs, CT***			
Client: AT&T	Drawn by: TJL	App'd:	
Code: TIA-222-G	Date: 09/11/17	Scale: NTS	
Path:		Dwg No. E-4	

TIA-222-G - Service - 60 mph

Maximum Values



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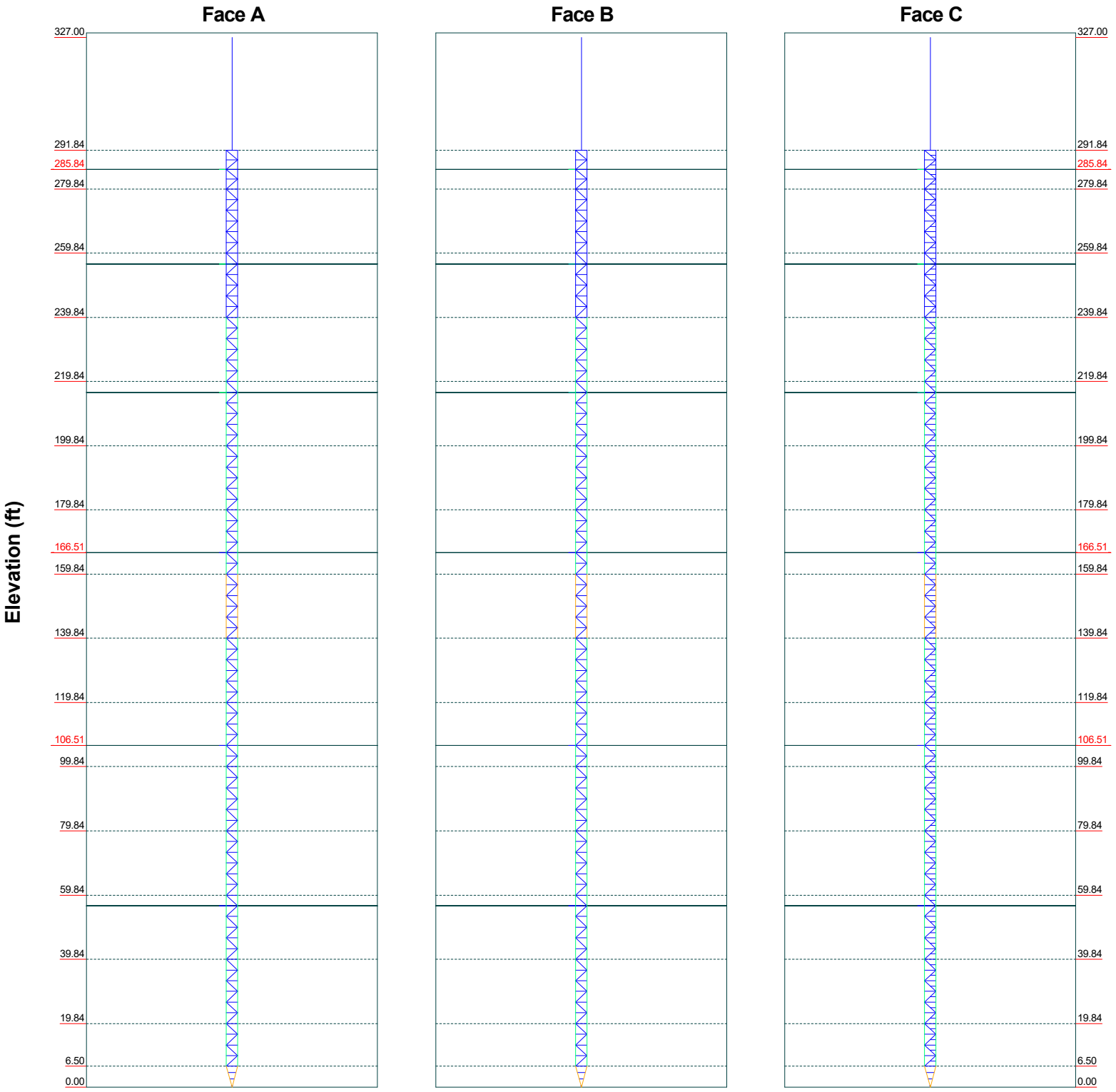
Job: ***17004.42 - CT1077***			
Project: ***327' Guyed Tower - N. Eagleville Road Storrs, CT***			
Client: AT&T	Drawn by: TJL	App'd:	
Code: TIA-222-G	Date: 09/11/17	Scale: NTS	
Path:		Dwg No. E-5	

Stress Distribution Chart
0' - 327'

> 100% | 90%-100% | 75%-90% | 50%-75% | < 50% Overstress



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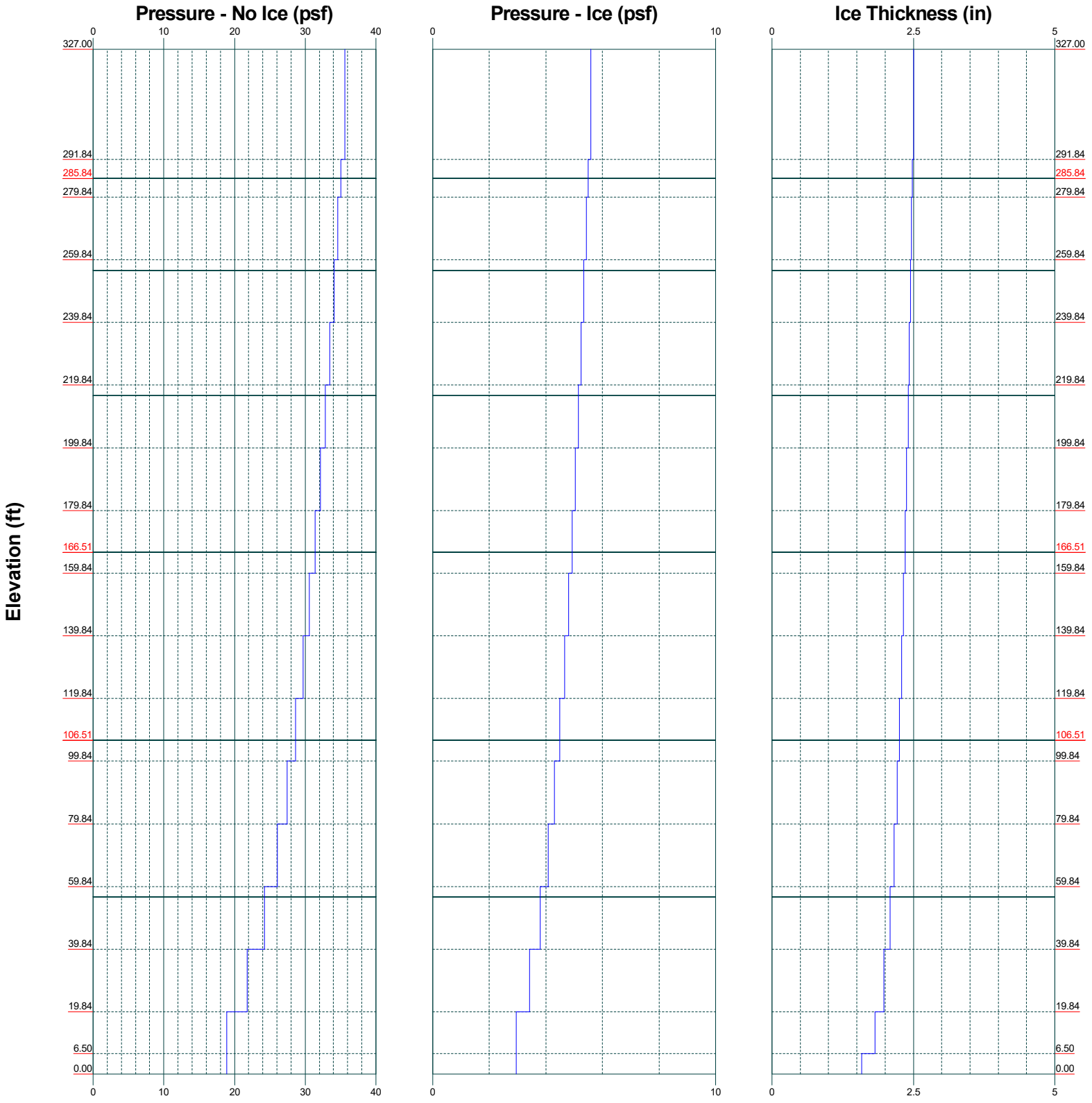
Job: ***17004.42 - CT1077***			
Project: ***327' Guyed Tower - N. Eagleville Road Storrs, CT***			
Client: AT&T	Drawn by: TJL	App'd:	
Code: TIA-222-G	Date: 09/11/17	Scale: NTS	
Path:		Dwg No. E-8	

Wind Pressures and Ice Thickness

TIA-222-G - 101 mph/40 mph 1.0000 in Ice Exposure C



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FAX: (203) 488-8587

Job: ***17004.42 - CT1077***			
Project: ***327' Guyed Tower - N. Eagleville Road Storrs, CT***			
Client: AT&T	Drawn by: TJL	App'd:	
Code: TIA-222-G	Date: 09/11/17	Scale: NTS	
Path:		Dwg No. E-9	

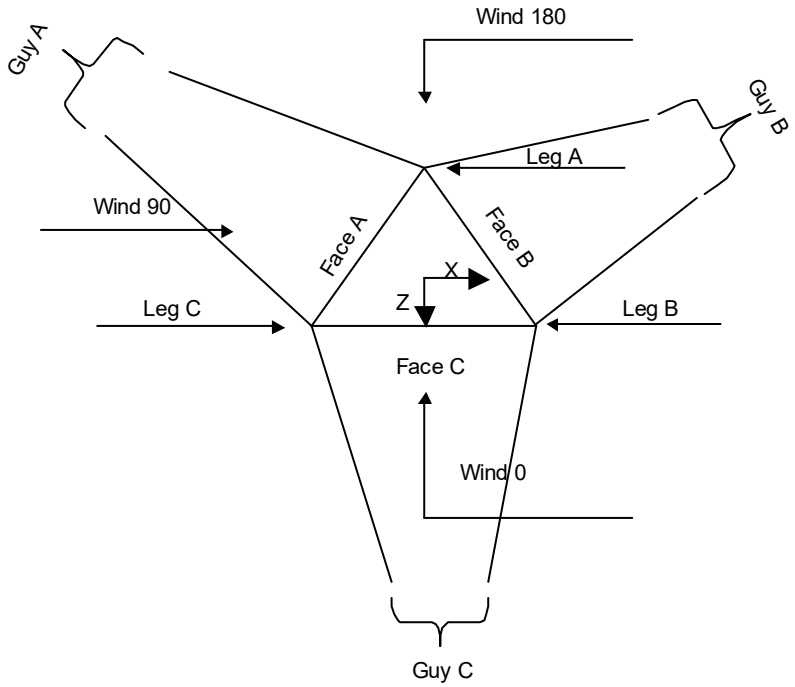
Tower Input Data

The main tower is a 3x guyed tower with an overall height of 327.00 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 3.67 ft at the top and tapered at the base.
An index plate is provided at the 3x guyed -tower connection.
There is a pole section.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Basic wind speed of 101 mph.
Structure Class II.
Exposure Category C.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 40 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Safety factor used in guy design is 1.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area	√	SR Leg Bolts Resist Compression
√	Use Code Stress Ratios	√	Use Clear Spans For KL/r	√	All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys	√	Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice		Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-G Bracing Resist. Exemption
√	Include Bolts In Member Capacity	√	Autocalc Torque Arm Areas		Use TIA-222-G Tension Splice Exemption
√	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
	Secondary Horizontal Braces Leg	√	Sort Capacity Reports By Component		Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
√	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric				



Face Guyed

Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	327.00-291.84	35.16	P10.75x0.843	A53-B-35 (35 ksi)	

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	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	Double Angle Stitch Bolt Spacing Redundants in
L1 327.00-291.84				1	1	1			

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	291.84-279.84			3.67	1	12.00
T2	279.84-259.84			3.67	1	20.00
T3	259.84-239.84			3.67	1	20.00
T4	239.84-219.84			3.67	1	20.00
T5	219.84-199.84			3.67	1	20.00
T6	199.84-179.84			3.67	1	20.00
T7	179.84-159.84			3.67	1	20.00
T8	159.84-139.84			3.67	1	20.00
T9	139.84-119.84			3.67	1	20.00
T10	119.84-99.84			3.67	1	20.00
T11	99.84-79.84			3.67	1	20.00
T12	79.84-59.84			3.67	1	20.00
T13	59.84-39.84			3.67	1	20.00
T14	39.84-19.84			3.67	1	20.00
T15	19.84-6.50			3.67	1	13.34
T16	6.50-0.00			3.67	1	6.50

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	291.84-279.84	3.00	K Brace Left	No	Yes+Steps	0.0000	0.0000
T2	279.84-259.84	3.33	K Brace Left	No	Yes+Steps	0.0000	0.0000
T3	259.84-239.84	3.33	K Brace Left	No	Yes+Steps	0.0000	0.0000
T4	239.84-219.84	3.33	K Brace Left	No	Yes+Steps	0.0000	0.0000
T5	219.84-199.84	3.33	K Brace Left	No	Yes+Steps	0.0000	0.0000
T6	199.84-179.84	3.33	K Brace Left	No	Yes+Steps	0.0000	0.0000
T7	179.84-159.84	3.33	K Brace Left	No	Yes+Steps	0.0000	0.0000
T8	159.84-139.84	3.33	K Brace Left	No	Yes+Steps	0.0000	0.0000
T9	139.84-119.84	3.33	K Brace Left	No	Yes+Steps	0.0000	0.0000
T10	119.84-99.84	3.33	K Brace Left	No	Yes+Steps	0.0000	0.0000
T11	99.84-79.84	3.33	K Brace Left	No	Yes+Steps	0.0000	0.0000
T12	79.84-59.84	3.33	K Brace Left	No	Yes+Steps	0.0000	0.0000
T13	59.84-39.84	3.33	K Brace Left	No	Yes+Steps	0.0000	0.0000
T14	39.84-19.84	3.33	K Brace Left	No	Yes+Steps	0.0000	0.0000
T15	19.84-6.50	3.34	K Brace Left	No	Yes+Steps	0.0000	0.0000
T16	6.50-0.00	1.00	K Brace Left	No	Yes	0.0000	6.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 291.84-279.84	Solid Round	2	A572-50 (50 ksi)	Solid Round	1 3/8	A36 (36 ksi)
T2 279.84-259.84	Solid Round	2	A572-50 (50 ksi)	Solid Round	1 3/8	A36 (36 ksi)

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T3 259.84-239.84	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	1 3/8	A36 (36 ksi)
T4 239.84-219.84	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	1 3/8	A36 (36 ksi)
T5 219.84-199.84	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	1 1/2	A36 (36 ksi)
T6 199.84-179.84	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T7 179.84-159.84	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1 1/2	A36 (36 ksi)
T8 159.84-139.84	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	1 3/8	A36 (36 ksi)
T9 139.84-119.84	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T10 119.84-99.84	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1 1/2	A36 (36 ksi)
T11 99.84-79.84	Solid Round	3	A572-50 (50 ksi)	Solid Round	1 3/8	A36 (36 ksi)
T12 79.84-59.84	Solid Round	3	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T13 59.84-39.84	Solid Round	3	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T14 39.84-19.84	Solid Round	3	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T15 19.84-6.50	Solid Round	3	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T16 6.50-0.00	Solid Round	3	A572-50 (50 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 291.84-279.84	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T2 279.84-259.84	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T3 259.84-239.84	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T4 239.84-219.84	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T5 219.84-199.84	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T6 199.84-179.84	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T7 179.84-159.84	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T8 159.84-139.84	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T9 139.84-119.84	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T10 119.84-99.84	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T11 99.84-79.84	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T12 79.84-59.84	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T13 59.84-39.84	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T14 39.84-19.84	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T15 19.84-6.50	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T16 6.50-0.00	Flat Bar	12x3/8	A36 (36 ksi)	Flat Bar	12x3/8	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T1 291.84-279.84	None	Solid Round		A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T2 279.84-259.84	None	Solid Round		A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T3 259.84-239.84	None	Solid Round		A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T4 239.84-219.84	None	Solid Round		A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T5 219.84-199.84	None	Solid Round		A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T6 199.84-179.84	None	Solid Round		A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T7 179.84-159.84	None	Solid Round		A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T8 159.84-139.84	None	Solid Round		A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T9 139.84-119.84	None	Solid Round		A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T10 119.84-99.84	None	Solid Round		A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T11 99.84-79.84	None	Solid Round		A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T12 79.84-59.84	None	Solid Round		A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T13 59.84-39.84	None	Solid Round		A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T14 39.84-19.84	None	Solid Round		A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T15 19.84-6.50	None	Solid Round		A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T16 6.50-0.00	2	Flat Bar	9x3/8	A36 (36 ksi)	Flat Bar		A36 (36 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 291.84-279.84	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T2 279.84-259.84	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T3 259.84-239.84	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T4 239.84-219.84	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T5 219.84-199.84	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T6 199.84-179.84	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T7 179.84-159.84	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T8 159.84-139.84	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T9 139.84-119.84	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T10 119.84-99.84	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T11 99.84-79.84	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T12 79.84-59.84	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T13 59.84-39.84	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T14 39.84-19.84	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T15 19.84-6.50	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	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	Double Angle Stitch Bolt Spacing Redundants in
T1 291.84-279.84	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T2 279.84-259.84	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T3 259.84-239.84	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T4 239.84-219.84	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T5 219.84-199.84	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T6 199.84-179.84	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T7 179.84-159.84	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T8 159.84-139.84	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T9	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	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	Double Angle Stitch Bolt Spacing Redundants in
139.84-119.84			(36 ksi)						
T10	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
119.84-99.84			(36 ksi)						
T11	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
99.84-79.84			(36 ksi)						
T12	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
79.84-59.84			(36 ksi)						
T13	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
59.84-39.84			(36 ksi)						
T14	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
39.84-19.84			(36 ksi)						
T15 19.84-6.50	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
			(36 ksi)						
T16 6.50-0.00	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
			(36 ksi)						

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X	X Brace Diags Y	Single Diags X	Single Diags Y	Girts X	Girts Y	Horiz. X	Horiz. Y	Sec. Horiz. X	Sec. Horiz. Y	Inner Brace X	Inner Brace Y
T1	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
291.84-279.84				1	1	1	1	1	1	1	1	1	1	1	1
T2	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
279.84-259.84				1	1	1	1	1	1	1	1	1	1	1	1
T3	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
259.84-239.84				1	1	1	1	1	1	1	1	1	1	1	1
T4	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
239.84-219.84				1	1	1	1	1	1	1	1	1	1	1	1
T5	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
219.84-199.84				1	1	1	1	1	1	1	1	1	1	1	1
T6	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
199.84-179.84				1	1	1	1	1	1	1	1	1	1	1	1
T7	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
179.84-159.84				1	1	1	1	1	1	1	1	1	1	1	1
T8	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
159.84-139.84				1	1	1	1	1	1	1	1	1	1	1	1
T9	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
139.84-119.84				1	1	1	1	1	1	1	1	1	1	1	1
T10	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
119.84-99.84				1	1	1	1	1	1	1	1	1	1	1	1
T11	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
99.84-79.84				1	1	1	1	1	1	1	1	1	1	1	1
T12	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
79.84-59.84				1	1	1	1	1	1	1	1	1	1	1	1
T13	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
59.84-39.84				1	1	1	1	1	1	1	1	1	1	1	1
T14	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
39.84-19.84				1	1	1	1	1	1	1	1	1	1	1	1
T15	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
19.84-6.50				1	1	1	1	1	1	1	1	1	1	1	1
T16 6.50-0.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
				1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Net Width Deduct in	Leg U	Diagonal Net Width Deduct in	Diagonal U	Top Girt Net Width Deduct in	Top Girt U	Bottom Girt Net Width Deduct in	Bottom Girt U	Mid Girt Net Width Deduct in	Mid Girt U	Long Horizontal Net Width Deduct in	Long Horizontal U	Short Horizontal Net Width Deduct in	Short Horizontal U
T1 291.84-279.84	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 279.84-259.84	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 259.84-239.84	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 239.84-219.84	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 219.84-199.84	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 199.84-179.84	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 179.84-159.84	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 159.84-139.84	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 139.84-119.84	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 119.84-99.84	0.0000	0.75	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 99.84-79.84	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 79.84-59.84	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 59.84-39.84	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 39.84-19.84	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T15 19.84-6.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T16 6.50-0.00	0.0000	0.75	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 Bolt Size in	Leg No.	Diagonal Bolt Size in	Diagonal No.	Top Girt Bolt Size in	Top Girt No.	Bottom Girt Bolt Size in	Bottom Girt No.	Mid Girt Bolt Size in	Mid Girt No.	Long Horizontal Bolt Size in	Long Horizontal No.	Short Horizontal Bolt Size in	Short Horizontal No.
T1	Flange	1.0000	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
291.84-279.84		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T2	Flange	1.0000	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
279.84-259.84		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T3	Flange	1.0000	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
259.84-239.84		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T4	Flange	1.0000	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
239.84-219.84		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T5	Flange	1.0000	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
219.84-199.84		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T6	Flange	1.0000	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
199.84-179.84		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T7	Flange	1.0000	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
179.84-159.84		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T8	Flange	1.0000	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
159.84-139.84		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T9	Flange	1.0000	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
139.84-119.84		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T10	Flange	1.0000	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
119.84-99.84		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T11	Flange	1.0000	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
99.84-79.84		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T12	Flange	1.3750	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
79.84-59.84		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T13	Flange	1.3750	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
59.84-39.84		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T14	Flange	1.3750	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
39.84-19.84		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T15 19.84-6.50	Flange	1.3750	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
		A325N		A325N		A325N		A325N		A325X		A325N		A325X	
T16 6.50-0.00	Flange	1.3750	4	0.5000	0	0.5000	0	0.5000	0	0.6250	0	0.5000	0	0.6250	0
		A325N		A325N		A325N		A325N		A325X		A325N		A325X	

Guy Data

Guy Elevation ft	Guy Grade		Guy Size	Initial Tension K	%	Guy Modulus ksi	Guy Weight plf	L_u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
285.84	EHS	A	3/4	5.83	10%	19000	1.155	386.70	235.00	0.0000	-23.40	100%
		B	3/4	5.83	10%	19000	1.155	361.43	235.00	0.0000	8.90	100%
		C	3/4	5.83	10%	19000	1.155	384.07	235.00	0.0000	-20.10	100%
256.507	EHS	A	3/4	5.83	10%	19000	1.155	363.71	235.00	0.0000	-23.40	100%
		B	3/4	5.83	10%	19000	1.155	339.52	235.00	0.0000	8.90	100%
		C	3/4	5.83	10%	19000	1.155	361.18	235.00	0.0000	-20.10	100%
216.507	EHS	A	3/4	5.83	10%	19000	1.155	333.96	235.00	0.0000	-23.40	100%
		B	3/4	5.83	10%	19000	1.155	311.60	235.00	0.0000	8.90	100%
		C	3/4	5.83	10%	19000	1.155	331.60	235.00	0.0000	-20.10	100%
166.507	EHS	A	3/4	5.83	10%	19000	1.155	300.12	235.00	0.0000	-23.40	100%
		B	3/4	5.83	10%	19000	1.155	280.83	235.00	0.0000	8.90	100%
		C	3/4	5.83	10%	19000	1.155	298.05	235.00	0.0000	-20.10	100%
106.507	EHS	A	3/4	5.83	10%	19000	1.155	266.30	235.00	0.0000	-23.40	100%
		B	3/4	5.83	10%	19000	1.155	252.15	235.00	0.0000	8.90	100%
		C	3/4	5.83	10%	19000	1.155	264.71	235.00	0.0000	-20.10	100%

56.5067	EHS	A	3/4	5.83	10%	19000	1.155	245.86	235.00	0.0000	-23.40	100%
		B	3/4	5.83	10%	19000	1.155	237.35	235.00	0.0000	8.90	100%
		C	3/4	5.83	10%	19000	1.155	244.81	235.00	0.0000	-20.10	100%

Guy Data *(cont'd)*

Guy Elevation ft	*Mount Type*	*Torque-Arm Spread ft*	*Torque-Arm Leg Angle °*	*Torque-Arm Style*	*Torque-Arm Grade*	*Torque-Arm Type*	*Torque-Arm Size*
285.84	Torque Arm	8.00	0.0000	Channel	A36 (36 ksi)	Channel	MC12x35
256.507	Torque Arm	8.00	0.0000	Channel	A36 (36 ksi)	Channel	MC12x35
216.507	Torque Arm	8.00	0.0000	Channel	A36 (36 ksi)	Channel	MC12x35
166.507	Torque Arm	8.00	0.0000	Channel	A36 (36 ksi)	Channel	MC12x35
106.507	Torque Arm	8.00	0.0000	Channel	A36 (36 ksi)	Channel	MC12x35
56.5067	Torque Arm	8.00	0.0000	Channel	A36 (36 ksi)	Channel	MC12x35

Guy Data *(cont'd)*

Guy Elevation ft	*Diagonal Grade*	*Diagonal Type*	*Upper Diagonal Size*	*Lower Diagonal Size*	*Is Strap.*	*Pull-Off Grade*	*Pull-Off Type*	*Pull-Off Size*
285.84	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Channel	MC12x35
256.51	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Channel	MC12x35
216.51	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Channel	MC12x35
166.51	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Channel	MC12x35
106.51	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Channel	MC12x35
56.51	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Channel	MC12x35

Guy Data *(cont'd)*

Guy Elevation ft	*Cable Weight A K*	*Cable Weight B K*	*Cable Weight C K*	*Cable Weight D K*	*Tower Intercept A ft*	*Tower Intercept B ft*	*Tower Intercept C ft*	*Tower Intercept D ft*
285.84	0.45	0.42	0.44		14.39 6.5 sec/pulse	12.61 6.1 sec/pulse	14.20 6.5 sec/pulse	
256.507	0.42	0.39	0.42		12.76	11.16	12.59	

Guy Elevation ft	Cable Weight A K	Cable Weight B K	Cable Weight C K	Cable Weight D K	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
					6.2 sec/pulse	5.8 sec/pulse	6.1 sec/pulse	
216.507	0.39	0.36	0.38		10.80	9.43	10.65	
					5.7 sec/pulse	5.3 sec/pulse	5.6 sec/pulse	
166.507	0.35	0.32	0.34		8.77	7.70	8.65	
					5.1 sec/pulse	4.8 sec/pulse	5.1 sec/pulse	
106.507	0.31	0.29	0.31		6.94	6.24	6.86	
					4.5 sec/pulse	4.3 sec/pulse	4.5 sec/pulse	
56.5067	0.28	0.27	0.28		5.95	5.56	5.90	
					4.2 sec/pulse	4.1 sec/pulse	4.2 sec/pulse	

Guy Data *(cont'd)*

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm K_x	Torque Arm K_y	Pull Off K_x	Pull Off K_y	Diagonal K_x	Diagonal K_y
285.84	No	No	1	1	1	1	1	1
256.507	No	No	1	1	1	1	1	1
216.507	No	No	1	1	1	1	1	1
166.507	No	No	1	1	1	1	1	1
106.507	No	No	1	1	1	1	1	1
56.5067	No	No	1	1	1	1	1	1

Guy Data *(cont'd)*

Guy Elevation ft	Torque-Arm Bolt Size in	Torque-Arm Number	Torque-Arm Net Width Deduct in	Torque-Arm U	Pull Off Bolt Size in	Pull Off Number	Pull Off Net Width Deduct in	Pull Off U	Diagonal Bolt Size in	Diagonal Number	Diagonal Net Width Deduct in	Diagonal U
285.84	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
256.507	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
216.507	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
166.507	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
106.507	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
56.5067	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75

Guy Pressures

Guy Elevation ft	Guy Location	z ft	q_z psf	q_z Ice psf	Ice Thickness in
285.84	A	131.22	30	5	2.2960

Guy Elevation ft	Guy Location	z ft	q_z psf	q_z Ice psf	Ice Thickness in
	B	147.37	30	5	2.3228
	C	132.87	30	5	2.2989
256.507	A	116.55	29	5	2.2690
	B	132.70	30	5	2.2986
	C	118.20	29	5	2.2722
216.507	A	96.55	28	4	2.2267
	B	112.70	29	5	2.2614
	C	98.20	28	4	2.2304
166.507	A	71.55	26	4	2.1609
	B	87.70	27	4	2.2054
	C	73.20	26	4	2.1659
106.507	A	41.55	23	4	2.0466
	B	57.70	25	4	2.1149
	C	43.20	24	4	2.0546
56.5067	A	16.55	19	3	1.8667
	B	32.70	22	3	1.9982
	C	18.20	20	3	1.8845

Guy-Tensioning Information

				Temperature At Time Of Tensioning													
				0 F		20 F		40 F		60 F		80 F		100 F		120 F	
Guy Elevation ft		H ft	V ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft
285.84	A	232.72	309.24	6.615	12.72	6.349	13.24	6.087	13.80	5.830	14.39	5.578	15.02	5.331	15.70	5.090	16.42
	B	232.72	276.94	6.731	10.96	6.425	11.47	6.125	12.02	5.830	12.61	5.542	13.25	5.261	13.94	4.989	14.68
	C	232.72	305.94	6.626	12.53	6.357	13.05	6.091	13.60	5.830	14.20	5.574	14.83	5.324	15.51	5.080	16.23
256.507	A	232.72	279.91	6.719	11.11	6.418	11.62	6.121	12.17	5.830	12.76	5.545	13.40	5.268	14.09	4.999	14.83
	B	232.72	247.61	6.853	9.52	6.506	10.02	6.164	10.57	5.830	11.16	5.504	11.80	5.188	12.50	4.884	13.27
	C	232.72	276.61	6.732	10.94	6.426	11.45	6.125	12.00	5.830	12.59	5.541	13.23	5.260	13.92	4.988	14.66
216.507	A	232.72	239.91	6.889	9.17	6.529	9.67	6.175	10.21	5.830	10.80	5.494	11.45	5.168	12.16	4.854	12.92
	B	232.72	207.61	7.051	7.83	6.635	8.31	6.227	8.84	5.830	9.43	5.445	10.09	5.074	10.81	4.720	11.61
	C	232.72	236.61	6.904	9.02	6.539	9.52	6.180	10.06	5.830	10.65	5.489	11.30	5.159	12.01	4.841	12.78
166.507	A	232.72	189.91	7.149	7.17	6.699	7.65	6.259	8.18	5.830	8.77	5.415	9.43	5.018	10.16	4.640	10.97
	B	232.72	157.61	7.338	6.13	6.823	6.59	6.319	7.11	5.830	7.70	5.360	8.37	4.912	9.12	4.491	9.96
	C	232.72	186.61	7.165	7.06	6.709	7.53	6.264	8.06	5.830	8.65	5.403	9.32	5.000	10.06	4.619	10.87
106.507	A	232.72	129.91	7.512	5.40	6.936	5.85	6.374	6.36	5.830	6.94	5.309	7.62	4.816	8.39	4.358	9.25
	B	232.72	97.61	7.713	4.73	7.067	5.16	6.437	5.66	5.830	6.24	5.252	6.93	4.710	7.72	4.213	8.62
	C	232.72	126.61	7.533	5.32	6.950	5.77	6.381	6.28	5.830	6.86	5.303	7.54	4.805	8.31	4.343	9.18
56.5067	A	232.72	79.91	7.813	4.44	7.132	4.87	6.469	5.36	5.830	5.95	5.223	6.63	4.657	7.43	4.142	8.35
	B	232.72	47.61	7.963	4.07	7.229	4.49	6.516	4.98	5.830	5.56	5.181	6.25	4.581	7.07	4.041	8.01
	C	232.72	76.61	7.831	4.40	7.144	4.82	6.474	5.31	5.830	5.90	5.218	6.59	4.648	7.39	4.130	8.31

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 FOAM) (Verizon)	C	No	Ar (CaAa)	84.00 - 5.00	0.0000	-0.45	3	1	1.5500	1.5500		0.66
LDF6-50A (1-1/4 FOAM) (Verizon)	C	No	Ar (CaAa)	84.00 - 5.00	0.0000	-0.14	9	9	1.5500	1.5500		0.66
HYBRIFLEX 1-5/8" (Verizon)	C	No	Ar (CaAa)	84.00 - 5.00	0.0000	0.43	1	1	1.9800	1.9800		1.90

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
LDF7-50A (1-5/8 FOAM) (AT&T - Existing)	C	No	Ar (CaAa)	185.00 - 5.00	-0.5000	0	11	11	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (AT&T - Existing)	C	No	Ar (CaAa)	185.00 - 5.00	-3.0000	-0.15	1	1	1.9800	1.9800		0.82
Fiber Trunk (AT&T - Existing)	C	No	Ar (CaAa)	185.00 - 5.00	-3.0000	0	3	3	0.4000	0.4000		1.00
DC Trunk (AT&T - Existing)	C	No	Ar (CaAa)	185.00 - 5.00	-3.0000	0.15	6	6	0.4000	0.4000		0.11
LDF4-50A (1/2 FOAM)	B	No	Ar (CaAa)	13.00 - 5.00	0.0000	0.32	1	1	0.6300	0.6300		0.15
LDF4-50A (1/2 FOAM)	B	No	Ar (CaAa)	18.00 - 5.00	0.0000	0.34	1	1	0.6300	0.6300		0.15
LDF4-50A (1/2 FOAM) (UCONN-44)	B	No	Ar (CaAa)	94.00 - 5.00	0.0000	0.36	1	1	0.6300	0.6300		0.15
LDF4-50A (1/2 FOAM) (WHUS-35)	B	No	Ar (CaAa)	94.00 - 5.00	0.0000	0.38	1	1	0.6300	0.6300		0.15
LDF4-50A (1/2 FOAM) (Beacon)	B	No	Ar (CaAa)	157.00 - 5.00	0.0000	0.4	1	1	0.6300	0.6300		0.15
LDF4-50A (1/2 FOAM)	B	No	Ar (CaAa)	159.00 - 5.00	0.0000	0.42	1	1	0.6300	0.6300		0.15
LDF4-50A (1/2 FOAM) (WHUS-39)	B	No	Ar (CaAa)	277.00 - 5.00	0.0000	0.44	1	1	0.6300	0.6300		0.15
LDF4-50A (1/2 FOAM) (WHUS-40)	B	No	Ar (CaAa)	277.00 - 5.00	0.0000	0.46	1	1	0.6300	0.6300		0.15
LDF4-50A (1/2 FOAM)	B	No	Ar (CaAa)	291.80 - 5.00	0.0000	0.48	1	1	0.6300	0.6300		0.15
LDF4-50A (1/2 FOAM) (CPR-33)	B	No	Ar (CaAa)	190.00 - 5.00	0.0000	0.28	1	1	0.6300	0.6300		0.15
LDF4-50A (1/2 FOAM) (CPR-32)	B	No	Ar (CaAa)	198.00 - 5.00	0.0000	0.3	1	1	0.6300	0.6300		0.15
LDF5-50A (7/8 FOAM) (CSP-10)	A	No	Ar (CaAa)	70.00 - 5.00	0.0000	-0.145	1	1	1.0900	1.0900		0.33
EW63 (CSP-3)	A	No	Ar (CaAa)	104.00 - 5.00	0.0000	-0.105	1	1	1.5742	1.5742		0.51
LDF5-50A (7/8 FOAM)	A	No	Ar (CaAa)	112.00 - 5.00	0.0000	-0.07	1	1	1.0900	1.0900		0.33
EW63 (CSP-1)	A	No	Ar (CaAa)	116.00 - 5.00	0.0000	-0.035	1	1	1.5742	1.5742		0.51
EW63 (CSP-2)	A	No	Ar (CaAa)	116.00 - 5.00	0.0000	0.01	1	1	1.5742	1.5742		0.51
LDF4-50A (1/2 FOAM) (CSP-8)	A	No	Ar (CaAa)	171.50 - 5.00	0.0000	0.04	1	1	0.6300	0.6300		0.15
LDF5-50A (7/8 FOAM) (UCONN-42)	A	No	Ar (CaAa)	172.00 - 5.00	0.0000	0.06	1	1	1.0900	1.0900		0.33
LDF5-50A	A	No	Ar (CaAa)	172.50 - 5.00	0.0000	0.09	1	1	1.0900	1.0900		0.33

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
(7/8 FOAM)												
LDF5-50A (7/8 FOAM) (WHUS-36)	A	No	Ar (CaAa)	211.00 - 5.00	0.0000	0.12	1	1	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM)	A	No	Ar (CaAa)	211.00 - 5.00	0.0000	0.15	1	1	1.0900	1.0900		0.33
LDF7-50A (1-5/8 FOAM) (CSP-7)	A	No	Ar (CaAa)	250.00 - 5.00	0.0000	0.19	1	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (CSP-11)	A	No	Ar (CaAa)	250.00 - 5.00	0.0000	0.24	1	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (CSP-4)	A	No	Ar (CaAa)	252.00 - 5.00	0.0000	0.29	1	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (CSP-6)	A	No	Ar (CaAa)	261.00 - 5.00	0.0000	0.34	1	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (CSP-5)	A	No	Ar (CaAa)	267.00 - 5.00	0.0000	0.39	1	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (CSP-9)	A	No	Ar (CaAa)	267.00 - 5.00	0.0000	0.44	1	1	1.9800	1.9800		0.82
LDF5-50A (7/8 FOAM)	A	No	Ar (CaAa)	291.84 - 5.00	0.0000	0.48	1	1	1.0900	1.0900		0.33
LDF7-50A (1-5/8 FOAM) (CSP-20,21,22 ,24,25)	A	No	Ar (CaAa)	240.00 - 5.00	0.0000	-0.37	5	5	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (CSP-12,13,14 ,16,17,18)	A	No	Ar (CaAa)	250.00 - 5.00	2.5000	-0.37	6	6	1.9800	1.9800		0.82
LDF4-50A (1/2 FOAM) (CSP-23,26)	A	No	Ar (CaAa)	240.00 - 5.00	0.0000	-0.17	2	1	0.6300	0.6300		0.15
LDF4-50A (1/2 FOAM) (CSP-15,19)	A	No	Ar (CaAa)	250.00 - 5.00	0.0000	-0.19	2	1	0.6300	0.6300		0.15

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	327.00-291.84	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T1	291.84-279.84	A	0.000	0.000	1.308	0.000	0.00
		B	0.000	0.000	0.753	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T2	279.84-259.84	A	0.000	0.000	5.245	0.000	0.02
		B	0.000	0.000	3.422	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.00
T3	259.84-239.84	A	0.000	0.000	34.020	0.000	0.14
		B	0.000	0.000	3.780	0.000	0.01

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C	0.000	0.000	0.000	0.000	0.00
T4	239.84-219.84	A	0.000	0.000	74.540	0.000	0.30
		B	0.000	0.000	3.780	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.00
T5	219.84-199.84	A	0.000	0.000	76.973	0.000	0.30
		B	0.000	0.000	3.780	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.00
T6	199.84-179.84	A	0.000	0.000	78.900	0.000	0.31
		B	0.000	0.000	5.564	0.000	0.01
		C	0.000	0.000	14.118	0.000	0.07
T7	179.84-159.84	A	0.000	0.000	82.340	0.000	0.32
		B	0.000	0.000	6.300	0.000	0.01
		C	0.000	0.000	54.720	0.000	0.27
T8	159.84-139.84	A	0.000	0.000	84.520	0.000	0.33
		B	0.000	0.000	8.588	0.000	0.02
		C	0.000	0.000	54.720	0.000	0.27
T9	139.84-119.84	A	0.000	0.000	84.520	0.000	0.33
		B	0.000	0.000	8.820	0.000	0.02
		C	0.000	0.000	54.720	0.000	0.27
T10	119.84-99.84	A	0.000	0.000	91.588	0.000	0.35
		B	0.000	0.000	8.820	0.000	0.02
		C	0.000	0.000	54.720	0.000	0.27
T11	99.84-79.84	A	0.000	0.000	96.145	0.000	0.36
		B	0.000	0.000	10.604	0.000	0.03
		C	0.000	0.000	63.281	0.000	0.31
T12	79.84-59.84	A	0.000	0.000	97.253	0.000	0.37
		B	0.000	0.000	11.340	0.000	0.03
		C	0.000	0.000	95.880	0.000	0.47
T13	59.84-39.84	A	0.000	0.000	98.325	0.000	0.37
		B	0.000	0.000	11.340	0.000	0.03
		C	0.000	0.000	95.880	0.000	0.47
T14	39.84-19.84	A	0.000	0.000	98.325	0.000	0.37
		B	0.000	0.000	11.340	0.000	0.03
		C	0.000	0.000	95.880	0.000	0.47
T15	19.84-6.50	A	0.000	0.000	65.583	0.000	0.25
		B	0.000	0.000	8.698	0.000	0.02
		C	0.000	0.000	63.952	0.000	0.31
T16	6.50-0.00	A	0.000	0.000	7.374	0.000	0.03
		B	0.000	0.000	1.040	0.000	0.00
		C	0.000	0.000	7.191	0.000	0.03

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_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	327.00-291.84	A	2.502	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
T1	291.84-279.84	A	2.482	0.000	0.000	7.265	0.000	0.13
		B		0.000	0.000	6.690	0.000	0.11
		C		0.000	0.000	0.000	0.000	0.00
T2	279.84-259.84	A	2.468	0.000	0.000	22.756	0.000	0.44
		B		0.000	0.000	30.231	0.000	0.52
		C		0.000	0.000	0.000	0.000	0.00
T3	259.84-239.84	A	2.449	0.000	0.000	122.333	0.000	2.38
		B		0.000	0.000	33.165	0.000	0.56
		C		0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T4	239.84-219.84	A	2.428	0.000	0.000	265.380	0.000	5.00
		B		0.000	0.000	32.921	0.000	0.55
		C		0.000	0.000	0.000	0.000	0.00
T5	219.84-199.84	A	2.406	0.000	0.000	277.358	0.000	5.18
		B		0.000	0.000	32.657	0.000	0.54
		C		0.000	0.000	0.000	0.000	0.00
T6	199.84-179.84	A	2.382	0.000	0.000	286.298	0.000	5.30
		B		0.000	0.000	47.647	0.000	0.79
		C		0.000	0.000	45.963	0.000	0.81
T7	179.84-159.84	A	2.356	0.000	0.000	305.283	0.000	5.59
		B		0.000	0.000	53.421	0.000	0.87
		C		0.000	0.000	177.531	0.000	3.12
T8	159.84-139.84	A	2.327	0.000	0.000	316.365	0.000	5.72
		B		0.000	0.000	72.023	0.000	1.17
		C		0.000	0.000	176.842	0.000	3.09
T9	139.84-119.84	A	2.294	0.000	0.000	313.905	0.000	5.62
		B		0.000	0.000	73.041	0.000	1.17
		C		0.000	0.000	176.065	0.000	3.04
T10	119.84-99.84	A	2.256	0.000	0.000	340.088	0.000	6.01
		B		0.000	0.000	71.976	0.000	1.13
		C		0.000	0.000	175.173	0.000	3.00
T11	99.84-79.84	A	2.211	0.000	0.000	354.739	0.000	6.18
		B		0.000	0.000	85.024	0.000	1.32
		C		0.000	0.000	200.134	0.000	3.41
T12	79.84-59.84	A	2.156	0.000	0.000	355.264	0.000	6.07
		B		0.000	0.000	88.945	0.000	1.35
		C		0.000	0.000	296.984	0.000	5.08
T13	59.84-39.84	A	2.084	0.000	0.000	353.839	0.000	5.90
		B		0.000	0.000	86.371	0.000	1.27
		C		0.000	0.000	294.129	0.000	4.91
T14	39.84-19.84	A	1.980	0.000	0.000	344.021	0.000	5.52
		B		0.000	0.000	82.619	0.000	1.16
		C		0.000	0.000	289.977	0.000	4.67
T15	19.84-6.50	A	1.824	0.000	0.000	219.699	0.000	3.32
		B		0.000	0.000	58.987	0.000	0.78
		C		0.000	0.000	189.293	0.000	2.88
T16	6.50-0.00	A	1.586	0.000	0.000	23.024	0.000	0.32
		B		0.000	0.000	6.274	0.000	0.07
		C		0.000	0.000	20.578	0.000	0.29

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	327.00-291.84	0.0000	0.0000	0.0000	0.0000
T1	291.84-279.84	0.2484	-0.3860	0.3843	-0.2816
T2	279.84-259.84	0.6627	-0.9031	1.0787	-0.3670
T3	259.84-239.84	-1.2710	-1.2997	-0.2799	-1.0111
T4	239.84-219.84	-2.7607	-0.4619	-1.4362	-0.6024
T5	219.84-199.84	-2.6012	-0.4969	-1.4024	-0.6502
T6	199.84-179.84	-2.2747	-0.1400	-1.1432	-0.4056
T7	179.84-159.84	-1.6202	0.5226	-0.8654	0.0540
T8	159.84-139.84	-1.5910	0.5268	-0.7491	0.0821
T9	139.84-119.84	-1.5755	0.5272	-0.7379	0.0957
T10	119.84-99.84	-1.5943	0.4374	-0.8328	0.0376
T11	99.84-79.84	-1.4532	0.5658	-0.7211	0.1699

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
T12	79.84-59.84	-0.9837	1.0034	-0.4412	0.5464
T13	59.84-39.84	-0.9795	0.9802	-0.4652	0.5510
T14	39.84-19.84	-0.9966	0.9973	-0.4865	0.5872
T15	19.84-6.50	-0.9541	1.0014	-0.4298	0.6454
T16	6.50-0.00	-0.3684	0.3817	-0.0531	0.0844

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	16	LDF4-50A (1/2 FOAM)	279.84 - 291.80	0.6000	0.3400
T1	35	LDF5-50A (7/8 FOAM)	279.84 - 291.84	0.6000	0.3400
T2	14	LDF4-50A (1/2 FOAM)	259.84 - 277.00	0.6000	0.4298
T2	15	LDF4-50A (1/2 FOAM)	259.84 - 277.00	0.6000	0.4298
T2	16	LDF4-50A (1/2 FOAM)	259.84 - 279.84	0.6000	0.4298
T2	32	LDF7-50A (1-5/8 FOAM)	259.84 - 261.00	0.6000	0.4298
T2	33	LDF7-50A (1-5/8 FOAM)	259.84 - 267.00	0.6000	0.4298
T2	34	LDF7-50A (1-5/8 FOAM)	259.84 - 267.00	0.6000	0.4298
T2	35	LDF5-50A (7/8 FOAM)	259.84 - 279.84	0.6000	0.4298
T3	14	LDF4-50A (1/2 FOAM)	239.84 - 259.84	0.6000	0.3898
T3	15	LDF4-50A (1/2 FOAM)	239.84 - 259.84	0.6000	0.3898
T3	16	LDF4-50A (1/2 FOAM)	239.84 - 259.84	0.6000	0.3898
T3	29	LDF7-50A (1-5/8 FOAM)	239.84 - 250.00	0.6000	0.3898
T3	30	LDF7-50A (1-5/8 FOAM)	239.84 - 250.00	0.6000	0.3898
T3	31	LDF7-50A (1-5/8 FOAM)	239.84 - 252.00	0.6000	0.3898
T3	32	LDF7-50A (1-5/8 FOAM)	239.84 - 259.84	0.6000	0.3898
T3	33	LDF7-50A (1-5/8 FOAM)	239.84 - 259.84	0.6000	0.3898
T3	34	LDF7-50A (1-5/8 FOAM)	239.84 - 259.84	0.6000	0.3898
T3	35	LDF5-50A (7/8 FOAM)	239.84 - 259.84	0.6000	0.3898
T3	36	LDF7-50A (1-5/8 FOAM)	239.84 - 240.00	0.6000	0.3898
T3	37	LDF7-50A (1-5/8 FOAM)	239.84 - 250.00	0.6000	0.3898
T3	38	LDF4-50A (1/2 FOAM)	239.84 - 240.00	0.6000	0.3898
T3	39	LDF4-50A (1/2 FOAM)	239.84 -	0.6000	0.3898

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T4	14	LDF4-50A (1/2 FOAM)	250.00 219.84 - 239.84	0.6000	0.4305
T4	15	LDF4-50A (1/2 FOAM)	219.84 - 239.84	0.6000	0.4305
T4	16	LDF4-50A (1/2 FOAM)	219.84 - 239.84	0.6000	0.4305
T4	29	LDF7-50A (1-5/8 FOAM)	219.84 - 239.84	0.6000	0.4305
T4	30	LDF7-50A (1-5/8 FOAM)	219.84 - 239.84	0.6000	0.4305
T4	31	LDF7-50A (1-5/8 FOAM)	219.84 - 239.84	0.6000	0.4305
T4	32	LDF7-50A (1-5/8 FOAM)	219.84 - 239.84	0.6000	0.4305
T4	33	LDF7-50A (1-5/8 FOAM)	219.84 - 239.84	0.6000	0.4305
T4	34	LDF7-50A (1-5/8 FOAM)	219.84 - 239.84	0.6000	0.4305
T4	35	LDF5-50A (7/8 FOAM)	219.84 - 239.84	0.6000	0.4305
T4	36	LDF7-50A (1-5/8 FOAM)	219.84 - 239.84	0.6000	0.4305
T4	37	LDF7-50A (1-5/8 FOAM)	219.84 - 239.84	0.6000	0.4305
T4	38	LDF4-50A (1/2 FOAM)	219.84 - 239.84	0.6000	0.4305
T4	39	LDF4-50A (1/2 FOAM)	219.84 - 239.84	0.6000	0.4305
T5	14	LDF4-50A (1/2 FOAM)	199.84 - 219.84	0.6000	0.3879
T5	15	LDF4-50A (1/2 FOAM)	199.84 - 219.84	0.6000	0.3879
T5	16	LDF4-50A (1/2 FOAM)	199.84 - 219.84	0.6000	0.3879
T5	27	LDF5-50A (7/8 FOAM)	199.84 - 211.00	0.6000	0.3879
T5	28	LDF5-50A (7/8 FOAM)	199.84 - 211.00	0.6000	0.3879
T5	29	LDF7-50A (1-5/8 FOAM)	199.84 - 219.84	0.6000	0.3879
T5	30	LDF7-50A (1-5/8 FOAM)	199.84 - 219.84	0.6000	0.3879
T5	31	LDF7-50A (1-5/8 FOAM)	199.84 - 219.84	0.6000	0.3879
T5	32	LDF7-50A (1-5/8 FOAM)	199.84 - 219.84	0.6000	0.3879
T5	33	LDF7-50A (1-5/8 FOAM)	199.84 - 219.84	0.6000	0.3879
T5	34	LDF7-50A (1-5/8 FOAM)	199.84 - 219.84	0.6000	0.3879
T5	35	LDF5-50A (7/8 FOAM)	199.84 - 219.84	0.6000	0.3879
T5	36	LDF7-50A (1-5/8 FOAM)	199.84 - 219.84	0.6000	0.3879
T5	37	LDF7-50A (1-5/8 FOAM)	199.84 - 219.84	0.6000	0.3879
T5	38	LDF4-50A (1/2 FOAM)	199.84 - 219.84	0.6000	0.3879
T5	39	LDF4-50A (1/2 FOAM)	199.84 - 219.84	0.6000	0.3879
T6	4	LDF7-50A (1-5/8 FOAM)	179.84 -	0.6000	0.4356

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T6	5	LDF7-50A (1-5/8 FOAM)	185.00 179.84 -	0.6000	0.4356
T6	6	Fiber Trunk	185.00 179.84 -	0.6000	0.4356
T6	7	DC Trunk	185.00 179.84 -	0.6000	0.4356
T6	14	LDF4-50A (1/2 FOAM)	185.00 179.84 -	0.6000	0.4356
T6	15	LDF4-50A (1/2 FOAM)	199.84 179.84 -	0.6000	0.4356
T6	16	LDF4-50A (1/2 FOAM)	199.84 179.84 -	0.6000	0.4356
T6	17	LDF4-50A (1/2 FOAM)	199.84 179.84 -	0.6000	0.4356
T6	18	LDF4-50A (1/2 FOAM)	190.00 179.84 -	0.6000	0.4356
T6	27	LDF5-50A (7/8 FOAM)	198.00 179.84 -	0.6000	0.4356
T6	28	LDF5-50A (7/8 FOAM)	199.84 179.84 -	0.6000	0.4356
T6	29	LDF7-50A (1-5/8 FOAM)	199.84 179.84 -	0.6000	0.4356
T6	30	LDF7-50A (1-5/8 FOAM)	199.84 179.84 -	0.6000	0.4356
T6	31	LDF7-50A (1-5/8 FOAM)	199.84 179.84 -	0.6000	0.4356
T6	32	LDF7-50A (1-5/8 FOAM)	199.84 179.84 -	0.6000	0.4356
T6	33	LDF7-50A (1-5/8 FOAM)	199.84 179.84 -	0.6000	0.4356
T6	34	LDF7-50A (1-5/8 FOAM)	199.84 179.84 -	0.6000	0.4356
T6	35	LDF5-50A (7/8 FOAM)	199.84 179.84 -	0.6000	0.4356
T6	36	LDF7-50A (1-5/8 FOAM)	199.84 179.84 -	0.6000	0.4356
T6	37	LDF7-50A (1-5/8 FOAM)	199.84 179.84 -	0.6000	0.4356
T6	38	LDF4-50A (1/2 FOAM)	199.84 179.84 -	0.6000	0.4356
T6	39	LDF4-50A (1/2 FOAM)	199.84 179.84 -	0.6000	0.4356
T7	4	LDF7-50A (1-5/8 FOAM)	199.84 159.84 -	0.6000	0.3906
T7	5	LDF7-50A (1-5/8 FOAM)	179.84 159.84 -	0.6000	0.3906
T7	6	Fiber Trunk	179.84 159.84 -	0.6000	0.3906
T7	7	DC Trunk	179.84 159.84 -	0.6000	0.3906
T7	14	LDF4-50A (1/2 FOAM)	179.84 159.84 -	0.6000	0.3906
T7	15	LDF4-50A (1/2 FOAM)	179.84 159.84 -	0.6000	0.3906
T7	16	LDF4-50A (1/2 FOAM)	179.84 159.84 -	0.6000	0.3906
T7	17	LDF4-50A (1/2 FOAM)	179.84 159.84 -	0.6000	0.3906
T7	18	LDF4-50A (1/2 FOAM)	179.84 159.84 -	0.6000	0.3906
T7	24	LDF4-50A (1/2 FOAM)	179.84 159.84 -	0.6000	0.3906

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T7	25	LDF5-50A (7/8 FOAM)	171.50 - 159.84	0.6000	0.3906
T7	26	LDF5-50A (7/8 FOAM)	172.00 - 159.84	0.6000	0.3906
T7	27	LDF5-50A (7/8 FOAM)	172.50 - 159.84	0.6000	0.3906
T7	28	LDF5-50A (7/8 FOAM)	179.84 - 159.84	0.6000	0.3906
T7	29	LDF7-50A (1-5/8 FOAM)	179.84 - 159.84	0.6000	0.3906
T7	30	LDF7-50A (1-5/8 FOAM)	179.84 - 159.84	0.6000	0.3906
T7	31	LDF7-50A (1-5/8 FOAM)	179.84 - 159.84	0.6000	0.3906
T7	32	LDF7-50A (1-5/8 FOAM)	179.84 - 159.84	0.6000	0.3906
T7	33	LDF7-50A (1-5/8 FOAM)	179.84 - 159.84	0.6000	0.3906
T7	34	LDF7-50A (1-5/8 FOAM)	179.84 - 159.84	0.6000	0.3906
T7	35	LDF5-50A (7/8 FOAM)	179.84 - 159.84	0.6000	0.3906
T7	36	LDF7-50A (1-5/8 FOAM)	179.84 - 159.84	0.6000	0.3906
T7	37	LDF7-50A (1-5/8 FOAM)	179.84 - 159.84	0.6000	0.3906
T7	38	LDF4-50A (1/2 FOAM)	179.84 - 159.84	0.6000	0.3906
T7	39	LDF4-50A (1/2 FOAM)	179.84 - 159.84	0.6000	0.3906
T8	4	LDF7-50A (1-5/8 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	5	LDF7-50A (1-5/8 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	6	Fiber Trunk	139.84 - 159.84	0.6000	0.4408
T8	7	DC Trunk	139.84 - 159.84	0.6000	0.4408
T8	12	LDF4-50A (1/2 FOAM)	139.84 - 157.00	0.6000	0.4408
T8	13	LDF4-50A (1/2 FOAM)	139.84 - 159.00	0.6000	0.4408
T8	14	LDF4-50A (1/2 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	15	LDF4-50A (1/2 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	16	LDF4-50A (1/2 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	17	LDF4-50A (1/2 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	18	LDF4-50A (1/2 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	24	LDF4-50A (1/2 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	25	LDF5-50A (7/8 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	26	LDF5-50A (7/8 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	27	LDF5-50A (7/8 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	28	LDF5-50A (7/8 FOAM)	139.84 -	0.6000	0.4408

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T8	29	LDF7-50A (1-5/8 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	30	LDF7-50A (1-5/8 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	31	LDF7-50A (1-5/8 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	32	LDF7-50A (1-5/8 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	33	LDF7-50A (1-5/8 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	34	LDF7-50A (1-5/8 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	35	LDF5-50A (7/8 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	36	LDF7-50A (1-5/8 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	37	LDF7-50A (1-5/8 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	38	LDF4-50A (1/2 FOAM)	139.84 - 159.84	0.6000	0.4408
T8	39	LDF4-50A (1/2 FOAM)	139.84 - 159.84	0.6000	0.4408
T9	4	LDF7-50A (1-5/8 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	5	LDF7-50A (1-5/8 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	6	Fiber Trunk	119.84 - 139.84	0.6000	0.4435
T9	7	DC Trunk	119.84 - 139.84	0.6000	0.4435
T9	12	LDF4-50A (1/2 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	13	LDF4-50A (1/2 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	14	LDF4-50A (1/2 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	15	LDF4-50A (1/2 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	16	LDF4-50A (1/2 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	17	LDF4-50A (1/2 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	18	LDF4-50A (1/2 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	24	LDF4-50A (1/2 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	25	LDF5-50A (7/8 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	26	LDF5-50A (7/8 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	27	LDF5-50A (7/8 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	28	LDF5-50A (7/8 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	29	LDF7-50A (1-5/8 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	30	LDF7-50A (1-5/8 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	31	LDF7-50A (1-5/8 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	32	LDF7-50A (1-5/8 FOAM)	119.84 -	0.6000	0.4435

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			139.84		
T9	33	LDF7-50A (1-5/8 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	34	LDF7-50A (1-5/8 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	35	LDF5-50A (7/8 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	36	LDF7-50A (1-5/8 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	37	LDF7-50A (1-5/8 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	38	LDF4-50A (1/2 FOAM)	119.84 - 139.84	0.6000	0.4435
T9	39	LDF4-50A (1/2 FOAM)	119.84 - 139.84	0.6000	0.4435
T10	4	LDF7-50A (1-5/8 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	5	LDF7-50A (1-5/8 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	6	Fiber Trunk	99.84 - 119.84	0.6000	0.4057
T10	7	DC Trunk	99.84 - 119.84	0.6000	0.4057
T10	12	LDF4-50A (1/2 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	13	LDF4-50A (1/2 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	14	LDF4-50A (1/2 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	15	LDF4-50A (1/2 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	16	LDF4-50A (1/2 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	17	LDF4-50A (1/2 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	18	LDF4-50A (1/2 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	20	EW63	99.84 - 104.00	0.6000	0.4057
T10	21	LDF5-50A (7/8 FOAM)	99.84 - 112.00	0.6000	0.4057
T10	22	EW63	99.84 - 116.00	0.6000	0.4057
T10	23	EW63	99.84 - 116.00	0.6000	0.4057
T10	24	LDF4-50A (1/2 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	25	LDF5-50A (7/8 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	26	LDF5-50A (7/8 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	27	LDF5-50A (7/8 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	28	LDF5-50A (7/8 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	29	LDF7-50A (1-5/8 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	30	LDF7-50A (1-5/8 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	31	LDF7-50A (1-5/8 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	32	LDF7-50A (1-5/8 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	33	LDF7-50A (1-5/8 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	34	LDF7-50A (1-5/8 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	35	LDF5-50A (7/8 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	36	LDF7-50A (1-5/8 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	37	LDF7-50A (1-5/8 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	38	LDF4-50A (1/2 FOAM)	99.84 - 119.84	0.6000	0.4057
T10	39	LDF4-50A (1/2 FOAM)	99.84 - 119.84	0.6000	0.4057
T11	1	LDF6-50A (1-1/4 FOAM)	79.84 - 84.00	0.6000	0.4472
T11	2	LDF6-50A (1-1/4 FOAM)	79.84 - 84.00	0.6000	0.4472
T11	3	HYBRIFLEX 1-5/8"	79.84 - 84.00	0.6000	0.4472
T11	4	LDF7-50A (1-5/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	5	LDF7-50A (1-5/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	6	Fiber Trunk	79.84 - 99.84	0.6000	0.4472
T11	7	DC Trunk	79.84 - 99.84	0.6000	0.4472
T11	10	LDF4-50A (1/2 FOAM)	79.84 - 94.00	0.6000	0.4472
T11	11	LDF4-50A (1/2 FOAM)	79.84 - 94.00	0.6000	0.4472
T11	12	LDF4-50A (1/2 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	13	LDF4-50A (1/2 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	14	LDF4-50A (1/2 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	15	LDF4-50A (1/2 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	16	LDF4-50A (1/2 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	17	LDF4-50A (1/2 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	18	LDF4-50A (1/2 FOAM)	79.84 - 99.84	0.6000	0.4472

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T11	20	EW63	79.84 - 99.84	0.6000	0.4472
T11	21	LDF5-50A (7/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	22	EW63	79.84 - 99.84	0.6000	0.4472
T11	23	EW63	79.84 - 99.84	0.6000	0.4472
T11	24	LDF4-50A (1/2 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	25	LDF5-50A (7/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	26	LDF5-50A (7/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	27	LDF5-50A (7/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	28	LDF5-50A (7/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	29	LDF7-50A (1-5/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	30	LDF7-50A (1-5/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	31	LDF7-50A (1-5/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	32	LDF7-50A (1-5/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	33	LDF7-50A (1-5/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	34	LDF7-50A (1-5/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	35	LDF5-50A (7/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	36	LDF7-50A (1-5/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	37	LDF7-50A (1-5/8 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	38	LDF4-50A (1/2 FOAM)	79.84 - 99.84	0.6000	0.4472
T11	39	LDF4-50A (1/2 FOAM)	79.84 - 99.84	0.6000	0.4472
T12	1	LDF6-50A (1-1/4 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	2	LDF6-50A (1-1/4 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	3	HYBRIFLEX 1-5/8"	59.84 - 79.84	0.6000	0.4590
T12	4	LDF7-50A (1-5/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	5	LDF7-50A (1-5/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	6	Fiber Trunk	59.84 - 79.84	0.6000	0.4590
T12	7	DC Trunk	59.84 - 79.84	0.6000	0.4590
T12	10	LDF4-50A (1/2 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	11	LDF4-50A (1/2 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	12	LDF4-50A (1/2 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	13	LDF4-50A (1/2 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	14	LDF4-50A (1/2 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	15	LDF4-50A (1/2 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	16	LDF4-50A (1/2 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	17	LDF4-50A (1/2 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	18	LDF4-50A (1/2 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	19	LDF5-50A (7/8 FOAM)	59.84 - 70.00	0.6000	0.4590
T12	20	EW63	59.84 - 79.84	0.6000	0.4590
T12	21	LDF5-50A (7/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	22	EW63	59.84 - 79.84	0.6000	0.4590
T12	23	EW63	59.84 - 79.84	0.6000	0.4590
T12	24	LDF4-50A (1/2 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	25	LDF5-50A (7/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	26	LDF5-50A (7/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	27	LDF5-50A (7/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	28	LDF5-50A (7/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	29	LDF7-50A (1-5/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	30	LDF7-50A (1-5/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	31	LDF7-50A (1-5/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	32	LDF7-50A (1-5/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	33	LDF7-50A (1-5/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	34	LDF7-50A (1-5/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	35	LDF5-50A (7/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	36	LDF7-50A (1-5/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	37	LDF7-50A (1-5/8 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	38	LDF4-50A (1/2 FOAM)	59.84 - 79.84	0.6000	0.4590
T12	39	LDF4-50A (1/2 FOAM)	59.84 - 79.84	0.6000	0.4590
T13	1	LDF6-50A (1-1/4 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	2	LDF6-50A (1-1/4 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	3	HYBRIFLEX 1-5/8"	39.84 - 59.84	0.6000	0.4331
T13	4	LDF7-50A (1-5/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	5	LDF7-50A (1-5/8 FOAM)	39.84 - 59.84	0.6000	0.4331

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T13	6	Fiber Trunk	39.84 - 59.84	0.6000	0.4331
T13	7	DC Trunk	39.84 - 59.84	0.6000	0.4331
T13	10	LDF4-50A (1/2 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	11	LDF4-50A (1/2 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	12	LDF4-50A (1/2 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	13	LDF4-50A (1/2 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	14	LDF4-50A (1/2 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	15	LDF4-50A (1/2 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	16	LDF4-50A (1/2 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	17	LDF4-50A (1/2 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	18	LDF4-50A (1/2 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	19	LDF5-50A (7/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	20	EW63	39.84 - 59.84	0.6000	0.4331
T13	21	LDF5-50A (7/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	22	EW63	39.84 - 59.84	0.6000	0.4331
T13	23	EW63	39.84 - 59.84	0.6000	0.4331
T13	24	LDF4-50A (1/2 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	25	LDF5-50A (7/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	26	LDF5-50A (7/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	27	LDF5-50A (7/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	28	LDF5-50A (7/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	29	LDF7-50A (1-5/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	30	LDF7-50A (1-5/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	31	LDF7-50A (1-5/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	32	LDF7-50A (1-5/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	33	LDF7-50A (1-5/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	34	LDF7-50A (1-5/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	35	LDF5-50A (7/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	36	LDF7-50A (1-5/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	37	LDF7-50A (1-5/8 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	38	LDF4-50A (1/2 FOAM)	39.84 - 59.84	0.6000	0.4331
T13	39	LDF4-50A (1/2 FOAM)	39.84 - 59.84	0.6000	0.4331
T14	1	LDF6-50A (1-1/4 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	2	LDF6-50A (1-1/4 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	3	HYBRIFLEX 1-5/8"	19.84 - 39.84	0.6000	0.4857
T14	4	LDF7-50A (1-5/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	5	LDF7-50A (1-5/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	6	Fiber Trunk	19.84 - 39.84	0.6000	0.4857
T14	7	DC Trunk	19.84 - 39.84	0.6000	0.4857
T14	10	LDF4-50A (1/2 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	11	LDF4-50A (1/2 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	12	LDF4-50A (1/2 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	13	LDF4-50A (1/2 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	14	LDF4-50A (1/2 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	15	LDF4-50A (1/2 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	16	LDF4-50A (1/2 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	17	LDF4-50A (1/2 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	18	LDF4-50A (1/2 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	19	LDF5-50A (7/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	20	EW63	19.84 - 39.84	0.6000	0.4857
T14	21	LDF5-50A (7/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	22	EW63	19.84 - 39.84	0.6000	0.4857
T14	23	EW63	19.84 - 39.84	0.6000	0.4857
T14	24	LDF4-50A (1/2 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	25	LDF5-50A (7/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	26	LDF5-50A (7/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	27	LDF5-50A (7/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	28	LDF5-50A (7/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	29	LDF7-50A (1-5/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	30	LDF7-50A (1-5/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	31	LDF7-50A (1-5/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	32	LDF7-50A (1-5/8 FOAM)	19.84 - 39.84	0.6000	0.4857

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T14	33	LDF7-50A (1-5/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	34	LDF7-50A (1-5/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	35	LDF5-50A (7/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	36	LDF7-50A (1-5/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	37	LDF7-50A (1-5/8 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	38	LDF4-50A (1/2 FOAM)	19.84 - 39.84	0.6000	0.4857
T14	39	LDF4-50A (1/2 FOAM)	19.84 - 39.84	0.6000	0.4857
T15	1	LDF6-50A (1-1/4 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	2	LDF6-50A (1-1/4 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	3	HYBRIFLEX 1-5/8"	6.50 - 19.84	0.6000	0.5097
T15	4	LDF7-50A (1-5/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	5	LDF7-50A (1-5/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	6	Fiber Trunk	6.50 - 19.84	0.6000	0.5097
T15	7	DC Trunk	6.50 - 19.84	0.6000	0.5097
T15	8	LDF4-50A (1/2 FOAM)	6.50 - 13.00	0.6000	0.5097
T15	9	LDF4-50A (1/2 FOAM)	6.50 - 18.00	0.6000	0.5097
T15	10	LDF4-50A (1/2 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	11	LDF4-50A (1/2 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	12	LDF4-50A (1/2 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	13	LDF4-50A (1/2 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	14	LDF4-50A (1/2 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	15	LDF4-50A (1/2 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	16	LDF4-50A (1/2 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	17	LDF4-50A (1/2 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	18	LDF4-50A (1/2 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	19	LDF5-50A (7/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	20	EW63	6.50 - 19.84	0.6000	0.5097
T15	21	LDF5-50A (7/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	22	EW63	6.50 - 19.84	0.6000	0.5097
T15	23	EW63	6.50 - 19.84	0.6000	0.5097
T15	24	LDF4-50A (1/2 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	25	LDF5-50A (7/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	26	LDF5-50A (7/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	27	LDF5-50A (7/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	28	LDF5-50A (7/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	29	LDF7-50A (1-5/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	30	LDF7-50A (1-5/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	31	LDF7-50A (1-5/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	32	LDF7-50A (1-5/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	33	LDF7-50A (1-5/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	34	LDF7-50A (1-5/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	35	LDF5-50A (7/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	36	LDF7-50A (1-5/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	37	LDF7-50A (1-5/8 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	38	LDF4-50A (1/2 FOAM)	6.50 - 19.84	0.6000	0.5097
T15	39	LDF4-50A (1/2 FOAM)	6.50 - 19.84	0.6000	0.5097
T16	1	LDF6-50A (1-1/4 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	2	LDF6-50A (1-1/4 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	3	HYBRIFLEX 1-5/8"	5.00 - 6.50	0.3052	0.0326
T16	4	LDF7-50A (1-5/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	5	LDF7-50A (1-5/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	6	Fiber Trunk	5.00 - 6.50	0.3052	0.0326
T16	7	DC Trunk	5.00 - 6.50	0.3052	0.0326
T16	8	LDF4-50A (1/2 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	9	LDF4-50A (1/2 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	10	LDF4-50A (1/2 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	11	LDF4-50A (1/2 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	12	LDF4-50A (1/2 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	13	LDF4-50A (1/2 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	14	LDF4-50A (1/2 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	15	LDF4-50A (1/2 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	16	LDF4-50A (1/2 FOAM)	5.00 - 6.50	0.3052	0.0326

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T16	17	LDF4-50A (1/2 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	18	LDF4-50A (1/2 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	19	LDF5-50A (7/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	20	EW63	5.00 - 6.50	0.3052	0.0326
T16	21	LDF5-50A (7/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	22	EW63	5.00 - 6.50	0.3052	0.0326
T16	23	EW63	5.00 - 6.50	0.3052	0.0326
T16	24	LDF4-50A (1/2 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	25	LDF5-50A (7/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	26	LDF5-50A (7/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	27	LDF5-50A (7/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	28	LDF5-50A (7/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	29	LDF7-50A (1-5/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	30	LDF7-50A (1-5/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	31	LDF7-50A (1-5/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	32	LDF7-50A (1-5/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	33	LDF7-50A (1-5/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	34	LDF7-50A (1-5/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	35	LDF5-50A (7/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	36	LDF7-50A (1-5/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	37	LDF7-50A (1-5/8 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	38	LDF4-50A (1/2 FOAM)	5.00 - 6.50	0.3052	0.0326
T16	39	LDF4-50A (1/2 FOAM)	5.00 - 6.50	0.3052	0.0326

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
4-ft Lightning Rod	A	From Face	0.00 0.00 0.00	0.0000	325.00	No Ice 1/2" Ice 1" Ice	0.40 0.81 1.06	0.40 0.81 1.06	0.01 0.01 0.02
Flash Beacon Lighting	B	None		0.0000	323.00	No Ice 1/2" Ice 1" Ice	2.70 3.10 3.50	2.70 3.10 3.50	0.05 0.07 0.09
6813 1-Bay w/radome (WHUS-34)	C	From Leg	2.00 0.00 0.00	0.0000	305.00	No Ice 1/2" Ice 1" Ice	4.90 6.00 7.10	4.90 6.00 7.10	0.10 0.20 0.29
PD1110 (WHUS-40)	C	From Leg	3.00 0.00 0.00	0.0000	277.00	No Ice 1/2" Ice 1" Ice	2.50 3.84 5.20	2.50 3.84 5.20	0.02 0.04 0.07
PD1110 (WHUS-39)	C	From Leg	1.50 0.00 0.00	0.0000	277.00	No Ice 1/2" Ice 1" Ice	2.50 3.84 5.20	2.50 3.84 5.20	0.02 0.04 0.07
ROHN 4-ft Side Arm (WHUS-40,39)	C	From Leg	2.00 0.00 0.00	0.0000	277.00	No Ice 1/2" Ice 1" Ice	5.28 7.88 10.48	5.28 7.88 10.48	0.07 0.08 0.10
OGT9-840 (CSP-9)	A	From Leg	3.00 0.00 0.00	0.0000	267.00	No Ice 1/2" Ice 1" Ice	2.27 3.44 4.61	2.27 3.44 4.61	0.02 0.04 0.06
DB810K	C	From Leg	3.00	0.0000	267.00	No Ice	4.08	4.08	0.04

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(CSP-5)			0.00					1/2" Ice	5.73	5.73	0.07
			0.00					1" Ice	7.41	7.41	0.11
AP14-850/105	B	From Leg	3.00			0.0000	261.00	No Ice	10.61	5.64	0.03
(CSP-4)			0.00					1/2" Ice	11.25	6.28	0.08
			0.00					1" Ice	11.89	6.89	0.14
AP14-850/105	B	From Leg	3.00			0.0000	252.00	No Ice	10.61	5.64	0.03
(CSP-6)			0.00					1/2" Ice	11.25	6.28	0.08
			0.00					1" Ice	11.89	6.89	0.14
SE419-SF3P4LDF	A	From Leg	3.00			0.0000	256.50	No Ice	4.12	0.04	0.04
(CSP-16 Future)			0.00					1/2" Ice	5.11	1.00	0.05
			0.00					1" Ice	6.08	1.97	0.07
TTA 432-83H-01T	B	From Leg	3.00			0.0000	256.50	No Ice	1.40	0.82	0.03
(CSP-15 Future)			0.00					1/2" Ice	1.55	0.94	0.04
			0.00					1" Ice	1.70	1.06	0.05
TTA 432-83H-01T	C	From Leg	3.00			0.0000	256.50	No Ice	1.40	0.82	0.03
(CSP-19 Future)			0.00					1/2" Ice	1.55	0.94	0.04
			0.00					1" Ice	1.70	1.06	0.05
SC479-HF1LDF	A	From Leg	3.00			0.0000	264.00	No Ice	4.41	4.41	0.03
(CSP-12 Future)			0.00					1/2" Ice	6.54	6.54	0.07
			0.00					1" Ice	8.04	8.04	0.11
SC479-HF1LDF	B	From Leg	3.00			0.0000	264.00	No Ice	4.41	4.41	0.03
(CSP-13 Future)			0.00					1/2" Ice	6.54	6.54	0.07
			0.00					1" Ice	8.04	8.04	0.11
SC479-HF1LDF	C	From Leg	3.00			0.0000	249.00	No Ice	4.44	4.44	0.03
(CSP-14 Future - Inverted)			0.00					1/2" Ice	6.54	6.54	0.07
			0.00					1" Ice	8.04	8.04	0.11
SC479-HF1LDF	A	From Leg	3.00			0.0000	249.00	No Ice	4.44	4.44	0.03
(CSP-17 Future - Inverted)			0.00					1/2" Ice	6.54	6.54	0.07
			0.00					1" Ice	8.04	8.04	0.11
SC479-HF1LDF	B	From Leg	3.00			0.0000	249.00	No Ice	4.44	4.44	0.03
(CSP-18 Future - Inverted)			0.00					1/2" Ice	6.54	6.54	0.07
			0.00					1" Ice	8.04	8.04	0.11
OGT9-840	C	From Leg	3.00			0.0000	253.00	No Ice	2.27	2.27	0.02
(CSP-11 - Inverted)			0.00					1/2" Ice	3.44	3.44	0.04
			0.00					1" Ice	4.61	4.61	0.06
OGT9-840	B	From Leg	3.00			0.0000	253.00	No Ice	2.27	2.27	0.02
(CSP-7 - Inverted)			0.00					1/2" Ice	3.44	3.44	0.04
			0.00					1" Ice	4.61	4.61	0.06
SC479-HF1LDF	A	From Leg	3.00			0.0000	254.00	No Ice	4.43	4.43	0.03
(CSP-20 Future)			0.00					1/2" Ice	6.54	6.54	0.07
			0.00					1" Ice	8.04	8.04	0.11
SC479-HF1LDF	B	From Leg	3.00			0.0000	254.00	No Ice	4.43	4.43	0.03
(CSP-21 Future)			0.00					1/2" Ice	6.54	6.54	0.07
			0.00					1" Ice	8.04	8.04	0.11
SC479-HF1LDF	C	From Leg	3.00			0.0000	239.00	No Ice	4.46	4.46	0.03
(CSP-22 Future - Inverted)			0.00					1/2" Ice	6.54	6.54	0.07
			0.00					1" Ice	8.04	8.04	0.11
SC479-HF1LDF	A	From Leg	3.00			0.0000	239.00	No Ice	4.46	4.46	0.03
(CSP-24 Future - Inverted)			0.00					1/2" Ice	6.54	6.54	0.07
			0.00					1" Ice	8.04	8.04	0.11
SC479-HF1LDF	B	From Leg	3.00			0.0000	239.00	No Ice	4.46	4.46	0.03
(CSP-25 Future - Inverted)			0.00					1/2" Ice	6.54	6.54	0.07
			0.00					1" Ice	8.04	8.04	0.11
TTA 432-83H-01T	B	From Leg	3.00			0.0000	240.00	No Ice	1.40	0.82	0.03
(CSP-23 Future)			0.00					1/2" Ice	1.55	0.94	0.04
			0.00					1" Ice	1.70	1.06	0.05
TTA 432-83H-01T	C	From Leg	3.00			0.0000	240.00	No Ice	1.40	0.82	0.03

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(CSP-26 Future)			0.00			1/2" Ice	1.55	0.94	0.04
			0.00			1" Ice	1.70	1.06	0.05
6813 1-Bay w/radome	C	From Leg	2.00	0.0000	211.00	No Ice	4.90	4.90	0.10
(WHUS-36)			0.00			1/2" Ice	6.00	6.00	0.20
			0.00			1" Ice	7.10	7.10	0.29
6813 1-Bay w/radome	B	From Leg	2.00	0.0000	198.00	No Ice	4.90	4.90	0.10
(WHUS-34)			0.00			1/2" Ice	6.00	6.00	0.20
			0.00			1" Ice	7.10	7.10	0.29
6812	A	From Leg	3.00	0.0000	198.00	No Ice	0.20	0.20	0.00
(CPR-32 - Future)			0.00			1/2" Ice	0.36	0.36	0.00
			0.00			1" Ice	0.52	0.52	0.00
6' Yagi	B	From Leg	3.00	0.0000	190.00	No Ice	5.00	5.00	0.04
(CPR-33 - Future)			0.00			1/2" Ice	6.50	6.50	0.06
			0.00			1" Ice	8.00	8.00	0.08
24"x12"x5" Panel	B	From Leg	1.00	0.0000	172.17	No Ice	2.40	1.09	0.03
			0.00			1/2" Ice	2.60	1.24	0.05
			0.00			1" Ice	2.81	1.41	0.07
8' x 3" Dia Omni	C	From Leg	1.00	0.0000	172.00	No Ice	2.40	2.40	0.03
			0.00			1/2" Ice	3.19	3.19	0.04
			0.00			1" Ice	3.67	3.67	0.07
16"x12"x3" TTA	A	From Leg	1.00	0.0000	166.00	No Ice	1.60	0.44	0.01
			0.00			1/2" Ice	1.76	0.55	0.02
			0.00			1" Ice	1.93	0.66	0.03
24"x12"x5" Panel	C	From Leg	1.00	0.0000	158.83	No Ice	2.40	1.09	0.03
			0.00			1/2" Ice	2.60	1.24	0.05
			0.00			1" Ice	2.81	1.41	0.07
Beacon	A	From Leg	0.50	0.0000	157.00	No Ice	0.17	0.17	0.01
			0.00			1/2" Ice	0.31	0.31	0.01
			0.00			1" Ice	0.39	0.39	0.02
Beacon	B	From Leg	0.50	0.0000	157.00	No Ice	0.17	0.17	0.01
			0.00			1/2" Ice	0.31	0.31	0.01
			0.00			1" Ice	0.39	0.39	0.02
Beacon	C	From Leg	0.50	0.0000	157.00	No Ice	0.17	0.17	0.01
			0.00			1/2" Ice	0.31	0.31	0.01
			0.00			1" Ice	0.39	0.39	0.02
Sabre 2' Sidearm	B	From Leg	1.00	0.0000	125.00	No Ice	3.90	3.90	0.09
			0.00			1/2" Ice	4.40	4.40	0.10
			0.00			1" Ice	4.90	4.90	0.11
6'x4' Ice Shield	C	From Leg	1.00	0.0000	124.00	No Ice	0.02	0.03	0.28
			0.00			1/2" Ice	0.05	0.06	0.40
			0.00			1" Ice	0.08	0.09	0.52
9'x10' Ice Shield	A	From Leg	1.00	0.0000	124.00	No Ice	0.88	1.00	1.07
			0.00			1/2" Ice	1.20	2.00	1.40
			0.00			1" Ice	1.52	3.00	1.73
2'6"x4" Pipe Mount	C	From Leg	0.50	0.0000	124.00	No Ice	0.65	0.65	0.03
			0.00			1/2" Ice	0.91	0.91	0.04
			0.00			1" Ice	1.09	1.09	0.05
2'6"x4" Pipe Mount	A	From Leg	0.50	0.0000	124.00	No Ice	0.65	0.65	0.03
			0.00			1/2" Ice	0.91	0.91	0.04
			0.00			1" Ice	1.09	1.09	0.05
PD1110	B	From Leg	2.00	0.0000	112.00	No Ice	2.50	2.50	0.02
			0.00			1/2" Ice	3.84	3.84	0.04
			0.00			1" Ice	5.20	5.20	0.07
Sabre 2' Sidearm	B	From Leg	1.00	0.0000	112.00	No Ice	3.90	3.90	0.09
			0.00			1/2" Ice	4.40	4.40	0.10
			0.00			1" Ice	4.90	4.90	0.11
6'x4" Pipe Mount	C	From Leg	0.50	0.0000	104.00	No Ice	1.81	1.81	0.05

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1/2" Ice	2.46	2.46	0.07
			0.00			1" Ice	2.83	2.83	0.09
PR-850	C	From Leg	0.50	0.0000	94.00	No Ice	6.35	6.35	0.04
			0.00			1/2" Ice	11.43	11.43	0.05
			0.00			1" Ice	16.51	16.51	0.06
ASP-962	B	From Leg	0.50	0.0000	94.00	No Ice	0.16	0.16	0.00
			0.00			1/2" Ice	0.29	0.29	0.00
			0.00			1" Ice	0.42	0.42	0.00
DB212-1	C	From Leg	0.00	0.0000	70.00	No Ice	4.50	4.50	0.03
(CSP-10)			0.00			1/2" Ice	8.10	8.10	0.04
			0.00			1" Ice	11.70	11.70	0.05
6' Yagi	C	From Leg	3.00	0.0000	18.00	No Ice	5.00	5.00	0.04
			0.00			1/2" Ice	6.50	6.50	0.06
			0.00			1" Ice	8.00	8.00	0.08
Sabre 2' Sidearm	C	From Leg	1.00	0.0000	18.00	No Ice	3.90	3.90	0.09
			0.00			1/2" Ice	4.40	4.40	0.10
			0.00			1" Ice	4.90	4.90	0.11
Sabre 2' Sidearm	C	From Leg	1.00	0.0000	13.00	No Ice	3.90	3.90	0.09
			0.00			1/2" Ice	4.40	4.40	0.10
			0.00			1" Ice	4.90	4.90	0.11
HBXX-6517DS	A	From Leg	3.00	0.0000	84.00	No Ice	8.53	5.24	0.05
(Verizon)			-6.00			1/2" Ice	9.00	5.71	0.10
			0.00			1" Ice	9.48	6.18	0.16
BXA-80063-4CF	A	From Leg	3.00	0.0000	84.00	No Ice	4.71	2.52	0.01
(Verizon)			-3.00			1/2" Ice	5.03	2.82	0.04
			0.00			1" Ice	5.35	3.13	0.07
X7C-FRO-440	A	From Leg	3.00	0.0000	84.00	No Ice	7.97	3.13	0.03
(Verizon)			3.00			1/2" Ice	8.34	3.45	0.08
			0.00			1" Ice	8.72	3.78	0.13
HBXX-6517DS	A	From Leg	3.00	0.0000	84.00	No Ice	8.53	5.24	0.05
(Verizon)			6.00			1/2" Ice	9.00	5.71	0.10
			0.00			1" Ice	9.48	6.18	0.16
HBXX-6517DS	B	From Leg	3.00	0.0000	84.00	No Ice	8.53	5.24	0.05
(Verizon)			-6.00			1/2" Ice	9.00	5.71	0.10
			0.00			1" Ice	9.48	6.18	0.16
BXA-80063-4CF	B	From Leg	3.00	0.0000	84.00	No Ice	4.71	2.52	0.01
(Verizon)			-3.00			1/2" Ice	5.03	2.82	0.04
			0.00			1" Ice	5.35	3.13	0.07
X7C-FRO-440	B	From Leg	3.00	0.0000	84.00	No Ice	7.97	3.13	0.03
(Verizon)			3.00			1/2" Ice	8.34	3.45	0.08
			0.00			1" Ice	8.72	3.78	0.13
HBXX-6517DS	B	From Leg	3.00	0.0000	84.00	No Ice	8.53	5.24	0.05
(Verizon)			6.00			1/2" Ice	9.00	5.71	0.10
			0.00			1" Ice	9.48	6.18	0.16
HBXX-6517DS	C	From Leg	3.00	0.0000	84.00	No Ice	8.53	5.24	0.05
(Verizon)			-6.00			1/2" Ice	9.00	5.71	0.10
			0.00			1" Ice	9.48	6.18	0.16
BXA-80063-4CF	C	From Leg	3.00	0.0000	84.00	No Ice	4.71	2.52	0.01
(Verizon)			-3.00			1/2" Ice	5.03	2.82	0.04
			0.00			1" Ice	5.35	3.13	0.07
X7C-FRO-440	C	From Leg	3.00	0.0000	84.00	No Ice	7.97	3.13	0.03
(Verizon)			3.00			1/2" Ice	8.34	3.45	0.08
			0.00			1" Ice	8.72	3.78	0.13
HBXX-6517DS	C	From Leg	3.00	0.0000	84.00	No Ice	8.53	5.24	0.05
(Verizon)			6.00			1/2" Ice	9.00	5.71	0.10
			0.00			1" Ice	9.48	6.18	0.16
RRH2x60-AWS	A	From Leg	3.00	0.0000	84.00	No Ice	3.36	2.03	0.06

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(Verizon)			-6.00			1/2" Ice	3.61	2.26	0.08
			0.00			1" Ice	3.88	2.50	0.11
RRH2x60-AWS	B	From Leg	3.00	0.0000	84.00	No Ice	3.36	2.03	0.06
(Verizon)			-6.00			1/2" Ice	3.61	2.26	0.08
			0.00			1" Ice	3.88	2.50	0.11
RRH2x60-AWS	C	From Leg	3.00	0.0000	84.00	No Ice	3.36	2.03	0.06
(Verizon)			-6.00			1/2" Ice	3.61	2.26	0.08
			0.00			1" Ice	3.88	2.50	0.11
RRH2x40-07-U	A	From Leg	3.00	0.0000	84.00	No Ice	1.93	1.05	0.05
(Verizon)			3.00			1/2" Ice	2.10	1.19	0.07
			0.00			1" Ice	2.28	1.33	0.09
RRH2x40-07-U	B	From Leg	3.00	0.0000	84.00	No Ice	1.93	1.05	0.05
(Verizon)			3.00			1/2" Ice	2.10	1.19	0.07
			0.00			1" Ice	2.28	1.33	0.09
RRH2x40-07-U	C	From Leg	3.00	0.0000	84.00	No Ice	1.93	1.05	0.05
(Verizon)			3.00			1/2" Ice	2.10	1.19	0.07
			0.00			1" Ice	2.28	1.33	0.09
FD-RRH 4x45 1900	A	From Leg	3.00	0.0000	84.00	No Ice	2.32	2.38	0.06
(Verizon)			6.00			1/2" Ice	2.52	2.59	0.08
			0.00			1" Ice	2.74	2.80	0.11
FD-RRH 4x45 1900	B	From Leg	3.00	0.0000	84.00	No Ice	2.32	2.38	0.06
(Verizon)			6.00			1/2" Ice	2.52	2.59	0.08
			0.00			1" Ice	2.74	2.80	0.11
FD-RRH 4x45 1900	C	From Leg	3.00	0.0000	84.00	No Ice	2.32	2.38	0.06
(Verizon)			6.00			1/2" Ice	2.52	2.59	0.08
			0.00			1" Ice	2.74	2.80	0.11
RC2DC-3315-PF-48	A	From Leg	3.00	0.0000	84.00	No Ice	3.01	1.96	0.03
(Verizon)			6.00			1/2" Ice	3.23	2.15	0.05
			0.00			1" Ice	3.46	2.35	0.08
13' Platform w/rails	A	None		0.0000	84.00	No Ice	31.30	31.30	1.82
(Verizon)						1/2" Ice	40.20	40.20	2.45
						1" Ice	49.10	49.10	3.08
7770.00	A	From Leg	3.00	0.0000	185.00	No Ice	5.51	2.93	0.04
(AT&T - Existing)			-6.00			1/2" Ice	5.87	3.27	0.07
			0.00			1" Ice	6.23	3.63	0.11
OPA-65R-LCUU-H8	A	From Leg	3.00	0.0000	185.00	No Ice	12.98	7.52	0.09
(AT&T - Existing)			-3.00			1/2" Ice	13.56	8.09	0.16
			0.00			1" Ice	14.15	8.67	0.24
TPA-65R-LCUUUU-H8	A	From Leg	3.00	0.0000	185.00	No Ice	13.30	8.82	0.08
(AT&T - Proposed)			3.00			1/2" Ice	13.90	9.42	0.15
			0.00			1" Ice	14.50	10.03	0.24
HPA-65R-BUU-H8	A	From Leg	3.00	0.0000	185.00	No Ice	12.98	7.52	0.07
(AT&T - Existing)			6.00			1/2" Ice	13.56	8.09	0.14
			0.00			1" Ice	14.15	8.67	0.22
7770.00	B	From Leg	3.00	0.0000	185.00	No Ice	5.51	2.93	0.04
(AT&T - Existing)			-6.00			1/2" Ice	5.87	3.27	0.07
			0.00			1" Ice	6.23	3.63	0.11
OPA-65R-LCUU-H6	B	From Leg	3.00	0.0000	185.00	No Ice	9.66	5.52	0.07
(AT&T - Existing)			-3.00			1/2" Ice	10.13	5.97	0.13
			0.00			1" Ice	10.61	6.43	0.20
QS66512-2	B	From Leg	3.00	0.0000	185.00	No Ice	8.13	6.80	0.11
(AT&T - Proposed)			3.00			1/2" Ice	8.59	7.27	0.17
			0.00			1" Ice	9.05	7.72	0.23
HPA-65R-BUU-H6	B	From Leg	3.00	0.0000	185.00	No Ice	9.66	6.45	0.05
(AT&T - Existing)			6.00			1/2" Ice	10.13	6.91	0.11
			0.00			1" Ice	10.61	7.38	0.18
7770.00	C	From Leg	3.00	0.0000	185.00	No Ice	5.51	2.93	0.04

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(AT&T - Existing)			-6.00			1/2" Ice	5.87	3.27	0.07
			0.00			1" Ice	6.23	3.63	0.11
OPA-65R-LCUU-H8	C	From Leg	3.00	0.0000	185.00	No Ice	12.98	7.52	0.09
(AT&T - Existing)			-3.00			1/2" Ice	13.56	8.09	0.16
			0.00			1" Ice	14.15	8.67	0.24
TPA-65R-LCUUUU-H8	C	From Leg	3.00	0.0000	185.00	No Ice	13.30	8.82	0.08
(AT&T - Proposed)			3.00			1/2" Ice	13.90	9.42	0.15
			0.00			1" Ice	14.50	10.03	0.24
HPA-65R-BUU-H8	C	From Leg	3.00	0.0000	185.00	No Ice	12.98	7.52	0.07
(AT&T - Existing)			6.00			1/2" Ice	13.56	8.09	0.14
			0.00			1" Ice	14.15	8.67	0.22
DTMABP7819VG12A TMA	A	From Leg	3.00	0.0000	185.00	No Ice	1.36	0.51	0.02
(AT&T - Existing)			-6.00			1/2" Ice	1.51	0.61	0.03
			0.00			1" Ice	1.66	0.72	0.04
DTMABP7819VG12A TMA	B	From Leg	3.00	0.0000	185.00	No Ice	1.36	0.51	0.02
(AT&T - Existing)			-6.00			1/2" Ice	1.51	0.61	0.03
			0.00			1" Ice	1.66	0.72	0.04
DTMABP7819VG12A TMA	C	From Leg	3.00	0.0000	185.00	No Ice	1.36	0.51	0.02
(AT&T - Existing)			-6.00			1/2" Ice	1.51	0.61	0.03
			0.00			1" Ice	1.66	0.72	0.04
(2) TPX-070821	A	From Leg	3.00	0.0000	185.00	No Ice	0.47	0.10	0.01
(AT&T - Existing)			-3.00			1/2" Ice	0.56	0.15	0.01
			0.00			1" Ice	0.66	0.20	0.02
(2) TPX-070821	B	From Leg	3.00	0.0000	185.00	No Ice	0.47	0.10	0.01
(AT&T - Existing)			-3.00			1/2" Ice	0.56	0.15	0.01
			0.00			1" Ice	0.66	0.20	0.02
(2) TPX-070821	C	From Leg	3.00	0.0000	185.00	No Ice	0.47	0.10	0.01
(AT&T - Existing)			-3.00			1/2" Ice	0.56	0.15	0.01
			0.00			1" Ice	0.66	0.20	0.02
RRUS-11	A	From Leg	1.00	0.0000	185.00	No Ice	2.57	1.07	0.05
(AT&T - Existing)			1.00			1/2" Ice	2.76	1.21	0.07
			0.00			1" Ice	2.97	1.36	0.09
RRUS-11	B	From Leg	1.00	0.0000	185.00	No Ice	2.57	1.07	0.05
(AT&T - Existing)			1.00			1/2" Ice	2.76	1.21	0.07
			0.00			1" Ice	2.97	1.36	0.09
RRUS-11	C	From Leg	1.00	0.0000	185.00	No Ice	2.57	1.07	0.05
(AT&T - Existing)			1.00			1/2" Ice	2.76	1.21	0.07
			0.00			1" Ice	2.97	1.36	0.09
RRUS-32	A	From Leg	2.00	0.0000	185.00	No Ice	3.31	2.42	0.08
(AT&T - Existing)			2.00			1/2" Ice	3.56	2.64	0.10
			0.00			1" Ice	3.81	2.86	0.14
RRUS-32	B	From Leg	2.00	0.0000	185.00	No Ice	3.31	2.42	0.08
(AT&T - Existing)			2.00			1/2" Ice	3.56	2.64	0.10
			0.00			1" Ice	3.81	2.86	0.14
RRUS-32	C	From Leg	2.00	0.0000	185.00	No Ice	3.31	2.42	0.08
(AT&T - Existing)			2.00			1/2" Ice	3.56	2.64	0.10
			0.00			1" Ice	3.81	2.86	0.14
RRUS-32	A	From Leg	3.00	0.0000	185.00	No Ice	3.31	2.42	0.08
(AT&T - Existing)			-3.00			1/2" Ice	3.56	2.64	0.10
			0.00			1" Ice	3.81	2.86	0.14
RRUS-32	B	From Leg	3.00	0.0000	185.00	No Ice	3.31	2.42	0.08
(AT&T - Existing)			-3.00			1/2" Ice	3.56	2.64	0.10
			0.00			1" Ice	3.81	2.86	0.14
RRUS-32	C	From Leg	3.00	0.0000	185.00	No Ice	3.31	2.42	0.08
(AT&T - Existing)			-3.00			1/2" Ice	3.56	2.64	0.10
			0.00			1" Ice	3.81	2.86	0.14
RRUS-32	A	From Leg	3.00	0.0000	185.00	No Ice	3.31	2.42	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(AT&T - Proposed)			0.00			1/2" Ice	3.56	2.64	0.10
			2.00			1" Ice	3.81	2.86	0.14
RRUS-32	B	From Leg	3.00	0.0000	185.00	No Ice	3.31	2.42	0.08
(AT&T - Proposed)			0.00			1/2" Ice	3.56	2.64	0.10
			2.00			1" Ice	3.81	2.86	0.14
RRUS-32	C	From Leg	3.00	0.0000	185.00	No Ice	3.31	2.42	0.08
(AT&T - Proposed)			0.00			1/2" Ice	3.56	2.64	0.10
			2.00			1" Ice	3.81	2.86	0.14
RRUS-32	A	From Leg	3.00	0.0000	185.00	No Ice	3.31	2.42	0.08
(AT&T - Proposed)			0.00			1/2" Ice	3.56	2.64	0.10
			-2.00			1" Ice	3.81	2.86	0.14
RRUS-32	B	From Leg	3.00	0.0000	185.00	No Ice	3.31	2.42	0.08
(AT&T - Proposed)			0.00			1/2" Ice	3.56	2.64	0.10
			-2.00			1" Ice	3.81	2.86	0.14
RRUS-32	C	From Leg	3.00	0.0000	185.00	No Ice	3.31	2.42	0.08
(AT&T - Proposed)			0.00			1/2" Ice	3.56	2.64	0.10
			-2.00			1" Ice	3.81	2.86	0.14
B14 4478	A	From Leg	3.00	0.0000	185.00	No Ice	1.63	0.91	0.06
(AT&T - Proposed)			3.00			1/2" Ice	1.79	1.03	0.07
			0.00			1" Ice	1.95	1.17	0.09
B14 4478	B	From Leg	3.00	0.0000	185.00	No Ice	1.63	0.91	0.06
(AT&T - Proposed)			3.00			1/2" Ice	1.79	1.03	0.07
			0.00			1" Ice	1.95	1.17	0.09
B14 4478	C	From Leg	3.00	0.0000	185.00	No Ice	1.63	0.91	0.06
(AT&T - Proposed)			3.00			1/2" Ice	1.79	1.03	0.07
			0.00			1" Ice	1.95	1.17	0.09
DC6-48-60-18-8F Surge	A	None		0.0000	185.00	No Ice	1.91	1.91	0.02
Arrestor						1/2" Ice	2.10	2.10	0.04
(AT&T - Existing)						1" Ice	2.29	2.29	0.06
DC6-48-60-18-8F Surge	B	None		0.0000	185.00	No Ice	1.91	1.91	0.02
Arrestor						1/2" Ice	2.10	2.10	0.04
(AT&T - Existing)						1" Ice	2.29	2.29	0.06
DC6-48-60-18-8F Surge	C	None		0.0000	185.00	No Ice	1.91	1.91	0.02
Arrestor						1/2" Ice	2.10	2.10	0.04
(AT&T - Existing)						1" Ice	2.29	2.29	0.06
12' V-Frame	A	None		0.0000	185.00	No Ice	9.22	12.97	0.30
(AT&T - Existing)						1/2" Ice	9.22	12.97	0.40
						1" Ice	9.22	12.97	0.50
12' V-Frame	B	None		0.0000	185.00	No Ice	9.22	12.97	0.30
(AT&T - Existing)						1/2" Ice	9.22	12.97	0.40
						1" Ice	9.22	12.97	0.50
12' V-Frame	C	None		0.0000	185.00	No Ice	9.22	12.97	0.30
(AT&T - Existing)						1/2" Ice	9.22	12.97	0.40
						1" Ice	9.22	12.97	0.50

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft²	Weight K
6-ft Dish (CSP - Future)	A	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	0.0000		290.00	6.00	No Ice 1/2" Ice 1" Ice	28.27 29.07 29.87	0.05 0.06 0.35
6-ft Dish (CSP - Future)	B	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	0.0000		290.00	6.00	No Ice 1/2" Ice 1" Ice	28.27 29.07 29.87	0.05 0.06 0.35
6-ft Dish (CSP - Future)	C	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	0.0000		290.00	6.00	No Ice 1/2" Ice 1" Ice	28.27 29.07 29.87	0.05 0.06 0.35
5' Gird Dish	A	Grid	From Leg	1.00 0.00 0.00	0.0000		171.50	5.00	No Ice 1/2" Ice 1" Ice	19.63 20.29 20.95	0.10 0.20 0.30
6-ft Dish	A	Paraboloid w/o Radome	From Leg	1.00 0.00 0.00	0.0000		116.00	6.00	No Ice 1/2" Ice 1" Ice	28.27 29.07 29.87	0.05 0.06 0.35
6-ft Dish	C	Paraboloid w/Shroud (HP)	From Leg	1.00 0.00 0.00	0.0000		116.00	6.00	No Ice 1/2" Ice 1" Ice	28.27 29.07 29.87	0.05 0.06 0.35
6-ft Dish	C	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	0.0000		104.00	6.00	No Ice 1/2" Ice 1" Ice	28.27 29.07 29.87	0.05 0.06 0.35
4-ft Dish	C	Paraboloid w/o Radome	From Leg	2.00 0.00 0.00	0.0000		13.00	4.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.68	0.10 0.10 0.12

Tower Pressures - No Ice

G_H = 0.850 (base tower), 1.350 (upper structure)

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg % %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1	309.47	1.605	36	31.497	A	0.000	31.497	31.497	100.00	0.000	0.000
327.00-291.84					B	0.000	31.497		100.00	0.000	0.000
					C	0.000	31.497		100.00	0.000	0.000
T1	285.84	1.579	35	46.040	A	3.503	6.950	4.000	38.27	1.308	0.000
291.84-279.84					B	3.503	6.950		38.27	0.753	0.000
					C	3.503	7.534		36.24	0.000	0.000
T2	269.84	1.56	35	76.733	A	0.000	11.672	6.667	57.12	5.245	0.000
279.84-259.84					B	0.000	11.672		57.12	3.422	0.000
					C	0.000	12.548		53.13	0.000	0.000
T3	249.84	1.535	34	77.150	A	3.482	12.189	7.500	47.86	34.020	0.000
259.84-239.84					B	3.482	12.189		47.86	3.780	0.000
					C	3.482	13.059		45.34	0.000	0.000
T4	229.84	1.508	33	77.150	A	0.000	12.476	7.500	60.12	74.540	0.000
239.84-219.84					B	0.000	12.476		60.12	3.780	0.000
					C	0.000	13.346		56.20	0.000	0.000
T5	209.84	1.479	33	77.567	A	3.462	13.286	8.333	49.76	76.973	0.000
219.84-199.84					B	3.462	13.286		49.76	3.780	0.000
					C	3.462	14.152		47.31	0.000	0.000
T6	189.84	1.448	32	77.567	A	0.000	12.987	8.333	64.17	78.900	0.000
199.84-179.84					B	0.000	12.987		64.17	5.564	0.000
					C	0.000	13.852		60.16	14.118	0.000
T7	169.84	1.415	31	77.983	A	3.441	14.090	9.167	52.29	82.340	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
179.84-159.84					B	3.441	14.090		52.29	6.300	0.000
					C	3.441	14.950		49.84	54.720	0.000
T8	149.84	1.378	31	77.567	A	0.000	13.276	8.333	62.77	84.520	0.000
159.84-139.84					B	0.000	13.276		62.77	8.588	0.000
					C	0.000	14.141		58.93	54.720	0.000
T9	129.84	1.337	30	77.983	A	0.000	13.795	9.167	66.45	84.520	0.000
139.84-119.84					B	0.000	13.795		66.45	8.820	0.000
					C	0.000	14.656		62.55	54.720	0.000
T10	109.84	1.291	29	77.983	A	3.441	14.087	9.167	52.30	91.588	0.000
119.84-99.84					B	3.441	14.087		52.30	8.820	0.000
					C	3.441	14.947		49.85	54.720	0.000
T11	89.84	1.237	27	78.400	A	0.000	14.890	10.000	67.16	96.145	0.000
99.84-79.84					B	0.000	14.890		67.16	10.604	0.000
					C	0.000	15.745		63.51	63.281	0.000
T12	69.84	1.173	26	78.400	A	0.000	14.598	10.000	68.50	97.253	0.000
79.84-59.84					B	0.000	14.598		68.50	11.340	0.000
					C	0.000	15.453		64.71	95.880	0.000
T13	49.84	1.093	24	78.400	A	3.420	14.313	10.000	56.39	98.325	0.000
59.84-39.84					B	3.420	14.313		56.39	11.340	0.000
					C	3.420	15.168		53.80	95.880	0.000
T14	29.84	0.981	22	78.400	A	0.000	14.598	10.000	68.50	98.325	0.000
39.84-19.84					B	0.000	14.598		68.50	11.340	0.000
					C	0.000	15.453		64.71	95.880	0.000
T15 19.84-6.50	13.17	0.85	19	52.293	A	0.000	9.735	6.670	68.51	65.583	0.000
					B	0.000	9.735		68.51	8.698	0.000
					C	0.000	10.306		64.72	63.952	0.000
T16 6.50-0.00	3.25	0.85	19	13.616	A	6.042	3.418	3.418	36.13	7.374	0.000
					B	6.042	3.418		36.13	1.040	0.000
					C	6.042	3.418		36.13	7.191	0.000

Tower Pressure - With Ice

G_H = 0.850 (base tower), 1.350 (upper structure)

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1	309.47	1.605	6	2.5017	46.158	A	0.000	46.158	46.158	100.00	0.000	0.000
327.00-291.84						B	0.000	46.158		100.00	0.000	0.000
						C	0.000	46.158		100.00	0.000	0.000
T1	285.84	1.579	5	2.4819	51.004	A	3.503	30.161	13.928	41.37	7.265	0.000
291.84-279.84						B	3.503	30.161		41.37	6.690	0.000
						C	3.503	33.644		37.49	0.000	0.000
T2	269.84	1.56	5	2.4677	84.959	A	0.000	48.447	23.118	47.72	22.756	0.000
279.84-259.84						B	0.000	48.447		47.72	30.231	0.000
						C	0.000	53.646		43.09	0.000	0.000
T3	249.84	1.535	5	2.4488	85.313	A	3.482	48.576	23.825	45.77	122.333	0.000
259.84-239.84						B	3.482	48.576		45.77	33.165	0.000
						C	3.482	53.711		41.66	0.000	0.000
T4	229.84	1.508	5	2.4284	85.245	A	0.000	48.546	23.689	48.80	265.380	0.000
239.84-219.84						B	0.000	48.546		48.80	32.921	0.000
						C	0.000	53.646		44.16	0.000	0.000
T5	209.84	1.479	5	2.4064	85.588	A	3.462	48.927	24.376	46.53	277.358	0.000
219.84-199.84						B	3.462	48.927		46.53	32.657	0.000
						C	3.462	53.958		42.45	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T6	189.84	1.448	5	2.3824	85.508	A	0.000	48.258	24.216	50.18	286.298	0.000
199.84-179.84						B	0.000	48.258		50.18	47.647	0.000
						C	0.000	53.247		45.48	45.963	0.000
T7	169.84	1.415	5	2.3560	85.837	A	3.441	48.869	24.874	47.55	305.283	0.000
179.84-159.84						B	3.441	48.869		47.55	53.421	0.000
						C	3.441	53.783		43.47	177.531	0.000
T8	149.84	1.378	5	2.3267	85.322	A	0.000	47.709	23.845	49.98	316.365	0.000
159.84-139.84						B	0.000	47.709		49.98	72.023	0.000
						C	0.000	52.602		45.33	176.842	0.000
T9	129.84	1.337	5	2.2936	85.629	A	0.000	47.653	24.457	51.32	313.905	0.000
139.84-119.84						B	0.000	47.653		51.32	73.041	0.000
						C	0.000	52.459		46.62	176.065	0.000
T10	109.84	1.291	4	2.2556	85.502	A	3.441	47.369	24.204	47.64	340.088	0.000
119.84-99.84						B	3.441	47.369		47.64	71.976	0.000
						C	3.441	52.110		43.57	175.173	0.000
T11 99.84-79.84	89.84	1.237	4	2.2107	85.769	A	0.000	47.414	24.738	52.17	354.739	0.000
						B	0.000	47.414		52.17	85.024	0.000
						C	0.000	52.050		47.53	200.134	0.000
T12 79.84-59.84	69.84	1.173	4	2.1557	85.586	A	0.000	46.301	24.371	52.64	355.264	0.000
						B	0.000	46.301		52.64	88.945	0.000
						C	0.000	50.843		47.93	296.984	0.000
T13 59.84-39.84	49.84	1.093	4	2.0842	85.347	A	3.420	44.964	23.895	49.39	353.839	0.000
						B	3.420	44.964		49.39	86.371	0.000
						C	3.420	49.384		45.25	294.129	0.000
T14 39.84-19.84	29.84	0.981	3	1.9800	85.000	A	0.000	43.717	23.200	53.07	344.021	0.000
						B	0.000	43.717		53.07	82.619	0.000
						C	0.000	47.958		48.38	289.977	0.000
T15 19.84-6.50	13.17	0.85	3	1.8245	56.349	A	0.000	27.629	14.783	53.51	219.699	0.000
						B	0.000	27.629		53.51	58.987	0.000
						C	0.000	30.279		48.82	189.293	0.000
T16 6.50-0.00	3.25	0.85	3	1.5862	15.402	A	6.042	8.859	7.033	47.20	23.024	0.000
						B	6.042	8.859		47.20	6.274	0.000
						C	6.042	8.859		47.20	20.578	0.000

Tower Pressure - Service

G_H = 0.850 (base tower), 1.350 (upper structure)

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1	309.47	1.605	13	31.497	A	0.000	31.497	31.497	100.00	0.000	0.000
327.00-291.84					B	0.000	31.497		100.00	0.000	0.000
					C	0.000	31.497		100.00	0.000	0.000
T1	285.84	1.579	12	46.040	A	3.503	6.950	4.000	38.27	1.308	0.000
291.84-279.84					B	3.503	6.950		38.27	0.753	0.000
					C	3.503	7.534		36.24	0.000	0.000
T2	269.84	1.56	12	76.733	A	0.000	11.672	6.667	57.12	5.245	0.000
279.84-259.84					B	0.000	11.672		57.12	3.422	0.000
					C	0.000	12.548		53.13	0.000	0.000
T3	249.84	1.535	12	77.150	A	3.482	12.189	7.500	47.86	34.020	0.000
259.84-239.84					B	3.482	12.189		47.86	3.780	0.000
					C	3.482	13.059		45.34	0.000	0.000
T4	229.84	1.508	12	77.150	A	0.000	12.476	7.500	60.12	74.540	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
239.84-219.84					B	0.000	12.476		60.12	3.780	0.000
					C	0.000	13.346		56.20	0.000	0.000
T5	209.84	1.479	12	77.567	A	3.462	13.286	8.333	49.76	76.973	0.000
219.84-199.84					B	3.462	13.286		49.76	3.780	0.000
					C	3.462	14.152		47.31	0.000	0.000
T6	189.84	1.448	11	77.567	A	0.000	12.987	8.333	64.17	78.900	0.000
199.84-179.84					B	0.000	12.987		64.17	5.564	0.000
					C	0.000	13.852		60.16	14.118	0.000
T7	169.84	1.415	11	77.983	A	3.441	14.090	9.167	52.29	82.340	0.000
179.84-159.84					B	3.441	14.090		52.29	6.300	0.000
					C	3.441	14.950		49.84	54.720	0.000
T8	149.84	1.378	11	77.567	A	0.000	13.276	8.333	62.77	84.520	0.000
159.84-139.84					B	0.000	13.276		62.77	8.588	0.000
					C	0.000	14.141		58.93	54.720	0.000
T9	129.84	1.337	10	77.983	A	0.000	13.795	9.167	66.45	84.520	0.000
139.84-119.84					B	0.000	13.795		66.45	8.820	0.000
					C	0.000	14.656		62.55	54.720	0.000
T10	109.84	1.291	10	77.983	A	3.441	14.087	9.167	52.30	91.588	0.000
119.84-99.84					B	3.441	14.087		52.30	8.820	0.000
					C	3.441	14.947		49.85	54.720	0.000
T11	89.84	1.237	10	78.400	A	0.000	14.890	10.000	67.16	96.145	0.000
99.84-79.84					B	0.000	14.890		67.16	10.604	0.000
					C	0.000	15.745		63.51	63.281	0.000
T12	69.84	1.173	9	78.400	A	0.000	14.598	10.000	68.50	97.253	0.000
79.84-59.84					B	0.000	14.598		68.50	11.340	0.000
					C	0.000	15.453		64.71	95.880	0.000
T13	49.84	1.093	9	78.400	A	3.420	14.313	10.000	56.39	98.325	0.000
59.84-39.84					B	3.420	14.313		56.39	11.340	0.000
					C	3.420	15.168		53.80	95.880	0.000
T14	29.84	0.981	8	78.400	A	0.000	14.598	10.000	68.50	98.325	0.000
39.84-19.84					B	0.000	14.598		68.50	11.340	0.000
					C	0.000	15.453		64.71	95.880	0.000
T15 19.84-6.50	13.17	0.85	7	52.293	A	0.000	9.735	6.670	68.51	65.583	0.000
					B	0.000	9.735		68.51	8.698	0.000
					C	0.000	10.306		64.72	63.952	0.000
T16 6.50-0.00	3.25	0.85	7	13.616	A	6.042	3.418	3.418	36.13	7.374	0.000
					B	6.042	3.418		36.13	1.040	0.000
					C	6.042	3.418		36.13	7.191	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.00	3.14	A	1	0.6	36	1	1	31.497	0.91	25.86	C
327.00-291.84			B	1	0.6		1	1	31.497			
			C	1	0.6		1	1	31.497			
T1	0.01	1.17	A	0.227	2.508	35	1	1	7.532	0.62	51.43	C
291.84-279.84		TA 0.84	B	0.227	2.508		1	1	7.532			
			C	0.24	2.469		1	1	7.892			
T2	0.03	1.30	A	0.152	2.764	35	1	1	6.627	0.73	36.26	C
279.84-259.84			B	0.152	2.764		1	1	6.627			
			C	0.164	2.722		1	1	7.140			
T3	0.15	1.83	A	0.203	2.586	34	1	1	10.491	1.47	73.50	C
259.84-239.84		TA 0.84	B	0.203	2.586		1	1	10.491			
			C	0.214	2.549		1	1	11.020			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T4	0.31	1.47	A	0.162	2.729	33	1	1	7.097	1.92	95.96	C
239.84-219.84			B	0.162	2.729		1	1	7.097			
			C	0.173	2.689		1	1	7.611			
T5	0.31	2.10	A	0.216	2.544	33	1	1	11.134	2.17	108.45	C
219.84-199.84		TA 0.84	B	0.216	2.544		1	1	11.134			
			C	0.227	2.508		1	1	11.666			
T6	0.39	1.58	A	0.167	2.708	32	1	1	7.397	2.19	109.68	C
199.84-179.84			B	0.167	2.708		1	1	7.397			
			C	0.179	2.669		1	1	7.911			
T7	0.61	2.31	A	0.225	2.515	31	1	1	11.603	3.10	155.00	C
179.84-159.84		TA 0.84	B	0.225	2.515		1	1	11.603			
			C	0.236	2.481		1	1	12.137			
T8	0.62	1.66	A	0.171	2.695	31	1	1	7.568	2.86	143.23	C
159.84-139.84			B	0.171	2.695		1	1	7.568			
			C	0.182	2.656		1	1	8.083			
T9	0.62	1.79	A	0.177	2.675	30	1	1	7.875	2.80	139.97	C
139.84-119.84			B	0.177	2.675		1	1	7.875			
			C	0.188	2.637		1	1	8.390			
T10	0.64	2.31	A	0.225	2.515	29	1	1	11.600	3.00	150.01	C
119.84-99.84		TA 0.84	B	0.225	2.515		1	1	11.600			
			C	0.236	2.481		1	1	12.135			
T11	0.70	2.10	A	0.19	2.63	27	1	1	8.529	2.93	146.48	C
99.84-79.84			B	0.19	2.63		1	1	8.529			
			C	0.201	2.593		1	1	9.047			
T12	0.86	2.02	A	0.186	2.643	26	1	1	8.353	3.23	161.40	C
79.84-59.84			B	0.186	2.643		1	1	8.353			
			C	0.197	2.606		1	1	8.869			
T13	0.86	2.38	A	0.226	2.511	24	1	1	11.715	3.17	158.45	C
59.84-39.84		TA 0.84	B	0.226	2.511		1	1	11.715			
			C	0.237	2.477		1	1	12.247			
T14	0.86	2.02	A	0.186	2.643	22	1	1	8.353	2.71	135.54	C
39.84-19.84			B	0.186	2.643		1	1	8.353			
			C	0.197	2.606		1	1	8.869			
T15	0.58	1.35	A	0.186	2.643	19	1	1	5.571	1.58	118.24	C
19.84-6.50			B	0.186	2.643		1	1	5.571			
			C	0.197	2.606		1	1	5.915			
T16 6.50-0.00	0.07	0.81	A	0.695	1.776	19	1	1	8.801	0.33	50.31	C
			B	0.695	1.776		1	1	8.801			
			C	0.695	1.776		1	1	8.801			
Sum Weight:	7.61	36.39								35.71		

Tower Forces - No Ice - Wind 45 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.00	3.14	A	1	0.6	36	1	1	31.497	0.91	25.86	C
327.00-291.84			B	1	0.6		1	1	31.497			
			C	1	0.6		1	1	31.497			
T1	0.01	1.17	A	0.227	2.508	35	0.825	1	6.919	0.57	47.68	C
291.84-279.84		TA 0.84	B	0.227	2.508		0.825	1	6.919			
			C	0.24	2.469		0.825	1	7.279			
T2	0.03	1.30	A	0.152	2.764	35	0.825	1	6.627	0.73	36.26	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
279.84-259.84			B	0.152	2.764		0.825	1	6.627			
			C	0.164	2.722		0.825	1	7.140			
T3	0.15	1.83	A	0.203	2.586	34	0.825	1	9.882	1.42	71.25	C
259.84-239.84		TA 0.84	B	0.203	2.586		0.825	1	9.882			
			C	0.214	2.549		0.825	1	10.410			
T4	0.31	1.47	A	0.162	2.729	33	0.825	1	7.097	1.92	95.96	C
239.84-219.84			B	0.162	2.729		0.825	1	7.097			
			C	0.173	2.689		0.825	1	7.611			
T5	0.31	2.10	A	0.216	2.544	33	0.825	1	10.528	2.13	106.33	C
219.84-199.84		TA 0.84	B	0.216	2.544		0.825	1	10.528			
			C	0.227	2.508		0.825	1	11.060			
T6	0.39	1.58	A	0.167	2.708	32	0.825	1	7.397	2.19	109.68	C
199.84-179.84			B	0.167	2.708		0.825	1	7.397			
			C	0.179	2.669		0.825	1	7.911			
T7	0.61	2.31	A	0.225	2.515	31	0.825	1	11.001	3.06	153.01	C
179.84-159.84		TA 0.84	B	0.225	2.515		0.825	1	11.001			
			C	0.236	2.481		0.825	1	11.535			
T8	0.62	1.66	A	0.171	2.695	31	0.825	1	7.568	2.86	143.23	C
159.84-139.84			B	0.171	2.695		0.825	1	7.568			
			C	0.182	2.656		0.825	1	8.083			
T9	0.62	1.79	A	0.177	2.675	30	0.825	1	7.875	2.80	139.97	C
139.84-119.84			B	0.177	2.675		0.825	1	7.875			
			C	0.188	2.637		0.825	1	8.390			
T10	0.64	2.31	A	0.225	2.515	29	0.825	1	10.998	2.96	148.19	C
119.84-99.84		TA 0.84	B	0.225	2.515		0.825	1	10.998			
			C	0.236	2.481		0.825	1	11.533			
T11	0.70	2.10	A	0.19	2.63	27	0.825	1	8.529	2.93	146.48	C
99.84-79.84			B	0.19	2.63		0.825	1	8.529			
			C	0.201	2.593		0.825	1	9.047			
T12	0.86	2.02	A	0.186	2.643	26	0.825	1	8.353	3.23	161.40	C
79.84-59.84			B	0.186	2.643		0.825	1	8.353			
			C	0.197	2.606		0.825	1	8.869			
T13	0.86	2.38	A	0.226	2.511	24	0.825	1	11.116	3.14	156.92	C
59.84-39.84		TA 0.84	B	0.226	2.511		0.825	1	11.116			
			C	0.237	2.477		0.825	1	11.648			
T14	0.86	2.02	A	0.186	2.643	22	0.825	1	8.353	2.71	135.54	C
39.84-19.84			B	0.186	2.643		0.825	1	8.353			
			C	0.197	2.606		0.825	1	8.869			
T15	0.58	1.35	A	0.186	2.643	19	0.825	1	5.571	1.58	118.24	C
19.84-6.50			B	0.186	2.643		0.825	1	5.571			
			C	0.197	2.606		0.825	1	5.915			
T16 6.50-0.00	0.07	0.81	A	0.695	1.776	19	0.825	1	7.744	0.30	45.68	C
			B	0.695	1.776		0.825	1	7.744			
			C	0.695	1.776		0.825	1	7.744			
Sum Weight:	7.61	36.39								35.44		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.00	3.14	A	1	0.6	36	1	1	31.497	0.91	25.86	C
327.00-291.84			B	1	0.6		1	1	31.497			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	1	0.6		1	1	31.497			
T1	0.01	1.17	A	0.227	2.508	35	0.8	1	6.832	0.57	47.14	C
291.84-279.84		TA 0.84	B	0.227	2.508		0.8	1	6.832			
			C	0.24	2.469		0.8	1	7.191			
T2	0.03	1.30	A	0.152	2.764	35	0.8	1	6.627	0.73	36.26	C
279.84-259.84			B	0.152	2.764		0.8	1	6.627			
			C	0.164	2.722		0.8	1	7.140			
T3	0.15	1.83	A	0.203	2.586	34	0.8	1	9.795	1.42	70.93	C
259.84-239.84		TA 0.84	B	0.203	2.586		0.8	1	9.795			
			C	0.214	2.549		0.8	1	10.323			
T4	0.31	1.47	A	0.162	2.729	33	0.8	1	7.097	1.92	95.96	C
239.84-219.84			B	0.162	2.729		0.8	1	7.097			
			C	0.173	2.689		0.8	1	7.611			
T5	0.31	2.10	A	0.216	2.544	33	0.8	1	10.442	2.12	106.03	C
219.84-199.84		TA 0.84	B	0.216	2.544		0.8	1	10.442			
			C	0.227	2.508		0.8	1	10.974			
T6	0.39	1.58	A	0.167	2.708	32	0.8	1	7.397	2.19	109.68	C
199.84-179.84			B	0.167	2.708		0.8	1	7.397			
			C	0.179	2.669		0.8	1	7.911			
T7	0.61	2.31	A	0.225	2.515	31	0.8	1	10.914	3.05	152.73	C
179.84-159.84		TA 0.84	B	0.225	2.515		0.8	1	10.914			
			C	0.236	2.481		0.8	1	11.449			
T8	0.62	1.66	A	0.171	2.695	31	0.8	1	7.568	2.86	143.23	C
159.84-139.84			B	0.171	2.695		0.8	1	7.568			
			C	0.182	2.656		0.8	1	8.083			
T9	0.62	1.79	A	0.177	2.675	30	0.8	1	7.875	2.80	139.97	C
139.84-119.84			B	0.177	2.675		0.8	1	7.875			
			C	0.188	2.637		0.8	1	8.390			
T10	0.64	2.31	A	0.225	2.515	29	0.8	1	10.912	2.96	147.93	C
119.84-99.84		TA 0.84	B	0.225	2.515		0.8	1	10.912			
			C	0.236	2.481		0.8	1	11.447			
T11	0.70	2.10	A	0.19	2.63	27	0.8	1	8.529	2.93	146.48	C
99.84-79.84			B	0.19	2.63		0.8	1	8.529			
			C	0.201	2.593		0.8	1	9.047			
T12	0.86	2.02	A	0.186	2.643	26	0.8	1	8.353	3.23	161.40	C
79.84-59.84			B	0.186	2.643		0.8	1	8.353			
			C	0.197	2.606		0.8	1	8.869			
T13	0.86	2.38	A	0.226	2.511	24	0.8	1	11.031	3.13	156.70	C
59.84-39.84		TA 0.84	B	0.226	2.511		0.8	1	11.031			
			C	0.237	2.477		0.8	1	11.563			
T14	0.86	2.02	A	0.186	2.643	22	0.8	1	8.353	2.71	135.54	C
39.84-19.84			B	0.186	2.643		0.8	1	8.353			
			C	0.197	2.606		0.8	1	8.869			
T15	0.58	1.35	A	0.186	2.643	19	0.8	1	5.571	1.58	118.24	C
19.84-6.50			B	0.186	2.643		0.8	1	5.571			
			C	0.197	2.606		0.8	1	5.915			
T16 6.50-0.00	0.07	0.81	A	0.695	1.776	19	0.8	1	7.593	0.29	45.02	C
			B	0.695	1.776		0.8	1	7.593			
			C	0.695	1.776		0.8	1	7.593			
Sum Weight:	7.61	36.39								35.40		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.00	3.14	A	1	0.6	36	1	1	31.497	0.91	25.86	C
327.00-291.84			B	1	0.6		1	1	31.497			
			C	1	0.6		1	1	31.497			
T1	0.01	1.17	A	0.227	2.508	35	0.85	1	7.007	0.58	48.21	C
291.84-279.84		TA 0.84	B	0.227	2.508		0.85	1	7.007			
			C	0.24	2.469		0.85	1	7.367			
T2	0.03	1.30	A	0.152	2.764	35	0.85	1	6.627	0.73	36.26	C
279.84-259.84			B	0.152	2.764		0.85	1	6.627			
			C	0.164	2.722		0.85	1	7.140			
T3	0.15	1.83	A	0.203	2.586	34	0.85	1	9.969	1.43	71.57	C
259.84-239.84		TA 0.84	B	0.203	2.586		0.85	1	9.969			
			C	0.214	2.549		0.85	1	10.497			
T4	0.31	1.47	A	0.162	2.729	33	0.85	1	7.097	1.92	95.96	C
239.84-219.84			B	0.162	2.729		0.85	1	7.097			
			C	0.173	2.689		0.85	1	7.611			
T5	0.31	2.10	A	0.216	2.544	33	0.85	1	10.615	2.13	106.64	C
219.84-199.84		TA 0.84	B	0.216	2.544		0.85	1	10.615			
			C	0.227	2.508		0.85	1	11.147			
T6	0.39	1.58	A	0.167	2.708	32	0.85	1	7.397	2.19	109.68	C
199.84-179.84			B	0.167	2.708		0.85	1	7.397			
			C	0.179	2.669		0.85	1	7.911			
T7	0.61	2.31	A	0.225	2.515	31	0.85	1	11.087	3.07	153.30	C
179.84-159.84		TA 0.84	B	0.225	2.515		0.85	1	11.087			
			C	0.236	2.481		0.85	1	11.621			
T8	0.62	1.66	A	0.171	2.695	31	0.85	1	7.568	2.86	143.23	C
159.84-139.84			B	0.171	2.695		0.85	1	7.568			
			C	0.182	2.656		0.85	1	8.083			
T9	0.62	1.79	A	0.177	2.675	30	0.85	1	7.875	2.80	139.97	C
139.84-119.84			B	0.177	2.675		0.85	1	7.875			
			C	0.188	2.637		0.85	1	8.390			
T10	0.64	2.31	A	0.225	2.515	29	0.85	1	11.084	2.97	148.45	C
119.84-99.84		TA 0.84	B	0.225	2.515		0.85	1	11.084			
			C	0.236	2.481		0.85	1	11.619			
T11	0.70	2.10	A	0.19	2.63	27	0.85	1	8.529	2.93	146.48	C
99.84-79.84			B	0.19	2.63		0.85	1	8.529			
			C	0.201	2.593		0.85	1	9.047			
T12	0.86	2.02	A	0.186	2.643	26	0.85	1	8.353	3.23	161.40	C
79.84-59.84			B	0.186	2.643		0.85	1	8.353			
			C	0.197	2.606		0.85	1	8.869			
T13	0.86	2.38	A	0.226	2.511	24	0.85	1	11.202	3.14	157.14	C
59.84-39.84		TA 0.84	B	0.226	2.511		0.85	1	11.202			
			C	0.237	2.477		0.85	1	11.734			
T14	0.86	2.02	A	0.186	2.643	22	0.85	1	8.353	2.71	135.54	C
39.84-19.84			B	0.186	2.643		0.85	1	8.353			
			C	0.197	2.606		0.85	1	8.869			
T15	0.58	1.35	A	0.186	2.643	19	0.85	1	5.571	1.58	118.24	C
19.84-6.50			B	0.186	2.643		0.85	1	5.571			
			C	0.197	2.606		0.85	1	5.915			
T16 6.50-0.00	0.07	0.81	A	0.695	1.776	19	0.85	1	7.895	0.30	46.34	C
			B	0.695	1.776		0.85	1	7.895			
			C	0.695	1.776		0.85	1	7.895			
Sum Weight:	7.61	36.39								35.48		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.00	4.56	A	1	1.2	6	1	1	46.158	0.42	11.89	C
327.00-291.84			B	1	1.2		1	1	46.158			
			C	1	1.2		1	1	46.158			
T1	0.25	3.25	A	0.66	1.779	5	1	1	27.127	0.28	23.67	C
291.84-279.84		TA 1.94	B	0.66	1.779		1	1	27.127			
			C	0.728	1.78		1	1	31.478			
T2	0.96	3.95	A	0.57	1.825	5	1	1	35.139	0.44	22.17	C
279.84-259.84			B	0.57	1.825		1	1	35.139			
			C	0.631	1.788		1	1	40.989			
T3	2.94	4.87	A	0.61	1.798	5	1	1	39.927	0.65	32.30	C
259.84-239.84		TA 1.92	B	0.61	1.798		1	1	39.927			
			C	0.67	1.777		1	1	45.933			
T4	5.56	4.09	A	0.569	1.826	5	1	1	35.189	0.80*	39.94	C
239.84-219.84			B	0.569	1.826		1	1	35.189			
			C	0.629	1.789		1	1	40.914			
T5	5.73	5.14	A	0.612	1.797	5	1	1	40.229	0.79*	39.34	C
219.84-199.84		TA 1.90	B	0.612	1.797		1	1	40.229			
			C	0.671	1.777		1	1	46.125			
T6	6.91	4.14	A	0.564	1.83	5	1	1	34.831	0.77*	38.49	C
199.84-179.84			B	0.564	1.83		1	1	34.831			
			C	0.623	1.792		1	1	40.380			
T7	9.58	5.30	A	0.609	1.798	5	1	1	40.080	0.75*	37.74	C
179.84-159.84		TA 1.87	B	0.609	1.798		1	1	40.080			
			C	0.667	1.778		1	1	45.809			
T8	9.97	4.15	A	0.559	1.835	5	1	1	34.285	0.73*	36.54	C
159.84-139.84			B	0.559	1.835		1	1	34.285			
			C	0.617	1.795		1	1	39.678			
T9	9.83	4.24	A	0.557	1.837	5	1	1	34.170	0.71*	35.58	C
139.84-119.84			B	0.557	1.837		1	1	34.170			
			C	0.613	1.797		1	1	39.440			
T10	10.15	5.11	A	0.594	1.808	4	1	1	38.500	0.69*	34.30	C
119.84-99.84		TA 1.82	B	0.594	1.808		1	1	38.500			
			C	0.65	1.782		1	1	43.891			
T11	10.91	4.48	A	0.553	1.841	4	1	1	33.896	0.66*	32.98	C
99.84-79.84			B	0.553	1.841		1	1	33.896			
			C	0.607	1.8		1	1	38.940			
T12	12.50	4.28	A	0.541	1.852	4	1	1	32.779	0.62*	31.21	C
79.84-59.84			B	0.541	1.852		1	1	32.779			
			C	0.594	1.808		1	1	37.624			
T13	12.08	4.84	A	0.567	1.828	4	1	1	35.942	0.58*	28.99	C
59.84-39.84		TA 1.74	B	0.567	1.828		1	1	35.942			
			C	0.619	1.794		1	1	40.741			
T14	11.36	4.00	A	0.514	1.882	3	1	1	30.288	0.52*	25.91	C
39.84-19.84			B	0.514	1.882		1	1	30.288			
			C	0.564	1.831		1	1	34.610			
T15	6.98	2.51	A	0.49	1.913	3	1	1	18.783	0.30*	22.31	C
19.84-6.50			B	0.49	1.913		1	1	18.783			
			C	0.537	1.856		1	1	21.372			
T16 6.50-0.00	0.68	1.55	A	0.967	2.035	3	1	1	14.900	0.08	12.36	C
			B	0.967	2.035		1	1	14.900			
			C	0.967	2.035		1	1	14.900			
Sum Weight:	116.39	81.63			*2.1A_g limit					9.79		

Tower Forces - With Ice - Wind 45 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.00	4.56	A	1	1.2	6	1	1	46.158	0.42	11.89	C
327.00-291.84			B	1	1.2		1	1	46.158			
			C	1	1.2		1	1	46.158			
T1	0.25	3.25	A	0.66	1.779	5	0.825	1	26.514	0.28	23.24	C
291.84-279.84		TA 1.94	B	0.66	1.779		0.825	1	26.514			
			C	0.728	1.78		0.825	1	30.865			
T2	0.96	3.95	A	0.57	1.825	5	0.825	1	35.139	0.44	22.17	C
279.84-259.84			B	0.57	1.825		0.825	1	35.139			
			C	0.631	1.788		0.825	1	40.989			
T3	2.94	4.87	A	0.61	1.798	5	0.825	1	39.318	0.64	32.06	C
259.84-239.84		TA 1.92	B	0.61	1.798		0.825	1	39.318			
			C	0.67	1.777		0.825	1	45.323			
T4	5.56	4.09	A	0.569	1.826	5	0.825	1	35.189	0.80*	39.94	C
239.84-219.84			B	0.569	1.826		0.825	1	35.189			
			C	0.629	1.789		0.825	1	40.914			
T5	5.73	5.14	A	0.612	1.797	5	0.825	1	39.623	0.79*	39.34	C
219.84-199.84		TA 1.90	B	0.612	1.797		0.825	1	39.623			
			C	0.671	1.777		0.825	1	45.519			
T6	6.91	4.14	A	0.564	1.83	5	0.825	1	34.831	0.77*	38.49	C
199.84-179.84			B	0.564	1.83		0.825	1	34.831			
			C	0.623	1.792		0.825	1	40.380			
T7	9.58	5.30	A	0.609	1.798	5	0.825	1	39.478	0.75*	37.74	C
179.84-159.84		TA 1.87	B	0.609	1.798		0.825	1	39.478			
			C	0.667	1.778		0.825	1	45.207			
T8	9.97	4.15	A	0.559	1.835	5	0.825	1	34.285	0.73*	36.54	C
159.84-139.84			B	0.559	1.835		0.825	1	34.285			
			C	0.617	1.795		0.825	1	39.678			
T9	9.83	4.24	A	0.557	1.837	5	0.825	1	34.170	0.71*	35.58	C
139.84-119.84			B	0.557	1.837		0.825	1	34.170			
			C	0.613	1.797		0.825	1	39.440			
T10	10.15	5.11	A	0.594	1.808	4	0.825	1	37.898	0.69*	34.30	C
119.84-99.84		TA 1.82	B	0.594	1.808		0.825	1	37.898			
			C	0.65	1.782		0.825	1	43.289			
T11	10.91	4.48	A	0.553	1.841	4	0.825	1	33.896	0.66*	32.98	C
99.84-79.84			B	0.553	1.841		0.825	1	33.896			
			C	0.607	1.8		0.825	1	38.940			
T12	12.50	4.28	A	0.541	1.852	4	0.825	1	32.779	0.62*	31.21	C
79.84-59.84			B	0.541	1.852		0.825	1	32.779			
			C	0.594	1.808		0.825	1	37.624			
T13	12.08	4.84	A	0.567	1.828	4	0.825	1	35.344	0.58*	28.99	C
59.84-39.84		TA 1.74	B	0.567	1.828		0.825	1	35.344			
			C	0.619	1.794		0.825	1	40.142			
T14	11.36	4.00	A	0.514	1.882	3	0.825	1	30.288	0.52*	25.91	C
39.84-19.84			B	0.514	1.882		0.825	1	30.288			
			C	0.564	1.831		0.825	1	34.610			
T15	6.98	2.51	A	0.49	1.913	3	0.825	1	18.783	0.30*	22.31	C
19.84-6.50			B	0.49	1.913		0.825	1	18.783			
			C	0.537	1.856		0.825	1	21.372			
T16 6.50-0.00	0.68	1.55	A	0.967	2.035	3	0.825	1	13.843	0.07	11.53	C
			B	0.967	2.035		0.825	1	13.843			
			C	0.967	2.035		0.825	1	13.843			
Sum Weight:	116.39	81.63			*2.1A_g limit					9.77		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.00	4.56	A	1	1.2	6	1	1	46.158	0.42	11.89	C
327.00-291.84			B	1	1.2		1	1	46.158			
			C	1	1.2		1	1	46.158			
T1	0.25	3.25	A	0.66	1.779	5	0.8	1	26.426	0.28	23.18	C
291.84-279.84		TA 1.94	B	0.66	1.779		0.8	1	26.426			
			C	0.728	1.78		0.8	1	30.777			
T2	0.96	3.95	A	0.57	1.825	5	0.8	1	35.139	0.44	22.17	C
279.84-259.84			B	0.57	1.825		0.8	1	35.139			
			C	0.631	1.788		0.8	1	40.989			
T3	2.94	4.87	A	0.61	1.798	5	0.8	1	39.231	0.64	32.02	C
259.84-239.84		TA 1.92	B	0.61	1.798		0.8	1	39.231			
			C	0.67	1.777		0.8	1	45.236			
T4	5.56	4.09	A	0.569	1.826	5	0.8	1	35.189	0.80*	39.94	C
239.84-219.84			B	0.569	1.826		0.8	1	35.189			
			C	0.629	1.789		0.8	1	40.914			
T5	5.73	5.14	A	0.612	1.797	5	0.8	1	39.537	0.79*	39.34	C
219.84-199.84		TA 1.90	B	0.612	1.797		0.8	1	39.537			
			C	0.671	1.777		0.8	1	45.432			
T6	6.91	4.14	A	0.564	1.83	5	0.8	1	34.831	0.77*	38.49	C
199.84-179.84			B	0.564	1.83		0.8	1	34.831			
			C	0.623	1.792		0.8	1	40.380			
T7	9.58	5.30	A	0.609	1.798	5	0.8	1	39.392	0.75*	37.74	C
179.84-159.84		TA 1.87	B	0.609	1.798		0.8	1	39.392			
			C	0.667	1.778		0.8	1	45.121			
T8	9.97	4.15	A	0.559	1.835	5	0.8	1	34.285	0.73*	36.54	C
159.84-139.84			B	0.559	1.835		0.8	1	34.285			
			C	0.617	1.795		0.8	1	39.678			
T9	9.83	4.24	A	0.557	1.837	5	0.8	1	34.170	0.71*	35.58	C
139.84-119.84			B	0.557	1.837		0.8	1	34.170			
			C	0.613	1.797		0.8	1	39.440			
T10	10.15	5.11	A	0.594	1.808	4	0.8	1	37.812	0.69*	34.30	C
119.84-99.84		TA 1.82	B	0.594	1.808		0.8	1	37.812			
			C	0.65	1.782		0.8	1	43.203			
T11	10.91	4.48	A	0.553	1.841	4	0.8	1	33.896	0.66*	32.98	C
99.84-79.84			B	0.553	1.841		0.8	1	33.896			
			C	0.607	1.8		0.8	1	38.940			
T12	12.50	4.28	A	0.541	1.852	4	0.8	1	32.779	0.62*	31.21	C
79.84-59.84			B	0.541	1.852		0.8	1	32.779			
			C	0.594	1.808		0.8	1	37.624			
T13	12.08	4.84	A	0.567	1.828	4	0.8	1	35.258	0.58*	28.99	C
59.84-39.84		TA 1.74	B	0.567	1.828		0.8	1	35.258			
			C	0.619	1.794		0.8	1	40.057			
T14	11.36	4.00	A	0.514	1.882	3	0.8	1	30.288	0.52*	25.91	C
39.84-19.84			B	0.514	1.882		0.8	1	30.288			
			C	0.564	1.831		0.8	1	34.610			
T15	6.98	2.51	A	0.49	1.913	3	0.8	1	18.783	0.30*	22.31	C
19.84-6.50			B	0.49	1.913		0.8	1	18.783			
			C	0.537	1.856		0.8	1	21.372			
T16 6.50-0.00	0.68	1.55	A	0.967	2.035	3	0.8	1	13.692	0.07	11.41	C
			B	0.967	2.035		0.8	1	13.692			
			C	0.967	2.035		0.8	1	13.692			
Sum Weight:	116.39	81.63			*2.1A_g limit					9.77		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.00	4.56	A	1	1.2	6	1	1	46.158	0.42	11.89	C
327.00-291.84			B	1	1.2		1	1	46.158			
			C	1	1.2		1	1	46.158			
T1	0.25	3.25	A	0.66	1.779	5	0.85	1	26.601	0.28	23.30	C
291.84-279.84		TA 1.94	B	0.66	1.779		0.85	1	26.601			
			C	0.728	1.78		0.85	1	30.953			
T2	0.96	3.95	A	0.57	1.825	5	0.85	1	35.139	0.44	22.17	C
279.84-259.84			B	0.57	1.825		0.85	1	35.139			
			C	0.631	1.788		0.85	1	40.989			
T3	2.94	4.87	A	0.61	1.798	5	0.85	1	39.405	0.64	32.09	C
259.84-239.84		TA 1.92	B	0.61	1.798		0.85	1	39.405			
			C	0.67	1.777		0.85	1	45.410			
T4	5.56	4.09	A	0.569	1.826	5	0.85	1	35.189	0.80*	39.94	C
239.84-219.84			B	0.569	1.826		0.85	1	35.189			
			C	0.629	1.789		0.85	1	40.914			
T5	5.73	5.14	A	0.612	1.797	5	0.85	1	39.710	0.79*	39.34	C
219.84-199.84		TA 1.90	B	0.612	1.797		0.85	1	39.710			
			C	0.671	1.777		0.85	1	45.605			
T6	6.91	4.14	A	0.564	1.83	5	0.85	1	34.831	0.77*	38.49	C
199.84-179.84			B	0.564	1.83		0.85	1	34.831			
			C	0.623	1.792		0.85	1	40.380			
T7	9.58	5.30	A	0.609	1.798	5	0.85	1	39.564	0.75*	37.74	C
179.84-159.84		TA 1.87	B	0.609	1.798		0.85	1	39.564			
			C	0.667	1.778		0.85	1	45.293			
T8	9.97	4.15	A	0.559	1.835	5	0.85	1	34.285	0.73*	36.54	C
159.84-139.84			B	0.559	1.835		0.85	1	34.285			
			C	0.617	1.795		0.85	1	39.678			
T9	9.83	4.24	A	0.557	1.837	5	0.85	1	34.170	0.71*	35.58	C
139.84-119.84			B	0.557	1.837		0.85	1	34.170			
			C	0.613	1.797		0.85	1	39.440			
T10	10.15	5.11	A	0.594	1.808	4	0.85	1	37.984	0.69*	34.30	C
119.84-99.84		TA 1.82	B	0.594	1.808		0.85	1	37.984			
			C	0.65	1.782		0.85	1	43.375			
T11	10.91	4.48	A	0.553	1.841	4	0.85	1	33.896	0.66*	32.98	C
99.84-79.84			B	0.553	1.841		0.85	1	33.896			
			C	0.607	1.8		0.85	1	38.940			
T12	12.50	4.28	A	0.541	1.852	4	0.85	1	32.779	0.62*	31.21	C
79.84-59.84			B	0.541	1.852		0.85	1	32.779			
			C	0.594	1.808		0.85	1	37.624			
T13	12.08	4.84	A	0.567	1.828	4	0.85	1	35.429	0.58*	28.99	C
59.84-39.84		TA 1.74	B	0.567	1.828		0.85	1	35.429			
			C	0.619	1.794		0.85	1	40.228			
T14	11.36	4.00	A	0.514	1.882	3	0.85	1	30.288	0.52*	25.91	C
39.84-19.84			B	0.514	1.882		0.85	1	30.288			
			C	0.564	1.831		0.85	1	34.610			
T15	6.98	2.51	A	0.49	1.913	3	0.85	1	18.783	0.30*	22.31	C
19.84-6.50			B	0.49	1.913		0.85	1	18.783			
			C	0.537	1.856		0.85	1	21.372			
T16 6.50-0.00	0.68	1.55	A	0.967	2.035	3	0.85	1	13.994	0.08	11.65	C
			B	0.967	2.035		0.85	1	13.994			
			C	0.967	2.035		0.85	1	13.994			
Sum Weight:	116.39	81.63			*2.1A_g limit					9.78		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.00	3.14	A	1	0.6	13	1	1	31.497	0.32	9.12	C
327.00-291.84			B	1	0.6		1	1	31.497			
			C	1	0.6		1	1	31.497			
T1	0.01	1.17	A	0.227	2.508	12	1	1	7.532	0.22	18.15	C
291.84-279.84		TA 0.84	B	0.227	2.508		1	1	7.532			
			C	0.24	2.469		1	1	7.892			
T2	0.03	1.30	A	0.152	2.764	12	1	1	6.627	0.26	12.79	C
279.84-259.84			B	0.152	2.764		1	1	6.627			
			C	0.164	2.722		1	1	7.140			
T3	0.15	1.83	A	0.203	2.586	12	1	1	10.491	0.52	25.94	C
259.84-239.84		TA 0.84	B	0.203	2.586		1	1	10.491			
			C	0.214	2.549		1	1	11.020			
T4	0.31	1.47	A	0.162	2.729	12	1	1	7.097	0.68	33.87	C
239.84-219.84			B	0.162	2.729		1	1	7.097			
			C	0.173	2.689		1	1	7.611			
T5	0.31	2.10	A	0.216	2.544	12	1	1	11.134	0.77	38.27	C
219.84-199.84		TA 0.84	B	0.216	2.544		1	1	11.134			
			C	0.227	2.508		1	1	11.666			
T6	0.39	1.58	A	0.167	2.708	11	1	1	7.397	0.77	38.71	C
199.84-179.84			B	0.167	2.708		1	1	7.397			
			C	0.179	2.669		1	1	7.911			
T7	0.61	2.31	A	0.225	2.515	11	1	1	11.603	1.09	54.70	C
179.84-159.84		TA 0.84	B	0.225	2.515		1	1	11.603			
			C	0.236	2.481		1	1	12.137			
T8	0.62	1.66	A	0.171	2.695	11	1	1	7.568	1.01	50.55	C
159.84-139.84			B	0.171	2.695		1	1	7.568			
			C	0.182	2.656		1	1	8.083			
T9	0.62	1.79	A	0.177	2.675	10	1	1	7.875	0.99	49.40	C
139.84-119.84			B	0.177	2.675		1	1	7.875			
			C	0.188	2.637		1	1	8.390			
T10	0.64	2.31	A	0.225	2.515	10	1	1	11.600	1.06	52.94	C
119.84-99.84		TA 0.84	B	0.225	2.515		1	1	11.600			
			C	0.236	2.481		1	1	12.135			
T11	0.70	2.10	A	0.19	2.63	10	1	1	8.529	1.03	51.69	C
99.84-79.84			B	0.19	2.63		1	1	8.529			
			C	0.201	2.593		1	1	9.047			
T12	0.86	2.02	A	0.186	2.643	9	1	1	8.353	1.14	56.96	C
79.84-59.84			B	0.186	2.643		1	1	8.353			
			C	0.197	2.606		1	1	8.869			
T13	0.86	2.38	A	0.226	2.511	9	1	1	11.715	1.12	55.92	C
59.84-39.84		TA 0.84	B	0.226	2.511		1	1	11.715			
			C	0.237	2.477		1	1	12.247			
T14	0.86	2.02	A	0.186	2.643	8	1	1	8.353	0.96	47.83	C
39.84-19.84			B	0.186	2.643		1	1	8.353			
			C	0.197	2.606		1	1	8.869			
T15	0.58	1.35	A	0.186	2.643	7	1	1	5.571	0.56	41.73	C
19.84-6.50			B	0.186	2.643		1	1	5.571			
			C	0.197	2.606		1	1	5.915			
T16 6.50-0.00	0.07	0.81	A	0.695	1.776	7	1	1	8.801	0.12	17.76	C
			B	0.695	1.776		1	1	8.801			
			C	0.695	1.776		1	1	8.801			
Sum Weight:	7.61	36.39								12.60		

Tower Forces - Service - Wind 45 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.00	3.14	A	1	0.6	13	1	1	31.497	0.32	9.12	C
327.00-291.84			B	1	0.6		1	1	31.497			
			C	1	0.6		1	1	31.497			
T1	0.01	1.17	A	0.227	2.508	12	0.825	1	6.919	0.20	16.83	C
291.84-279.84		TA 0.84	B	0.227	2.508		0.825	1	6.919			
			C	0.24	2.469		0.825	1	7.279			
T2	0.03	1.30	A	0.152	2.764	12	0.825	1	6.627	0.26	12.79	C
279.84-259.84			B	0.152	2.764		0.825	1	6.627			
			C	0.164	2.722		0.825	1	7.140			
T3	0.15	1.83	A	0.203	2.586	12	0.825	1	9.882	0.50	25.14	C
259.84-239.84		TA 0.84	B	0.203	2.586		0.825	1	9.882			
			C	0.214	2.549		0.825	1	10.410			
T4	0.31	1.47	A	0.162	2.729	12	0.825	1	7.097	0.68	33.87	C
239.84-219.84			B	0.162	2.729		0.825	1	7.097			
			C	0.173	2.689		0.825	1	7.611			
T5	0.31	2.10	A	0.216	2.544	12	0.825	1	10.528	0.75	37.53	C
219.84-199.84		TA 0.84	B	0.216	2.544		0.825	1	10.528			
			C	0.227	2.508		0.825	1	11.060			
T6	0.39	1.58	A	0.167	2.708	11	0.825	1	7.397	0.77	38.71	C
199.84-179.84			B	0.167	2.708		0.825	1	7.397			
			C	0.179	2.669		0.825	1	7.911			
T7	0.61	2.31	A	0.225	2.515	11	0.825	1	11.001	1.08	54.00	C
179.84-159.84		TA 0.84	B	0.225	2.515		0.825	1	11.001			
			C	0.236	2.481		0.825	1	11.535			
T8	0.62	1.66	A	0.171	2.695	11	0.825	1	7.568	1.01	50.55	C
159.84-139.84			B	0.171	2.695		0.825	1	7.568			
			C	0.182	2.656		0.825	1	8.083			
T9	0.62	1.79	A	0.177	2.675	10	0.825	1	7.875	0.99	49.40	C
139.84-119.84			B	0.177	2.675		0.825	1	7.875			
			C	0.188	2.637		0.825	1	8.390			
T10	0.64	2.31	A	0.225	2.515	10	0.825	1	10.998	1.05	52.30	C
119.84-99.84		TA 0.84	B	0.225	2.515		0.825	1	10.998			
			C	0.236	2.481		0.825	1	11.533			
T11	0.70	2.10	A	0.19	2.63	10	0.825	1	8.529	1.03	51.69	C
99.84-79.84			B	0.19	2.63		0.825	1	8.529			
			C	0.201	2.593		0.825	1	9.047			
T12	0.86	2.02	A	0.186	2.643	9	0.825	1	8.353	1.14	56.96	C
79.84-59.84			B	0.186	2.643		0.825	1	8.353			
			C	0.197	2.606		0.825	1	8.869			
T13	0.86	2.38	A	0.226	2.511	9	0.825	1	11.116	1.11	55.38	C
59.84-39.84		TA 0.84	B	0.226	2.511		0.825	1	11.116			
			C	0.237	2.477		0.825	1	11.648			
T14	0.86	2.02	A	0.186	2.643	8	0.825	1	8.353	0.96	47.83	C
39.84-19.84			B	0.186	2.643		0.825	1	8.353			
			C	0.197	2.606		0.825	1	8.869			
T15	0.58	1.35	A	0.186	2.643	7	0.825	1	5.571	0.56	41.73	C
19.84-6.50			B	0.186	2.643		0.825	1	5.571			
			C	0.197	2.606		0.825	1	5.915			
T16 6.50-0.00	0.07	0.81	A	0.695	1.776	7	0.825	1	7.744	0.10	16.12	C
			B	0.695	1.776		0.825	1	7.744			
			C	0.695	1.776		0.825	1	7.744			
Sum Weight:	7.61	36.39								12.51		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.00	3.14	A	1	0.6	13	1	1	31.497	0.32	9.12	C
327.00-291.84			B	1	0.6		1	1	31.497			
			C	1	0.6		1	1	31.497			
T1	0.01	1.17	A	0.227	2.508	12	0.8	1	6.832	0.20	16.64	C
291.84-279.84		TA 0.84	B	0.227	2.508		0.8	1	6.832			
			C	0.24	2.469		0.8	1	7.191			
T2	0.03	1.30	A	0.152	2.764	12	0.8	1	6.627	0.26	12.79	C
279.84-259.84			B	0.152	2.764		0.8	1	6.627			
			C	0.164	2.722		0.8	1	7.140			
T3	0.15	1.83	A	0.203	2.586	12	0.8	1	9.795	0.50	25.03	C
259.84-239.84		TA 0.84	B	0.203	2.586		0.8	1	9.795			
			C	0.214	2.549		0.8	1	10.323			
T4	0.31	1.47	A	0.162	2.729	12	0.8	1	7.097	0.68	33.87	C
239.84-219.84			B	0.162	2.729		0.8	1	7.097			
			C	0.173	2.689		0.8	1	7.611			
T5	0.31	2.10	A	0.216	2.544	12	0.8	1	10.442	0.75	37.42	C
219.84-199.84		TA 0.84	B	0.216	2.544		0.8	1	10.442			
			C	0.227	2.508		0.8	1	10.974			
T6	0.39	1.58	A	0.167	2.708	11	0.8	1	7.397	0.77	38.71	C
199.84-179.84			B	0.167	2.708		0.8	1	7.397			
			C	0.179	2.669		0.8	1	7.911			
T7	0.61	2.31	A	0.225	2.515	11	0.8	1	10.914	1.08	53.90	C
179.84-159.84		TA 0.84	B	0.225	2.515		0.8	1	10.914			
			C	0.236	2.481		0.8	1	11.449			
T8	0.62	1.66	A	0.171	2.695	11	0.8	1	7.568	1.01	50.55	C
159.84-139.84			B	0.171	2.695		0.8	1	7.568			
			C	0.182	2.656		0.8	1	8.083			
T9	0.62	1.79	A	0.177	2.675	10	0.8	1	7.875	0.99	49.40	C
139.84-119.84			B	0.177	2.675		0.8	1	7.875			
			C	0.188	2.637		0.8	1	8.390			
T10	0.64	2.31	A	0.225	2.515	10	0.8	1	10.912	1.04	52.21	C
119.84-99.84		TA 0.84	B	0.225	2.515		0.8	1	10.912			
			C	0.236	2.481		0.8	1	11.447			
T11	0.70	2.10	A	0.19	2.63	10	0.8	1	8.529	1.03	51.69	C
99.84-79.84			B	0.19	2.63		0.8	1	8.529			
			C	0.201	2.593		0.8	1	9.047			
T12	0.86	2.02	A	0.186	2.643	9	0.8	1	8.353	1.14	56.96	C
79.84-59.84			B	0.186	2.643		0.8	1	8.353			
			C	0.197	2.606		0.8	1	8.869			
T13	0.86	2.38	A	0.226	2.511	9	0.8	1	11.031	1.11	55.30	C
59.84-39.84		TA 0.84	B	0.226	2.511		0.8	1	11.031			
			C	0.237	2.477		0.8	1	11.563			
T14	0.86	2.02	A	0.186	2.643	8	0.8	1	8.353	0.96	47.83	C
39.84-19.84			B	0.186	2.643		0.8	1	8.353			
			C	0.197	2.606		0.8	1	8.869			
T15	0.58	1.35	A	0.186	2.643	7	0.8	1	5.571	0.56	41.73	C
19.84-6.50			B	0.186	2.643		0.8	1	5.571			
			C	0.197	2.606		0.8	1	5.915			
T16 6.50-0.00	0.07	0.81	A	0.695	1.776	7	0.8	1	7.593	0.10	15.89	C
			B	0.695	1.776		0.8	1	7.593			
			C	0.695	1.776		0.8	1	7.593			
Sum Weight:	7.61	36.39								12.49		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.00	3.14	A	1	0.6	13	1	1	31.497	0.32	9.12	C
327.00-291.84			B	1	0.6		1	1	31.497			
			C	1	0.6		1	1	31.497			
T1	0.01	1.17	A	0.227	2.508	12	0.85	1	7.007	0.20	17.02	C
291.84-279.84		TA 0.84	B	0.227	2.508		0.85	1	7.007			
			C	0.24	2.469		0.85	1	7.367			
T2	0.03	1.30	A	0.152	2.764	12	0.85	1	6.627	0.26	12.79	C
279.84-259.84			B	0.152	2.764		0.85	1	6.627			
			C	0.164	2.722		0.85	1	7.140			
T3	0.15	1.83	A	0.203	2.586	12	0.85	1	9.969	0.51	25.26	C
259.84-239.84		TA 0.84	B	0.203	2.586		0.85	1	9.969			
			C	0.214	2.549		0.85	1	10.497			
T4	0.31	1.47	A	0.162	2.729	12	0.85	1	7.097	0.68	33.87	C
239.84-219.84			B	0.162	2.729		0.85	1	7.097			
			C	0.173	2.689		0.85	1	7.611			
T5	0.31	2.10	A	0.216	2.544	12	0.85	1	10.615	0.75	37.63	C
219.84-199.84		TA 0.84	B	0.216	2.544		0.85	1	10.615			
			C	0.227	2.508		0.85	1	11.147			
T6	0.39	1.58	A	0.167	2.708	11	0.85	1	7.397	0.77	38.71	C
199.84-179.84			B	0.167	2.708		0.85	1	7.397			
			C	0.179	2.669		0.85	1	7.911			
T7	0.61	2.31	A	0.225	2.515	11	0.85	1	11.087	1.08	54.10	C
179.84-159.84		TA 0.84	B	0.225	2.515		0.85	1	11.087			
			C	0.236	2.481		0.85	1	11.621			
T8	0.62	1.66	A	0.171	2.695	11	0.85	1	7.568	1.01	50.55	C
159.84-139.84			B	0.171	2.695		0.85	1	7.568			
			C	0.182	2.656		0.85	1	8.083			
T9	0.62	1.79	A	0.177	2.675	10	0.85	1	7.875	0.99	49.40	C
139.84-119.84			B	0.177	2.675		0.85	1	7.875			
			C	0.188	2.637		0.85	1	8.390			
T10	0.64	2.31	A	0.225	2.515	10	0.85	1	11.084	1.05	52.39	C
119.84-99.84		TA 0.84	B	0.225	2.515		0.85	1	11.084			
			C	0.236	2.481		0.85	1	11.619			
T11	0.70	2.10	A	0.19	2.63	10	0.85	1	8.529	1.03	51.69	C
99.84-79.84			B	0.19	2.63		0.85	1	8.529			
			C	0.201	2.593		0.85	1	9.047			
T12	0.86	2.02	A	0.186	2.643	9	0.85	1	8.353	1.14	56.96	C
79.84-59.84			B	0.186	2.643		0.85	1	8.353			
			C	0.197	2.606		0.85	1	8.869			
T13	0.86	2.38	A	0.226	2.511	9	0.85	1	11.202	1.11	55.45	C
59.84-39.84		TA 0.84	B	0.226	2.511		0.85	1	11.202			
			C	0.237	2.477		0.85	1	11.734			
T14	0.86	2.02	A	0.186	2.643	8	0.85	1	8.353	0.96	47.83	C
39.84-19.84			B	0.186	2.643		0.85	1	8.353			
			C	0.197	2.606		0.85	1	8.869			
T15	0.58	1.35	A	0.186	2.643	7	0.85	1	5.571	0.56	41.73	C
19.84-6.50			B	0.186	2.643		0.85	1	5.571			
			C	0.197	2.606		0.85	1	5.915			
T16 6.50-0.00	0.07	0.81	A	0.695	1.776	7	0.85	1	7.895	0.11	16.36	C
			B	0.695	1.776		0.85	1	7.895			
			C	0.695	1.776		0.85	1	7.895			
Sum Weight:	7.61	36.39								12.52		

Force Totals (Does not include forces on guys)

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Torques kip-ft
Leg Weight	19.66			
Bracing Weight	16.73			
Total Member Self-Weight	36.39			
Guy Weight	12.85			
Total Weight	66.51			
Wind 0 deg - No Ice		0.52	-53.36	-5.72
Wind 30 deg - No Ice		26.53	-45.71	-3.43
Wind 45 deg - No Ice		37.43	-37.46	-1.90
Wind 60 deg - No Ice		45.63	-26.51	-0.68
Wind 90 deg - No Ice		52.75	-0.20	2.52
Wind 120 deg - No Ice		45.61	26.79	6.42
Wind 135 deg - No Ice		37.02	37.61	7.76
Wind 150 deg - No Ice		25.90	45.72	8.71
Wind 180 deg - No Ice		-0.20	52.47	6.69
Wind 210 deg - No Ice		-26.17	45.85	2.76
Wind 225 deg - No Ice		-37.09	38.07	1.30
Wind 240 deg - No Ice		-45.42	27.29	-0.74
Wind 270 deg - No Ice		-52.36	0.26	-3.35
Wind 300 deg - No Ice		-44.86	-25.84	-6.02
Wind 315 deg - No Ice		-36.85	-36.89	-7.03
Wind 330 deg - No Ice		-25.96	-45.31	-7.21
Member Ice	45.25			
Guy Ice	87.39			
Total Weight Ice	338.98			
Wind 0 deg - Ice		0.09	-14.20	-1.25
Wind 30 deg - Ice		7.07	-12.18	-0.77
Wind 45 deg - Ice		10.01	-10.00	-0.41
Wind 60 deg - Ice		12.22	-7.09	-0.09
Wind 90 deg - Ice		14.11	-0.03	0.65
Wind 120 deg - Ice		12.12	7.20	1.59
Wind 135 deg - Ice		9.84	10.07	1.87
Wind 150 deg - Ice		6.91	12.25	2.02
Wind 180 deg - Ice		-0.04	14.07	1.44
Wind 210 deg - Ice		-6.96	12.28	0.45
Wind 225 deg - Ice		-9.91	10.21	0.09
Wind 240 deg - Ice		-12.08	7.29	-0.33
Wind 270 deg - Ice		-14.04	0.05	-0.80
Wind 300 deg - Ice		-12.04	-6.94	-1.35
Wind 315 deg - Ice		-9.85	-9.84	-1.52
Wind 330 deg - Ice		-6.96	-12.10	-1.55
Total Weight	66.51			
Wind 0 deg - Service		0.18	-18.83	-2.02
Wind 30 deg - Service		9.36	-16.13	-1.21
Wind 45 deg - Service		13.21	-13.22	-0.67
Wind 60 deg - Service		16.10	-9.36	-0.24
Wind 90 deg - Service		18.62	-0.07	0.89
Wind 120 deg - Service		16.09	9.46	2.27
Wind 135 deg - Service		13.07	13.27	2.74
Wind 150 deg - Service		9.14	16.14	3.07
Wind 180 deg - Service		-0.07	18.52	2.36
Wind 210 deg - Service		-9.23	16.18	0.97
Wind 225 deg - Service		-13.09	13.44	0.46
Wind 240 deg - Service		-16.03	9.63	-0.26
Wind 270 deg - Service		-18.48	0.09	-1.18

Load Case	*Vertical Forces K*	*Sum of Forces X K*	*Sum of Forces Z K*	*Sum of Torques kip-ft*
Wind 300 deg - Service		-15.83	-9.12	-2.13
Wind 315 deg - Service		-13.00	-13.02	-2.48
Wind 330 deg - Service		-9.16	-15.99	-2.54

Load Combinations

Comb. No.	*Description*
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice+1.0 Guy
3	1.2 Dead+1.6 Wind 30 deg - No Ice+1.0 Guy
4	1.2 Dead+1.6 Wind 45 deg - No Ice+1.0 Guy
5	1.2 Dead+1.6 Wind 60 deg - No Ice+1.0 Guy
6	1.2 Dead+1.6 Wind 90 deg - No Ice+1.0 Guy
7	1.2 Dead+1.6 Wind 120 deg - No Ice+1.0 Guy
8	1.2 Dead+1.6 Wind 135 deg - No Ice+1.0 Guy
9	1.2 Dead+1.6 Wind 150 deg - No Ice+1.0 Guy
10	1.2 Dead+1.6 Wind 180 deg - No Ice+1.0 Guy
11	1.2 Dead+1.6 Wind 210 deg - No Ice+1.0 Guy
12	1.2 Dead+1.6 Wind 225 deg - No Ice+1.0 Guy
13	1.2 Dead+1.6 Wind 240 deg - No Ice+1.0 Guy
14	1.2 Dead+1.6 Wind 270 deg - No Ice+1.0 Guy
15	1.2 Dead+1.6 Wind 300 deg - No Ice+1.0 Guy
16	1.2 Dead+1.6 Wind 315 deg - No Ice+1.0 Guy
17	1.2 Dead+1.6 Wind 330 deg - No Ice+1.0 Guy
18	1.2 Dead+1.0 Ice+1.0 Temp+Guy
19	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy
20	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy
21	1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp+1.0 Guy
22	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy
23	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy
24	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy
25	1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp+1.0 Guy
26	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy
27	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy
28	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy
29	1.2 Dead+1.0 Wind 225 deg+1.0 Ice+1.0 Temp+1.0 Guy
30	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy
31	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy
32	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy
33	1.2 Dead+1.0 Wind 315 deg+1.0 Ice+1.0 Temp+1.0 Guy
34	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy
35	Dead+Wind 0 deg - Service+Guy
36	Dead+Wind 30 deg - Service+Guy
37	Dead+Wind 45 deg - Service+Guy
38	Dead+Wind 60 deg - Service+Guy
39	Dead+Wind 90 deg - Service+Guy
40	Dead+Wind 120 deg - Service+Guy
41	Dead+Wind 135 deg - Service+Guy
42	Dead+Wind 150 deg - Service+Guy
43	Dead+Wind 180 deg - Service+Guy
44	Dead+Wind 210 deg - Service+Guy
45	Dead+Wind 225 deg - Service+Guy
46	Dead+Wind 240 deg - Service+Guy

Comb. No.	Description
47	Dead+Wind 270 deg - Service+Guy
48	Dead+Wind 300 deg - Service+Guy
49	Dead+Wind 315 deg - Service+Guy
50	Dead+Wind 330 deg - Service+Guy

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	327 - 291.84	Pole	Max Tension	15	0.00	0.01	-0.02
			Max. Compression	24	-6.02	-7.31	-5.72
			Max. Mx	14	-3.95	38.84	-0.01
			Max. My	10	-3.95	0.49	-38.82
			Max. Vy	14	-2.08	38.84	-0.01
			Max. Vx	10	2.09	0.49	-38.82
			Max. Torque	17			0.93
T1	291.84 - 279.84	Leg	Max Tension	15	15.82	-0.35	-0.18
			Max. Compression	30	-30.91	-0.40	0.41
			Max. Mx	23	-0.12	-2.35	1.25
			Max. My	27	1.09	0.01	-2.71
			Max. Vy	31	-1.03	0.67	0.19
			Max. Vx	27	1.16	0.01	-2.71
		Diagonal	Max Tension	12	3.95	0.00	0.00
			Max. Compression	14	-3.91	0.00	0.00
			Max. Mx	19	0.01	0.04	0.00
			Max. My	26	0.01	0.00	-0.00
			Max. Vy	19	-0.03	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00
		Horizontal	Max Tension	17	1.00	0.00	0.00
			Max. Compression	23	-0.67	0.00	0.00
			Max. Mx	24	-0.54	0.02	0.00
			Max. My	16	0.99	0.00	0.00
			Max. Vy	24	0.03	0.00	0.00
			Max. Vx	16	-0.00	0.00	0.00
		Secondary Horizontal	Max Tension	30	0.00	-0.01	-0.00
			Max. Compression	24	-0.00	-0.01	-0.00
			Max. Mx	23	-0.00	-0.01	-0.00
			Max. My	16	-0.00	-0.00	-0.00
			Max. Vy	23	0.02	-0.01	-0.00
			Max. Vx	16	0.00	-0.00	-0.00
		Top Girt	Max Tension	19	0.00	0.00	0.00
			Max. Compression	19	-0.00	0.00	0.00
			Max. Mx	25	0.00	0.02	0.00
			Max. My	34	0.00	0.00	0.00
			Max. Vy	25	0.03	0.00	0.00
			Max. Vx	34	0.00	0.00	0.00
		Guy A	Bottom Tension	27	13.93		
			Top Tension	10	16.59		
			Top Cable Vert	27	14.06		
			Top Cable Norm	27	8.80		
			Top Cable Tan	27	0.00		
			Bot Cable Vert	10	-10.81		
			Bot Cable Norm	10	8.80		
			Bot Cable Tan	10	0.01		
		Guy B	Bottom Tension	32	13.51		
			Top Tension	15	15.62		

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Top Cable Vert	32	12.82		
			Top Cable Norm	32	8.92		
			Top Cable Tan	32	0.01		
			Bot Cable Vert	15	-10.02		
			Bot Cable Norm	15	9.05		
			Bot Cable Tan	15	0.01		
		Guy C	Bottom Tension	22	13.81		
			Top Tension	5	16.47		
			Top Cable Vert	22	13.92		
			Top Cable Norm	22	8.80		
			Top Cable Tan	22	0.01		
			Bot Cable Vert	5	-10.67		
			Bot Cable Norm	5	8.78		
			Bot Cable Tan	5	0.01		
		Top Guy Pull-Off	Max Tension	17	4.78	0.00	0.00
			Max. Compression	9	-4.18	0.00	0.00
			Max. Mx	24	-0.55	0.15	0.00
			Max. My	16	-1.15	0.00	0.00
			Max. Vy	24	-0.16	0.00	0.00
			Max. Vx	16	-0.00	0.00	0.00
		Torque Arm Top	Max Tension	14	7.35	0.00	0.00
			Max. Compression	6	-1.30	0.00	0.00
			Max. Mx	27	3.21	-56.45	0.00
			Max. My	9	0.99	-43.24	0.00
			Max. Vy	27	14.27	-56.45	0.00
			Max. Vx	9	0.00	-43.24	0.00
T2	279.84 - 259.84	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	13	-36.55	0.11	-0.12
			Max. Mx	31	-29.58	-0.52	-0.10
			Max. My	27	-29.66	0.17	0.51
			Max. Vy	15	-0.33	0.13	-0.06
			Max. Vx	17	-0.45	0.05	0.18
		Diagonal	Max Tension	12	2.61	0.00	0.00
			Max. Compression	2	-2.94	0.00	0.00
			Max. Mx	30	-0.39	0.04	0.00
			Max. My	26	-0.16	0.00	-0.00
			Max. Vy	30	0.03	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00
		Horizontal	Max Tension	16	0.60	0.00	0.00
			Max. Compression	8	-0.46	0.00	0.00
			Max. Mx	29	0.24	0.02	0.00
			Max. My	25	0.07	0.00	0.00
			Max. Vy	29	-0.03	0.00	0.00
			Max. Vx	25	-0.00	0.00	0.00
		Secondary Horizontal	Max Tension	30	0.00	-0.01	-0.00
			Max. Compression	24	-0.00	-0.01	-0.00
			Max. Mx	23	-0.00	-0.01	0.00
			Max. My	19	-0.00	-0.01	0.00
			Max. Vy	23	0.02	-0.01	0.00
			Max. Vx	19	-0.00	0.00	0.00
		Top Girt	Max Tension	25	0.40	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	30	0.38	0.02	0.00
			Max. My	16	0.17	0.00	0.00
			Max. Vy	30	-0.03	0.00	0.00
			Max. Vx	16	-0.00	0.00	0.00
T3	259.84 - 239.84	Leg	Max Tension	5	1.75	0.26	-0.31
			Max. Compression	26	-61.43	0.39	-0.02

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	23	-57.14	2.42	-0.87
			Max. My	27	-57.18	-0.36	2.57
			Max. Vy	22	0.99	-0.80	-0.00
			Max. Vx	27	1.01	0.37	-0.69
		Diagonal	Max Tension	9	3.77	0.00	0.00
			Max. Compression	17	-4.50	0.00	0.00
			Max. Mx	30	0.62	0.04	0.00
			Max. My	34	-0.04	0.00	0.00
			Max. Vy	30	-0.03	0.00	0.00
			Max. Vx	34	0.00	0.00	0.00
		Horizontal	Max Tension	10	0.71	0.00	0.00
			Max. Compression	9	-0.95	0.00	0.00
			Max. Mx	18	0.32	0.02	0.00
			Max. My	34	-0.10	0.00	0.00
			Max. Vy	18	0.02	0.00	0.00
			Max. Vx	34	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	30	0.00	-0.01	-0.00
			Max. Compression	24	-0.00	-0.01	-0.00
			Max. Mx	23	-0.00	-0.01	0.00
			Max. My	19	-0.00	-0.01	0.00
			Max. Vy	23	0.02	-0.01	0.00
			Max. Vx	19	-0.00	0.00	0.00
		Top Girt	Max Tension	21	0.80	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	29	0.78	0.02	0.00
			Max. My	34	0.75	0.00	0.00
			Max. Vy	29	0.02	0.00	0.00
			Max. Vx	34	0.00	0.00	0.00
		Guy A	Bottom Tension	27	14.12		
			Top Tension	10	16.31		
			Top Cable Vert	27	13.36		
			Top Cable Norm	27	9.35		
			Top Cable Tan	27	0.00		
			Bot Cable Vert	10	-10.54		
			Bot Cable Norm	10	9.38		
			Bot Cable Tan	10	0.01		
		Guy B	Bottom Tension	32	13.51		
			Top Tension	15	15.26		
			Top Cable Vert	32	12.00		
			Top Cable Norm	32	9.42		
			Top Cable Tan	32	0.00		
			Bot Cable Vert	15	-9.55		
			Bot Cable Norm	15	9.56		
			Bot Cable Tan	15	0.01		
		Guy C	Bottom Tension	22	14.00		
			Top Tension	5	16.17		
			Top Cable Vert	22	13.21		
			Top Cable Norm	22	9.34		
			Top Cable Tan	22	0.01		
			Bot Cable Vert	5	-10.41		
			Bot Cable Norm	5	9.37		
			Bot Cable Tan	5	0.01		
		Top Guy Pull-Off	Max Tension	9	5.90	0.00	0.00
			Max. Compression	17	-5.09	0.00	0.00
			Max. Mx	29	-0.63	0.15	0.00
			Max. My	8	5.66	0.00	-0.00
			Max. Vy	29	-0.16	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
		Torque Arm Top	Max Tension	14	8.30	-14.38	0.00
			Max. Compression	8	-2.30	-37.69	-0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	27	3.43	-53.56	0.00
			Max. My	9	0.82	-41.33	0.00
			Max. Vy	27	13.55	-53.56	0.00
			Max. Vx	9	0.00	-41.33	0.00
T4	239.84 - 219.84	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	19	-63.52	0.32	-0.28
			Max. Mx	31	-62.42	-0.63	0.15
			Max. My	19	-61.98	0.18	-0.61
			Max. Vy	31	0.35	0.34	-0.29
			Max. Vx	19	0.32	0.10	0.42
		Diagonal	Max Tension	5	2.77	0.00	0.00
			Max. Compression	10	-3.39	0.00	0.00
			Max. Mx	19	-0.24	0.04	0.00
			Max. My	8	-0.90	0.00	-0.00
			Max. Vy	19	0.03	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
		Horizontal	Max Tension	5	0.49	0.00	0.00
			Max. Compression	12	-0.11	0.00	0.00
			Max. Mx	25	0.45	0.02	0.00
			Max. My	8	-0.09	0.00	-0.00
			Max. Vy	25	-0.02	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	30	0.00	-0.01	-0.00
			Max. Compression	24	-0.00	-0.01	-0.00
			Max. Mx	23	-0.00	-0.01	0.00
			Max. My	4	0.00	-0.00	0.00
			Max. Vy	23	0.02	-0.01	0.00
			Max. Vx	4	-0.00	-0.00	0.00
		Top Girt	Max Tension	5	0.65	0.00	0.00
			Max. Compression	13	-0.22	0.00	0.00
			Max. Mx	32	0.30	0.02	0.00
			Max. My	34	0.45	0.00	0.00
			Max. Vy	32	-0.02	0.00	0.00
			Max. Vx	34	-0.00	0.00	0.00
T5	219.84 - 199.84	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	21	-93.71	-0.36	-0.60
			Max. Mx	23	-86.49	2.41	-0.47
			Max. My	27	-87.27	-0.64	2.37
			Max. Vy	23	1.00	-0.90	-0.32
			Max. Vx	27	0.91	0.69	-0.63
		Diagonal	Max Tension	3	7.18	0.00	0.00
			Max. Compression	11	-8.44	0.00	0.00
			Max. Mx	19	0.49	0.04	0.00
			Max. My	8	1.14	0.00	-0.00
			Max. Vy	19	-0.03	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
		Horizontal	Max Tension	34	0.89	0.00	0.00
			Max. Compression	2	-0.47	0.00	0.00
			Max. Mx	25	0.66	0.02	0.00
			Max. My	8	0.11	0.00	-0.00
			Max. Vy	25	-0.02	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	30	0.00	-0.01	0.00
			Max. Compression	24	-0.00	-0.01	-0.00
			Max. Mx	23	-0.00	-0.01	0.00
			Max. My	2	-0.00	-0.00	0.00
			Max. Vy	23	0.02	-0.01	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	2	-0.00	0.00	0.00
		Top Girt	Max Tension	26	1.02	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	25	0.93	0.02	0.00
			Max. My	8	0.43	0.00	-0.00
			Max. Vy	25	-0.02	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
		Guy A	Bottom Tension	27	15.34		
			Top Tension	10	16.02		
			Top Cable Vert	27	12.34		
			Top Cable Norm	27	10.22		
			Top Cable Tan	27	0.00		
			Bot Cable Vert	10	-10.73		
			Bot Cable Norm	10	10.97		
			Bot Cable Tan	10	0.01		
		Guy B	Bottom Tension	32	14.56		
			Top Tension	15	14.91		
			Top Cable Vert	32	10.83		
			Top Cable Norm	32	10.25		
			Top Cable Tan	32	0.00		
			Bot Cable Vert	15	-9.42		
			Bot Cable Norm	15	11.10		
			Bot Cable Tan	15	0.01		
		Guy C	Bottom Tension	22	15.13		
			Top Tension	5	15.87		
			Top Cable Vert	22	12.16		
			Top Cable Norm	22	10.19		
			Top Cable Tan	22	0.01		
			Bot Cable Vert	5	-10.50		
			Bot Cable Norm	5	10.89		
			Bot Cable Tan	5	0.01		
		Top Guy Pull-Off	Max Tension	9	8.91	0.00	0.00
			Max. Compression	17	-7.70	0.00	0.00
			Max. Mx	24	-0.50	0.14	0.00
			Max. My	8	8.56	0.00	-0.00
			Max. Vy	24	-0.16	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
		Torque Arm Top	Max Tension	11	10.65	-10.61	-0.00
			Max. Compression	8	-4.29	-36.62	-0.00
			Max. Mx	27	3.56	-49.47	0.00
			Max. My	8	1.87	-37.07	0.00
			Max. Vy	27	12.52	-49.47	0.00
			Max. Vx	8	0.00	-37.07	0.00
T6	199.84 - 179.84	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	27	-102.03	-0.74	-0.06
			Max. Mx	6	-52.11	1.47	0.04
			Max. My	2	-64.86	0.22	-1.40
			Max. Vy	14	1.54	0.91	0.02
			Max. Vx	2	1.51	-0.21	0.87
		Diagonal	Max Tension	17	5.44	0.00	0.00
			Max. Compression	9	-6.82	0.00	0.00
			Max. Mx	19	0.08	0.04	0.00
			Max. My	8	0.20	0.00	-0.00
			Max. Vy	19	-0.03	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
		Horizontal	Max Tension	10	2.32	0.00	0.00
			Max. Compression	2	-1.60	0.00	0.00
			Max. Mx	26	0.43	0.02	0.00
			Max. My	8	0.09	0.00	-0.00
			Max. Vy	26	0.02	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	8	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	30	0.00	-0.01	0.00
			Max. Compression	24	-0.00	-0.01	-0.00
			Max. Mx	33	0.00	-0.01	0.00
			Max. My	2	-0.00	-0.00	0.00
			Max. Vy	33	0.02	-0.01	0.00
			Max. Vx	2	-0.00	0.00	0.00
		Top Girt	Max Tension	4	0.73	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	26	0.70	0.02	0.00
			Max. My	8	0.38	0.00	-0.00
			Max. Vy	26	0.02	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
T7	179.84 - 159.84	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	24	-123.53	1.03	0.10
			Max. Mx	23	-98.76	-2.28	0.09
			Max. My	10	-40.57	0.39	-2.23
			Max. Vy	31	-1.03	0.99	-0.70
			Max. Vx	19	-0.95	0.12	1.19
		Diagonal	Max Tension	9	7.86	0.00	0.00
			Max. Compression	9	-8.96	0.00	0.00
			Max. Mx	19	-0.44	0.04	0.00
			Max. My	9	-4.26	0.00	-0.00
			Max. Vy	19	-0.03	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Horizontal	Max Tension	23	1.48	0.00	0.00
			Max. Compression	7	-0.31	0.00	0.00
			Max. Mx	25	0.64	0.02	0.00
			Max. My	10	0.90	0.00	-0.00
			Max. Vy	25	-0.02	0.00	0.00
			Max. Vx	10	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	29	0.00	-0.01	-0.00
			Max. Compression	25	-0.00	-0.01	0.00
			Max. Mx	34	0.00	-0.01	0.00
			Max. My	10	-0.00	-0.00	0.00
			Max. Vy	34	0.01	-0.01	0.00
			Max. Vx	10	-0.00	-0.00	0.00
		Top Girt	Max Tension	25	0.78	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	25	0.73	0.02	0.00
			Max. Vy	25	-0.02	0.00	0.00
		Guy A	Bottom Tension	10	17.17		
			Top Tension	10	17.39		
			Top Cable Vert	10	11.20		
			Top Cable Norm	10	13.30		
			Top Cable Tan	10	0.00		
			Bot Cable Vert	10	-10.61		
			Bot Cable Norm	10	13.51		
			Bot Cable Tan	10	0.00		
		Guy B	Bottom Tension	15	16.25		
			Top Tension	15	16.44		
			Top Cable Vert	15	9.41		
			Top Cable Norm	15	13.48		
			Top Cable Tan	15	0.00		
			Bot Cable Vert	15	-8.88		
			Bot Cable Norm	15	13.61		
			Bot Cable Tan	15	0.00		
		Guy C	Bottom Tension	5	17.01		

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Top Tension	5	17.22		
			Top Cable Vert	5	10.98		
			Top Cable Norm	5	13.27		
			Top Cable Tan	5	0.00		
			Bot Cable Vert	5	-10.39		
			Bot Cable Norm	5	13.47		
			Bot Cable Tan	5	0.00		
		Top Guy Pull-Off	Max Tension	17	12.94	0.00	0.00
			Max. Compression	9	-11.41	0.00	0.00
			Max. Mx	25	2.71	0.14	0.00
			Max. My	9	-11.41	0.00	0.00
			Max. Vy	25	-0.16	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
		Torque Arm Top	Max Tension	3	14.34	-7.24	0.00
			Max. Compression	12	-6.72	0.00	0.00
			Max. Mx	27	3.79	-43.40	-0.00
			Max. My	9	-0.81	-40.21	0.00
			Max. Vy	27	11.01	-43.40	-0.00
			Max. Vx	9	0.00	-40.21	0.00
T8	159.84 - 139.84	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	23	-130.23	-0.52	-0.90
			Max. Mx	24	-129.00	1.05	-0.01
			Max. My	24	-123.99	-0.42	-0.93
			Max. Vy	24	-0.62	-1.00	0.02
			Max. Vx	19	-0.55	0.47	0.85
		Diagonal	Max Tension	7	3.84	0.00	0.00
			Max. Compression	3	-5.20	0.00	0.00
			Max. Mx	27	-0.94	0.04	0.00
			Max. My	9	-1.67	0.00	-0.00
			Max. Vy	27	-0.03	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Horizontal	Max Tension	22	0.91	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	33	0.87	0.02	0.00
			Max. My	9	0.72	0.00	-0.00
			Max. Vy	33	-0.02	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	22	0.00	-0.01	0.00
			Max. Compression	33	-0.00	-0.01	0.00
			Max. Mx	34	0.00	-0.01	0.00
			Max. My	10	-0.00	-0.00	0.00
			Max. Vy	34	0.01	-0.01	0.00
			Max. Vx	10	-0.00	-0.00	0.00
		Top Girt	Max Tension	31	1.10	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	32	1.10	0.02	0.00
			Max. Vy	32	-0.02	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T9	139.84 - 119.84	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	25	-135.48	-1.15	0.01
			Max. Mx	24	-134.85	1.17	-0.02
			Max. My	30	-131.84	-0.56	1.02
			Max. Vy	24	0.71	-1.15	0.02
			Max. Vx	29	-0.61	0.55	-0.99
		Diagonal	Max Tension	17	3.55	0.00	0.00
			Max. Compression	9	-5.53	0.00	0.00
			Max. Mx	27	-0.60	0.03	0.00
			Max. My	9	0.66	0.00	-0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	27	-0.03	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Horizontal	Max Tension	23	1.15	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	32	0.98	0.02	0.00
			Max. My	9	0.85	0.00	-0.00
			Max. Vy	32	-0.02	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	22	0.00	-0.01	0.00
			Max. Compression	32	-0.00	-0.01	0.00
			Max. Mx	34	0.00	-0.01	0.00
			Max. My	10	-0.00	-0.00	0.00
			Max. Vy	34	0.01	-0.01	0.00
			Max. Vx	10	-0.00	-0.00	0.00
		Top Girt	Max Tension	27	0.98	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	33	0.87	0.02	0.00
			Max. My	9	0.27	0.00	-0.00
			Max. Vy	33	-0.02	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T10	119.84 - 99.84	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	24	-155.11	1.46	0.10
			Max. Mx	23	-132.87	-2.03	-0.43
			Max. My	20	-148.76	0.65	-1.88
			Max. Vy	4	-1.17	-0.64	0.04
			Max. Vx	3	1.10	0.26	0.60
		Diagonal	Max Tension	3	8.82	0.00	0.00
			Max. Compression	11	-9.95	0.00	0.00
			Max. Mx	26	-3.29	0.04	0.00
			Max. My	9	4.17	0.00	-0.00
			Max. Vy	26	-0.03	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Horizontal	Max Tension	4	2.00	0.00	0.00
			Max. Compression	8	-0.63	0.00	0.00
			Max. Mx	32	1.06	0.02	0.00
			Max. My	9	1.17	0.00	-0.00
			Max. Vy	32	-0.02	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	23	0.00	-0.01	-0.00
			Max. Compression	31	-0.00	-0.01	-0.00
			Max. Mx	34	0.00	-0.01	0.00
			Max. My	10	-0.00	-0.00	0.00
			Max. Vy	34	0.01	-0.01	0.00
			Max. Vx	10	-0.00	-0.00	0.00
		Top Girt	Max Tension	26	1.13	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	32	1.05	0.02	0.00
			Max. My	9	0.36	0.00	-0.00
			Max. Vy	32	-0.02	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Guy A	Bottom Tension	10	16.64		
			Top Tension	10	16.78		
			Top Cable Vert	10	8.35		
			Top Cable Norm	10	14.56		
			Top Cable Tan	10	0.00		
			Bot Cable Vert	10	-7.91		
			Bot Cable Norm	10	14.64		
			Bot Cable Tan	10	0.00		
		Guy B	Bottom Tension	15	15.62		

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Top Tension	15	15.73		
			Top Cable Vert	15	6.24		
			Top Cable Norm	15	14.44		
			Top Cable Tan	15	0.00		
			Bot Cable Vert	15	-5.86		
			Bot Cable Norm	15	14.48		
			Bot Cable Tan	15	0.00		
		Guy C	Bottom Tension	5	16.40		
			Top Tension	5	16.55		
			Top Cable Vert	5	8.07		
			Top Cable Norm	5	14.44		
			Top Cable Tan	5	0.00		
			Bot Cable Vert	5	-7.64		
			Bot Cable Norm	5	14.51		
			Bot Cable Tan	5	0.00		
		Top Guy Pull-Off	Max Tension	17	14.79	0.00	0.00
			Max. Compression	9	-13.28	0.00	0.00
			Max. Mx	20	3.07	0.14	0.00
			Max. My	9	5.83	0.00	-0.00
			Max. Vy	20	-0.15	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Torque Arm Top	Max Tension	3	16.01	0.00	0.00
			Max. Compression	3	-7.81	0.00	0.00
			Max. Mx	27	4.49	-33.16	-0.00
			Max. My	9	-3.08	-16.41	0.00
			Max. Vy	27	8.45	-33.16	-0.00
			Max. Vx	9	0.00	-16.41	0.00
T11	99.84 - 79.84	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	25	-166.19	1.57	-0.01
			Max. Mx	24	-164.63	-1.58	0.01
			Max. My	20	-163.28	0.77	1.37
			Max. Vy	6	1.37	-0.87	0.02
			Max. Vx	10	1.33	0.32	-0.76
		Diagonal	Max Tension	6	4.99	0.00	0.00
			Max. Compression	14	-7.48	0.00	0.00
			Max. Mx	23	-1.29	0.04	0.00
			Max. My	9	0.11	0.00	-0.00
			Max. Vy	23	-0.03	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Horizontal	Max Tension	10	2.25	0.00	0.00
			Max. Compression	2	-0.77	0.00	0.00
			Max. Mx	31	1.50	0.02	0.00
			Max. My	9	2.02	0.00	-0.00
			Max. Vy	31	-0.02	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	23	0.00	-0.01	-0.00
			Max. Compression	23	-0.00	0.00	0.00
			Max. Mx	19	0.00	-0.01	0.00
			Max. My	2	0.00	-0.00	0.00
			Max. Vy	19	0.01	-0.01	0.00
			Max. Vx	2	-0.00	-0.00	0.00
		Top Girt	Max Tension	31	1.51	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	20	1.47	0.02	0.00
			Max. My	9	0.58	0.00	-0.00
			Max. Vy	20	-0.02	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T12	79.84 - 59.84	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	25	-168.94	-0.58	-1.45
			Max. Mx	24	-168.27	1.66	0.21

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	19	-166.55	-0.60	-1.48
			Max. Vy	24	-0.98	-1.59	-0.03
			Max. Vx	19	0.87	0.74	1.39
		Diagonal	Max Tension	11	6.02	0.00	0.00
			Max. Compression	3	-8.01	0.00	0.00
			Max. Mx	26	-1.53	0.03	0.00
			Max. My	8	0.84	0.00	-0.00
			Max. Vy	26	-0.03	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
		Horizontal	Max Tension	21	1.58	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	33	1.51	0.02	0.00
			Max. My	9	1.00	0.00	-0.00
			Max. Vy	33	-0.02	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	23	0.00	-0.00	-0.00
			Max. Compression	13	-0.00	-0.00	-0.00
			Max. Mx	19	0.00	-0.01	0.00
			Max. My	2	0.00	-0.00	0.00
			Max. Vy	19	0.01	-0.01	0.00
			Max. Vx	2	-0.00	-0.00	0.00
		Top Girt	Max Tension	25	1.54	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	31	1.51	0.02	0.00
			Max. My	9	0.65	0.00	-0.00
			Max. Vy	31	-0.02	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
T13	59.84 - 39.84	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	25	-185.29	-1.73	0.03
			Max. Mx	23	-169.24	-1.85	-0.89
			Max. My	19	-171.73	0.24	-1.87
			Max. Vy	23	1.06	-1.85	-0.89
			Max. Vx	19	-1.09	-0.64	1.63
		Diagonal	Max Tension	3	5.82	0.00	0.00
			Max. Compression	11	-8.11	0.00	0.00
			Max. Mx	26	-2.45	0.03	0.00
			Max. My	8	-3.07	0.00	-0.00
			Max. Vy	26	-0.02	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
		Horizontal	Max Tension	23	1.76	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	19	1.61	0.02	0.00
			Max. My	9	1.06	0.00	-0.00
			Max. Vy	19	-0.02	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	23	0.00	-0.00	-0.00
			Max. Compression	13	-0.00	-0.00	-0.00
			Max. Mx	19	0.00	-0.00	0.00
			Max. My	2	0.00	-0.00	0.00
			Max. Vy	19	0.01	-0.00	0.00
			Max. Vx	2	-0.00	-0.00	0.00
		Top Girt	Max Tension	24	1.86	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	34	1.72	0.02	0.00
			Max. My	9	0.93	0.00	-0.00
			Max. Vy	34	0.02	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Guy A	Bottom Tension	27	13.41		
			Top Tension	10	13.73		

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Top Cable Vert	27	5.25		
			Top Cable Norm	27	12.69		
			Top Cable Tan	27	0.00		
			Bot Cable Vert	10	-4.20		
			Bot Cable Norm	10	12.74		
			Bot Cable Tan	10	0.00		
		Guy B	Bottom Tension	32	12.68		
			Top Tension	15	13.03		
			Top Cable Vert	32	3.51		
			Top Cable Norm	32	12.55		
			Top Cable Tan	32	0.00		
			Bot Cable Vert	15	-2.39		
			Bot Cable Norm	15	12.45		
			Bot Cable Tan	15	0.00		
		Guy C	Bottom Tension	22	13.09		
			Top Tension	5	13.62		
			Top Cable Vert	22	5.06		
			Top Cable Norm	22	12.65		
			Top Cable Tan	22	0.00		
			Bot Cable Vert	5	-3.94		
			Bot Cable Norm	5	12.48		
			Bot Cable Tan	5	0.00		
		Top Guy Pull-Off	Max Tension	9	12.72	0.00	0.00
			Max. Compression	17	-10.17	0.00	0.00
			Max. Mx	33	3.10	0.13	0.00
			Max. My	9	-2.99	0.00	-0.00
			Max. Vy	33	-0.15	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Torque Arm Top	Max Tension	11	13.40	0.00	0.00
			Max. Compression	11	-5.87	0.00	0.00
			Max. Mx	27	5.15	-21.40	0.00
			Max. My	9	-2.37	-10.12	0.00
			Max. Vy	27	5.50	-21.40	0.00
			Max. Vx	9	0.00	-10.12	0.00
T14	39.84 - 19.84	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	25	-190.22	-1.79	0.03
			Max. Mx	25	-190.17	1.81	-0.02
			Max. My	24	-190.02	-0.91	-1.56
			Max. Vy	24	-1.09	-1.79	0.03
			Max. Vx	24	0.94	-0.91	-1.56
		Diagonal	Max Tension	11	2.01	0.00	0.00
			Max. Compression	14	-4.20	0.00	0.00
			Max. Mx	26	-1.86	0.03	0.00
			Max. My	8	-1.80	0.00	-0.00
			Max. Vy	26	-0.02	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
		Horizontal	Max Tension	23	1.73	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	19	1.64	0.02	0.00
			Max. My	9	1.04	0.00	-0.00
			Max. Vy	19	-0.02	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	23	0.00	-0.00	-0.00
			Max. Compression	13	-0.00	-0.00	-0.00
			Max. Mx	19	0.00	-0.00	0.00
			Max. My	2	0.00	-0.00	0.00
			Max. Vy	19	0.01	-0.00	0.00
			Max. Vx	2	-0.00	-0.00	0.00
		Top Girt	Max Tension	26	1.69	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	19	1.64	0.02	0.00
			Max. My	17	1.02	0.00	-0.00
			Max. Vy	19	-0.02	0.00	0.00
			Max. Vx	17	0.00	0.00	0.00
T15	19.84 - 6.5	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	24	-193.48	-0.57	-0.51
			Max. Mx	25	-191.26	1.81	-0.02
			Max. My	24	-190.09	-0.91	-1.56
			Max. Vy	29	1.09	1.80	-0.02
			Max. Vx	19	-0.95	0.92	1.55
		Diagonal	Max Tension	6	3.15	0.00	0.00
			Max. Compression	9	-4.40	0.00	0.00
			Max. Mx	26	-1.24	0.03	0.00
			Max. My	8	0.11	0.00	-0.00
			Max. Vy	26	-0.02	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
		Horizontal	Max Tension	34	1.73	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	19	1.21	0.02	0.00
			Max. My	9	0.78	0.00	-0.00
			Max. Vy	19	-0.02	0.00	0.00
			Max. Vx	9	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	23	0.00	-0.00	-0.00
			Max. Compression	13	-0.00	-0.00	-0.00
			Max. Mx	19	0.00	-0.00	0.00
			Max. My	2	0.00	-0.00	0.00
			Max. Vy	19	0.01	-0.00	0.00
			Max. Vx	2	-0.00	-0.00	0.00
		Top Girt	Max Tension	26	1.74	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	19	1.67	0.02	0.00
			Max. My	17	0.96	0.00	-0.00
			Max. Vy	19	-0.02	0.00	0.00
			Max. Vx	17	0.00	0.00	0.00
T16	6.5 - 0	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	24	-204.80	0.22	0.31
			Max. Mx	24	-198.50	2.72	-0.10
			Max. My	15	-82.61	1.26	-0.44
			Max. Vy	24	10.31	-2.70	0.14
			Max. Vx	15	-1.05	-1.16	0.11
		Top Girt	Max Tension	24	36.72	0.57	0.05
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	30	36.17	-1.43	-0.07
			Max. My	24	36.01	-1.42	-0.07
			Max. Vy	19	-0.64	-1.42	-0.07
			Max. Vx	24	-0.05	-1.42	-0.07
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	24	-6.05	-2.19	-0.02
			Max. Mx	23	-5.96	-2.29	-0.03
			Max. My	22	-5.96	-2.28	-0.03
			Max. Vy	6	-3.97	-1.36	-0.02
			Max. Vx	23	-0.18	-2.29	-0.03
		Mid Girt	Max Tension	24	0.56	0.00	0.00
			Max. Compression	29	-0.37	0.00	0.00
			Max. Mx	34	0.54	0.03	0.00
			Max. My	28	0.55	0.00	0.00
			Max. Vy	34	-0.04	0.00	0.00
			Max. Vx	28	-0.01	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Mast	Max. Vert	24	579.91	-0.05	0.34
	Max. H_x	14	248.60	3.50	0.30
	Max. H_z	2	246.46	0.02	3.50
	Max. M_x	1	0.00	-0.04	0.02
	Max. M_z	1	0.00	-0.04	0.02
	Max. Torsion	1	0.00	-0.04	0.02
	Min. Vert	1	187.82	-0.04	0.02
	Min. H_x	6	255.08	-3.40	0.19
	Min. H_z	10	257.56	-0.19	-3.32
	Min. M_x	1	0.00	-0.04	0.02
	Min. M_z	1	0.00	-0.04	0.02
	Min. Torsion	1	0.00	-0.04	0.02
Guy C @ 235 ft Elev -20.1 ft Azimuth 240 deg	Max. Vert	13	-14.45	-11.89	6.86
	Max. H_x	13	-14.45	-11.89	6.86
	Max. H_z	4	-105.58	-118.24	69.43
	Min. Vert	5	-106.80	-120.03	69.31
	Min. H_x	5	-106.80	-120.03	69.31
	Min. H_z	13	-14.45	-11.89	6.86
Guy B @ 235 ft Elev 8.9 ft Azimuth 120 deg	Max. Vert	7	-10.54	10.71	6.19
	Max. H_x	15	-91.63	120.61	69.61
	Max. H_z	15	-91.63	120.61	69.61
	Min. Vert	15	-91.63	120.61	69.61
	Min. H_x	7	-10.54	10.71	6.19
	Min. H_z	7	-10.54	10.71	6.19
Guy A @ 235 ft Elev -23.4 ft Azimuth 0 deg	Max. Vert	2	-14.90	-0.01	-13.91
	Max. H_x	14	-63.34	5.28	-77.56
	Max. H_z	2	-14.90	-0.01	-13.91
	Min. Vert	10	-108.68	0.03	-138.62
	Min. H_x	6	-60.83	-5.29	-74.73
	Min. H_z	10	-108.68	0.03	-138.62

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	187.82	0.04	-0.02	0.00	0.00	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice+1.0 Guy	246.46	-0.02	-3.50	0.00	0.00	0.00
1.2 Dead+1.6 Wind 30 deg - No Ice+1.0 Guy	253.09	1.87	-2.68	0.00	0.00	0.00
1.2 Dead+1.6 Wind 45 deg - No Ice+1.0 Guy	255.63	2.60	-2.18	0.00	0.00	0.00
1.2 Dead+1.6 Wind 60 deg - No Ice+1.0 Guy	256.81	3.09	-1.62	0.00	0.00	0.00

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
1.2 Dead+1.6 Wind 90 deg - No Ice+1.0 Guy	255.08	3.40	-0.19	0.00	0.00	0.00
1.2 Dead+1.6 Wind 120 deg - No Ice+1.0 Guy	252.02	3.07	1.54	0.00	0.00	0.00
1.2 Dead+1.6 Wind 135 deg - No Ice+1.0 Guy	253.57	2.39	2.25	0.00	0.00	0.00
1.2 Dead+1.6 Wind 150 deg - No Ice+1.0 Guy	255.74	1.60	2.82	0.00	0.00	0.00
1.2 Dead+1.6 Wind 180 deg - No Ice+1.0 Guy	257.56	0.19	3.32	0.00	0.00	0.00
1.2 Dead+1.6 Wind 210 deg - No Ice+1.0 Guy	253.72	-1.37	2.81	0.00	0.00	0.00
1.2 Dead+1.6 Wind 225 deg - No Ice+1.0 Guy	249.87	-2.27	2.24	0.00	0.00	0.00
1.2 Dead+1.6 Wind 240 deg - No Ice+1.0 Guy	246.96	-3.05	1.53	0.00	0.00	0.00
1.2 Dead+1.6 Wind 270 deg - No Ice+1.0 Guy	248.60	-3.50	-0.30	0.00	0.00	0.00
1.2 Dead+1.6 Wind 300 deg - No Ice+1.0 Guy	250.84	-3.15	-1.87	0.00	0.00	0.00
1.2 Dead+1.6 Wind 315 deg - No Ice+1.0 Guy	250.15	-2.66	-2.45	0.00	0.00	0.00
1.2 Dead+1.6 Wind 330 deg - No Ice+1.0 Guy	248.60	-1.93	-2.91	0.00	0.00	0.00
1.2 Dead+1.0 Ice+1.0 Temp+Guy	573.04	0.01	-0.32	0.00	0.00	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy	576.46	-0.00	-0.37	0.00	0.00	0.00
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy	575.32	0.00	-0.37	0.00	0.00	0.00
1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp+1.0 Guy	574.40	0.01	-0.36	0.00	0.00	0.00
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy	574.32	0.03	-0.33	0.00	0.00	0.00
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy	577.28	0.05	-0.30	0.00	0.00	0.00
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy	579.91	0.05	-0.34	0.00	0.00	0.00
1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp+1.0 Guy	579.20	0.06	-0.34	0.00	0.00	0.00
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy	577.47	0.06	-0.32	0.00	0.00	0.00
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy	574.63	0.02	-0.31	0.00	0.00	0.00
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy	575.69	-0.04	-0.32	0.00	0.00	0.00
1.2 Dead+1.0 Wind 225 deg+1.0 Ice+1.0 Temp+1.0 Guy	576.65	-0.05	-0.33	0.00	0.00	0.00
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy	576.80	-0.05	-0.33	0.00	0.00	0.00
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy	573.94	-0.05	-0.30	0.00	0.00	0.00
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy	571.53	-0.02	-0.34	0.00	0.00	0.00
1.2 Dead+1.0 Wind 315 deg+1.0 Ice+1.0 Temp+1.0 Guy	572.16	-0.00	-0.37	0.00	0.00	0.00
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy	573.76	0.01	-0.38	0.00	0.00	0.00
Dead+Wind 0 deg - Service+Guy	190.22	0.04	-0.94	0.00	0.00	0.00
Dead+Wind 30 deg -	190.16	0.49	-0.80	0.00	0.00	0.00

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Service+Guy						
Dead+Wind 45 deg - Service+Guy	190.12	0.68	-0.65	0.00	0.00	0.00
Dead+Wind 60 deg - Service+Guy	190.20	0.83	-0.45	0.00	0.00	0.00
Dead+Wind 90 deg - Service+Guy	190.81	0.97	-0.00	0.00	0.00	0.00
Dead+Wind 120 deg - Service+Guy	191.40	0.87	0.42	0.00	0.00	0.00
Dead+Wind 135 deg - Service+Guy	191.24	0.72	0.60	0.00	0.00	0.00
Dead+Wind 150 deg - Service+Guy	190.86	0.53	0.75	0.00	0.00	0.00
Dead+Wind 180 deg - Service+Guy	190.27	0.06	0.86	0.00	0.00	0.00
Dead+Wind 210 deg - Service+Guy	190.26	-0.42	0.74	0.00	0.00	0.00
Dead+Wind 225 deg - Service+Guy	190.35	-0.62	0.59	0.00	0.00	0.00
Dead+Wind 240 deg - Service+Guy	190.32	-0.77	0.41	0.00	0.00	0.00
Dead+Wind 270 deg - Service+Guy	189.72	-0.89	-0.02	0.00	0.00	0.00
Dead+Wind 300 deg - Service+Guy	189.32	-0.75	-0.48	0.00	0.00	0.00
Dead+Wind 315 deg - Service+Guy	189.41	-0.61	-0.67	0.00	0.00	0.00
Dead+Wind 330 deg - Service+Guy	189.67	-0.42	-0.82	0.00	0.00	0.00

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.00	-66.51	0.00	0.00	66.51	0.00	0.006%
2	1.05	-78.25	-104.95	-1.04	78.25	104.89	0.039%
3	52.59	-77.21	-90.73	-52.59	77.21	90.69	0.028%
4	73.71	-76.45	-73.92	-73.73	76.45	73.86	0.044%
5	89.80	-76.18	-52.39	-89.78	76.18	52.47	0.061%
6	103.57	-77.53	-0.42	-103.53	77.53	0.46	0.045%
7	90.10	-78.83	52.79	-90.07	78.83	-52.78	0.021%
8	72.99	-78.45	73.90	-72.96	78.45	-73.89	0.019%
9	51.25	-77.56	90.38	-51.20	77.55	-90.36	0.046%
10	-0.54	-76.23	104.11	0.61	76.23	-104.12	0.053%
11	-52.01	-77.26	90.95	51.97	77.26	-90.94	0.030%
12	-73.17	-78.02	74.91	73.12	78.02	-74.88	0.038%
13	-89.96	-78.30	53.92	89.92	78.30	-53.90	0.041%
14	-102.95	-76.94	0.51	102.93	76.94	-0.48	0.027%
15	-88.92	-75.64	-51.26	88.95	75.64	51.29	0.030%
16	-72.71	-76.02	-72.74	72.74	76.02	72.70	0.041%
17	-51.36	-76.92	-89.72	51.37	76.92	89.68	0.026%
18	0.00	-349.70	0.00	0.01	349.70	0.01	0.003%
19	0.27	-350.39	-27.49	-0.26	350.39	27.49	0.002%
20	13.82	-349.68	-23.90	-13.81	349.68	23.90	0.004%
21	19.40	-349.17	-19.52	-19.38	349.17	19.52	0.004%
22	23.60	-348.98	-13.88	-23.59	348.98	13.88	0.004%
23	27.07	-349.86	-0.12	-27.06	349.86	0.12	0.004%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
24	23.45	-350.72	13.77	-23.44	350.72	-13.76	0.004%
25	19.09	-350.47	19.33	-19.08	350.47	-19.32	0.004%
26	13.39	-349.88	23.68	-13.38	349.88	-23.67	0.004%
27	-0.21	-349.00	27.48	0.22	349.00	-27.47	0.004%
28	-13.71	-349.71	24.00	13.72	349.71	-23.99	0.004%
29	-19.29	-350.23	19.73	19.30	350.23	-19.73	0.003%
30	-23.57	-350.42	14.15	23.57	350.42	-14.14	0.002%
31	-27.00	-349.53	0.14	27.00	349.53	-0.13	0.001%
32	-23.37	-348.67	-13.51	23.37	348.67	13.51	0.001%
33	-19.10	-348.92	-19.10	19.10	348.92	19.10	0.001%
34	-13.45	-349.52	-23.53	13.45	349.52	23.53	0.001%
35	0.23	-66.73	-23.15	-0.23	66.73	23.14	0.006%
36	11.60	-66.50	-20.01	-11.59	66.50	20.00	0.023%
37	16.26	-66.33	-16.30	-16.24	66.33	16.30	0.025%
38	19.81	-66.27	-11.56	-19.79	66.27	11.56	0.028%
39	22.84	-66.57	-0.09	-22.82	66.57	0.10	0.035%
40	19.87	-66.86	11.64	-19.87	66.86	-11.64	0.011%
41	16.10	-66.77	16.30	-16.09	66.77	-16.30	0.010%
42	11.30	-66.58	19.93	-11.29	66.58	-19.92	0.035%
43	-0.12	-66.28	22.96	0.13	66.28	-22.94	0.030%
44	-11.47	-66.51	20.06	11.47	66.51	-20.04	0.025%
45	-16.14	-66.68	16.52	16.14	66.68	-16.52	0.006%
46	-19.84	-66.74	11.89	19.84	66.74	-11.89	0.006%
47	-22.71	-66.44	0.11	22.70	66.44	-0.11	0.019%
48	-19.61	-66.15	-11.31	19.60	66.15	11.30	0.013%
49	-16.04	-66.24	-16.04	16.03	66.24	16.04	0.014%
50	-11.33	-66.44	-19.79	11.33	66.44	19.78	0.017%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	8	0.00104866	0.00010821
2	Yes	11	0.00094455	0.00082159
3	Yes	11	0.00063453	0.00059223
4	Yes	10	0.00096146	0.00088086
5	Yes	8	0.00128301	0.00038215
6	Yes	11	0.00107709	0.00110621
7	Yes	12	0.00058613	0.00078546
8	Yes	12	0.00050555	0.00065985
9	Yes	11	0.00109056	0.00115546
10	Yes	8	0.00114622	0.00033811
11	Yes	11	0.00067483	0.00063900
12	Yes	11	0.00088607	0.00081825
13	Yes	11	0.00100499	0.00089057
14	Yes	11	0.00069487	0.00046288
15	Yes	8	0.00061970	0.00036455
16	Yes	10	0.00101502	0.00055905
17	Yes	11	0.00066263	0.00044735
18	Yes	10	0.00080442	0.00009205
19	Yes	10	0.00120894	0.00019542
20	Yes	10	0.00124510	0.00018353
21	Yes	10	0.00109722	0.00014804
22	Yes	10	0.00087755	0.00010762
23	Yes	10	0.00061253	0.00011874
24	Yes	10	0.00061083	0.00016296

25	Yes	10	0.00062834	0.00015058
26	Yes	10	0.00065943	0.00012205
27	Yes	10	0.00087464	0.00010646
28	Yes	10	0.00119578	0.00018012
29	Yes	10	0.00121072	0.00019486
30	Yes	10	0.00113023	0.00018986
31	Yes	10	0.00079649	0.00013977
32	Yes	9	0.00102954	0.00019628
33	Yes	9	0.00139301	0.00022256
34	Yes	10	0.00090961	0.00014843
35	Yes	8	0.00056177	0.00014180
36	Yes	7	0.00143628	0.00026444
37	Yes	7	0.00128572	0.00019648
38	Yes	7	0.00111871	0.00016146
39	Yes	7	0.00121953	0.00033331
40	Yes	8	0.00048687	0.00019747
41	Yes	8	0.00046616	0.00017751
42	Yes	7	0.00126299	0.00034149
43	Yes	7	0.00115430	0.00016565
44	Yes	7	0.00144252	0.00026777
45	Yes	8	0.00058359	0.00015218
46	Yes	8	0.00054597	0.00014195
47	Yes	7	0.00109776	0.00019983
48	Yes	7	0.00064818	0.00008795
49	Yes	7	0.00084047	0.00013016
50	Yes	7	0.00115642	0.00020346

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	327 - 291.84	1.762	43	0.1055	0.0368
T1	291.84 - 279.84	1.209	43	0.0157	0.0396
T2	279.84 - 259.84	1.198	43	0.0104	0.0368
T3	259.84 - 239.84	1.224	43	0.0272	0.0257
T4	239.84 - 219.84	1.306	43	0.0364	0.0384
T5	219.84 - 199.84	1.392	43	0.0430	0.0362
T6	199.84 - 179.84	1.507	43	0.0395	0.0416
T7	179.84 - 159.84	1.543	43	0.0145	0.0343
T8	159.84 - 139.84	1.510	43	0.0094	0.0332
T9	139.84 - 119.84	1.456	43	0.0234	0.0385
T10	119.84 - 99.84	1.321	43	0.0366	0.0407
T11	99.84 - 79.84	1.164	43	0.0337	0.0431
T12	79.84 - 59.84	1.014	43	0.0444	0.0494
T13	59.84 - 39.84	0.793	43	0.0520	0.0529
T14	39.84 - 19.84	0.586	40	0.0557	0.0686
T15	19.84 - 6.5	0.324	40	0.0705	0.0813
T16	6.5 - 0	0.109	40	0.0779	0.0799

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
325.00	4-ft Lightning Rod	43	1.719	0.0994	0.0425	87415

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
323.00	Flash Beacon Lighting	43	1.677	0.0933	0.0423	87415
305.00	6813 1-Bay w/radome	43	1.341	0.0423	0.0407	19867
290.00	6-ft Dish	43	1.202	0.0131	0.0394	15022
285.84	Guy	43	1.195	0.0093	0.0388	24241
277.00	PD1110	43	1.200	0.0132	0.0351	168180
267.00	OGT9-840	43	1.209	0.0216	0.0278	62448
264.00	SC479-HF1LDF	43	1.214	0.0241	0.0263	51913
261.00	AP14-850/105	43	1.221	0.0264	0.0257	46339
256.51	Guy	43	1.235	0.0293	0.0267	52836
256.50	SE419-SF3P4LDF	43	1.235	0.0293	0.0267	52860
254.00	SC479-HF1LDF	43	1.244	0.0306	0.0282	64923
253.00	OGT9-840	43	1.248	0.0312	0.0289	71601
252.00	AP14-850/105	43	1.252	0.0316	0.0297	79811
249.00	SC479-HF1LDF	43	1.265	0.0330	0.0321	120519
240.00	TTA 432-83H-01T	43	1.305	0.0364	0.0384	164946
239.00	SC479-HF1LDF	43	1.310	0.0367	0.0387	168471
216.51	Guy	43	1.411	0.0437	0.0366	87643
211.00	6813 1-Bay w/radome	43	1.445	0.0442	0.0384	731702
198.00	6813 1-Bay w/radome	43	1.514	0.0377	0.0415	41714
190.00	6' Yagi	43	1.537	0.0272	0.0390	47764
185.00	7770.00	43	1.542	0.0203	0.0366	50376
172.17	24"x12"x5" Panel	43	1.534	0.0102	0.0326	95551
172.00	8' x 3" Dia Omni	43	1.534	0.0102	0.0325	97254
171.50	5' Gird Dish	43	1.533	0.0101	0.0325	102631
166.51	Guy	43	1.524	0.0096	0.0324	229206
166.00	16"x12"x3" TTA	43	1.523	0.0096	0.0324	261993
158.83	24"x12"x5" Panel	43	1.508	0.0097	0.0334	257659
157.00	Beacon	43	1.505	0.0102	0.0338	513365
125.00	Sabre 2' Sidearm	43	1.361	0.0349	0.0404	86702
124.00	6'x4' Ice Shield	43	1.354	0.0354	0.0405	95688
116.00	6-ft Dish	43	1.290	0.0366	0.0409	301264
112.00	PD1110	43	1.258	0.0358	0.0412	253478
106.51	Guy	43	1.214	0.0343	0.0418	130618
104.00	6-ft Dish	43	1.195	0.0338	0.0422	107081
94.00	PR-850	43	1.124	0.0354	0.0450	275892
84.00	HBXX-6517DS	43	1.050	0.0416	0.0484	46743
70.00	DB212-1	43	0.909	0.0493	0.0505	117035
56.51	Guy	43	0.757	0.0524	0.0547	111273
18.00	6' Yagi	40	0.296	0.0717	0.0815	66547
13.00	4-ft Dish	40	0.217	0.0746	0.0811	101569

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	327 - 291.84	12.649	10	0.5757	0.2797
T1	291.84 - 279.84	9.322	10	0.1700	0.2652
T2	279.84 - 259.84	8.998	10	0.1226	0.2535
T3	259.84 - 239.84	8.690	10	0.1090	0.1981
T4	239.84 - 219.84	8.682	10	0.1547	0.1932
T5	219.84 - 199.84	8.736	10	0.1975	0.1908
T6	199.84 - 179.84	9.043	11	0.1847	0.1950
T7	179.84 - 159.84	9.163	11	0.0827	0.1839
T8	159.84 - 139.84	9.050	7	0.0970	0.2049
T9	139.84 - 119.84	8.981	7	0.1702	0.2430

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T10	119.84 - 99.84	8.364	7	0.2387	0.2733
T11	99.84 - 79.84	7.474	7	0.2319	0.2580
T12	79.84 - 59.84	6.457	7	0.2924	0.2274
T13	59.84 - 39.84	5.028	7	0.3437	0.2100
T14	39.84 - 19.84	3.609	7	0.3652	0.2671
T15	19.84 - 6.5	1.945	7	0.4340	0.3249
T16	6.5 - 0	0.651	7	0.4676	0.3298

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
325.00	4-ft Lightning Rod	10	12.409	0.5468	0.2790	19554
323.00	Flash Beacon Lighting	10	12.171	0.5181	0.2782	19554
305.00	6813 1-Bay w/radome	10	10.229	0.2828	0.2712	4444
290.00	6-ft Dish	10	9.248	0.1603	0.2642	3379
285.84	Guy	10	9.122	0.1430	0.2614	5530
277.00	PD1110	10	8.945	0.1124	0.2473	47566
267.00	OGT9-840	10	8.772	0.0970	0.2180	12804
264.00	SC479-HF1LDF	10	8.732	0.0984	0.2090	10406
261.00	AP14-850/105	10	8.700	0.1059	0.2009	9145
256.51	Guy	10	8.672	0.1182	0.1914	10210
256.50	SE419-SF3P4LDF	10	8.672	0.1182	0.1914	10215
254.00	SC479-HF1LDF	10	8.665	0.1253	0.1876	12322
253.00	OGT9-840	10	8.664	0.1279	0.1864	13459
252.00	AP14-850/105	10	8.663	0.1303	0.1853	14827
249.00	SC479-HF1LDF	10	8.665	0.1370	0.1828	21330
240.00	TTA 432-83H-01T	10	8.682	0.1544	0.1931	14782
239.00	SC479-HF1LDF	10	8.683	0.1565	0.1939	14850
216.51	Guy	10	8.770	0.2022	0.1910	10030
211.00	6813 1-Bay w/radome	10	8.838	0.2056	0.1927	19961
198.00	6813 1-Bay w/radome	11	9.075	0.1764	0.1944	9070
190.00	6' Yagi	11	9.163	0.1290	0.1889	9582
185.00	7770.00	11	9.178	0.0961	0.1846	10082
172.17	24"x12"x5" Panel	11	9.092	0.0904	0.1902	16335
172.00	8' x 3" Dia Omni	11	9.090	0.0904	0.1904	16531
171.50	5' Gird Dish	11	9.083	0.0905	0.1908	17133
166.51	Guy	8	9.053	0.0914	0.1961	26940
166.00	16"x12"x3" TTA	8	9.051	0.0916	0.1967	28601
158.83	24"x12"x5" Panel	7	9.054	0.0988	0.2065	46846
157.00	Beacon	7	9.059	0.1029	0.2094	32699
125.00	Sabre 2' Sidearm	7	8.567	0.2277	0.2694	13088
124.00	6'x4' Ice Shield	7	8.529	0.2305	0.2705	14081
116.00	6-ft Dish	7	8.203	0.2407	0.2733	26556
112.00	PD1110	7	8.028	0.2388	0.2712	38097
106.51	Guy	7	7.780	0.2338	0.2659	25477
104.00	6-ft Dish	7	7.665	0.2320	0.2630	21790
94.00	PR-850	7	7.206	0.2399	0.2515	27553
84.00	HBXX-6517DS	7	6.701	0.2752	0.2368	8876
70.00	DB212-1	7	5.781	0.3246	0.2127	21936
56.51	Guy	7	4.789	0.3470	0.2145	18413
18.00	6' Yagi	7	1.773	0.4396	0.3268	14435
13.00	4-ft Dish	7	1.293	0.4525	0.3292	22151

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	291.84	Leg	A325N	1.0000	4	3.08	53.01	0.058 ✔	1	Bolt Tension
T2	279.84	Leg	A325N	1.0000	4	2.62	53.01	0.050 ✔	1	Bolt Tension
T3	259.84	Leg	A325N	1.0000	4	3.28	53.01	0.062 ✔	1	Bolt Tension
T4	239.84	Leg	A325N	1.0000	4	5.20	53.01	0.098 ✔	1	Bolt Tension
T5	219.84	Leg	A325N	1.0000	4	5.34	53.01	0.101 ✔	1	Bolt Tension
T6	199.84	Leg	A325N	1.0000	4	7.91	53.01	0.149 ✔	1	Bolt Tension
T7	179.84	Leg	A325N	1.0000	4	8.42	53.01	0.159 ✔	1	Bolt Tension
T8	159.84	Leg	A325N	1.0000	4	10.40	53.01	0.196 ✔	1	Bolt Tension
T9	139.84	Leg	A325N	1.0000	4	10.90	53.01	0.206 ✔	1	Bolt Tension
T10	119.84	Leg	A325N	1.0000	4	11.32	53.01	0.214 ✔	1	Bolt Tension
T11	99.84	Leg	A325N	1.0000	4	13.00	53.01	0.245 ✔	1	Bolt Tension
T12	79.84	Leg	A325N	1.3750	4	13.89	100.23	0.139 ✔	1	Bolt Tension
T13	59.84	Leg	A325N	1.3750	4	14.11	100.23	0.141 ✔	1	Bolt Tension
T14	39.84	Leg	A325N	1.3750	4	15.55	100.23	0.155 ✔	1	Bolt Tension
T15	19.84	Leg	A325N	1.3750	4	15.94	100.23	0.159 ✔	1	Bolt Tension
T16	6.5	Leg	A325N	1.3750	4	17.02	100.23	0.170 ✔	1	Bolt Tension

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T_u K	Allowable ϕT_n K	Required S.F.	Actual S.F.
T1	285.84 (A) (672)	3/4 EHS	5.83	58.30	16.59	34.98	1.000	2.109 ✔
	285.84 (A) (673)	3/4 EHS	5.83	58.30	16.59	34.98	1.000	2.108 ✔
	285.84 (B) (668)	3/4 EHS	5.83	58.30	15.62	34.98	1.000	2.239 ✔
	285.84 (B) (669)	3/4 EHS	5.83	58.30	15.60	34.98	1.000	2.243 ✔
	285.84 (C) (664)	3/4 EHS	5.83	58.30	16.46	34.98	1.000	2.125 ✔
	285.84 (C) (665)	3/4 EHS	5.83	58.30	16.47	34.98	1.000	2.124 ✔
T3	256.51 (A) (684)	3/4 EHS	5.83	58.30	16.28	34.98	1.000	2.149 ✔
	256.51 (A) (685)	3/4 EHS	5.83	58.30	16.31	34.98	1.000	2.145 ✔
	256.51 (B) (680)	3/4 EHS	5.83	58.30	15.25	34.98	1.000	2.294 ✔
	256.51 (B) (681)	3/4 EHS	5.83	58.30	15.26	34.98	1.000	2.293 ✔

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T_u K	Allowable ϕT_n K	Required S.F.	Actual S.F.
	256.51 (C) (676)	3/4 EHS	5.83	58.30	16.14	34.98	1.000	2.168 ✔
	256.51 (C) (677)	3/4 EHS	5.83	58.30	16.17	34.98	1.000	2.163 ✔
T5	216.51 (A) (696)	3/4 EHS	5.83	58.30	15.99	34.98	1.000	2.187 ✔
	216.51 (A) (697)	3/4 EHS	5.83	58.30	16.02	34.98	1.000	2.183 ✔
	216.51 (B) (692)	3/4 EHS	5.83	58.30	14.90	34.98	1.000	2.348 ✔
	216.51 (B) (693)	3/4 EHS	5.83	58.30	14.91	34.98	1.000	2.345 ✔
	216.51 (C) (688)	3/4 EHS	5.83	58.30	15.82	34.98	1.000	2.211 ✔
	216.51 (C) (689)	3/4 EHS	5.83	58.30	15.87	34.98	1.000	2.205 ✔
T7	166.51 (A) (708)	3/4 EHS	5.83	58.30	17.12	34.98	1.000	2.044 ✔
	166.51 (A) (709)	3/4 EHS	5.83	58.30	17.39	34.98	1.000	2.011 ✔
	166.51 (B) (704)	3/4 EHS	5.83	58.30	16.44	34.98	1.000	2.128 ✔
	166.51 (B) (705)	3/4 EHS	5.83	58.30	16.22	34.98	1.000	2.157 ✔
	166.51 (C) (700)	3/4 EHS	5.83	58.30	17.22	34.98	1.000	2.031 ✔
	166.51 (C) (701)	3/4 EHS	5.83	58.30	17.05	34.98	1.000	2.052 ✔
T10	106.51 (A) (720)	3/4 EHS	5.83	58.30	16.29	34.98	1.000	2.148 ✔
	106.51 (A) (721)	3/4 EHS	5.83	58.30	16.78	34.98	1.000	2.084 ✔
	106.51 (B) (716)	3/4 EHS	5.83	58.30	15.73	34.98	1.000	2.223 ✔
	106.51 (B) (717)	3/4 EHS	5.83	58.30	15.28	34.98	1.000	2.289 ✔
	106.51 (C) (712)	3/4 EHS	5.83	58.30	16.55	34.98	1.000	2.114 ✔
	106.51 (C) (713)	3/4 EHS	5.83	58.30	16.35	34.98	1.000	2.140 ✔
T13	56.51 (A) (732)	3/4 EHS	5.83	58.30	13.64	34.98	1.000	2.564 ✔
	56.51 (A) (733)	3/4 EHS	5.83	58.30	13.73	34.98	1.000	2.547 ✔
	56.51 (B) (728)	3/4 EHS	5.83	58.30	13.02	34.98	1.000	2.687 ✔
	56.51 (B) (729)	3/4 EHS	5.83	58.30	13.03	34.98	1.000	2.684 ✔
	56.51 (C) (724)	3/4 EHS	5.83	58.30	13.56	34.98	1.000	2.580 ✔
	56.51 (C) (725)	3/4 EHS	5.83	58.30	13.62	34.98	1.000	2.568 ✔

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	327 - 291.84 (1)	P10.75x0.843	35.16	35.16	120.0	26.2373	-3.95	395.38	0.010

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	327 - 291.84 (1)	P10.75x0.843	38.96	217.72	0.179	0.00	217.72	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	327 - 291.84 (1)	P10.75x0.843	2.09	413.24	0.005	0.80	316.69	0.003

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	327 - 291.84 (1)	0.010	0.179	0.000	0.005	0.003	0.189 ✔	1.000	4.8.2 ✔

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	Mast Stability Index	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	291.84 - 279.84	2	12.00	3.00	72.0 K=1.00	3.1416	1.00	-30.91	96.77	0.319 [1]
T2	279.84 - 259.84	2	20.00	3.33	80.0 K=1.00	3.1416	1.00	-36.55	88.54	0.413 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	Mast Stability Index	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T3	259.84 - 239.84	2 1/4	20.00	3.33	71.1 K=1.00	3.9761	1.00	-61.43	123.62	0.497 [1]
T4	239.84 - 219.84	2 1/4	20.00	3.33	71.1 K=1.00	3.9761	1.00	-63.52	123.62	0.514 [1]
T5	219.84 - 199.84	2 1/2	20.00	3.33	64.0 K=1.00	4.9087	1.00	-93.71	163.72	0.572 [1]
T6	199.84 - 179.84	2 1/2	20.00	3.33	64.0 K=1.00	4.9087	1.00	-102.03	163.72	0.623 [1]
T7	179.84 - 159.84	2 3/4	20.00	3.33	58.2 K=1.00	5.9396	1.00	-123.53	208.68	0.592 [1]
T8	159.84 - 139.84	2 1/2	20.00	3.33	64.0 K=1.00	4.9087	1.00	-130.23	163.72	0.795 [1]
T9	139.84 - 119.84	2 3/4	20.00	3.33	58.2 K=1.00	5.9396	1.00	-135.48	208.68	0.649 [1]
T10	119.84 - 99.84	2 3/4	20.00	3.33	58.2 K=1.00	5.9396	1.00	-155.11	208.68	0.743 [1]
T11	99.84 - 79.84	3	20.00	3.33	53.3 K=1.00	7.0686	1.00	-166.19	258.36	0.643 [1]
T12	79.84 - 59.84	3	20.00	3.33	53.3 K=1.00	7.0686	1.00	-168.94	258.36	0.654 [1]
T13	59.84 - 39.84	3	20.00	3.33	53.3 K=1.00	7.0686	1.00	-185.29	258.36	0.717 [1]
T14	39.84 - 19.84	3	20.00	3.33	53.3 K=1.00	7.0686	1.00	-190.22	258.36	0.736 [1]
T15	19.84 - 6.5	3	13.34	3.34	53.4 K=1.00	7.0686	1.00	-193.48	258.30	0.749 [1]
T16	6.5 - 0	3	6.84	2.10	67.3 K=2.00	7.0686	1.00	-204.80	228.38	0.897 [1]

[1] P_u / ϕP_n controls

Leg Bending Design Data (Compression)

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T1	291.84 - 279.84	2	0.00	5.00	0.000	0.00	5.00	0.000
T2	279.84 - 259.84	2	0.00	5.00	0.000	0.00	5.00	0.000
T3	259.84 - 239.84	2 1/4	0.00	7.12	0.000	0.00	7.12	0.000
T4	239.84 - 219.84	2 1/4	0.00	7.12	0.000	0.00	7.12	0.000
T5	219.84 - 199.84	2 1/2	0.00	9.77	0.000	0.00	9.77	0.000
T6	199.84 - 179.84	2 1/2	0.00	9.77	0.000	0.00	9.77	0.000
T7	179.84 - 159.84	2 3/4	0.00	13.00	0.000	0.00	13.00	0.000
T8	159.84 - 139.84	2 1/2	0.00	9.77	0.000	0.00	9.77	0.000
T9	139.84 - 119.84	2 3/4	0.00	13.00	0.000	0.00	13.00	0.000
T10	119.84 - 99.84	2 3/4	0.00	13.00	0.000	0.00	13.00	0.000
T11	99.84 - 79.84	3	0.00	16.88	0.000	0.00	16.88	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T12	79.84 - 59.84	3	0.00	16.88	0.000	0.00	16.88	0.000
T13	59.84 - 39.84	3	0.00	16.88	0.000	0.00	16.88	0.000
T14	39.84 - 19.84	3	0.00	16.88	0.000	0.00	16.88	0.000
T15	19.84 - 6.5	3	0.00	16.88	0.000	0.00	16.88	0.000
T16	6.5 - 0	3	0.00	16.88	0.000	0.00	16.88	0.000

Leg Interaction Design Data (Compression)

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	291.84 - 279.84	2	0.319	0.000	0.000	0.319 [1] ✔	1.000	4.8.1 ✔
T2	279.84 - 259.84	2	0.413	0.000	0.000	0.413 [1] ✔	1.000	4.8.1 ✔
T3	259.84 - 239.84	2 1/4	0.497	0.000	0.000	0.497 [1] ✔	1.000	4.8.1 ✔
T4	239.84 - 219.84	2 1/4	0.514	0.000	0.000	0.514 [1] ✔	1.000	4.8.1 ✔
T5	219.84 - 199.84	2 1/2	0.572	0.000	0.000	0.572 [1] ✔	1.000	4.8.1 ✔
T6	199.84 - 179.84	2 1/2	0.623	0.000	0.000	0.623 [1] ✔	1.000	4.8.1 ✔
T7	179.84 - 159.84	2 3/4	0.592	0.000	0.000	0.592 [1] ✔	1.000	4.8.1 ✔
T8	159.84 - 139.84	2 1/2	0.795	0.000	0.000	0.795 [1] ✔	1.000	4.8.1 ✔
T9	139.84 - 119.84	2 3/4	0.649	0.000	0.000	0.649 [1] ✔	1.000	4.8.1 ✔
T10	119.84 - 99.84	2 3/4	0.743	0.000	0.000	0.743 [1] ✔	1.000	4.8.1 ✔
T11	99.84 - 79.84	3	0.643	0.000	0.000	0.643 [1] ✔	1.000	4.8.1 ✔
T12	79.84 - 59.84	3	0.654	0.000	0.000	0.654 [1] ✔	1.000	4.8.1 ✔
T13	59.84 - 39.84	3	0.717	0.000	0.000	0.717 [1] ✔	1.000	4.8.1 ✔
T14	39.84 - 19.84	3	0.736	0.000	0.000	0.736 [1] ✔	1.000	4.8.1 ✔
T15	19.84 - 6.5	3	0.749	0.000	0.000	0.749 [1] ✔	1.000	4.8.1 ✔
T16	6.5 - 0	3	0.897	0.000	0.000	0.897 [1] ✔	1.000	4.8.1 ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	291.84 - 279.84	1 3/8	4.74	4.52	110.6 K=0.70	1.4849	-3.91	25.28	0.155 [1] ✔
T2	279.84 - 259.84	1 3/8	4.96	4.73	115.6 K=0.70	1.4849	-2.94	23.79	0.123 [1] ✔
T3	259.84 - 239.84	1 3/8	4.96	4.70	115.0 K=0.70	1.4849	-4.50	23.99	0.188 [1] ✔
T4	239.84 - 219.84	1 3/8	4.96	4.70	115.0 K=0.70	1.4849	-3.39	23.99	0.141 [1] ✔
T5	219.84 - 199.84	1 1/2	4.96	4.68	104.8 K=0.70	1.7672	-8.44	32.13	0.263 [1] ✔
T6	199.84 - 179.84	1 1/4	4.96	4.68	125.7 K=0.70	1.2272	-6.82	17.31	0.394 [1] ✔
T7	179.84 - 159.84	1 1/2	4.96	4.65	104.1 K=0.70	1.7672	-8.96	32.36	0.277 [1] ✔
T8	159.84 - 139.84	1 3/8	4.96	4.68	114.3 K=0.70	1.4849	-5.20	24.19	0.215 [1] ✔
T9	139.84 - 119.84	1 1/4	4.96	4.65	124.9 K=0.70	1.2272	-5.53	17.48	0.316 [1] ✔
T10	119.84 - 99.84	1 1/2	4.96	4.65	104.1 K=0.70	1.7672	-9.95	32.36	0.307 [1] ✔
T11	99.84 - 79.84	1 3/8	4.96	4.62	112.9 K=0.70	1.4849	-7.48	24.59	0.304 [1] ✔
T12	79.84 - 59.84	1 1/4	4.96	4.62	124.2 K=0.70	1.2272	-8.01	17.65	0.454 [1] ✔
T13	59.84 - 39.84	1 1/4	4.96	4.62	124.2 K=0.70	1.2272	-8.11	17.65	0.459 [1] ✔
T14	39.84 - 19.84	1 1/4	4.96	4.62	124.2 K=0.70	1.2272	-4.20	17.65	0.238 [1] ✔
T15	19.84 - 6.5	1 1/4	4.96	4.62	124.2 K=0.70	1.2272	-4.40	17.65	0.249 [1] ✔

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	291.84 - 279.84	1	3.67	3.50	117.7 K=0.70	0.7854	-0.67	12.27	0.054 [1] ✔
T2	279.84 - 259.84	1	3.67	3.50	117.7 K=0.70	0.7854	-0.46	12.27	0.038 [1] ✔
T3	259.84 - 239.84	1	3.67	3.48	117.0 K=0.70	0.7854	-0.95	12.38	0.077 [1] ✔
T4	239.84 - 219.84	1	3.67	3.48	117.0 K=0.70	0.7854	-0.11	12.38	0.009 [1] ✔
T5	219.84 - 199.84	1	3.67	3.46	116.3 K=0.70	0.7854	-0.47	12.48	0.038 [1] ✔
T6	199.84 -	1	3.67	3.46	116.3	0.7854	-1.60	12.48	0.128 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	179.84				K=0.70				✔
T7	179.84 - 159.84	1	3.67	3.44	115.6 K=0.70	0.7854	-0.31	12.59	0.025 [1] ✔
T10	119.84 - 99.84	1	3.67	3.44	115.6 K=0.70	0.7854	-0.63	12.59	0.050 [1] ✔
T11	99.84 - 79.84	1	3.67	3.42	114.9 K=0.70	0.7854	-0.77	12.70	0.061 [1] ✔

[1] P_u / ϕP_n controls

Secondary Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	291.84 - 279.84	1	1.84	1.75	81.5 K=0.97	0.7854	-0.00	17.94	0.000 [1] ✔
T2	279.84 - 259.84	1	1.84	1.75	81.5 K=0.97	0.7854	-0.00	17.94	0.000 [1] ✔
T3	259.84 - 239.84	1	1.84	1.74	81.3 K=0.97	0.7854	-0.00	17.96	0.000 [1] ✔
T4	239.84 - 219.84	1	1.84	1.74	81.3 K=0.97	0.7854	-0.00	17.96	0.000 [1] ✔
T5	219.84 - 199.84	1	1.84	1.73	81.2 K=0.98	0.7854	-0.00	17.99	0.000 [1] ✔
T6	199.84 - 179.84	1	1.84	1.73	81.2 K=0.98	0.7854	-0.00	17.99	0.000 [1] ✔
T7	179.84 - 159.84	1	1.84	1.72	81.0 K=0.98	0.7854	-0.00	18.02	0.000 [1] ✔
T8	159.84 - 139.84	1	1.84	1.73	81.2 K=0.98	0.7854	-0.00	17.99	0.000 [1] ✔
T9	139.84 - 119.84	1	1.84	1.72	81.0 K=0.98	0.7854	-0.00	18.02	0.000 [1] ✔
T10	119.84 - 99.84	1	1.84	1.72	81.0 K=0.98	0.7854	-0.00	18.02	0.000 [1] ✔
T11	99.84 - 79.84	1	1.84	1.71	80.8 K=0.98	0.7854	-0.00	18.05	0.000 [1] ✔
T12	79.84 - 59.84	1	1.84	1.71	80.8 K=0.98	0.7854	-0.00	18.05	0.000 [1] ✔
T13	59.84 - 39.84	1	1.84	1.71	80.8 K=0.98	0.7854	-0.00	18.05	0.000 [1] ✔
T14	39.84 - 19.84	1	1.84	1.71	80.8 K=0.98	0.7854	-0.00	18.05	0.000 [1] ✔
T15	19.84 - 6.5	1	1.84	1.71	80.8 K=0.98	0.7854	-0.00	18.05	0.000 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	291.84 - 279.84	1	3.67	3.50	117.7 K=0.70	0.7854	-0.00	12.27	0.000 [1] ✔
T4	239.84 - 219.84	1	3.67	3.48	117.0 K=0.70	0.7854	-0.22	12.38	0.018 [1] ✔

[1] P_u / ϕP_n controls

Bottom Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T16	6.5 - 0	12x3/8	0.28	0.03	3.6 K=1.00	4.5000	-6.05	145.70	0.041 [1] ✔

[1] P_u / ϕP_n controls

Mid Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T16	6.5 - 0	9x3/8	1.41	1.16	128.8 K=1.00	3.3750	-0.37	45.69	0.008 [1] ✔

[1] P_u / ϕP_n controls

Top Guy Pull-Off Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	291.84 - 279.84	MC12x35	3.67	3.50	37.9 K=1.00	10.3000	-4.18	309.45	0.014 [1]
T3	259.84 - 239.84	MC12x35	3.67	3.48	37.6 K=1.00	10.3000	-5.09	309.72	0.016 [1]
T5	219.84 - 199.84	MC12x35	3.67	3.46	37.4 K=1.00	10.3000	-7.70	310.00	0.025 [1]
T7	179.84 - 159.84	MC12x35	3.67	3.44	37.2 K=1.00	10.3000	-11.41	310.27	0.037 [1]
T10	119.84 - 99.84	MC12x35	3.67	3.44	37.2	10.3000	-13.28	310.27	0.043 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T13	59.84 - 39.84	MC12x35	3.67	3.42	K=1.00 37.0 K=1.00	10.3000	-10.17	310.55	0.033 [1]

[1] P_u / ϕP_n controls

Top Guy Pull-Off Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T1	291.84 - 279.84	MC12x35	0.00	97.47	0.000	0.00	21.36	0.000
T3	259.84 - 239.84	MC12x35	0.00	97.47	0.000	0.00	21.36	0.000
T5	219.84 - 199.84	MC12x35	0.00	97.47	0.000	0.00	21.36	0.000
T7	179.84 - 159.84	MC12x35	0.00	97.47	0.000	0.00	21.36	0.000
T10	119.84 - 99.84	MC12x35	0.00	97.47	0.000	0.00	21.36	0.000
T13	59.84 - 39.84	MC12x35	0.00	97.47	0.000	0.00	21.36	0.000

Top Guy Pull-Off Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	291.84 - 279.84	MC12x35	0.014	0.000	0.000	0.014 [1] ✔	1.000	4.8.1 ✔
T3	259.84 - 239.84	MC12x35	0.016	0.000	0.000	0.016 [1] ✔	1.000	4.8.1 ✔
T5	219.84 - 199.84	MC12x35	0.025	0.000	0.000	0.025 [1] ✔	1.000	4.8.1 ✔
T7	179.84 - 159.84	MC12x35	0.037	0.000	0.000	0.037 [1] ✔	1.000	4.8.1 ✔
T10	119.84 - 99.84	MC12x35	0.043	0.000	0.000	0.043 [1] ✔	1.000	4.8.1 ✔
T13	59.84 - 39.84	MC12x35	0.033	0.000	0.000	0.033 [1] ✔	1.000	4.8.1 ✔

[1] P_u / ϕP_n controls

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	291.84 - 279.84 (666)	MC12x35	4.00	3.92	42.4 K=1.00	10.3000	-0.31	303.60	0.001
T1	291.84 - 279.84 (667)	MC12x35	4.00	3.92	42.4 K=1.00	10.3000	-0.39	303.60	0.001
T1	291.84 - 279.84 (670)	MC12x35	4.00	3.92	42.4 K=1.00	10.3000	-0.35	303.60	0.001
T1	291.84 - 279.84 (671)	MC12x35	4.00	3.92	42.4 K=1.00	10.3000	-0.44	303.60	0.001
T1	291.84 - 279.84 (674)	MC12x35	4.00	3.92	42.4 K=1.00	10.3000	-0.29	303.60	0.001
T1	291.84 - 279.84 (675)	MC12x35	4.00	3.92	42.4 K=1.00	10.3000	-0.30	303.60	0.001
T3	259.84 - 239.84 (678)	MC12x35	4.00	3.91	42.3 K=1.00	10.3000	-1.01	303.75	0.003
T3	259.84 - 239.84 (679)	MC12x35	4.00	3.91	42.3 K=1.00	10.3000	-0.89	303.75	0.003
T3	259.84 - 239.84 (682)	MC12x35	4.00	3.91	42.3 K=1.00	10.3000	-0.93	303.75	0.003
T3	259.84 - 239.84 (683)	MC12x35	4.00	3.91	42.3 K=1.00	10.3000	-0.99	303.75	0.003
T3	259.84 - 239.84 (686)	MC12x35	4.00	3.91	42.3 K=1.00	10.3000	-0.85	303.75	0.003
T3	259.84 - 239.84 (687)	MC12x35	4.00	3.91	42.3 K=1.00	10.3000	-0.94	303.75	0.003
T5	219.84 - 199.84 (690)	MC12x35	4.00	3.90	42.2 K=1.00	10.3000	-2.56	303.90	0.008
T5	219.84 - 199.84 (691)	MC12x35	4.00	3.90	42.2 K=1.00	10.3000	-2.42	303.90	0.008
T5	219.84 - 199.84 (694)	MC12x35	4.00	3.90	42.2 K=1.00	10.3000	-2.34	303.90	0.008
T5	219.84 - 199.84 (695)	MC12x35	4.00	3.90	42.2 K=1.00	10.3000	-2.43	303.90	0.008
T5	219.84 - 199.84 (698)	MC12x35	4.00	3.90	42.2 K=1.00	10.3000	-2.24	303.90	0.007
T5	219.84 - 199.84 (699)	MC12x35	4.00	3.90	42.2 K=1.00	10.3000	-2.37	303.90	0.008
T7	179.84 - 159.84 (702)	MC12x35	4.00	3.89	42.1 K=1.00	10.3000	-4.75	304.05	0.016
T7	179.84 - 159.84 (703)	MC12x35	4.00	3.89	42.1 K=1.00	10.3000	-4.84	304.05	0.016
T7	179.84 - 159.84 (706)	MC12x35	4.00	3.89	42.1 K=1.00	10.3000	-4.53	304.05	0.015
T7	179.84 - 159.84 (707)	MC12x35	4.00	3.89	42.1 K=1.00	10.3000	-4.54	304.05	0.015
T7	179.84 - 159.84 (710)	MC12x35	4.00	3.89	42.1 K=1.00	10.3000	-4.30	304.05	0.014
T7	179.84 - 159.84 (711)	MC12x35	4.00	3.89	42.1 K=1.00	10.3000	-4.52	304.05	0.015
T10	119.84 - 99.84 (714)	MC12x35	4.00	3.89	42.1 K=1.00	10.3000	-5.60	304.05	0.018
T10	119.84 - 99.84 (715)	MC12x35	4.00	3.89	42.1 K=1.00	10.3000	-5.82	304.05	0.019
T10	119.84 - 99.84 (718)	MC12x35	4.00	3.89	42.1 K=1.00	10.3000	-5.30	304.05	0.017
T10	119.84 - 99.84 (719)	MC12x35	4.00	3.89	42.1 K=1.00	10.3000	-5.34	304.05	0.018
T10	119.84 - 99.84 (722)	MC12x35	4.00	3.89	42.1 K=1.00	10.3000	-4.75	304.05	0.016
T10	119.84 - 99.84 (723)	MC12x35	4.00	3.89	42.1 K=1.00	10.3000	-5.12	304.05	0.017

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T13	59.84 - 39.84 (726)	MC12x35	4.00	3.88	41.9 K=1.00	10.3000	-4.01	304.20	0.013
T13	59.84 - 39.84 (727)	MC12x35	4.00	3.88	41.9 K=1.00	10.3000	-5.06	304.20	0.017
T13	59.84 - 39.84 (730)	MC12x35	4.00	3.88	41.9 K=1.00	10.3000	-3.55	304.20	0.012
T13	59.84 - 39.84 (731)	MC12x35	4.00	3.88	41.9 K=1.00	10.3000	-3.49	304.20	0.011
T13	59.84 - 39.84 (734)	MC12x35	4.00	3.88	41.9 K=1.00	10.3000	-2.97	304.20	0.010
T13	59.84 - 39.84 (735)	MC12x35	4.00	3.88	41.9 K=1.00	10.3000	-3.12	304.20	0.010

Torque-Arm Top Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T1	291.84 - 279.84 (666)	MC12x35	-45.77	97.47	0.470	0.00	21.36	0.000
T1	291.84 - 279.84 (667)	MC12x35	-46.29	97.47	0.475	0.00	21.36	0.000
T1	291.84 - 279.84 (670)	MC12x35	-45.84	97.47	0.470	0.00	21.36	0.000
T1	291.84 - 279.84 (671)	MC12x35	-42.95	97.47	0.441	-0.00	21.36	0.000
T1	291.84 - 279.84 (674)	MC12x35	-43.05	97.47	0.442	-0.00	21.36	0.000
T1	291.84 - 279.84 (675)	MC12x35	-46.16	97.47	0.474	0.00	21.36	0.000
T3	259.84 - 239.84 (678)	MC12x35	-44.49	97.47	0.456	0.00	21.36	0.000
T3	259.84 - 239.84 (679)	MC12x35	-44.14	97.47	0.453	0.00	21.36	0.000
T3	259.84 - 239.84 (682)	MC12x35	-40.59	97.47	0.416	-0.00	21.36	0.000
T3	259.84 - 239.84 (683)	MC12x35	-43.96	97.47	0.451	0.00	21.36	0.000
T3	259.84 - 239.84 (686)	MC12x35	-40.51	97.47	0.416	-0.00	21.36	0.000
T3	259.84 - 239.84 (687)	MC12x35	-44.64	97.47	0.458	0.00	21.36	0.000
T5	219.84 - 199.84 (690)	MC12x35	-44.29	97.47	0.454	0.00	21.36	0.000
T5	219.84 - 199.84 (691)	MC12x35	-43.85	97.47	0.450	0.00	21.36	0.000
T5	219.84 - 199.84 (694)	MC12x35	-39.28	97.47	0.403	-0.00	21.36	0.000
T5	219.84 - 199.84 (695)	MC12x35	-43.60	97.47	0.447	0.00	21.36	0.000
T5	219.84 - 199.84 (698)	MC12x35	-39.13	97.47	0.401	-0.00	21.36	0.000
T5	219.84 - 199.84 (699)	MC12x35	-44.37	97.47	0.455	0.00	21.36	0.000
T7	179.84 - 159.84 (702)	MC12x35	-42.40	97.47	0.435	-0.00	21.36	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T7	179.84 - 159.84 (703)	MC12x35	-43.31	97.47	0.444	0.00	21.36	0.000
T7	179.84 - 159.84 (706)	MC12x35	-42.46	97.47	0.436	-0.00	21.36	0.000
T7	179.84 - 159.84 (707)	MC12x35	-36.34	97.47	0.373	-0.00	21.36	0.000
T7	179.84 - 159.84 (710)	MC12x35	-36.47	97.47	0.374	-0.00	21.36	0.000
T7	179.84 - 159.84 (711)	MC12x35	-43.03	97.47	0.441	0.00	21.36	0.000
T10	119.84 - 99.84 (714)	MC12x35	-31.52	97.47	0.323	-0.00	21.36	0.000
T10	119.84 - 99.84 (715)	MC12x35	-32.45	97.47	0.333	0.00	21.36	0.000
T10	119.84 - 99.84 (718)	MC12x35	-31.64	97.47	0.325	-0.00	21.36	0.000
T10	119.84 - 99.84 (719)	MC12x35	-24.37	97.47	0.250	-0.00	21.36	0.000
T10	119.84 - 99.84 (722)	MC12x35	-24.31	97.47	0.249	-0.00	21.36	0.000
T10	119.84 - 99.84 (723)	MC12x35	-32.15	97.47	0.330	0.00	21.36	0.000
T13	59.84 - 39.84 (726)	MC12x35	-17.59	97.47	0.180	0.00	21.36	0.000
T13	59.84 - 39.84 (727)	MC12x35	-16.79	97.47	0.172	-0.00	21.36	0.000
T13	59.84 - 39.84 (730)	MC12x35	-10.87	97.47	0.112	-0.00	21.36	0.000
T13	59.84 - 39.84 (731)	MC12x35	-16.88	97.47	0.173	0.00	21.36	0.000
T13	59.84 - 39.84 (734)	MC12x35	-10.77	97.47	0.111	0.00	21.36	0.000
T13	59.84 - 39.84 (735)	MC12x35	-17.57	97.47	0.180	0.00	21.36	0.000

Torque-Arm Top Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	291.84 - 279.84 (666)	MC12x35	0.001	0.470	0.000	0.470 ✔	1.000	4.8.1 ✔
T1	291.84 - 279.84 (667)	MC12x35	0.001	0.475	0.000	0.476 ✔	1.000	4.8.1 ✔
T1	291.84 - 279.84 (670)	MC12x35	0.001	0.470	0.000	0.471 ✔	1.000	4.8.1 ✔
T1	291.84 - 279.84 (671)	MC12x35	0.001	0.441	0.000	0.441 ✔	1.000	4.8.1 ✔
T1	291.84 - 279.84 (674)	MC12x35	0.001	0.442	0.000	0.442 ✔	1.000	4.8.1 ✔
T1	291.84 - 279.84 (675)	MC12x35	0.001	0.474	0.000	0.474 ✔	1.000	4.8.1 ✔
T3	259.84 - 239.84 (678)	MC12x35	0.003	0.456	0.000	0.458 ✔	1.000	4.8.1 ✔

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T3	259.84 - 239.84 (679)	MC12x35	0.003	0.453	0.000	0.454 ✓	1.000	4.8.1 ✓
T3	259.84 - 239.84 (682)	MC12x35	0.003	0.416	0.000	0.418 ✓	1.000	4.8.1 ✓
T3	259.84 - 239.84 (683)	MC12x35	0.003	0.451	0.000	0.453 ✓	1.000	4.8.1 ✓
T3	259.84 - 239.84 (686)	MC12x35	0.003	0.416	0.000	0.417 ✓	1.000	4.8.1 ✓
T3	259.84 - 239.84 (687)	MC12x35	0.003	0.458	0.000	0.460 ✓	1.000	4.8.1 ✓
T5	219.84 - 199.84 (690)	MC12x35	0.008	0.454	0.000	0.459 ✓	1.000	4.8.1 ✓
T5	219.84 - 199.84 (691)	MC12x35	0.008	0.450	0.000	0.454 ✓	1.000	4.8.1 ✓
T5	219.84 - 199.84 (694)	MC12x35	0.008	0.403	0.000	0.407 ✓	1.000	4.8.1 ✓
T5	219.84 - 199.84 (695)	MC12x35	0.008	0.447	0.000	0.451 ✓	1.000	4.8.1 ✓
T5	219.84 - 199.84 (698)	MC12x35	0.007	0.401	0.000	0.405 ✓	1.000	4.8.1 ✓
T5	219.84 - 199.84 (699)	MC12x35	0.008	0.455	0.000	0.459 ✓	1.000	4.8.1 ✓
T7	179.84 - 159.84 (702)	MC12x35	0.016	0.435	0.000	0.443 ✓	1.000	4.8.1 ✓
T7	179.84 - 159.84 (703)	MC12x35	0.016	0.444	0.000	0.452 ✓	1.000	4.8.1 ✓
T7	179.84 - 159.84 (706)	MC12x35	0.015	0.436	0.000	0.443 ✓	1.000	4.8.1 ✓
T7	179.84 - 159.84 (707)	MC12x35	0.015	0.373	0.000	0.380 ✓	1.000	4.8.1 ✓
T7	179.84 - 159.84 (710)	MC12x35	0.014	0.374	0.000	0.381 ✓	1.000	4.8.1 ✓
T7	179.84 - 159.84 (711)	MC12x35	0.015	0.441	0.000	0.449 ✓	1.000	4.8.1 ✓
T10	119.84 - 99.84 (714)	MC12x35	0.018	0.323	0.000	0.333 ✓	1.000	4.8.1 ✓
T10	119.84 - 99.84 (715)	MC12x35	0.019	0.333	0.000	0.342 ✓	1.000	4.8.1 ✓
T10	119.84 - 99.84 (718)	MC12x35	0.017	0.325	0.000	0.333 ✓	1.000	4.8.1 ✓
T10	119.84 - 99.84 (719)	MC12x35	0.018	0.250	0.000	0.259 ✓	1.000	4.8.1 ✓
T10	119.84 - 99.84 (722)	MC12x35	0.016	0.249	0.000	0.257 ✓	1.000	4.8.1 ✓
T10	119.84 - 99.84 (723)	MC12x35	0.017	0.330	0.000	0.338 ✓	1.000	4.8.1 ✓
T13	59.84 - 39.84 (726)	MC12x35	0.013	0.180	0.000	0.187 ✓	1.000	4.8.1 ✓
T13	59.84 - 39.84 (727)	MC12x35	0.017	0.172	0.000	0.181 ✓	1.000	4.8.1 ✓
T13	59.84 - 39.84 (730)	MC12x35	0.012	0.112	0.000	0.117 ✓	1.000	4.8.1 ✓

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T13	59.84 - 39.84 (731)	MC12x35	0.011	0.173	0.000	0.179 ✔	1.000	4.8.1 ✔
T13	59.84 - 39.84 (734)	MC12x35	0.010	0.111	0.000	0.115 ✔	1.000	4.8.1 ✔
T13	59.84 - 39.84 (735)	MC12x35	0.010	0.180	0.000	0.185 ✔	1.000	4.8.1 ✔

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	291.84 - 279.84	2	12.00	3.00	72.0	3.1416	15.82	141.37	0.112 [1]
T3	259.84 - 239.84	2 1/4	20.00	3.33	71.1	3.9761	1.75	178.92	0.010 [1]

[1] P_u / ϕP_n controls

Leg Bending Design Data (Tension)

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T1	291.84 - 279.84	2	0.00	5.00	0.000	0.00	5.00	0.000
T3	259.84 - 239.84	2 1/4	0.00	7.12	0.000	0.00	7.12	0.000

Leg Interaction Design Data (Tension)

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	291.84 - 279.84	2	0.112	0.000	0.000	0.112 [1] ✔	1.000	4.8.1 ✔
T3	259.84 - 239.84	2 1/4	0.010	0.000	0.000	0.010 [1] ✔	1.000	4.8.1 ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	291.84 - 279.84	1 3/8	4.74	4.52	158.0	1.4849	3.95	48.11	0.082 [1] ✔
T2	279.84 - 259.84	1 3/8	4.96	4.73	165.2	1.4849	2.61	48.11	0.054 [1] ✔
T3	259.84 - 239.84	1 3/8	4.96	4.70	164.2	1.4849	3.77	48.11	0.078 [1] ✔
T4	239.84 - 219.84	1 3/8	4.96	4.70	164.2	1.4849	2.77	48.11	0.058 [1] ✔
T5	219.84 - 199.84	1 1/2	4.96	4.68	149.6	1.7672	7.18	57.26	0.125 [1] ✔
T6	199.84 - 179.84	1 1/4	4.96	4.68	179.6	1.2272	5.44	39.76	0.137 [1] ✔
T7	179.84 - 159.84	1 1/2	4.96	4.65	148.7	1.7672	7.86	57.26	0.137 [1] ✔
T8	159.84 - 139.84	1 3/8	4.96	4.68	163.2	1.4849	3.84	48.11	0.080 [1] ✔
T9	139.84 - 119.84	1 1/4	4.96	4.65	178.5	1.2272	3.55	39.76	0.089 [1] ✔
T10	119.84 - 99.84	1 1/2	4.96	4.65	148.7	1.7672	8.82	57.26	0.154 [1] ✔
T11	99.84 - 79.84	1 3/8	4.96	4.62	161.3	1.4849	4.99	48.11	0.104 [1] ✔
T12	79.84 - 59.84	1 1/4	4.96	4.62	177.4	1.2272	6.02	39.76	0.151 [1] ✔
T13	59.84 - 39.84	1 1/4	4.96	4.62	177.4	1.2272	5.82	39.76	0.146 [1] ✔
T14	39.84 - 19.84	1 1/4	4.96	4.62	177.4	1.2272	2.01	39.76	0.051 [1] ✔
T15	19.84 - 6.5	1 1/4	4.96	4.62	177.5	1.2272	3.15	39.76	0.079 [1] ✔

[1] P_u / ϕP_n controls

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	291.84 - 279.84	1	3.67	3.50	168.2	0.7854	1.00	25.45	0.039 [1] ✔
T2	279.84 - 259.84	1	3.67	3.50	168.2	0.7854	0.60	25.45	0.024 [1] ✔
T3	259.84 - 239.84	1	3.67	3.48	167.2	0.7854	0.71	25.45	0.028 [1] ✔
T4	239.84 -	1	3.67	3.48	167.2	0.7854	0.49	25.45	0.019 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	219.84								✔
T5	219.84 - 199.84	1	3.67	3.46	166.2	0.7854	0.89	25.45	0.035 [1] ✔
T6	199.84 - 179.84	1	3.67	3.46	166.2	0.7854	2.32	25.45	0.091 [1] ✔
T7	179.84 - 159.84	1	3.67	3.44	165.2	0.7854	1.48	25.45	0.058 [1] ✔
T8	159.84 - 139.84	1	3.67	3.46	166.2	0.7854	0.91	25.45	0.036 [1] ✔
T9	139.84 - 119.84	1	3.67	3.44	165.2	0.7854	1.15	25.45	0.045 [1] ✔
T10	119.84 - 99.84	1	3.67	3.44	165.2	0.7854	2.00	25.45	0.078 [1] ✔
T11	99.84 - 79.84	1	3.67	3.42	164.2	0.7854	2.25	25.45	0.089 [1] ✔
T12	79.84 - 59.84	1	3.67	3.42	164.2	0.7854	1.58	25.45	0.062 [1] ✔
T13	59.84 - 39.84	1	3.67	3.42	164.2	0.7854	1.76	25.45	0.069 [1] ✔
T14	39.84 - 19.84	1	3.67	3.42	164.2	0.7854	1.73	25.45	0.068 [1] ✔
T15	19.84 - 6.5	1	3.67	3.42	164.2	0.7854	1.73	25.45	0.068 [1] ✔

[1] P_u / ϕP_n controls

Secondary Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	291.84 - 279.84	1	1.84	1.75	84.1	0.7854	0.00	25.45	0.000 [1] ✔
T2	279.84 - 259.84	1	1.84	1.75	84.1	0.7854	0.00	25.45	0.000 [1] ✔
T3	259.84 - 239.84	1	1.84	1.74	83.6	0.7854	0.00	25.45	0.000 [1] ✔
T4	239.84 - 219.84	1	1.84	1.74	83.6	0.7854	0.00	25.45	0.000 [1] ✔
T5	219.84 - 199.84	1	1.84	1.73	83.1	0.7854	0.00	25.45	0.000 [1] ✔
T6	199.84 - 179.84	1	1.84	1.73	83.1	0.7854	0.00	25.45	0.000 [1] ✔
T7	179.84 - 159.84	1	1.84	1.72	82.6	0.7854	0.00	25.45	0.000 [1] ✔
T8	159.84 - 139.84	1	1.84	1.73	83.1	0.7854	0.00	25.45	0.000 [1] ✔
T9	139.84 - 119.84	1	1.84	1.72	82.6	0.7854	0.00	25.45	0.000 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T10	119.84 - 99.84	1	1.84	1.72	82.6	0.7854	0.00	25.45	0.000 [1] ✔
T11	99.84 - 79.84	1	1.84	1.71	82.1	0.7854	0.00	25.45	0.000 [1] ✔
T12	79.84 - 59.84	1	1.84	1.71	82.1	0.7854	0.00	25.45	0.000 [1] ✔
T13	59.84 - 39.84	1	1.84	1.71	82.1	0.7854	0.00	25.45	0.000 [1] ✔
T14	39.84 - 19.84	1	1.84	1.71	82.1	0.7854	0.00	25.45	0.000 [1] ✔
T15	19.84 - 6.5	1	1.84	1.71	82.1	0.7854	0.00	25.45	0.000 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	291.84 - 279.84	1	3.67	3.50	168.2	0.7854	0.00	25.45	0.000 [1] ✔
T2	279.84 - 259.84	1	3.67	3.50	168.2	0.7854	0.40	25.45	0.016 [1] ✔
T3	259.84 - 239.84	1	3.67	3.50	168.2	0.7854	0.80	25.45	0.032 [1] ✔
T4	239.84 - 219.84	1	3.67	3.48	167.2	0.7854	0.65	25.45	0.025 [1] ✔
T5	219.84 - 199.84	1	3.67	3.48	167.2	0.7854	1.02	25.45	0.040 [1] ✔
T6	199.84 - 179.84	1	3.67	3.46	166.2	0.7854	0.73	25.45	0.029 [1] ✔
T7	179.84 - 159.84	1	3.67	3.46	166.2	0.7854	0.78	25.45	0.031 [1] ✔
T8	159.84 - 139.84	1	3.67	3.44	165.2	0.7854	1.10	25.45	0.043 [1] ✔
T9	139.84 - 119.84	1	3.67	3.46	166.2	0.7854	0.98	25.45	0.039 [1] ✔
T10	119.84 - 99.84	1	3.67	3.44	165.2	0.7854	1.13	25.45	0.044 [1] ✔
T11	99.84 - 79.84	1	3.67	3.44	165.2	0.7854	1.51	25.45	0.059 [1] ✔
T12	79.84 - 59.84	1	3.67	3.42	164.2	0.7854	1.54	25.45	0.061 [1] ✔
T13	59.84 - 39.84	1	3.67	3.42	164.2	0.7854	1.86	25.45	0.073 [1] ✔
T14	39.84 - 19.84	1	3.67	3.42	164.2	0.7854	1.69	25.45	0.066 [1] ✔
T15	19.84 - 6.5	1	3.67	3.42	164.2	0.7854	1.74	25.45	0.068 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T16	6.5 - 0	12x3/8	3.67	3.42	379.1	4.5000	36.72	145.80	0.252 [1]

[1] P_u / ϕP_n controls

Mid Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T16	6.5 - 0	9x3/8	2.54	2.29	253.9	3.3750	0.56	109.35	0.005 [1]

[1] P_u / ϕP_n controls

Top Guy Pull-Off Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	291.84 - 279.84	MC12x35	3.67	3.50	37.9	10.3000	4.78	333.72	0.014 [1]
T3	259.84 - 239.84	MC12x35	3.67	3.48	37.6	10.3000	5.90	333.72	0.018 [1]
T5	219.84 - 199.84	MC12x35	3.67	3.46	37.4	10.3000	8.91	333.72	0.027 [1]
T7	179.84 - 159.84	MC12x35	3.67	3.44	37.2	10.3000	12.94	333.72	0.039 [1]
T10	119.84 - 99.84	MC12x35	3.67	3.44	37.2	10.3000	14.79	333.72	0.044 [1]
T13	59.84 - 39.84	MC12x35	3.67	3.42	37.0	10.3000	12.72	333.72	0.038 [1]

[1] P_u / ϕP_n controls

Top Guy Pull-Off Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T1	291.84 - 279.84	MC12x35	0.00	97.47	0.000	0.00	21.36	0.000
T3	259.84 - 239.84	MC12x35	0.00	97.47	0.000	0.00	21.36	0.000
T5	219.84 - 199.84	MC12x35	0.00	97.47	0.000	0.00	21.36	0.000
T7	179.84 -	MC12x35	0.00	97.47	0.000	0.00	21.36	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	159.84							
T10	119.84 - 99.84	MC12x35	0.00	97.47	0.000	0.00	21.36	0.000
T13	59.84 - 39.84	MC12x35	0.00	97.47	0.000	0.00	21.36	0.000

Top Guy Pull-Off Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	291.84 - 279.84	MC12x35	0.014	0.000	0.000	0.014 [1] ✔	1.000	4.8.1 ✔
T3	259.84 - 239.84	MC12x35	0.018	0.000	0.000	0.018 [1] ✔	1.000	4.8.1 ✔
T5	219.84 - 199.84	MC12x35	0.027	0.000	0.000	0.027 [1] ✔	1.000	4.8.1 ✔
T7	179.84 - 159.84	MC12x35	0.039	0.000	0.000	0.039 [1] ✔	1.000	4.8.1 ✔
T10	119.84 - 99.84	MC12x35	0.044	0.000	0.000	0.044 [1] ✔	1.000	4.8.1 ✔
T13	59.84 - 39.84	MC12x35	0.038	0.000	0.000	0.038 [1] ✔	1.000	4.8.1 ✔

[1] P_u / ϕP_n controls

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	291.84 - 279.84 (666)	MC12x35	4.00	3.92	42.4	10.3000	3.24	333.72	0.010
T1	291.84 - 279.84 (667)	MC12x35	4.00	3.92	42.4	10.3000	3.21	333.72	0.010
T1	291.84 - 279.84 (670)	MC12x35	4.00	3.92	42.4	10.3000	3.31	333.72	0.010
T1	291.84 - 279.84 (671)	MC12x35	4.00	3.92	42.4	10.3000	3.13	333.72	0.009
T1	291.84 - 279.84 (674)	MC12x35	4.00	3.92	42.4	10.3000	3.18	333.72	0.010
T1	291.84 - 279.84 (675)	MC12x35	4.00	3.92	42.4	10.3000	3.31	333.72	0.010
T3	259.84 - 239.84 (678)	MC12x35	4.00	3.91	42.3	10.3000	3.31	333.72	0.010
T3	259.84 - 239.84 (679)	MC12x35	4.00	3.91	42.3	10.3000	3.39	333.72	0.010
T3	259.84 - 239.84 (682)	MC12x35	4.00	3.91	42.3	10.3000	3.30	333.72	0.010
T3	259.84 - 239.84 (683)	MC12x35	4.00	3.91	42.3	10.3000	3.39	333.72	0.010
T3	259.84 -	MC12x35	4.00	3.91	42.3	10.3000	3.30	333.72	0.010

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T3	239.84 (686) 259.84 - 239.84 (687)	MC12x35	4.00	3.91	42.3	10.3000	3.43	333.72	0.010
T5	219.84 - 199.84 (690)	MC12x35	4.00	3.90	42.2	10.3000	3.45	333.72	0.010
T5	219.84 - 199.84 (691)	MC12x35	4.00	3.90	42.2	10.3000	3.56	333.72	0.011
T5	219.84 - 199.84 (694)	MC12x35	4.00	3.90	42.2	10.3000	3.78	333.72	0.011
T5	219.84 - 199.84 (695)	MC12x35	4.00	3.90	42.2	10.3000	3.53	333.72	0.011
T5	219.84 - 199.84 (698)	MC12x35	4.00	3.90	42.2	10.3000	3.49	333.72	0.010
T5	219.84 - 199.84 (699)	MC12x35	4.00	3.90	42.2	10.3000	3.56	333.72	0.011
T7	179.84 - 159.84 (702)	MC12x35	4.00	3.89	42.1	10.3000	3.80	333.72	0.011
T7	179.84 - 159.84 (703)	MC12x35	4.00	3.89	42.1	10.3000	3.79	333.72	0.011
T7	179.84 - 159.84 (706)	MC12x35	4.00	3.89	42.1	10.3000	4.19	333.72	0.013
T7	179.84 - 159.84 (707)	MC12x35	4.00	3.89	42.1	10.3000	4.15	333.72	0.012
T7	179.84 - 159.84 (710)	MC12x35	4.00	3.89	42.1	10.3000	3.93	333.72	0.012
T7	179.84 - 159.84 (711)	MC12x35	4.00	3.89	42.1	10.3000	3.73	333.72	0.011
T10	119.84 - 99.84 (714)	MC12x35	4.00	3.89	42.1	10.3000	4.52	333.72	0.014
T10	119.84 - 99.84 (715)	MC12x35	4.00	3.89	42.1	10.3000	4.49	333.72	0.013
T10	119.84 - 99.84 (718)	MC12x35	4.00	3.89	42.1	10.3000	4.77	333.72	0.014
T10	119.84 - 99.84 (719)	MC12x35	4.00	3.89	42.1	10.3000	5.37	333.72	0.016
T10	119.84 - 99.84 (722)	MC12x35	4.00	3.89	42.1	10.3000	5.62	333.72	0.017
T10	119.84 - 99.84 (723)	MC12x35	4.00	3.89	42.1	10.3000	5.05	333.72	0.015
T13	59.84 - 39.84 (726)	MC12x35	4.00	3.88	41.9	10.3000	5.73	333.72	0.017
T13	59.84 - 39.84 (727)	MC12x35	4.00	3.88	41.9	10.3000	5.96	333.72	0.018
T13	59.84 - 39.84 (730)	MC12x35	4.00	3.88	41.9	10.3000	5.88	333.72	0.018
T13	59.84 - 39.84 (731)	MC12x35	4.00	3.88	41.9	10.3000	5.80	333.72	0.017
T13	59.84 - 39.84 (734)	MC12x35	4.00	3.88	41.9	10.3000	5.88	333.72	0.018
T13	59.84 - 39.84 (735)	MC12x35	4.00	3.88	41.9	10.3000	5.88	333.72	0.018

Torque-Arm Top Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T1	291.84 - 279.84 (666)	MC12x35	-55.74	97.47	0.572	-0.00	21.36	0.000
T1	291.84 - 279.84 (667)	MC12x35	-56.45	97.47	0.579	0.00	21.36	0.000
T1	291.84 - 279.84 (670)	MC12x35	-55.82	97.47	0.573	-0.00	21.36	0.000
T1	291.84 - 279.84 (671)	MC12x35	-51.45	97.47	0.528	-0.00	21.36	0.000
T1	291.84 - 279.84 (674)	MC12x35	-51.58	97.47	0.529	-0.00	21.36	0.000
T1	291.84 - 279.84 (675)	MC12x35	-56.27	97.47	0.577	0.00	21.36	0.000
T3	259.84 - 239.84 (678)	MC12x35	-53.40	97.47	0.548	0.00	21.36	0.000
T3	259.84 - 239.84 (679)	MC12x35	-53.02	97.47	0.544	0.00	21.36	0.000
T3	259.84 - 239.84 (682)	MC12x35	-48.33	97.47	0.496	0.00	21.36	0.000
T3	259.84 - 239.84 (683)	MC12x35	-52.75	97.47	0.541	0.00	21.36	0.000
T3	259.84 - 239.84 (686)	MC12x35	-48.15	97.47	0.494	0.00	21.36	0.000
T3	259.84 - 239.84 (687)	MC12x35	-53.56	97.47	0.550	0.00	21.36	0.000
T5	219.84 - 199.84 (690)	MC12x35	-49.33	97.47	0.506	0.00	21.36	0.000
T5	219.84 - 199.84 (691)	MC12x35	-48.87	97.47	0.501	0.00	21.36	0.000
T5	219.84 - 199.84 (694)	MC12x35	-43.73	97.47	0.449	0.00	21.36	0.000
T5	219.84 - 199.84 (695)	MC12x35	-48.52	97.47	0.498	0.00	21.36	0.000
T5	219.84 - 199.84 (698)	MC12x35	-43.55	97.47	0.447	0.00	21.36	0.000
T5	219.84 - 199.84 (699)	MC12x35	-49.47	97.47	0.508	0.00	21.36	0.000
T7	179.84 - 159.84 (702)	MC12x35	-42.37	97.47	0.435	-0.00	21.36	0.000
T7	179.84 - 159.84 (703)	MC12x35	-43.40	97.47	0.445	-0.00	21.36	0.000
T7	179.84 - 159.84 (706)	MC12x35	-42.40	97.47	0.435	-0.00	21.36	0.000
T7	179.84 - 159.84 (707)	MC12x35	-36.65	97.47	0.376	-0.00	21.36	0.000
T7	179.84 - 159.84 (710)	MC12x35	-36.90	97.47	0.379	-0.00	21.36	0.000
T7	179.84 - 159.84 (711)	MC12x35	-42.98	97.47	0.441	-0.00	21.36	0.000
T10	119.84 - 99.84 (714)	MC12x35	-32.12	97.47	0.330	-0.00	21.36	0.000
T10	119.84 - 99.84 (715)	MC12x35	-33.16	97.47	0.340	-0.00	21.36	0.000
T10	119.84 - 99.84 (718)	MC12x35	-32.09	97.47	0.329	-0.00	21.36	0.000
T10	119.84 - 99.84 (719)	MC12x35	-25.75	97.47	0.264	-0.00	21.36	0.000
T10	119.84 - 99.84 (722)	MC12x35	-25.92	97.47	0.266	-0.00	21.36	0.000
T10	119.84 - 99.84 (723)	MC12x35	-32.66	97.47	0.335	-0.00	21.36	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T13	59.84 - 39.84 (726)	MC12x35	-21.37	97.47	0.219	0.00	21.36	0.000
T13	59.84 - 39.84 (727)	MC12x35	-20.88	97.47	0.214	0.00	21.36	0.000
T13	59.84 - 39.84 (730)	MC12x35	-14.99	97.47	0.154	0.00	21.36	0.000
T13	59.84 - 39.84 (731)	MC12x35	-20.44	97.47	0.210	0.00	21.36	0.000
T13	59.84 - 39.84 (734)	MC12x35	-14.85	97.47	0.152	0.00	21.36	0.000
T13	59.84 - 39.84 (735)	MC12x35	-21.27	97.47	0.218	0.00	21.36	0.000

Torque-Arm Top Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	291.84 - 279.84 (666)	MC12x35	0.010	0.572	0.000	0.577 ✔	1.000	4.8.1 ✔
T1	291.84 - 279.84 (667)	MC12x35	0.010	0.579	0.000	0.584 ✔	1.000	4.8.1 ✔
T1	291.84 - 279.84 (670)	MC12x35	0.010	0.573	0.000	0.578 ✔	1.000	4.8.1 ✔
T1	291.84 - 279.84 (671)	MC12x35	0.009	0.528	0.000	0.533 ✔	1.000	4.8.1 ✔
T1	291.84 - 279.84 (674)	MC12x35	0.010	0.529	0.000	0.534 ✔	1.000	4.8.1 ✔
T1	291.84 - 279.84 (675)	MC12x35	0.010	0.577	0.000	0.582 ✔	1.000	4.8.1 ✔
T3	259.84 - 239.84 (678)	MC12x35	0.010	0.548	0.000	0.553 ✔	1.000	4.8.1 ✔
T3	259.84 - 239.84 (679)	MC12x35	0.010	0.544	0.000	0.549 ✔	1.000	4.8.1 ✔
T3	259.84 - 239.84 (682)	MC12x35	0.010	0.496	0.000	0.501 ✔	1.000	4.8.1 ✔
T3	259.84 - 239.84 (683)	MC12x35	0.010	0.541	0.000	0.546 ✔	1.000	4.8.1 ✔
T3	259.84 - 239.84 (686)	MC12x35	0.010	0.494	0.000	0.499 ✔	1.000	4.8.1 ✔
T3	259.84 - 239.84 (687)	MC12x35	0.010	0.550	0.000	0.555 ✔	1.000	4.8.1 ✔
T5	219.84 - 199.84 (690)	MC12x35	0.010	0.506	0.000	0.511 ✔	1.000	4.8.1 ✔
T5	219.84 - 199.84 (691)	MC12x35	0.011	0.501	0.000	0.507 ✔	1.000	4.8.1 ✔
T5	219.84 - 199.84 (694)	MC12x35	0.011	0.449	0.000	0.454 ✔	1.000	4.8.1 ✔
T5	219.84 - 199.84 (695)	MC12x35	0.011	0.498	0.000	0.503 ✔	1.000	4.8.1 ✔
T5	219.84 -	MC12x35	0.010	0.447	0.000	0.452	1.000	4.8.1 ✔

Section No.	Elevation ft	Size	Ratio P_u / ϕP_n	Ratio M_{ux} / ϕM_{nx}	Ratio M_{uy} / ϕM_{ny}	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	199.84 (698)					✔		
T5	219.84 - 199.84 (699)	MC12x35	0.011	0.508	0.000	0.513 ✔	1.000	4.8.1 ✔
T7	179.84 - 159.84 (702)	MC12x35	0.011	0.435	0.000	0.440 ✔	1.000	4.8.1 ✔
T7	179.84 - 159.84 (703)	MC12x35	0.011	0.445	0.000	0.451 ✔	1.000	4.8.1 ✔
T7	179.84 - 159.84 (706)	MC12x35	0.013	0.435	0.000	0.441 ✔	1.000	4.8.1 ✔
T7	179.84 - 159.84 (707)	MC12x35	0.012	0.376	0.000	0.382 ✔	1.000	4.8.1 ✔
T7	179.84 - 159.84 (710)	MC12x35	0.012	0.379	0.000	0.384 ✔	1.000	4.8.1 ✔
T7	179.84 - 159.84 (711)	MC12x35	0.011	0.441	0.000	0.447 ✔	1.000	4.8.1 ✔
T10	119.84 - 99.84 (714)	MC12x35	0.014	0.330	0.000	0.336 ✔	1.000	4.8.1 ✔
T10	119.84 - 99.84 (715)	MC12x35	0.013	0.340	0.000	0.347 ✔	1.000	4.8.1 ✔
T10	119.84 - 99.84 (718)	MC12x35	0.014	0.329	0.000	0.336 ✔	1.000	4.8.1 ✔
T10	119.84 - 99.84 (719)	MC12x35	0.016	0.264	0.000	0.272 ✔	1.000	4.8.1 ✔
T10	119.84 - 99.84 (722)	MC12x35	0.017	0.266	0.000	0.274 ✔	1.000	4.8.1 ✔
T10	119.84 - 99.84 (723)	MC12x35	0.015	0.335	0.000	0.343 ✔	1.000	4.8.1 ✔
T13	59.84 - 39.84 (726)	MC12x35	0.017	0.219	0.000	0.228 ✔	1.000	4.8.1 ✔
T13	59.84 - 39.84 (727)	MC12x35	0.018	0.214	0.000	0.223 ✔	1.000	4.8.1 ✔
T13	59.84 - 39.84 (730)	MC12x35	0.018	0.154	0.000	0.163 ✔	1.000	4.8.1 ✔
T13	59.84 - 39.84 (731)	MC12x35	0.017	0.210	0.000	0.218 ✔	1.000	4.8.1 ✔
T13	59.84 - 39.84 (734)	MC12x35	0.018	0.152	0.000	0.161 ✔	1.000	4.8.1 ✔
T13	59.84 - 39.84 (735)	MC12x35	0.018	0.218	0.000	0.227 ✔	1.000	4.8.1 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	327 - 291.84	Pole	P10.75x0.843	1	-3.95	395.38	18.9	Pass
T1	291.84 - 279.84	Leg	2	2	-30.91	96.77	31.9	Pass
T2	279.84 - 259.84	Leg	2	36	-36.55	88.54	41.3	Pass
T3	259.84 - 239.84	Leg	2 1/4	83	-61.43	123.62	49.7	Pass
T4	239.84 - 219.84	Leg	2 1/4	127	-63.52	123.62	51.4	Pass
T5	219.84 - 199.84	Leg	2 1/2	171	-93.71	163.72	57.2	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T6	199.84 - 179.84	Leg	2 1/2	218	-102.03	163.72	62.3	Pass
T7	179.84 - 159.84	Leg	2 3/4	263	-123.53	208.68	59.2	Pass
T8	159.84 - 139.84	Leg	2 1/2	306	-130.23	163.72	79.5	Pass
T9	139.84 - 119.84	Leg	2 3/4	353	-135.48	208.68	64.9	Pass
T10	119.84 - 99.84	Leg	2 3/4	398	-155.11	208.68	74.3	Pass
T11	99.84 - 79.84	Leg	3	443	-166.19	258.36	64.3	Pass
T12	79.84 - 59.84	Leg	3	486	-168.94	258.36	65.4	Pass
T13	59.84 - 39.84	Leg	3	533	-185.29	258.36	71.7	Pass
T14	39.84 - 19.84	Leg	3	578	-190.22	258.36	73.6	Pass
T15	19.84 - 6.5	Leg	3	621	-193.48	258.30	74.9	Pass
T16	6.5 - 0	Leg	3	652	-204.80	228.38	89.7	Pass
T1	291.84 - 279.84	Diagonal	1 3/8	25	-3.91	25.28	15.5	Pass
T2	279.84 - 259.84	Diagonal	1 3/8	44	-2.94	23.79	12.3	Pass
T3	259.84 - 239.84	Diagonal	1 3/8	116	-4.50	23.99	18.8	Pass
T4	239.84 - 219.84	Diagonal	1 3/8	133	-3.39	23.99	14.1	Pass
T5	219.84 - 199.84	Diagonal	1 1/2	207	-8.44	32.13	26.3	Pass
T6	199.84 - 179.84	Diagonal	1 1/4	223	-6.82	17.31	39.4	Pass
T7	179.84 - 159.84	Diagonal	1 1/2	282	-8.96	32.36	27.7	Pass
T8	159.84 - 139.84	Diagonal	1 3/8	349	-5.20	24.19	21.5	Pass
T9	139.84 - 119.84	Diagonal	1 1/4	358	-5.53	17.48	31.6	Pass
T10	119.84 - 99.84	Diagonal	1 1/2	425	-9.95	32.36	30.7	Pass
T11	99.84 - 79.84	Diagonal	1 3/8	482	-7.48	24.59	30.4	Pass
T12	79.84 - 59.84	Diagonal	1 1/4	494	-8.01	17.65	45.4	Pass
T13	59.84 - 39.84	Diagonal	1 1/4	567	-8.11	17.65	45.9	Pass
T14	39.84 - 19.84	Diagonal	1 1/4	617	-4.20	17.65	23.8	Pass
T15	19.84 - 6.5	Diagonal	1 1/4	628	-4.40	17.65	24.9	Pass
T1	291.84 - 279.84	Horizontal	1	15	-0.67	12.27	5.4	Pass
T2	279.84 - 259.84	Horizontal	1	74	-0.46	12.27	3.8	Pass
T3	259.84 - 239.84	Horizontal	1	113	-0.95	12.38	7.7	Pass
T4	239.84 - 219.84	Horizontal	1	166	0.49	25.45	1.9	Pass
T5	219.84 - 199.84	Horizontal	1	204	-0.47	12.48	3.8	Pass
T6	199.84 - 179.84	Horizontal	1	235	-1.60	12.48	12.8	Pass
T7	179.84 - 159.84	Horizontal	1	285	1.48	25.45	5.8	Pass
T8	159.84 - 139.84	Horizontal	1	318	0.91	25.45	3.6	Pass
T9	139.84 - 119.84	Horizontal	1	363	1.15	25.45	4.5	Pass
T10	119.84 - 99.84	Horizontal	1	436	2.00	25.45	7.8	Pass
T11	99.84 - 79.84	Horizontal	1	452	2.25	25.45	8.9	Pass
T12	79.84 - 59.84	Horizontal	1	512	1.58	25.45	6.2	Pass
T13	59.84 - 39.84	Horizontal	1	557	1.76	25.45	6.9	Pass
T14	39.84 - 19.84	Horizontal	1	588	1.73	25.45	6.8	Pass
T15	19.84 - 6.5	Horizontal	1	645	1.73	25.45	6.8	Pass
T1	291.84 - 279.84	Secondary Horizontal	1	28	-0.00	17.94	0.1	Pass
T2	279.84 - 259.84	Secondary Horizontal	1	59	0.00	25.45	0.1	Pass
T3	259.84 - 239.84	Secondary Horizontal	1	118	-0.00	17.96	0.1	Pass
T4	239.84 - 219.84	Secondary Horizontal	1	149	0.00	25.45	0.1	Pass
T5	219.84 - 199.84	Secondary Horizontal	1	208	-0.00	17.99	0.1	Pass
T6	199.84 - 179.84	Secondary Horizontal	1	225	0.00	25.45	0.1	Pass
T7	179.84 - 159.84	Secondary Horizontal	1	284	0.00	25.45	0.1	Pass
T8	159.84 - 139.84	Secondary Horizontal	1	315	0.00	25.45	0.1	Pass
T9	139.84 - 119.84	Secondary Horizontal	1	360	0.00	25.45	0.1	Pass
T10	119.84 - 99.84	Secondary Horizontal	1	419	0.00	25.45	0.1	Pass
T11	99.84 - 79.84	Secondary Horizontal	1	450	0.00	25.45	0.1	Pass
T12	79.84 - 59.84	Secondary Horizontal	1	523	0.00	25.45	0.1	Pass
T13	59.84 - 39.84	Secondary Horizontal	1	568	0.00	25.45	0.1	Pass
T14	39.84 - 19.84	Secondary Horizontal	1	585	0.00	25.45	0.1	Pass
T15	19.84 - 6.5	Secondary Horizontal	1	644	0.00	25.45	0.1	Pass
T1	291.84 - 279.84	Top Girt	1	6	-0.00	12.27	0.2	Pass
T2	279.84 - 259.84	Top Girt	1	10	0.40	25.45	1.6	Pass
T3	259.84 - 239.84	Top Girt	1	41	0.80	25.45	3.2	Pass
T4	239.84 - 219.84	Top Girt	1	84	0.65	25.45	2.5	Pass
T5	219.84 - 199.84	Top Girt	1	130	1.02	25.45	4.0	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T6	199.84 - 179.84	Top Girt	1	174	0.73	25.45	2.9	Pass
T7	179.84 - 159.84	Top Girt	1	221	0.78	25.45	3.1	Pass
T8	159.84 - 139.84	Top Girt	1	265	1.10	25.45	4.3	Pass
T9	139.84 - 119.84	Top Girt	1	311	0.98	25.45	3.9	Pass
T10	119.84 - 99.84	Top Girt	1	356	1.13	25.45	4.4	Pass
T11	99.84 - 79.84	Top Girt	1	400	1.51	25.45	5.9	Pass
T12	79.84 - 59.84	Top Girt	1	446	1.54	25.45	6.1	Pass
T13	59.84 - 39.84	Top Girt	1	490	1.86	25.45	7.3	Pass
T14	39.84 - 19.84	Top Girt	1	536	1.69	25.45	6.6	Pass
T15	19.84 - 6.5	Top Girt	1	581	1.74	25.45	6.8	Pass
T16	6.5 - 0	Top Girt	12x3/8	626	36.72	145.80	25.2	Pass
T16	6.5 - 0	Bottom Girt	12x3/8	655	-6.02	145.70	4.5	Pass
T16	6.5 - 0	Mid Girt	9x3/8	659	-0.37	45.69	0.8	Pass
T1	291.84 - 279.84	Guy A@285.84	3/4	673	16.59	34.98	47.4	Pass
T3	259.84 - 239.84	Guy A@256.507	3/4	685	16.31	34.98	46.6	Pass
T5	219.84 - 199.84	Guy A@216.507	3/4	697	16.02	34.98	45.8	Pass
T7	179.84 - 159.84	Guy A@166.507	3/4	709	17.39	34.98	49.7	Pass
T10	119.84 - 99.84	Guy A@106.507	3/4	721	16.78	34.98	48.0	Pass
T13	59.84 - 39.84	Guy A@56.5067	3/4	733	13.73	34.98	39.3	Pass
T1	291.84 - 279.84	Guy B@285.84	3/4	668	15.62	34.98	44.7	Pass
T3	259.84 - 239.84	Guy B@256.507	3/4	681	15.26	34.98	43.6	Pass
T5	219.84 - 199.84	Guy B@216.507	3/4	693	14.91	34.98	42.6	Pass
T7	179.84 - 159.84	Guy B@166.507	3/4	704	16.44	34.98	47.0	Pass
T10	119.84 - 99.84	Guy B@106.507	3/4	716	15.73	34.98	45.0	Pass
T13	59.84 - 39.84	Guy B@56.5067	3/4	729	13.03	34.98	37.3	Pass
T1	291.84 - 279.84	Guy C@285.84	3/4	665	16.47	34.98	47.1	Pass
T3	259.84 - 239.84	Guy C@256.507	3/4	677	16.17	34.98	46.2	Pass
T5	219.84 - 199.84	Guy C@216.507	3/4	689	15.87	34.98	45.4	Pass
T7	179.84 - 159.84	Guy C@166.507	3/4	700	17.22	34.98	49.2	Pass
T10	119.84 - 99.84	Guy C@106.507	3/4	712	16.55	34.98	47.3	Pass
T13	59.84 - 39.84	Guy C@56.5067	3/4	725	13.62	34.98	38.9	Pass
T1	291.84 - 279.84	Top Guy Pull-Off@285.84	MC12x35	24	4.78	333.72	1.4	Pass
T3	259.84 - 239.84	Top Guy Pull-Off@256.507	MC12x35	119	5.90	333.72	1.8	Pass
T5	219.84 - 199.84	Top Guy Pull-Off@216.507	MC12x35	209	8.91	333.72	2.7	Pass
T7	179.84 - 159.84	Top Guy Pull-Off@166.507	MC12x35	280	12.94	333.72	3.9	Pass
T10	119.84 - 99.84	Top Guy Pull-Off@106.507	MC12x35	415	14.79	333.72	4.4	Pass
T13	59.84 - 39.84	Top Guy Pull-Off@56.5067	MC12x35	569	12.72	333.72	3.8	Pass
T1	291.84 - 279.84	Torque Arm Top@285.84	MC12x35	667	3.21	333.72	58.4	Pass
T3	259.84 - 239.84	Torque Arm Top@256.507	MC12x35	687	3.43	333.72	55.5	Pass
T5	219.84 - 199.84	Torque Arm Top@216.507	MC12x35	699	3.56	333.72	51.3	Pass
T7	179.84 - 159.84	Torque Arm Top@166.507	MC12x35	703	-4.84	304.05	45.2	Pass
T10	119.84 - 99.84	Torque Arm Top@106.507	MC12x35	715	-5.82	304.05	34.7	Pass
T13	59.84 - 39.84	Torque Arm Top@56.5067	MC12x35	726	5.73	333.72	22.8	Pass

Summary		
Pole (L1)	18.9	Pass
Leg (T16)	89.7	Pass
Diagonal (T13)	45.9	Pass
Horizontal	12.8	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
						(T6)		
						Secondary Horizontal (T1)	0.1	Pass
						Top Girt (T16)	25.2	Pass
						Bottom Girt (T16)	4.5	Pass
						Mid Girt (T16)	0.8	Pass
						Guy A (T7)	49.7	Pass
						Guy B (T7)	47.0	Pass
						Guy C (T7)	49.2	Pass
						Top Guy Pull-Off (T10)	4.4	Pass
						Torque Arm Top (T1)	58.4	Pass
						Bolt Checks	24.5	Pass
						RATING =	**89.7**	**Pass**

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Subject:	Base Foundation Analysis
Location:	327-ft Guyed Lattice Tower Storrs, CT
Rev. 0: 9/11/17	Prepared by: T.J.L. Checked by: C.F.C. Job No. 17004.42

Guyed Tower Base Foundation:

Input Data:

Tower Data

Shear Force =	$Shear := 4 \cdot kip$	(User Input from tnxTower)	
Axial Force =	$Axial := 580 \cdot kip$	(User Input from tnxTower)	
Tower Height =	$H_t := 327 \cdot ft$	(User Input)	

Footing Data:

Overall Depth of Footing =	$D_f := 4 \cdot ft$	(User Input)	
Length of Pier =	$L_p := 2.5 \cdot ft$	(User Input)	
Extension of Pier Above Grade =	$L_{pag} := 0.5 \cdot ft$	(User Input)	
Diameter of Pier =	$D_p := 3.0 \cdot ft$	(User Input)	
Width of Pad =	$W_{pad} := 10 \cdot ft$	(User Input)	
Thickness of Pad =	$t_{pad} := 2.0 \cdot ft$	(User Input)	

Material Properties:

Concrete Compressive Strength =	$f_c := 3000 \cdot psi$	(User Input)	
Steel Reinforcment Yield Strength =	$f_y := 60000 \cdot psi$	(User Input)	
Internal Friction Angle of Soil =	$\Phi_s := 30 \cdot deg$	(User Input)	
Ultimate Soil Bearing Capacity =	$q_s := 11000 \cdot psf$	(User Input)	
Unit Weight of Soil =	$\gamma_{soil} := 120 \cdot pcf$	(User Input)	
Unit Weight of Concrete =	$\gamma_{conc} := 150 \cdot pcf$	(User Input)	
Foundation Bouyancy =	$Bouyancy := 0$	(User Input)	(Yes=1 / No=0)
Depth to Neglect =	$n := 0 \cdot ft$	(User Input)	
Cohesion of Clay Type Soil =	$c := 0 \cdot ksf$	(User Input)	(Use 0 for Sandy Soil)
Seismic Zone Factor =	$Z := 2$	(User Input)	
Coefficient of Friction Between Concrete =	$\mu := 0.45$	(User Input)	

Calculated Factors:

Coefficient of Lateral Soil Pressure =

$$K_p := \frac{1 + \sin(\Phi_s)}{1 - \sin(\Phi_s)} = 3$$

Load Factor =

$$LF := \begin{cases} 1.333 & \text{if } H_t \le 700 \cdot ft \\ 1.7 & \text{if } H_t \ge 1200 \cdot ft \\ 1.333 + \left(\frac{H_t - 700ft}{1200ft - 700ft}\right) \cdot 0.4 & \text{otherwise} \end{cases} = 1.333$$

Stability of Footing:

Adjusted Concrete Unit Weight =

$$\gamma_c := \text{if}\left(\text{Bouyancy} = 1, \gamma_{conc} - 62.4\text{pcf}, \gamma_{conc}\right) = 150\cdot\text{pcf}$$

Adjusted Soil Unit Weight =

$$\gamma_s := \text{if}\left(\text{Bouyancy} = 1, \gamma_{soil} - 62.4\text{pcf}, \gamma_{soil}\right) = 120\cdot\text{pcf}$$

Passive Pressure =

$$P_{top} := 0$$

$$P_{bot} := K_p\cdot\gamma_s\cdot D_f + c\cdot 2\cdot\sqrt{K_p} = 1.44\cdot\text{ksf}$$

$$P_{ave} := \frac{P_{top} + P_{bot}}{2} = 0.72\cdot\text{ksf}$$

$$A_p := D_p\cdot L_p = 7.5$$

Soil Shear Resistance =

$$Sl_1 := P_{ave}\cdot A_p = 5.4\cdot\text{kip}$$

Weight of Concrete =

$$WT_c := \left(\frac{1}{4}\cdot\pi\cdot D_p^{\,2}\cdot L_p + W_{pad}^{\,2}\cdot t_{pad}\right)\cdot\gamma_c = 32.65\cdot\text{kip}$$

Total Weight =

$$WT_{tot} := WT_c + \text{Axial} = 612.65\cdot\text{kip}$$

Soil/Concrete Friction Resistance =

$$Sl_2 := \mu\cdot WT_{tot} = 275.69\cdot\text{kips}$$

Total Sliding Resistance =

$$Sl_{tot} := Sl_1 + Sl_2 = 281.09\cdot\text{kips}$$

Sliding Resistance Ratio =

$$\text{Sliding\_Resistance}_{ratio} := \frac{0.75Sl_{tot}}{\text{Shear}} = 52.7$$

$$\text{Sliding\_Resistance\_Check} := \text{if}\left[\left(\frac{\text{Shear}}{0.75Sl_{tot}} < 1.0\right), \text{"Okay"}, \text{"No Good"}\right]$$

Sliding_Resistance_Check = "Okay"

Bearing Pressure Caused by Footing:

Maximum Pressure in Mat =

$$P_{max} := \frac{WT_{tot}}{W_{pad}^{\,2}} = 6.13\cdot\text{ksf}$$

$$\text{Max\_Pressure\_Check} := \text{if}\left(P_{max} < 0.6q_s, \text{"Okay"}, \text{"No Good"}\right)$$

Max_Pressure_Check = "Okay"

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Job :	AT&T ~ CT1077: 327-ft Guyed Lattice Tower	**Project No.**	17004.42	**Sheet**	1	of	2
Address:	North Eagleville Rd., Storrs, CT	**Computed by**	TJL	**Date**		9/11/17	
Description:	Guy Anchor Evaluation	**Checked by**	CFC	**Date**			

CHECK UPLIFT RESISTANCE

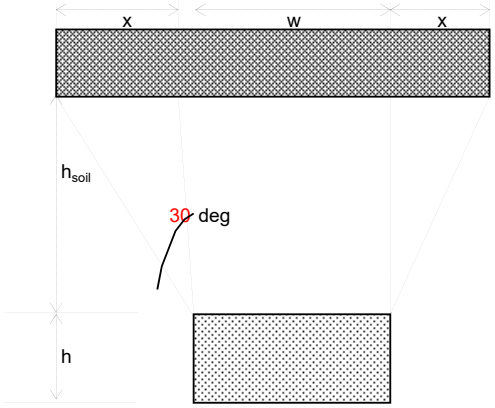
ANCHOR (A) AT 235.0 ft RADIUS

RESULTS FROM COMPUTER ANALYSIS:

Uplift =	109	kips
Sliding =	139	kips
Wdepth =	50	ft

CONCRETE PARAMETERS:

γ_{conc} =	150	pcf
$\gamma_{conc.sub}$ =	87.6	pcf
w =	4.5	ft
h =	4	ft
d =	24	ft
Vol. =	432.00	ft^3
Vol.sub =	0.00	ft^3
Wc =	*64.80*	kips
Ø =	*0.90*	
	58.32	



Foundation Section

SOIL PARAMETERS:

γ_{soil} =	120	pcf
$\gamma_{soil.sub}$ =	57.6	pcf
h_{soil} =	8	ft
x =	*4.62*	ft

Soil Weight (Wr):

B1 =	108.00
B2 =	108.00
B3 =	456.61

W.soil =	251.73	kips
W.soil.sub =	0.00	kips
Total =	*251.73*	kips
Ø =	*0.75*	
	188.80	

SF AGAINST SLIDING

2.27 **>** *1* ***OK***

GUY ANCHORS AGAINST UPLIFT ARE ADEQUATE

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Job :	AT&T ~ CT1077: 327-ft Guyed Lattice Tower	**Project No.**	17004.42	**Sheet**	2	of	2
Address:	689 Old Colchester Rd., Montville, CT	**Computed by**	TJL	**Date**		9/11/17	
Description:	Guy Anchor Evaluation	**Checked by**	CFC	**Date**			

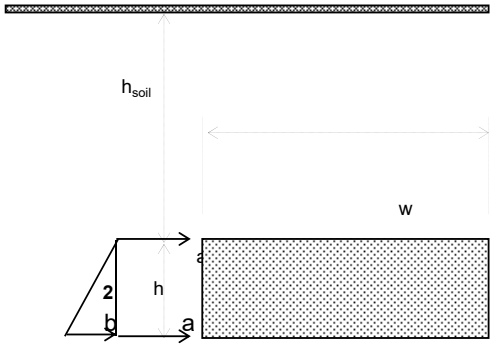
CHECK SLIDING RESISTANCE

SOIL PARAMETERS

γ soil =	120	pcf
γ soil =	57.6	pcf
h_{soil} =	8	ft
h =	4	ft
ϕ =	30	degrees

ANCHOR PARAMETERS

w =	4.5	ft
h =	4.0	ft
d =	24.0	ft



Foundation Elevation View

K_p = 3.00

HORIZONTAL FORCES

	2.88	ksf
	4.32	ksf
RESIST TO SLIDING =	345.60	k

SOIL & CONCRETE WEIGHT =	Wr + Wc =	247.12	k
UPLIFT REACTIONS =		-109	k
SUM =		138.12	k

COEF. OF FRICTION, (0.45) =	62.15	k
RESIST TO SLIDING =	345.60	k
SUM =	407.75	k

SF AGAINST SLIDING

SF = 2.9 > 1 OK

GUY ANCHORS AGAINST SLIDING ARE ADEQUATE

Section 1 - RFDS GENERAL INFORMATION

RFDS NAME:	CTU1077	DATE:	04/21/2017	RF DESIGN ENG:	Md Mateen
ISSUE:	Bronze Standard	Approved? (Y/N):	Yes	RF DESIGN PHONE:	8602586382
REVISION:	Preliminary	RF MANAGER:	John Benedetto	RF DESIGN EMAIL:	mm093q@att.com
INITIATIVE /PROJECT:	LTE 6C AWS J, LTE 7C 700 UPPER D, RRH Add 1900 A3-A4 & E & C5				

RF PERF ENG:		RFDS PROGRAM TYPE:	2018 LTE Next Carrier		
RF PERF PHONE:		RFDS TECHNOLOGY:	LTE		
RF PERF EMAIL:		STATE/STATUS:	Final/RF Approval		
RFDS VERSION:	1.00	RFDS ID:	1736984		
GSM FREQUENCY:		Created By:	mm093q	Updated By:	rx855w
UMTS FREQUENCY:	850, 1900	Date Created:	4/20/2017 5:37:46 PM	Date Updated:	7/26/2017 9:44:19 AM
LTE FREQUENCY:	700, 850, 1900, WCS				
I-PLAN JOB # 1:	NER-RCTB-17-02148	IPLAN PRD GRP || SUB GRP #1:	LTE Next Carrier || LTE 6C		
I-PLAN JOB # 2:	NER-RCTB-17-02235	IPLAN PRD GRP || SUB GRP #2:	LTE Next Carrier || LTE 7C		
I-PLAN JOB # 3:	NER-RCTB-17-02296	IPLAN PRD GRP || SUB GRP #3:	LTE Additional Radio || 2nd RRH Add		
I-PLAN JOB # 4:		IPLAN PRD GRP || SUB GRP #4:			
I-PLAN JOB # 5:		IPLAN PRD GRP || SUB GRP #5:			
I-PLAN JOB # 6:		IPLAN PRD GRP || SUB GRP #6:			
I-PLAN JOB # 7:		IPLAN PRD GRP || SUB GRP #7:			
I-PLAN JOB # 8:		IPLAN PRD GRP || SUB GRP #8:			

Section 2 - LOCATION INFORMATION

USID:	59367	FA LOCATION CODE:	10035012	LOCATION NAME:	STORRS-UCONN
REGION:	NORTHEAST	MARKET CLUSTER:	NEW ENGLAND	MARKET:	CONNECTICUT
ADDRESS:	1298 STORRS ROAD	CITY:	STORRS	STATE:	CT
ZIP CODE:	06268	COUNTY:	TOLLAND	LONG (DEC. DEG.):	-72.2594431
LATITUDE (D-M-S):	41d 48m50.57316s	LONGITUDE (D-M-S):	-72d -15m-33.99516s	LAT (DEC. DEG.):	41.8140481
DIRECTIONS, ACCESS AND EQUIPMENT LOCATION:	1077 - STORRS I-84 NORTH TO EXIT 68 RT. 195. TURN RIGHT ON RT. 195 & CONTINUE UNTIL YOU REACH CAMPUS. TAKE RIGHT AT 2ND LIGHT FOR NORTH EAGLEVILLE ROAD APPROX. .5 MILES. TAKE RIGHT INTO DRIVEWAY JUST AFTER CEMETERY, AND BEAR RIGHT UP HILL... DORMS 3/4 WAY UP DRIVEWAY. TAKE RIGHT UP HILL. LOOK FOR CINGULAR LOCK ON DOOR JUST TO THE LEFT OF MAIN GATE FOR ACCESS. THERE IS A SCHEMATIC ON U DRIVE AND ONE IN THE SITE FOR THIS GSM SITE. SITE IS GROUND LEVEL SHELTER, AND SMART CARDS ARE LOCATED INSIDE THE SHELTER. POWER IS PROVIDED BY THE UCONN GRID. GATE COMBO 0043UCONN MAINTAINED POWER OUTAGE INFO 860-486-3113 UCONN POLICE 860-486-4800DOOR COMBO 35214GROUND LEVEL;SHELTERGSM T1 INFO:DHXV238935 (ET 55) HCGS723324 (ET 54)HCGS723325 (ET 62)HCGS715979 (ET 81DHXV238936 (ET 63)HCGS712487 (ET 80)HCGS723323 (ET 35)UMTS T1ON FIBER				

ORACLE PTN # 1:	2051A0B91T	PACE JOB # 1:	MRCTB023976		
ORACLE PTN # 2:	2051A0B8YP	PACE JOB # 2:	MRCTB023938		
ORACLE PTN # 3:	2051A0B98M	PACE JOB # 3:	MRCTB024148		
ORACLE PTN # 4:		PACE JOB # 4:			
ORACLE PTN # 5:		PACE JOB # 5:			
ORACLE PTN # 6:		PACE JOB # 6:			
ORACLE PTN # 7:		PACE JOB # 7:			
ORACLE PTN # 8:		PACE JOB # 8:			
BORDER CELL WITH CONTOUR COORD:		SEARCH RING NAME:			
AM STUDY REQ'D (Y/N):	No	SEARCH_RING_ID:			
FREQ COORD:		BTA:		MSA / RSA:	
OPS DISTRICT:	CT-North	LAC(GSM):	05021		
OPS ZONE:	NE_CT_N_WDHM_N_CS	LAC(UMTS):	05990		
RF DISTRICT:	NPO Triage	BSC(GSM):	MDTWCTBSC11		
RF ZONE:	Hotseat	RNC(UMTS):	MDTWCTNICRBR05		
PARENT NAME(GSM):	MIDDLETOWN-GSM MTSO-BSC-11	MME POOL ID(LTE):	FF01		
PARENT NAME(UMTS):	MIDDLETOWN RNC05				

Section 3 - LICENSE COVERAGE/FILING INFORMATION

CGSA - NO FILING TRIGGERED (Yes/No):	No	CGSA LOSS:		PCS REDUCED - UPS ZIP:	
CGSA - MINOR FILING NEEDED (Yes/No):	No	CGSA EXT AGMT NEEDED:		PCS POPS REDUCED:	
CGSA - MAJOR FILING NEEDED (Yes/No):	Yes	CGSA SCORECARD UPDATED:			

CGSA CALL SIGNS:	

Section 4 - TOWER/REGULATORY INFORMATION

STRUCTURE AT&T OWNED?:	Yes	GROUND ELEVATION (ft):		STRUCTURE TYPE:	GUYED
ADDITIONAL REGULATORY?:	Yes	HEIGHT OVERALL (ft):	0.00	FCC ASR NUMBER:	NR
SUB-LEASE RIGHTS?:	Yes	STRUCTURE HEIGHT (ft):	295.90		
LIGHTING TYPE:	PAINT AND RED LIGHT				

MARKET LOCATION 700 MHz Band:			
MARKET LOCATION 850 MHz Band:			
MARKET LOCATION 1900 MHz Band:			
MARKET LOCATION AWS Band:			
MARKET LOCATION WCS Band:			
MARKET LOCATION Future Band:			

Section 5 - E-911 INFORMATION - existing

	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:	LMU REQUIRED:	ESRN:	DATE LIVE PH1:	DATE LIVE PH2:		
SECTOR A E-911						0				
SECTOR B						0				
SECTOR C						0				
SECTOR D										
SECTOR E										
SECTOR F										
OMNI										

Section 5 - E-911 INFORMATION - final

	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:	LMU REQUIRED:	ESRN:	DATE LIVE PH1:	DATE LIVE PH2:		
SECTOR A E-911						0				
SECTOR B						0				
SECTOR C						0				
SECTOR D										
SECTOR E										
SECTOR F										
OMNI										

Section 6 - RBS GENERAL INFORMATION - existing

	GSM 1ST RBS	GSM 2ND RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS	LTE 2ND RBS						
RBS ID:	96453	96454	172512	241675	366839	489337						
CTS COMMON ID:	184D1077_2	184D1077	CTU1077	CTV1077	CTL01077	CTL00077R						
CELL ID / BCF:	032D1077	032D1077	CTU1077	CTU1077	CTL01077	CTL00077R						
BTA/TID:	184G	184P	184V	184U	184L	184L						
4-9 DIGIT SITE ID:	1077	1077	1077	1077	1077	0077						
COW OR TOY?:	No	No	No	No	No	No						
CELL SITE TYPE:	SECTORIZED	SECTORIZED	SECTORIZED		SECTORIZED	SECTORIZED						
SITE TYPE:	BTS-CONVENTIONAL	BTS-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL						
BTS LOCATION ID:	GROUND	GROUND	INTERNAL	INTERNAL								
BASE STATION TYPE:	BASE	BASE	BASE	OVERLAY	BASE	OVERLAY						
EQUIPMENT NAME:	STORRS-UCONN	STORRS-UCONN	STORRS-UCONN	STORRS-UCONN	STORRS-UCONN	STORRS-UCONN 2ND LTE NODE						
DISASTER PRIORITY:	0	0	2	0	3	3						

Section 6 - RBS GENERAL INFORMATION - final

	GSM 1ST RBS	GSM 2ND RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS	LTE 2ND RBS						
RBS ID:			172512	241675	366839							
CTS COMMON ID:			CTU1077	CTV1077	CTL01077							
CELL ID / BCF:			CTU1077	CTU1077	CTL01077							
BTA/TID:			184V	184U	184L							
4-9 DIGIT SITE ID:			1077	1077	1077							
COW OR TOY?:			No	No	No							
CELL SITE TYPE:			SECTORIZED	SECTORIZED	SECTORIZED							
SITE TYPE:			MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL							
BTS LOCATION ID:			INTERNAL	INTERNAL								
BASE STATION TYPE:			BASE	OVERLAY	BASE							
EQUIPMENT NAME:			STORRS-UCONN	STORRS-UCONN	STORRS-UCONN							
DISASTER PRIORITY:			2	0	3							

Section 7 - RBS SPECIFIC INFORMATION - existing

	GSM 1ST RBS	GSM 2ND RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS	LTE 2ND RBS						
RAC:												
EQUIPMENT VENDOR:	NOKIA	NOKIA	ERICSSON	ERICSSON	ERICSSON	ERICSSON						
EQUIPMENT TYPE:	ULTRASITE	ULTRASITE	3206 INDOOR	3206 INDOOR	6601 INDOOR MU	6601 INDOOR MU						
BASEBAND CONFIGURATION:												
LOCATION:												
CABINET LOCATION:												
MARKET STATE CODE:					CT	CT						
AGPS:	Yes	Yes	Yes	Yes	Yes	Yes						
NODE B NUMBER:	0	0	0	0	1077	77						

Section 7 - RBS SPECIFIC INFORMATION - final

	GSM 1ST RBS	GSM 2ND RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS	LTE 2ND RBS						
RAC:												
EQUIPMENT VENDOR:			ERICSSON	ERICSSON	ERICSSON							
EQUIPMENT TYPE:			3206 INDOOR	3206 INDOOR	6601 INDOOR MU							
BASEBAND CONFIGURATION:					2x6601 / 2x5216 / 2xXMU03 + IDLe							
LOCATION:												
CABINET LOCATION:												
MARKET STATE CODE:					CT							
AGPS:			Yes	Yes	Yes							
NODE B NUMBER:			0	0	1077							

Section 8 - RBS/SECTOR ASSOCIATION - existing

	GSM 1ST RBS	GSM 2ND RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS	LTE 2ND RBS
CTS Common ID	184D1077_2	184D1077	CTU1077	CTV1077	CTL01077	CTL00077R
Soft Sector IDs	184G10771	184P10777	CTU10774	CTV10771	CTL01077_3A_1	CTL00077_3B_1
	184G10772	184P10778	CTU10775	CTV10772	CTL01077_3B_1	CTL00077_7B_1
	184G10773	184P10779	CTU10776	CTV10773	CTL01077_3C_1	CTL00077_9B_1
			CTU10777	CTV1077A	CTL01077_7A_1	
			CTU10778	CTV1077B	CTL01077_7A_2_E	
			CTU10779	CTV1077C	CTL01077_7B_1	
					CTL01077_7B_2_E	
					CTL01077_7C_1	
					CTL01077_7C_2_E	
					CTL01077_8A_1	
					CTL01077_8B_1	
					CTL01077_8C_1	
					CTL01077_9A_1	
					CTL01077_9B_1	
					CTL01077_9C_1	

Section 8 - RBS/SECTOR ASSOCIATION - final

	GSM 1ST RBS	GSM 2ND RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS	LTE 2ND RBS
CTS Common ID			CTU1077	CTV1077	CTL01077	
Soft Sector IDs				CTV10771	CTL00077_2A_1	
				CTV10772	CTL00077_2A_2	
				CTV10773	CTL00077_2B_1	
				CTV1077A	CTL00077_2B_2	
				CTV1077B	CTL00077_2C_1	
				CTV1077C	CTL00077_2C_2	
					CTL01077_3A_1	
					CTL01077_3B_1	
					CTL01077_3C_1	
					CTL01077_7A_1	
					CTL00077_7A_2_E	
					CTL00077_7A_3_F	
					CTL01077_7B_1	
					CTL00077_7B_2_E	
					CTL00077_7B_3_F	
					CTL01077_7C_1	
					CTL00077_7C_2_E	
					CTL00077_7C_3_F	
					CTL00077_8A_1	
					CTL00077_8B_1	
					CTL00077_8C_1	
					CTL01077_9A_1	
					CTL01077_9A_3	
					CTL01077_9A_2	
					CTL01077_9B_1	
					CTL01077_9B_3	
					CTL01077_9B_2	
					CTL01077_9C_1	
					CTL01077_9C_3	
					CTL01077_9C_2	

Section 9 - SOFT SECTOR ID - existing

	GSM 1ST 850	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	UMTS 2ND 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND 1900	LTE 2ND WCS	LTE 3RD 700	LTE 3RD 1900	LTE 4TH 1900	LTE 4TH AWS	LTE 5TH 700							
USEID (excluding Hard Sector)	59367.850.25G.1	59367.1900.25G.1	59367.850.3G.1	59367.1900.3G.1	59367.850.3G.2	59367.1900.3G.2																				
SECTOR A **SOFT SECTOR ID**	184G10771	184P10777	CTV10771	CTU10777	CTV1077A	CTU10774	CTL01077_7A_1	CTL01077_8A_1	CTL01077_9A_1		CTL01077_3A_1	CTL01077_7A_2_E														
SECTOR B	184G10772	184P10778	CTV10772	CTU10778	CTV1077B	CTU10775	CTL01077_7B_1	CTL01077_8B_1	CTL01077_9B_1		CTL01077_3B_1	CTL01077_7B_2_E	CTL00077_9B_1	CTL00077_3B_1	CTL00077_7B_1											
SECTOR C	184G10773	184P10779	CTV10773	CTU10779	CTV1077C	CTU10776	CTL01077_7C_1	CTL01077_8C_1	CTL01077_9C_1		CTL01077_3C_1	CTL01077_7C_2_E														
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 9 - SOFT SECTOR ID - final

	GSM 1ST 850	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	UMTS 2ND 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND 1900	LTE 2ND WCS	LTE 3RD 700	LTE 3RD 1900	LTE 4TH 1900	LTE 4TH AWS	LTE 5TH 700							
USEID (excluding Hard Sector)			59367.850.3G.1		59367.850.3G.2																					
SECTOR A **SOFT SECTOR ID**			CTV10771		CTV1077A		CTL01077_7A_1	CTL00077_8A_1	CTL01077_9A_1	CTL00077_2A_1	CTL01077_3A_1	CTL00077_7A_2_E				CTL01077_9A_3	CTL01077_9A_2	CTL00077_2A_2	CTL00077_7A_3_F							
SECTOR B			CTV10772		CTV1077B		CTL01077_7B_1	CTL00077_8B_1	CTL01077_9B_1	CTL00077_2B_1	CTL01077_3B_1	CTL00077_7B_2_E				CTL01077_9B_3	CTL01077_9B_2	CTL00077_2B_2	CTL00077_7B_3_F							
SECTOR C			CTV10773		CTV1077C		CTL01077_7C_1	CTL00077_8C_1	CTL01077_9C_1	CTL00077_2C_1	CTL01077_3C_1	CTL00077_7C_2_E				CTL01077_9C_3	CTL01077_9C_2	CTL00077_2C_2	CTL00077_7C_3_F							
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 9 - Cell Number - existing

	GSM 1ST 850	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	UMTS 2ND 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND 1900	LTE 2ND WCS	LTE 3RD 700	LTE 3RD 1900	LTE 4TH 1900	LTE 4TH AWS	LTE 5TH 700							
USEID (excluding Hard Sector)	59367.850.25G.1	59367.1900.25G.1	59367.850.3G.1	59367.1900.3G.1	59367.850.3G.2	59367.1900.3G.2																				
SECTOR A CELL NUMBER							15	1	8		149	185														
SECTOR B							16	2	9		150	186	9	150	16											
SECTOR C							17	3	10		151	187														
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 9 - Cell Number - final

	GSM 1ST 850	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	UMTS 2ND 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND 1900	LTE 2ND WCS	LTE 3RD 700	LTE 3RD 1900	LTE 4TH 1900	LTE 4TH AWS	LTE 5TH 700							
USEID (excluding Hard Sector)			59367.850.3G.1		59367.850.3G.2																					
SECTOR A CELL NUMBER							15	1	8	22	149	185				199	178	192	171							
SECTOR B							16	2	9	23	150	186				200	179	193	172							
SECTOR C							17	3	10	24	151	187				201	180	194	173							
SECTOR D																										
SECTOR E																										
SECTOR F																										
OMNI																										

Section 10 - CID/SAC - existing

	GSM 1ST 850	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	UMTS 2ND 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND 1900	LTE 2ND WCS	LTE 3RD 700	LTE 3RD 1900	LTE 4TH 1900	LTE 4TH AWS	LTE 5TH 700								
SECTOR A CID/SAC	10771	10777	10771	10777	00771	10774																					
SECTOR B	10772	10778	10772	10778	00772	10775																					
SECTOR C	10773	10779	10773	10779	00773	10776																					
SECTOR D																											
SECTOR E																											
SECTOR F																											
OMNI																											

Section 10 - CID/SAC - final

	GSM 1ST 850	GSM 1ST 1900	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	UMTS 2ND 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 2ND 700	LTE 2ND 1900	LTE 2ND WCS	LTE 3RD 700	LTE 3RD 1900	LTE 4TH 1900	LTE 4TH AWS	LTE 5TH 700								
SECTOR A CID/SAC			10771		00771																						
SECTOR B			10772		00772																						
SECTOR C			10773		00773																						
SECTOR D																											
SECTOR E																											
SECTOR F																											
OMNI																											

Section 15A - CURRENT TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	7770	OPA-65R-LCUU-H8		HPA-65R-BUU-H8			
ANTENNA VENDOR	POWERWAVE	CCI Antennas		CCI Products			
ANTENNA SIZE (H x W x D)	55X11X5	92.7X14.4X7		92.4X14.8X7.4			
ANTENNA WEIGHT	35	88		68			
AZIMUTH	143	23		23			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	185	185		185			
ANTENNA TIP HEIGHT	187	189		189			
MECHANICAL DOWNTILT	0	0		0			
FEEDER AMOUNT	2	Fiber + 2 Coax					
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	2 Powerwave 7020	Built-in		Built-in			
SURGE ARRESTOR (QTY/MODEL)	5	DC/Fiber Squid (1) + Andrew APTDC-BDFDM-DB Broadband (4)		1 DC/Fiber Squid			
DIPLEXER (QTY/MODEL)	1 Kaelus DBC2055F1V1-2	4 CCI Triplexer -TPX-070821					
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)	1 Powerwave 7070	RRH Controlled		RRH Controlled			
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	1 CCI DTMABP7819VG12A (Twin 700/850 Bypass)						
CURRENT INJECTORS FOR TMA (QTY/MODEL)	AISG Compliant Diplexer						
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)		1 RRUS-E2		1 RRUS-11			
RRH - 850 band (QTY/MODEL)	1 RRUW	1 RRUS-11					
RRH - 1900 band (QTY/MODEL)	1 RRUW			1 RRUS-32 B2			
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)		1 RRUS-32					
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1							
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1		59367.A.850.3G.1	CTV10771	CTV10771		UMTS 850	7770.00.850.10	13.5	143	10	None	Andrew 1-5/8 (850)	250						264.24		1	
	PORT 2		59367.A.850.3G.2	CTV10771	CTV1077A		UMTS 850	7770.00.850.10	13.5	143	10	Bottom	Andrew 1-5/8 (850)	250						264.24		1	
	PORT 3		59367.A.1900.3G.1	CTU10777	CTU10777		UMTS 1900	7770.00.1900.06	15.5	143	6	None	Andrew 1-5/8 (850)	250						279.9		2	
	PORT 4		59367.A.1900.3G.2	CTU10777	CTU10774		UMTS 1900	7770.00.1900.06	15.5	143	6	Bottom	Andrew 1-5/8 (850)	250						486.41		2	
ANTENNA POSITION 2	PORT 1		59367.A.850.4G.1	CTL01077_8A_1	CTL01077_8A_1		LTE 850	OPA-65R-LCUU-H8_849MHz_02DT	15.4	23	2	Bottom	Andrew 1-5/8 (850)	250						1000		4	
	PORT 2			CTL01077_7A_2_E			LTE 700	OPA-65R-LCUU-	14.7	2	2	Bottom	Andrew 1-5/8 (850)	250						1475.7065		4	

								H8_719MHz_02DT															
	PORT 3		59367.A.2300.4G.1	CTL01077_3A_1	CTL01077_3A_1		LTE WCS	OPA-65R-LCUU-H8_2350MHz_06DT	17.3	23	6	Top	FIBER	0						1145.5129		3	
ANTENNA POSITION 4	**PORT 1**		59367.A.700.4G.1	CTL01077_7A_1	CTL01077_7A_1		LTE 700	HPA-65R-BUU-H8_719MHz_02DT	15.3	23	2	Top	FIBER	0						1044.7202		7	
	PORT 3		59367.A.1900.4G.1	CTL01077_9A_1	CTL01077_9A_1		LTE 1900	HPA-65R-BUU-H8_1930MHz_01DT	16.7	23	1	Top	FIBER	0						3380.6483		7	

Section 15B - CURRENT TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770		OPA-65R-LCUU-H6				HPA-65R-BUU-H6							
ANTENNA VENDOR	POWERWAVE		CCI Antennas				CCI Products							
ANTENNA SIZE (H x W x D)	55X11X5		72X14.8X7.4				72X14.8X9							
ANTENNA WEIGHT	35		73				50.7							
AZIMUTH	263		143				143							
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	185		185				185							
ANTENNA TIP HEIGHT	187		188				188							
MECHANICAL DOWNTILT	0		0				0							
FEEDER AMOUNT	2		Fiber + 2 Coax											
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020		Built-in				Built-in						
SURGE ARRESTOR (QTY/MODEL)			4	Andrew APTDC-BDFDM-DB										
DIPLEXER (QTY/MODEL)	1	Kaelus DBC2055F1V1-2	4	CCI Triplexer -TPX-070821										
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)				RRH Controlled				RRH Controlled						
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	1	CCI DTMABP7819VG12A (Twin 700/850 Bypass)												
CURRENT INJECTORS FOR TMA (QTY/MODEL)		AISG Compliant Diplexer												
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)			1	RRUS-E2			1	RRUS-11						
RRH - 850 band (QTY/MODEL)	1	RRUW	1	RRUS-11										
RRH - 1900 band (QTY/MODEL)	1	RRUW					1	RRUS-32 B2						
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)			1	RRUS-32										
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1														
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1		59367.B.850.3G.1	CTV10772	CTV10772		UMTS 850	7770.00.850.08	13.5	263	8	None	Andrew 1-5/8 (850)	250						264.24		9	
	PORT 2		59367.B.850.3G.2	CTV10772	CTV1077B		UMTS 850	7770.00.850.08	13.5	263	8	Bottom	Andrew 1-5/8 (850)	250						264.24		9	
	PORT 3		59367.B.1900.3G.1	CTU10778	CTU10778		UMTS 1900	7770.00.1900.04	15.5	263	4	None	Andrew 1-5/8 (850)	250						279.9		10	
	PORT 4		59367.B.1900.3G.2	CTU10778	CTU10775		UMTS 1900	7770.00.1900.04	15.5	263	4	Bottom	Andrew 1-5/8 (850)	250						486.41		10	
ANTENNA POSITION 2	PORT 1		59367.B.850.4G.1	CTL01077_8B_1	CTL01077_8B_1		LTE 850	OPA-65R-LCUU-H6_849MHz_02DT	15.4	143	2	Bottom	Andrew 1-5/8 (850)	250						1000		12	
	PORT 2			CTL01077_7B_2_E	CTL01077_7B_2_E		LTE 700	OPA-65R-LCUU-H6_719MHz_02DT	14	2	2	Bottom	Andrew 1-5/8 (850)	250						1475.7065		12	

	PORT 3		59367.B.2300.4G.1	CTL01077_3B_1	CTL01077_3B_1		LTE WCS	OPA-65R-LCUU-H6_2350MHz_06DT	17.5	143	6	Top	FIBER	0						1227.4392		11	
ANTENNA POSITION 4	**PORT 1**		59367.B.700.4G.1	CTL01077_7B_1	CTL01077_7B_1		LTE 700	HPA-65R-BUU-H6_719MHz_02DT	14.28	143	2	Top	FIBER	0						827.9421		15	
	PORT 3		59367.B.1900.4G.1	CTL01077_9B_1	CTL01077_9B_1		LTE 1900	HPA-65R-BUU-H6_1930MHz_02DT	16.85	143	2	Top	FIBER	0						3258.367		15	

Section 15C - CURRENT TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770		OPA-65R-LCUU-H8				HPA-65R-BUU-H8							
ANTENNA VENDOR	POWERWAVE		CCI Antennas				CCI Products							
ANTENNA SIZE (H x W x D)	55X11X5		92.7X14.4X7				92.4X14.8X7.4							
ANTENNA WEIGHT	35		88				68							
AZIMUTH	23		263				263							
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	185		185				185							
ANTENNA TIP HEIGHT	187		189				189							
MECHANICAL DOWNTILT	0		0				0							
FEEDER AMOUNT	2		Fiber + 2 Coax											
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020		Built-in				Built-in						
SURGE ARRESTOR (QTY/MODEL)			4	Andrew APTDC-BDFDM-DB										
DIPLEXER (QTY/MODEL)	1	Kaelus DBC2055F1V1-2	4	CCI Triplexer -TPX-070821										
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)				RRH Controlled				RRH Controlled						
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	1	CCI DTMABP7819VG12A (Twin 700/850 Bypass)												
CURRENT INJECTORS FOR TMA (QTY/MODEL)		AISG Compliant Diplexer												
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)			1	RRUS-E2			1	RRUS-11						
RRH - 850 band (QTY/MODEL)	1	RRUW	1	RRUS-11										
RRH - 1900 band (QTY/MODEL)	1	RRUW					1	RRUS-32 B2						
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)			1	RRUS-32										
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1														
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1		59367.C.850.3G.1	CTV10773	CTV10773		UMTS 850	7770.00.850.06	13.5	23	6	None	Andrew 1-5/8 (850)	250						264.24		17	
	PORT 2		59367.C.850.3G.2	CTV10773	CTV1077C		UMTS 850	7770.00.850.06	13.5	23	6	Bottom	Andrew 1-5/8 (850)	250						264.24		17	
	PORT 3		59367.C.1900.3G.1	CTU10779	CTU10779		UMTS 1900	7770.00.1900.04	15.5	23	4	None	Andrew 1-5/8 (850)	250						279.9		18	
	PORT 4		59367.C.1900.3G.2	CTU10779	CTU10776		UMTS 1900	7770.00.1900.04	15.5	23	4	Bottom	Andrew 1-5/8 (850)	250						486.41		18	
ANTENNA POSITION 2	PORT 1		59367.C.850.4G.1	CTL01077_8C_1	CTL01077_8C_1		LTE 850	OPA-65R-LCUU-H8_849MHz_04DT	15.4	263	4	Bottom	Andrew 1-5/8 (850)	250						1000		20	
	PORT 2			CTL01077_7C_2_E			LTE 700	OPA-65R-LCUU-H8_719MHz_04DT	14.8	4	4	Bottom	Andrew 1-5/8 (850)	250						1475.7065		20	

	PORT 3		59367.C.2300.4G.1	CTL01077_3C_1	CTL01077_3C_1		LTE WCS	OPA-65R-LCUU-H8_2350MHz_07DT	17.2	263	7	Top	FIBER	0						1145.5129		19	
ANTENNA POSITION 4	**PORT 1**		59367.C.700.4G.1	CTL01077_7C_1	CTL01077_7C_1		LTE 700	HPA-65R-BUU-H8_719MHz_04DT	15.2	263	4	Top	FIBER	0						1044.7202		23	
	PORT 3		59367.C.1900.4G.1	CTL01077_9C_1	CTL01077_9C_1		LTE 1900	HPA-65R-BUU-H8_1930MHz_05DT	17.4	263	5	Top	FIBER	0						3380.6483		23	

Section 16A - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL			TPA-65R-LCUUUU-H8				
ANTENNA VENDOR			CCI				
ANTENNA SIZE (H x W x D)			96X14.4X8.6				
ANTENNA WEIGHT			75				
AZIMUTH			23				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)			185				
ANTENNA TIP HEIGHT			189				
MECHANICAL DOWNTILT			0				
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)			Built-in				
SURGE ARRESTOR (QTY/MODEL)			1 DC Fiber Squid				
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)			RRH Controlled				
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)			1 B14 4478				
RRH - 850 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)			1 RRUS-32 B2				
RRH - AWS band (QTY/MODEL)			1 RRUS-32 B66				
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	LTE 6C AWS J, LTE 7C 700 UPPER D, RRH Add 1900 A3-A4 & E & C5- Add a 12 port Antenna at POs3,- Add B14 radio, Add RRUS-32 B66 for AWS, Add RRUS-32 B2 for PCS.- Add 1 DC Fiber Squid (Showing total of 1 Squid per sector).// ADD 2*5216+2XMU+IDLe						
Local Market Note 2							
Local Market Note 3	2*5216 +2*XMU + IDLe						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 3	PORT 1			CTL00077_7A_3_F	CTL00077_7A_3_F	0	LTE 700	TPA-65R-LCUUUU-H8_776MHz_02DT	15.4	23	2	Top	Fiber	0						1475.7065			
	PORT 3			CTL00077_2A_1	CTL00077_2A_1	0	LTE AWS	TPA-65R-LCUUUU-H8_2133MHz_06DT	16.6	23	6	Top	Fiber	0						2535.1286			
	PORT 4			CTL00077_2A_2	CTL00077_2A_2	0	LTE AWS	TPA-65R-LCUUUU-H8_2133MHz_06DT	16.6	23	6	Top	Fiber	0						2535.1286			
	PORT 7			CTL01077_9A_3	CTL01077_9A_3	0	LTE 1900	TPA-65R-LCUUUU-H8_1930MHz_06DT	16.3	23	6	Top	Fiber	0									

Section 16B - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL			QS66512-2				
ANTENNA VENDOR			Quintel				
ANTENNA SIZE (H x W x D)			72X12X9.6				
ANTENNA WEIGHT			111				
AZIMUTH			143				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)			185				
ANTENNA TIP HEIGHT			188				
MECHANICAL DOWNTILT			0				
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)			Built-in				
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)			RRH Controlled				
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)			1 B14 4478				
RRH - 850 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)			1 RRUS-32 B2				
RRH - AWS band (QTY/MODEL)			1 RRUS-32 B66				
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	LTE 6C AWS J, LTE 7C 700 UPPER D, RRH Add 1900 A3-A4 & E & C5- Add a 12 port Antenna at POs3,- Add B14 radio, Add RRUS-32 B66 for AWS, Add RRUS-32 B2 for PCS.- Add 1 DC Fiber Squid (Showing total of 1 Squid per sector).// ADD 2*5216+2XMU+IDLe						
Local Market Note 2							
Local Market Note 3	2*5216 +2*XMU + IDLe						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 3	PORT 1			CTL00077_7B_3_F	CTL00077_7B_3_F	0	LTE 700	QS66512-2_776MHz_02DT	13.7	143	2	Top	Fiber	0						1475.7065			
	PORT 3			CTL00077_2B_1	CTL00077_2B_1	0	LTE AWS	QS66512-2_2130MHz_06DT	15.8	143	6	Top	Fiber	0						2535.1286			
	PORT 4			CTL00077_2B_2	CTL00077_2B_2	0	LTE AWS	QS66512-2_2130MHz_06DT	15.8	143	6	Top	Fiber	0						2535.1286			
	PORT 7			CTL01077_9B_3	CTL01077_9B_3	0	LTE 1900	QS66512-2_1930MHz_06DT	15.9	143	6	Top	Fiber	0									

Section 16C - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL			TPA-65R-LCUUUU-H8				
ANTENNA VENDOR			CCI				
ANTENNA SIZE (H x W x D)			96X14.4X8.6				
ANTENNA WEIGHT			75				
AZIMUTH			263				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)			185				
ANTENNA TIP HEIGHT			189				
MECHANICAL DOWNTILT			0				
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)			Built-in				
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)			RRH Controlled				
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)			1 B14 4478				
RRH - 850 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)			1 RRUS-32 B2				
RRH - AWS band (QTY/MODEL)			1 RRUS-32 B66				
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	LTE 6C AWS J, LTE 7C 700 UPPER D, RRH Add 1900 A3-A4 & E & C5- Add a 12 port Antenna at POs3,- Add B14 radio, Add RRUS-32 B66 for AWS, Add RRUS-32 B2 for PCS.- Add 1 DC Fiber Squid (Showing total of 1 Squid per sector).// ADD 2*5216+2XMU+IDLe						
Local Market Note 2							
Local Market Note 3	2*5216 +2*XMU + IDLe						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 3	PORT 1			CTL00077_7C_3_F	CTL00077_7C_3_F	0	LTE 700	TPA-65R-LCUUUU-H8_776MHz_04DT	15.5	263	4	Top	Fiber	0						1475.7065			
	PORT 3			CTL00077_2C_1	CTL00077_2C_1	0	LTE AWS	TPA-65R-LCUUUU-H8_2133MHz_07DT	16.5	263	7	Top	Fiber	0						2535.1286			
	PORT 4			CTL00077_2C_2	CTL00077_2C_2	0	LTE AWS	TPA-65R-LCUUUU-H8_2133MHz_07DT	16.5	263	7	Top	Fiber	0						2535.1286			
	PORT 7			CTL01077_9C_3	CTL01077_9C_3	0	LTE 1900	TPA-65R-LCUUUU-H8_1930MHz_07DT	16.3	263	7	Top	Fiber	0									

Section 17A - FINAL TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770		OPA-65R-LCUU-H8		TPA-65R-LCUUUU-H8		HPA-65R-BUU-H8							
ANTENNA VENDOR	POWERWAVE		CCI Antennas		CCI		CCI Products							
ANTENNA SIZE (H x W x D)	55X11X5		92.7X14.4X7		96X14.4X8.6		92.4X14.8X7.4							
ANTENNA WEIGHT	35		88		75		68							
AZIMUTH	143		23		23		23							
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	185		185		185		185							
ANTENNA TIP HEIGHT	187		189		189		189							
MECHANICAL DOWNTILT	0		0		0		0							
FEEDER AMOUNT	2		Fiber + 2 Coax											
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020		Built-in		Built-in		Built-in						
SURGE ARRESTOR (QTY/MODEL)			5	DC/Fiber Squid (1) + AndrewAndrew APTDC-BDFDM-DB (4)										
DIPLEXER (QTY/MODEL)	1	Kaelus DBC2055F1V1-2	4	CCI Triplexer -TPX-070821										
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)	1	Powerwave 7070		RRH Controlled		RRH Controlled		RRH Controlled						
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	1	CCI DTMABP7819VG12A (Twin 700/850 Bypass)												
CURRENT INJECTORS FOR TMA (QTY/MODEL)		AISG Compliant Diplexer												
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)			1	RRUS-E2	1	B14 4478	1	RRUS-11						
RRH - 850 band (QTY/MODEL)	1	RRUW	1	RRUS-11										
RRH - 1900 band (QTY/MODEL)	1	RRUW			1	RRUS-32 B2	1	RRUS-32 B2						
RRH - AWS band (QTY/MODEL)					1	RRUS-32 B66								
RRH - WCS band (QTY/MODEL)			1	RRUS-32										
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	LTE 6C AWS J, LTE 7C 700 UPPER D, RRH Add 1900 A3-A4 & E & C5 - Add a 12 port Antenna at POs3, - Add B14 radio, Add RRUS-32 B66 for AWS, Add RRUS-32 B2 for PCS. - Add 1 DC Fiber Squid (Showing total of 1 Squid per sector).// ADD 2*5216+2XMU+IDLe													
Local Market Note 2														
Local Market Note 3	2*5216 +2*XMU + IDLe													

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	59367.A.850.3G.1		CTV10771	CTV10771		UMTS 850	7770.00.850.10	13.5	143	10	None	Andrew 1-5/8	250						264.24		1	
	PORT 2	59367.A.850.3G.1,59367.A.850.3G.2		CTV1077A	CTV1077A		UMTS 850	7770.00.850.10	13.5	143	10	Bottom	Andrew 1-5/8	250						264.24		1	
ANTENNA POSITION 2	PORT 1	59367.A.850.4G.1		CTL00077_8A_1	CTL00077_8A_1		LTE 850	OPA-65R-LCUU-H8_849MHz_02DT	15.4	23	2	Bottom	Andrew 1-5/8	250						1000		3	
	PORT 2	59367.A.700.4G.3		CTL00077_7A_2_E	CTL00077_7A_2_E		LTE 700	OPA-65R-LCUU-	14.7	23	2	Bottom	Andrew 1-5/8	250						1475.7065		3	

								H8_719MHz_02DT															
	PORT 3	59367.A.WCS.4G.1		CTL01077_3A_1	CTL01077_3A_1		LTE WCS	OPA-65R-LCUU-H8_2350MHz_06DT	17.4	23	6	Top	Fiber	0						1285.2866		4	
ANTENNA POSITION 3	**PORT 1**	59367.A.700.4G.tmp5		CTL00077_7A_3_F	CTL00077_7A_3_F		LTE 700	TPA-65R-LCUUUU-H8_776MHz_02DT	15.4	23	2	Top	Fiber	0						1475.7065		5	
	PORT 3	59367.A.AWS.4G.tmp1		CTL00077_2A_1	CTL00077_2A_1		LTE AWS	TPA-65R-LCUUUU-H8_2133MHz_06DT	16.6	23	6	Top	Fiber	0						2535.1286		6	
	PORT 4	59367.A.AWS.4G.tmp4		CTL00077_2A_2	CTL00077_2A_2		LTE AWS	TPA-65R-LCUUUU-H8_2133MHz_06DT	16.6	23	6	Top	Fiber	0						2535.1286		6	
	PORT 7	59367.A.1900.4G.tmp3		CTL01077_9A_3	CTL01077_9A_3		LTE 1900	TPA-65R-LCUUUU-H8_1930MHz_06DT	16.3	23	6	Top	Fiber	0						3664.3757		6	
ANTENNA POSITION 4	**PORT 1**	59367.A.700.4G.1		CTL01077_7A_1	CTL01077_7A_1		LTE 700	HPA-65R-BUU-H8_719MHz_02DT	15.3	23	2	Top	Fiber	0						1475.7065		7	
	PORT 3	59367.A.1900.4G.1		CTL01077_9A_1	CTL01077_9A_1		LTE 1900	HPA-65R-BUU-H8_1930MHz_06DT	17.4	23	6	Top	Fiber	0						3664.3757		8	
	PORT 4	59367.A.1900.4G.1,59367.A.1900.4G.tmp4		CTL01077_9A_2	CTL01077_9A_2		LTE 1900	HPA-65R-BUU-H8_1930MHz_06DT	17.4	23	6	Top	Fiber	0						3664.3757		8	

Section 17B - FINAL TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770		OPA-65R-LCUU-H6		QS66512-2		HPA-65R-BUU-H6							
ANTENNA VENDOR	POWERWAVE		CCI Antennas		Quintel		CCI Products							
ANTENNA SIZE (H x W x D)	55X11X5		72X14.8X7.4		72X12X9.6		72X14.8X9							
ANTENNA WEIGHT	35		73		111		50.7							
AZIMUTH	263		143		143		143							
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	185		185		185		185							
ANTENNA TIP HEIGHT	187		188		188		188							
MECHANICAL DOWNTILT	0		0		0		0							
FEEDER AMOUNT	2		Fiber + 2 Coax											
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020		Built-in		Built-in		Built-in						
SURGE ARRESTOR (QTY/MODEL)			5	DC/Fiber Squid (1) + AndrewAndrew APTDC-BDFDM-DB (4)										
DIPLEXER (QTY/MODEL)	1	Kaelus DBC2055F1V1-2	4	CCI Triplexer -TPX-070821										
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)				RRH Controlled		RRH Controlled		RRH Controlled						
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	1	CCI DTMABP7819VG12A (Twin 700/850 Bypass)												
CURRENT INJECTORS FOR TMA (QTY/MODEL)		AISG Compliant Diplexer												
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)			1	RRUS-E2	1	B14 4478	1	RRUS-11						
RRH - 850 band (QTY/MODEL)	1	RRUW	1	RRUS-11										
RRH - 1900 band (QTY/MODEL)	1	RRUW			1	RRUS-32 B2	1	RRUS-32 B2						
RRH - AWS band (QTY/MODEL)					1	RRUS-32 B66								
RRH - WCS band (QTY/MODEL)			1	RRUS-32										
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	LTE 6C AWS J, LTE 7C 700 UPPER D, RRH Add 1900 A3-A4 & E & C5 - Add a 12 port Antenna at POs3, - Add B14 radio, Add RRUS-32 B66 for AWS, Add RRUS-32 B2 for PCS. - Add 1 DC Fiber Squid (Showing total of 1 Squid per sector).// ADD 2*5216+2XMU+IDLe													
Local Market Note 2														
Local Market Note 3	2*5216 +2*XMU + IDLe													

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	59367.B.850.3G.1		CTV10772	CTV10772		UMTS 850	7770.00.850.08	13.5	263	8	None	Andrew 1-5/8	250						264.24		9	
	PORT 2	59367.B.850.3G.1,59367.B.850.3G.2		CTV1077B	CTV1077B		UMTS 850	7770.00.850.08	13.5	263	8	Bottom	Andrew 1-5/8	250						264.24		9	
ANTENNA POSITION 2	PORT 1	59367.B.850.4G.1		CTL00077_8B_1	CTL00077_8B_1		LTE 850	OPA-65R-LCUU-H6_849MHz_02DT	14.6	143	2	Bottom	Andrew 1-5/8	250						1000		11	
	PORT 2	59367.B.700.4G.3		CTL00077_7B_2_E	CTL00077_7B_2_E		LTE 700	OPA-65R-LCUU-	14	143	2	Bottom	Andrew 1-5/8	250						1475.7065		11	

								H6_719MHz_02DT															
	PORT 3	59367.B.WCS.4G.1		CTL01077_3B_1	CTL01077_3B_1		LTE WCS	OPA-65R-LCUU-H6_2350MHz_06DT	17.8	143	6	Top	Fiber	0						1285.2866		12	
ANTENNA POSITION 3	**PORT 1**	59367.B.700.4G.tmp5		CTL00077_7B_3_F	CTL00077_7B_3_F		LTE 700	QS66512-2_776MHz_02DT	13.7	143	2	Top	Fiber	0						1475.7065		13	
	PORT 3	59367.B.AWS.4G.tmp1		CTL00077_2B_1	CTL00077_2B_1		LTE AWS	QS66512-2_2130MHz_06DT	15.8	143	6	Top	Fiber	0						2535.1286		14	
	PORT 4	59367.B.AWS.4G.tmp4		CTL00077_2B_2	CTL00077_2B_2		LTE AWS	QS66512-2_2130MHz_06DT	15.8	143	6	Top	Fiber	0						2535.1286		14	
	PORT 7	59367.B.1900.4G.tmp3		CTL01077_9B_3	CTL01077_9B_3		LTE 1900	QS66512-2_1930MHz_06DT	15.9	143	6	Top	Fiber	0						3664.3757		14	
ANTENNA POSITION 4	**PORT 1**	59367.B.700.4G.1		CTL01077_7B_1	CTL01077_7B_1		LTE 700	HPA-65R-BUU-H6_719MHz_02DT	14.28	143	2	Top	Fiber	0						1475.7065		15	
	PORT 3	59367.B.1900.4G.1		CTL01077_9B_1	CTL01077_9B_1		LTE 1900	HPA-65R-BUU-H6_1930MHz_06DT	17.18	143	6	Top	Fiber	0						3664.3757		16	
	PORT 4	59367.B.1900.4G.1,59367.B.1900.4G.tmp4		CTL01077_9B_2	CTL01077_9B_2		LTE 1900	HPA-65R-BUU-H6_1930MHz_06DT	17.18	143	6	Top	Fiber	0						3664.3757		16	

Section 17C - FINAL TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	7770	OPA-65R-LCUU-H8	TPA-65R-LCUUUU-H8	HPA-65R-BUU-H8			
ANTENNA VENDOR	POWERWAVE	CCI Antennas	CCI	CCI Products			
ANTENNA SIZE (H x W x D)	55X11X5	92.7X14.4X7	96X14.4X8.6	92.4X14.8X7.4			
ANTENNA WEIGHT	35	88	75	68			
AZIMUTH	23	263	263	263			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	185	185	185	185			
ANTENNA TIP HEIGHT	187	189	189	189			
MECHANICAL DOWNTILT	0	0	0	0			
FEEDER AMOUNT	2	Fiber + 2 Coax					
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	2 Powerwave 7020	Built-in	Built-in	Built-in			
SURGE ARRESTOR (QTY/MODEL)	5	DC/Fiber Squid (1) + AndrewAndrew APTDC-BDFDM-DB (4)					
DIPLEXER (QTY/MODEL)	1 Kaelus DBC2055F1V1-2	4 CCI Triplexer -TPX-070821					
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH Controlled	RRH Controlled	RRH Controlled			
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	1 CCI DTMABP7819VG12A (Twin 700/850 Bypass)						
CURRENT INJECTORS FOR TMA (QTY/MODEL)	AISG Compliant Diplexer						
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)	1	RRUS-E2	1 B14 4478	1 RRUS-11			
RRH - 850 band (QTY/MODEL)	1 RRUW	1 RRUS-11					
RRH - 1900 band (QTY/MODEL)	1 RRUW		1 RRUS-32 B2	1 RRUS-32 B2			
RRH - AWS band (QTY/MODEL)			1 RRUS-32 B66				
RRH - WCS band (QTY/MODEL)	1	RRUS-32					
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	LTE 6C AWS J, LTE 7C 700 UPPER D, RRH Add 1900 A3-A4 & E & C5 - Add a 12 port Antenna at POs3, - Add B14 radio, Add RRUS-32 B66 for AWS, Add RRUS-32 B2 for PCS. - Add 1 DC Fiber Squid (Showing total of 1 Squid per sector).// ADD 2*5216+2XMU+IDLe						
Local Market Note 2							
Local Market Note 3	2*5216 +2*XMU + IDLe						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	59367.C.850.3G.1		CTV10773	CTV10773		UMTS 850	7770.00.850.06	13.5	23	6	None	Andrew 1-5/8	250						264.24		17	
	PORT 2	59367.C.850.3G.1,59367.C.850.3G.2		CTV1077C	CTV1077C		UMTS 850	7770.00.850.06	13.5	23	6	Bottom	Andrew 1-5/8	250						264.24		17	
ANTENNA POSITION 2	PORT 1	59367.C.850.4G.1		CTL00077_8C_1	CTL00077_8C_1		LTE 850	OPA-65R-LCUU-H8_849MHz_04DT	15.4	263	4	Bottom	Andrew 1-5/8	250						1000		19	
	PORT 2	59367.C.700.4G.4		CTL00077_7C_2_E	CTL00077_7C_2_E		LTE 700	OPA-65R-LCUU-	14.8	263	4	Bottom	Andrew 1-5/8	250						1475.7065		19	

								H8_719MHz_04DT															
	PORT 3	59367.C.WCS.4G.1		CTL01077_3C_1	CTL01077_3C_1		LTE WCS	OPA-65R-LCUU-H8_2350MHz_06DT	17.4	263	6	Top	Fiber	0						1285.2866		20	
ANTENNA POSITION 3	**PORT 1**	59367.C.700.4G.tmp5		CTL00077_7C_3_F	CTL00077_7C_3_F		LTE 700	TPA-65R-LCUUUU-H8_776MHz_04DT	15.5	263	4	Top	Fiber	0						1475.7065		21	
	PORT 3	59367.C.AWS.4G.tmp1		CTL00077_2C_1	CTL00077_2C_1		LTE AWS	TPA-65R-LCUUUU-H8_2133MHz_07DT	16.5	263	7	Top	Fiber	0						2535.1286		22	
	PORT 4	59367.C.AWS.4G.tmp4		CTL00077_2C_2	CTL00077_2C_2		LTE AWS	TPA-65R-LCUUUU-H8_2133MHz_07DT	16.5	263	7	Top	Fiber	0						2535.1286		22	
	PORT 7	59367.C.1900.4G.tmp3		CTL01077_9C_3	CTL01077_9C_3		LTE 1900	TPA-65R-LCUUUU-H8_1930MHz_07DT	16.3	263	7	Top	Fiber	0						3664.3757		22	
ANTENNA POSITION 4	**PORT 1**	59367.C.700.4G.1		CTL01077_7C_1	CTL01077_7C_1		LTE 700	HPA-65R-BUU-H8_719MHz_04DT	15.2	263	4	Top	Fiber	0						1475.7065		23	
	PORT 3	59367.C.1900.4G.1		CTL01077_9C_1	CTL01077_9C_1		LTE 1900	HPA-65R-BUU-H8_1930MHz_07DT	17.4	263	7	Top	Fiber	0						3664.3757		24	
	PORT 4	59367.C.1900.4G.1,59367.C.1900.4G.tmp4		CTL01077_9C_2	CTL01077_9C_2		LTE 1900	HPA-65R-BUU-H8_1930MHz_07DT	17.4	263	7	Top	Fiber	0						3664.3757		24	

Diagram - Sector	A/1	Diagram File Name - CT1077_A_B_C_LTEB14_AWS_PCS3__Rev1.vsd					
Atoll Site Name -	CTU1077	Location Name -	STORRS-UCONN	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND
Comments:							

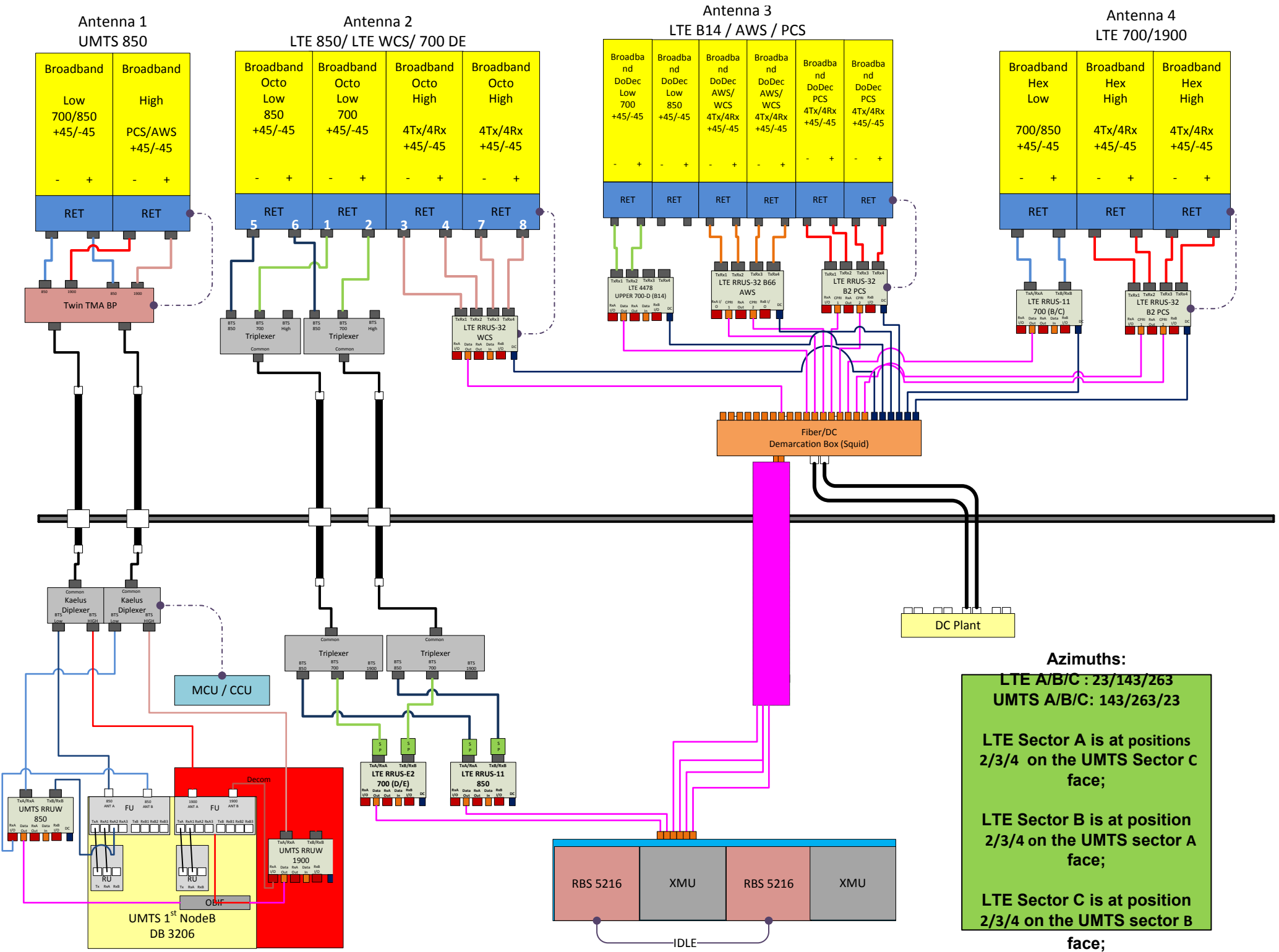


Diagram - Sector	B/2	Diagram File Name - CT1077_A_B_C_LTEB14_AWS_PCS3__Rev1.vsd					
Atoll Site Name -	CTU1077	Location Name -	STORRS-UCONN	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND
Comments:							

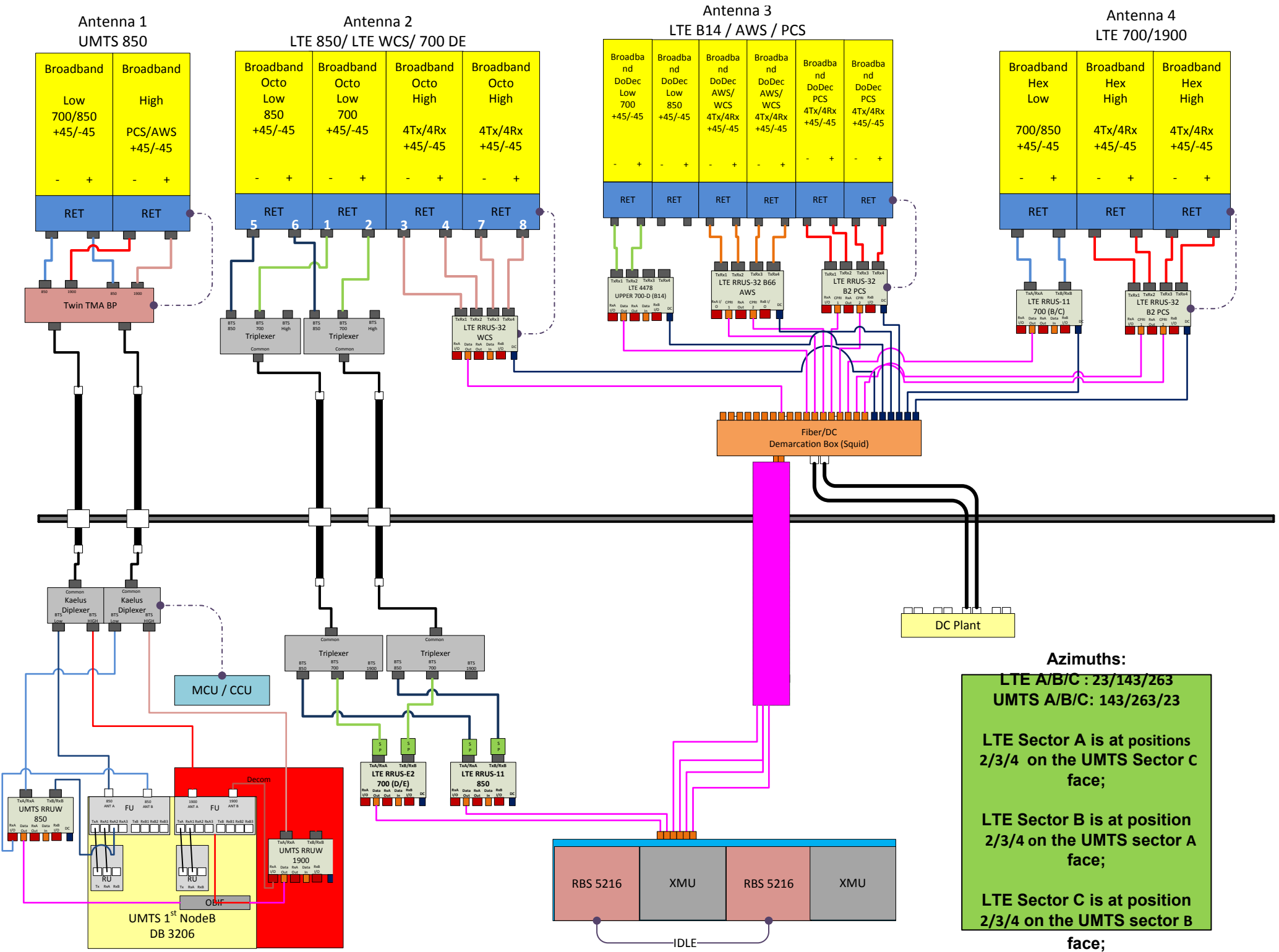
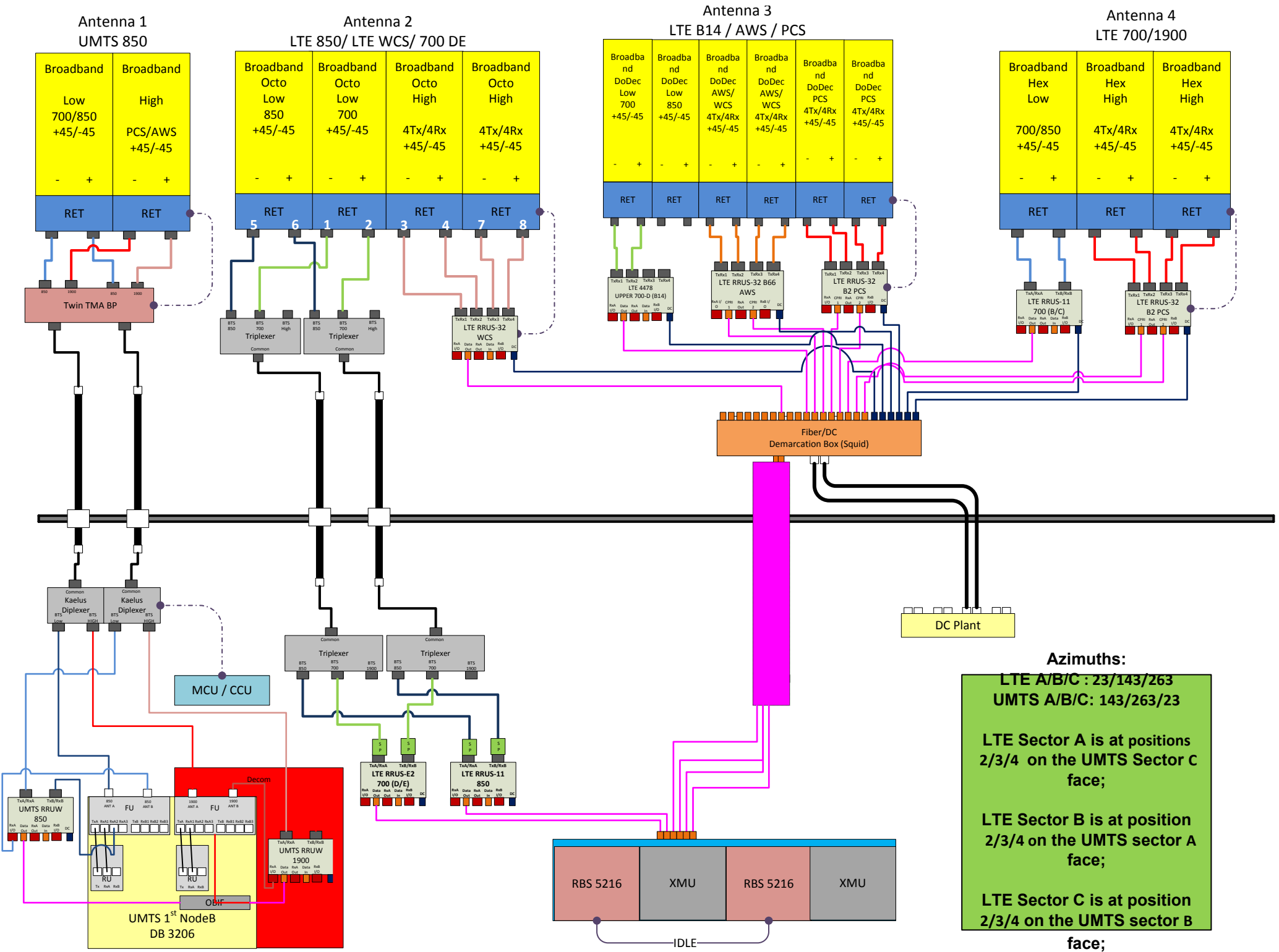


Diagram - Sector	C/3	Diagram File Name - CT1077_A_B_C_LTEB14_AWS_PCS3__Rev1.vsd					
Atoll Site Name -	CTU1077	Location Name -	STORRS-UCONN	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND
Comments:							



WORKFLOW SUMMARY							
Date	FROM State / Status	FROM ATTUID	TO State / Status	TO ATTUID	Operation	Comments	PACE Status
06/08/2017	Preliminary In Progress	mm093q	Preliminary Submitted for Approval	RC475S	Promote	Preliminary RFDS	NER-RCTB-17-02148 MRCTB023976 SUCCESS 06/08/2017 10:20:15 AM NER-RCTB-17-02235 MRCTB023938 SUCCESS 06/08/2017 10:20:15 AM NER-RCTB-17-02296 MRCTB024148 SUCCESS 06/08/2017 10:20:15 AM
07/13/2017	Preliminary Submitted for Approval	RC475S	Preliminary Approved	DC5778	Promote		
07/26/2017	Preliminary Approved	DC5778	Preliminary In Progress	rx855w	Pull Back	RFDS Update as per Demotion/ Promotion comments	
07/27/2017	Preliminary In Progress	rx855w	Preliminary Submitted for Approval	RC475S	Promote	RFDS as per scoping session held on "07-27-2017". This RFDS can be promoted for Final RF Approval.	NER-RCTB-17-02148 FAILURE 07/27/2017 4:46:07 PM NER-RCTB-17-02235 FAILURE 07/27/2017 4:46:07 PM NER-RCTB-17-02296 FAILURE 07/27/2017 4:46:07 PM
07/31/2017	Preliminary Submitted for Approval	RC475S	Preliminary Approved	DC5778	Promote		
08/01/2017	Preliminary Approved	DC5778	Final RF Approval	OM636A	Promote	Please promote to final	

WIRELESS COMMUNICATIONS FACILITY
CT1077 - LTE 6C/7C
STORRS UCONN
60 NORTH EAGLEVILLE ROAD
MANSFIELD, CT 06268

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2012 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2016 CONNECTICUT STATE BUILDING CODE, INCLUDING THE TIA-222 REVISION "G" STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES, 2016 CONNECTICUT FIRE SAFETY CODE AND, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
2. THE COMPOUND, TOWER, PRIMARY GROUND RING, ELECTRICAL SERVICE TO THE METER BANK AND TELEPHONE SERVICE TO THE DEMARCATION POINT ARE PROVIDED BY SITE OWNER. AS BUILT FIELD CONDITIONS REGARDING THESE ITEMS SHALL BE CONFIRMED BY THE CONTRACTOR. SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
3. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
4. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
5. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
6. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
7. CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
8. LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S/PROPERTY'S OPERATIONS, COORDINATE WORK WITH BUILDING/PROPERTY OWNER.
10. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
11. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
12. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
13. ANY AND ALL ERRORS, DISCREPANCIES, AND "MISSED" ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE AT&T CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO "EXTRA" WILL BE ALLOWED FOR MISSED ITEMS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
15. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
16. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
17. COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
18. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB- CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
19. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
20. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED PRIOR TO ANY EXCAVATION WORK. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
21. CONTRACTOR SHALL COMPLY WITH OWNERS ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.

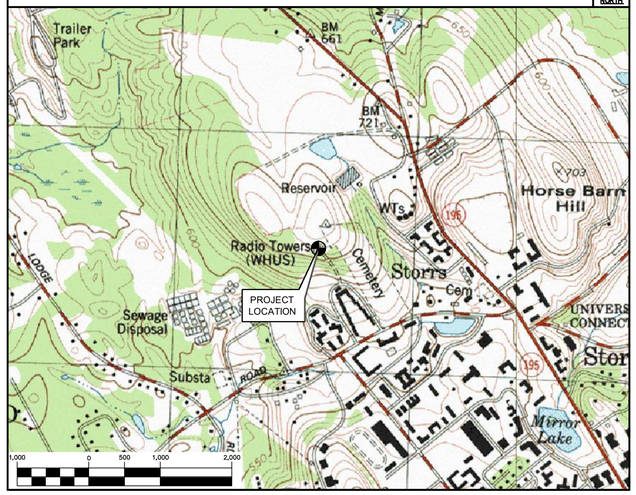
SITE DIRECTIONS

FROM: 500 ENTERPRISE DRIVE, ROCKY HILL, CONNECTICUT
TO: 60 N.EAGLEVILLE ROAD, MANSFIELD, CONNECTICUT

1.	HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD	0.36 MI
2.	TURN LEFT ONTO CAPITAL BLVD	0.27 MI
3.	TURN LEFT ONTO WEST ST	0.16 MI
4.	MERGE ONTO I-91 N VIA THE RAMP ON THE LEFT TOWARD HARTFORD.	7.79 MI
5.	MERGE ONTO CT-15 N/WILBUR CROSS HWY N VIA EXIT 29 TOWARD I-84 E/E HARTFORD/BOSTON.	2.14 MI
6.	CT-15 N/WILBUR CROSS HWY N BECOMES I-84 E/US-6 E/WILBUR CROSS HWY N	1.50 MI
7.	KEEP LEFT TO TAKE I-84 E/WILBUR CROSS HWY N TOWARD BOSTON	14.45 MI
8.	TAKE THE CT-195 EXIT, EXIT 68, TOWARD TOLLAND/MANSFIELD.	0.27 MI
9.	TURN RIGHT ONTO N EAGLEVILLE RD 60 N.EAGLEVILLE ROAD IN ON THE LEFT	7.11 MI

VICINITY MAP

SCALE: 1" = 1000'



PROJECT SUMMARY

1. THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:
   - A. INSTALL (3) NEW (12) PORT ANTENNAS, (1) PER SECTOR ON POSITION 3.
   - B. INSTALL (3) NEW RRUS-32 B66 ON POSITION 3 ANTENNAS, (1) PER SECTOR.
   - C. INSTALL (3) NEW RRUS-32 B2 ON POSITION 3 ANTENNAS, (1) PER SECTOR.
   - D. INSTALL (3) NEW RRUS-B14 ON POSITION 3 ANTENNAS, (1) PER SECTOR.
   - E. INSTALL (1) NEW SURGER ARRESTOR WIHTIN GAMMA SECTOR.

PROJECT INFORMATION

AT&T SITE NUMBER:	CT1077
AT&T SITE NAME:	STORRS-UCONN
SITE ADDRESS:	60 NORTH EAGLEVILLE ROAD MANSFIELD, CT 06268
LESSEE/APPLICANT:	AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067
ENGINEER:	CENTEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT 06405
PROJECT COORDINATES:	LATITUDE: 41°-48'-50.55" N LONGITUDE: 72°-15'-34.02" W GROUND ELEVATION: ±853' AMSL SITE COORDINATES AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	1
N-1	NOTES, SPECIFICATIONS AND DETAILS	1
C-1	PLANS AND ELEVATION	1
C-2	LTE 6C/7C EQUIPMENT DETAILS	1
E-1	LTE SCHEMATIC DIAGRAM AND NOTES	1
E-2	LTE WIRING DIAGRAM	1
E-3	TYPICAL ELECTRICAL DETAILS	1

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
1	10/30/17	FJP	CAG	CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS
0	10/26/17	DMD	CAG	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL
STATE OF CONNECTICUT * PROFESSIONAL ENGINEER * 27517 LICENSED

at&t

EMPIRE telecom

CENTEK engineering
Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

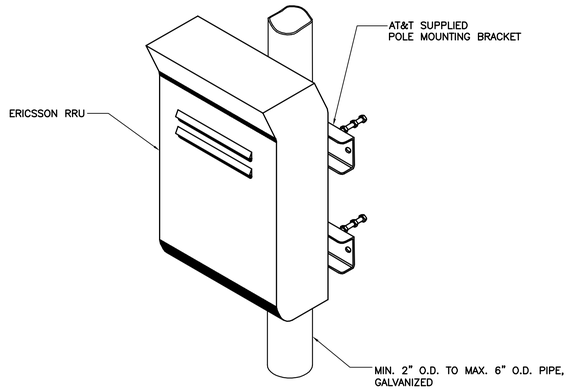
AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
STORRS-UCONN
SITE NUMBER: CT1107
60 NORTH EAGLEVILLE ROAD
MANSFIELD, CT 06268

DATE: 08/31/17
SCALE: AS NOTED
JOB NO. 17004.42

TITLE SHEET

T-1

Sheet No. 1 of 7

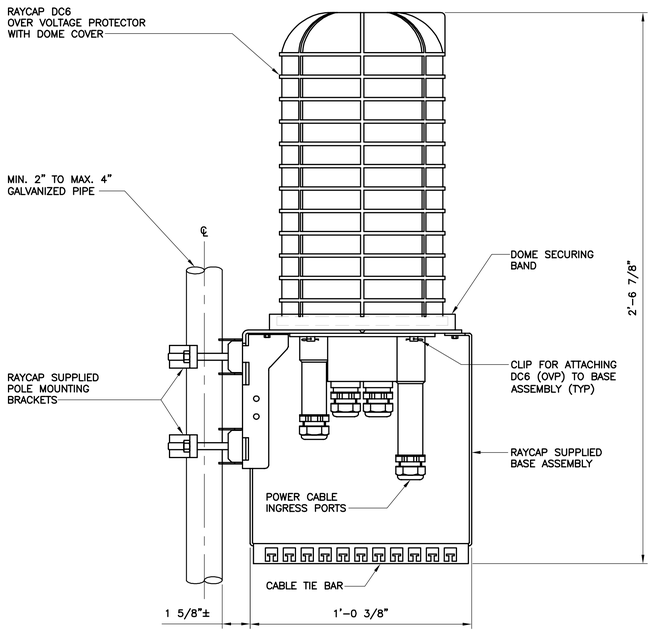


ISOMETRIC VIEW

NOTES:

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

1 / N-1 **TYPICAL RRUS MOUNTING DETAILS**
SCALE: NTS



ELEVATION

NOTES:

1. RAYCAP VIA AT&T SUPPLIES THE DC6 OVER VOLTAGE PROTECTOR AND PIPE MOUNTING BRACKETS. SUBCONTRACTOR SHALL SUPPLY THE PIPE.

2 / N-1 **RAYCAP DC6 MOUNTING DETAIL**
SCALE: 3" = 1'-0"

NOTES AND SPECIFICATIONS

DESIGN BASIS:

GOVERNING CODE: 2012 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2016 CT STATE BUILDING CODE AND AMENDMENTS.

1. DESIGN CRITERIA:
   - WIND LOAD: PER TIA 222 G (ANTENNA MOUNTS): 95-105 MPH (3 SECOND GUST)
   - RISK CATEGORY: II (BASED ON IBC APPENDIX N)
   - NOMINAL DESIGN SPEED (TOWER): 101 MPH (Vasd) (EXPOSURE C/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-10) PER 2012 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2016 CONNECTICUT STATE BUILDING CODE.
   - SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

GENERAL NOTES:

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

STRUCTURAL STEEL

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

PAINT NOTES

PAINTING SCHEDULE:

1. ANTENNA PANELS:
   - A. SHERWIN WILLIAMS POLANE-B
   - B. COLOR TO BE MATCHED WITH EXISTING TOWER STRUCTURE.
2. COAXIAL CABLES:
   - A. ONE COAT OF DTM BONDING PRIMER (2-5 MILS. DRY FINISH)
   - B. TWO COATS OF DTM ACRYLIC PRIMER/FINISH (2.5-5 MILS. DRY FINISH)
   - C. COLOR TO BE FIELD MATCHED WITH EXISTING STRUCTURE.

EXAMINATION AND PREPARATION:

1. DO NOT APPLY PAINT IN SNOW, RAIN, FOG OR MIST OR WHEN RELATIVE HUMIDITY EXCEEDS 85%. DO NOT APPLY PAINT TO DAMP OR WET SURFACES.
2. VERIFY THAT SUBSTRATE CONDITIONS ARE READY TO RECEIVE WORK. EXAMINE SURFACE SCHEDULED TO BE FINISHED PRIOR TO COMMENCEMENT OF WORK. REPORT ANY CONDITION THAT MAY POTENTIALLY AFFECT PROPER APPLICATION.
3. TEST SHOP APPLIED PRIMER FOR COMPATIBILITY WITH SUBSEQUENT COVER MATERIALS.
4. PERFORM PREPARATION AND CLEANING PROCEDURE IN STRICT ACCORDANCE WITH COATING MANUFACTURER'S INSTRUCTIONS FOR EACH SUBSTRATE CONDITION.
5. CORRECT DEFECTS AND CLEAN SURFACES WHICH AFFECT WORK OF THIS SECTION. REMOVE EXISTING COATINGS THAT EXHIBIT LOOSE SURFACE DEFECTS.
6. IMPERVIOUS SURFACE: REMOVE MILDEW BY SCRUBBING WITH SOLUTION OF TRI-SODIUM PHOSPHATE AND BLEACH. RINSE WITH CLEAN WATER AND ALLOW SURFACE TO DRY.
7. ALUMINUM SURFACE SCHEDULED FOR PAINT FINISH: REMOVE SURFACE CONTAMINATION BY STEAM OR HIGH-PRESSURE WATER. REMOVE OXIDATION WITH ACID ETCH AND SOLVENT WASHING. APPLY ETCHING PRIMER IMMEDIATELY FOLLOWING CLEANING.
8. FERROUS METALS: CLEAN UNGALVANIZED FERROUS METAL SURFACES THAT HAVE NOT BEEN SHOP COATED; REMOVE OIL, GREASE, DIRT, LOOSE MILL SCALE, AND OTHER FOREIGN SUBSTANCES. USE SOLVENT OR MECHANICAL CLEANING METHODS THAT COMPLY WITH THE STEEL STRUCTURES PAINTING COUNCIL'S (SSPC) RECOMMENDATIONS. TOUCH UP BARE AREAS AND SHOP APPLIED PRIME COATS THAT HAVE BEEN DAMAGED. WIRE BRUSH, CLEAN WITH SOLVENTS RECOMMENDED BY PAINT MANUFACTURER, AND TOUCH UP WITH THE SAME PRIMER AS THE SHOP COAT.
9. GALVANIZED SURFACES: CLEAN GALVANIZED SURFACES WITH NON-PETROLEUM-BASED SOLVENTS SO SURFACE IS FREE OF OIL AND SURFACE CONTAMINANTS. REMOVE PRETREATMENT FROM GALVANIZED SHEET METAL FABRICATED FROM COIL STOCK BY MECHANICAL METHODS.
10. ANTENNA PANELS: REMOVE ALL OIL, DUST, GREASE, DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION. PANELS MUST BE WIPED WITH METHYL ETHYL KETONE (MEK).
11. COAXIAL CABLES: REMOVE ALL OIL, DUST, GREASE. DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION.

CLEANING:

1. COLLECT WASTE MATERIAL, WHICH MAY CONSTITUTE A FIRE HAZARD, PLACE IN CLOSED METAL CONTAINERS AND REMOVE DAILY FROM SITE.

APPLICATION:

1. APPLY PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. DO NOT APPLY FINISHES TO SURFACES THAT ARE NOT DRY.
3. APPLY EACH COAT TO UNIFORM FINISH.
4. APPLY EACH COAT OF PAINT SLIGHTLY DARKER THAN PRECEDING COAT UNLESS OTHERWISE APPROVED.
5. SAND METAL LIGHTLY BETWEEN COATS TO ACHIEVE REQUIRED FINISH.
6. VACUUM CLEAN SURFACES FREE OF LOOSE PARTICLES. USE TACK CLOTH JUST PRIOR TO APPLYING NEXT COAT.
7. ALLOW APPLIED COAT TO DRY BEFORE NEXT COAT IS APPLIED.

COMPLETED WORK:

1. SAMPLES: PREPARE 24" X 24" SAMPLE AREA FOR REVIEW.
2. MATCH APPROVED SAMPLES FOR COLOR, TEXTURE AND COVERAGE. REMOVE REFINISH OR REPAINT WORK NOT IN COMPLIANCE WITH SPECIFIED REQUIREMENTS.

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	10/26/17	DMD	CAG	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
1	10/30/17	FJP	CAG	CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS

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WIRELESS COMMUNICATIONS FACILITY

STORRS-UCONN

SITE NUMBER: CT1107

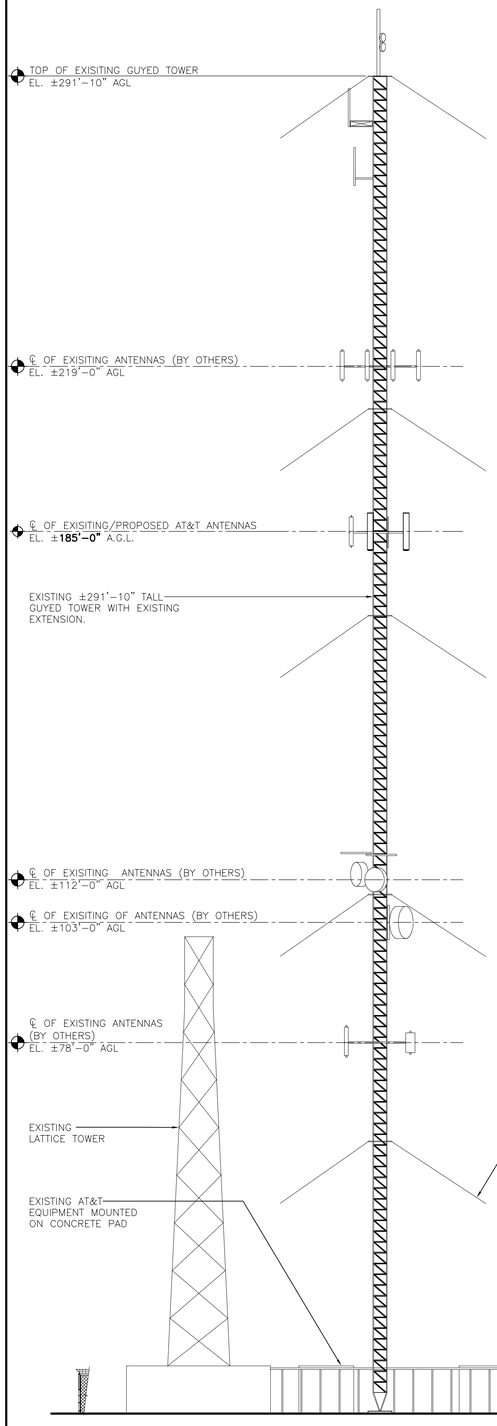
60 NORTH EAGLEVILLE ROAD
MANSFIELD, CT 06268

DATE: 08/31/17
SCALE: AS NOTED
JOB NO. 17004.42

NOTES, SPECIFICATIONS AND DETAILS

N-1

Sheet No. 2 of 7



3 C-1 **TOWER ELEVATION**
SCALE: 1" = 15'-0"

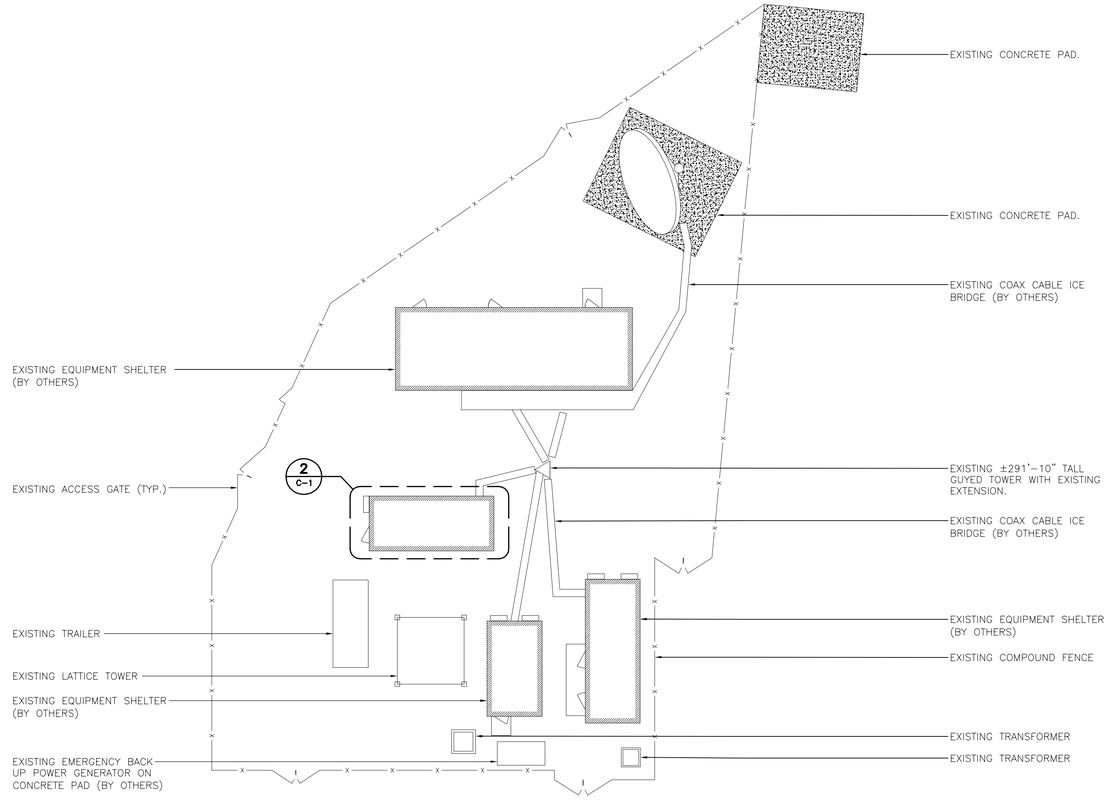
GRAPHIC SCALE
15 0 7.5 15 30 60
(IN FEET)
1 inch = 15 ft.

TOWER STRUCTURAL NOTES:

1. REFER TO STRUCTURAL ANALYSIS REPORT PREPARED BY CENTEK ENGINEERING, INC., PROJ. NO. 17004.42, DATED SEPTEMBER 11, 2017 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL ANTENNAS AND COAX TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY CENTEK ENGIEERING AND FINAL AT&T RF DATA SHEET.

NOTES:

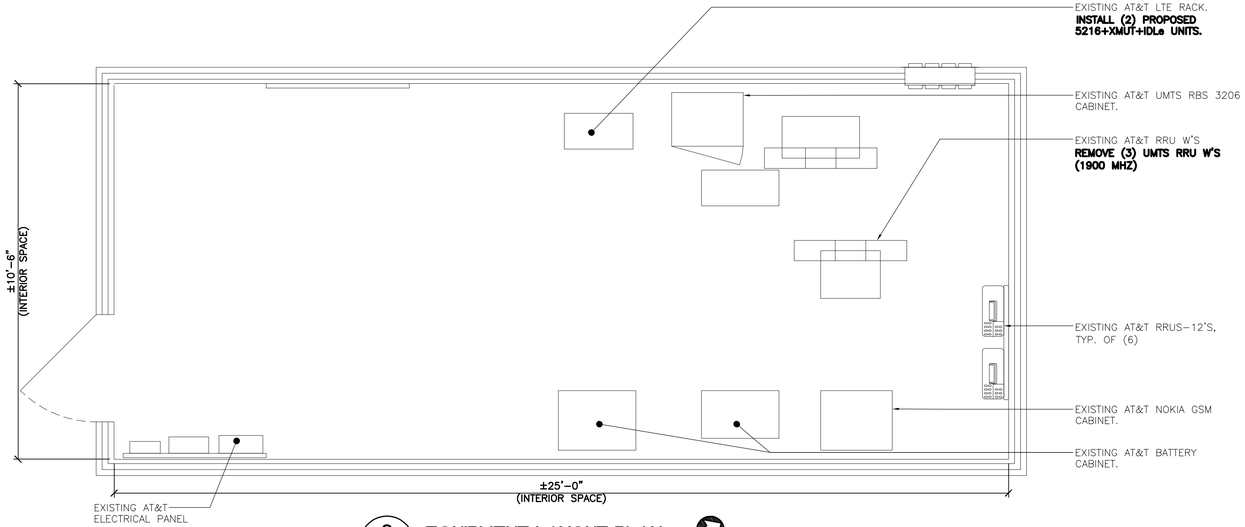
1. A.G.L. = ABOVE GRADE LEVEL



1 C-1 **COMPOUND PLAN**
SCALE: 3/16" = 1'-0"

TRUE NORTH

3 C-1



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

TRUE NORTH

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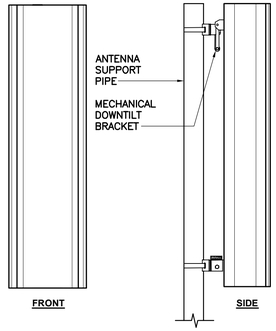
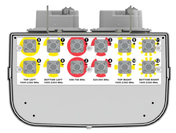
PLANS AND ELEVATION

C-1

Sheet No. 3 of 7



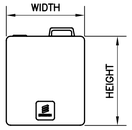


CCI-H8 BOTTOM

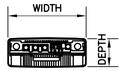
QUINTEL BOTTOM

ALPHA/BETA/GAMMA ANTENNA		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: CCI MODEL: TPA-65R-LCUUUU-H8	92.4"L x 14.8"W x 7.4"D	68.0 LBS.
MAKE: QUINTEL MODEL: QS66512-2	72"L x 12"W x 9.6"D	111.0 LBS.

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



FRONT VIEW



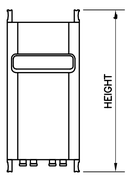
BOTTOM VIEW

B14 4478

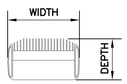
RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: B14 4478	14.9"L x 13.1"W x 7.3"D	60 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.

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

6 / C-2 ERICSSON B14 4478 DETAIL
SCALE: 1" = 1'-0"



FRONT VIEW



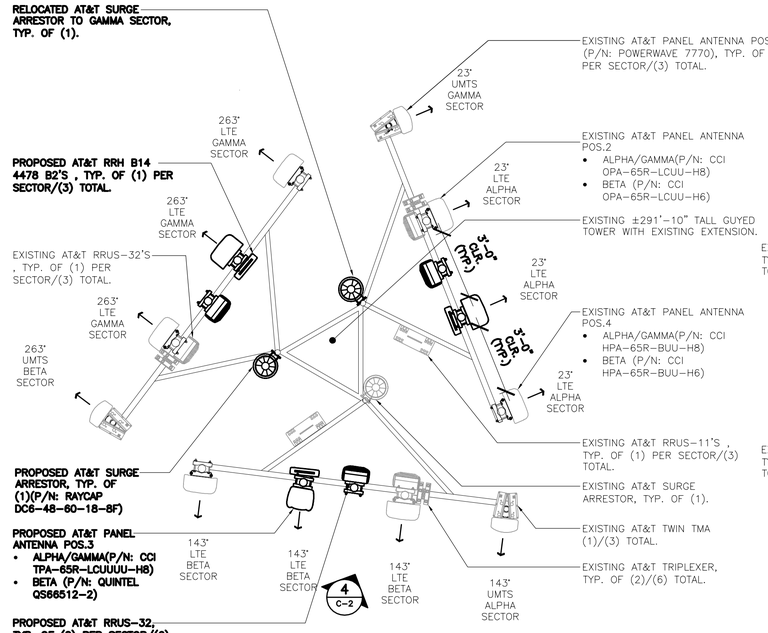
TOP VIEW

RRUS-32 B2/B66

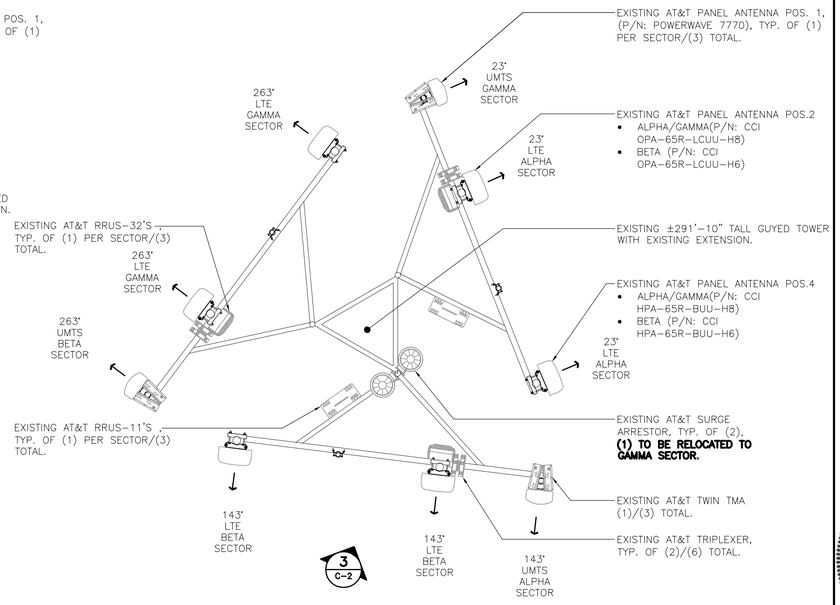
RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRUS 32 B66	27.17"H x 12.05"W x 7.01"D	52.91 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.
MAKE: ERICSSON MODEL: RRUS-32 B2	27.17"H x 12.05"W x 7.01"D	52.91 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.

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

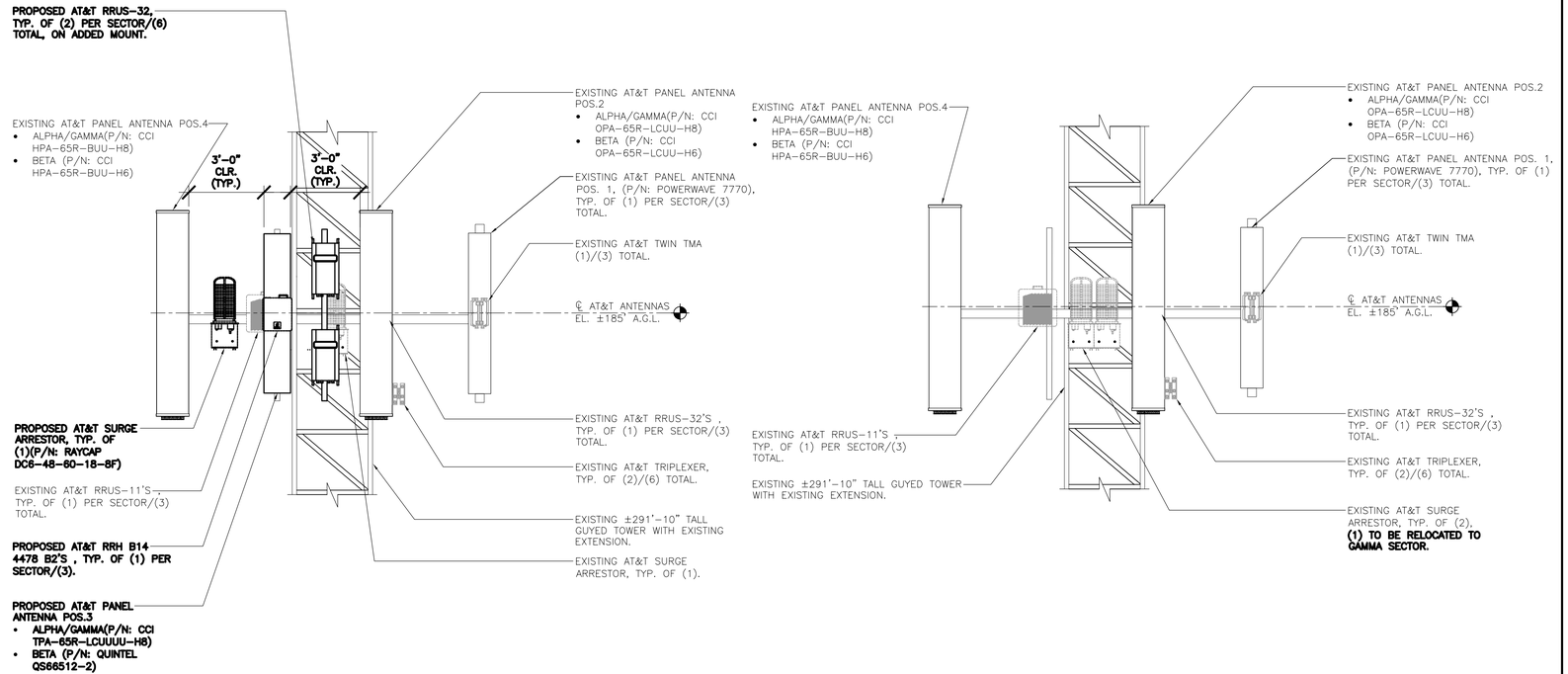
7 / C-2 ERICSSON REMOTE RADIO UNITS
SCALE: 1" = 1'-0"



2 / C-2 PROPOSED ANTENNA PLAN
SCALE: 3/8" = 1'-0" NORTH



1 / C-2 EXISTING ANTENNA PLAN
SCALE: 3/8" = 1'-0" NORTH



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

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

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
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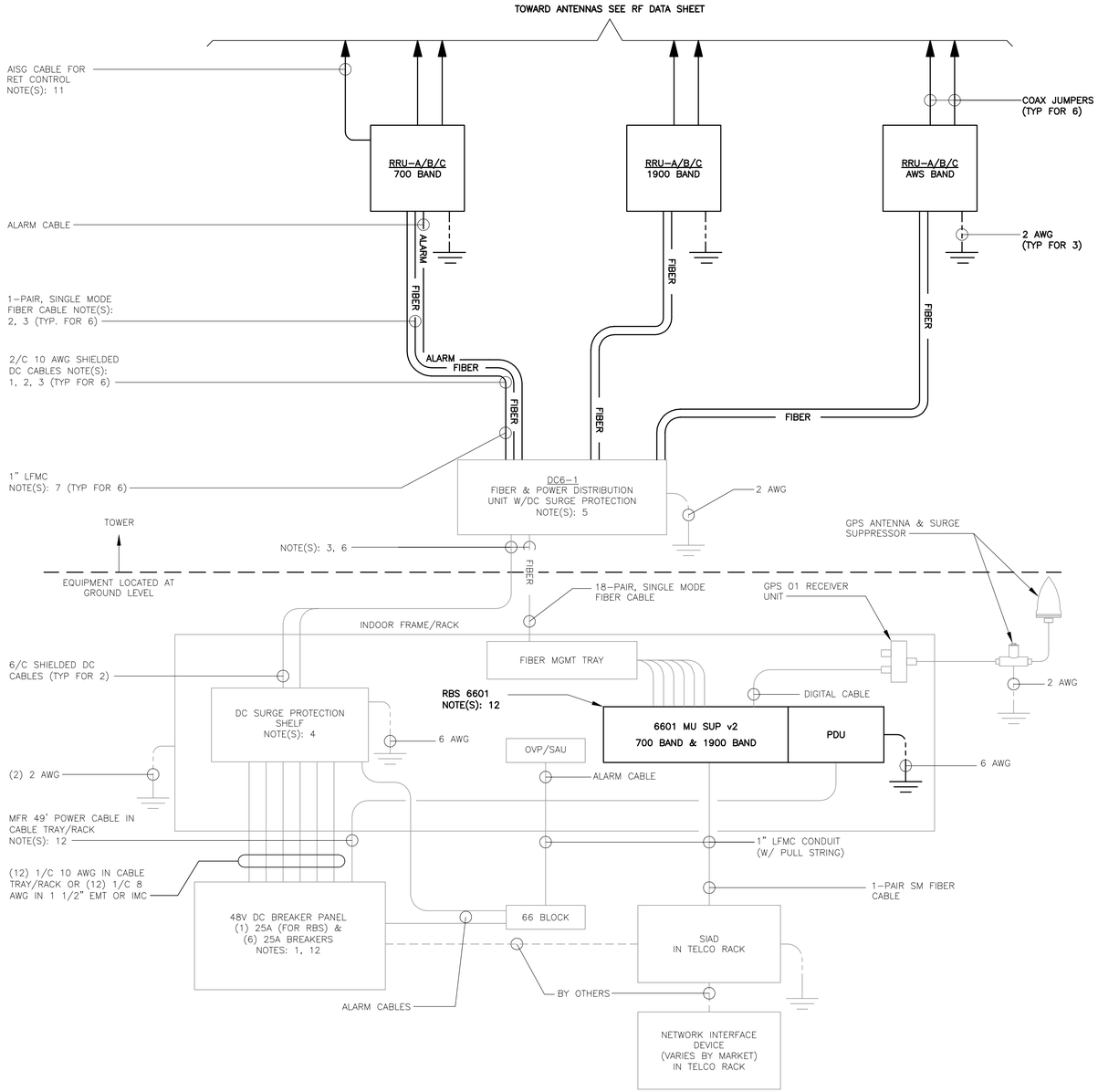
LTE 6C/7C EQUIPMENT DETAILS

C-2

Sheet No. 4 of 7



1 / E-1 **LTE SCHEMATIC DIAGRAM**

NOT TO SCALE

LTE SCHEMATIC DIAGRAM NOTES:

1. BREAKERS TO BE TAGGED AND LOCKED OUT. A 20A (MIN.) OR 30A (MAX.) BREAKER FOR RRUs MAY BE SUBSTITUTED FOR THE RECOMMENDED 25A BREAKER. SIZE 12 CONDUCTORS MAY BE USED ONLY WITH 20A BREAKERS.
2. LEAVE COILED AND PROTECTED UNTIL TERMINATED.
3. DC AND FIBER CABLE SHALL BE ROUTED WITH THE EXISTING COAX CABLE.
4. DC SURGE PROTECTION SHELF SHALL BE RAYCAP DCx-48-60-RM.
5. FIBER & DC DISTRIBUTION BOX W/DC SURGE PROTECTION SHALL BE RAYCAP DC6-48-60-18-8F.
6. SUPPORT FIBER & DC POWER CABLES WITH SNAP-IN HANGERS SPACED NO GREATER THAN 3 FEET APART ON TOWER. SUPPORT FIBER AND DC POWER CABLES INSIDE MONOPOLE WITH CABLE HOISTING GRIPS AT 250 FT MAXIMUM INTERVALS. DRESS CABLES TO PREVENT CONTACT WITH ENTRANCE AND EXIT OPENINGS.
7. CONDUIT TO BE USED ON A TOWER IF THE RRU IS MORE THAN 10' FROM THE DISTRIBUTION UNITS. MAX CABLE LENGTH IS 16 FEET.
8. SINGLE-CONDUCTOR DC POWER CABLES SHALL BE TELCOFLEX® OR KS24194™, COPPER, UL LISTED RHH NON-HALOGEN, LOW SMOKE WITH BRAIDED COVER, TYPE TC (1/0 AND LARGER). UNLESS OTHERWISE NOTED, STRANDING SHALL BE CLASS B (TYPE III) FOR CABLES SIZES 14, 12 & 10 AWG AND CLASS I (TYPE IV) FOR SIZES 8 AWG AND LARGER. CABLES SHALL BE COLOR CODED RED FOR +24V, BLUE FOR -48V AND GRAY FOR 24V AND 48V RETURN CONDUCTORS. MULTI-CONDUCTOR DC POWER CABLES SHALL BE COPPER, CLASS B STRANDING WITH FLAME RETARDANT PVC JACKET, TYPE TC, UL LISTED FOR 90°C DRY/ 75°C WET INSTALLATION.
9. GROUNDING WIRES SHALL BE COPPER, GREEN THHN/THWN UL LISTED FOR 90°C DRY/75°C WET INSTALLATION. MINIMUM SIZE IS 6 AWG UNLESS NOTED OTHERWISE.
10. FIBER OPTIC CABLES SHALL BE INSTALLED IN FLEXIBLE CONDUIT AS SCOPED BY MARKET.
11. RET CONTROL FROM THE RRU IS AN OPTIONAL METHOD OF CONNECTION. REFER TO RF DATA SHEET FOR APPLICABILITY.
12. RBS 6601 VARIANT 2 REQUIRES A 25A BREAKER AND 10 AWG (MIN.) CONDUCTORS. REPLACE EXISTING 15A OR 20A BREAKERS AND 12 AWG CONDUCTORS WHEN UPGRADING AN EXISTING RBS 6601 VARIANT 1.

ELECTRICAL NOTES

1. PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL CONSTRUCTION STANDARDS AND SPECIFICATIONS, AND ALL MANUFACTURER DOCUMENTATION FOR ALL EQUIPMENT TO BE INSTALLED.
2. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH LOCAL BUILDING CODE, NATIONAL ELECTRIC CODE, OWNER AND MANUFACTURER'S SPECIFICATIONS.
3. CONNECT ALL NEW EQUIPMENT TO EXISTING TELCO AS REQUIRED BY MANUFACTURER.
4. MAINTAIN ALL CLEARANCES REQUIRED BY NEC AND EQUIPMENT MANUFACTURER.
5. PRIOR TO INSTALLATION CONTRACTOR SHALL MEASURE EXISTING ELECTRICAL LOAD AND VERIFY EXISTING AVAILABLE CAPACITY FOR PROPOSED INSTALLATION. IF INADEQUATE CAPACITY IS AVAILABLE, CONTRACTOR SHALL COORDINATE WITH LOCAL ELECTRIC UTILITY COMPANY TO UPGRADE EXISTING ELECTRIC SERVICE.
6. CONTRACTOR SHALL INSPECT EXISTING GROUNDING AND LIGHTNING PROTECTION SYSTEM AND ENSURE THAT IT IS IN COMPLIANCE WITH NEC, AND SITE OWNER'S SPECIFICATIONS. THE RESULTS OF THIS INSPECTION SHALL BE PRESENTED TO OWNERS REPRESENTATIVE, AND ANY DEFICIENCIES SHALL BE CORRECTED.
7. ALL TRANSMISSION TOWER SITES CONTAIN AN EXTENSIVE BURIED GROUNDING SYSTEM. ALL GROUNDING WORK MUST BE COORDINATED WITH, AND APPROVED BY, THE TOWER OWNER'S SITE REPRESENTATIVE. ALL OF THE TOWER OWNER'S SPECIFICATIONS MUST BE STRICTLY FOLLOWED.
8. PROVIDE AND INSTALL GROUND KITS FOR ALL NEW COAXIAL CABLES AND BOND TO EXISTING OWNERS GROUNDING SYSTEM PER OWNERS SPECIFICATIONS AND NEC.
9. ALL CONDUCTORS SHALL BE TYPE THWN (INT. APPLICATION) AND XHHW (EXT. APPLICATION), 75 DEGREE C, 600 VOLT INSULATION, SOFT ANNEALED STRANDED COPPER. #10 AWG AND SMALLER SHALL BE SPLICED USING ACCEPTABLE SOLDERLESS PRESSURE CONNECTORS. #8 AWG AND LARGER SHALL BE SPLICED USING COMPRESSION SPLIT-BOLT TYPE CONNECTORS, #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR FOR LINE VOLTAGE BRANCH CIRCUITS. REFER TO PANEL SCHEDULE FOR BRANCH CIRCUIT CONDUCTOR SIZE(S). CONDUCTORS SHALL BE COLOR CODED FOR CONSISTENT PHASE IDENTIFICATION:
10. MINIMUM BENDING RADIUS FOR CONDUCTORS SHALL BE 12 TIMES THE LARGEST DIAMETER OF BRANCH CIRCUIT CONDUCTOR.
11. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.
12. THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH OWNER'S REPRESENTATIVE, DESIGN ENGINEER AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES AS MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR SCHEDULING OF ALL INSPECTIONS AS MAY BE REQUIRED BY THE LOCAL AUTHORITY.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE SITE AND/OR BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.
15. THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE DATE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.
16. DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL WITHOUT EXTRA CHARGE, MAKE MODIFICATIONS TO THE LAYOUT OF THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF WORK. CHECK ALL DRAWINGS AND VISIT JOB SITE TO VERIFY SPACE AND TYPE OF EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.
17. ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.
18. GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.
19. EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122. (MIN. #12 AWG).
20. CONTRACTOR SHALL PROVIDE A CELLULAR GROUNDING SYSTEM WITH THE MAXIMUM AC RESISTANCE TO GROUND OF 5 OHM BETWEEN ANY POINT ON THE GROUNDING SYSTEM AS MEASURED BY 3-POINT GROUNDING TEST. (REFER TO SECTION 16960).

TESTS BY INDEPENDENT ELECTRICAL TESTING FIRM

A. CONTRACTOR SHALL RETAIN THE SERVICES OF A LOCAL INDEPENDENT ELECTRICAL TESTING FIRM (WITH MINIMUM 5 YEARS COMMERCIAL EXPERIENCE IN THE ELECTRICAL TESTING INDUSTRY) AS SPECIFIED BY OWNER TO PERFORM:

   TEST 1: RESISTANCE TO GROUND TEST ON THE CELLULAR GROUNDING SYSTEM.

   THE TESTING FIRM SHALL INCLUDE THE FOLLOWING INFORMATION WITH THE REPORT:

   1. TESTING PROCEDURE INCLUDING THE MAKE AND MODEL OF TEST EQUIPMENT.
   2. CERTIFICATION OF TESTING EQUIPMENT CALIBRATION WITHIN SIX (6) MONTHS OF DATE OF TESTING. INCLUDE CERTIFICATION LAB ADDRESS AND TELEPHONE NUMBER.
   3. GRAPHICAL DESCRIPTION OF TESTING METHOD ACTUALLY IMPLEMENTED.

B. TESTING SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF OWNERS CONSTRUCTION REPRESENTATIVE. TESTING DATA SHALL BE INITIALED AND DATED BY THE CONSTRUCTION AND INCLUDED WITH THE WRITTEN REPORT/ANALYSIS.

C. THE CONTRACTOR SHALL FORWARD SIX (6) COPIES OF THE INDEPENDENT ELECTRICAL TESTING FIRM REPORT/ANALYSIS TO ENGINEER A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO THE JOB TURNOVER.

D. CONTRACTOR TO PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE TO OWNER AND ENGINEER FOR ALL TESTS REQUIRING WITNESSING.

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
1	10/30/17	FJP	CAG	CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS
0	10/26/17	DMD	CAG	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL — CONNECTICUT — CARLO A. GAVAZZI — 27517 — LICENSED PROFESSIONAL ENGINEER

at&t

EMPIRE telecom

CENTEK engineering
Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

AT&T MOBILITY

WIRELESS COMMUNICATIONS FACILITY

STORRS-UCONN

SITE NUMBER: CT1107

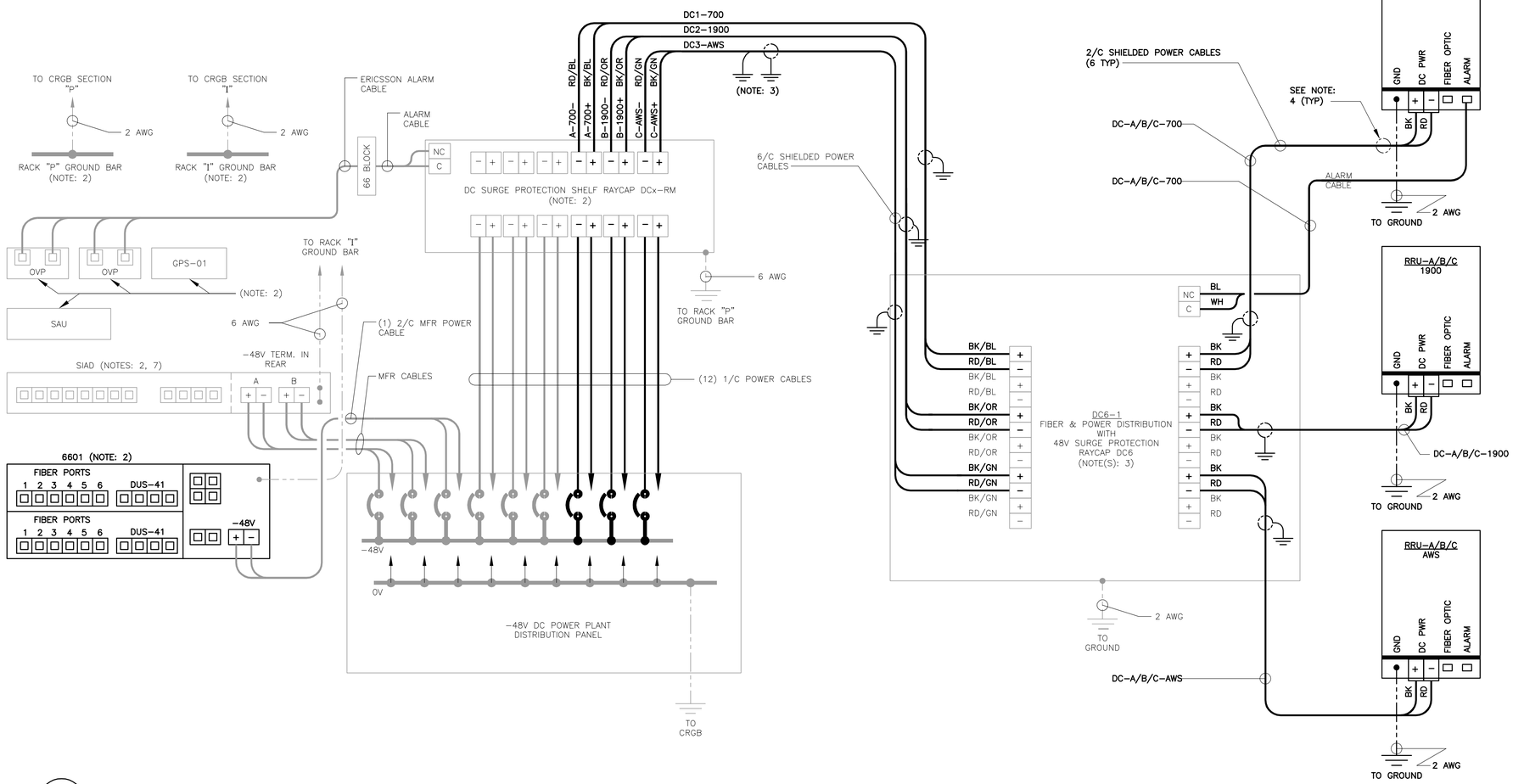
60 NORTH EAGLEVILLE ROAD
MANSFIELD, CT 06268

DATE:	08/31/17
SCALE:	AS NOTED
JOB NO.	17004.42

LTE SCHEMATIC DIAGRAM AND NOTES

E-1

Sheet No. 5 of 7



1 / E–2 LTE WIRING DIAGRAM

NOT TO SCALE

LTE WIRING DIAGRAM NOTES:

1. LABEL THE DC POWER CABLES AT BOTH ENDS OF EVERY WIRE AND IN ANY PULL BOX IF USED. LABEL SHALL BE DURABLE, SELF ADHESIVE, WRAPPED LONGITUDINALLY ALONG THE CABLE AND STATE THE SECTOR, FREQUENCY BAND AND POLARITY; I.E. "A–1900+". CABLE AND WIRE LABELS SHOWN ARE REPRESENTATIVE AND MAY BE MODIFIED AS DIRECTED BY AT&T.
2. INSTALL ON BASEBAND EQUIPMENT RACK.
3. THE BARE GROUND WIRE OF EACH MULTI–CONDUCTOR CABLE SHALL BE CONNECTED TO THE "P" GROUND BAR ON THE RACK. WHEN A SHIELDED CABLE IS USED, THE DRAIN WIRE ALSO SHALL BE CONNECTED TO THE "P" GROUND BAR.
4. CABLE GROUND WIRE AND SHIELD DRAIN WIRE TO BE LEFT UN–TERMINATED AT RRU AND DC POWER PLANT.
5. SEE LTE SCHEMATIC DIAGRAM DETAIL 1/E–1 FOR BREAKER RATING.

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
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0	10/26/17	DMD	CAG	CONSTRUCTION DRAWINGS – ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL — STATE OF CONNECTICUT — CAMILO A. GAVIRIA — LICENSED — 25251 — PROFESSIONAL ENGINEER

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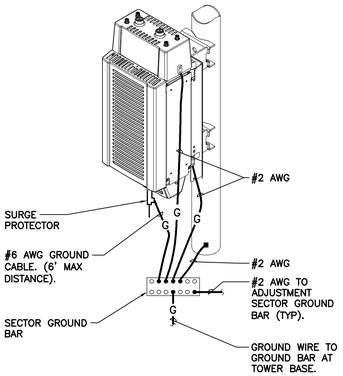
LTE WIRING DIAGRAM

E–2

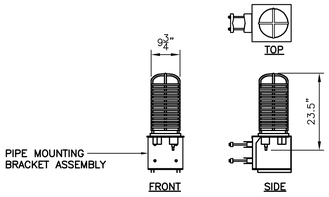
Sheet No. 6 of 7

EACH RRH CABINET SHALL BE GROUNDED IN THE FOLLOWING MANNER:

1. AT TOP OF THE CABINET
2. AT RIGHT SIDE OF THE CABINET.



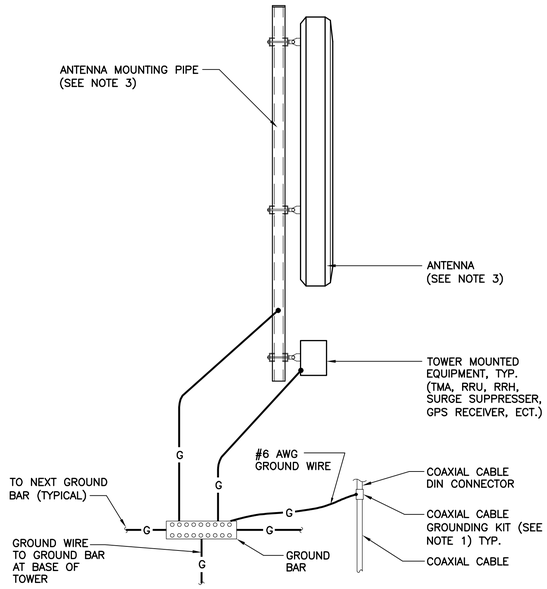
3 E-3 **RRU POLE MOUNT GROUNDING**
NOT TO SCALE



SITE TYPE	ARRESTOR MAKE/MODEL	QTY REQUIRED	ARRESTOR LOCATION	WEIGHT
	MAKE: RAYCAP (SQUID) MODEL: DC6-48-60-18-8F	(1) PER SITE	TOWER, ADJACENT TO AT&T ANTENNAS AND RRUs.	20 LBS. (WITHOUT MOUNT)

NOTES:
1. CONTRACTOR TO COORDINATE FINAL SURGE ARRESTOR MODEL SELECTION(S) WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.
2. CONTRACTOR TO INSTALL ARRESTOR IN CONFORMANCE WITH MANUFACTURERS RECOMMENDATIONS.

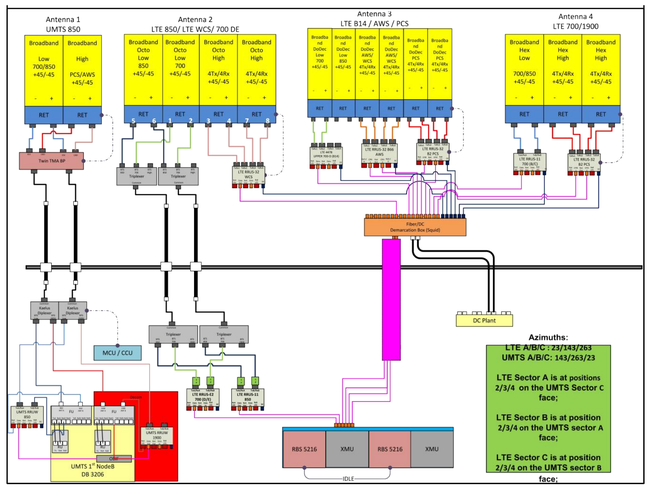
2 E-3 **SURGE ARRESTOR DETAIL**
SCALE: NTS



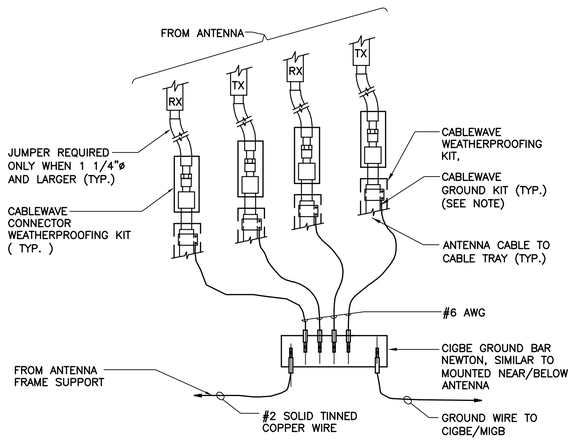
NOTES:

1. BOND COAXIAL CABLE GROUND KITS TO EACH OWNER'S GROUND BAR ALONG ENTIRE COAX RUN FROM ANTENNA TO SHELTER.
2. BOND ALL EQUIPMENT TO GROUND PER NEC AND MANUFACTURERS SPECIFICATIONS.
3. DETAIL IS TYPICAL FOR ALL ANTENNA SECTORS, INCLUDING GPS ANTENNA.

1 E-3 **TYPICAL ANTENNA GROUNDING DETAIL**
NOT TO SCALE



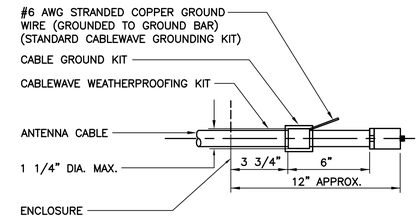
6 E-3 **RF PLUMBING DIAGRAM**
NOT TO SCALE



NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

5 E-3 **CONNECTION OF GROUND WIRES TO GROUND BAR**
NOT TO SCALE



NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

4 E-3 **ANTENNA CABLE GROUNDING DETAIL**
NOT TO SCALE

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
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0	10/26/17	DMD	CAG	CONSTRUCTION DRAWINGS – ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER – STATE OF CONNECTICUT – CARLO A. GAVINO – LICENSED – 27517 – SEAL

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DATE: 08/31/17
SCALE: AS NOTED
JOB NO. 17004.42

TYPICAL ELECTRICAL DETAILS

E-3
Sheet No. 7 of 7

EMPIRE telecom
A QualTek Company

November 1, 2017

Linda Painter, Director of Planning & Development
Audrey P. Beck Municipal Building
4 South Eagleville Road, Mansfield, CT 06268

RE: AT&T Wireless Modifications to Telecommunication Facility –
60 North Eagleville Road, Mansfield, CT 06268

Dear Ms. Painter:

In order to accommodate technological changes, implement the Uniform Mobile Telecommunications System and enhance system performance in the State of Connecticut, AT&T Wireless ("AT&T") will be changing its equipment configuration at the above referenced telecommunications facility. AT&T Wireless currently maintains nine (9) antennas at the 185-foot level of an existing 291-foot guyed tower located at 60 North Eagleville Road, in Mansfield, CT. The tower is owned by the University of Connecticut. The property is owned by University of Connecticut.

AT&T Wireless now seeks to install three (3) additional antennas at the 291-foot level of the tower, to be mounted on the existing tower, as well as install six (6) new RRUS-32 Remote Radio Units ("RRU"), and install 3 new RRUS-B14 RRUs on the tower, behind the antennas. In addition, a single new surge suppressor will be installed behind the Gamma sector antennas.

This letter is intended to serve as the required notice to the municipality's Planning and Zoning Department. As required by the Regulations of Connecticut State Agencies ("RCSA") section 16-50j-73, the Connecticut Siting Council ("CSC") has been notified of the proposed changes and will review AT&T's proposal. Please accept this letter as notification under RCSA section 16-50j-73 of construction which constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2).

10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

EMPIRE telecom
A QualTek Company

The enclosed letter and documents to the CSC fully describes AT&T's proposal for the above referenced site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-286-4006 or contact Melanie Bachman, Acting Executive Director of the CSC at 860-872-2935.

Respectfully submitted,

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144
jandrews@empiretelecomm.com

Enclosures

cc: Melanie Bachman, Connecticut Siting Council

USPS Tracking® Results

FAQ

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Tracking Number: 70161370000084028979


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7016 1370 0000 8402 8979
Certified Mail Fee $3.35
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy) $0.00
Return Receipt (electronic) $0.00
Certified Mail Restricted Delivery $0.00
Adult Signature Required $0.00
Adult Signature Restricted Delivery $
Postage $2.24
Total Postage and Fees $5.59
0572
11
Postmark Here
11/01/2017
Sent To
Lynda Poirier
Street and Apt. No., or PO Box No.
4 S Eaglewood
City, State, ZIP+4®
Mansfield CT 06268
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Delivered

Product & Tracking Information

See Available Actions

Postal Product:
First-Class Mail®

Features:
Certified Mail™

DATE & TIME	STATUS OF ITEM	LOCATION
November 6, 2017, 11:33 am	**Delivered, Front Desk/Reception**	**STORRS MANSFIELD, CT 06268**
	Your item was delivered to the front desk or reception area at 11:33 am on November 6, 2017 in STORRS MANSFIELD, CT 06268.	
November 6, 2017, 9:43 am	In Transit to Destination	ON ITS WAY TO STORRS MANSFIELD, CT 06268
November 5, 2017, 10:43 pm	Departed USPS Regional Destination Facility	SPRINGFIELD MA NETWORK DISTRIBUTION CENTER

USPS Tracking® Results

FAQs

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Return Receipt (hardcopy) $0.00
Return Receipt (electronic) $0.00
Certified Mail Restricted Delivery $0.00
Adult Signature Required $0.00
Adult Signature Restricted Delivery $0.00
Postage $2.24
Total Postage and Fees $5.59
0572
11
Postmark Here
11/01/2017
Sent To Michael Jednak
Street and Apt. No., or PO Box No. 25 L Doyt Rd # 3252
City, State, ZIP+4® Storrs CT 06269
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
7016 1370 0000 8402 8986

Tracking Number: 70161370000084028986

Delivered to Agent

Product & Tracking Information

See Available Actions

Postal Product:
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DATE & TIME	STATUS OF ITEM	LOCATION
November 6, 2017, 5:32 pm	**Tendered to Final Delivery Agent**	**STORRS MANSFIELD, CT 06269**

Your item has been tendered to a final delivery agent in STORRS MANSFIELD, CT 06269 on November 6, 2017 at 5:32 pm. The Postal Service no longer has the item.

November 6, 2017, 12:58 pm	Available for Pickup	STORRS MANSFIELD, CT 06269
November 6, 2017, 12:16 pm	Arrived at Unit	STORRS MANSFIELD, CT 06268

USPS Tracking® Results

FAQs

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Tracking Number: 70161370000084028962


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Return Receipt (hardcopy) $0.00
Return Receipt (electronic) $0.00
Certified Mail Restricted Delivery $0.00
Adult Signature Required $0.00
Adult Signature Restricted Delivery $
Postage $2.24
Total Postage and Fees $5.59
0572
11
Postmark Here
11/01/2017
Sent To Mayor Shapiro
Street and Apt. No., or PO Box No. 4 S. Eagleville Rd
City, State, ZIP+4® Mansfield CT 06268
PS Form 3800, April 2015 PSN 7530-02-000-9047
See Reverse for Instructions
7016 1370 0000 8402 8962

Delivered

Product & Tracking Information

See Available Actions

Postal Product:
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Features:
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DATE & TIME	STATUS OF ITEM	LOCATION
November 6, 2017, 11:33 am	**Delivered, Front Desk/Reception**	**STORRS MANSFIELD, CT 06268**

Your item was delivered to the front desk or reception area at 11:33 am on November 6, 2017 in STORRS MANSFIELD, CT 06268.

November 6, 2017, 9:42 am	In Transit to Destination	ON ITS WAY TO STORRS MANSFIELD, CT 06268
November 5, 2017, 10:42 pm	Departed USPS Regional Destination Facility	SPRINGFIELD MA NETWORK DISTRIBUTION CENTER

EMPIRE telecom
A QualTek Company

November 1, 2017

The Honorable Paul Shapiro
Audrey P. Beck Municipal Building
4 South Eagleville Road, Mansfield, CT 06268

RE: AT&T Wireless Modifications to Telecommunication Facility –
60 North Eagleville Road, Mansfield, CT 06268

Dear Mayor Shapiro:

In order to accommodate technological changes, implement the Uniform Mobile Telecommunications System and enhance system performance in the State of Connecticut, AT&T Wireless ("AT&T") will be changing its equipment configuration at the above referenced telecommunications facility. AT&T Wireless currently maintains nine (9) antennas at the 185-foot level of an existing 291-foot guyed tower located at 60 North Eagleville Road, in Mansfield, CT. The tower is owned by the University of Connecticut. The property is owned by University of Connecticut.

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This letter is intended to serve as the required notice to the municipality. As required by the Regulations of Connecticut State Agencies ("RCSA") section 16-50j-73, the Connecticut Siting Council ("CSC") has been notified of the proposed changes and will review AT&T's proposal. Please accept this letter as notification under RCSA section 16-50j-73 of construction which constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2).

10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

EMPIRE telecom
A QualTek Company

The enclosed letter and documents to the CSC fully describes AT&T's proposal for the above referenced site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-286-4006 or contact Melanie Bachman, Acting Executive Director of the CSC at 860-872-2935.

Respectfully submitted,

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144
jandrews@empiretelecomm.com

Enclosures

cc: Melanie Bachman, Connecticut Siting Council

EMPIRE telecom
A QualTek Company

November 1, 2017

University of Connecticut
Michael Jednak AVP,
Facilities Operations & Building Services
25 LeDoyt Road, Unit 3252
Storrs CT 06269

RE: AT&T Wireless Modifications to Telecommunication Facility –
60 North Eagleville Road, Mansfield, CT 06268

Dear Mr. Jednak:

In order to accommodate technological changes, implement the Uniform Mobile Telecommunications System and enhance system performance in the State of Connecticut, AT&T Wireless ("AT&T") will be changing its equipment configuration at the above referenced telecommunications facility. AT&T Wireless currently maintains nine (9) antennas at the 185-foot level of an existing 291-foot guyed tower located at 60 North Eagleville Road, in Mansfield, CT. The tower is owned by the University of Connecticut. The property is owned by University of Connecticut.

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This letter is intended to serve as the required notice to the tower owner and the property owner. As required by the Regulations of Connecticut State Agencies ("RCSA") section 16-50j-73, the Connecticut Siting Council ("CSC") has been notified of the proposed changes and will review AT&T's proposal. Please accept this letter as notification under RCSA section 16-50j-73 of construction which constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2).

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o/b/o AT&T Wireless
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Columbia, MD 21046
443-677-0144
jandrews@empiretelecomm.com

Enclosures

cc: Melanie Bachman, Connecticut Siting Council

Town of Mansfield, Connecticut

Web GIS Maps and Online Property Information

by MainStreetGIS, LLC Town Website

User Guide Feedback Disclaimer

v1.11

Base Map: Town Base Map

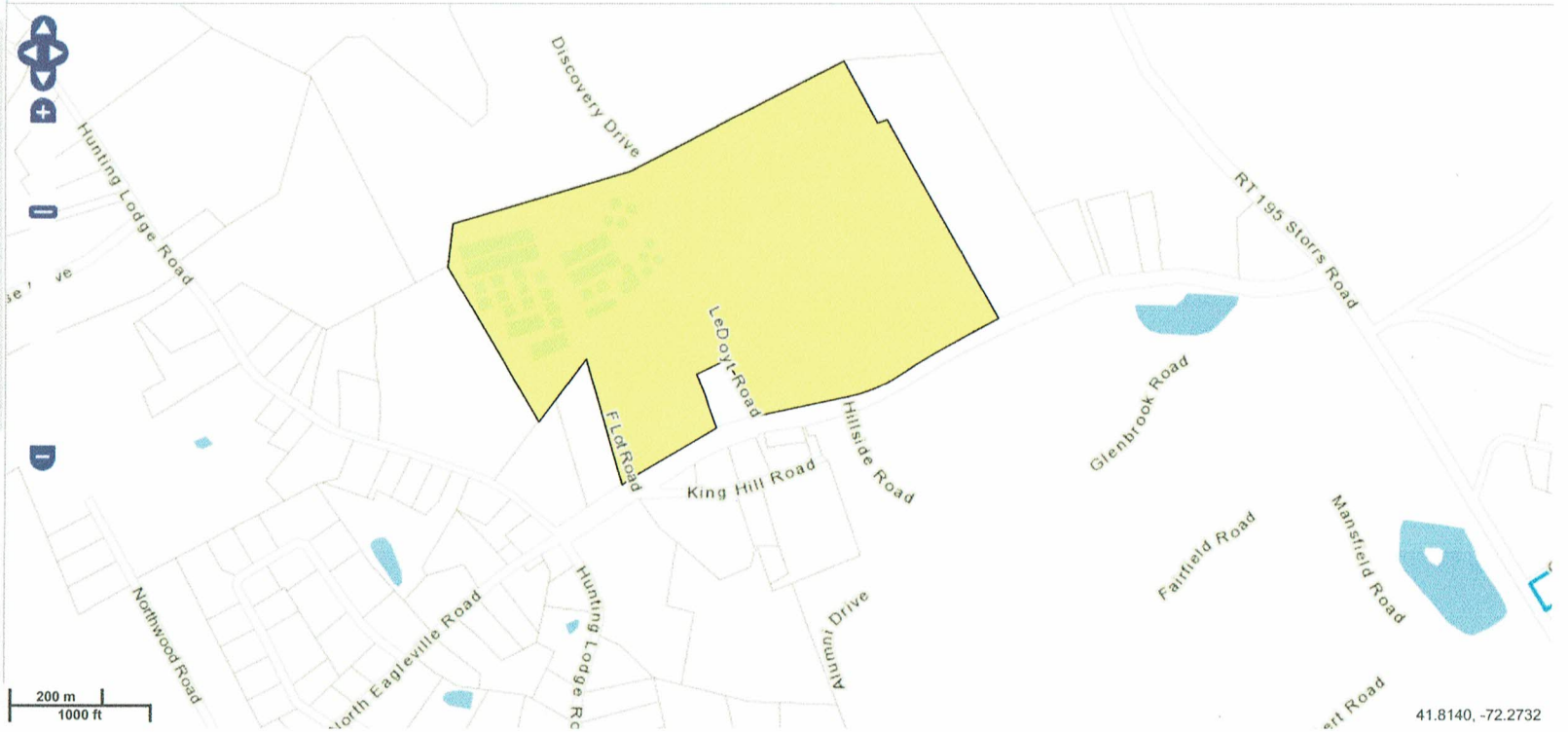
Address Parcel ID Google Owner

GIS Map Street View Tax Maps

Layers Property Selection

- [x] Road Name Text
- [x] Parcel Address Text
- [x] Parcel ID Text
- [ ] Parcel Area Text
- [ ] Parcel Dimension Text
- [x] New Town Boundary Survey Line
- [ ] Roads (Census 2010)
- [ ] Town Boundaries
- [ ] Natural Diversity Database (CT DEP)
- [ ] Critical Habitat (CT DEP)
- [ ] School District
- [ ] Historic District
- [ ] Historic Village
- [ ] Zoning
- [ ] Hydrant
- [ ] Utility Corridor
- [ ] Sewer Group
- [ ] Drainage Group
- [ ] Watershed (USDA 2001)
- [ ] Watershed (CT DEP)
- [ ] Aquifer Protection Area (CT DEP 2012)
- [ ] Protected Open Space (CT DEP 2011)
- [ ] DEP Property (CT DEP 2010)
- [ ] Trail
- [ ] Trail (CT DEP 2006)

MainStreetGIS 1 : 8819



11/1/17 – Property will not identify on GIS page