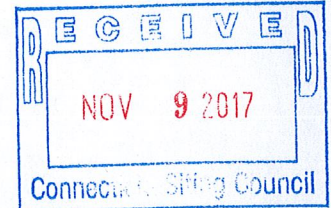




1280 Route 46 West, Suite 9, Parsippany NJ, 07054

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



Re: Notice of Exempt Modification Application
889R Colonel Ledyard Highway, Ledyard, CT 06339

November 1, 2017

EM-SPRINT-072-171109

Dear Ms. Bachman:

ORIGINAL

Sprint Spectrum Realty Company, L.P. ("Sprint"), is submitting to the Connecticut Siting Council for a Notice of Exempt Modification for Proposed Modifications to an Existing Telecommunications Facility located at the above-referenced site. Sprint currently maintains 6 existing panel antenna at the 224' 11" level of the Tower and 3 1900 MHz remote radio units at ground level. Sprint proposes to remove 3 panel antennas and replace with 3 new panel antennas (1 per sector). Sprint also proposes removing the existing ground based 1900 Mhz remote radio units and installing them at the 224' 11" level on the tower along with 9 additional remote radio units (3 per sector) at 224' 11" tower level as well as 2 hybrid cables and various Antenna-RRH jumper cables, new battery string in existing ground based battery cabinet and new 2.5 equipment in existing ground based radio cabinet. All ground based modifications will be added to existing equipment.

The Sprint installation was initially issued a BP by the Town of Ledyard on 08/25/1999. The documents enclosed reflect the reality of the current installations on the Tower.

If you have any questions, please feel free to contact me.

Thank you,

By: Paul F. Sagristano

Paul F. Sagristano
Cherundolo Consulting
917.841.0247
psagristano@lrvassoc.com



1280 Route 46 West, Suite 9, Parsippany NJ, 07054

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

Re: Notice of Exempt Modification Application
889R Colonel Ledyard Highway, Ledyard, CT 06339

Latitude : N41.3680
Longitude: W72.8093

Dear Ms. Bachman:

Sprint Spectrum Realty Company, L.P. ("Sprint"), is submitting to the Connecticut Siting Council for a Notice of Exempt Modification for Proposed Modifications to an Existing Telecommunications Facility located at the above-referenced site. Sprint currently maintains 6 existing panel antenna at the 224' 11" level of the Tower. Sprint proposes to remove 3 panel antennas and replace with 3 new panel antennas (1 per sector). Sprint also proposes removing the existing ground based 1900 Mhz remote radio units and installing them at the 224' 11" level on the tower along with 9 additional remote radio units (3 per sector) at 224' 11" tower level as well as 2 hybrid cables and various Antenna-RRH jumper cables, new battery string in existing ground based battery cabinet and new 2.5 equipment in existing ground based radio cabinet. All ground based modifications will be added to existing equipment.. Sprint is performing a new high-performance upgrade for cellular mobile communications. It is designed to increase the capacity and speed of mobile telephone networks.

The original building permit was issued by the town of Ledyard on August 25, 1999.

Please accept this letter as notification to the Council, pursuant to R.C.S.A. Section 16-50j-73, for construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter is being sent to and to Fred Allen III, Mayor of Ledyard as well as Charles Karno, Planning director for the Town of Ledyard, and to Mr. John Fuller, Owner of Red Wolf Broadcasting the Tower owner.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in Sprint's operations at the site. Also included is documentation of the structural sufficiency of the tower with proposed modifications to accommodate the revised antenna configuration.

Existing Facility

The Northford facility is located at 899R Colonel Ledyard Highway, and is owned by Red Wolf Broadcasting, the Site coordinates are: N41.368-, W72.8093

The existing facility consists of a 347' guyed tower. Sprint currently operates wireless communications equipment on a platform on a concrete slab at the facility and has 3 antennas mounted at a centerline of 224'11".

Statutory Considerations

The planned modifications to the facility fall within the activities explicitly provided for in R.C.S.A. 16-50j-72(b)(2)

1. The height of the overall structure will be unaffected.
2. The proposed changes will not require an extension of the property boundaries.
3. The proposed additions will not increase the noise level at the existing facility by six decibels or more, or to levels that exceed state and/or local criteria
4. The changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the 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, Sprint respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A Section §16-50j-72(b)(2).

Respectfully submitted,

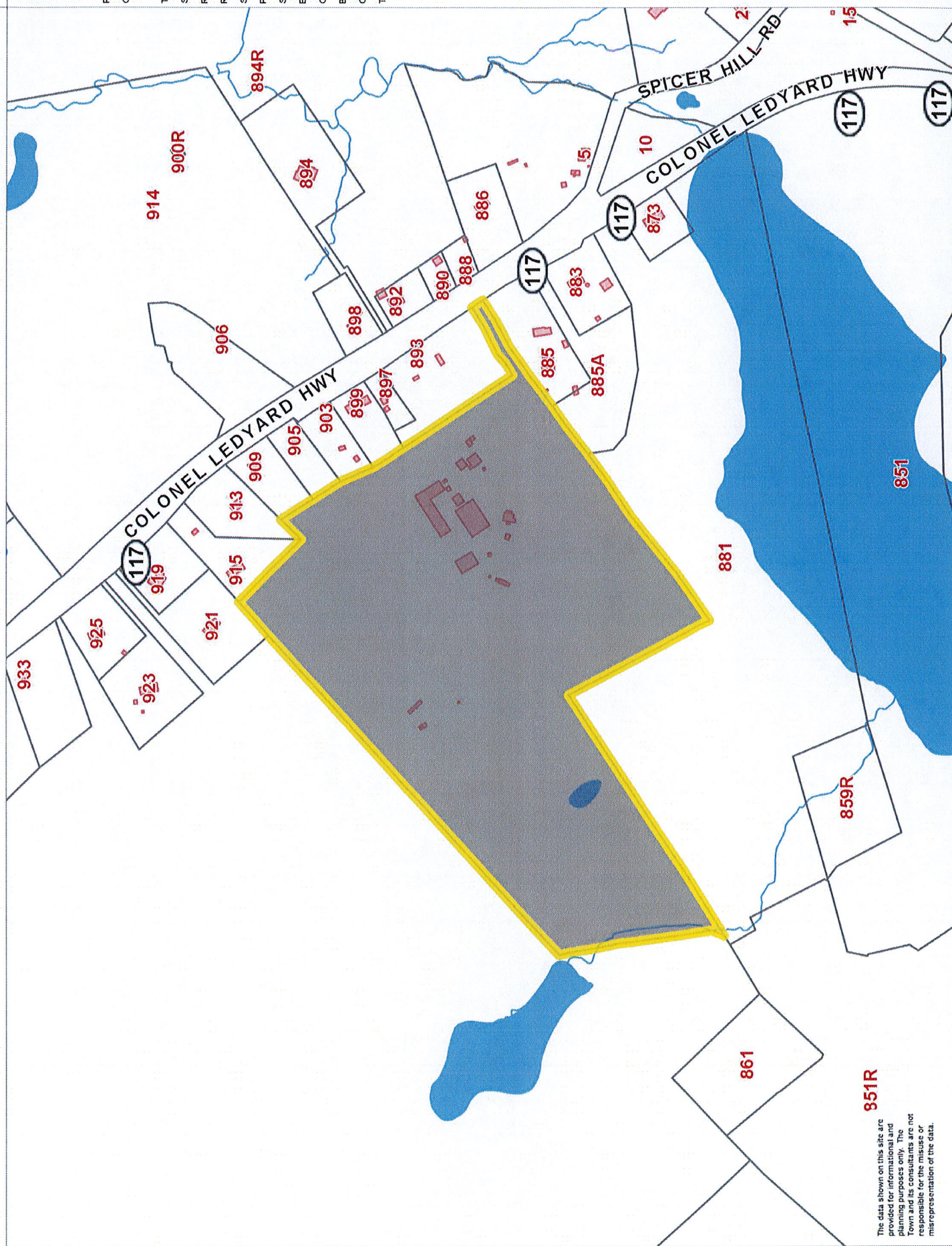
Paul F. Sagristano

Paul F. Sagristano
Charles Cherundolo Consulting
917-841-0247
psagristano@lrivassoc.com

PFS/mtf

Additional Recipients:

Hon. Fred Allen III, Mayor of Ledyard, CT – Via Fed Ex
Charles Karno, Planning Director Town of Ledyard - Via Fed Ex
John Fuller, President of Red Wolf Broadcasting



Town of Ledyard Property Summary Report

889R COLONEL LEDYARD HWY

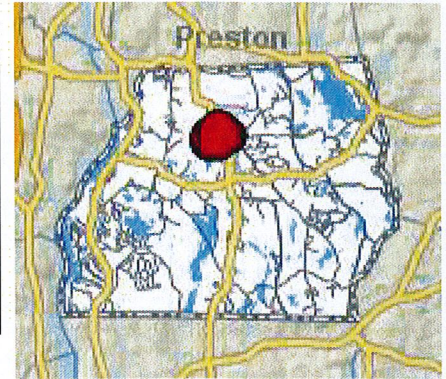
PARCEL ID:	40-530-889-R
LOCATION:	889R COLONEL LEDYARD HWY
OWNER NAME:	I TOWN OF LEDYARD / HIGHWAY GARAGE/DUMP SITE



OWNER OF RECORD

I TOWN OF LEDYARD
HIGHWAY GARAGE/DUMP SITE
741 COLONEL LEDYARD HWY

LEDYARD, CT 06339



LIVING AREA:	9440	ZONING:	R60	ACREAGE:	49.61 AC
---------------------	------	----------------	-----	-----------------	----------

SALES HISTORY

OWNER	BOOK / PAGE	SALE DATE	SALE PRICE
I TOWN OF LEDYARD HIGHWAY GARAGE/DUMP SITE	00094/0547	16-Aug-1974	\$0.00
			\$0.00

CURRENT ASSESSED VALUE

TOTAL:	\$619,220.00	IMPROVEMENTS:	\$295,050.00	LAND:	\$324,170.00
---------------	--------------	----------------------	--------------	--------------	--------------

ASSESSING HISTORY

FISCAL YEAR	TOTAL VALUE	IMPROVEMENT VALUE	LAND VALUE
2016	\$619,220.00	\$295,050.00	\$324,170.00
2015	\$619,220.00	\$295,050.00	\$324,170.00
2014	\$683,480.00	\$342,160.00	\$341,320.00
2013	\$683,480.00	\$342,160.00	\$341,320.00
2012	\$683,480.00	\$342,160.00	\$341,320.00

Town of Ledyard Property Summary Report

889R COLONEL LEDYARD HWY

PARCEL ID:	40-530-889-R
LOCATION:	889R COLONEL LEDYARD HWY
OWNER NAME:	I TOWN OF LEDYARD / HIGHWAY GARAGE/DUMP SITE

BUILDING # 1

YEAR BUILT	1985	ROOF STRUCTURE	Gable/Hip
STYLE	Pre-Eng Gar	ROOF COVER	Metal/Tin
MODEL	Ind or Comm	FLOOR COVER 1	Concr-Finished
GRADE	Average +	FLOOR COVER 2	
STORIES	1	HEAT FUEL	Oil
OCCUPANCY	Municipal M96	HEAT TYPE	Hot Air-no Duc
EXT WALL 1	Pre-finish Metl	AC TYPE	None
EXT WALL 2		BEDROOMS	
INT WALLS 1	Minim/Masonry	FULL BATHS	0
INT WALLS 2		HALF BATHS	
		TOT ROOMS	



OUTBUILDINGS

DESCRIPTION	CODE	UNITS
Shed	SHD1	4960 S.F.
Pole barn	BRN8	7200 S.F.
Shed-Metal	SHD3	120 S.F.
Fence- 8ft Chn	FN4	280 L.F.
Shed	SHD1	77 S.F.
Workshop w/imp	SHP4	4360 S.F.
Kennel Good	KEN2	1824 S.F.
Pole barn	BRN8	3600 S.F.
Garage	FGR1	336 S.F.
Shed	SHD1	120 S.F.
CELL ANTENNA		1

PERMIT STRUCTURE

MINIMUM \$1,000 or more

34/24 and \$1,000 or part of
\$100,000 est. cost State Fee

**TOWN OF LEDYARD
PERMIT**

1 MIT # 99-338

CT23XL506

EST. COST: \$30,000

FEE: 121.80

☒ Y ☐ N

APPL. DATE: 9/25/99

TYPE: Building

ISSUE DATE: _____

USE GROUP: _____

TYPE CONST: _____

ZONING DIST: _____

LOCATION OF JOB: 355 Rte 101 Ledyard Rd

OWNER: Town of Ledyard TELE. # _____

ADDRESS (IF OTHER THAN ABOVE): 741 Colonial Ledyard Rd.

CONTRACTOR: Sprint PCS

ADDRESS: _____

TELEPHONE: _____

LICENSE NUMBER: _____

DESCRIPTION OF WORK TO BE PERFORMED: Installation of telecommunication
equipment + antenna on existing tower located in
jurisdiction by the Town of Ledyard + Rte 101 Ledyard Rd.

OVER LENGTH: _____

WIDTH: _____

HEIGHT: _____

BATHS: _____

BEDROOMS: _____

ATTACHED GARAGE _____

YES _____ NO _____

GARAGE UNDER _____

YES _____ NO _____

SIGNATURE OF OWNER/AGENT: [Signature] I HAVE BEEN AUTHORIZED
BY THE OWNER TO MAKE THIS APPLICATION AS HIS AUTHORIZED AGENT.

BUILDING OFFICIAL: [Signature]

REVIEWED: [Signature] APPROVED: 9-3-99

DENIED: _____ REASON OR REASONS FOR DENIAL: _____

NEEDS ZONING COMMISSION REVIEW UNDER SECTION 72.0

ZONING OFFICIAL: _____ APPROVED: _____

DENIED: _____ REASON: _____

Post-It Fax Note	7071	9-28-99 pages 1
To	Rob Stanford	From Ledyard
Copy/Dupl.	Sprint	Co. Building
Phone #		Phone # 0201
Fax #	203-439-1581	Fax #

IF PROVIDED BY THE APPLICANT FOR THE
FAMILY AND ALL COMMERCIAL USES.

APPROVED _____ DENIED _____

APPROVED _____ DENIED _____



EBI Consulting

environmental | engineering | due diligence

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

SPRINT Existing Facility

Site ID: CT23XC506

Uncasville
899 Colonel Ledyard Road
Ledyard, CT 06339

October 13, 2017

EBI Project Number: 6217004503

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	6.44 %



EBI Consulting

environmental | engineering | due diligence

October 13, 2017

SPRINT

Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Emissions Analysis for Site: **CT23XC506 – Uncasville**

EBI Consulting was directed to analyze the proposed SPRINT facility located at **899 Colonel Ledyard Road, Ledyard, CT**, for the purpose of determining whether the emissions from the Proposed SPRINT Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 850 MHz Band is approximately $567 \mu\text{W}/\text{cm}^2$. The general population exposure limit for the 1900 MHz (PCS) and 2500 MHz (BRS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed SPRINT Wireless antenna facility located at **899 Colonel Ledyard Road, Ledyard, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since SPRINT is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 1 CDMA channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.
- 2) 2 LTE channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.
- 3) 5 CDMA channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 16 Watts per Channel.
- 4) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 5) 8 LTE channels (2500 MHz (BRS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.



EBI Consulting

environmental | engineering | due diligence

- 6) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 7) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 8) The antennas used in this modeling are the **KMW ETCR-654L12H6** for transmission in the 850 MHz, 1900 MHz (PCS) and 2500 MHz (BRS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 9) The antenna mounting height centerlines of the proposed antennas are **224.92 feet** above ground level (AGL) for **Sector A**, **224.92 feet** above ground level (AGL) for **Sector B** and **224.92 feet** above ground level (AGL) for Sector C.
- 10) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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



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SPRINT Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	KMW ETCR-654L12H6	Make / Model:	KMW ETCR-654L12H6	Make / Model:	KMW ETCR-654L12H6
Gain:	15.35 / 15.15/15.9 dBd	Gain:	15.35 / 15.15/15.9 dBd	Gain:	15.35 / 15.15/15.9 dBd
Height (AGL):	224.92 feet	Height (AGL):	224.92 feet	Height (AGL):	224.92 feet
Frequency Bands	850 MHz / 1900 MHz / 2500 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz / 2500 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz / 2500 MHz (PCS)
Channel Count	18	Channel Count	18	Channel Count	18
Total TX Power(W):	380 Watts	Total TX Power(W):	380 Watts	Total TX Power(W):	380 Watts
ERP (W):	13,518.78	ERP (W):	13,518.78	ERP (W):	13,518.78
Antenna A1 MPE%	1.13 %	Antenna B1 MPE%	1.13 %	Antenna C1 MPE%	1.13 %

Site Composite MPE%	
Carrier	MPE%
SPRINT - Max per sector	1.13 %
Red Wolf, WERI	0.57 %
Marcus	0.14 %
Nextel	0.11 %
Arch	0.09 %
AT&T	1.44 %
Verizon Wireless	1.70 %
T-Mobile	1.26 %
Site Total MPE %:	6.44 %

SPRINT Sector A Total:	1.13 %
SPRINT Sector B Total:	1.13 %
SPRINT Sector C Total:	1.13 %
Site Total:	6.44 %

SPRINT _ Max Values per Frequency Band / Technology Per Sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
Sprint 850 MHz CDMA	1	685.54	224.92	0.51	850 MHz	567	0.09%
Sprint 850 MHz LTE	2	685.54	224.92	1.03	850 MHz	567	0.18%
Sprint 1900 MHz (PCS) CDMA	5	523.75	224.92	1.96	1900 MHz (PCS)	1000	0.20%
Sprint 1900 MHz (PCS) LTE	2	1,309.36	224.92	1.96	1900 MHz (PCS)	1000	0.20%
Sprint 2500 MHz (BRS) LTE	8	778.09	224.92	4.67	2500 MHz (BRS)	1000	0.47%
						Total:	1.13%



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 SPRINT 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:

SPRINT Sector	Power Density Value (%)
Sector A:	1.13 %
Sector B:	1.13 %
Sector C:	1.13 %
SPRINT Maximum Total (per sector):	1.13 %
Site Total:	6.44 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **6.44 %** 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.



MASER CONSULTING
— CONNECTICUT —

331 Newman Springs Road, Suite 203
Red Bank, NJ 07701
T: 732.383.1950
www.maserconsulting.com

Sprint[®]



Revision 0

Guy Tower Structural Analysis

Site Name: Uncasville

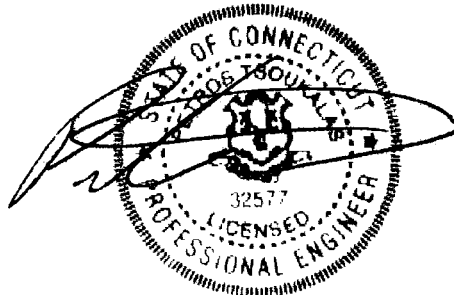
Site ID: CT23XC506

Site Address: 899 Colonel Ledyard Road
Ledyard, CT 06339
New London County

Maser Project Number: 17924004A

October 10, 2017

Analysis Type	Guy Tower	Foundation
Pass/Fail	Pass	Adequate
Mount Utilization	91.6 %	N/A



Petros E. Tsoukalas, P.E.
Connecticut Professional Engineer
PE License # 32577

Customer Loyalty through Client Satisfaction



Objective:

The objective of this report is to determine the capacity of the existing 347' lattice guyed tower structure at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards.

Introduction:

Maser Consulting Connecticut has performed limited field observations on May 23, 2017 to visually verify the existing condition of the structure from grade and to locate and quantify the existing wireless appurtenances where possible. Maser Consulting Connecticut has reviewed the following documents in completing this report:

- RFDS 45796 provided by Sprint, dated April 22, 2017.
- Rev 1 Construction Drawings prepared by Maser Consulting Connecticut project# 17924004A dated, September 29, 2017.
- Tower Mapping report performed by Tower Engineering Professionals TEP#72502.94719 dated October 26, 2016.
- Previous Structural Analysis report prepared by EBI Consulting dated, March 13, 2015.

The existing **SPRINT** equipment is supported on an existing 347'-0" lattice guyed tower structure. The primary tower structure is constructed of pipe legs with welded diagonals and horizontals. The existing **SPRINT** equipment is supported on an existing antenna support mounts constructed of structural steel antenna support pipes supported by Steel Pipes and Solid Rods at a centerline of approximately 224'-11" above ground level. This report is based only upon this information, as well as the information obtained in the field.

Discrete and Linear Appurtenances:

Maser Consulting Connecticut understands the existing & proposed **SPRINT** loading to be as follows:

- (3) DB980H90E-M Panel Antennas (Existing)
- (3) KMW ETCR-654L12H6 Panel Antennas (Proposed per RFDS)
- (3) ALU 1900 RRH (Existing relocated from ground to tower)
- (3) ALU TD-RRH8X20-2.5 (Proposed per RFDS)
- (6) ALU RRH-2X50-800 (Proposed per RFDS)
- (2) Hybrid Cable

The overall antenna loading is found in the Appendix A of this report.

Codes, Standards and Loading:

Maser Consulting Connecticut utilized the following codes and standards:

- 2016 Connecticut State Building Code, Incorporating The 2012 IBC
- Structural Standards for Antenna Supporting Structures and Antennas ANSI/TIA-222-G
 - Exposure Category – C
 - Structure Class – II
 - Topographic Category - 1
 - ASCE 7-10 Ultimate wind speed 134mph-Nominal wind speed 104mph



Analysis Approach & Assumptions:

The analysis approach used in this structural analysis is based on the premise that if the existing guyed lattice structure is structurally adequate to support the existing and proposed equipment per the aforementioned codes and standards, or if the increase in the forces in the structure are deemed to be negligible or acceptable, then the proposed equipment can be installed as intended. Tower Numerics, tnx Tower, a tower analysis and design program, designed specifically for the telecommunications industry and for all applicable codes and standards was used for this structural analysis.

The following assumptions were utilized in this report:

- Structural Steel Main Legs Diagonals and Girts are constructed of A572-50 Grade Steel.
- Structural Steel Plate members are constructed of A36 Grade.
- Structural Bolts are assumed to be A325N grade.
- Tower is installed to plumb and is maintained properly without any structural deficiencies or deteriorations to the original design.
- It is assumed that the telecommunication equipment supports, antenna supports, and existing structure have been designed by a registered licensed professional engineer for the existing loads acting on the structure, as required by all applicable codes, prior to the proposed modifications listed within this report.
- It is assumed that information provided by the client regarding the structure itself, the antenna models, feed lines, and other relevant information is current and correct.
- It is assumed all other existing appurtenances, antennas, cables, etc. belonging to others have been installed and supported per code and per specifications so as not to damage any existing structural support members, and that any contributing loads from adjacent equipment has been taken into consideration for their design.
- Proposed equipment and locations should not deviate from the proposed locations noted herein and shown on the associated Maser Consulting Connecticut final Construction Drawings.

Calculations:

The calculations are found in Appendix A of this report.

Conclusion:

The existing guyed lattice tower was analyzed for the loading in the applicable codes and standards. The tower has been determined to be structurally **ADEQUATE** to support the proposed and existing antennas, based upon the aforementioned assumptions.

The lattice tower has been determined to be stressed to a maximum of **91.6%** of its structural capacity with the maximum usage occurring at the leg members between 160'-180' elevation.



Foundation Reaction Comparison

	Foundation Capacity	Current Forces	Pass/Fail (Utilization %)
Base Axial	515.56 kips	443.3 kips	Pass (85.9%)
Anchor Shear	168.88 kips	147.1 kips	Pass (87.1%)
Anchor Uplift	160.52 kips	159.1 kips	Pass (99.1%)

*Based on calculations provided in the reference structural analysis and multiplied by a factor of 1.35 per 15.5.1 section of the 222G-Code.

The foundation in comparison with the capacities from the previous structural analysis referenced above is observed to have **ADEQUATE** capacity. Therefore, the proposed **SPRINT** installation **CAN** be placed as intended.

It should be noted that due to a lack of information Maser Consulting Connecticut did not perform an analysis on the foundation, but a comparison of the capacities summarized in previous analysis with the current forces has been determined. If information is provided then this report can be amended. The conclusions reached by Maser Consulting Connecticut in this evaluation are only applicable for the existing structural members supporting the proposed **SPRINT** telecommunications installation described herein.

We appreciate the opportunity to be of service on this project. If you should have any questions or require any additional information, please do not hesitate to call our office.

Sincerely,
Maser Consulting Connecticut

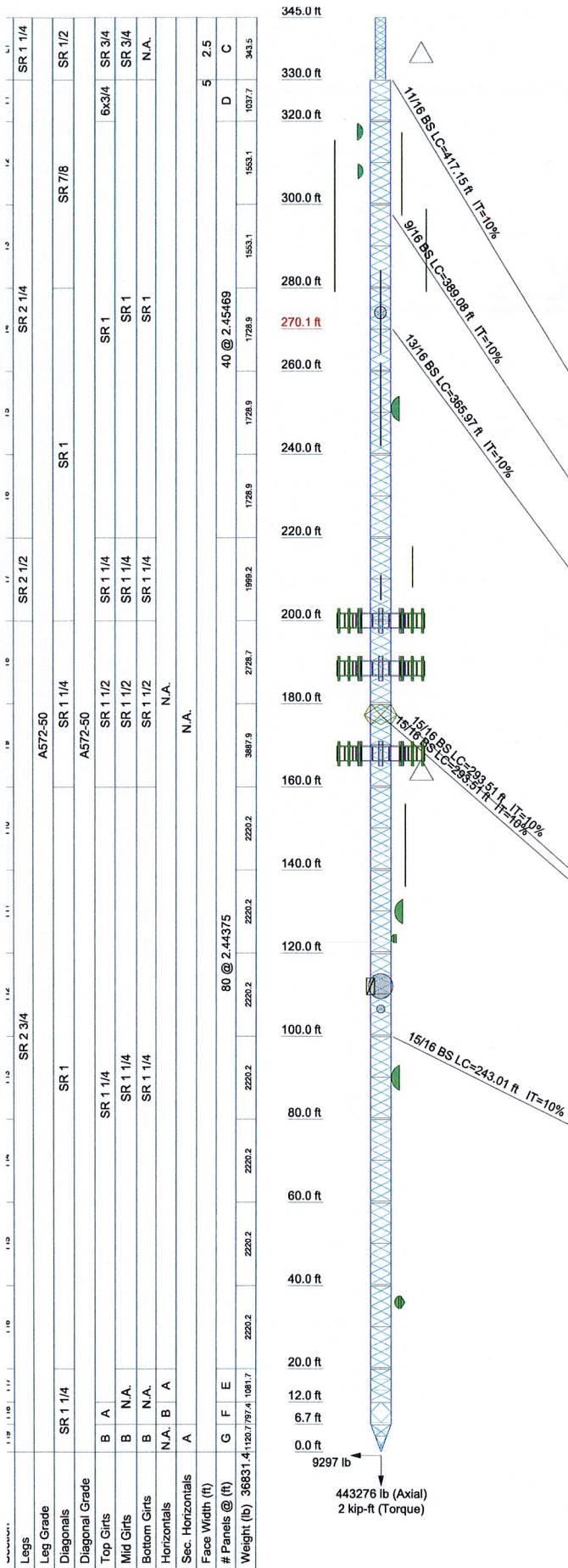
A handwritten signature in black ink, appearing to read 'P. Tsoukalas', with a large, stylized loop at the end.

Petros E. Tsoukalas, P.E.
Telecommunications Discipline Leader

\\maserconsulting.com\Uj\Projects\2017\17924000A\17924005A\Structural\Tower Analysis\Rev 0\Word\CT33XC570.Bozrah. Tower Analysis.Rev 0.Word.doc



APPENDIX A



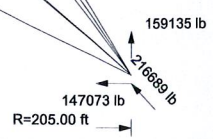
SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	SR 7/8	E	3 @ 2.52778
B	6x3/4	F	2 @ 2.45832
C	10 @ 1.49167	G	2 @ 2.79168
D	4 @ 2.40937		

MATERIAL STRENGTH

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

ALL REACTIONS ARE FACTORED



Maser Consulting P.A.		Job: Ledyard Colonel Rd	
400 Valley Road		Project: 16963002A	
Mt Arlington, NJ		Client: AT&T Mobility	Drawn by: gpenumatsa
Phone: 973.398.3110		Code: TIA-222-G	Date: 10/09/17
FAX: 973.398.3199		Path: R:\Projects\2017\17924000\A117924004\Structural\Tower_Analysis\TOWER.dwg	App'd: N
			Dwg No. 1

Diagram of a vertical tower structure with height markers and structural details:

- Height markers (ft): 0.0, 6.7, 12.0, 20.0, 40.0, 60.0, 80.0, 100.0, 120.0, 140.0, 160.0, 180.0, 200.0, 220.0, 240.0, 260.0, 270.1 (red), 280.0, 300.0, 320.0, 330.0.
- Structural details:
 - 1 1/16 BS LC=47.15 ft IT=10%
 - 9/16 BS LC=389.08 ft IT=10%
 - 1 3/16 BS LC=365.97 ft IT=10%
 - 1 5/16 BS LC=293.51 ft IT=10%
 - 1 3/16 BS LC=268.51 ft IT=10%
 - 15/16 BS LC=243.01 ft IT=10%
- Base loads:
 - 9297 lb (Horizontal)
 - 443276 lb (Axial)
 - 2 kip-ft (Torque)



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Leyland Colonel Rd
 400 Valley Road
 Mt Arlington, NJ
 Phone: 973.398.3110
 FAX: 973.398.3199

Project: 16963002A			
Client: AT&T Mobility	Drawn by: gpenumatsa	App'd:	
Code: TIA-222-G	Date: 10/09/17	Scale: N	
Path: R:\projects\2017\17924006\A\Structural\Tower Analysis\TNXX\Tower.dwg		Dwg No. 1	

6'8-1/32" - 345'

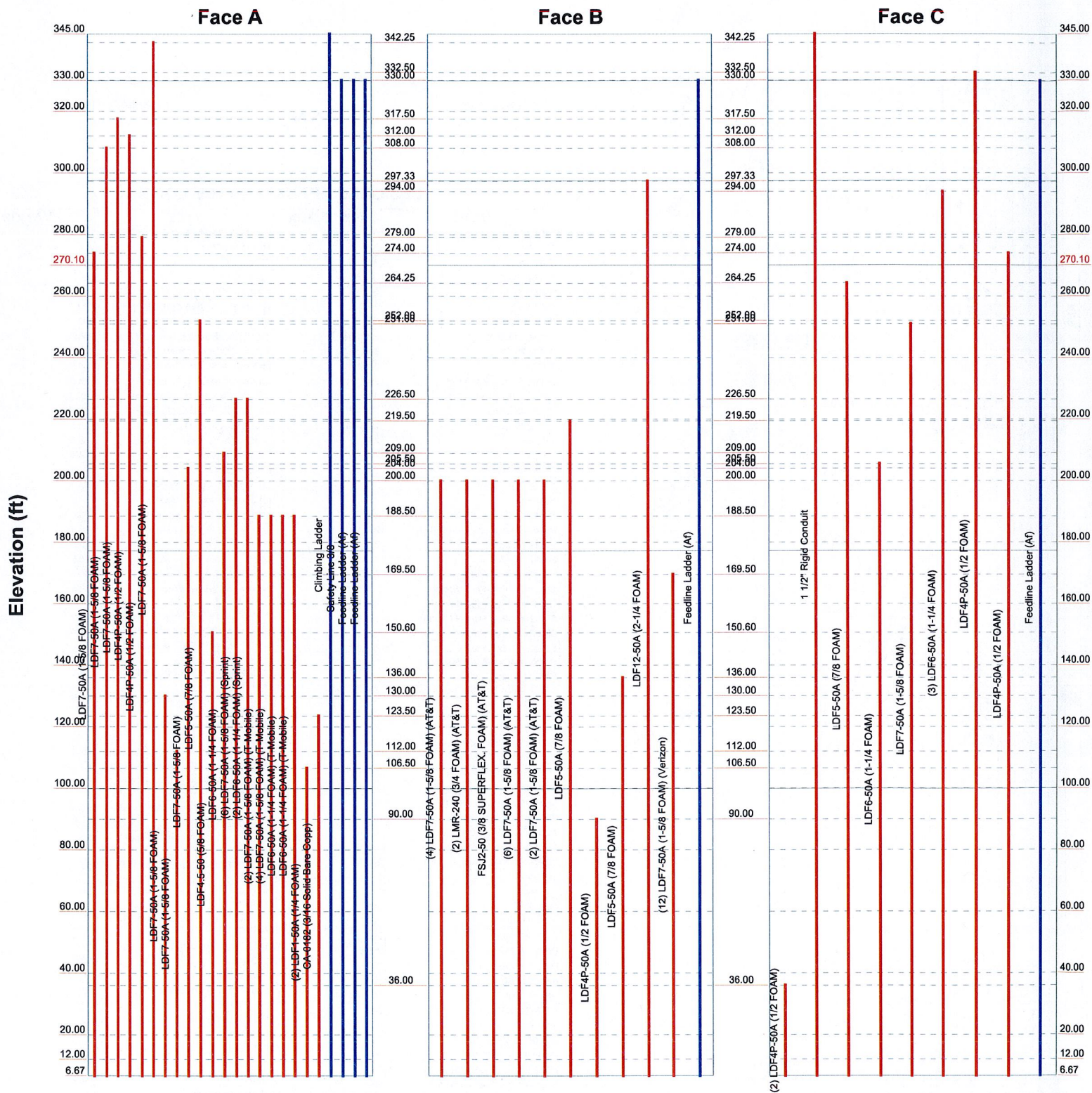
Round

Flat

App In Face

App Out Face

Truss Leg



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Code: **TIA-222-G**

Path:

Drawn by: **gpenumatsa**

Date: **10/09/17**

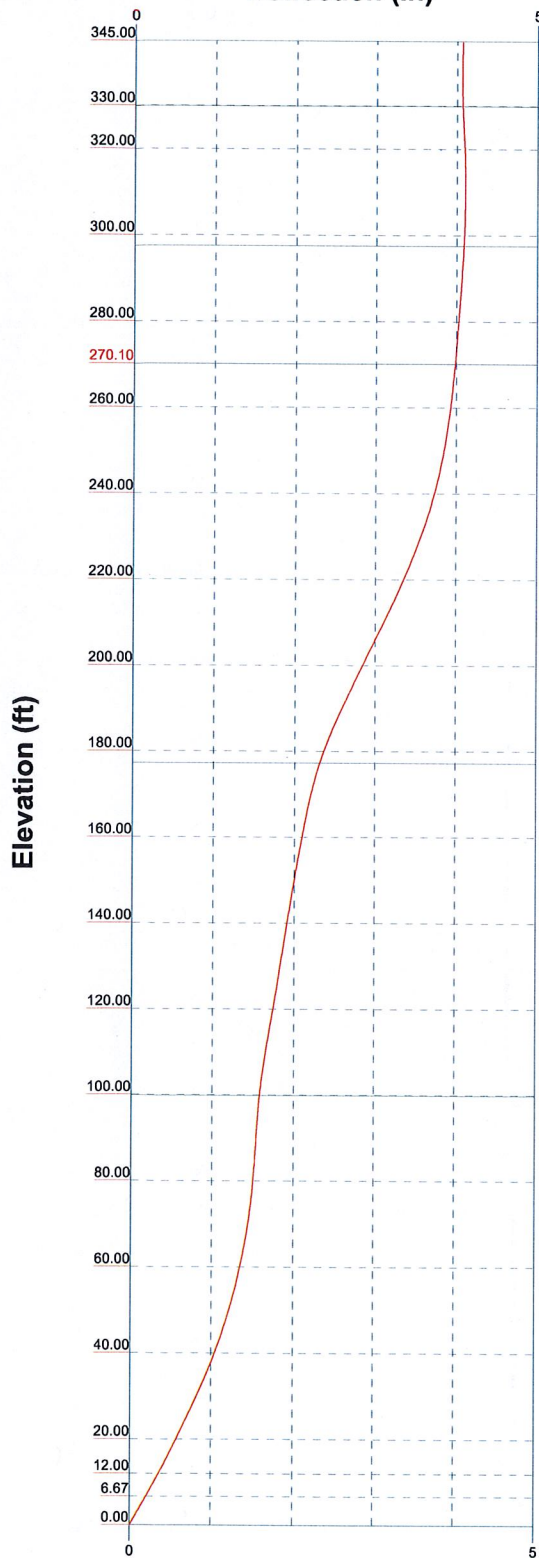
App'd:

Scale: **N**

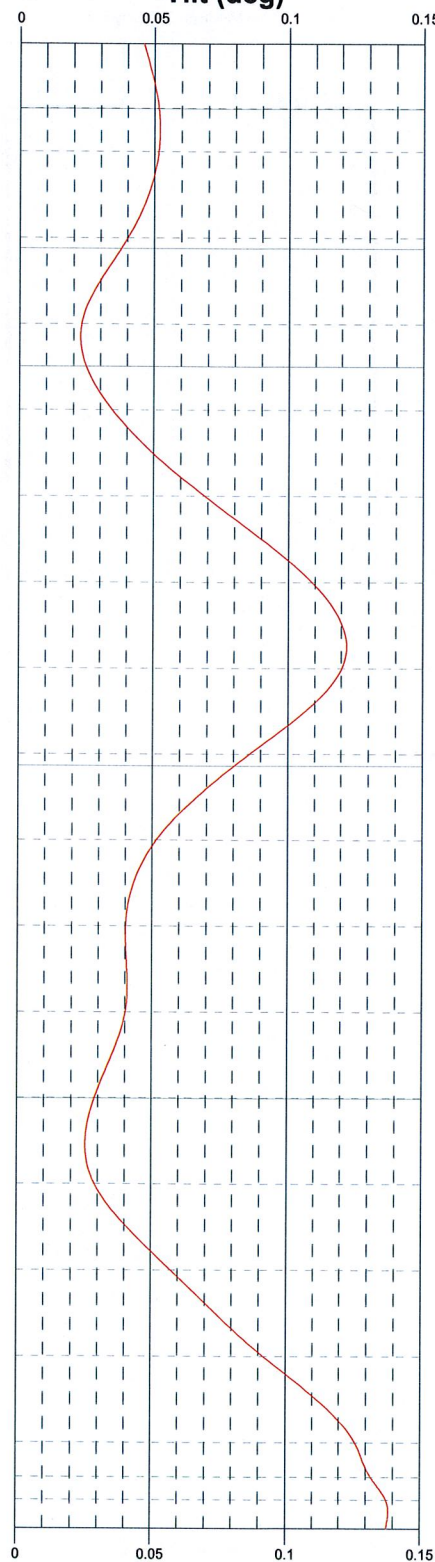
Dwg No. **1**

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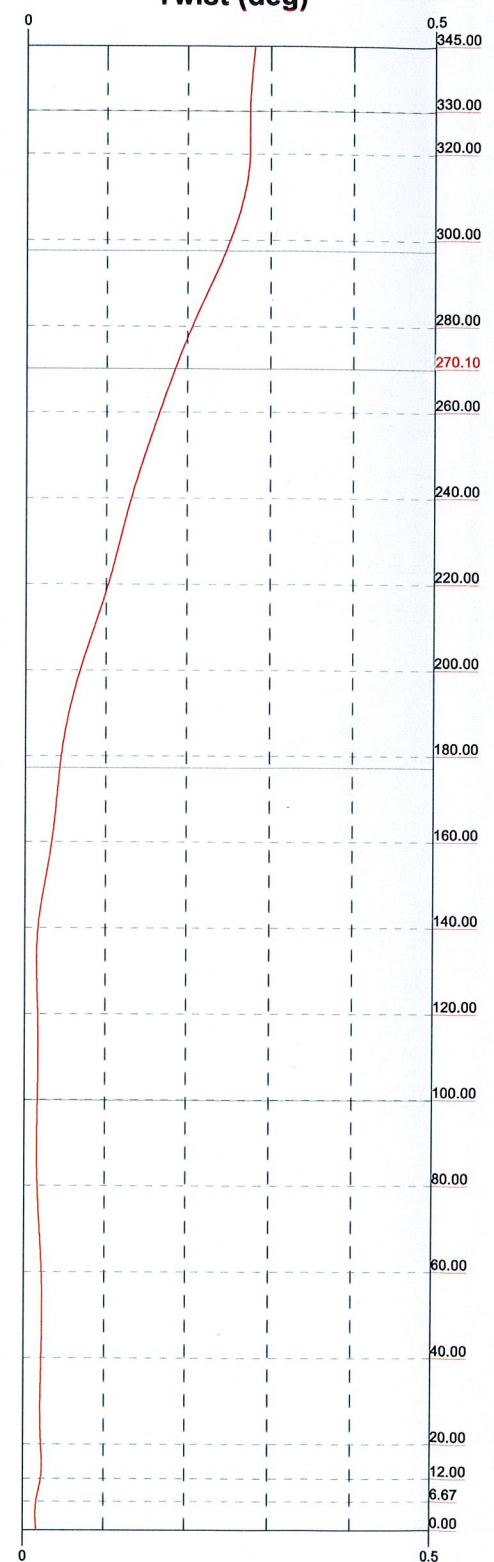
Deflection (in)



Tilt (deg)



Twist (deg)



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Project: **16963002A**

Client: **AT&T Mobility**

Code: **TIA-222-G**

Path:

Drawn by: **gpenumatsa**

Date: **10/09/17**

App'd:

Scale: **N**

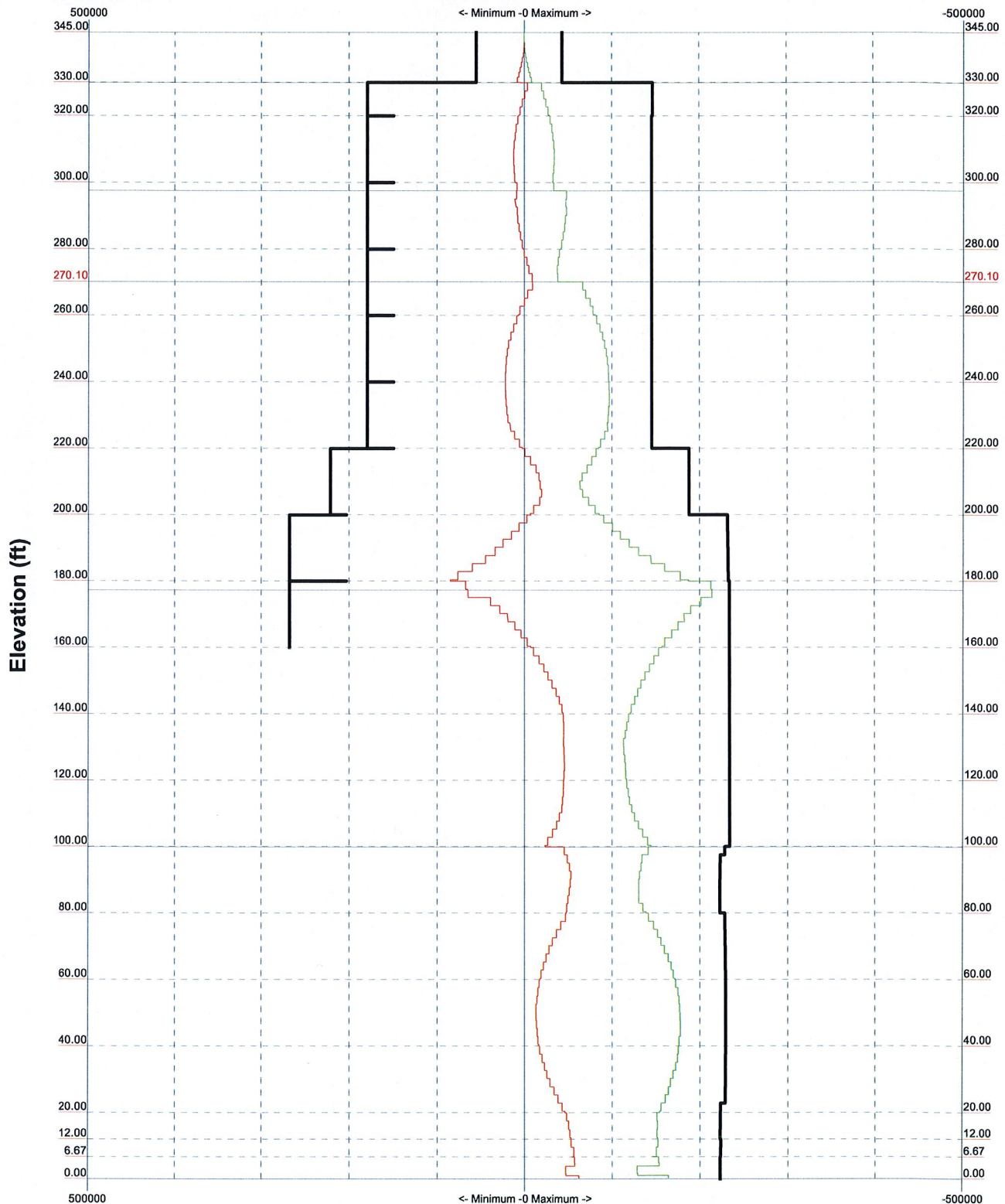
Dwg No.:

R:\Projects\2017\17924000A\17924004A\Structural\Tower Analysis\TNX\Tower.dwg

TIA-222-G - 104 mph/50 mph 0.7500 in Ice Exposure C

Leg Capacity —

Leg Compression (lb)



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Client: AT&T Mobility

Drawn by: gpenumatsa

App'd:

Code: TIA-222-G

Date: 10/09/17

Scale: N

Path: R:\Projects\2017\17924000A\17924004A\Structural\Tower Analysis\TNA\Tower.ed

Dwg No. |

tnxTower Maser Consulting P.A 400 Valley Road Mt Arlington, NJ Phone: 973.398.3110 FAX: 973.398.3199	Job Ledyard Colonel Rd	Page 1 of 97
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	Client AT&T Mobility	Designed by gpenumatsa

Tower Input Data

The main tower is a 3x guyed tower with an overall height of 345.00 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 5.00 ft at the top and tapered at the base.

An index plate is provided at the 3 sided -tower connection.

There is a 3 sided latticed pole with a face width of 2.50 ft.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Tower is located in New London County, Connecticut.

ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).

Basic wind speed of 104 mph.

Structure Class II.

Exposure Category C.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 0.7500 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

Weld together tower sections have flange connections..

Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications..

Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards..

Welds are fabricated with ER-70S-6 electrodes..

Pressures are calculated at each section.

Stress ratio used in latticed pole member design is 1.

Safety factor used in guy design is 1.

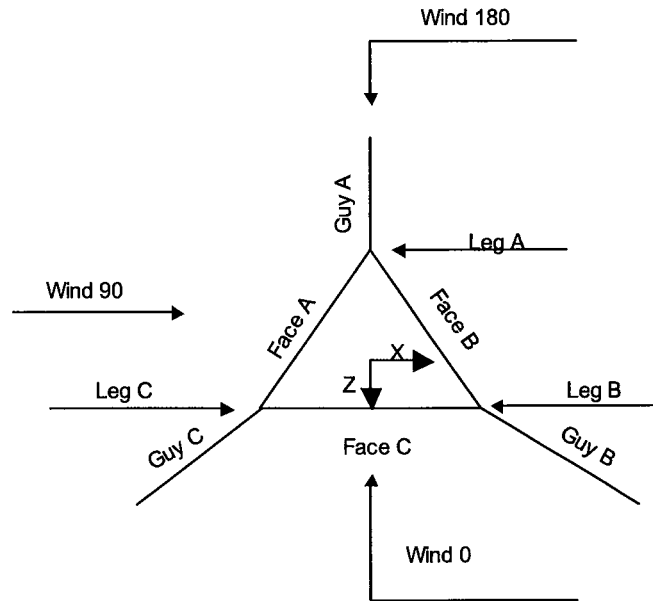
Stress ratio used in tower member design is 1.

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

Options

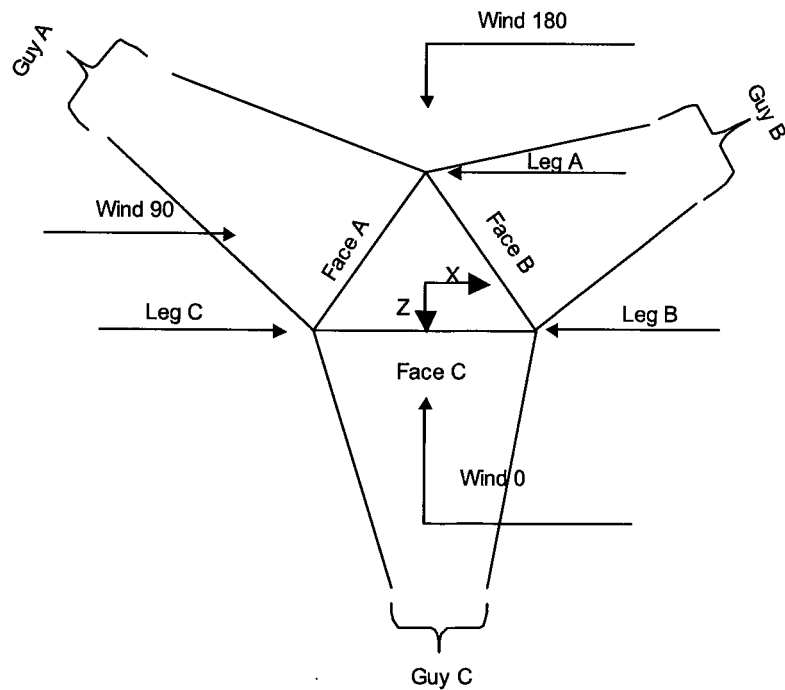
Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	√ Calculate Redundant Bracing Forces
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans 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		

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	Client AT&T Mobility	Designed by gpenumatsa



Corner & Starmount Guyed Tower

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	Client	AT&T Mobility	Designed by	gpenumatsa



Face Guyed

3 Sided Latticed Pole Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
L1	345.00-330.00			2.50	1	15.00

3 Sided Latticed Pole Section Geometry (cont'd)

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
L1	345.00-330.00	1.49	X Brace	No	No	0.0000	1.0000

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3 Sided Latticed Pole Section Geometry (cont'd)

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
L1 345.00-330.00	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round	1/2	A572-50 (50 ksi)

3 Sided Latticed Pole 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
L1 345.00-330.00	Solid Round	3/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)

3 Sided Latticed Pole 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
L1 345.00-330.00	1	Solid Round	3/4	A572-50 (50 ksi)	Flat Bar		A36 (36 ksi)

3 Sided Latticed Pole 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
L1 345.00-330.00	0.00	0.0000	A36 (36 ksi)	1.05	1.05	1.05	36.0000	36.0000	36.0000

3 Sided Latticed Pole Section Geometry (cont'd)

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors ¹							
			Legs	X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace
				X Y	X Y	X Y	X Y	X Y	X Y	X Y
L1 345.00-330.00	Yes	Yes	1	1 1	1 1	0.75 0.75	1 0.75	1 1	1 1	1 1

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¹Note: 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.

3 Sided Latticed Pole Section Geometry (cont'd)

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
L1 345.00-330.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	330.00-320.00			5.00	1	10.00
T2	320.00-300.00			5.00	1	20.00
T3	300.00-280.00			5.00	1	20.00
T4	280.00-260.00			5.00	1	20.00
T5	260.00-240.00			5.00	1	20.00
T6	240.00-220.00			5.00	1	20.00
T7	220.00-200.00			5.00	1	20.00
T8	200.00-180.00			5.00	1	20.00
T9	180.00-160.00			5.00	1	20.00
T10	160.00-140.00			5.00	1	20.00
T11	140.00-120.00			5.00	1	20.00
T12	120.00-100.00			5.00	1	20.00
T13	100.00-80.00			5.00	1	20.00
T14	80.00-60.00			5.00	1	20.00
T15	60.00-40.00			5.00	1	20.00
T16	40.00-20.00			5.00	1	20.00
T17	20.00-12.00			5.00	1	8.00
T18	12.00-6.67			5.00	1	5.33
T19	6.67-0.00			5.00	1	6.67

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	330.00-320.00	2.41	X Brace	No	No	1.0000	3.3500
T2	320.00-300.00	2.45	X Brace	No	No	1.0000	3.3500
T3	300.00-280.00	2.45	X Brace	No	No	1.0000	3.3500
T4	280.00-260.00	2.45	X Brace	No	No	1.0000	3.3500
T5	260.00-240.00	2.45	X Brace	No	No	1.0000	3.3500

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	Client	AT&T Mobility	Designed by	gpenumatsa

<i>Tower Section</i>	<i>Tower Elevation</i>	<i>Diagonal Spacing</i>	<i>Bracing Type</i>	<i>Has K Brace End Panels</i>	<i>Has Horizontal</i>	<i>Top Girt Offset</i>	<i>Bottom Girt Offset</i>
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T6	240.00-220.00	2.45	X Brace	No	No	1.0000	3.3500
T7	220.00-200.00	2.44	X Brace	No	No	1.0000	4.4000
T8	200.00-180.00	2.44	X Brace	No	No	1.0000	4.4000
T9	180.00-160.00	2.44	X Brace	No	No	1.0000	4.4000
T10	160.00-140.00	2.44	X Brace	No	No	1.0000	4.4000
T11	140.00-120.00	2.44	X Brace	No	No	1.0000	4.4000
T12	120.00-100.00	2.44	X Brace	No	No	1.0000	4.4000
T13	100.00-80.00	2.44	X Brace	No	No	1.0000	4.4000
T14	80.00-60.00	2.44	X Brace	No	No	1.0000	4.4000
T15	60.00-40.00	2.44	X Brace	No	No	1.0000	4.4000
T16	40.00-20.00	2.44	X Brace	No	No	1.0000	4.4000
T17	20.00-12.00	2.53	X Brace	No	Yes	1.0000	4.0000
T18	12.00-6.67	2.46	Diamond	No	Yes	1.0000	4.0000
T19	6.67-0.00	2.79	X Brace	No	Yes	1.0000	12.0000

Tower Section Geometry (cont'd)

<i>Tower Elevation</i>	<i>Leg Type</i>	<i>Leg Size</i>	<i>Leg Grade</i>	<i>Diagonal Type</i>	<i>Diagonal Size</i>	<i>Diagonal Grade</i>
<i>ft</i>						
T1 330.00-320.00	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	7/8	A572-50 (50 ksi)
T2 320.00-300.00	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	7/8	A572-50 (50 ksi)
T3 300.00-280.00	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	7/8	A572-50 (50 ksi)
T4 280.00-260.00	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T5 260.00-240.00	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T6 240.00-220.00	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T7 220.00-200.00	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T8 200.00-180.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1 1/4	A572-50 (50 ksi)
T9 180.00-160.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1 1/4	A572-50 (50 ksi)
T10 160.00-140.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T11 140.00-120.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T12 120.00-100.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T13 100.00-80.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T14 80.00-60.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T15 60.00-40.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T16 40.00-20.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T17 20.00-12.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1 1/4	A572-50 (50 ksi)
T18 12.00-6.67	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1 1/4	A572-50 (50 ksi)

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<i>Tower Elevation ft</i>	<i>Leg Type</i>	<i>Leg Size</i>	<i>Leg Grade</i>	<i>Diagonal Type</i>	<i>Diagonal Size</i>	<i>Diagonal Grade</i>
T19 6.67-0.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1 1/4	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

<i>Tower Elevation ft</i>	<i>Top Girt Type</i>	<i>Top Girt Size</i>	<i>Top Girt Grade</i>	<i>Bottom Girt Type</i>	<i>Bottom Girt Size</i>	<i>Bottom Girt Grade</i>
T1 330.00-320.00	Flat Bar	6x3/4	A36 (36 ksi)	Solid Round	1	A572-50 (50 ksi)
T2 320.00-300.00	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T3 300.00-280.00	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T4 280.00-260.00	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T5 260.00-240.00	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T6 240.00-220.00	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T7 220.00-200.00	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round	1 1/4	A572-50 (50 ksi)
T8 200.00-180.00	Solid Round	1 1/2	A572-50 (50 ksi)	Solid Round	1 1/2	A572-50 (50 ksi)
T9 180.00-160.00	Solid Round	1 1/2	A572-50 (50 ksi)	Solid Round	1 1/2	A572-50 (50 ksi)
T10 160.00-140.00	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round	1 1/4	A572-50 (50 ksi)
T11 140.00-120.00	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round	1 1/4	A572-50 (50 ksi)
T12 120.00-100.00	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round	1 1/4	A572-50 (50 ksi)
T13 100.00-80.00	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round	1 1/4	A572-50 (50 ksi)
T14 80.00-60.00	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round	1 1/4	A572-50 (50 ksi)
T15 60.00-40.00	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round	1 1/4	A572-50 (50 ksi)
T16 40.00-20.00	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round	1 1/4	A572-50 (50 ksi)
T17 20.00-12.00	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T18 12.00-6.67	Solid Round	7/8	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T19 6.67-0.00	Flat Bar	6x3/4	A36 (36 ksi)	Flat Bar	6x3/4	A36 (36 ksi)

Tower Section Geometry (cont'd)

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<i>Tower Elevation</i> <i>ft</i>	<i>No. of Mid Girts</i>	<i>Mid Girt Type</i>	<i>Mid Girt Size</i>	<i>Mid Girt Grade</i>	<i>Horizontal Type</i>	<i>Horizontal Size</i>	<i>Horizontal Grade</i>
T1 330.00-320.00	1	Solid Round	1	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T2 320.00-300.00	1	Solid Round	1	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T3 300.00-280.00	1	Solid Round	1	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T4 280.00-260.00	1	Solid Round	1	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T5 260.00-240.00	1	Solid Round	1	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T6 240.00-220.00	1	Solid Round	1	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T7 220.00-200.00	1	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T8 200.00-180.00	1	Solid Round	1 1/2	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T9 180.00-160.00	1	Solid Round	1 1/2	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T10 160.00-140.00	1	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T11 140.00-120.00	1	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T12 120.00-100.00	1	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T13 100.00-80.00	1	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T14 80.00-60.00	1	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T15 60.00-40.00	1	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T16 40.00-20.00	1	Solid Round	1 1/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T17 20.00-12.00	None	Solid Round		A572-50 (50 ksi)	Solid Round	7/8	A572-50 (50 ksi)
T18 12.00-6.67	None	Solid Round		A572-50 (50 ksi)	Flat Bar	6x3/4	A36 (36 ksi)
T19 6.67-0.00	1	Flat Bar	6x3/4	A572-50 (50 ksi)	Flat Bar		A36 (36 ksi)

Tower Section Geometry (cont'd)

<i>Tower Elevation</i> <i>ft</i>	<i>Secondary Horizontal Type</i>	<i>Secondary Horizontal Size</i>	<i>Secondary Horizontal Grade</i>	<i>Inner Bracing Type</i>	<i>Inner Bracing Size</i>	<i>Inner Bracing Grade</i>
T19 6.67-0.00	Solid Round	7/8	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)

Tower Section Geometry (cont'd)

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Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
ft	ft ²	in							
T1	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
330.00-320.00			(36 ksi)						
T2	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
320.00-300.00			(36 ksi)						
T3	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
300.00-280.00			(36 ksi)						
T4	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
280.00-260.00			(36 ksi)						
T5	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
260.00-240.00			(36 ksi)						
T6	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
240.00-220.00			(36 ksi)						
T7	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
220.00-200.00			(36 ksi)						
T8	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
200.00-180.00			(36 ksi)						
T9	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
180.00-160.00			(36 ksi)						
T10	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
160.00-140.00			(36 ksi)						
T11	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
140.00-120.00			(36 ksi)						
T12	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
120.00-100.00			(36 ksi)						
T13	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
100.00-80.00			(36 ksi)						
T14	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
80.00-60.00			(36 ksi)						
T15	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
60.00-40.00			(36 ksi)						
T16	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
40.00-20.00			(36 ksi)						
T17	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
20.00-12.00			(36 ksi)						
T18 12.00-6.67	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
			(36 ksi)						
T19 6.67-0.00	0.00	0.0000	A36	1.05	1.05	1.05	36.0000	36.0000	36.0000
			(36 ksi)						

Tower Section Geometry (cont'd)

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	K Factors ¹							
			Legs	X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace
				X Y	X Y	X Y	X Y	X Y	X Y	X Y
T1	Yes	Yes	1	1	1	1	1	1	1	1
330.00-320.00				1	1	1	0.75	1	1	1
T2	Yes	Yes	1	1	1	1	1	1	1	1
320.00-300.00				1	1	1	0.75	1	1	1
T3	Yes	Yes	1	1	1	1	1	1	1	1
300.00-280.00				1	1	1	0.75	1	1	1
T4	Yes	Yes	1	1	1	1	1	1	1	1
280.00-260.00				1	1	1	0.75	1	1	1

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Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T11	Flange	0.8750	5	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
140.00-120.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T12	Flange	0.8750	5	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
120.00-100.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T13	Flange	0.8750	5	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
100.00-80.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T14	Flange	0.7500	5	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
80.00-60.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T15	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
60.00-40.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T16	Flange	0.7500	5	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
40.00-20.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T17	Flange	0.7500	5	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
20.00-12.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T18 12.00-6.67	Flange	0.0000	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T19 6.67-0.00	Flange	0.0000	3	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	

Guy Data

Guy Elevation	Guy Grade	Guy Size	Initial Tension	%	Guy Modulus	Guy Weight	L _u	Anchor Radius	Anchor Azimuth Adj.	Anchor Elevation	End Fitting Efficiency
ft			lb		ksi	plf	ft	ft	°	ft	%
329.917	BS	A 11/16	5800.00	10%	24000	0.990	416.80	205.00	0.0000	-35.00	100%
		B 11/16	5800.00	10%	24000	0.990	382.33	205.00	0.0000	5.00	100%
		C 11/16	5800.00	10%	24000	0.990	382.33	205.00	0.0000	5.00	100%
270.098	BS	A 13/16	8000.00	10%	24000	1.390	365.67	205.00	0.0000	-35.00	100%
		B 13/16	8000.00	10%	24000	1.390	333.09	205.00	0.0000	5.00	100%
		C 13/16	8000.00	10%	24000	1.390	333.09	205.00	0.0000	5.00	100%
177.25	BS	A 15/16	10800.00	10%	24000	1.850	293.27	205.00	0.0000	-35.00	100%
		B 15/16	10800.00	10%	24000	1.850	265.81	205.00	0.0000	5.00	100%
		C 15/16	10800.00	10%	24000	1.850	265.81	205.00	0.0000	5.00	100%
99.9167	BS	A 15/16	10800.00	10%	24000	1.850	242.81	205.00	0.0000	-35.00	100%
		B 15/16	10800.00	10%	24000	1.850	223.11	205.00	0.0000	5.00	100%
		C 15/16	10800.00	10%	24000	1.850	223.11	205.00	0.0000	5.00	100%
297.462	BS	A 9/16	3800.00	10%	24000	0.660	388.76	205.00	0.0000	-35.00	100%
		B 9/16	3800.00	10%	24000	0.660	355.22	205.00	0.0000	5.00	100%
		C 9/16	3800.00	10%	24000	0.660	355.22	205.00	0.0000	5.00	100%

Guy Data(cont'd)

Guy Elevation ft	Mount Type	Torque-Arm Spread	Torque-Arm Leg Angle	Torque-Arm Style	Torque-Arm Grade	Torque-Arm Type	Torque-Arm Size
		ft	°				
329.917	Corner						
270.098	Corner						
177.25	Torque Arm	8.00	30.0000	Wing	A36	Double Angle	2L4x4x3/8

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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
99.9167	Corner				(36 ksi)		
297.462	Corner						

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
329.92	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
270.10	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
177.25	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
99.92	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
297.46	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	

Guy Data (cont'd)

Guy Elevation ft	Cable Weight A lb	Cable Weight B lb	Cable Weight C lb	Cable Weight D lb	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
329.917	412.64	378.51	378.51		14.39	12.15	12.15	
270.098	508.28	462.99	462.99		6.6 sec/pulse 11.33	6.0 sec/pulse 9.43	6.0 sec/pulse 9.43	
177.25	542.55	491.75	491.75		5.8 sec/pulse 7.24	5.3 sec/pulse 5.97	5.3 sec/pulse 5.97	
99.9167	449.20	412.75	412.75		4.6 sec/pulse 5.00	4.2 sec/pulse 4.23	4.2 sec/pulse 4.23	
297.462	256.58	234.44	234.44		3.9 sec/pulse 12.77	3.6 sec/pulse 10.70	3.6 sec/pulse 10.70	
					6.2 sec/pulse	5.6 sec/pulse	5.6 sec/pulse	

Guy Data (cont'd)

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm		Pull Off		Diagonal	
			K _x	K _y	K _x	K _y	K _x	K _y
329.917	No	No			1	1	1	1
270.098	No	No			1	1	1	1
177.25	No	No	0.75	0.75	1	1	1	1

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Diagonal	
K_x	K_y

Guy Data (cont'd)	
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<i>Diagonal</i>			
<i>Bolt Size</i>	<i>Number</i>	<i>Net Width</i>	<i>U</i>
<i>in</i>		<i>Deduct</i>	
		<i>in</i>	

Guy Pressures	
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*Ice
Thickness
in*

Guy-Tensioning Information

$$\frac{120 F}{\text{Intercept}}$$

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Temperature At Time Of Tensioning																
Guy Elevation ft	H ft	V ft	0 F		20 F		40 F		60 F		80 F		100 F		120 F	
			Initial Tension lb	Intercept ft	Initial Tension lb	Intercept ft	Initial Tension lb	Intercept ft	Initial Tension lb	Intercept ft	Initial Tension lb	Intercept ft	Initial Tension lb	Intercept ft	Initial Tension lb	Intercept ft
329.917	A	202.11	364.92	6372	13.13	6180	13.53	5989	13.95	5800	14.39	5613	14.86	5427	15.35	5244
	B	202.11	324.92	6481	10.90	6252	11.29	6025	11.71	5800	12.15	5578	12.62	5358	13.13	5142
	C	202.11	324.92	6481	10.90	6252	11.29	6025	11.71	5800	12.15	5578	12.62	5358	13.13	5142
270.098	A	202.11	305.10	9034	10.06	8686	10.45	8341	10.87	8000	11.33	7663	11.81	7332	12.34	7005
	B	202.11	265.10	9249	8.18	8828	8.56	8411	8.98	8000	9.43	7595	9.92	7198	10.46	6809
	C	202.11	265.10	9249	8.18	8828	8.56	8411	8.98	8000	9.43	7595	9.92	7198	10.46	6809
177.25	A	202.73	212.25	12975	6.04	12240	6.40	11514	6.80	10800	7.24	10099	7.74	9415	8.29	8752
	B	202.73	172.25	13451	4.80	12554	5.14	11669	5.53	10800	5.97	9952	6.47	9131	7.04	8342
	C	202.73	172.25	13451	4.80	12554	5.14	11669	5.53	10800	5.97	9952	6.47	9131	7.04	8342
99.9167	A	202.11	134.92	13970	3.87	12895	4.19	11836	4.56	10800	5.00	9793	5.50	8826	6.10	7910
	B	202.11	94.92	14568	3.14	13288	3.44	12029	3.80	10800	4.23	9613	4.75	8484	5.38	7436
	C	202.11	94.92	14568	3.14	13288	3.44	12029	3.80	10800	4.23	9613	4.75	8484	5.38	7436
297.462	A	202.11	332.46	4238	11.48	4091	11.88	3945	12.31	3800	12.77	3657	13.26	3516	13.77	3377
	B	202.11	292.46	4326	9.42	4149	9.82	3973	10.24	3800	10.70	3629	11.19	3461	11.72	3296
	C	202.11	292.46	4326	9.42	4149	9.82	3973	10.24	3800	10.70	3629	11.19	3461	11.72	3296

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
LDF7-50A (1-5/8 FOAM) (AT&T)	B	No	Ar (CaAa)	200.00 - 6.66	0.0000	-0.35	4	4	0.5000 1.5000	1.9800		0.82
LMR-240 (3/4 FOAM) (AT&T)	B	No	Ar (CaAa)	200.00 - 6.66	0.0000	-0.3	2	2	0.2500	0.2400		0.04
FSJ2-50 (3/8 SUPERFLEX. FOAM) (AT&T)	B	No	Ar (CaAa)	200.00 - 6.66	0.0000	-0.25	1	1	0.4300	0.4300		0.08
LDF7-50A (1-5/8 FOAM) (AT&T)	B	No	Ar (CaAa)	200.00 - 6.66	-3.0000	-0.26	6	3	0.1000 0.2500	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (AT&T)	B	No	Ar (CaAa)	200.00 - 6.66	-1.0000	-0.36	2	2	0.1000 0.2500	1.9800		0.82
LDF5-50A (7/8 FOAM)	B	No	Ar (CaAa)	219.50 - 6.66	0.0000	0.3	1	1	1.0900	1.0900		0.33
LDF4P-50A (1/2 FOAM)	B	No	Ar (CaAa)	90.00 - 6.66	0.0000	0.35	1	1	0.6300	0.6300		0.15
LDF5-50A (7/8 FOAM)	B	No	Ar (CaAa)	136.00 - 6.66	0.0000	0.4	1	1	1.0900	1.0900		0.33
LDF12-50A (2-1/4 FOAM)	B	No	Ar (CaAa)	297.33 - 6.66	0.0000	0.45	1	1	2.3500	2.3500		1.22
LDF7-50A (1-5/8 FOAM) (Verizon)	B	No	Ar (CaAa)	169.50 - 6.66	-5.0000	0.37	12	4	0.1000 0.2500	1.9800		0.82
LDF4P-50A (1/2 FOAM)	C	No	Ar (CaAa)	36.00 - 6.66	0.0000	-0.45	2	2	0.6300	0.6300		0.15
1 1/2" Rigid Conduit	C	No	Ar (CaAa)	345.00 - 6.66	0.0000	0	1	1	1.5000	1.5000		1.00
LDF5-50A (7/8 FOAM)	C	No	Ar (CaAa)	264.25 - 6.66	0.0000	0.4	1	1	1.0900	1.0900		0.33
LDF6-50A (1-1/4 FOAM)	C	No	Ar (CaAa)	205.50 - 6.66	0.0000	0.45	1	1	1.5500	1.5500		0.66
LDF7-50A (1-5/8 FOAM)	C	No	Ar (CaAa)	251.00 - 6.66	-1.0000	0.18	1	1	1.9800	1.9800		0.82

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Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LDF6-50A (1-1/4 FOAM)	C	No	Ar (CaAa)	294.00 - 6.66	-1.0000	0.3	3	3	2.0000 0.2500	1.5500		0.66
LDF4P-50A (1/2 FOAM)	C	No	Ar (CaAa)	332.50 - 6.66	-1.0000	0.38	1	1	0.6300	0.6300		0.15
LDF4P-50A (1/2 FOAM)	C	No	Ar (CaAa)	274.00 - 6.66	-1.0000	0.4	1	1	0.6300	0.6300		0.15
LDF7-50A (1-5/8 FOAM)	A	No	Ar (CaAa)	274.00 - 6.66	0.0000	-0.4	1	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	A	No	Ar (CaAa)	308.00 - 6.66	0.0000	-0.3	1	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	A	No	Ar (CaAa)	317.50 - 6.66	0.0000	-0.28	1	1	1.9800	1.9800		0.82
LDF4P-50A (1/2 FOAM)	A	No	Ar (CaAa)	312.00 - 6.66	0.0000	-0.24	1	1	0.6300	0.6300		0.15
LDF4P-50A (1/2 FOAM)	A	No	Ar (CaAa)	279.00 - 6.66	0.0000	-0.2	1	1	0.6300	0.6300		0.15
LDF7-50A (1-5/8 FOAM)	A	No	Ar (CaAa)	342.25 - 6.66	0.0000	-0.16	1	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	A	No	Ar (CaAa)	130.00 - 6.66	-1.0000	-0.24	1	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	A	No	Ar (CaAa)	112.00 - 6.66	-1.0000	-0.28	1	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	A	No	Ar (CaAa)	204.00 - 6.66	-1.0000	-0.32	1	1	1.9800	1.9800		0.82
LDF5-50A (7/8 FOAM)	A	No	Ar (CaAa)	252.00 - 6.66	0.0000	0.18	1	1	1.0900	1.0900		0.33
LDF4.5-50 (5/8 FOAM)	A	No	Ar (CaAa)	150.60 - 6.66	0.0000	0.21	1	1	0.8700	0.8700		0.15
LDF6-50A (1-1/4 FOAM)	A	No	Ar (CaAa)	209.00 - 6.66	0.0000	0.24	1	1	1.5500	1.5500		0.66
LDF7-50A (1-5/8 FOAM)	A	No	Ar (CaAa)	226.50 - 6.66	0.0000	0.4	6	6	0.5000 1.5000	1.9800		0.82
(Sprint) LDF6-50A (1-1/4 FOAM)	A	No	Ar (CaAa)	226.50 - 6.66	0.0000	0.4	2	2	1.5500	1.5500		0.66
(Sprint) LDF7-50A (1-5/8 FOAM)	A	No	Ar (CaAa)	188.50 - 6.66	-1.0000	0.2	2	2	1.9800	1.9800		0.82
(T-Mobile) LDF7-50A (1-5/8 FOAM)	A	No	Ar (CaAa)	188.50 - 6.66	-1.0000	0.3	4	4	1.9800	1.9800		0.82
(T-Mobile) LDF6-50A (1-1/4 FOAM)	A	No	Ar (CaAa)	188.50 - 6.66	-1.0000	0.4	1	1	1.5500	1.5500		0.66
(T-Mobile) LDF6-50A (1-1/4 FOAM)	A	No	Ar (CaAa)	188.50 - 6.66	-1.0000	0.43	1	1	1.5500	1.5500		0.66
(T-Mobile) LDF1-50A (1/4 FOAM)	A	No	Ar (CaAa)	106.50 - 6.66	-1.0000	0.45	2	2	0.3500	0.3500		0.06
CA-0182 (3/16 Solid Bare Copp)	A	No	Ar (CaAa)	123.50 - 6.66	-1.0000	0.49	1	1	0.2500	0.2000		0.02

Feed Line/Linear Appurtenances - Entered As Area

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Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#		C _A A _A ft ² /ft	Weight plf
Climbing Ladder	A	No	CaAa (In Face)	345.00 - 6.66	0.0000	-0.25	1	No Ice	0.29	7.90
								1/2" Ice	0.55	10.60
								1" Ice	0.81	13.30
Safety Line 3/8	A	No	CaAa (In Face)	330.00 - 6.66	0.0000	0	1	No Ice	0.04	0.22
								1/2" Ice	0.14	0.75
								1" Ice	0.24	1.28
Feedline Ladder (Af)	C	No	CaAa (In Face)	330.00 - 6.66	0.0000	-0.25	1	No Ice	0.50	8.40
								1/2" Ice	0.61	13.50
								1" Ice	0.72	18.60
Feedline Ladder (Af)	B	No	CaAa (In Face)	330.00 - 6.66	0.0000	-0.25	1	No Ice	0.50	8.40
								1/2" Ice	0.61	13.50
								1" Ice	0.72	18.60
Feedline Ladder (Af)	A	No	CaAa (In Face)	330.00 - 6.66	0.0000	-0.25	1	No Ice	0.50	8.40
								1/2" Ice	0.61	13.50
								1" Ice	0.72	18.60
Feedline Ladder (Af)	A	No	CaAa (In Face)	330.00 - 6.66	0.0000	0.25	1	No Ice	0.50	8.40
								1/2" Ice	0.61	13.50
								1" Ice	0.72	18.60

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight lb
L1	345.00-330.00	A	0.000	0.000	6.776	0.000	128.54
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	2.408	0.000	15.38
T1	330.00-320.00	A	0.000	0.000	15.255	0.000	257.40
		B	0.000	0.000	5.000	0.000	84.00
		C	0.000	0.000	7.130	0.000	95.50
T2	320.00-300.00	A	0.000	0.000	36.315	0.000	537.51
		B	0.000	0.000	10.000	0.000	168.00
		C	0.000	0.000	14.260	0.000	191.00
T3	300.00-280.00	A	0.000	0.000	39.690	0.000	550.60
		B	0.000	0.000	14.073	0.000	189.14
		C	0.000	0.000	20.770	0.000	218.72
T4	280.00-260.00	A	0.000	0.000	43.659	0.000	564.93
		B	0.000	0.000	14.700	0.000	192.40
		C	0.000	0.000	24.905	0.000	234.10
T5	260.00-240.00	A	0.000	0.000	46.218	0.000	573.96
		B	0.000	0.000	14.700	0.000	192.40
		C	0.000	0.000	29.178	0.000	249.22
T6	240.00-220.00	A	0.000	0.000	56.827	0.000	617.16
		B	0.000	0.000	14.700	0.000	192.40
		C	0.000	0.000	30.960	0.000	256.60
T7	220.00-200.00	A	0.000	0.000	79.237	0.000	710.62
		B	0.000	0.000	16.826	0.000	198.84
		C	0.000	0.000	31.813	0.000	260.23
T8	200.00-180.00	A	0.000	0.000	96.843	0.000	784.04
		B	0.000	0.000	66.220	0.000	399.00
		C	0.000	0.000	34.060	0.000	269.80
T9	180.00-160.00	A	0.000	0.000	114.070	0.000	855.80
		B	0.000	0.000	88.792	0.000	492.48
		C	0.000	0.000	34.060	0.000	269.80
T10	160.00-140.00	A	0.000	0.000	114.992	0.000	857.39
		B	0.000	0.000	113.740	0.000	595.80
		C	0.000	0.000	34.060	0.000	269.80
T11	140.00-120.00	A	0.000	0.000	117.860	0.000	867.07

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<i>Tower Section</i>	<i>Tower Elevation ft</i>	<i>Face</i>	<i>A_R</i> <i>ft²</i>	<i>A_F</i> <i>ft²</i>	<i>C_AA_A</i> <i>In Face ft²</i>	<i>C_AA_A</i> <i>Out Face ft²</i>	<i>Weight lb</i>
		B	0.000	0.000	115.484	0.000	601.08
		C	0.000	0.000	34.060	0.000	269.80
T12	120.00-100.00	A	0.000	0.000	123.001	0.000	886.22
		B	0.000	0.000	115.920	0.000	602.40
		C	0.000	0.000	34.060	0.000	269.80
T13	100.00-80.00	A	0.000	0.000	125.530	0.000	894.40
		B	0.000	0.000	116.550	0.000	603.90
		C	0.000	0.000	34.060	0.000	269.80
T14	80.00-60.00	A	0.000	0.000	125.530	0.000	894.40
		B	0.000	0.000	117.180	0.000	605.40
		C	0.000	0.000	34.060	0.000	269.80
T15	60.00-40.00	A	0.000	0.000	125.530	0.000	894.40
		B	0.000	0.000	117.180	0.000	605.40
		C	0.000	0.000	34.060	0.000	269.80
T16	40.00-20.00	A	0.000	0.000	125.530	0.000	894.40
		B	0.000	0.000	117.180	0.000	605.40
		C	0.000	0.000	36.076	0.000	274.60
T17	20.00-12.00	A	0.000	0.000	50.212	0.000	357.76
		B	0.000	0.000	46.872	0.000	242.16
		C	0.000	0.000	14.632	0.000	110.32
T18	12.00-6.67	A	0.000	0.000	33.475	0.000	238.51
		B	0.000	0.000	31.248	0.000	161.44
		C	0.000	0.000	9.755	0.000	73.55
T19	6.67-0.00	A	0.000	0.000	0.042	0.000	0.30
		B	0.000	0.000	0.039	0.000	0.20
		C	0.000	0.000	0.012	0.000	0.09

Feed Line/Linear Appurtenances Section Areas - With Ice

<i>Tower Section</i>	<i>Tower Elevation ft</i>	<i>Face or Leg</i>	<i>Ice Thickness in</i>	<i>A_R</i> <i>ft²</i>	<i>A_F</i> <i>ft²</i>	<i>C_AA_A</i> <i>In Face ft²</i>	<i>C_AA_A</i> <i>Out Face ft²</i>	<i>Weight lb</i>
L1	345.00-330.00	A	1.893	0.000	0.000	26.175	0.000	391.54
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	9.032	0.000	147.63
T1	330.00-320.00	A	1.886	0.000	0.000	40.982	0.000	852.89
		B		0.000	0.000	9.190	0.000	276.32
		C		0.000	0.000	18.862	0.000	423.76
T2	320.00-300.00	A	1.877	0.000	0.000	101.600	0.000	2016.91
		B		0.000	0.000	18.341	0.000	550.83
		C		0.000	0.000	37.614	0.000	843.60
T3	300.00-280.00	A	1.864	0.000	0.000	112.930	0.000	2190.92
		B		0.000	0.000	28.819	0.000	735.76
		C		0.000	0.000	61.007	0.000	1158.20
T4	280.00-260.00	A	1.851	0.000	0.000	128.593	0.000	2419.04
		B		0.000	0.000	30.330	0.000	759.96
		C		0.000	0.000	78.949	0.000	1396.69
T5	260.00-240.00	A	1.837	0.000	0.000	137.481	0.000	2545.98
		B		0.000	0.000	30.210	0.000	754.98
		C		0.000	0.000	94.930	0.000	1631.69
T6	240.00-220.00	A	1.821	0.000	0.000	163.799	0.000	2897.16
		B		0.000	0.000	30.081	0.000	749.63
		C		0.000	0.000	99.546	0.000	1700.42
T7	220.00-200.00	A	1.805	0.000	0.000	217.986	0.000	3634.35
		B		0.000	0.000	39.106	0.000	874.77
		C		0.000	0.000	101.872	0.000	1727.81
T8	200.00-180.00	A	1.787	0.000	0.000	271.161	0.000	4397.48
		B		0.000	0.000	151.551	0.000	2306.61

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Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight lb
T9	180.00-160.00	C	1.767	0.000	0.000	108.725	0.000	1824.04
		A		0.000	0.000	323.235	0.000	5106.53
		B		0.000	0.000	168.986	0.000	2646.68
T10	160.00-140.00	C	1.745	0.000	0.000	108.034	0.000	1801.49
		A		0.000	0.000	325.801	0.000	5103.31
		B		0.000	0.000	188.096	0.000	3015.91
T11	140.00-120.00	C	1.720	0.000	0.000	107.265	0.000	1776.58
		A		0.000	0.000	334.177	0.000	5183.00
		B		0.000	0.000	194.078	0.000	3076.11
T12	120.00-100.00	C	1.692	0.000	0.000	106.397	0.000	1748.67
		A		0.000	0.000	353.745	0.000	5380.32
		B		0.000	0.000	194.320	0.000	3052.70
T13	100.00-80.00	C	1.658	0.000	0.000	105.401	0.000	1716.86
		A		0.000	0.000	363.901	0.000	5405.12
		B		0.000	0.000	196.415	0.000	3044.00
T14	80.00-60.00	C	1.617	0.000	0.000	104.225	0.000	1679.69
		A		0.000	0.000	359.107	0.000	5266.69
		B		0.000	0.000	197.930	0.000	3019.35
T15	60.00-40.00	C	1.564	0.000	0.000	102.787	0.000	1634.71
		A		0.000	0.000	352.876	0.000	5089.18
		B		0.000	0.000	194.769	0.000	2926.31
T16	40.00-20.00	C	1.486	0.000	0.000	100.917	0.000	1577.10
		A		0.000	0.000	343.812	0.000	4835.85
		B		0.000	0.000	190.172	0.000	2793.42
T17	20.00-12.00	C	1.395	0.000	0.000	110.298	0.000	1587.56
		A		0.000	0.000	133.313	0.000	1819.52
		B		0.000	0.000	73.932	0.000	1057.06
T18	12.00-6.67	C	1.322	0.000	0.000	43.812	0.000	603.33
		A		0.000	0.000	86.605	0.000	1152.66
		B		0.000	0.000	48.136	0.000	672.97
T19	6.67-0.00	C	1.193	0.000	0.000	28.391	0.000	380.77
		A		0.000	0.000	0.104	0.000	1.32
		B		0.000	0.000	0.058	0.000	0.78
		C		0.000	0.000	0.034	0.000	0.43

Feed Line Center of Pressure

Section	Elevation ft	CP _X in	CP _Z in	CP _X Ice in	CP _Z Ice in
L1	345.00-330.00	-1.1481	0.4502	-0.4039	0.1588
T1	330.00-320.00	-1.0810	-0.4190	-1.1786	-0.0352
T2	320.00-300.00	-1.4578	-0.2967	-1.6563	0.0612
T3	300.00-280.00	-1.4524	0.2213	-1.5810	0.3847
T4	280.00-260.00	-1.7146	0.4615	-1.8715	0.5936
T5	260.00-240.00	-1.8826	0.5686	-2.0642	0.6940
T6	240.00-220.00	-1.8256	-0.0562	-1.9985	0.4078
T7	220.00-200.00	-1.6296	-1.0427	-1.7338	-0.0627
T8	200.00-180.00	-1.1393	-2.2202	-1.3913	-0.7044
T9	180.00-160.00	-0.8158	-2.2215	-1.2273	-0.9106
T10	160.00-140.00	-0.5064	-1.9907	-1.1354	-0.8887
T11	140.00-120.00	-0.4974	-1.9443	-1.0864	-0.8779
T12	120.00-100.00	-0.5623	-1.8982	-1.1187	-0.9024
T13	100.00-80.00	-0.5729	-1.8879	-1.0900	-0.8834
T14	80.00-60.00	-0.5565	-1.8780	-1.0475	-0.8792
T15	60.00-40.00	-0.5565	-1.8780	-1.0453	-0.8970
T16	40.00-20.00	-0.5023	-1.8313	-1.0020	-0.8946

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Section	Elevation	CP _x	CP _z	CP _x Ice	CP _z Ice
	ft	in	in	in	in
T17	20.00-12.00	-0.4824	-1.7959	-0.9540	-0.8892
T18	12.00-6.67	-0.4911	-1.8279	-0.9949	-0.9601
T19	6.67-0.00	-0.0059	-0.0219	-0.0046	-0.0047

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L1	12	1 1/2" Rigid Conduit	330.00 - 345.00	0.6000	0.1770
L1	17	LDF4P-50A (1/2 FOAM)	330.00 - 332.50	0.6000	0.1770
L1	24	LDF7-50A (1-5/8 FOAM)	330.00 - 342.25	0.6000	0.1770
L1	39	Climbing Ladder	330.00 - 345.00	0.6000	0.1770
T1	12	1 1/2" Rigid Conduit	320.00 - 330.00	0.6000	0.3851
T1	17	LDF4P-50A (1/2 FOAM)	320.00 - 330.00	0.6000	0.3851
T1	24	LDF7-50A (1-5/8 FOAM)	320.00 - 330.00	0.6000	0.3851
T1	39	Climbing Ladder	320.00 - 330.00	0.6000	0.3851
T1	40	Safety Line 3/8	320.00 - 330.00	0.6000	0.3851
T1	41	Feedline Ladder (Af)	320.00 - 330.00	0.6000	0.3851
T1	42	Feedline Ladder (Af)	320.00 - 330.00	0.6000	0.3851
T1	43	Feedline Ladder (Af)	320.00 - 330.00	0.6000	0.3851
T1	44	Feedline Ladder (Af)	320.00 - 330.00	0.6000	0.3851
T2	12	1 1/2" Rigid Conduit	300.00 - 320.00	0.6000	0.4386
T2	17	LDF4P-50A (1/2 FOAM)	300.00 - 320.00	0.6000	0.4386
T2	20	LDF7-50A (1-5/8 FOAM)	300.00 - 308.00	0.6000	0.4386
T2	21	LDF7-50A (1-5/8 FOAM)	300.00 - 317.50	0.6000	0.4386
T2	22	LDF4P-50A (1/2 FOAM)	300.00 - 312.00	0.6000	0.4386
T2	24	LDF7-50A (1-5/8 FOAM)	300.00 - 320.00	0.6000	0.4386
T2	39	Climbing Ladder	300.00 - 320.00	0.6000	0.4386
T2	40	Safety Line 3/8	300.00 - 320.00	0.6000	0.4386
T2	41	Feedline Ladder (Af)	300.00 - 320.00	0.6000	0.4386
T2	42	Feedline Ladder (Af)	300.00 - 320.00	0.6000	0.4386
T2	43	Feedline Ladder (Af)	300.00 -	0.6000	0.4386

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
			320.00		
T2	44	Feedline Ladder (Af)	300.00 -	0.6000	0.4386
			320.00		
T3	9	LDF12-50A (2-1/4 FOAM)	280.00 -	0.6000	0.4412
			297.33		
T3	12	1 1/2" Rigid Conduit	280.00 -	0.6000	0.4412
			300.00		
T3	16	LDF6-50A (1-1/4 FOAM)	280.00 -	0.6000	0.4412
			294.00		
T3	17	LDF4P-50A (1/2 FOAM)	280.00 -	0.6000	0.4412
			300.00		
T3	20	LDF7-50A (1-5/8 FOAM)	280.00 -	0.6000	0.4412
			300.00		
T3	21	LDF7-50A (1-5/8 FOAM)	280.00 -	0.6000	0.4412
			300.00		
T3	22	LDF4P-50A (1/2 FOAM)	280.00 -	0.6000	0.4412
			300.00		
T3	24	LDF7-50A (1-5/8 FOAM)	280.00 -	0.6000	0.4412
			300.00		
T3	39	Climbing Ladder	280.00 -	0.6000	0.4412
			300.00		
T3	40	Safety Line 3/8	280.00 -	0.6000	0.4412
			300.00		
T3	41	Feedline Ladder (Af)	280.00 -	0.6000	0.4412
			300.00		
T3	42	Feedline Ladder (Af)	280.00 -	0.6000	0.4412
			300.00		
T3	43	Feedline Ladder (Af)	280.00 -	0.6000	0.4412
			300.00		
T3	44	Feedline Ladder (Af)	280.00 -	0.6000	0.4412
			300.00		
T4	9	LDF12-50A (2-1/4 FOAM)	260.00 -	0.6000	0.4354
			280.00		
T4	12	1 1/2" Rigid Conduit	260.00 -	0.6000	0.4354
			280.00		
T4	13	LDF5-50A (7/8 FOAM)	260.00 -	0.6000	0.4354
			264.25		
T4	16	LDF6-50A (1-1/4 FOAM)	260.00 -	0.6000	0.4354
			280.00		
T4	17	LDF4P-50A (1/2 FOAM)	260.00 -	0.6000	0.4354
			280.00		
T4	18	LDF4P-50A (1/2 FOAM)	260.00 -	0.6000	0.4354
			274.00		
T4	19	LDF7-50A (1-5/8 FOAM)	260.00 -	0.6000	0.4354
			274.00		
T4	20	LDF7-50A (1-5/8 FOAM)	260.00 -	0.6000	0.4354
			280.00		
T4	21	LDF7-50A (1-5/8 FOAM)	260.00 -	0.6000	0.4354
			280.00		
T4	22	LDF4P-50A (1/2 FOAM)	260.00 -	0.6000	0.4354
			280.00		
T4	23	LDF4P-50A (1/2 FOAM)	260.00 -	0.6000	0.4354
			279.00		
T4	24	LDF7-50A (1-5/8 FOAM)	260.00 -	0.6000	0.4354
			280.00		
T4	39	Climbing Ladder	260.00 -	0.6000	0.4354
			280.00		
T4	40	Safety Line 3/8	260.00 -	0.6000	0.4354
			280.00		
T4	41	Feedline Ladder (Af)	260.00 -	0.6000	0.4354
			280.00		
T4	42	Feedline Ladder (Af)	260.00 -	0.6000	0.4354

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
			280.00		
T4	43	Feedline Ladder (Af)	260.00 -	0.6000	0.4354
			280.00		
T4	44	Feedline Ladder (Af)	260.00 -	0.6000	0.4354
			280.00		
T5	9	LDF12-50A (2-1/4 FOAM)	240.00 -	0.6000	0.4383
			260.00		
T5	12	1 1/2" Rigid Conduit	240.00 -	0.6000	0.4383
			260.00		
T5	13	LDF5-50A (7/8 FOAM)	240.00 -	0.6000	0.4383
			260.00		
T5	15	LDF7-50A (1-5/8 FOAM)	240.00 -	0.6000	0.4383
			251.00		
T5	16	LDF6-50A (1-1/4 FOAM)	240.00 -	0.6000	0.4383
			260.00		
T5	17	LDF4P-50A (1/2 FOAM)	240.00 -	0.6000	0.4383
			260.00		
T5	18	LDF4P-50A (1/2 FOAM)	240.00 -	0.6000	0.4383
			260.00		
T5	19	LDF7-50A (1-5/8 FOAM)	240.00 -	0.6000	0.4383
			260.00		
T5	20	LDF7-50A (1-5/8 FOAM)	240.00 -	0.6000	0.4383
			260.00		
T5	21	LDF7-50A (1-5/8 FOAM)	240.00 -	0.6000	0.4383
			260.00		
T5	22	LDF4P-50A (1/2 FOAM)	240.00 -	0.6000	0.4383
			260.00		
T5	23	LDF4P-50A (1/2 FOAM)	240.00 -	0.6000	0.4383
			260.00		
T5	24	LDF7-50A (1-5/8 FOAM)	240.00 -	0.6000	0.4383
			260.00		
T5	28	LDF5-50A (7/8 FOAM)	240.00 -	0.6000	0.4383
			252.00		
T5	39	Climbing Ladder	240.00 -	0.6000	0.4383
			260.00		
T5	40	Safety Line 3/8	240.00 -	0.6000	0.4383
			260.00		
T5	41	Feedline Ladder (Af)	240.00 -	0.6000	0.4383
			260.00		
T5	42	Feedline Ladder (Af)	240.00 -	0.6000	0.4383
			260.00		
T5	43	Feedline Ladder (Af)	240.00 -	0.6000	0.4383
			260.00		
T5	44	Feedline Ladder (Af)	240.00 -	0.6000	0.4383
			260.00		
T6	9	LDF12-50A (2-1/4 FOAM)	220.00 -	0.6000	0.4415
			240.00		
T6	12	1 1/2" Rigid Conduit	220.00 -	0.6000	0.4415
			240.00		
T6	13	LDF5-50A (7/8 FOAM)	220.00 -	0.6000	0.4415
			240.00		
T6	15	LDF7-50A (1-5/8 FOAM)	220.00 -	0.6000	0.4415
			240.00		
T6	16	LDF6-50A (1-1/4 FOAM)	220.00 -	0.6000	0.4415
			240.00		
T6	17	LDF4P-50A (1/2 FOAM)	220.00 -	0.6000	0.4415
			240.00		
T6	18	LDF4P-50A (1/2 FOAM)	220.00 -	0.6000	0.4415
			240.00		
T6	19	LDF7-50A (1-5/8 FOAM)	220.00 -	0.6000	0.4415
			240.00		
T6	20	LDF7-50A (1-5/8 FOAM)	220.00 -	0.6000	0.4415

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T6	21	LDF7-50A (1-5/8 FOAM)	240.00 220.00 -	0.6000	0.4415
T6	22	LDF4P-50A (1/2 FOAM)	240.00 220.00 -	0.6000	0.4415
T6	23	LDF4P-50A (1/2 FOAM)	240.00 220.00 -	0.6000	0.4415
T6	24	LDF7-50A (1-5/8 FOAM)	240.00 220.00 -	0.6000	0.4415
T6	28	LDF5-50A (7/8 FOAM)	240.00 220.00 -	0.6000	0.4415
T6	31	LDF7-50A (1-5/8 FOAM)	240.00 220.00 -	0.6000	0.4415
T6	32	LDF6-50A (1-1/4 FOAM)	226.50 220.00 -	0.6000	0.4415
T6	39	Climbing Ladder	226.50 220.00 -	0.6000	0.4415
T6	40	Safety Line 3/8	240.00 220.00 -	0.6000	0.4415
T6	41	Feedline Ladder (Af)	240.00 220.00 -	0.6000	0.4415
T6	42	Feedline Ladder (Af)	240.00 220.00 -	0.6000	0.4415
T6	43	Feedline Ladder (Af)	240.00 220.00 -	0.6000	0.4415
T6	44	Feedline Ladder (Af)	240.00 220.00 -	0.6000	0.4415
T7	6	LDF5-50A (7/8 FOAM)	240.00 200.00 -	0.6000	0.4380
T7	9	LDF12-50A (2-1/4 FOAM)	219.50 200.00 -	0.6000	0.4380
T7	12	1 1/2" Rigid Conduit	220.00 200.00 -	0.6000	0.4380
T7	13	LDF5-50A (7/8 FOAM)	220.00 200.00 -	0.6000	0.4380
T7	14	LDF6-50A (1-1/4 FOAM)	220.00 200.00 -	0.6000	0.4380
T7	15	LDF7-50A (1-5/8 FOAM)	205.50 200.00 -	0.6000	0.4380
T7	16	LDF6-50A (1-1/4 FOAM)	220.00 200.00 -	0.6000	0.4380
T7	17	LDF4P-50A (1/2 FOAM)	220.00 200.00 -	0.6000	0.4380
T7	18	LDF4P-50A (1/2 FOAM)	220.00 200.00 -	0.6000	0.4380
T7	19	LDF7-50A (1-5/8 FOAM)	220.00 200.00 -	0.6000	0.4380
T7	20	LDF7-50A (1-5/8 FOAM)	220.00 200.00 -	0.6000	0.4380
T7	21	LDF7-50A (1-5/8 FOAM)	220.00 200.00 -	0.6000	0.4380
T7	22	LDF4P-50A (1/2 FOAM)	220.00 200.00 -	0.6000	0.4380
T7	23	LDF4P-50A (1/2 FOAM)	220.00 200.00 -	0.6000	0.4380
T7	24	LDF7-50A (1-5/8 FOAM)	220.00 200.00 -	0.6000	0.4380
T7	27	LDF7-50A (1-5/8 FOAM)	220.00 200.00 -	0.6000	0.4380
T7	28	LDF5-50A (7/8 FOAM)	204.00 200.00 -	0.6000	0.4380
T7	30	LDF6-50A (1-1/4 FOAM)	220.00 200.00 -	0.6000	0.4380

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
			209.00		
T7	31	LDF7-50A (1-5/8 FOAM)	200.00 - 220.00	0.6000	0.4380
T7	32	LDF6-50A (1-1/4 FOAM)	200.00 - 220.00	0.6000	0.4380
T7	39	Climbing Ladder	200.00 - 220.00	0.6000	0.4380
T7	40	Safety Line 3/8	200.00 - 220.00	0.6000	0.4380
T7	41	Feedline Ladder (Af)	200.00 - 220.00	0.6000	0.4380
T7	42	Feedline Ladder (Af)	200.00 - 220.00	0.6000	0.4380
T7	43	Feedline Ladder (Af)	200.00 - 220.00	0.6000	0.4380
T7	44	Feedline Ladder (Af)	200.00 - 220.00	0.6000	0.4380
T8	1	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	2	LMR-240 (3/4 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	3	FSJ2-50 (3/8 SUPERFLEX. FOAM)	180.00 - 200.00	0.6000	0.4179
T8	4	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	5	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	6	LDF5-50A (7/8 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	9	LDF12-50A (2-1/4 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	12	1 1/2" Rigid Conduit	180.00 - 200.00	0.6000	0.4179
T8	13	LDF5-50A (7/8 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	14	LDF6-50A (1-1/4 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	15	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	16	LDF6-50A (1-1/4 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	17	LDF4P-50A (1/2 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	18	LDF4P-50A (1/2 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	19	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	20	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	21	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	22	LDF4P-50A (1/2 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	23	LDF4P-50A (1/2 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	24	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	27	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	28	LDF5-50A (7/8 FOAM)	180.00 - 200.00	0.6000	0.4179
T8	30	LDF6-50A (1-1/4 FOAM)	180.00 -	0.6000	0.4179

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
			200.00		
T8	31	LDF7-50A (1-5/8 FOAM)	180.00 -	0.6000	0.4179
			200.00		
T8	32	LDF6-50A (1-1/4 FOAM)	180.00 -	0.6000	0.4179
			200.00		
T8	33	LDF7-50A (1-5/8 FOAM)	180.00 -	0.6000	0.4179
			188.50		
T8	34	LDF7-50A (1-5/8 FOAM)	180.00 -	0.6000	0.4179
			188.50		
T8	35	LDF6-50A (1-1/4 FOAM)	180.00 -	0.6000	0.4179
			188.50		
T8	36	LDF6-50A (1-1/4 FOAM)	180.00 -	0.6000	0.4179
			188.50		
T8	39	Climbing Ladder	180.00 -	0.6000	0.4179
			200.00		
T8	40	Safety Line 3/8	180.00 -	0.6000	0.4179
			200.00		
T8	41	Feedline Ladder (Af)	180.00 -	0.6000	0.4179
			200.00		
T8	42	Feedline Ladder (Af)	180.00 -	0.6000	0.4179
			200.00		
T8	43	Feedline Ladder (Af)	180.00 -	0.6000	0.4179
			200.00		
T8	44	Feedline Ladder (Af)	180.00 -	0.6000	0.4179
			200.00		
T9	1	LDF7-50A (1-5/8 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	2	LMR-240 (3/4 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	3	FSJ2-50 (3/8 SUPERFLEX. FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	4	LDF7-50A (1-5/8 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	5	LDF7-50A (1-5/8 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	6	LDF5-50A (7/8 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	9	LDF12-50A (2-1/4 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	10	LDF7-50A (1-5/8 FOAM)	160.00 -	0.6000	0.4219
			169.50		
T9	12	1 1/2" Rigid Conduit	160.00 -	0.6000	0.4219
			180.00		
T9	13	LDF5-50A (7/8 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	14	LDF6-50A (1-1/4 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	15	LDF7-50A (1-5/8 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	16	LDF6-50A (1-1/4 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	17	LDF4P-50A (1/2 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	18	LDF4P-50A (1/2 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	19	LDF7-50A (1-5/8 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	20	LDF7-50A (1-5/8 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	21	LDF7-50A (1-5/8 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	22	LDF4P-50A (1/2 FOAM)	160.00 -	0.6000	0.4219

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
			180.00		
T9	23	LDF4P-50A (1/2 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	24	LDF7-50A (1-5/8 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	27	LDF7-50A (1-5/8 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	28	LDF5-50A (7/8 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	30	LDF6-50A (1-1/4 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	31	LDF7-50A (1-5/8 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	32	LDF6-50A (1-1/4 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	33	LDF7-50A (1-5/8 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	34	LDF7-50A (1-5/8 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	35	LDF6-50A (1-1/4 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	36	LDF6-50A (1-1/4 FOAM)	160.00 -	0.6000	0.4219
			180.00		
T9	39	Climbing Ladder	160.00 -	0.6000	0.4219
			180.00		
T9	40	Safety Line 3/8	160.00 -	0.6000	0.4219
			180.00		
T9	41	Feedline Ladder (Af)	160.00 -	0.6000	0.4219
			180.00		
T9	42	Feedline Ladder (Af)	160.00 -	0.6000	0.4219
			180.00		
T9	43	Feedline Ladder (Af)	160.00 -	0.6000	0.4219
			180.00		
T9	44	Feedline Ladder (Af)	160.00 -	0.6000	0.4219
			180.00		
T10	1	LDF7-50A (1-5/8 FOAM)	140.00 -	0.6000	0.4460
			160.00		
T10	2	LMR-240 (3/4 FOAM)	140.00 -	0.6000	0.4460
			160.00		
T10	3	FSJ2-50 (3/8 SUPERFLEX. FOAM)	140.00 -	0.6000	0.4460
			160.00		
T10	4	LDF7-50A (1-5/8 FOAM)	140.00 -	0.6000	0.4460
			160.00		
T10	5	LDF7-50A (1-5/8 FOAM)	140.00 -	0.6000	0.4460
			160.00		
T10	6	LDF5-50A (7/8 FOAM)	140.00 -	0.6000	0.4460
			160.00		
T10	9	LDF12-50A (2-1/4 FOAM)	140.00 -	0.6000	0.4460
			160.00		
T10	10	LDF7-50A (1-5/8 FOAM)	140.00 -	0.6000	0.4460
			160.00		
T10	12	1 1/2" Rigid Conduit	140.00 -	0.6000	0.4460
			160.00		
T10	13	LDF5-50A (7/8 FOAM)	140.00 -	0.6000	0.4460
			160.00		
T10	14	LDF6-50A (1-1/4 FOAM)	140.00 -	0.6000	0.4460
			160.00		
T10	15	LDF7-50A (1-5/8 FOAM)	140.00 -	0.6000	0.4460
			160.00		
T10	16	LDF6-50A (1-1/4 FOAM)	140.00 -	0.6000	0.4460
			160.00		
T10	17	LDF4P-50A (1/2 FOAM)	140.00 -	0.6000	0.4460

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T10	18	LDF4P-50A (1/2 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	19	LDF7-50A (1-5/8 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	20	LDF7-50A (1-5/8 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	21	LDF7-50A (1-5/8 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	22	LDF4P-50A (1/2 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	23	LDF4P-50A (1/2 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	24	LDF7-50A (1-5/8 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	27	LDF7-50A (1-5/8 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	28	LDF5-50A (7/8 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	29	LDF4.5-50 (5/8 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	30	LDF6-50A (1-1/4 FOAM)	150.60 140.00 -	0.6000	0.4460
T10	31	LDF7-50A (1-5/8 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	32	LDF6-50A (1-1/4 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	33	LDF7-50A (1-5/8 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	34	LDF7-50A (1-5/8 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	35	LDF6-50A (1-1/4 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	36	LDF6-50A (1-1/4 FOAM)	160.00 140.00 -	0.6000	0.4460
T10	39	Climbing Ladder	160.00 140.00 -	0.6000	0.4460
T10	40	Safety Line 3/8	160.00 140.00 -	0.6000	0.4460
T10	41	Feedline Ladder (Af)	160.00 140.00 -	0.6000	0.4460
T10	42	Feedline Ladder (Af)	160.00 140.00 -	0.6000	0.4460
T10	43	Feedline Ladder (Af)	160.00 140.00 -	0.6000	0.4460
T10	44	Feedline Ladder (Af)	160.00 140.00 -	0.6000	0.4460
T11	1	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.4511
T11	2	LMR-240 (3/4 FOAM)	120.00 - 140.00	0.6000	0.4511
T11	3	FSJ2-50 (3/8 SUPERFLEX. FOAM)	120.00 - 140.00	0.6000	0.4511
T11	4	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.4511
T11	5	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.4511
T11	6	LDF5-50A (7/8 FOAM)	120.00 - 140.00	0.6000	0.4511
T11	8	LDF5-50A (7/8 FOAM)	120.00 - 136.00	0.6000	0.4511
T11	9	LDF12-50A (2-1/4 FOAM)	120.00 -	0.6000	0.4511

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T11	10	LDF7-50A (1-5/8 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	12	1 1/2" Rigid Conduit	140.00 120.00 -	0.6000	0.4511
T11	13	LDF5-50A (7/8 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	14	LDF6-50A (1-1/4 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	15	LDF7-50A (1-5/8 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	16	LDF6-50A (1-1/4 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	17	LDF4P-50A (1/2 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	18	LDF4P-50A (1/2 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	19	LDF7-50A (1-5/8 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	20	LDF7-50A (1-5/8 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	21	LDF7-50A (1-5/8 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	22	LDF4P-50A (1/2 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	23	LDF4P-50A (1/2 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	24	LDF7-50A (1-5/8 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	25	LDF7-50A (1-5/8 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	27	LDF7-50A (1-5/8 FOAM)	130.00 120.00 -	0.6000	0.4511
T11	28	LDF5-50A (7/8 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	29	LDF4.5-50 (5/8 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	30	LDF6-50A (1-1/4 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	31	LDF7-50A (1-5/8 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	32	LDF6-50A (1-1/4 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	33	LDF7-50A (1-5/8 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	34	LDF7-50A (1-5/8 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	35	LDF6-50A (1-1/4 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	36	LDF6-50A (1-1/4 FOAM)	140.00 120.00 -	0.6000	0.4511
T11	38	CA-0182 (3/16 Solid Bare Copp)	120.00 - 123.50	0.6000	0.4511
T11	39	Climbing Ladder	120.00 - 140.00	0.6000	0.4511
T11	40	Safety Line 3/8	120.00 - 140.00	0.6000	0.4511
T11	41	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.4511
T11	42	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.4511
T11	43	Feedline Ladder (Af)	120.00 -	0.6000	0.4511

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T11	44	Feedline Ladder (Af)	140.00		
			120.00 -	0.6000	0.4511
T12	1	LDF7-50A (1-5/8 FOAM)	140.00		
			100.00 -	0.6000	0.4569
T12	2	LMR-240 (3/4 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	3	FSJ2-50 (3/8 SUPERFLEX. FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	4	LDF7-50A (1-5/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	5	LDF7-50A (1-5/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	6	LDF5-50A (7/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	8	LDF5-50A (7/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	9	LDF12-50A (2-1/4 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	10	LDF7-50A (1-5/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	12	1 1/2" Rigid Conduit	120.00		
			100.00 -	0.6000	0.4569
T12	13	LDF5-50A (7/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	14	LDF6-50A (1-1/4 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	15	LDF7-50A (1-5/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	16	LDF6-50A (1-1/4 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	17	LDF4P-50A (1/2 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	18	LDF4P-50A (1/2 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	19	LDF7-50A (1-5/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	20	LDF7-50A (1-5/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	21	LDF7-50A (1-5/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	22	LDF4P-50A (1/2 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	23	LDF4P-50A (1/2 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	24	LDF7-50A (1-5/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	25	LDF7-50A (1-5/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	26	LDF7-50A (1-5/8 FOAM)	112.00		
			100.00 -	0.6000	0.4569
T12	27	LDF7-50A (1-5/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	28	LDF5-50A (7/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	29	LDF4.5-50 (5/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	30	LDF6-50A (1-1/4 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	31	LDF7-50A (1-5/8 FOAM)	120.00		
			100.00 -	0.6000	0.4569
T12	32	LDF6-50A (1-1/4 FOAM)	100.00 -	0.6000	0.4569

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
			120.00		
T12	33	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.4569
T12	34	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.4569
T12	35	LDF6-50A (1-1/4 FOAM)	100.00 - 120.00	0.6000	0.4569
T12	36	LDF6-50A (1-1/4 FOAM)	100.00 - 120.00	0.6000	0.4569
T12	37	LDF1-50A (1/4 FOAM)	100.00 - 106.50	0.6000	0.4569
T12	38	CA-0182 (3/16 Solid Bare Copp)	100.00 - 120.00	0.6000	0.4569
T12	39	Climbing Ladder	100.00 - 120.00	0.6000	0.4569
T12	40	Safety Line 3/8	100.00 - 120.00	0.6000	0.4569
T12	41	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.4569
T12	42	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.4569
T12	43	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.4569
T12	44	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.4569
T13	1	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	2	LMR-240 (3/4 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	3	FSJ2-50 (3/8 SUPERFLEX, FOAM)	80.00 - 100.00	0.6000	0.4638
T13	4	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	5	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	6	LDF5-50A (7/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	7	LDF4P-50A (1/2 FOAM)	80.00 - 90.00	0.6000	0.4638
T13	8	LDF5-50A (7/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	9	LDF12-50A (2-1/4 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	10	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	12	1 1/2" Rigid Conduit	80.00 - 100.00	0.6000	0.4638
T13	13	LDF5-50A (7/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	14	LDF6-50A (1-1/4 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	15	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	16	LDF6-50A (1-1/4 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	17	LDF4P-50A (1/2 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	18	LDF4P-50A (1/2 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	19	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	20	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	21	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	22	LDF4P-50A (1/2 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	23	LDF4P-50A (1/2 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	24	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	25	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	26	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	27	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	28	LDF5-50A (7/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	29	LDF4.5-50 (5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	30	LDF6-50A (1-1/4 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	31	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	32	LDF6-50A (1-1/4 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	33	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	34	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	35	LDF6-50A (1-1/4 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	36	LDF6-50A (1-1/4 FOAM)	80.00 - 100.00	0.6000	0.4638
T13	37	LDF1-50A (1/4 FOAM)	80.00 - 100.00	0.6000	0.4638

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T13	38	CA-0182 (3/16 Solid Bare Copp)	80.00 - 100.00	0.6000	0.4638
T13	39	Climbing Ladder	80.00 - 100.00	0.6000	0.4638
T13	40	Safety Line 3/8	80.00 - 100.00	0.6000	0.4638
T13	41	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.4638
T13	42	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.4638
T13	43	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.4638
T13	44	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.4638
T14	1	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	2	LMR-240 (3/4 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	3	FSJ2-50 (3/8 SUPERFLEX. FOAM)	60.00 - 80.00	0.6000	0.4722
T14	4	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	5	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	6	LDF5-50A (7/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	7	LDF4P-50A (1/2 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	8	LDF5-50A (7/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	9	LDF12-50A (2-1/4 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	10	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	12	1 1/2" Rigid Conduit	60.00 - 80.00	0.6000	0.4722
T14	13	LDF5-50A (7/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	14	LDF6-50A (1-1/4 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	15	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	16	LDF6-50A (1-1/4 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	17	LDF4P-50A (1/2 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	18	LDF4P-50A (1/2 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	19	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	20	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	21	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	22	LDF4P-50A (1/2 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	23	LDF4P-50A (1/2 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	24	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	25	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	26	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	27	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	28	LDF5-50A (7/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	29	LDF4.5-50 (5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	30	LDF6-50A (1-1/4 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	31	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	32	LDF6-50A (1-1/4 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	33	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	34	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	35	LDF6-50A (1-1/4 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	36	LDF6-50A (1-1/4 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	37	LDF1-50A (1/4 FOAM)	60.00 - 80.00	0.6000	0.4722
T14	38	CA-0182 (3/16 Solid Bare Copp)	60.00 - 80.00	0.6000	0.4722
T14	39	Climbing Ladder	60.00 - 80.00	0.6000	0.4722
T14	40	Safety Line 3/8	60.00 - 80.00	0.6000	0.4722
T14	41	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.4722
T14	42	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.4722
T14	43	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.4722
T14	44	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.4722
T15	1	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	2	LMR-240 (3/4 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	3	FSJ2-50 (3/8 SUPERFLEX. FOAM)	40.00 - 60.00	0.6000	0.4833
T15	4	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	5	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	6	LDF5-50A (7/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	7	LDF4P-50A (1/2 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	8	LDF5-50A (7/8 FOAM)	40.00 - 60.00	0.6000	0.4833

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T15	9	LDF12-50A (2-1/4 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	10	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	12	1 1/2" Rigid Conduit	40.00 - 60.00	0.6000	0.4833
T15	13	LDF5-50A (7/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	14	LDF6-50A (1-1/4 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	15	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	16	LDF6-50A (1-1/4 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	17	LDF4P-50A (1/2 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	18	LDF4P-50A (1/2 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	19	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	20	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	21	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	22	LDF4P-50A (1/2 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	23	LDF4P-50A (1/2 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	24	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	25	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	26	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	27	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	28	LDF5-50A (7/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	29	LDF4.5-50 (5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	30	LDF6-50A (1-1/4 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	31	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	32	LDF6-50A (1-1/4 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	33	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	34	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	35	LDF6-50A (1-1/4 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	36	LDF6-50A (1-1/4 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	37	LDF1-50A (1/4 FOAM)	40.00 - 60.00	0.6000	0.4833
T15	38	CA-0182 (3/16 Solid Bare Copp)	40.00 - 60.00	0.6000	0.4833
T15	39	Climbing Ladder	40.00 - 60.00	0.6000	0.4833
T15	40	Safety Line 3/8	40.00 - 60.00	0.6000	0.4833
T15	41	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.4833
T15	42	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.4833
T15	43	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.4833
T15	44	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.4833
T16	1	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	2	LMR-240 (3/4 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	3	FSJ2-50 (3/8 SUPERFLEX. FOAM)	20.00 - 40.00	0.6000	0.4994
T16	4	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	5	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	6	LDF5-50A (7/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	7	LDF4P-50A (1/2 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	8	LDF5-50A (7/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	9	LDF12-50A (2-1/4 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	10	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	11	LDF4P-50A (1/2 FOAM)	20.00 - 36.00	0.6000	0.4994
T16	12	1 1/2" Rigid Conduit	20.00 - 40.00	0.6000	0.4994
T16	13	LDF5-50A (7/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	14	LDF6-50A (1-1/4 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	15	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	16	LDF6-50A (1-1/4 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	17	LDF4P-50A (1/2 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	18	LDF4P-50A (1/2 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	19	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	20	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	21	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	22	LDF4P-50A (1/2 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	23	LDF4P-50A (1/2 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	24	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	25	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4994

tnxTower Maser Consulting P.A 400 Valley Road Mt Arlington, NJ Phone: 973.398.3110 FAX: 973.398.3199	Job	Ledyard Colonel Rd	Page	33 of 97
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	Client	AT&T Mobility	Designed by	gpenumatsa

<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T16	26	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	27	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	28	LDF5-50A (7/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	29	LDF4.5-50 (5/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	30	LDF6-50A (1-1/4 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	31	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	32	LDF6-50A (1-1/4 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	33	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	34	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	35	LDF6-50A (1-1/4 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	36	LDF6-50A (1-1/4 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	37	LDF1-50A (1/4 FOAM)	20.00 - 40.00	0.6000	0.4994
T16	38	CA-0182 (3/16 Solid Bare Copp)	20.00 - 40.00	0.6000	0.4994
T16	39	Climbing Ladder	20.00 - 40.00	0.6000	0.4994
T16	40	Safety Line 3/8	20.00 - 40.00	0.6000	0.4994
T16	41	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.4994
T16	42	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.4994
T16	43	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.4994
T16	44	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.4994
T17	1	LDF7-50A (1-5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	2	LMR-240 (3/4 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	3	FSJ2-50 (3/8 SUPERFLEX. FOAM)	12.00 - 20.00	0.6000	0.4543
T17	4	LDF7-50A (1-5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	5	LDF7-50A (1-5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	6	LDF5-50A (7/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	7	LDF4P-50A (1/2 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	8	LDF5-50A (7/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	9	LDF12-50A (2-1/4 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	10	LDF7-50A (1-5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	11	LDF4P-50A (1/2 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	12	1 1/2" Rigid Conduit	12.00 - 20.00	0.6000	0.4543
T17	13	LDF5-50A (7/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	14	LDF6-50A (1-1/4 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	15	LDF7-50A (1-5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	16	LDF6-50A (1-1/4 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	17	LDF4P-50A (1/2 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	18	LDF4P-50A (1/2 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	19	LDF7-50A (1-5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	20	LDF7-50A (1-5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	21	LDF7-50A (1-5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	22	LDF4P-50A (1/2 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	23	LDF4P-50A (1/2 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	24	LDF7-50A (1-5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	25	LDF7-50A (1-5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	26	LDF7-50A (1-5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	27	LDF7-50A (1-5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	28	LDF5-50A (7/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	29	LDF4.5-50 (5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	30	LDF6-50A (1-1/4 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	31	LDF7-50A (1-5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	32	LDF6-50A (1-1/4 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	33	LDF7-50A (1-5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	34	LDF7-50A (1-5/8 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	35	LDF6-50A (1-1/4 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	36	LDF6-50A (1-1/4 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	37	LDF1-50A (1/4 FOAM)	12.00 - 20.00	0.6000	0.4543
T17	38	CA-0182 (3/16 Solid Bare Copp)	12.00 - 20.00	0.6000	0.4543
T17	39	Climbing Ladder	12.00 - 20.00	0.6000	0.4543
T17	40	Safety Line 3/8	12.00 - 20.00	0.6000	0.4543

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	Client	AT&T Mobility	Designed by	gpnumatsa

<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T17	41	Feedline Ladder (Af)	12.00 - 20.00	0.6000	0.4543
T17	42	Feedline Ladder (Af)	12.00 - 20.00	0.6000	0.4543
T17	43	Feedline Ladder (Af)	12.00 - 20.00	0.6000	0.4543
T17	44	Feedline Ladder (Af)	12.00 - 20.00	0.6000	0.4543
T18	1	LDF7-50A (1-5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	2	LMR-240 (3/4 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	3	FSJ2-50 (3/8 SUPERFLEX. FOAM)	6.67 - 12.00	0.6000	0.5706
T18	4	LDF7-50A (1-5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	5	LDF7-50A (1-5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	6	LDF5-50A (7/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	7	LDF4P-50A (1/2 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	8	LDF5-50A (7/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	9	LDF12-50A (2-1/4 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	10	LDF7-50A (1-5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	11	LDF4P-50A (1/2 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	12	1 1/2" Rigid Conduit	6.67 - 12.00	0.6000	0.5706
T18	13	LDF5-50A (7/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	14	LDF6-50A (1-1/4 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	15	LDF7-50A (1-5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	16	LDF6-50A (1-1/4 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	17	LDF4P-50A (1/2 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	18	LDF4P-50A (1/2 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	19	LDF7-50A (1-5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	20	LDF7-50A (1-5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	21	LDF7-50A (1-5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	22	LDF4P-50A (1/2 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	23	LDF4P-50A (1/2 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	24	LDF7-50A (1-5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	25	LDF7-50A (1-5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	26	LDF7-50A (1-5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	27	LDF7-50A (1-5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	28	LDF5-50A (7/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	29	LDF4.5-50 (5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	30	LDF6-50A (1-1/4 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	31	LDF7-50A (1-5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	32	LDF6-50A (1-1/4 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	33	LDF7-50A (1-5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	34	LDF7-50A (1-5/8 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	35	LDF6-50A (1-1/4 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	36	LDF6-50A (1-1/4 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	37	LDF1-50A (1/4 FOAM)	6.67 - 12.00	0.6000	0.5706
T18	38	CA-0182 (3/16 Solid Bare Copp)	6.67 - 12.00	0.6000	0.5706
T18	39	Climbing Ladder	6.67 - 12.00	0.6000	0.5706
T18	40	Safety Line 3/8	6.67 - 12.00	0.6000	0.5706
T18	41	Feedline Ladder (Af)	6.67 - 12.00	0.6000	0.5706
T18	42	Feedline Ladder (Af)	6.67 - 12.00	0.6000	0.5706
T18	43	Feedline Ladder (Af)	6.67 - 12.00	0.6000	0.5706
T18	44	Feedline Ladder (Af)	6.67 - 12.00	0.6000	0.5706
T19	1	LDF7-50A (1-5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	2	LMR-240 (3/4 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	3	FSJ2-50 (3/8 SUPERFLEX. FOAM)	6.66 - 6.67	0.6000	0.2545
T19	4	LDF7-50A (1-5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	5	LDF7-50A (1-5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	6	LDF5-50A (7/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	7	LDF4P-50A (1/2 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	8	LDF5-50A (7/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	9	LDF12-50A (2-1/4 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	10	LDF7-50A (1-5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	11	LDF4P-50A (1/2 FOAM)	6.66 - 6.67	0.6000	0.2545

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	Client	AT&T Mobility	Designed by	gpenumatsa

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T19	12	1 1/2" Rigid Conduit	6.66 - 6.67	0.6000	0.2545
T19	13	LDF5-50A (7/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	14	LDF6-50A (1-1/4 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	15	LDF7-50A (1-5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	16	LDF6-50A (1-1/4 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	17	LDF4P-50A (1/2 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	18	LDF4P-50A (1/2 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	19	LDF7-50A (1-5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	20	LDF7-50A (1-5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	21	LDF7-50A (1-5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	22	LDF4P-50A (1/2 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	23	LDF4P-50A (1/2 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	24	LDF7-50A (1-5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	25	LDF7-50A (1-5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	26	LDF7-50A (1-5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	27	LDF7-50A (1-5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	28	LDF5-50A (7/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	29	LDF4.5-50 (5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	30	LDF6-50A (1-1/4 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	31	LDF7-50A (1-5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	32	LDF6-50A (1-1/4 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	33	LDF7-50A (1-5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	34	LDF7-50A (1-5/8 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	35	LDF6-50A (1-1/4 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	36	LDF6-50A (1-1/4 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	37	LDF1-50A (1/4 FOAM)	6.66 - 6.67	0.6000	0.2545
T19	38	CA-0182 (3/16 Solid Bare Copp)	6.66 - 6.67	0.6000	0.2545
T19	39	Climbing Ladder	6.66 - 6.67	0.6000	0.2545
T19	40	Safety Line 3/8	6.66 - 6.67	0.6000	0.2545
T19	41	Feedline Ladder (Af)	6.66 - 6.67	0.6000	0.2545
T19	42	Feedline Ladder (Af)	6.66 - 6.67	0.6000	0.2545
T19	43	Feedline Ladder (Af)	6.66 - 6.67	0.6000	0.2545
T19	44	Feedline Ladder (Af)	6.66 - 6.67	0.6000	0.2545

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight lb
1.9"x4' pipe mount	B	From Leg	0.00	0.0000	90.00	No Ice	0.00	0.00	0.00
			0.00			1/2" Ice	0.00	0.00	0.00
			0.00			1" Ice	0.00	0.00	0.00
PR-950	B	From Leg	0.00	0.0000	90.00	No Ice	11.90	6.30	38.00
			0.00			1/2" Ice	12.46	6.65	181.99
			0.00			1" Ice	13.03	7.02	334.07
MTZ-940B	A	From Leg	0.00	0.0000	112.00	No Ice	8.40	12.60	40.00
			0.00			1/2" Ice	8.79	13.07	141.14
			0.00			1" Ice	9.20	13.55	248.70
3' Side Arm	C	From Leg	0.00	0.0000	112.00	No Ice	5.30	5.30	70.00
			0.00			1/2" Ice	7.20	7.20	106.00

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	AT&T Mobility	gpenumatsa

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight lb
2'6"x4" Pipe Mount	B	From Leg	0.00	0.0000	130.00	1" Ice	9.10	142.00
			0.00			No Ice	0.64	27.00
			0.00			1/2" Ice	0.91	35.41
			0.00			1" Ice	1.09	45.95
Pirod 4' Side Mount Standoff (1)	B	From Leg	0.00	0.0000	138.50	No Ice	2.72	50.00
			0.00			1/2" Ice	4.91	89.00
			0.00			1" Ice	7.10	128.00
			0.00			No Ice	4.00	55.00
3" Dia 20' Omni	B	From Leg	0.00	0.0000	146.00	1/2" Ice	6.00	100.00
			0.00			1" Ice	8.00	145.00
			0.00			No Ice	4.00	40.00
			0.00			1/2" Ice	6.00	100.00
13' Diapole	A	From Leg	0.00	0.0000	150.50	1" Ice	8.00	145.00
			0.00			No Ice	4.00	40.00
			0.00			1/2" Ice	6.00	100.00
			0.00			1" Ice	8.00	145.00
(3) 1.9"x4' pipe mount	A	From Leg	0.00	0.0000	150.50	No Ice	0.00	0.00
			0.00			1/2" Ice	0.00	0.00
			0.00			1" Ice	0.00	0.00
			0.00			No Ice	13.60	465.00
Pirod 12' T-Frame Sector Mount (1) (Verizon)	A	From Leg	0.00	0.0000	168.00	1/2" Ice	18.40	600.00
			0.00			1" Ice	23.20	735.00
			0.00			No Ice	13.60	465.00
			0.00			1/2" Ice	18.40	600.00
Pirod 12' T-Frame Sector Mount (1) (Verizon)	B	From Leg	0.00	0.0000	168.00	1" Ice	23.20	735.00
			0.00			No Ice	13.60	465.00
			0.00			1/2" Ice	18.40	600.00
			0.00			1" Ice	23.20	735.00
Pirod 12' T-Frame Sector Mount (1) (Verizon)	C	From Leg	0.00	0.0000	168.00	No Ice	13.60	465.00
			0.00			1/2" Ice	18.40	600.00
			0.00			1" Ice	23.20	735.00
			0.00			No Ice	3.35	36.55
(2) LPA-80080-4CF-EDIN w/MP (Verizon)	A	From Leg	2.00	0.0000	169.50	1/2" Ice	3.97	81.55
			0.00			1" Ice	4.47	132.66
			0.00			No Ice	6.87	45.55
			0.00			1/2" Ice	7.53	116.68
(2) LPA-80063/4CFx5 w/Mount Pipe (Verizon)	B	From Leg	2.00	0.0000	169.50	1" Ice	8.06	194.79
			0.00			No Ice	6.87	45.55
			0.00			1/2" Ice	7.53	116.68
			0.00			1" Ice	8.06	194.79
(2) LPA-80063/4CFx5 w/Mount Pipe (Verizon)	C	From Leg	2.00	0.0000	169.50	No Ice	6.87	45.55
			0.00			1/2" Ice	7.53	116.68
			0.00			1" Ice	8.06	194.79
			0.00			No Ice	8.00	54.42
BXA-70063-6CF-EDIN w/MP (Verizon)	A	From Leg	2.00	0.0000	169.50	1/2" Ice	8.65	99.60
			0.00			1" Ice	9.26	166.44
			0.00			No Ice	8.00	54.42
			0.00			1/2" Ice	8.65	99.60
BXA-70063-6CF-EDIN w/MP (Verizon)	B	From Leg	2.00	0.0000	169.50	1" Ice	9.26	166.44
			0.00			No Ice	8.00	54.42
			0.00			1/2" Ice	8.65	99.60
			0.00			1" Ice	9.26	166.44
BXA-70063-6CF-EDIN w/MP (Verizon)	C	From Leg	2.00	0.0000	169.50	No Ice	8.00	54.42
			0.00			1/2" Ice	8.65	99.60
			0.00			1" Ice	9.26	166.44
			0.00			No Ice	3.72	35.55
BXA-171063-12BF-EDIN-2 w/ MP (Verizon)	A	From Leg	2.00	0.0000	169.50	1/2" Ice	4.34	71.64
			0.00			1" Ice	4.85	113.67
			0.00			No Ice	3.72	35.55
			0.00			1/2" Ice	4.34	71.64
BXA-171063-12BF-EDIN-2 w/ MP (Verizon)	B	From Leg	2.00	0.0000	169.50	1" Ice	4.85	113.67
			0.00			No Ice	3.72	35.55
			0.00			1/2" Ice	4.34	71.64
			0.00			1" Ice	4.85	113.67
BXA-171063-12BF-EDIN-2 w/ MP (Verizon)	C	From Leg	2.00	0.0000	169.50	No Ice	3.72	35.55
			0.00			1/2" Ice	4.34	71.64
			0.00			1" Ice	4.85	113.67
			0.00			No Ice	0.45	4.40
(2) ANDREW E15V95P08 04 (Verizon)	A	From Leg	2.00	0.0000	169.50	1/2" Ice	0.54	7.14
			0.00			1" Ice	0.64	11.06
			0.00			No Ice	0.45	4.40
			0.00			1/2" Ice	0.54	7.14

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight lb
(Verizon)			0.00			1" Ice	0.64	0.26	11.06
(2) ANDREW E15V95P08	C	From Leg	2.00	0.0000	169.50	No Ice	0.45	0.12	4.40
04			0.00			1/2" Ice	0.54	0.18	7.14
(Verizon)			0.00			1" Ice	0.64	0.26	11.06
Valmont 10' Wireless Frame	C	From Leg	0.00	0.0000	186.50	No Ice	30.70	30.70	714.00
(3)			0.00			1/2" Ice	42.00	42.00	858.00
(T-Mobile)			0.00			1" Ice	53.30	53.30	1002.00
(2) AIR 21 B2A B4P	A	From Leg	3.50	0.0000	188.50	No Ice	6.42	4.22	83.00
(T-Mobile)			0.00			1/2" Ice	6.86	4.64	124.00
			0.00			1" Ice	7.30	5.06	170.05
(2) AIR 21 B2A B4P	B	From Leg	3.50	0.0000	188.50	No Ice	6.42	4.22	83.00
(T-Mobile)			0.00			1/2" Ice	6.86	4.64	124.00
			0.00			1" Ice	7.30	5.06	170.05
(2) AIR 21 B2A B4P	C	From Leg	3.50	0.0000	188.50	No Ice	6.42	4.22	83.00
(T-Mobile)			0.00			1/2" Ice	6.86	4.64	124.00
			0.00			1" Ice	7.30	5.06	170.05
LNx-6515DS-A1M	A	From Leg	3.50	0.0000	188.50	No Ice	11.47	7.72	43.70
(T-Mobile)			0.00			1/2" Ice	12.09	8.31	109.70
			0.00			1" Ice	12.72	8.91	183.38
LNx-6515DS-A1M	B	From Leg	3.50	0.0000	188.50	No Ice	11.47	7.72	43.70
(T-Mobile)			0.00			1/2" Ice	12.09	8.31	109.70
			0.00			1" Ice	12.72	8.91	183.38
LNx-6515DS-A1M	C	From Leg	3.50	0.0000	188.50	No Ice	11.47	7.72	43.70
(T-Mobile)			0.00			1/2" Ice	12.09	8.31	109.70
			0.00			1" Ice	12.72	8.91	183.38
ERICSSON KRY 112	A	From Leg	3.50	0.0000	188.50	No Ice	0.58	0.51	12.10
(T-Mobile)			0.00			1/2" Ice	0.69	0.62	17.11
			0.00			1" Ice	0.81	0.74	23.70
ERICSSON KRY 112	B	From Leg	3.50	0.0000	188.50	No Ice	0.58	0.51	12.10
(T-Mobile)			0.00			1/2" Ice	0.69	0.62	17.11
			0.00			1" Ice	0.81	0.74	23.70
ERICSSON KRY 112	C	From Leg	3.50	0.0000	188.50	No Ice	0.58	0.51	12.10
(T-Mobile)			0.00			1/2" Ice	0.69	0.62	17.11
			0.00			1" Ice	0.81	0.74	23.70
ERICSSON Genaric	A	From Leg	3.50	0.0000	188.50	No Ice	0.90	2.34	10.00
(T-Mobile)			0.00			1/2" Ice	1.03	2.53	27.48
			0.00			1" Ice	1.16	2.72	47.74
ERICSSON Genaric	B	From Leg	3.50	0.0000	188.50	No Ice	0.90	2.34	10.00
(T-Mobile)			0.00			1/2" Ice	1.03	2.53	27.48
			0.00			1" Ice	1.16	2.72	47.74
ERICSSON Genaric	C	From Leg	3.50	0.0000	188.50	No Ice	0.90	2.34	10.00
(T-Mobile)			0.00			1/2" Ice	1.03	2.53	27.48
			0.00			1" Ice	1.16	2.72	47.74
(3) 2" pipe 8' long	A	From Leg	3.50	0.0000	188.50	No Ice	0.00	0.00	0.00
(T-Mobile)			0.00			1/2" Ice	0.00	0.00	0.00
			0.00			1" Ice	0.00	0.00	0.00
(3) 2" pipe 8' long	B	From Leg	3.50	0.0000	188.50	No Ice	0.00	0.00	0.00
(T-Mobile)			0.00			1/2" Ice	0.00	0.00	0.00
			0.00			1" Ice	0.00	0.00	0.00
(3) 2" pipe 8' long	C	From Leg	3.50	0.0000	188.50	No Ice	0.00	0.00	0.00
(T-Mobile)			0.00			1/2" Ice	0.00	0.00	0.00
			0.00			1" Ice	0.00	0.00	0.00
7770	A	From Leg	1.50	0.0000	200.00	No Ice	5.88	2.93	25.00
(AT&T)			0.00			1/2" Ice	6.31	3.27	57.63
			0.00			1" Ice	6.75	3.63	95.06
7770	B	From Leg	1.50	0.0000	200.00	No Ice	5.88	2.93	25.00
(AT&T)			0.00			1/2" Ice	6.31	3.27	57.63

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight lb
7770	C	From Leg	0.00			1" Ice	6.75	3.63	95.06
(AT&T)			1.50	0.0000	200.00	No Ice	5.88	2.93	25.00
			0.00			1/2" Ice	6.31	3.27	57.63
(2)	A	From Leg	0.00			1" Ice	6.75	3.63	95.06
AM-X-CD-14-65-OOT-RET			1.50	0.0000	200.00	No Ice	5.51	2.83	25.70
(AT&T)			0.00			1/2" Ice	5.90	3.14	57.65
RRUS 11	A	From Leg	0.00			1" Ice	6.30	3.47	94.06
(AT&T)			1.50	0.0000	200.00	No Ice	3.26	1.38	65.00
			0.00			1/2" Ice	3.50	1.56	85.87
			0.00			1" Ice	3.75	1.74	109.78
RRUS 11	B	From Leg	1.50	0.0000	200.00	No Ice	3.26	1.38	65.00
(AT&T)			0.00			1/2" Ice	3.50	1.56	85.87
			0.00			1" Ice	3.75	1.74	109.78
RRUS 11	C	From Leg	1.50	0.0000	200.00	No Ice	3.26	1.38	65.00
(AT&T)			0.00			1/2" Ice	3.50	1.56	85.87
			0.00			1" Ice	3.75	1.74	109.78
RRUS 11	A	From Leg	1.50	0.0000	200.00	No Ice	3.26	1.38	65.00
(AT&T)			0.00			1/2" Ice	3.50	1.56	85.87
			0.00			1" Ice	3.75	1.74	109.78
RRUS 11	B	From Leg	1.50	0.0000	200.00	No Ice	3.26	1.38	65.00
(AT&T)			0.00			1/2" Ice	3.50	1.56	85.87
			0.00			1" Ice	3.75	1.74	109.78
RRUS 11	C	From Leg	1.50	0.0000	200.00	No Ice	3.26	1.38	65.00
(AT&T)			0.00			1/2" Ice	3.50	1.56	85.87
			0.00			1" Ice	3.75	1.74	109.78
DTMABP7819VG12A	A	From Leg	1.50	0.0000	200.00	No Ice	1.59	0.58	34.20
(AT&T)			0.00			1/2" Ice	1.76	0.70	43.97
			0.00			1" Ice	1.94	0.83	55.87
DTMABP7819VG12A	B	From Leg	1.50	0.0000	200.00	No Ice	1.59	0.58	34.20
(AT&T)			0.00			1/2" Ice	1.76	0.70	43.97
			0.00			1" Ice	1.94	0.83	55.87
DTMABP7819VG12A	C	From Leg	1.50	0.0000	200.00	No Ice	1.59	0.58	34.20
(AT&T)			0.00			1/2" Ice	1.76	0.70	43.97
			0.00			1" Ice	1.94	0.83	55.87
DC6-48-60-18-8F	C	From Leg	1.50	0.0000	200.00	No Ice	1.47	1.47	34.20
(AT&T)			0.00			1/2" Ice	1.67	1.67	51.92
			0.00			1" Ice	1.88	1.88	72.12
Pirol 10' PCS Frame (1)	A	From Leg	0.00	0.0000	200.00	No Ice	9.00	9.00	250.00
(AT&T)			0.00			1/2" Ice	13.20	13.20	350.00
			0.00			1" Ice	17.40	17.40	450.00
Pirol 10' PCS Frame (1)	B	From Leg	0.00	0.0000	200.00	No Ice	9.00	9.00	250.00
(AT&T)			0.00			1/2" Ice	13.20	13.20	350.00
			0.00			1" Ice	17.40	17.40	450.00
Pirol 10' PCS Frame (1)	C	From Leg	0.00	0.0000	200.00	No Ice	9.00	9.00	250.00
(AT&T)			0.00			1/2" Ice	13.20	13.20	350.00
			0.00			1" Ice	17.40	17.40	450.00
15' OMNI	B	From Leg	6.00	0.0000	213.00	No Ice	1.80	1.80	40.00
			0.00			1/2" Ice	2.73	2.73	53.97
			0.00			1" Ice	3.67	3.67	73.80
Pirol 6-8' Box Arm (1)	B	From Leg	0.00	0.0000	205.50	No Ice	4.50	4.50	214.00
			0.00			1/2" Ice	9.87	9.87	275.00
			0.00			1" Ice	15.24	15.24	336.00
2" Dia 8' Omni	A	From Leg	6.00	0.0000	208.00	No Ice	2.00	2.00	5.00
			0.00			1/2" Ice	3.03	3.03	18.00
			0.00			1" Ice	4.06	4.06	31.00
Pirol 6-8' Box Arm (1)	A	From Leg	0.00	0.0000	204.00	No Ice	4.50	4.50	214.00
			0.00			1/2" Ice	9.87	9.87	275.00

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight lb
MFF-950B	C	From Leg	0.00 0.00 0.00	0.0000	209.00	1" Ice No Ice 1/2" Ice	15.24 8.40 8.79	15.24 12.60 13.07	336.00 40.00 141.14
1.9"x4' pipe mount	C	From Leg	0.00 0.00 0.00	0.0000	209.00	1" Ice No Ice 1/2" Ice	9.20 0.00 0.00	13.55 0.00 0.00	248.70 0.00 0.00
1105-1A	A	From Leg	0.00 0.00 0.00	0.0000	219.50	1" Ice No Ice 1/2" Ice	0.00 4.00 5.00	0.00 4.00 5.00	0.00 40.00 70.00
Site Pro LTF12-4126 (Sprint)	A	From Leg	0.00 0.00 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	6.00 30.70 42.00	6.00 30.70 42.00	100.00 506.00 858.00
Site Pro LTF12-4126 (Sprint)	B	From Leg	0.00 0.00 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	53.30 30.70 42.00	53.30 30.70 42.00	1002.00 506.00 858.00
Site Pro LTF12-4126 (Sprint)	C	From Leg	0.00 0.00 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	53.30 30.70 42.00	53.30 30.70 42.00	1002.00 506.00 858.00
59 1/2x6 1/2x 3 Pannel (Sprint)	A	From Leg	0.00 3.00 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	53.30 3.95 4.33	53.30 2.27 2.63	1002.00 50.00 71.22
59 1/2x6 1/2x 3 Pannel (Sprint)	B	From Leg	0.00 3.00 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	4.72 3.95 4.33	2.99 2.27 2.63	97.10 50.00 71.22
59 1/2x6 1/2x 3 Pannel (Sprint)	C	From Leg	0.00 3.00 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	4.72 3.95 4.33	2.99 2.27 2.63	97.10 50.00 71.22
ETCR-654L12H6 W/Pipe Mount (Sprint)	A	From Leg	0.00 3.00 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	4.72 6.65 7.14	2.99 5.03 5.89	97.10 77.90 133.31
ETCR-654L12H6 W/Pipe Mount (Sprint)	B	From Leg	0.00 3.00 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	7.60 6.65 7.14	6.63 5.03 5.89	195.47 77.90 133.31
ETCR-654L12H6 W/Pipe Mount (Sprint)	C	From Leg	0.00 3.00 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	7.60 6.65 7.14	6.63 5.03 5.89	195.47 77.90 133.31
ALU RRH-4X45-1900 (Sprint)	A	From Leg	0.00 1.00 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	7.60 2.50 2.71	6.63 2.50 2.71	195.47 69.50 95.23
(2) RRH-2X50-800 (Sprint)	A	From Leg	0.00 1.50 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	2.93 1.73 1.90	2.93 1.33 1.48	124.33 69.10 86.54
TD-RRH8x20-25 (Sprint)	A	From Leg	0.00 3.00 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	2.07 4.03 4.28	1.64 1.53 1.70	106.69 76.20 103.25
ALU RRH-4X45-1900 (Sprint)	B	From Leg	0.00 1.00 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	4.54 2.50 2.71	1.89 2.50 2.71	133.82 69.50 95.23
(2) RRH-2X50-800 (Sprint)	B	From Leg	0.00 1.50 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	2.93 1.73 1.90	2.93 1.33 1.48	124.33 69.10 86.54
TD-RRH8x20-25 (Sprint)	B	From Leg	0.00 3.00 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	2.07 4.03 4.28	1.64 1.53 1.70	106.69 76.20 103.25
ALU RRH-4X45-1900 (Sprint)	C	From Leg	0.00 1.00 0.00	0.0000	226.50	1" Ice No Ice 1/2" Ice	4.54 2.50 2.71	1.89 2.50 2.71	133.82 69.50 95.23

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	Client	AT&T Mobility	Designed by gpenumatsa

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight lb
			0.00			1" Ice 2.93	2.93	124.33
(2) RRH-2X50-800 (Sprint)	C	From Leg	1.50	0.0000	226.50	No Ice 1.73	1.33	69.10
			0.00			1/2" Ice 1.90	1.48	86.54
			0.00			1" Ice 2.07	1.64	106.69
TD-RRH8x20-25 (Sprint)	C	From Leg	3.00	0.0000	226.50	No Ice 4.03	1.53	76.20
			0.00			1/2" Ice 4.28	1.70	103.25
			0.00			1" Ice 4.54	1.89	133.82
3" Dia 20' Omni	A	From Leg	4.00	0.0000	252.00	No Ice 4.00	4.00	55.00
			0.00			1/2" Ice 6.00	6.00	100.00
			0.00			1" Ice 8.00	8.00	145.00
Pirot 4' Side Mount Standoff (1)	A	From Leg	0.00	0.0000	262.00	No Ice 2.72	2.72	50.00
			0.00			1/2" Ice 4.91	4.91	89.00
			0.00			1" Ice 7.10	7.10	128.00
3" Dia 20' Omni	A	From Leg	4.00	0.0000	274.25	No Ice 4.00	4.00	55.00
			0.00			1/2" Ice 6.00	6.00	100.00
			0.00			1" Ice 8.00	8.00	145.00
Pirot 4' Side Mount Standoff (1)	A	From Leg	0.00	0.0000	264.25	No Ice 2.72	2.72	50.00
			0.00			1/2" Ice 4.91	4.91	89.00
			0.00			1" Ice 7.10	7.10	128.00
5'3"x4" Pipe Mount	A	From Leg	0.00	0.0000	274.00	No Ice 1.41	1.41	57.00
			0.00			1/2" Ice 2.21	2.21	73.81
			0.00			1" Ice 2.54	2.54	94.43
1105-1A	C	From Leg	0.00	0.0000	279.00	No Ice 4.00	4.00	40.00
			0.00			1/2" Ice 5.00	5.00	70.00
			0.00			1" Ice 6.00	6.00	100.00
1105-1A	C	From Leg	0.00	0.0000	288.00	No Ice 4.00	4.00	40.00
			0.00			1/2" Ice 5.00	5.00	70.00
			0.00			1" Ice 6.00	6.00	100.00
LeBlanc 10' Standoff (3)	C	From Leg	0.00	0.0000	294.00	No Ice 34.00	34.00	1650.00
			0.00			1/2" Ice 44.00	44.00	2250.00
			0.00			1" Ice 54.00	54.00	2850.00
LeBlanc 10' Standoff (3)	B	From Leg	0.00	0.0000	294.00	No Ice 34.00	34.00	1650.00
			0.00			1/2" Ice 44.00	44.00	2250.00
			0.00			1" Ice 54.00	54.00	2850.00
3" Dia 20' Omni	C	From Leg	10.00	0.0000	294.00 - 284.00	No Ice 4.00	4.00	55.00
			0.00			1/2" Ice 6.00	6.00	100.00
			0.00			1" Ice 8.00	8.00	145.00
3" Dia 20' Omni	B	From Leg	10.00	0.0000	294.00 - 284.00	No Ice 4.00	4.00	55.00
			0.00			1/2" Ice 6.00	6.00	100.00
			0.00			1" Ice 8.00	8.00	145.00
3" Dia 20' Omni	C	From Leg	10.00	0.0000	305.50	No Ice 4.00	4.00	55.00
			0.00			1/2" Ice 6.00	6.00	100.00
			0.00			1" Ice 8.00	8.00	145.00
3' Side Arm	B	From Leg	0.00	0.0000	295.50	No Ice 5.30	5.30	70.00
			0.00			1/2" Ice 7.20	7.20	106.00
			0.00			1" Ice 9.10	9.10	142.00
3" Dia 20' Omni	B	From Leg	3.00	0.0000	307.33	No Ice 4.00	4.00	55.00
			0.00			1/2" Ice 6.00	6.00	100.00
			0.00			1" Ice 8.00	8.00	145.00
SHP-1AE	C	From Leg	0.00	0.0000	312.00	No Ice 5.00	5.00	110.00
			0.00			1/2" Ice 6.00	6.00	190.00
			0.00			1" Ice 7.00	7.00	270.00
1105-1A	C	From Leg	0.00	0.0000	332.50	No Ice 4.00	4.00	40.00
			0.00			1/2" Ice 5.00	5.00	70.00
			0.00			1" Ice 6.00	6.00	100.00
1105-1A	C	From Leg	0.00	0.0000	342.00	No Ice 4.00	4.00	40.00
			0.00			1/2" Ice 5.00	5.00	70.00

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight lb
MP-3E	B	From Leg	0.00 0.00 0.00	0.0000	338.00	1" Ice No Ice 1/2" Ice	6.00 14.00 19.00	6.00 14.00 19.00	100.00 240.00 395.00
3' Side Arm	C	From Leg	0.00 0.00 0.00	0.0000	317.00	1" Ice No Ice 1/2" Ice	24.00 5.30 7.20	24.00 5.30 7.20	550.00 70.00 106.00
(2)	B	From Leg	0.00 0.00 0.00	0.0000	200.00	1" Ice No Ice 1/2" Ice	9.10 8.26 8.81	9.10 4.64 5.09	142.00 31.80 78.30
AM-X-CD-17-65-OOT-RET (AT&T)	C	From Leg	0.00 0.00 0.00	0.0000	200.00	1" Ice No Ice 1/2" Ice	9.36 8.26 8.81	5.54 4.64 5.09	130.80 31.80 78.30
(2)	C	From Leg	0.00 0.00 0.00	0.0000	200.00	1" Ice No Ice 1/2" Ice	9.36 8.26 8.81	5.54 4.64 5.09	130.80 31.80 78.30
AM-X-CD-17-65-OOT-RET (AT&T)	A	From Leg	0.00 0.00 0.00	0.0000	200.00	1" Ice No Ice 1/2" Ice	9.36 2.61 3.74	5.54 2.61 3.74	130.80 40.15 59.76
11', 2" STD Stabilizer Arm (AT&T)	B	From Leg	0.00 0.00 0.00	0.0000	200.00	1" Ice No Ice 1/2" Ice	4.89 2.61 3.74	4.89 2.61 3.74	86.48 40.15 59.76
11', 2" STD Stabilizer Arm (AT&T)	C	From Leg	0.00 0.00 0.00	0.0000	200.00	1" Ice No Ice 1/2" Ice	4.89 2.61 3.74	4.89 2.61 3.74	86.48 40.15 59.76
11', 2" STD Stabilizer Arm (AT&T)			0.00 0.00 0.00			1" Ice	4.89	4.89	86.48

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 ft ²	Weight lb
SPD3-2.4NS	B	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		36.00	3.00	No Ice 1/2" Ice 1" Ice	12.60 13.09 13.58
(2) HP2-18	A	Paraboloid w/Shroud (HP)	From Leg	0.00 0.00 0.00	Worst		106.50	2.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.67
(2) HP2-18	B	Paraboloid w/Shroud (HP)	From Leg	0.00 0.00 0.00	Worst		123.50	2.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.67
P-9A72GN-S	B	Paraboloid w/o Radome	From Leg	1.00 0.00 0.00	Worst		130.00	6.00	No Ice 1/2" Ice 1" Ice	22.60 29.05 35.50
P-9A72GN-S	B	Paraboloid w/o Radome	From Leg	0.00 0.00 0.00	Worst		251.00	6.00	No Ice 1/2" Ice 1" Ice	22.60 29.05 35.50
SPD6-58	A	Paraboloid w/o Radome	From Leg	2.00 0.00 0.00	Worst		274.00	3.00	No Ice 1/2" Ice 1" Ice	5.70 7.46 9.23
P-9A120GN	C	Paraboloid w/o Radome	From Leg	2.00 0.00 0.00	Worst		308.00		No Ice 1/2" Ice 1" Ice	10.10 13.09 16.08

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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 lb
P-9A120GN	C	Paraboloid w/o Radome	From Leg	2.00 0.00 0.00	Worst		317.50	4.00	No Ice 10.10 1/2" Ice 13.09 1" Ice 16.08	112.00 179.19 246.38

Tower Pressures - No Ice

$G_H = 0.850$ (base tower), 1.100 (upper structure)

Section Elevation ft	z ft	K_z	q_z psf	A_G ft²	F a c e	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_{AA} In Face ft²	C_{AA} Out Face ft²
L1	337.50	1.635	38	39.063	A	0.000	6.037	3.125	51.77	6.776	0.000
345.00-330.00					B	0.000	6.037		51.77	0.000	0.000
					C	0.000	6.037		51.77	2.408	0.000
T1	325.00	1.622	38	51.875	A	0.316	8.052	3.750	44.82	15.255	0.000
330.00-320.00					B	0.316	8.052		44.82	5.000	0.000
					C	0.316	8.052		44.82	7.130	0.000
T2	310.00	1.606	38	103.750	A	0.000	15.706	7.500	47.75	36.315	0.000
320.00-300.00					B	0.000	15.706		47.75	10.000	0.000
					C	0.000	15.706		47.75	14.260	0.000
T3	290.00	1.584	37	103.750	A	0.000	15.706	7.500	47.75	39.690	0.000
300.00-280.00					B	0.000	15.706		47.75	14.073	0.000
					C	0.000	15.706		47.75	20.770	0.000
T4	270.00	1.56	37	103.750	A	0.000	16.644	7.500	45.06	43.659	0.000
280.00-260.00					B	0.000	16.644		45.06	14.700	0.000
					C	0.000	16.644		45.06	24.905	0.000
T5	250.00	1.535	36	103.750	A	0.000	16.644	7.500	45.06	46.218	0.000
260.00-240.00					B	0.000	16.644		45.06	14.700	0.000
					C	0.000	16.644		45.06	29.178	0.000
T6	230.00	1.508	35	103.750	A	0.000	16.644	7.500	45.06	56.827	0.000
240.00-220.00					B	0.000	16.644		45.06	14.700	0.000
					C	0.000	16.644		45.06	30.960	0.000
T7	210.00	1.48	35	104.167	A	0.000	17.789	8.333	46.85	79.237	0.000
220.00-200.00					B	0.000	17.789		46.85	16.826	0.000
					C	0.000	17.789		46.85	31.813	0.000
T8	190.00	1.449	34	104.583	A	0.000	20.796	9.167	44.08	96.843	0.000
200.00-180.00					B	0.000	20.796		44.08	66.220	0.000
					C	0.000	20.796		44.08	34.060	0.000
T9	170.00	1.415	33	104.583	A	0.000	20.796	9.167	44.08	114.070	0.000
180.00-160.00					B	0.000	20.796		44.08	88.792	0.000
					C	0.000	20.796		44.08	34.060	0.000
T10	150.00	1.378	32	104.583	A	0.000	18.625	9.167	49.22	114.992	0.000
160.00-140.00					B	0.000	18.625		49.22	113.740	0.000
					C	0.000	18.625		49.22	34.060	0.000
T11	130.00	1.337	31	104.583	A	0.000	18.625	9.167	49.22	117.860	0.000
140.00-120.00					B	0.000	18.625		49.22	115.484	0.000
					C	0.000	18.625		49.22	34.060	0.000
T12	110.00	1.291	30	104.583	A	0.000	18.625	9.167	49.22	123.001	0.000
120.00-100.00					B	0.000	18.625		49.22	115.920	0.000
					C	0.000	18.625		49.22	34.060	0.000
T13	90.00	1.238	29	104.583	A	0.000	18.625	9.167	49.22	125.530	0.000
100.00-80.00					B	0.000	18.625		49.22	116.550	0.000
					C	0.000	18.625		49.22	34.060	0.000
T14	70.00	1.174	28	104.583	A	0.000	18.625	9.167	49.22	125.530	0.000

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Section Elevation	z	K _Z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		psf	ft ²		ft ²	ft ²	ft ²			
80.00-60.00					B	0.000	18.625		49.22	117.180	0.000
					C	0.000	18.625		49.22	34.060	0.000
T15	50.00	1.094	26	104.583	A	0.000	18.625	9.167	49.22	125.530	0.000
60.00-40.00					B	0.000	18.625		49.22	117.180	0.000
					C	0.000	18.625		49.22	34.060	0.000
T16	30.00	0.982	23	104.583	A	0.000	18.625	9.167	49.22	125.530	0.000
40.00-20.00					B	0.000	18.625		49.22	117.180	0.000
					C	0.000	18.625		49.22	36.076	0.000
T17	16.00	0.86	20	41.833	A	0.000	8.611	3.667	42.58	50.212	0.000
20.00-12.00					B	0.000	8.611		42.58	46.872	0.000
					C	0.000	8.611		42.58	14.632	0.000
T18	9.33	0.85	20	27.889	A	0.313	4.396	2.444	51.91	33.475	0.000
12.00-6.67					B	0.313	4.396		51.91	31.248	0.000
					C	0.313	4.396		51.91	9.755	0.000
T19	3.33	0.85	20	18.298	A	0.515	5.472	3.330	55.62	0.042	0.000
6.67-0.00					B	0.515	5.472		55.62	0.039	0.000
					C	0.515	5.472		55.62	0.012	0.000

Tower Pressure - With Ice

$G_H = 0.850$ (base tower), 1.100 (upper structure)

Section Elevation	z	K _Z	q _z	t _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		psf	in	ft ²		ft ²	ft ²	ft ²			
L1	337.50	1.635	9	1.8926	43.794	A	0.000	36.041	12.588	34.93	26.175	0.000
345.00-330.00						B	0.000	36.041		34.93	0.000	0.000
						C	0.000	36.041		34.93	9.032	0.000
T1	325.00	1.622	9	1.8855	55.018	A	0.316	33.516	10.035	29.66	40.982	0.000
330.00-320.00						B	0.316	33.516		29.66	9.190	0.000
						C	0.316	33.516		29.66	18.862	0.000
T2	310.00	1.606	9	1.8766	110.005	A	0.000	61.754	20.011	32.40	101.600	0.000
320.00-300.00						B	0.000	61.754		32.40	18.341	0.000
						C	0.000	61.754		32.40	37.614	0.000
T3	290.00	1.584	9	1.8641	109.964	A	0.000	61.448	19.928	32.43	112.930	0.000
300.00-280.00						B	0.000	61.448		32.43	28.819	0.000
						C	0.000	61.448		32.43	61.007	0.000
T4	270.00	1.56	8	1.8509	109.920	A	0.000	62.060	19.839	31.97	128.593	0.000
280.00-260.00						B	0.000	62.060		31.97	30.330	0.000
						C	0.000	62.060		31.97	78.949	0.000
T5	250.00	1.535	8	1.8367	109.872	A	0.000	61.712	19.745	31.99	137.481	0.000
260.00-240.00						B	0.000	61.712		31.99	30.210	0.000
						C	0.000	61.712		31.99	94.930	0.000
T6	230.00	1.508	8	1.8214	109.821	A	0.000	61.338	19.643	32.02	163.799	0.000
240.00-220.00						B	0.000	61.338		32.02	30.081	0.000
						C	0.000	61.338		32.02	99.546	0.000
T7	210.00	1.48	8	1.8049	110.183	A	0.000	61.918	20.366	32.89	217.986	0.000
220.00-200.00						B	0.000	61.918		32.89	39.106	0.000
						C	0.000	61.918		32.89	101.872	0.000
T8	190.00	1.449	8	1.7870	110.540	A	0.000	64.350	21.080	32.76	271.161	0.000
200.00-180.00						B	0.000	64.350		32.76	151.551	0.000
						C	0.000	64.350		32.76	108.725	0.000
T9	170.00	1.415	8	1.7672	110.474	A	0.000	63.868	20.948	32.80	323.235	0.000
180.00-160.00						B	0.000	63.868		32.80	168.986	0.000
						C	0.000	63.868		32.80	108.034	0.000

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Section Elevation	z	K _Z	q _z	t _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		psf	in	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
T10 160.00-140.00	150.00	1.378	7	1.7452	110.401	A	0.000	61.161	20.801	34.01	325.801	0.000
						B	0.000	61.161		34.01	188.096	0.000
						C	0.000	61.161		34.01	107.265	0.000
T11 140.00-120.00	130.00	1.337	7	1.7204	110.318	A	0.000	60.557	20.636	34.08	334.177	0.000
						B	0.000	60.557		34.08	194.078	0.000
						C	0.000	60.557		34.08	106.397	0.000
T12 120.00-100.00	110.00	1.291	7	1.6919	110.223	A	0.000	59.862	20.446	34.16	353.745	0.000
						B	0.000	59.862		34.16	194.320	0.000
						C	0.000	59.862		34.16	105.401	0.000
T13 100.00-80.00	90.00	1.238	7	1.6583	110.111	A	0.000	59.043	20.222	34.25	363.901	0.000
						B	0.000	59.043		34.25	196.415	0.000
						C	0.000	59.043		34.25	104.225	0.000
T14 80.00-60.00	70.00	1.174	6	1.6171	109.974	A	0.000	58.040	19.948	34.37	359.107	0.000
						B	0.000	58.040		34.37	197.930	0.000
						C	0.000	58.040		34.37	102.787	0.000
T15 60.00-40.00	50.00	1.094	6	1.5636	109.795	A	0.000	56.736	19.591	34.53	352.876	0.000
						B	0.000	56.736		34.53	194.769	0.000
						C	0.000	56.736		34.53	100.917	0.000
T16 40.00-20.00	30.00	0.982	5	1.4858	109.536	A	0.000	54.838	19.072	34.78	343.812	0.000
						B	0.000	54.838		34.78	190.172	0.000
						C	0.000	54.838		34.78	110.298	0.000
T17 20.00-12.00	16.00	0.86	5	1.3952	43.694	A	0.000	23.844	7.387	30.98	133.313	0.000
						B	0.000	23.844		30.98	73.932	0.000
						C	0.000	23.844		30.98	43.812	0.000
T18 12.00-6.67	9.33	0.85	5	1.3220	29.064	A	0.313	12.167	4.795	38.42	86.605	0.000
						B	0.313	12.167		38.42	48.136	0.000
						C	0.313	12.167		38.42	28.391	0.000
T19 6.67-0.00	3.33	0.85	5	1.1927	19.714	A	0.515	14.183	6.218	42.31	0.104	0.000
						B	0.515	14.183		42.31	0.058	0.000
						C	0.515	14.183		42.31	0.034	0.000

Tower Pressure - Service

$G_H = 0.850$ (base tower), 1.100 (upper structure)

Section Elevation	z	K _Z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		psf	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
L1 345.00-330.00	337.50	1.635	13	39.063	A	0.000	6.037	3.125	51.77	6.776	0.000
					B	0.000	6.037		51.77	0.000	0.000
					C	0.000	6.037		51.77	2.408	0.000
T1 330.00-320.00	325.00	1.622	13	51.875	A	0.316	8.052	3.750	44.82	15.255	0.000
					B	0.316	8.052		44.82	5.000	0.000
					C	0.316	8.052		44.82	7.130	0.000
T2 320.00-300.00	310.00	1.606	13	103.750	A	0.000	15.706	7.500	47.75	36.315	0.000
					B	0.000	15.706		47.75	10.000	0.000
					C	0.000	15.706		47.75	14.260	0.000
T3 300.00-280.00	290.00	1.584	12	103.750	A	0.000	15.706	7.500	47.75	39.690	0.000
					B	0.000	15.706		47.75	14.073	0.000
					C	0.000	15.706		47.75	20.770	0.000
T4 280.00-260.00	270.00	1.56	12	103.750	A	0.000	16.644	7.500	45.06	43.659	0.000
					B	0.000	16.644		45.06	14.700	0.000
					C	0.000	16.644		45.06	24.905	0.000
T5 250.00	250.00	1.535	12	103.750	A	0.000	16.644	7.500	45.06	46.218	0.000

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Section Elevation	z	K _Z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		psf	ft ²	e	ft ²	ft ²	ft ²			ft ²
260.00-240.00					B	0.000	16.644		45.06	14.700	0.000
T6	230.00	1.508	12	103.750	C	0.000	16.644		45.06	29.178	0.000
240.00-220.00					A	0.000	16.644	7.500	45.06	56.827	0.000
					B	0.000	16.644		45.06	14.700	0.000
T7	210.00	1.48	12	104.167	C	0.000	16.644		45.06	30.960	0.000
220.00-200.00					A	0.000	17.789	8.333	46.85	79.237	0.000
					B	0.000	17.789		46.85	16.826	0.000
T8	190.00	1.449	11	104.583	C	0.000	17.789		46.85	31.813	0.000
200.00-180.00					A	0.000	20.796	9.167	44.08	96.843	0.000
					B	0.000	20.796		44.08	66.220	0.000
T9	170.00	1.415	11	104.583	C	0.000	20.796		44.08	34.060	0.000
180.00-160.00					A	0.000	20.796	9.167	44.08	114.070	0.000
					B	0.000	20.796		44.08	88.792	0.000
T10	150.00	1.378	11	104.583	C	0.000	20.796		44.08	34.060	0.000
160.00-140.00					A	0.000	18.625	9.167	49.22	114.992	0.000
					B	0.000	18.625		49.22	113.740	0.000
T11	130.00	1.337	10	104.583	C	0.000	18.625		49.22	34.060	0.000
140.00-120.00					A	0.000	18.625	9.167	49.22	117.860	0.000
					B	0.000	18.625		49.22	115.484	0.000
T12	110.00	1.291	10	104.583	C	0.000	18.625		49.22	34.060	0.000
120.00-100.00					A	0.000	18.625	9.167	49.22	123.001	0.000
					B	0.000	18.625		49.22	115.920	0.000
T13	90.00	1.238	10	104.583	C	0.000	18.625		49.22	34.060	0.000
100.00-80.00					A	0.000	18.625	9.167	49.22	125.530	0.000
					B	0.000	18.625		49.22	116.550	0.000
T14	70.00	1.174	9	104.583	C	0.000	18.625		49.22	34.060	0.000
80.00-60.00					A	0.000	18.625	9.167	49.22	125.530	0.000
					B	0.000	18.625		49.22	117.180	0.000
T15	50.00	1.094	9	104.583	C	0.000	18.625		49.22	34.060	0.000
60.00-40.00					A	0.000	18.625	9.167	49.22	125.530	0.000
					B	0.000	18.625		49.22	117.180	0.000
T16	30.00	0.982	8	104.583	C	0.000	18.625		49.22	34.060	0.000
40.00-20.00					A	0.000	18.625	9.167	49.22	125.530	0.000
					B	0.000	18.625		49.22	117.180	0.000
T17	16.00	0.86	7	41.833	C	0.000	18.625		49.22	36.076	0.000
20.00-12.00					A	0.000	8.611	3.667	42.58	50.212	0.000
					B	0.000	8.611		42.58	46.872	0.000
T18	12.00-6.67	0.85	7	27.889	C	0.000	8.611		42.58	14.632	0.000
					A	0.313	4.396	2.444	51.91	33.475	0.000
					B	0.313	4.396		51.91	31.248	0.000
T19	6.67-0.00	0.85	7	18.298	C	0.313	4.396		51.91	9.755	0.000
					A	0.515	5.472	3.330	55.62	0.042	0.000
					B	0.515	5.472		55.62	0.039	0.000
					C	0.515	5.472		55.62	0.012	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb	e			psf			ft ²	lb	plf	
L1	143.92	343.53	A	0.155	2.755	38	1	1	3.429	633.09	42.21	C
345.00-330.00			B	0.155	2.755		1	1	3.429			
			C	0.155	2.755		1	1	3.429			
T1	436.90	1037.73	A	0.161	2.73	38	1	1	4.896	966.93	96.69	C
330.00-320.00			B	0.161	2.73		1	1	4.896			
			C	0.161	2.73		1	1	4.896			

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Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _s psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
T2 320.00-300.00	896.51	1553.07	A	0.151	2.766	38	1	1	8.916	1960.18	98.01	C
			B	0.151	2.766		1	1	8.916			
			C	0.151	2.766		1	1	8.916			
T3 300.00-280.00	958.46	1553.07	A	0.151	2.766	37	1	1	8.916	2198.16	109.91	C
			B	0.151	2.766		1	1	8.916			
			C	0.151	2.766		1	1	8.916			
T4 280.00-260.00	991.43	1728.92	A	0.16	2.734	37	1	1	9.465	2366.53	118.33	C
			B	0.16	2.734		1	1	9.465			
			C	0.16	2.734		1	1	9.465			
T5 260.00-240.00	1015.58	1728.92	A	0.16	2.734	36	1	1	9.465	2454.36	122.72	C
			B	0.16	2.734		1	1	9.465			
			C	0.16	2.734		1	1	9.465			
T6 240.00-220.00	1066.16	1728.92	A	0.16	2.734	35	1	1	9.465	2618.09	130.90	A
			B	0.16	2.734		1	1	9.465			
			C	0.16	2.734		1	1	9.465			
T7 220.00-200.00	1169.68	1999.24	A	0.171	2.697	35	1	1	10.139	3062.76	153.14	A
			B	0.171	2.697		1	1	10.139			
			C	0.171	2.697		1	1	10.139			
T8 200.00-180.00	1452.84	2728.70	A	0.199	2.6	34	1	1	11.943	3962.91	198.15	A
			B	0.199	2.6		1	1	11.943			
			C	0.199	2.6		1	1	11.943			
T9 180.00-160.00	1618.08	2728.70	A	0.199	2.6	33	1	1	11.943	4302.71	215.14	A
		TA	B	0.199	2.6		1	1	11.943			
		1159.20	C	0.199	2.6		1	1	11.943			
T10 160.00-140.00	1722.99	2220.23	A	0.178	2.671	32	1	1	10.634	4282.60	214.13	A
			B	0.178	2.671		1	1	10.634			
			C	0.178	2.671		1	1	10.634			
T11 140.00-120.00	1737.95	2220.23	A	0.178	2.671	31	1	1	10.634	4229.54	211.48	A
			B	0.178	2.671		1	1	10.634			
			C	0.178	2.671		1	1	10.634			
T12 120.00-100.00	1758.42	2220.23	A	0.178	2.671	30	1	1	10.634	4169.81	208.49	A
			B	0.178	2.671		1	1	10.634			
			C	0.178	2.671		1	1	10.634			
T13 100.00-80.00	1768.10	2220.23	A	0.178	2.671	29	1	1	10.634	4044.26	202.21	A
			B	0.178	2.671		1	1	10.634			
			C	0.178	2.671		1	1	10.634			
T14 80.00-60.00	1769.60	2220.23	A	0.178	2.671	28	1	1	10.634	3844.73	192.24	A
			B	0.178	2.671		1	1	10.634			
			C	0.178	2.671		1	1	10.634			
T15 60.00-40.00	1769.60	2220.23	A	0.178	2.671	26	1	1	10.634	3581.80	179.09	A
			B	0.178	2.671		1	1	10.634			
			C	0.178	2.671		1	1	10.634			
T16 40.00-20.00	1774.40	2220.23	A	0.178	2.671	23	1	1	10.634	3238.88	161.94	A
			B	0.178	2.671		1	1	10.634			
			C	0.178	2.671		1	1	10.634			
T17 20.00-12.00	710.24	1081.73	A	0.206	2.577	20	1	1	4.956	1161.15	145.14	A
			B	0.206	2.577		1	1	4.956			
			C	0.206	2.577		1	1	4.956			
T18 12.00-6.67	473.49	797.42	A	0.169	2.703	20	1	1	2.817	749.41	140.52	A
			B	0.169	2.703		1	1	2.817			
			C	0.169	2.703		1	1	2.817			
T19 6.67-0.00	0.59	1120.68	A	0.327	2.226	20	1	1	3.841	146.17	21.93	A
			B	0.327	2.226		1	1	3.841			
			C	0.327	2.226		1	1	3.841			
Sum Weight:	23234.96	36831.44								53974.05		

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Tower Forces - No Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
L1 345.00-330.00	143.92	343.53	A	0.155	2.755	38	0.8	1	3.429			
			B	0.155	2.755		0.8	1	3.429	633.09	42.21	C
			C	0.155	2.755		0.8	1	3.429			
T1 330.00-320.00	436.90	1037.73	A	0.161	2.73	38	0.8	1	4.832	961.33	96.13	C
			B	0.161	2.73		0.8	1	4.832			
			C	0.161	2.73		0.8	1	4.832			
T2 320.00-300.00	896.51	1553.07	A	0.151	2.766	38	0.8	1	8.916	1960.18	98.01	C
			B	0.151	2.766		0.8	1	8.916			
			C	0.151	2.766		0.8	1	8.916			
T3 300.00-280.00	958.46	1553.07	A	0.151	2.766	37	0.8	1	8.916	2198.16	109.91	A
			B	0.151	2.766		0.8	1	8.916			
			C	0.151	2.766		0.8	1	8.916			
T4 280.00-260.00	991.43	1728.92	A	0.16	2.734	37	0.8	1	9.465	2366.53	118.33	A
			B	0.16	2.734		0.8	1	9.465			
			C	0.16	2.734		0.8	1	9.465			
T5 260.00-240.00	1015.58	1728.92	A	0.16	2.734	36	0.8	1	9.465	2454.36	122.72	A
			B	0.16	2.734		0.8	1	9.465			
			C	0.16	2.734		0.8	1	9.465			
T6 240.00-220.00	1066.16	1728.92	A	0.16	2.734	35	0.8	1	9.465	2618.09	130.90	B
			B	0.16	2.734		0.8	1	9.465			
			C	0.16	2.734		0.8	1	9.465			
T7 220.00-200.00	1169.68	1999.24	A	0.171	2.697	35	0.8	1	10.139	3062.76	153.14	B
			B	0.171	2.697		0.8	1	10.139			
			C	0.171	2.697		0.8	1	10.139			
T8 200.00-180.00	1452.84	2728.70	A	0.199	2.6	34	0.8	1	11.943	3962.91	198.15	B
			B	0.199	2.6		0.8	1	11.943			
			C	0.199	2.6		0.8	1	11.943			
T9 180.00-160.00	1618.08	2728.70	A	0.199	2.6	33	0.8	1	11.943	4302.71	215.14	B
		1159.20	TA	0.199	2.6		0.8	1	11.943			
		2220.23	C	0.199	2.6		0.8	1	11.943			
T10 160.00-140.00	1722.99	2220.23	A	0.178	2.671	32	0.8	1	10.634	4282.60	214.13	B
			B	0.178	2.671		0.8	1	10.634			
			C	0.178	2.671		0.8	1	10.634			
T11 140.00-120.00	1737.95	2220.23	A	0.178	2.671	31	0.8	1	10.634	4229.54	211.48	B
			B	0.178	2.671		0.8	1	10.634			
			C	0.178	2.671		0.8	1	10.634			
T12 120.00-100.00	1758.42	2220.23	A	0.178	2.671	30	0.8	1	10.634	4169.81	208.49	B
			B	0.178	2.671		0.8	1	10.634			
			C	0.178	2.671		0.8	1	10.634			
T13 100.00-80.00	1768.10	2220.23	A	0.178	2.671	29	0.8	1	10.634	4044.26	202.21	B
			B	0.178	2.671		0.8	1	10.634			
			C	0.178	2.671		0.8	1	10.634			
T14 80.00-60.00	1769.60	2220.23	A	0.178	2.671	28	0.8	1	10.634	3844.73	192.24	B
			B	0.178	2.671		0.8	1	10.634			
			C	0.178	2.671		0.8	1	10.634			
T15 60.00-40.00	1769.60	2220.23	A	0.178	2.671	26	0.8	1	10.634	3581.80	179.09	B
			B	0.178	2.671		0.8	1	10.634			
			C	0.178	2.671		0.8	1	10.634			
T16 40.00-20.00	1774.40	2220.23	A	0.178	2.671	23	0.8	1	10.634	3238.88	161.94	B
			B	0.178	2.671		0.8	1	10.634			
			C	0.178	2.671		0.8	1	10.634			
T17 20.00-12.00	710.24	1081.73	A	0.206	2.577	20	0.8	1	4.956	1161.15	145.14	B
			B	0.206	2.577		0.8	1	4.956			
			C	0.206	2.577		0.8	1	4.956			
T18 12.00-6.67	473.49	797.42	A	0.169	2.703	20	0.8	1	2.755	746.53	139.98	B
			B	0.169	2.703		0.8	1	2.755			
			C	0.169	2.703		0.8	1	2.755			

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Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T19 6.67-0.00	0.59	1120.68	A	0.327	2.226	20	0.8	1	3.738	142.27	21.34	B
			B	0.327	2.226		0.8	1	3.738			
			C	0.327	2.226		0.8	1	3.738			
Sum Weight:	23234.96	36831.44								53961.68		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
L1 345.00-330.00	143.92	343.53	A	0.155	2.755	38	0.85	1	3.429	633.09	42.21	C
			B	0.155	2.755		0.85	1	3.429			
			C	0.155	2.755		0.85	1	3.429			
T1 330.00-320.00	436.90	1037.73	A	0.161	2.73	38	0.85	1	4.848	962.73	96.27	C
			B	0.161	2.73		0.85	1	4.848			
			C	0.161	2.73		0.85	1	4.848			
T2 320.00-300.00	896.51	1553.07	A	0.151	2.766	38	0.85	1	8.916	1960.18	98.01	C
			B	0.151	2.766		0.85	1	8.916			
			C	0.151	2.766		0.85	1	8.916			
T3 300.00-280.00	958.46	1553.07	A	0.151	2.766	37	0.85	1	8.916	2198.16	109.91	B
			B	0.151	2.766		0.85	1	8.916			
			C	0.151	2.766		0.85	1	8.916			
T4 280.00-260.00	991.43	1728.92	A	0.16	2.734	37	0.85	1	9.465	2366.53	118.33	B
			B	0.16	2.734		0.85	1	9.465			
			C	0.16	2.734		0.85	1	9.465			
T5 260.00-240.00	1015.58	1728.92	A	0.16	2.734	36	0.85	1	9.465	2454.36	122.72	B
			B	0.16	2.734		0.85	1	9.465			
			C	0.16	2.734		0.85	1	9.465			
T6 240.00-220.00	1066.16	1728.92	A	0.16	2.734	35	0.85	1	9.465	2635.97	131.80	B
			B	0.16	2.734		0.85	1	9.465			
			C	0.16	2.734		0.85	1	9.465			
T7 220.00-200.00	1169.68	1999.24	A	0.171	2.697	35	0.85	1	10.139	3080.29	154.01	B
			B	0.171	2.697		0.85	1	10.139			
			C	0.171	2.697		0.85	1	10.139			
T8 200.00-180.00	1452.84	2728.70	A	0.199	2.6	34	0.85	1	11.943	4066.18	203.31	C
			B	0.199	2.6		0.85	1	11.943			
			C	0.199	2.6		0.85	1	11.943			
T9 180.00-160.00	1618.08	2728.70	A	0.199	2.6	33	0.85	1	11.943	4421.55	221.08	C
		TA	B	0.199	2.6		0.85	1	11.943			
			C	0.199	2.6		0.85	1	11.943			
T10 160.00-140.00	1722.99	2220.23	A	0.178	2.671	32	0.85	1	10.634	4417.67	220.88	C
			B	0.178	2.671		0.85	1	10.634			
			C	0.178	2.671		0.85	1	10.634			
T11 140.00-120.00	1737.95	2220.23	A	0.178	2.671	31	0.85	1	10.634	4360.60	218.03	C
			B	0.178	2.671		0.85	1	10.634			
			C	0.178	2.671		0.85	1	10.634			
T12 120.00-100.00	1758.42	2220.23	A	0.178	2.671	30	0.85	1	10.634	4296.35	214.82	C
			B	0.178	2.671		0.85	1	10.634			
			C	0.178	2.671		0.85	1	10.634			
T13 100.00-80.00	1768.10	2220.23	A	0.178	2.671	29	0.85	1	10.634	4165.56	208.28	C
			B	0.178	2.671		0.85	1	10.634			
			C	0.178	2.671		0.85	1	10.634			
T14	1769.60	2220.23	A	0.178	2.671	28	0.85	1	10.634	3959.77	197.99	C

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	Client	AT&T Mobility	Designed by	gpenumatsa

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
80.00-60.00			B	0.178	2.671		0.85	1	10.634			
			C	0.178	2.671		0.85	1	10.634			
T15	1769.60	2220.23	A	0.178	2.671	26	0.85	1	10.634	3688.98	184.45	C
60.00-40.00			B	0.178	2.671		0.85	1	10.634			
			C	0.178	2.671		0.85	1	10.634			
T16	1774.40	2220.23	A	0.178	2.671	23	0.85	1	10.634	3327.70	166.39	C
40.00-20.00			B	0.178	2.671		0.85	1	10.634			
			C	0.178	2.671		0.85	1	10.634			
T17	710.24	1081.73	A	0.206	2.577	20	0.85	1	4.956	1191.62	148.95	C
20.00-12.00			B	0.206	2.577		0.85	1	4.956			
			C	0.206	2.577		0.85	1	4.956			
T18	473.49	797.42	A	0.169	2.703	20	0.85	1	2.770	767.32	143.87	C
12.00-6.67			B	0.169	2.703		0.85	1	2.770			
			C	0.169	2.703		0.85	1	2.770			
T19 6.67-0.00	0.59	1120.68	A	0.327	2.226	20	0.85	1	3.763	143.27	21.49	C
			B	0.327	2.226		0.85	1	3.763			
			C	0.327	2.226		0.85	1	3.763			
Sum Weight:	23234.96	36831.44								55097.88		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
L1	539.17	1728.55	A	0.823	1.835	9	1	1	32.562	645.51	43.03	C
345.00-330.00			B	0.823	1.835		1	1	32.562			
			C	0.823	1.835		1	1	32.562			
T1	1552.97	2644.09	A	0.615	1.795	9	1	1	25.564	543.65	54.36	C
330.00-320.00			B	0.615	1.795		1	1	25.564			
			C	0.615	1.795		1	1	25.564			
T2	3411.34	4104.24	A	0.561	1.833	9	1	1	44.461	1118.42	55.92	C
320.00-300.00			B	0.561	1.833		1	1	44.461			
			C	0.561	1.833		1	1	44.461			
T3	4084.88	4076.71	A	0.559	1.835	9	1	1	44.146	1242.25	62.11	C
300.00-280.00			B	0.559	1.835		1	1	44.146			
			C	0.559	1.835		1	1	44.146			
T4	4575.69	4298.98	A	0.565	1.83	8	1	1	44.802	1330.14	66.51	C
280.00-260.00			B	0.565	1.83		1	1	44.802			
			C	0.565	1.83		1	1	44.802			
T5	4932.65	4267.42	A	0.562	1.833	8	1	1	44.442	1386.84	69.34	C
260.00-240.00			B	0.562	1.833		1	1	44.442			
			C	0.562	1.833		1	1	44.442			
T6	5347.21	4233.70	A	0.559	1.836	8	1	1	44.057	1433.87	71.69	C
240.00-220.00			B	0.559	1.836		1	1	44.057			
			C	0.559	1.836		1	1	44.057			
T7	6236.93	4524.25	A	0.562	1.833	8	1	1	44.601	1580.90	79.05	A
220.00-200.00			B	0.562	1.833		1	1	44.601			
			C	0.562	1.833		1	1	44.601			
T8	8528.13	5417.08	A	0.582	1.816	8	1	1	47.143	1555.05*	77.75	C
200.00-180.00			B	0.582	1.816		1	1	47.143			
			C	0.582	1.816		1	1	47.143			
T9	9554.70	5371.46	A	0.578	1.819	8	1	1	46.632	1518.15*	75.91	C
180.00-160.00		TA	B	0.578	1.819		1	1	46.632			

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	Client	AT&T Mobility	Designed by	gpenumatsa

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb	e									
T10 160.00-140.00	9895.80	2355.30 4646.29	C A B C	0.578 0.554 0.554 0.554	1.819 1.84 1.84 1.84	7	1 1 1 1	1 1 1 1	46.632 43.765 43.765 43.765	1477.69*	73.88	C
T11 140.00-120.00	10007.78	4592.43	A B C	0.549 0.549 0.549	1.845 1.845 1.845	7	1 1 1	1 1 1	43.152 43.152 43.152	1432.76*	71.64	C
T12 120.00-100.00	10149.88	4531.20	A B C	0.543 0.543 0.543	1.85 1.85 1.85	7	1 1 1	1 1 1	42.453 42.453 42.453	1382.06*	69.10	C
T13 100.00-80.00	10128.81	4459.95	A B C	0.536 0.536 0.536	1.857 1.857 1.857	7	1 1 1	1 1 1	41.637 41.637 41.637	1323.54*	66.18	C
T14 80.00-60.00	9920.74	4374.10	A B C	0.528 0.528 0.528	1.867 1.867 1.867	6	1 1 1	1 1 1	40.649 40.649 40.649	1253.77*	62.69	C
T15 60.00-40.00	9592.59	4264.80	A B C	0.517 0.517 0.517	1.879 1.879 1.879	6	1 1 1	1 1 1	39.385 39.385 39.385	1166.14*	58.31	C
T16 40.00-20.00	9216.82	4110.38	A B C	0.501 0.501 0.501	1.899 1.899 1.899	5	1 1 1	1 1 1	37.583 37.583 37.583	1044.76*	52.24	C
T17 20.00-12.00	3479.92	1889.78	A B C	0.546 0.546 0.546	1.848 1.848 1.848	5	1 1 1	1 1 1	16.946 16.946 16.946	365.09*	45.64	C
T18 12.00-6.67	2206.40	1309.20	A B C	0.429 0.429 0.429	2.009 2.009 2.009	5	1 1 1	1 1 1	8.215 8.215 8.215	239.89*	44.98	C
T19 6.67-0.00	2.53	1734.37	A B C	0.746 0.746 0.746	1.786 1.786 1.786	5	1 1 1	1 1 1	12.488 12.488 12.488	87.82	13.17	A
Sum Weight:	123364.95	78934.29			*2.1A _g limit					22128.33		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb	e									
L1 345.00-330.00	539.17	1728.55	A B C	0.823 0.823 0.823	1.835 1.835 1.835	9	0.8 0.8 0.8	1 1 1	32.562 32.562 32.562	645.51	43.03	C
T1 330.00-320.00	1552.97	2644.09	A B C	0.615 0.615 0.615	1.795 1.795 1.795	9	0.8 0.8 0.8	1 1 1	25.501 25.501 25.501	542.80	54.28	C
T2 320.00-300.00	3411.34	4104.24	A B C	0.561 0.561 0.561	1.833 1.833 1.833	9	0.8 0.8 0.8	1 1 1	44.461 44.461 44.461	1118.42	55.92	C
T3 300.00-280.00	4084.88	4076.71	A B C	0.559 0.559 0.559	1.835 1.835 1.835	9	0.8 0.8 0.8	1 1 1	44.146 44.146 44.146	1242.25	62.11	A
T4 280.00-260.00	4575.69	4298.98	A B	0.565 0.565	1.83 1.83	8	0.8 0.8	1 1	44.802 44.802	1330.14	66.51	A

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Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
T5 260.00-240.00	4932.65	4267.42	C	0.565	1.83		0.8	1	44.802			
			A	0.562	1.833	8	0.8	1	44.442	1386.84	69.34	A
			B	0.562	1.833		0.8	1	44.442			
			C	0.562	1.833		0.8	1	44.442			
T6 240.00-220.00	5347.21	4233.70	A	0.559	1.836	8	0.8	1	44.057	1433.87	71.69	A
			B	0.559	1.836		0.8	1	44.057			
			C	0.559	1.836		0.8	1	44.057			
T7 220.00-200.00	6236.93	4524.25	A	0.562	1.833	8	0.8	1	44.601	1580.90	79.05	B
			B	0.562	1.833		0.8	1	44.601			
			C	0.562	1.833		0.8	1	44.601			
T8 200.00-180.00	8528.13	5417.08	A	0.582	1.816	8	0.8	1	47.143	1555.05*	77.75	C
			B	0.582	1.816		0.8	1	47.143			
			C	0.582	1.816		0.8	1	47.143			
T9 180.00-160.00	9554.70	5371.46	A	0.578	1.819	8	0.8	1	46.632	1518.15*	75.91	C
		TA	B	0.578	1.819		0.8	1	46.632			
		2355.30	C	0.578	1.819		0.8	1	46.632			
T10 160.00-140.00	9895.80	4646.29	A	0.554	1.84	7	0.8	1	43.765	1477.69*	73.88	C
			B	0.554	1.84		0.8	1	43.765			
			C	0.554	1.84		0.8	1	43.765			
T11 140.00-120.00	10007.78	4592.43	A	0.549	1.845	7	0.8	1	43.152	1432.76*	71.64	C
			B	0.549	1.845		0.8	1	43.152			
			C	0.549	1.845		0.8	1	43.152			
T12 120.00-100.00	10149.88	4531.20	A	0.543	1.85	7	0.8	1	42.453	1382.06*	69.10	C
			B	0.543	1.85		0.8	1	42.453			
			C	0.543	1.85		0.8	1	42.453			
T13 100.00-80.00	10128.81	4459.95	A	0.536	1.857	7	0.8	1	41.637	1323.54*	66.18	C
			B	0.536	1.857		0.8	1	41.637			
			C	0.536	1.857		0.8	1	41.637			
T14 80.00-60.00	9920.74	4374.10	A	0.528	1.867	6	0.8	1	40.649	1253.77*	62.69	C
			B	0.528	1.867		0.8	1	40.649			
			C	0.528	1.867		0.8	1	40.649			
T15 60.00-40.00	9592.59	4264.80	A	0.517	1.879	6	0.8	1	39.385	1166.14*	58.31	C
			B	0.517	1.879		0.8	1	39.385			
			C	0.517	1.879		0.8	1	39.385			
T16 40.00-20.00	9216.82	4110.38	A	0.501	1.899	5	0.8	1	37.583	1044.76*	52.24	C
			B	0.501	1.899		0.8	1	37.583			
			C	0.501	1.899		0.8	1	37.583			
T17 20.00-12.00	3479.92	1889.78	A	0.546	1.848	5	0.8	1	16.946	365.09*	45.64	C
			B	0.546	1.848		0.8	1	16.946			
			C	0.546	1.848		0.8	1	16.946			
T18 12.00-6.67	2206.40	1309.20	A	0.429	2.009	5	0.8	1	8.152	239.89*	44.98	C
			B	0.429	2.009		0.8	1	8.152			
			C	0.429	2.009		0.8	1	8.152			
T19 6.67-0.00	2.53	1734.37	A	0.746	1.786	5	0.8	1	12.385	87.10	13.06	B
			B	0.746	1.786		0.8	1	12.385			
			C	0.746	1.786		0.8	1	12.385			
Sum Weight:	123364.95	78934.29			*2.1A _g limit					22126.75		

Tower Forces - With Ice - Wind 90 To Face

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	Project	16963002A	Date	17:26:05 10/09/17
	Client	AT&T Mobility	Designed by	gpenumatsa

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1 345.00-330.00	539.17	1728.55	A	0.823	1.835	9	0.85	1	32.562	645.51	43.03	C
			B	0.823	1.835		0.85	1	32.562			
			C	0.823	1.835		0.85	1	32.562			
T1 330.00-320.00	1552.97	2644.09	A	0.615	1.795	9	0.85	1	25.517	543.01	54.30	C
			B	0.615	1.795		0.85	1	25.517			
			C	0.615	1.795		0.85	1	25.517			
T2 320.00-300.00	3411.34	4104.24	A	0.561	1.833	9	0.85	1	44.461	1118.42	55.92	C
			B	0.561	1.833		0.85	1	44.461			
			C	0.561	1.833		0.85	1	44.461			
T3 300.00-280.00	4084.88	4076.71	A	0.559	1.835	9	0.85	1	44.146	1232.22	61.61	B
			B	0.559	1.835		0.85	1	44.146			
			C	0.559	1.835		0.85	1	44.146			
T4 280.00-260.00	4575.69	4298.98	A	0.565	1.83	8	0.85	1	44.802	1316.21	65.81	B
			B	0.565	1.83		0.85	1	44.802			
			C	0.565	1.83		0.85	1	44.802			
T5 260.00-240.00	4932.65	4267.42	A	0.562	1.833	8	0.85	1	44.442	1373.04	68.65	B
			B	0.562	1.833		0.85	1	44.442			
			C	0.562	1.833		0.85	1	44.442			
T6 240.00-220.00	5347.21	4233.70	A	0.559	1.836	8	0.85	1	44.057	1435.71	71.79	B
			B	0.559	1.836		0.85	1	44.057			
			C	0.559	1.836		0.85	1	44.057			
T7 220.00-200.00	6236.93	4524.25	A	0.562	1.833	8	0.85	1	44.601	1583.04*	79.15	B
			B	0.562	1.833		0.85	1	44.601			
			C	0.562	1.833		0.85	1	44.601			
T8 200.00-180.00	8528.13	5417.08	A	0.582	1.816	8	0.85	1	47.143	1555.05*	77.75	C
			B	0.582	1.816		0.85	1	47.143			
			C	0.582	1.816		0.85	1	47.143			
T9 180.00-160.00	9554.70	5371.46	A	0.578	1.819	8	0.85	1	46.632	1518.15*	75.91	C
		TA	B	0.578	1.819		0.85	1	46.632			
		2355.30	C	0.578	1.819		0.85	1	46.632			
T10 160.00-140.00	9895.80	4646.29	A	0.554	1.84	7	0.85	1	43.765	1477.69*	73.88	C
			B	0.554	1.84		0.85	1	43.765			
			C	0.554	1.84		0.85	1	43.765			
T11 140.00-120.00	10007.78	4592.43	A	0.549	1.845	7	0.85	1	43.152	1432.76*	71.64	C
			B	0.549	1.845		0.85	1	43.152			
			C	0.549	1.845		0.85	1	43.152			
T12 120.00-100.00	10149.88	4531.20	A	0.543	1.85	7	0.85	1	42.453	1382.06*	69.10	C
			B	0.543	1.85		0.85	1	42.453			
			C	0.543	1.85		0.85	1	42.453			
T13 100.00-80.00	10128.81	4459.95	A	0.536	1.857	7	0.85	1	41.637	1323.54*	66.18	C
			B	0.536	1.857		0.85	1	41.637			
			C	0.536	1.857		0.85	1	41.637			
T14 80.00-60.00	9920.74	4374.10	A	0.528	1.867	6	0.85	1	40.649	1253.77*	62.69	C
			B	0.528	1.867		0.85	1	40.649			
			C	0.528	1.867		0.85	1	40.649			
T15 60.00-40.00	9592.59	4264.80	A	0.517	1.879	6	0.85	1	39.385	1166.14*	58.31	C
			B	0.517	1.879		0.85	1	39.385			
			C	0.517	1.879		0.85	1	39.385			
T16 40.00-20.00	9216.82	4110.38	A	0.501	1.899	5	0.85	1	37.583	1044.76*	52.24	C
			B	0.501	1.899		0.85	1	37.583			
			C	0.501	1.899		0.85	1	37.583			
T17 20.00-12.00	3479.92	1889.78	A	0.546	1.848	5	0.85	1	16.946	365.09*	45.64	C
			B	0.546	1.848		0.85	1	16.946			
			C	0.546	1.848		0.85	1	16.946			
T18 12.00-6.67	2206.40	1309.20	A	0.429	2.009	5	0.85	1	8.168	239.89*	44.98	C
			B	0.429	2.009		0.85	1	8.168			
			C	0.429	2.009		0.85	1	8.168			
T19 6.67-0.00	2.53	1734.37	A	0.746	1.786	5	0.85	1	12.410	87.27	13.09	C
			B	0.746	1.786		0.85	1	12.410			
			C	0.746	1.786		0.85	1	12.410			

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Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
Sum Weight:	123364.95	78934.29			*2.1A _s limit					22093.35		

Tower Forces - Service - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
L1 345.00-330.00	143.92	343.53	A	0.155	2.755	13	1	1	3.429	210.72	14.05	C
			B	0.155	2.755		1	1	3.429			
			C	0.155	2.755		1	1	3.429			
T1 330.00-320.00	436.90	1037.73	A	0.161	2.73	13	1	1	4.896	321.83	32.18	C
			B	0.161	2.73		1	1	4.896			
			C	0.161	2.73		1	1	4.896			
T2 320.00-300.00	896.51	1553.07	A	0.151	2.766	13	1	1	8.916	652.43	32.62	C
			B	0.151	2.766		1	1	8.916			
			C	0.151	2.766		1	1	8.916			
T3 300.00-280.00	958.46	1553.07	A	0.151	2.766	12	1	1	8.916	731.64	36.58	C
			B	0.151	2.766		1	1	8.916			
			C	0.151	2.766		1	1	8.916			
T4 280.00-260.00	991.43	1728.92	A	0.16	2.734	12	1	1	9.465	787.68	39.38	C
			B	0.16	2.734		1	1	9.465			
			C	0.16	2.734		1	1	9.465			
T5 260.00-240.00	1015.58	1728.92	A	0.16	2.734	12	1	1	9.465	816.91	40.85	C
			B	0.16	2.734		1	1	9.465			
			C	0.16	2.734		1	1	9.465			
T6 240.00-220.00	1066.16	1728.92	A	0.16	2.734	12	1	1	9.465	871.41	43.57	A
			B	0.16	2.734		1	1	9.465			
			C	0.16	2.734		1	1	9.465			
T7 220.00-200.00	1169.68	1999.24	A	0.171	2.697	12	1	1	10.139	1019.41	50.97	A
			B	0.171	2.697		1	1	10.139			
			C	0.171	2.697		1	1	10.139			
T8 200.00-180.00	1452.84	2728.70	A	0.199	2.6	11	1	1	11.943	1319.02	65.95	A
			B	0.199	2.6		1	1	11.943			
			C	0.199	2.6		1	1	11.943			
T9 180.00-160.00	1618.08	2728.70	A	0.199	2.6	11	1	1	11.943	1432.12	71.61	A
		TA	B	0.199	2.6		1	1	11.943			
		1159.20	C	0.199	2.6		1	1	11.943			
T10 160.00-140.00	1722.99	2220.23	A	0.178	2.671	11	1	1	10.634	1425.42	71.27	A
			B	0.178	2.671		1	1	10.634			
			C	0.178	2.671		1	1	10.634			
T11 140.00-120.00	1737.95	2220.23	A	0.178	2.671	10	1	1	10.634	1407.76	70.39	A
			B	0.178	2.671		1	1	10.634			
			C	0.178	2.671		1	1	10.634			
T12 120.00-100.00	1758.42	2220.23	A	0.178	2.671	10	1	1	10.634	1387.88	69.39	A
			B	0.178	2.671		1	1	10.634			
			C	0.178	2.671		1	1	10.634			
T13 100.00-80.00	1768.10	2220.23	A	0.178	2.671	10	1	1	10.634	1346.09	67.30	A
			B	0.178	2.671		1	1	10.634			
			C	0.178	2.671		1	1	10.634			
T14 80.00-60.00	1769.60	2220.23	A	0.178	2.671	9	1	1	10.634	1279.68	63.98	A
			B	0.178	2.671		1	1	10.634			
			C	0.178	2.671		1	1	10.634			

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Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
T15 60.00-40.00	1769.60	2220.23	A	0.178	2.671	9	1	1	10.634	1192.17	59.61	A
			B	0.178	2.671		1	1	10.634			
			C	0.178	2.671		1	1	10.634			
T16 40.00-20.00	1774.40	2220.23	A	0.178	2.671	8	1	1	10.634	1078.03	53.90	A
			B	0.178	2.671		1	1	10.634			
			C	0.178	2.671		1	1	10.634			
T17 20.00-12.00	710.24	1081.73	A	0.206	2.577	7	1	1	4.956	386.48	48.31	A
			B	0.206	2.577		1	1	4.956			
			C	0.206	2.577		1	1	4.956			
T18 12.00-6.67	473.49	797.42	A	0.169	2.703	7	1	1	2.817	249.43	46.77	A
			B	0.169	2.703		1	1	2.817			
			C	0.169	2.703		1	1	2.817			
T19 6.67-0.00	0.59	1120.68	A	0.327	2.226	7	1	1	3.841	48.65	7.30	A
			B	0.327	2.226		1	1	3.841			
			C	0.327	2.226		1	1	3.841			
Sum Weight:	23234.96	36831.44								17964.74		

Tower Forces - Service - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
L1 345.00-330.00	143.92	343.53	A	0.155	2.755	13	0.8	1	3.429	210.72	14.05	C
			B	0.155	2.755		0.8	1	3.429			
			C	0.155	2.755		0.8	1	3.429			
T1 330.00-320.00	436.90	1037.73	A	0.161	2.73	13	0.8	1	4.832	319.97	32.00	C
			B	0.161	2.73		0.8	1	4.832			
			C	0.161	2.73		0.8	1	4.832			
T2 320.00-300.00	896.51	1553.07	A	0.151	2.766	13	0.8	1	8.916	652.43	32.62	C
			B	0.151	2.766		0.8	1	8.916			
			C	0.151	2.766		0.8	1	8.916			
T3 300.00-280.00	958.46	1553.07	A	0.151	2.766	12	0.8	1	8.916	731.64	36.58	A
			B	0.151	2.766		0.8	1	8.916			
			C	0.151	2.766		0.8	1	8.916			
T4 280.00-260.00	991.43	1728.92	A	0.16	2.734	12	0.8	1	9.465	787.68	39.38	A
			B	0.16	2.734		0.8	1	9.465			
			C	0.16	2.734		0.8	1	9.465			
T5 260.00-240.00	1015.58	1728.92	A	0.16	2.734	12	0.8	1	9.465	816.91	40.85	A
			B	0.16	2.734		0.8	1	9.465			
			C	0.16	2.734		0.8	1	9.465			
T6 240.00-220.00	1066.16	1728.92	A	0.16	2.734	12	0.8	1	9.465	871.41	43.57	B
			B	0.16	2.734		0.8	1	9.465			
			C	0.16	2.734		0.8	1	9.465			
T7 220.00-200.00	1169.68	1999.24	A	0.171	2.697	12	0.8	1	10.139	1019.41	50.97	B
			B	0.171	2.697		0.8	1	10.139			
			C	0.171	2.697		0.8	1	10.139			
T8 200.00-180.00	1452.84	2728.70	A	0.199	2.6	11	0.8	1	11.943	1319.02	65.95	B
			B	0.199	2.6		0.8	1	11.943			
			C	0.199	2.6		0.8	1	11.943			
T9 180.00-160.00	1618.08	2728.70	A	0.199	2.6	11	0.8	1	11.943	1432.12	71.61	B
		TA	B	0.199	2.6		0.8	1	11.943			
		1159.20	C	0.199	2.6		0.8	1	11.943			
T10	1722.99	2220.23	A	0.178	2.671	11	0.8	1	10.634	1425.42	71.27	B

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Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
160.00-140.00			B	0.178	2.671		0.8	1	10.634			
			C	0.178	2.671		0.8	1	10.634			
T11	1737.95	2220.23	A	0.178	2.671	10	0.8	1	10.634	1407.76	70.39	B
140.00-120.00			B	0.178	2.671		0.8	1	10.634			
			C	0.178	2.671		0.8	1	10.634			
T12	1758.42	2220.23	A	0.178	2.671	10	0.8	1	10.634	1387.88	69.39	B
120.00-100.00			B	0.178	2.671		0.8	1	10.634			
			C	0.178	2.671		0.8	1	10.634			
T13	1768.10	2220.23	A	0.178	2.671	10	0.8	1	10.634	1346.09	67.30	B
100.00-80.00			B	0.178	2.671		0.8	1	10.634			
			C	0.178	2.671		0.8	1	10.634			
T14	1769.60	2220.23	A	0.178	2.671	9	0.8	1	10.634	1279.68	63.98	B
80.00-60.00			B	0.178	2.671		0.8	1	10.634			
			C	0.178	2.671		0.8	1	10.634			
T15	1769.60	2220.23	A	0.178	2.671	9	0.8	1	10.634	1192.17	59.61	B
60.00-40.00			B	0.178	2.671		0.8	1	10.634			
			C	0.178	2.671		0.8	1	10.634			
T16	1774.40	2220.23	A	0.178	2.671	8	0.8	1	10.634	1078.03	53.90	B
40.00-20.00			B	0.178	2.671		0.8	1	10.634			
			C	0.178	2.671		0.8	1	10.634			
T17	710.24	1081.73	A	0.206	2.577	7	0.8	1	4.956	386.48	48.31	B
20.00-12.00			B	0.206	2.577		0.8	1	4.956			
			C	0.206	2.577		0.8	1	4.956			
T18	473.49	797.42	A	0.169	2.703	7	0.8	1	2.755	248.48	46.59	B
12.00-6.67			B	0.169	2.703		0.8	1	2.755			
			C	0.169	2.703		0.8	1	2.755			
T19 6.67-0.00	0.59	1120.68	A	0.327	2.226	7	0.8	1	3.738	47.35	7.10	B
			B	0.327	2.226		0.8	1	3.738			
			C	0.327	2.226		0.8	1	3.738			
Sum Weight:	23234.96	36831.44								17960.62		

Tower Forces - Service - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
L1	143.92	343.53	A	0.155	2.755	13	0.85	1	3.429	210.72	14.05	C
345.00-330.00			B	0.155	2.755		0.85	1	3.429			
			C	0.155	2.755		0.85	1	3.429			
T1	436.90	1037.73	A	0.161	2.73	13	0.85	1	4.848	320.44	32.04	C
330.00-320.00			B	0.161	2.73		0.85	1	4.848			
			C	0.161	2.73		0.85	1	4.848			
T2	896.51	1553.07	A	0.151	2.766	13	0.85	1	8.916	652.43	32.62	C
320.00-300.00			B	0.151	2.766		0.85	1	8.916			
			C	0.151	2.766		0.85	1	8.916			
T3	958.46	1553.07	A	0.151	2.766	12	0.85	1	8.916	731.64	36.58	B
300.00-280.00			B	0.151	2.766		0.85	1	8.916			
			C	0.151	2.766		0.85	1	8.916			
T4	991.43	1728.92	A	0.16	2.734	12	0.85	1	9.465	787.68	39.38	B
280.00-260.00			B	0.16	2.734		0.85	1	9.465			
			C	0.16	2.734		0.85	1	9.465			
T5	1015.58	1728.92	A	0.16	2.734	12	0.85	1	9.465	816.91	40.85	B
260.00-240.00			B	0.16	2.734		0.85	1	9.465			

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Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
T6	1066.16	1728.92	C	0.16	2.734		0.85	1	9.465			
240.00-220.00			A	0.16	2.734	12	0.85	1	9.465	877.36	43.87	B
			B	0.16	2.734		0.85	1	9.465			
			C	0.16	2.734		0.85	1	9.465			
T7	1169.68	1999.24	A	0.171	2.697	12	0.85	1	10.139	1025.25	51.26	B
220.00-200.00			B	0.171	2.697		0.85	1	10.139			
			C	0.171	2.697		0.85	1	10.139			
T8	1452.84	2728.70	A	0.199	2.6	11	0.85	1	11.943	1353.39	67.67	C
200.00-180.00			B	0.199	2.6		0.85	1	11.943			
			C	0.199	2.6		0.85	1	11.943			
T9	1618.08	2728.70	A	0.199	2.6	11	0.85	1	11.943	1471.67	73.58	C
180.00-160.00		TA	B	0.199	2.6		0.85	1	11.943			
		1159.20	C	0.199	2.6		0.85	1	11.943			
T10	1722.99	2220.23	A	0.178	2.671	11	0.85	1	10.634	1470.38	73.52	C
160.00-140.00			B	0.178	2.671		0.85	1	10.634			
			C	0.178	2.671		0.85	1	10.634			
T11	1737.95	2220.23	A	0.178	2.671	10	0.85	1	10.634	1451.38	72.57	C
140.00-120.00			B	0.178	2.671		0.85	1	10.634			
			C	0.178	2.671		0.85	1	10.634			
T12	1758.42	2220.23	A	0.178	2.671	10	0.85	1	10.634	1430.00	71.50	C
120.00-100.00			B	0.178	2.671		0.85	1	10.634			
			C	0.178	2.671		0.85	1	10.634			
T13	1768.10	2220.23	A	0.178	2.671	10	0.85	1	10.634	1386.47	69.32	C
100.00-80.00			B	0.178	2.671		0.85	1	10.634			
			C	0.178	2.671		0.85	1	10.634			
T14	1769.60	2220.23	A	0.178	2.671	9	0.85	1	10.634	1317.97	65.90	C
80.00-60.00			B	0.178	2.671		0.85	1	10.634			
			C	0.178	2.671		0.85	1	10.634			
T15	1769.60	2220.23	A	0.178	2.671	9	0.85	1	10.634	1227.84	61.39	C
60.00-40.00			B	0.178	2.671		0.85	1	10.634			
			C	0.178	2.671		0.85	1	10.634			
T16	1774.40	2220.23	A	0.178	2.671	8	0.85	1	10.634	1107.59	55.38	C
40.00-20.00			B	0.178	2.671		0.85	1	10.634			
			C	0.178	2.671		0.85	1	10.634			
T17	710.24	1081.73	A	0.206	2.577	7	0.85	1	4.956	396.62	49.58	C
20.00-12.00			B	0.206	2.577		0.85	1	4.956			
			C	0.206	2.577		0.85	1	4.956			
T18	473.49	797.42	A	0.169	2.703	7	0.85	1	2.770	255.40	47.89	C
12.00-6.67			B	0.169	2.703		0.85	1	2.770			
			C	0.169	2.703		0.85	1	2.770			
T19 6.67-0.00	0.59	1120.68	A	0.327	2.226	7	0.85	1	3.763	47.69	7.15	C
			B	0.327	2.226		0.85	1	3.763			
			C	0.327	2.226		0.85	1	3.763			
Sum Weight:	23234.96	36831.44								18338.79		

Force Totals (Does not include forces on guys)

Load Case	Vertical Forces	Sum of Forces X lb	Sum of Forces Z lb	Sum of Torques kip-ft
	lb			
Leg Weight	18708.78			
Bracing Weight	18122.66			
Total Member Self-Weight	36831.44			

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Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Torques kip-ft
Guy Weight	7656.18			
Total Weight	81401.92			
Wind 0 deg - No Ice		-113.83	-73353.44	-3.61
Wind 30 deg - No Ice		36260.90	-62686.31	-0.65
Wind 60 deg - No Ice		65267.32	-37481.72	1.96
Wind 90 deg - No Ice		76477.45	113.83	4.19
Wind 120 deg - No Ice		65677.45	37849.95	5.65
Wind 150 deg - No Ice		37495.24	64596.59	5.47
Wind 180 deg - No Ice		113.83	73341.07	3.60
Wind 210 deg - No Ice		-36260.90	62686.31	0.65
Wind 240 deg - No Ice		-65278.03	37487.91	-1.96
Wind 270 deg - No Ice		-76477.45	-113.83	-4.19
Wind 300 deg - No Ice		-65666.74	-37843.76	-5.65
Wind 330 deg - No Ice		-37495.24	-64596.59	-5.47
Member Ice	42102.85			
Guy Ice	28863.25			
Total Weight Ice	279670.04			
Wind 0 deg - Ice		-28.85	-31925.08	-2.22
Wind 30 deg - Ice		15923.49	-27549.59	0.16
Wind 60 deg - Ice		27523.51	-15839.67	2.49
Wind 90 deg - Ice		31795.69	28.85	4.13
Wind 120 deg - Ice		27634.22	15936.89	4.68
Wind 150 deg - Ice		16019.31	27657.86	3.99
Wind 180 deg - Ice		28.85	31923.51	2.22
Wind 210 deg - Ice		-15923.49	27549.59	-0.16
Wind 240 deg - Ice		-27524.87	15840.46	-2.49
Wind 270 deg - Ice		-31795.69	-28.85	-4.13
Wind 300 deg - Ice		-27632.85	-15936.11	-4.68
Wind 330 deg - Ice		-16019.31	-27657.86	-3.99
Total Weight	81401.92			
Wind 0 deg - Service		-37.89	-24414.98	-1.20
Wind 30 deg - Service		12069.09	-20864.52	-0.22
Wind 60 deg - Service		21723.59	-12475.43	0.65
Wind 90 deg - Service		25454.77	37.89	1.39
Wind 120 deg - Service		21860.10	12597.99	1.88
Wind 150 deg - Service		12479.93	21500.35	1.82
Wind 180 deg - Service		37.89	24410.86	1.20
Wind 210 deg - Service		-12069.09	20864.52	0.22
Wind 240 deg - Service		-21727.16	12477.48	-0.65
Wind 270 deg - Service		-25454.77	-37.89	-1.39
Wind 300 deg - Service		-21856.53	-12595.93	-1.88
Wind 330 deg - Service		-12479.93	-21500.35	-1.82

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice+1.0 Guy
3	1.2D+1.6W (pattern 1) 0 deg - No Ice+1.0 Guy
4	1.2D+1.6W (pattern 2) 0 deg - No Ice+1.0 Guy
5	1.2D+1.6W (pattern 3) 0 deg - No Ice+1.0 Guy
6	1.2D+1.6W (pattern 4) 0 deg - No Ice+1.0 Guy
7	1.2D+1.6W (pattern 5) 0 deg - No Ice+1.0 Guy

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Comb. No.	Description
8	1.2D+1.6W (pattern 6) 0 deg - No Ice+1.0 Guy
9	1.2 Dead+1.6 Wind 30 deg - No Ice+1.0 Guy
10	1.2D+1.6W (pattern 1) 30 deg - No Ice+1.0 Guy
11	1.2D+1.6W (pattern 2) 30 deg - No Ice+1.0 Guy
12	1.2D+1.6W (pattern 3) 30 deg - No Ice+1.0 Guy
13	1.2D+1.6W (pattern 4) 30 deg - No Ice+1.0 Guy
14	1.2D+1.6W (pattern 5) 30 deg - No Ice+1.0 Guy
15	1.2D+1.6W (pattern 6) 30 deg - No Ice+1.0 Guy
16	1.2 Dead+1.6 Wind 60 deg - No Ice+1.0 Guy
17	1.2D+1.6W (pattern 1) 60 deg - No Ice+1.0 Guy
18	1.2D+1.6W (pattern 2) 60 deg - No Ice+1.0 Guy
19	1.2D+1.6W (pattern 3) 60 deg - No Ice+1.0 Guy
20	1.2D+1.6W (pattern 4) 60 deg - No Ice+1.0 Guy
21	1.2D+1.6W (pattern 5) 60 deg - No Ice+1.0 Guy
22	1.2D+1.6W (pattern 6) 60 deg - No Ice+1.0 Guy
23	1.2 Dead+1.6 Wind 90 deg - No Ice+1.0 Guy
24	1.2D+1.6W (pattern 1) 90 deg - No Ice+1.0 Guy
25	1.2D+1.6W (pattern 2) 90 deg - No Ice+1.0 Guy
26	1.2D+1.6W (pattern 3) 90 deg - No Ice+1.0 Guy
27	1.2D+1.6W (pattern 4) 90 deg - No Ice+1.0 Guy
28	1.2D+1.6W (pattern 5) 90 deg - No Ice+1.0 Guy
29	1.2D+1.6W (pattern 6) 90 deg - No Ice+1.0 Guy
30	1.2 Dead+1.6 Wind 120 deg - No Ice+1.0 Guy
31	1.2D+1.6W (pattern 1) 120 deg - No Ice+1.0 Guy
32	1.2D+1.6W (pattern 2) 120 deg - No Ice+1.0 Guy
33	1.2D+1.6W (pattern 3) 120 deg - No Ice+1.0 Guy
34	1.2D+1.6W (pattern 4) 120 deg - No Ice+1.0 Guy
35	1.2D+1.6W (pattern 5) 120 deg - No Ice+1.0 Guy
36	1.2D+1.6W (pattern 6) 120 deg - No Ice+1.0 Guy
37	1.2 Dead+1.6 Wind 150 deg - No Ice+1.0 Guy
38	1.2D+1.6W (pattern 1) 150 deg - No Ice+1.0 Guy
39	1.2D+1.6W (pattern 2) 150 deg - No Ice+1.0 Guy
40	1.2D+1.6W (pattern 3) 150 deg - No Ice+1.0 Guy
41	1.2D+1.6W (pattern 4) 150 deg - No Ice+1.0 Guy
42	1.2D+1.6W (pattern 5) 150 deg - No Ice+1.0 Guy
43	1.2D+1.6W (pattern 6) 150 deg - No Ice+1.0 Guy
44	1.2 Dead+1.6 Wind 180 deg - No Ice+1.0 Guy
45	1.2D+1.6W (pattern 1) 180 deg - No Ice+1.0 Guy
46	1.2D+1.6W (pattern 2) 180 deg - No Ice+1.0 Guy
47	1.2D+1.6W (pattern 3) 180 deg - No Ice+1.0 Guy
48	1.2D+1.6W (pattern 4) 180 deg - No Ice+1.0 Guy
49	1.2D+1.6W (pattern 5) 180 deg - No Ice+1.0 Guy
50	1.2D+1.6W (pattern 6) 180 deg - No Ice+1.0 Guy
51	1.2 Dead+1.6 Wind 210 deg - No Ice+1.0 Guy
52	1.2D+1.6W (pattern 1) 210 deg - No Ice+1.0 Guy
53	1.2D+1.6W (pattern 2) 210 deg - No Ice+1.0 Guy
54	1.2D+1.6W (pattern 3) 210 deg - No Ice+1.0 Guy
55	1.2D+1.6W (pattern 4) 210 deg - No Ice+1.0 Guy
56	1.2D+1.6W (pattern 5) 210 deg - No Ice+1.0 Guy
57	1.2D+1.6W (pattern 6) 210 deg - No Ice+1.0 Guy
58	1.2 Dead+1.6 Wind 240 deg - No Ice+1.0 Guy
59	1.2D+1.6W (pattern 1) 240 deg - No Ice+1.0 Guy
60	1.2D+1.6W (pattern 2) 240 deg - No Ice+1.0 Guy
61	1.2D+1.6W (pattern 3) 240 deg - No Ice+1.0 Guy
62	1.2D+1.6W (pattern 4) 240 deg - No Ice+1.0 Guy
63	1.2D+1.6W (pattern 5) 240 deg - No Ice+1.0 Guy
64	1.2D+1.6W (pattern 6) 240 deg - No Ice+1.0 Guy
65	1.2 Dead+1.6 Wind 270 deg - No Ice+1.0 Guy
66	1.2D+1.6W (pattern 1) 270 deg - No Ice+1.0 Guy
67	1.2D+1.6W (pattern 2) 270 deg - No Ice+1.0 Guy
68	1.2D+1.6W (pattern 3) 270 deg - No Ice+1.0 Guy
69	1.2D+1.6W (pattern 4) 270 deg - No Ice+1.0 Guy

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Comb. No.	Description
70	1.2D+1.6W (pattern 5) 270 deg - No Ice+1.0 Guy
71	1.2D+1.6W (pattern 6) 270 deg - No Ice+1.0 Guy
72	1.2 Dead+1.6 Wind 300 deg - No Ice+1.0 Guy
73	1.2D+1.6W (pattern 1) 300 deg - No Ice+1.0 Guy
74	1.2D+1.6W (pattern 2) 300 deg - No Ice+1.0 Guy
75	1.2D+1.6W (pattern 3) 300 deg - No Ice+1.0 Guy
76	1.2D+1.6W (pattern 4) 300 deg - No Ice+1.0 Guy
77	1.2D+1.6W (pattern 5) 300 deg - No Ice+1.0 Guy
78	1.2D+1.6W (pattern 6) 300 deg - No Ice+1.0 Guy
79	1.2 Dead+1.6 Wind 330 deg - No Ice+1.0 Guy
80	1.2D+1.6W (pattern 1) 330 deg - No Ice+1.0 Guy
81	1.2D+1.6W (pattern 2) 330 deg - No Ice+1.0 Guy
82	1.2D+1.6W (pattern 3) 330 deg - No Ice+1.0 Guy
83	1.2D+1.6W (pattern 4) 330 deg - No Ice+1.0 Guy
84	1.2D+1.6W (pattern 5) 330 deg - No Ice+1.0 Guy
85	1.2D+1.6W (pattern 6) 330 deg - No Ice+1.0 Guy
86	1.2 Dead+1.0 Ice+1.0 Temp+Guy
87	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy
88	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy
89	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy
90	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy
91	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy
92	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy
93	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy
94	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy
95	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy
96	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy
97	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy
98	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy
99	Dead+Wind 0 deg - Service+Guy
100	Dead+Wind 30 deg - Service+Guy
101	Dead+Wind 60 deg - Service+Guy
102	Dead+Wind 90 deg - Service+Guy
103	Dead+Wind 120 deg - Service+Guy
104	Dead+Wind 150 deg - Service+Guy
105	Dead+Wind 180 deg - Service+Guy
106	Dead+Wind 210 deg - Service+Guy
107	Dead+Wind 240 deg - Service+Guy
108	Dead+Wind 270 deg - Service+Guy
109	Dead+Wind 300 deg - Service+Guy
110	Dead+Wind 330 deg - Service+Guy

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	345 - 330	Latticed Pole Leg	Max Tension	47	8667.31	0.01	0.10
			Max. Compression	33	-9299.40	0.00	0.00
			Max. Mx	61	-8292.52	-0.10	0.03
			Max. My	5	264.97	-0.01	-0.12
			Max. Vy	61	-1249.92	0.00	0.00
			Max. Vx	5	-1284.19	0.00	0.00
		Latticed Pole Diagonal	Max Tension	68	1357.45	0.00	0.00
			Max. Compression	68	-1358.84	0.00	0.00
			Max. Mx	91	155.91	-0.00	0.00
			Max. My	19	-1226.59	-0.00	0.00
			Max. Vy	92	5.26	-0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	330 - 320	Latticed Pole Top Girt	Max. Vx	68	0.26	-0.00	-0.00
			Max Tension	33	21.25	0.00	0.00
			Max. Compression	19	-22.64	0.00	0.00
			Max. Mx	90	-1.89	0.01	0.00
			Max. My	33	-10.90	0.00	-0.00
			Max. Vy	90	10.01	0.00	0.00
		Latticed Pole Mid Girt	Max. Vx	33	0.00	0.00	0.00
			Max Tension	61	90.71	0.00	0.00
			Max. Compression	75	-85.29	0.00	0.00
			Max. Mx	90	-10.22	0.01	0.00
			Max. My	33	-38.92	0.00	-0.00
			Max. Vy	90	10.01	0.00	0.00
		Leg	Max. Vx	33	0.00	0.00	0.00
			Max Tension	64	6014.43	0.31	-0.18
			Max. Compression	50	-29170.13	-0.01	0.22
			Max. Mx	94	-2913.93	-4.80	2.71
			Max. My	87	-2862.46	-0.00	-5.53
			Max. Vy	95	-58596.41	0.09	-0.05
		Diagonal	Max. Vx	87	-67505.24	-0.00	0.10
			Max Tension	57	2086.56	0.00	0.00
			Max. Compression	57	-2107.70	0.00	0.00
			Max. Mx	92	1591.13	-0.01	-0.00
			Max. My	46	-1694.59	-0.00	-0.00
			Max. Vy	91	15.19	-0.01	-0.00
		Top Girt	Max. Vx	87	0.12	0.00	0.00
			Max Tension	96	40220.28	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	90	40218.27	0.12	0.00
			Max. My	33	187.45	0.00	-0.00
			Max. Vy	90	93.92	0.00	0.00
		Bottom Girt	Max. Vx	33	0.00	0.00	0.00
			Max Tension	64	368.64	0.00	0.00
			Max. Compression	50	-257.89	0.00	0.00
			Max. Mx	90	152.56	0.03	0.00
			Max. My	33	-62.05	0.00	-0.00
			Max. Vy	90	-25.04	0.00	0.00
		Mid Girt	Max. Vx	33	0.00	0.00	0.00
			Max Tension	95	739.16	0.00	0.00
			Max. Compression	50	-75.44	0.00	0.00
			Max. Mx	90	728.18	0.03	0.00
			Max. My	33	7.05	0.00	-0.00
			Max. Vy	90	-25.04	0.00	0.00
		Guy A	Max. Vx	33	0.00	0.00	0.00
			Bottom Tension	53	24560.01		
			Top Tension	53	24912.31		
			Top Cable Vert	53	21985.39		
			Top Cable Norm	53	11714.96		
			Top Cable Tan	53	158.64		
		Guy B	Bot Cable Vert	53	-21153.17		
			Bot Cable Norm	53	12472.66		
			Bot Cable Tan	53	413.01		
			Bottom Tension	81	22824.51		
			Top Tension	81	23139.12		
			Top Cable Vert	81	19850.67		
			Top Cable Norm	81	11888.88		
			Top Cable Tan	81	156.12		
			Bot Cable Vert	81	-19062.34		
			Bot Cable Norm	81	12547.81		
			Bot Cable Tan	81	371.52		

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T2	320 - 300	Guy C	Bottom Tension	11	22748.72		
			Top Tension	11	23063.24		
			Top Cable Vert	11	19786.65		
			Top Cable Norm	11	11848.14		
			Top Cable Tan	11	151.93		
			Bot Cable Vert	11	-18998.32		
			Bot Cable Norm	11	12507.08		
			Bot Cable Tan	11	375.71		
		Leg	Max Tension	36	12186.33	-0.03	0.04
			Max. Compression	50	-35068.51	0.04	-0.08
			Max. Mx	80	-16238.90	0.42	0.12
			Max. My	38	-15815.35	0.10	-0.41
			Max. Vy	76	-2371.61	0.37	0.10
			Max. Vx	41	2533.06	0.08	-0.41
			Max Tension	76	2463.63	0.00	0.00
			Max. Compression	76	-2657.28	0.00	0.00
		Diagonal	Max. Mx	92	-793.18	-0.01	0.00
			Max. My	76	-2636.86	-0.00	-0.00
			Max. Vy	91	14.37	-0.01	0.00
			Max. Vx	76	0.96	-0.00	-0.00
			Max Tension	50	280.26	0.00	0.00
			Max. Compression	36	-244.95	0.00	0.00
			Max. Mx	90	-8.98	0.03	0.00
			Max. My	33	134.68	0.00	-0.00
		Top Girt	Max. Vy	90	24.91	0.00	0.00
			Max. Vx	33	0.00	0.00	0.00
			Max Tension	48	16.44	0.00	0.00
			Max. Compression	6	-887.47	0.00	0.00
			Max. Mx	96	-232.59	0.03	0.00
			Max. My	33	-333.26	0.00	-0.00
			Max. Vy	96	24.91	0.00	0.00
			Max. Vx	33	0.00	0.00	0.00
		Bottom Girt	Max Tension	36	178.99	0.00	0.00
			Max. Compression	50	-33.77	0.00	0.00
			Max. Mx	90	117.13	0.03	0.00
			Max. My	33	44.06	0.00	-0.00
			Max. Vy	90	24.91	0.00	0.00
			Max. Vx	33	0.00	0.00	0.00
		Mid Girt	Max Tension	36	10954.01	-0.46	-0.15
			Max. Compression	43	-49129.85	-0.02	0.20
			Max. Mx	25	-43335.14	0.72	0.11
			Max. My	41	-15254.94	0.07	-0.62
			Max. Vy	75	-3252.21	0.33	-0.07
			Max. Vx	47	2621.28	0.13	-0.25
			Max Tension	3	7385.18	0.00	0.00
			Max. Compression	75	-4295.80	0.00	0.00
T3	300 - 280	Leg	Max. Mx	98	922.43	-0.01	-0.00
			Max. My	3	4812.87	0.01	-0.07
			Max. Vy	91	15.56	-0.01	0.00
			Max. Vx	3	-23.82	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	3	-1163.78	0.00	0.00
			Max. Mx	96	-794.32	0.03	0.00
			Max. My	33	-1017.57	0.00	-0.00
		Diagonal	Max. Vy	96	-24.73	0.00	0.00
			Max. Vx	33	0.00	0.00	0.00
			Max Tension	19	445.36	0.00	0.00
			Max. Compression	33	-97.41	0.00	0.00
			Max. Mx	98	150.05	0.03	0.00
			Max. My	40	130.35	0.00	-0.00
			Max. Vy	98	-24.73	0.00	0.00
		Top Girt	Max. Vx	33	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	3	-1163.78	0.00	0.00
			Max. Mx	96	-794.32	0.03	0.00
			Max. My	33	-1017.57	0.00	-0.00
			Max. Vy	96	-24.73	0.00	0.00
			Max. Vx	33	0.00	0.00	0.00
		Bottom Girt	Max Tension	19	445.36	0.00	0.00
			Max. Compression	33	-97.41	0.00	0.00
			Max. Mx	98	150.05	0.03	0.00
			Max. My	40	130.35	0.00	-0.00
			Max. Vy	98	-24.73	0.00	0.00
			Max. Vx	33	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	3	-1163.78	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T4	280 - 260	Mid Girt	Max. Vx	40	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	5	-319.94	0.00	0.00
			Max. Mx	95	-83.02	0.03	0.00
			Max. My	33	-170.92	0.00	-0.00
			Max. Vy	95	-24.73	0.00	0.00
		Guy A	Max. Vx	33	0.00	0.00	0.00
			Bottom Tension	52	17609.88		
			Top Tension	52	17822.90		
			Top Cable Vert	52	15374.57		
			Top Cable Norm	52	9014.68		
			Top Cable Tan	52	117.65		
			Bot Cable Vert	52	-14796.04		
			Bot Cable Norm	52	9544.34		
			Bot Cable Tan	52	301.17		
		Guy B	Bottom Tension	80	16513.83		
			Top Tension	80	16701.84		
			Top Cable Vert	80	13890.77		
			Top Cable Norm	80	9272.84		
			Top Cable Tan	80	112.83		
			Bot Cable Vert	80	-13345.08		
			Bot Cable Norm	80	9723.26		
			Bot Cable Tan	80	271.43		
		Guy C	Bottom Tension	10	16476.37		
			Top Tension	10	16664.32		
			Top Cable Vert	10	13860.12		
			Top Cable Norm	10	9251.20		
			Top Cable Tan	10	110.23		
			Bot Cable Vert	10	-13314.43		
			Bot Cable Norm	10	9701.63		
			Bot Cable Tan	10	274.02		
		Leg	Max Tension	35	6389.15	-0.37	-0.43
			Max. Compression	43	-81272.02	0.21	0.39
			Max. Mx	75	-25092.75	0.60	-0.11
			Max. My	83	-69769.13	0.25	0.62
			Max. Vy	75	-3238.17	0.60	-0.11
			Max. Vx	83	3590.90	0.25	0.62
		Diagonal	Max Tension	83	5768.82	0.00	0.00
			Max. Compression	83	-5517.11	0.00	0.00
			Max. Mx	90	1432.23	-0.01	0.00
			Max. My	75	-4836.21	-0.00	-0.01
			Max. Vy	90	16.81	-0.01	0.00
			Max. Vx	75	2.03	-0.00	-0.01
		Top Girt	Max Tension	5	697.75	0.00	0.00
			Max. Compression	47	-273.62	0.00	0.00
			Max. Mx	88	224.51	0.03	0.00
			Max. My	40	240.99	0.00	-0.00
			Max. Vy	88	-24.53	0.00	0.00
		Bottom Girt	Max. Vx	40	0.00	0.00	0.00
			Max Tension	6	986.73	0.00	0.00
			Max. Compression	76	-431.58	0.00	0.00
			Max. Mx	94	116.30	0.03	0.00
			Max. My	40	315.24	0.00	-0.00
			Max. Vy	94	-24.53	0.00	0.00
		Mid Girt	Max. Vx	40	0.00	0.00	0.00
			Max Tension	3	8672.43	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	91	2976.84	0.03	0.00
			Max. My	40	4655.84	0.00	-0.00
			Max. Vy	91	-24.53	0.00	0.00
			Max. Vx	40	0.00	0.00	0.00

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			Designed by gpenumatsa

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T5	260 - 240	Guy A	Bottom Tension	38	38299.53		
			Top Tension	38	38714.87		
			Top Cable Vert	38	32459.67		
			Top Cable Norm	38	21099.86		
			Top Cable Tan	38	79.88		
			Bot Cable Vert	38	-31515.49		
			Bot Cable Norm	38	21757.99		
		Guy B	Bot Cable Tan	38	466.84		
			Bottom Tension	80	36176.93		
			Top Tension	80	36538.51		
			Top Cable Vert	80	29255.39		
			Top Cable Norm	80	21890.17		
			Top Cable Tan	80	75.18		
			Bot Cable Vert	80	-28375.90		
		Guy C	Bot Cable Norm	80	22436.57		
			Bot Cable Tan	80	423.65		
			Bottom Tension	10	36108.49		
			Top Tension	10	36470.01		
			Top Cable Vert	10	29201.31		
			Top Cable Norm	10	21848.11		
			Top Cable Tan	10	70.98		
		Leg	Bot Cable Vert	10	-28321.82		
			Bot Cable Norm	10	22394.51		
			Bot Cable Tan	10	427.85		
			Max Tension	35	21562.68	0.05	-0.16
			Max. Compression	49	-96965.17	0.03	0.17
			Max. Mx	20	-68531.39	0.63	-0.41
			Max. My	48	-72640.91	0.20	0.73
		Diagonal	Max. Vy	20	-3077.58	0.37	-0.24
			Max. Vx	83	3581.98	-0.25	-0.38
			Max Tension	83	4589.27	0.00	0.00
			Max. Compression	83	-4856.10	0.00	0.00
			Max. Mx	88	-312.42	-0.01	0.00
			Max. My	43	-4592.92	-0.00	0.00
			Max. Vy	90	17.03	-0.01	0.00
		Top Girt	Max. Vx	43	-1.78	-0.00	0.00
			Max Tension	76	606.67	0.00	0.00
			Max. Compression	6	-93.27	0.00	0.00
			Max. Mx	94	295.37	0.03	0.00
			Max. My	40	199.45	0.00	-0.00
			Max. Vy	94	24.33	0.00	0.00
			Max. Vx	40	0.00	0.00	0.00
		Bottom Girt	Max Tension	62	452.02	0.00	0.00
			Max. Compression	76	-173.01	0.00	0.00
			Max. Mx	98	115.57	0.03	0.00
			Max. My	39	200.01	0.00	-0.00
			Max. Vy	98	24.33	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
		Mid Girt	Max Tension	36	825.82	0.00	0.00
			Max. Compression	49	-247.50	0.00	0.00
			Max. Mx	87	217.82	0.03	0.00
			Max. My	39	300.02	0.00	-0.00
			Max. Vy	87	24.33	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
		Leg	Max Tension	35	21586.22	-0.07	0.15
			Max. Compression	49	-97396.79	0.00	0.16
			Max. Mx	28	-44843.56	0.84	0.09
			Max. My	50	-11013.89	0.03	0.84
			Max. Vy	32	4544.45	-0.65	-0.19
			Max. Vx	4	-4399.28	-0.08	0.64
		Diagonal	Max Tension	25	4897.03	0.00	0.00
T6	240 - 220						

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T7	220 - 200	Top Girt	Max. Compression	25	-5243.87	0.00	0.00
			Max. Mx	88	-977.49	-0.01	0.00
			Max. My	78	-4939.56	-0.01	-0.00
			Max. Vy	91	17.02	-0.01	0.00
			Max. Vx	78	1.65	-0.01	-0.00
			Max Tension	36	394.93	0.00	0.00
			Max. Compression	50	-60.25	0.00	0.00
			Max. Mx	98	130.63	0.03	0.00
			Max. My	39	138.08	0.00	-0.00
			Max. Vy	98	-24.11	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
			Max Tension	46	556.98	0.00	0.00
		Bottom Girt	Max. Compression	32	-290.31	0.00	0.00
			Max. Mx	89	361.73	0.03	0.00
			Max. My	39	156.38	0.00	-0.00
			Max. Vy	89	-24.11	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
			Max Tension	87	448.35	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	89	298.94	0.03	0.00
			Max. My	39	311.22	0.00	-0.00
			Max. Vy	87	24.11	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
			Max Tension	35	2303.28	-0.60	-0.21
		Diagonal	Max. Compression	61	-85405.40	1.08	-0.53
			Max. Mx	32	-70863.61	-1.38	-0.52
			Max. My	4	-69327.92	-0.14	1.43
			Max. Vy	32	7053.63	-1.38	-0.52
			Max. Vx	4	-7318.72	-0.14	1.43
			Max Tension	25	7498.90	0.00	0.00
			Max. Compression	25	-7870.10	0.00	0.00
			Max. Mx	92	1390.77	-0.01	0.00
			Max. My	73	-7034.66	-0.01	-0.01
			Max. Vy	92	16.46	-0.01	0.00
			Max. Vx	73	1.87	-0.01	-0.01
			Max Tension	36	1252.88	0.00	0.00
		Top Girt	Max. Compression	50	-799.94	0.00	0.00
			Max. Mx	89	-78.98	0.04	0.00
			Max. My	39	230.82	0.00	-0.00
			Max. Vy	89	-30.00	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
			Max Tension	46	1466.61	0.00	0.00
		Bottom Girt	Max. Compression	32	-1161.93	0.00	0.00
			Max. Mx	89	719.84	0.04	0.00
			Max. My	39	229.29	0.00	-0.00
			Max. Vy	89	-30.00	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
			Max Tension	35	606.06	0.00	0.00
		Mid Girt	Max. Compression	1	0.00	0.00	0.00
			Max. Mx	89	427.16	0.04	0.00
			Max. My	39	400.05	0.00	-0.00
			Max. Vy	89	-30.00	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
			Max Tension	46	84829.20	-0.20	1.61
T8	200 - 180	Leg	Max. Compression	60	-187486.86	1.62	-0.86
			Max. Mx	28	-44009.50	-2.25	0.20
			Max. My	43	-48223.23	-1.17	-2.51
			Max. Vy	28	10515.92	-2.25	0.20
			Max. Vx	50	12119.31	-0.34	-2.49
		Diagonal	Max Tension	25	12998.23	0.00	0.00
			Max. Compression	25	-13479.56	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T9	180 - 160	Top Girt	Max. Mx	93	3212.15	-0.02	0.00
			Max. My	73	-12011.45	-0.00	-0.01
			Max. Vy	93	22.62	-0.02	0.00
			Max. Vx	73	3.70	-0.00	-0.01
			Max Tension	36	2270.10	0.00	0.00
			Max. Compression	50	-1700.87	0.00	0.00
			Max. Mx	89	-294.93	0.05	0.00
			Max. My	39	252.61	0.00	-0.00
			Max. Vy	89	-36.88	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
		Bottom Girt	Max Tension	50	7999.37	0.00	0.00
			Max. Compression	36	-8228.65	0.00	0.00
			Max. Mx	86	132.37	0.05	0.00
			Max. My	39	29.58	0.00	-0.00
			Max. Vy	86	-36.88	0.00	0.00
		Mid Girt	Max. Vx	39	0.00	0.00	0.00
			Max Tension	44	1102.97	0.00	0.00
			Max. Compression	33	-256.06	0.00	0.00
			Max. Mx	86	619.43	0.05	0.00
			Max. My	39	507.18	0.00	-0.00
		Leg	Max. Vy	86	-36.88	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
			Max Tension	46	84813.68	0.22	-1.29
			Max. Compression	60	-214240.69	0.38	-0.11
			Max. Mx	28	-44017.95	-3.13	0.24
			Max. My	50	-125460.70	-0.47	-3.50
			Max. Vy	28	10496.03	-3.13	0.24
			Max. Vx	50	12059.00	-0.47	-3.50
		Diagonal	Max Tension	33	9468.04	0.00	0.00
			Max. Compression	40	-9634.78	0.00	0.00
			Max. Mx	65	-1406.22	-0.03	-0.00
			Max. My	82	-7991.98	-0.02	-0.01
			Max. Vy	96	23.68	-0.02	-0.00
		Top Girt	Max. Vx	82	3.77	-0.02	-0.01
			Max Tension	50	10073.09	0.00	0.00
			Max. Compression	36	-12656.30	0.00	0.00
			Max. Mx	86	-936.31	0.05	0.00
			Max. My	39	-1740.46	0.00	-0.00
		Bottom Girt	Max. Vy	86	-36.58	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
			Max Tension	33	1397.41	0.00	0.00
			Max. Compression	75	-396.71	0.00	0.00
			Max. Mx	86	587.27	0.05	0.00
		Mid Girt	Max. My	39	464.79	0.00	-0.00
			Max. Vy	86	-36.58	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
			Max Tension	67	2114.89	0.00	0.00
			Max. Compression	4	-66.48	0.00	0.00
		Guy A	Max. Mx	86	1176.46	0.05	0.00
			Max. My	39	1235.36	0.00	-0.00
			Max. Vy	86	-36.58	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
			Bottom Tension	43	48071.97		
			Top Tension	43	48459.66		
			Top Cable Vert	43	35242.53		
			Top Cable Norm	43	33261.11		
			Top Cable Tan	43	27.99		
			Bot Cable Vert	43	-34342.63		
		Guy B	Bot Cable Norm	43	33635.31		
			Bot Cable Tan	43	404.21		
			Bottom Tension	85	44014.01		

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T10	160 - 140	Guy C	Top Tension	85	44329.08		
			Top Cable Vert	85	28922.67		
			Top Cable Norm	85	33593.83		
			Top Cable Tan	85	37.35		
			Bot Cable Vert	85	-28114.11		
			Bot Cable Norm	85	33863.06		
			Bot Cable Tan	85	350.50		
			Bottom Tension	15	43401.89		
			Top Tension	15	43716.98		
			Top Cable Vert	15	28528.84		
			Top Cable Norm	15	33125.20		
			Top Cable Tan	15	38.63		
			Bot Cable Vert	15	-27720.28		
			Bot Cable Norm	15	33394.43		
			Bot Cable Tan	15	349.22		
		Torque Arm Top	Max Tension	64	37282.38	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	93	18322.26	0.11	0.00
			Max. My	39	28051.75	0.00	0.00
			Max. Vy	93	-92.41	0.00	0.00
			Max. Vx	39	-0.34	0.00	0.00
		Torque Arm Bottom	Max Tension	79	9280.27	0.00	0.00
			Max. Compression	37	-29304.88	0.00	0.00
			Max. Mx	94	-6898.85	0.11	0.00
			Max. My	39	3795.91	0.00	-0.00
			Max. Vy	94	-92.37	0.00	0.00
			Max. Vx	39	0.27	0.00	0.00
		Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	60	-158040.45	-0.66	0.41
			Max. Mx	68	-45012.88	-1.11	-0.37
			Max. My	47	-27652.18	0.16	1.20
			Max. Vy	61	5106.88	-0.43	0.25
			Max. Vx	5	5838.93	-0.09	-0.49
		Diagonal	Max Tension	82	5918.20	0.00	0.00
			Max. Compression	82	-6545.86	0.00	0.00
			Max. Mx	93	-746.07	-0.01	0.00
			Max. My	40	-6523.22	-0.00	0.00
			Max. Vy	94	16.47	-0.01	0.00
		Top Girt	Max. Vx	40	-1.15	-0.00	0.00
			Max Tension	72	1397.69	0.00	0.00
			Max. Compression	5	-815.53	0.00	0.00
			Max. Mx	86	398.02	0.04	0.00
			Max. My	39	428.62	0.00	-0.00
		Bottom Girt	Max. Vy	86	-29.12	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
			Max Tension	61	865.81	0.00	0.00
			Max. Compression	75	-29.36	0.00	0.00
			Max. Mx	89	420.60	0.04	0.00
		Mid Girt	Max. My	39	384.68	0.00	-0.00
			Max. Vy	89	-29.12	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
			Max Tension	93	994.88	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	86	867.49	0.04	0.00
			Max. My	39	777.12	0.00	-0.00
			Max. Vy	86	-29.12	0.00	0.00
T11	140 - 120	Leg	Max. Vx	39	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	60	-120961.62	-0.23	0.14
			Max. Mx	27	-79495.99	0.63	-0.07
			Max. My	48	-63566.00	0.00	0.65

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T12	120 - 100	Diagonal	Max. Vy	61	2417.78	-0.16	0.07
			Max. Vx	5	2660.61	-0.10	-0.17
			Max Tension	82	2664.78	0.00	0.00
			Max. Compression	82	-3300.47	0.00	0.00
			Max. Mx	94	-208.73	-0.01	-0.00
		Top Girt	Max. My	40	-3278.60	0.00	0.00
			Max. Vy	94	16.30	-0.01	-0.00
			Max. Vx	40	-0.64	-0.00	0.00
			Max Tension	67	756.95	0.00	0.00
			Max. Compression	4	-72.47	0.00	0.00
		Bottom Girt	Max. Mx	89	616.65	0.04	0.00
			Max. My	39	442.37	0.00	-0.00
			Max. Vy	89	28.76	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
			Max Tension	52	765.00	0.00	0.00
		Mid Girt	Max. Compression	1	0.00	0.00	0.00
			Max. Mx	97	558.42	0.04	0.00
			Max. My	39	390.29	0.00	-0.00
			Max. Vy	97	28.76	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
		Leg	Max Tension	33	1077.65	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	97	932.89	0.04	0.00
			Max. My	39	782.28	0.00	-0.00
			Max. Vy	97	28.76	0.00	0.00
		Diagonal	Max. Vx	39	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	31	-144996.12	-0.74	-0.40
			Max. Mx	27	-47119.01	-1.67	0.69
			Max. My	41	-47091.34	-0.17	-1.81
		Top Girt	Max. Vy	27	8706.28	-1.67	0.69
			Max. Vx	41	9638.29	-0.17	-1.81
			Max Tension	27	4727.39	0.00	0.00
			Max. Compression	24	-5385.73	0.00	0.00
			Max. Mx	94	-89.16	-0.01	-0.00
		Bottom Girt	Max. My	24	-3089.97	0.00	0.00
			Max. Vy	94	16.06	-0.01	-0.00
			Max. Vx	24	0.51	0.00	0.00
			Max Tension	34	713.90	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
		Mid Girt	Max. Mx	97	518.25	0.04	0.00
			Max. My	39	437.65	0.00	-0.00
			Max. Vy	97	-28.36	0.00	0.00
			Max. Vx	39	0.00	0.00	0.00
			Max Tension	34	3509.60	0.00	0.00
T13	100 - 80	Leg	Max. Compression	1	0.00	0.00	0.00
			Max. Mx	97	1981.23	0.04	0.00
			Max. My	35	2501.39	0.00	0.00
			Max. Vy	86	28.36	0.00	0.00
			Max. Vx	35	-0.00	0.00	0.00
		Diagonal	Max Tension	93	1120.31	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	97	1110.25	0.04	0.00
			Max. My	35	947.02	0.00	0.00
			Max. Vy	97	-28.36	0.00	0.00
		Top Girt	Max. Vx	35	-0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	31	-144998.07	-0.93	-0.50
			Max. Mx	27	-47124.42	-2.39	1.02
			Max. My	41	-47097.83	-0.21	-2.61
			Max. Vy	27	8690.96	-2.39	1.02

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T14	80 - 60	Diagonal	Max. Vx	41	9622.25	-0.21	-2.61
			Max Tension	81	7344.49	0.00	0.00
			Max. Compression	79	-7351.59	0.00	0.00
			Max. Mx	96	44.63	-0.01	-0.00
			Max. My	65	-5326.60	-0.01	-0.00
			Max. Vy	96	16.12	-0.01	-0.00
		Top Girt	Max. Vx	65	1.08	0.00	0.00
			Max Tension	34	13428.35	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	97	5409.22	0.03	0.00
			Max. My	35	6661.08	0.00	0.00
			Max. Vy	86	-27.88	0.00	0.00
		Bottom Girt	Max. Vx	35	-0.00	0.00	0.00
			Max Tension	58	1516.67	0.00	0.00
			Max. Compression	75	-589.55	0.00	0.00
			Max. Mx	96	781.51	0.03	0.00
			Max. My	35	8.31	0.00	0.00
			Max. Vy	96	-27.88	0.00	0.00
		Mid Girt	Max. Vx	35	-0.00	0.00	0.00
			Max Tension	33	1191.92	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	86	1092.62	0.03	0.00
			Max. My	35	931.70	0.00	0.00
			Max. Vy	86	-27.88	0.00	0.00
		Guy A	Max. Vx	35	-0.00	0.00	0.00
			Bottom Tension	41	45008.67		
			Top Tension	41	45256.05		
			Top Cable Vert	41	25305.55		
			Top Cable Norm	41	37519.84		
			Top Cable Tan	41	4.84		
		Guy B	Bot Cable Vert	41	-24654.55		
			Bot Cable Norm	41	37654.58		
			Bot Cable Tan	41	257.20		
			Bottom Tension	69	41090.21		
			Top Tension	69	41264.21		
			Top Cable Vert	69	17734.51		
		Guy C	Top Cable Norm	69	37258.84		
			Top Cable Tan	69	9.83		
			Bot Cable Vert	69	-17168.75		
			Bot Cable Norm	69	37330.71		
			Bot Cable Tan	69	239.46		
			Bottom Tension	27	41126.27		
		Leg	Top Tension	27	41300.25		
			Top Cable Vert	27	17749.74		
			Top Cable Norm	27	37291.52		
			Top Cable Tan	27	11.10		
			Bot Cable Vert	27	-17183.98		
			Bot Cable Norm	27	37363.39		
		Diagonal	Bot Cable Tan	27	240.73		
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	40	-171887.59	0.06	0.59
			Max. Mx	65	-127811.99	-1.31	-0.44
			Max. My	44	-120353.62	0.01	1.44
			Max. Vy	65	4721.30	-0.92	-0.33
			Max. Vx	4	5338.47	-0.01	-0.57
			Max Tension	81	4646.21	0.00	0.00
			Max. Compression	39	-5442.67	0.00	0.00
			Max. Mx	93	-126.98	-0.01	0.00
			Max. My	39	-5438.61	0.00	0.00
			Max. Vy	93	15.97	-0.01	0.00
			Max. Vx	39	0.55	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T15	60 - 40	Top Girt	Max Tension	44	1112.90	0.00	0.00
			Max. Compression	4	-274.58	0.00	0.00
			Max. Mx	96	428.26	0.03	0.00
			Max. My	35	832.80	0.00	0.00
			Max. Vy	96	-27.32	0.00	0.00
			Max. Vx	35	-0.00	0.00	0.00
		Bottom Girt	Max Tension	58	1145.96	0.00	0.00
			Max. Compression	75	-218.73	0.00	0.00
			Max. Mx	86	626.71	0.03	0.00
			Max. My	35	198.62	0.00	0.00
			Max. Vy	86	-27.32	0.00	0.00
			Max. Vx	35	-0.00	0.00	0.00
		Mid Girt	Max Tension	33	1427.33	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	90	1194.13	0.03	0.00
			Max. My	35	729.21	0.00	0.00
			Max. Vy	90	-27.32	0.00	0.00
			Max. Vx	35	-0.00	0.00	0.00
		Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	40	-177826.57	-0.01	0.40
			Max. Mx	65	-163230.13	-0.74	-0.30
			Max. My	44	-157371.60	0.02	0.81
			Max. Vy	67	1945.32	-0.57	-0.25
			Max. Vx	4	2216.40	-0.01	-0.19
		Diagonal	Max Tension	81	1664.13	0.00	0.00
			Max. Compression	81	-2477.38	0.00	0.00
			Max. Mx	93	-686.90	-0.01	0.00
			Max. My	39	-2437.23	0.00	0.00
			Max. Vy	92	15.68	-0.01	0.00
			Max. Vx	39	0.34	0.00	0.00
		Top Girt	Max Tension	97	663.68	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	86	550.20	0.03	0.00
			Max. My	35	513.71	0.00	0.00
			Max. Vy	86	-26.59	0.00	0.00
			Max. Vx	35	-0.00	0.00	0.00
		Bottom Girt	Max Tension	87	694.88	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	86	651.00	0.03	0.00
			Max. My	28	477.16	0.00	-0.00
			Max. Vy	86	-26.59	0.00	0.00
			Max. Vx	28	0.00	0.00	0.00
		Mid Girt	Max Tension	33	1555.23	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	86	1135.48	0.03	0.00
			Max. My	35	668.11	0.00	0.00
			Max. Vy	86	-26.59	0.00	0.00
			Max. Vx	35	-0.00	0.00	0.00
T16	40 - 20	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	37	-176411.18	-0.06	0.17
			Max. Mx	26	-148121.27	1.11	-0.38
			Max. My	47	-141723.72	0.00	1.22
			Max. Vy	26	4269.40	-0.45	0.06
			Max. Vx	47	4644.73	-0.00	-0.48
		Diagonal	Max Tension	40	3531.64	0.00	0.00
			Max. Compression	40	-4349.04	0.00	0.00
			Max. Mx	92	-1012.00	-0.01	0.00
			Max. My	42	-4136.71	-0.00	-0.00
			Max. Vy	92	15.04	-0.01	0.00
			Max. Vx	42	-0.36	-0.00	-0.00
		Top Girt	Max Tension	33	1039.45	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T17	20 - 12	Bottom Girt	Max. Compression	47	-86.97	0.00	0.00
			Max. Mx	86	569.00	0.03	0.00
			Max. My	28	447.00	0.00	-0.00
			Max. Vy	86	-25.57	0.00	0.00
			Max. Vx	28	0.00	0.00	0.00
			Max Tension	93	1221.28	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	86	1139.99	0.03	0.00
			Max. My	28	817.82	0.00	-0.00
			Max. Vy	86	-25.57	0.00	0.00
		Mid Girt	Max. Vx	28	0.00	0.00	0.00
			Max Tension	30	1502.47	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	86	1192.13	0.03	0.00
			Max. My	28	896.77	0.00	-0.00
		Leg	Max. Vy	86	-25.57	0.00	0.00
			Max. Vx	28	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	37	-154919.69	-0.26	-0.76
			Max. Mx	33	-71036.56	1.68	1.02
			Max. My	5	-66956.27	-0.01	-1.86
			Max. Vy	33	5808.15	-0.26	-0.16
			Max. Vx	5	-6454.81	0.00	0.29
		Diagonal	Max Tension	40	4076.22	0.00	0.00
			Max. Compression	40	-6173.91	0.00	0.00
			Max. Mx	93	-1899.71	-0.02	-0.00
			Max. My	42	-5680.73	0.00	-0.00
			Max. Vy	93	19.58	-0.02	-0.00
		Horizontal	Max. Vx	42	-0.54	0.00	-0.00
			Max Tension	95	3369.79	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	86	2464.07	0.02	0.00
			Max. My	28	1816.27	0.00	-0.00
		Top Girt	Max. Vy	86	-16.12	0.00	0.00
			Max. Vx	28	0.00	0.00	0.00
			Max Tension	33	2414.82	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	86	1738.11	0.03	0.00
T18	12 - 6.6667	Leg	Max. My	28	1305.81	0.00	-0.00
			Max. Vy	86	-24.43	0.00	0.00
			Max. Vx	28	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	93	-152977.38	0.01	0.44
		Diagonal	Max. Mx	89	-149610.31	-4.40	2.55
			Max. My	93	-151266.77	-0.02	-5.17
			Max. Vy	23	15321.19	-4.12	2.08
			Max. Vx	37	17851.98	-0.09	-4.77
			Max Tension	40	6778.20	0.00	0.00
		Horizontal	Max. Compression	40	-6743.61	0.00	0.00
			Max. Mx	92	1092.53	0.01	0.00
			Max. My	35	326.48	0.00	0.00
			Max. Vy	92	-11.79	0.00	0.00
			Max. Vx	35	-0.09	0.00	0.00
		Top Girt	Max Tension	42	11432.89	0.00	0.00
			Max. Compression	93	-2649.65	0.05	-0.00
			Max. Mx	93	9127.40	0.06	0.00
			Max. My	56	-2388.33	0.03	-0.00
			Max. Vy	93	60.45	0.00	0.00
			Max. Vx	56	1.53	0.00	0.00
			Max Tension	40	5001.28	-0.01	0.00
			Max. Compression	40	-3766.68	-0.01	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T19	6.6667 - 0	Leg	Max. Mx	93	746.43	-0.02	0.00
			Max. My	68	4672.47	-0.01	0.00
			Max. Vy	93	13.78	-0.02	0.00
			Max. Vx	68	0.70	-0.01	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	93	-164848.13	-0.98	0.15
		Diagonal	Max. Mx	93	-145651.93	5.17	-0.01
			Max. My	70	-114204.87	-0.60	1.20
			Max. Vy	93	44366.85	1.14	-0.01
			Max. Vx	26	2085.89	0.63	-0.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	92	-21086.98	0.00	0.00
		Secondary Horizontal	Max. Mx	93	-20093.96	0.04	-0.02
			Max. My	35	-18669.99	0.02	-0.03
			Max. Vy	93	63.17	0.00	0.00
			Max. Vx	35	-36.74	0.00	0.00
			Max Tension	93	3040.98	0.00	0.00
			Max. Compression	93	-3040.98	0.00	0.00
		Top Girt	Max. Mx	28	2109.06	0.00	0.01
			Max. My	28	2109.06	0.00	0.01
			Max. Vy	28	6.88	0.00	0.00
			Max. Vx	28	11.00	0.00	0.00
			Max Tension	92	32775.18	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
		Bottom Girt	Max. Mx	87	32276.19	0.09	0.00
			Max. My	92	32774.95	0.00	0.02
			Max. Vy	87	72.01	0.00	0.00
			Max. Vx	92	-15.59	0.00	0.00
			Max Tension	91	15649.00	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
		Mid Girt	Max. Mx	87	15422.85	0.00	0.00
			Max. My	92	15242.13	0.00	0.00
			Max. Vy	87	-10.94	0.00	0.00
			Max. Vx	92	-2.37	0.00	0.00
			Max Tension	91	12997.31	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	87	12809.99	0.03	0.00
			Max. My	92	12995.68	0.00	0.01
			Max. Vy	87	-41.47	0.00	0.00
			Max. Vx	92	8.98	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Mast	Max. Vert	93	443275.67	-100.00	-1489.30
	Max. H _x	68	302330.22	8933.42	396.48
	Max. H _z	5	308793.11	-0.06	8416.09
	Max. M _x	1	0.00	-9.80	-44.84
	Max. M _z	1	0.00	-9.80	-44.84
	Max. Torsion	28	1.54	-8182.65	676.16
	Min. Vert	1	181921.24	-9.80	-44.84
	Min. H _x	26	302421.02	-8956.16	377.47
	Min. H _z	47	274099.19	-24.71	-9057.83
	Min. M _x	1	0.00	-9.80	-44.84

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Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Guy C @ 205 ft Elev 5 ft Azimuth 240 deg	Min. M _z	1	0.00	-9.80	-44.84
	Min. Torsion	70	-1.54	8163.29	689.98
	Max. Vert	58	-4212.07	-2114.32	1216.28
	Max. H _x	58	-4212.07	-2114.32	1216.28
	Max. H _z	9	-132358.58	-126777.25	75454.54
	Min. Vert	9	-132358.58	-126777.25	75454.54
Guy B @ 205 ft Elev 5 ft Azimuth 120 deg	Min. H _x	23	-131183.33	-128116.51	71559.11
	Min. H _z	58	-4212.07	-2114.32	1216.28
	Max. Vert	30	-4217.43	2115.09	1217.15
	Max. H _x	65	-131291.70	128138.60	71573.62
	Max. H _z	79	-132663.78	127091.63	75606.02
	Min. Vert	79	-132663.78	127091.63	75606.02
Guy A @ 205 ft Elev -35 ft Azimuth 0 deg	Min. H _x	30	-4217.43	2115.09	1217.15
	Min. H _z	30	-4217.43	2115.09	1217.15
	Max. Vert	2	-6701.53	-0.52	-3277.16
	Max. H _x	65	-84054.38	3678.43	-75927.96
	Max. H _z	2	-6701.53	-0.52	-3277.16
	Min. Vert	37	-159134.67	-2179.54	-147072.66
	Min. H _x	23	-84321.58	-3680.27	-76263.35
	Min. H _z	37	-159134.67	-2179.54	-147072.66

Tower Mast Reaction Summary

Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	181921.24	9.80	44.84	0.00	0.00	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice+1.0 Guy	327325.89	1.37	-7421.33	0.00	0.00	0.32
1.2D+1.6W (pattern 1) 0 deg - No Ice+1.0 Guy	326207.86	5.22	-6425.71	0.00	0.00	0.03
1.2D+1.6W (pattern 2) 0 deg - No Ice+1.0 Guy	320733.90	0.55	-7694.57	0.00	0.00	-0.24
1.2D+1.6W (pattern 3) 0 deg - No Ice+1.0 Guy	308793.11	0.06	-8416.09	0.00	0.00	0.26
1.2D+1.6W (pattern 4) 0 deg - No Ice+1.0 Guy	320823.34	1.32	-7592.81	0.00	0.00	0.32
1.2D+1.6W (pattern 5) 0 deg - No Ice+1.0 Guy	322419.91	2.88	-7506.66	0.00	0.00	0.66
1.2D+1.6W (pattern 6) 0 deg - No Ice+1.0 Guy	324927.08	1.23	-7443.10	0.00	0.00	0.30
1.2 Dead+1.6 Wind 30 deg - No Ice+1.0 Guy	309398.38	4628.40	-6823.11	0.00	0.00	0.31
1.2D+1.6W (pattern 1) 30 deg - No Ice+1.0 Guy	308488.32	4164.65	-5958.97	0.00	0.00	-0.04
1.2D+1.6W (pattern 2) 30 deg - No Ice+1.0 Guy	303981.24	4724.84	-7033.68	0.00	0.00	-0.21
1.2D+1.6W (pattern 3) 30 deg - No Ice+1.0 Guy	294365.68	4793.94	-7634.87	0.00	0.00	0.19
1.2D+1.6W (pattern 4) 30 deg - No Ice+1.0 Guy	304132.58	4641.93	-6961.87	0.00	0.00	0.24

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Load Combination	Vertical lb	Shear _x lb	Shear _y lb	Overturning Moment, M _x kip-ft	Overturning Moment, M _y kip-ft	Torque kip-ft
1.2D+1.6W (pattern 5) 30 deg - No Ice+1.0 Guy	305443.48	4634.04	-6890.63	0.00	0.00	0.51
1.2D+1.6W (pattern 6) 30 deg - No Ice+1.0 Guy	307463.02	4628.42	-6839.62	0.00	0.00	0.28
1.2 Dead+1.6 Wind 60 deg - No Ice+1.0 Guy	269397.92	7746.39	-4307.75	0.00	0.00	-0.48
1.2D+1.6W (pattern 1) 60 deg - No Ice+1.0 Guy	269036.38	6908.86	-3831.98	0.00	0.00	-0.80
1.2D+1.6W (pattern 2) 60 deg - No Ice+1.0 Guy	267047.77	7892.67	-4394.16	0.00	0.00	-0.90
1.2D+1.6W (pattern 3) 60 deg - No Ice+1.0 Guy	262693.16	8116.59	-4533.03	0.00	0.00	-0.59
1.2D+1.6W (pattern 4) 60 deg - No Ice+1.0 Guy	266926.98	7777.86	-4330.23	0.00	0.00	-0.66
1.2D+1.6W (pattern 5) 60 deg - No Ice+1.0 Guy	267532.22	7752.43	-4314.03	0.00	0.00	-0.52
1.2D+1.6W (pattern 6) 60 deg - No Ice+1.0 Guy	268481.33	7741.69	-4306.27	0.00	0.00	-0.53
1.2 Dead+1.6 Wind 90 deg - No Ice+1.0 Guy	319010.51	8108.68	-720.75	0.00	0.00	-1.26
1.2D+1.6W (pattern 1) 90 deg - No Ice+1.0 Guy	317886.73	7123.59	-760.29	0.00	0.00	-1.43
1.2D+1.6W (pattern 2) 90 deg - No Ice+1.0 Guy	312762.58	8366.23	-681.35	0.00	0.00	-1.33
1.2D+1.6W (pattern 3) 90 deg - No Ice+1.0 Guy	302421.02	8956.16	-377.47	0.00	0.00	-1.25
1.2D+1.6W (pattern 4) 90 deg - No Ice+1.0 Guy	313317.95	8253.77	-639.91	0.00	0.00	-1.44
1.2D+1.6W (pattern 5) 90 deg - No Ice+1.0 Guy	314750.58	8182.65	-676.16	0.00	0.00	-1.54
1.2D+1.6W (pattern 6) 90 deg - No Ice+1.0 Guy	316932.53	8128.84	-706.04	0.00	0.00	-1.30
1.2 Dead+1.6 Wind 120 deg - No Ice+1.0 Guy	346598.37	6078.83	3250.24	0.00	0.00	-0.91
1.2D+1.6W (pattern 1) 120 deg - No Ice+1.0 Guy	345175.30	5217.88	2743.54	0.00	0.00	-0.91
1.2D+1.6W (pattern 2) 120 deg - No Ice+1.0 Guy	338755.13	6366.72	3431.14	0.00	0.00	-0.66
1.2D+1.6W (pattern 3) 120 deg - No Ice+1.0 Guy	325504.69	7057.42	3924.29	0.00	0.00	-0.90
1.2D+1.6W (pattern 4) 120 deg - No Ice+1.0 Guy	339353.90	6259.26	3379.59	0.00	0.00	-1.06
1.2D+1.6W (pattern 5) 120 deg - No Ice+1.0 Guy	341155.18	6174.96	3318.34	0.00	0.00	-1.32
1.2D+1.6W (pattern 6) 120 deg - No Ice+1.0 Guy	343945.05	6106.92	3271.41	0.00	0.00	-0.93
1.2 Dead+1.6 Wind 150 deg - No Ice+1.0 Guy	331597.07	3222.54	6826.65	0.00	0.00	-0.30
1.2D+1.6W (pattern 1) 150 deg - No Ice+1.0 Guy	330321.09	2701.24	5980.89	0.00	0.00	-0.12
1.2D+1.6W (pattern 2) 150 deg - No Ice+1.0 Guy	324793.53	3400.62	7063.07	0.00	0.00	0.22
1.2D+1.6W (pattern 3) 150 deg - No Ice+1.0 Guy	313619.74	3966.83	7583.47	0.00	0.00	-0.28
1.2D+1.6W (pattern 4) 150 deg - No Ice+1.0 Guy	325505.07	3369.13	6956.25	0.00	0.00	-0.39
1.2D+1.6W (pattern 5) 150 deg - No Ice+1.0 Guy	327042.58	3301.92	6891.96	0.00	0.00	-0.77
1.2D+1.6W (pattern 6) 150 deg - No Ice+1.0 Guy	329379.95	3245.95	6845.47	0.00	0.00	-0.29
1.2 Dead+1.6 Wind 180 deg -	282916.37	16.04	8460.91	0.00	0.00	0.13

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Load Combination	Vertical lb	Shear _x lb	Shear _y lb	Overturing Moment, M _x kip-ft	Overturing Moment, M _y kip-ft	Torque kip-ft
No Ice+1.0 Guy						
1.2D+1.6W (pattern 1) 180 deg	282289.25	8.07	7481.29	0.00	0.00	0.46
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 2) 180 deg	279525.46	16.23	8650.60	0.00	0.00	0.87
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 3) 180 deg	274099.19	24.71	9057.83	0.00	0.00	0.18
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 4) 180 deg	279950.05	17.03	8530.89	0.00	0.00	0.11
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 5) 180 deg	280707.75	16.67	8484.39	0.00	0.00	-0.49
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 6) 180 deg	281854.13	16.19	8459.34	0.00	0.00	0.16
- No Ice+1.0 Guy						
1.2 Dead+1.6 Wind 210 deg -	331190.67	-3197.35	6821.29	0.00	0.00	-0.15
No Ice+1.0 Guy						
1.2D+1.6W (pattern 1) 210 deg	329991.60	-2685.66	5980.47	0.00	0.00	0.20
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 2) 210 deg	324394.59	-3374.93	7055.92	0.00	0.00	0.38
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 3) 210 deg	313337.48	-3933.53	7572.43	0.00	0.00	-0.03
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 4) 210 deg	325094.54	-3343.43	6950.63	0.00	0.00	-0.06
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 5) 210 deg	326630.59	-3274.49	6888.65	0.00	0.00	-0.36
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 6) 210 deg	328970.97	-3220.70	6839.83	0.00	0.00	-0.11
- No Ice+1.0 Guy						
1.2 Dead+1.6 Wind 240 deg -	346243.16	-6057.95	3239.88	0.00	0.00	0.69
No Ice+1.0 Guy						
1.2D+1.6W (pattern 1) 240 deg	344891.76	-5202.65	2741.26	0.00	0.00	0.99
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 2) 240 deg	338403.62	-6345.21	3419.42	0.00	0.00	1.03
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 3) 240 deg	325279.12	-7029.22	3907.11	0.00	0.00	0.75
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 4) 240 deg	338995.79	-6237.98	3368.91	0.00	0.00	0.84
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 5) 240 deg	340794.83	-6153.05	3309.42	0.00	0.00	0.73
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 6) 240 deg	343588.34	-6085.93	3260.79	0.00	0.00	0.74
- No Ice+1.0 Guy						
1.2 Dead+1.6 Wind 270 deg -	318845.85	-8089.45	-734.39	0.00	0.00	1.26
No Ice+1.0 Guy						
1.2D+1.6W (pattern 1) 270 deg	317766.74	-7105.48	-764.03	0.00	0.00	1.44
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 2) 270 deg	312601.30	-8346.63	-695.39	0.00	0.00	1.34
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 3) 270 deg	302330.22	-8933.42	-396.48	0.00	0.00	1.26
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 4) 270 deg	313148.53	-8234.36	-653.78	0.00	0.00	1.44
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 5) 270 deg	314581.23	-8163.29	-689.98	0.00	0.00	1.54
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 6) 270 deg	316765.11	-8109.54	-719.77	0.00	0.00	1.31
- No Ice+1.0 Guy						
1.2 Dead+1.6 Wind 300 deg -	269607.99	-7732.13	-4319.54	0.00	0.00	0.52
No Ice+1.0 Guy						
1.2D+1.6W (pattern 1) 300 deg	269230.40	-6891.29	-3832.77	0.00	0.00	0.52
- No Ice+1.0 Guy						
1.2D+1.6W (pattern 2) 300 deg	267259.75	-7878.92	-4405.36	0.00	0.00	0.29
- No Ice+1.0 Guy						

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Load Combination	Vertical lb	Shear _x lb	Shear _y lb	Overturning Moment, M _x kip-ft	Overturning Moment, M _y kip-ft	Torque kip-ft
1.2D+1.6W (pattern 3) 300 deg - No Ice+1.0 Guy	262859.05	-8101.71	-4552.22	0.00	0.00	0.59
1.2D+1.6W (pattern 4) 300 deg - No Ice+1.0 Guy	267129.72	-7763.39	-4342.62	0.00	0.00	0.72
1.2D+1.6W (pattern 5) 300 deg - No Ice+1.0 Guy	267727.71	-7737.78	-4326.79	0.00	0.00	1.06
1.2D+1.6W (pattern 6) 300 deg - No Ice+1.0 Guy	268689.31	-7727.38	-4318.22	0.00	0.00	0.55
1.2 Dead+1.6 Wind 330 deg - No Ice+1.0 Guy	309643.66	-4622.36	-6826.88	0.00	0.00	0.26
1.2D+1.6W (pattern 1) 330 deg - No Ice+1.0 Guy	308702.76	-4151.85	-5957.17	0.00	0.00	0.08
1.2D+1.6W (pattern 2) 330 deg - No Ice+1.0 Guy	304224.91	-4720.16	-7037.79	0.00	0.00	-0.22
1.2D+1.6W (pattern 3) 330 deg - No Ice+1.0 Guy	294547.26	-4790.24	-7642.87	0.00	0.00	0.27
1.2D+1.6W (pattern 4) 330 deg - No Ice+1.0 Guy	304377.42	-4635.93	-6965.88	0.00	0.00	0.34
1.2D+1.6W (pattern 5) 330 deg - No Ice+1.0 Guy	305684.05	-4625.65	-6895.11	0.00	0.00	0.68
1.2D+1.6W (pattern 6) 330 deg - No Ice+1.0 Guy	307708.96	-4622.59	-6843.45	0.00	0.00	0.25
1.2 Dead+1.0 Ice+1.0 Temp+Guy	432702.94	100.96	193.65	0.00	0.00	0.01
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy	437155.51	99.36	-1153.05	0.00	0.00	-0.15
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy	438743.05	818.67	-983.16	0.00	0.00	0.21
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy	440554.96	1337.72	-488.69	0.00	0.00	0.21
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy	441208.12	1495.28	169.46	0.00	0.00	0.16
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy	441826.04	1256.39	808.07	0.00	0.00	0.40
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy	442718.98	763.68	1303.65	0.00	0.00	0.54
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy	443275.67	100.00	1489.30	0.00	0.00	0.20
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy	442792.97	-563.12	1302.60	0.00	0.00	-0.20
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy	441946.06	-1055.17	806.51	0.00	0.00	-0.21
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy	441384.14	-1294.25	168.37	0.00	0.00	-0.16
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy	440731.81	-1137.55	-488.91	0.00	0.00	-0.36
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy	438862.72	-619.47	-983.00	0.00	0.00	-0.47
Dead+Wind 0 deg - Service+Guy	184134.04	7.70	-1970.24	0.00	0.00	0.06
Dead+Wind 30 deg - Service+Guy	184307.55	1038.43	-1746.36	0.00	0.00	0.05
Dead+Wind 60 deg - Service+Guy	184371.99	1746.15	-947.75	0.00	0.00	-0.11
Dead+Wind 90 deg - Service+Guy	184044.18	2089.52	58.71	0.00	0.00	-0.21
Dead+Wind 120 deg - Service+Guy	183678.60	1771.43	1054.59	0.00	0.00	-0.14
Dead+Wind 150 deg - Service+Guy	183615.21	1061.83	1825.67	0.00	0.00	-0.05
Dead+Wind 180 deg -	183647.31	11.62	2029.82	0.00	0.00	-0.05

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Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Service+Guy						
Dead+Wind 210 deg -	183593.87	-1038.97	1823.53	0.00	0.00	-0.04
Service+Guy						
Dead+Wind 240 deg -	183650.68	-1749.87	1050.95	0.00	0.00	0.10
Service+Guy						
Dead+Wind 270 deg -	184037.02	-2069.93	54.64	0.00	0.00	0.21
Service+Guy						
Dead+Wind 300 deg -	184381.23	-1728.58	-951.00	0.00	0.00	0.15
Service+Guy						
Dead+Wind 330 deg -	184317.94	-1022.40	-1748.26	0.00	0.00	0.07
Service+Guy						

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
1	0.00	-81400.88	0.00	-0.03	81400.92	1.93	0.002%
2	-182.12	-96518.44	-133834.94	182.13	96518.56	133833.90	0.001%
3	-143.69	-96518.44	-131622.09	143.70	96518.57	131620.99	0.001%
4	-182.12	-96518.44	-128948.64	182.13	96518.57	128947.54	0.001%
5	-147.70	-96518.44	-124314.36	147.70	96518.50	124313.80	0.000%
6	-182.12	-96518.44	-131222.23	182.12	96518.51	131221.63	0.000%
7	-182.12	-96518.44	-131981.18	182.12	96518.51	131980.60	0.000%
8	-182.12	-96518.44	-132982.96	182.12	96518.52	132982.35	0.000%
9	67771.48	-95978.27	-117348.41	-67771.46	95978.33	117347.88	0.000%
10	66677.78	-95978.27	-115454.06	-66677.75	95978.33	115453.53	0.000%
11	65258.56	-95978.27	-113116.75	-65258.53	95978.33	113116.22	0.000%
12	63046.78	-95978.27	-109120.56	-63046.75	95978.31	109120.12	0.000%
13	66465.13	-95978.27	-115085.74	-66465.10	95978.32	115085.26	0.000%
14	66845.95	-95978.27	-115745.33	-66845.92	95978.32	115744.88	0.000%
15	67345.49	-95978.27	-116610.57	-67345.47	95978.32	116610.09	0.000%
16	115890.03	-95468.58	-66750.82	-115888.04	95468.59	66754.50	0.003%
17	113958.19	-95468.58	-65679.85	-113956.17	95468.58	65683.57	0.003%
18	111537.51	-95468.58	-64307.67	-111535.58	95468.58	64311.25	0.003%
19	107672.19	-95468.58	-62020.34	-107670.37	95468.59	62023.76	0.002%
20	113627.36	-95468.58	-65444.46	-113625.31	95468.59	65448.28	0.003%
21	114287.73	-95468.58	-65825.73	-114285.60	95468.59	65829.70	0.003%
22	115152.20	-95468.58	-66324.83	-115149.86	95468.59	66329.16	0.003%
23	135668.16	-96150.03	182.12	-135667.74	96150.08	-181.97	0.000%
24	133414.18	-96150.03	143.69	-133413.77	96150.08	-143.54	0.000%
25	130642.30	-96150.03	182.12	-130641.88	96150.08	-181.97	0.000%
26	126159.14	-96150.03	147.70	-126158.80	96150.06	-147.59	0.000%
27	133055.45	-96150.03	182.12	-133055.07	96150.07	-181.99	0.000%
28	133817.08	-96150.03	182.12	-133816.73	96150.07	-182.00	0.000%
29	134816.18	-96150.03	182.12	-134815.80	96150.08	-181.99	0.000%
30	116089.30	-96831.48	67076.16	-116088.79	96831.55	-67075.94	0.000%
31	114115.27	-96831.48	65936.45	-114114.75	96831.55	-65936.24	0.000%
32	111736.78	-96831.48	64633.01	-111736.27	96831.55	-64632.79	0.000%
33	107837.04	-96831.48	62286.06	-107836.61	96831.53	-62285.88	0.000%
34	113826.62	-96831.48	65769.80	-113826.16	96831.54	-65769.61	0.000%
35	114483.89	-96831.48	66149.28	-114483.45	96831.54	-66149.09	0.000%
36	115351.46	-96831.48	66650.17	-115350.99	96831.55	-66649.97	0.000%
37	68086.93	-96321.79	117530.53	-68086.54	96321.84	-117530.34	0.000%
38	66926.66	-96321.79	115597.75	-66926.27	96321.84	-115597.55	0.000%
39	65574.00	-96321.79	113298.87	-65573.61	96321.84	-113298.67	0.000%
40	63302.61	-96321.79	109268.26	-63302.31	96321.82	-109268.10	0.000%
41	66780.57	-96321.79	115267.86	-66780.24	96321.83	-115267.68	0.000%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
42	67161.39	-96321.79	115927.45	-67161.08	96321.83	-115927.29	0.000%
43	67660.94	-96321.79	116792.69	-67660.59	96321.84	-116792.52	0.000%
44	182.12	-95781.62	133815.15	-184.88	95781.54	-133812.38	0.002%
45	143.69	-95781.62	131606.63	-146.72	95781.54	-131603.81	0.003%
46	182.12	-95781.62	128928.84	-186.02	95781.53	-128926.01	0.003%
47	147.70	-95781.62	124294.57	-151.72	95781.56	-124292.40	0.003%
48	182.12	-95781.62	131202.44	-184.24	95781.55	-131199.95	0.002%
49	182.12	-95781.62	131964.97	-183.26	95781.50	-131960.50	0.003%
50	182.12	-95781.62	132963.16	-184.51	95781.54	-132960.47	0.002%
51	-67771.48	-96321.79	117348.41	67771.10	96321.84	-117348.22	0.000%
52	-66677.78	-96321.79	115454.06	66677.40	96321.84	-115453.87	0.000%
53	-65258.56	-96321.79	113116.75	65258.18	96321.84	-113116.56	0.000%
54	-63046.78	-96321.79	109120.56	63041.27	96321.60	-109117.29	0.004%
55	-66465.13	-96321.79	115085.74	66464.80	96321.83	-115085.56	0.000%
56	-66845.95	-96321.79	115745.33	66845.63	96321.83	-115745.17	0.000%
57	-67345.49	-96321.79	116610.57	67345.15	96321.84	-116610.40	0.000%
58	-115907.18	-96831.48	66760.72	115906.66	96831.55	-66760.50	0.000%
59	-113971.58	-96831.48	65687.57	113971.05	96831.55	-65687.36	0.000%
60	-111554.66	-96831.48	64317.56	111554.14	96831.55	-64317.35	0.000%
61	-107689.33	-96831.48	62030.23	107688.89	96831.53	-62030.05	0.000%
62	-113644.50	-96831.48	65454.36	113644.03	96831.55	-65454.16	0.000%
63	-114301.77	-96831.48	65833.84	114301.32	96831.55	-65833.65	0.000%
64	-115169.34	-96831.48	66334.73	115168.86	96831.55	-66334.53	0.000%
65	-135668.16	-96150.03	-182.12	135667.74	96150.08	182.27	0.000%
66	-133414.18	-96150.03	-143.69	133413.76	96150.08	143.84	0.000%
67	-130642.30	-96150.03	-182.12	130641.88	96150.08	182.27	0.000%
68	-126159.14	-96150.03	-147.70	126158.80	96150.07	147.81	0.000%
69	-133055.45	-96150.03	-182.12	133055.07	96150.08	182.25	0.000%
70	-133817.08	-96150.03	-182.12	133816.73	96150.07	182.24	0.000%
71	-134816.18	-96150.03	-182.12	134815.79	96150.08	182.25	0.000%
72	-116072.15	-95468.58	-67066.26	116069.94	95468.59	67070.33	0.003%
73	-114101.88	-95468.58	-65928.72	114099.64	95468.59	65932.82	0.003%
74	-111719.64	-95468.58	-64623.11	111717.46	95468.59	64627.10	0.003%
75	-107819.89	-95468.58	-62276.17	107817.80	95468.59	62280.05	0.003%
76	-113809.48	-95468.58	-65759.91	113807.21	95468.59	65764.12	0.003%
77	-114469.85	-95468.58	-66141.17	114467.53	95468.59	66145.47	0.003%
78	-115334.32	-95468.58	-66640.27	115332.34	95468.59	66643.91	0.003%
79	-68086.93	-95978.27	-117530.53	68086.90	95978.33	117530.00	0.000%
80	-66926.66	-95978.27	-115597.75	66926.63	95978.33	115597.21	0.000%
81	-65574.00	-95978.27	-113298.87	65573.97	95978.33	113298.33	0.000%
82	-63302.61	-95978.27	-109268.26	63302.58	95978.31	109267.81	0.000%
83	-66780.57	-95978.27	-115267.86	66780.54	95978.32	115267.37	0.000%
84	-67161.39	-95978.27	-115927.45	67161.36	95978.32	115926.99	0.000%
85	-67660.94	-95978.27	-116792.69	67660.91	95978.33	116792.20	0.000%
86	0.00	-294413.98	0.00	-0.83	294413.97	4.63	0.002%
87	-28.85	-294713.36	-42179.04	28.86	294713.36	42178.01	0.000%
88	20989.82	-294319.99	-36464.83	-20989.95	294319.98	36463.57	0.000%
89	36332.46	-293941.01	-21058.23	-36330.78	293940.99	21059.28	0.001%
90	41880.98	-294413.98	28.84	-41880.00	294413.97	-27.66	0.001%
91	36362.67	-294886.94	21108.98	-36361.31	294886.93	-21107.84	0.001%
92	21039.78	-294507.96	36493.67	-21037.67	294507.94	-36492.42	0.001%
93	28.85	-294114.59	42177.46	-29.66	294114.56	-42175.17	0.001%
94	-20989.82	-294507.96	36464.83	20987.83	294507.94	-36463.78	0.001%
95	-36333.83	-294886.95	21059.02	36332.60	294886.93	-21058.01	0.001%
96	-41880.98	-294413.98	-28.84	41880.13	294413.97	29.88	0.000%
97	-36361.31	-293941.01	-21108.19	36359.92	293941.00	21109.50	0.001%
98	-21039.78	-294319.99	-36493.67	21039.88	294319.98	36491.97	0.001%
99	-37.89	-81477.87	-27840.40	37.86	81477.87	27838.61	0.002%
100	14098.17	-81365.15	-24411.42	-14097.84	81365.15	24410.06	0.002%
101	24108.04	-81259.12	-13885.85	-24106.45	81259.12	13886.01	0.002%
102	28222.39	-81400.88	37.89	-28221.49	81400.88	-36.96	0.002%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
103	24149.49	-81542.64	13953.53	-24148.41	81542.64	-13952.23	0.002%
104	14163.79	-81436.61	24449.31	-14163.11	81436.61	-24447.85	0.002%
105	37.89	-81324.24	27836.92	-37.93	81324.24	-27835.73	0.001%
106	-14098.17	-81436.61	24411.42	14097.40	81436.61	-24409.97	0.002%
107	-24111.61	-81542.64	13887.91	24110.49	81542.64	-13886.65	0.002%
108	-28222.39	-81400.88	-37.89	28221.46	81400.88	38.85	0.002%
109	-24145.93	-81259.12	-13951.47	24144.25	81259.12	13951.75	0.002%
110	-14163.79	-81365.15	-24449.31	14163.40	81365.15	24448.00	0.002%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	15	0.00000001	0.00002471
2	No	500	0.00103394	0.00000000
3	No	500	0.00107825	0.00000000
4	No	500	0.00109475	0.00000000
5	No	500	0.00085172	0.00000000
6	No	500	0.00085508	0.00000000
7	No	500	0.00081027	0.00000000
8	No	500	0.00082915	0.00000000
9	No	500	0.00079587	0.00000000
10	No	500	0.00080142	0.00000000
11	No	500	0.00081307	0.00000000
12	No	500	0.00075299	0.00000000
13	No	500	0.00077583	0.00000000
14	No	500	0.00072744	0.00000000
15	No	500	0.00075280	0.00000000
16	Yes	26	0.00008144	0.00003655
17	Yes	26	0.00008232	0.00003696
18	Yes	26	0.00008033	0.00003554
19	Yes	25	0.00008337	0.00003811
20	Yes	25	0.00008720	0.00003684
21	Yes	25	0.00008958	0.00003867
22	Yes	25	0.00009645	0.00004170
23	No	500	0.00068890	0.00000000
24	No	500	0.00069516	0.00000000
25	No	500	0.00070689	0.00000000
26	No	500	0.00063191	0.00000000
27	No	500	0.00066543	0.00000000
28	No	500	0.00061180	0.00000000
29	No	500	0.00064123	0.00000000
30	No	500	0.00070658	0.00000000
31	No	500	0.00071182	0.00000000
32	No	500	0.00072407	0.00000000
33	No	500	0.00068750	0.00000000
34	No	500	0.00069551	0.00000000
35	No	500	0.00065451	0.00000000
36	No	500	0.00067448	0.00000000
37	No	500	0.00059878	0.00000000
38	No	500	0.00060449	0.00000000
39	No	500	0.00061417	0.00000000
40	No	500	0.00054390	0.00000000
41	No	500	0.00057108	0.00000000
42	No	500	0.00052192	0.00000000
43	No	500	0.00055665	0.00000000

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44	Yes	19	0.00007388	0.00007837
45	Yes	19	0.00007218	0.00007547
46	Yes	19	0.00008290	0.00008365
47	Yes	19	0.00008466	0.00009013
48	Yes	19	0.00006552	0.00006973
49	Yes	18	0.00007573	0.00007083
50	Yes	19	0.00006969	0.00007248
51	No	500	0.00058963	0.00000000
52	No	500	0.00059483	0.00000000
53	No	500	0.00060351	0.00000000
54	Yes	32	0.00009964	0.00009375
55	No	500	0.00056211	0.00000000
56	No	500	0.00051927	0.00000000
57	No	500	0.00054610	0.00000000
58	No	500	0.00071131	0.00000000
59	No	500	0.00071628	0.00000000
60	No	500	0.00072881	0.00000000
61	No	500	0.00069390	0.00000000
62	No	500	0.00070093	0.00000000
63	No	500	0.00065988	0.00000000
64	No	500	0.00067983	0.00000000
65	No	500	0.00069462	0.00000000
66	No	500	0.00070064	0.00000000
67	No	500	0.00071256	0.00000000
68	No	500	0.00064025	0.00000000
69	No	500	0.00067237	0.00000000
70	No	500	0.00061938	0.00000000
71	No	500	0.00064798	0.00000000
72	Yes	26	0.00009004	0.00005664
73	Yes	26	0.00009061	0.00005729
74	Yes	26	0.00008965	0.00005706
75	Yes	25	0.00009482	0.00006361
76	Yes	25	0.00009636	0.00005697
77	Yes	25	0.00009715	0.00005037
78	Yes	26	0.00008143	0.00005035
79	No	500	0.00081201	0.00000000
80	No	500	0.00081791	0.00000000
81	No	500	0.00083076	0.00000000
82	No	500	0.00077511	0.00000000
83	No	500	0.00079263	0.00000000
84	No	500	0.00073766	0.00000000
85	No	500	0.00077115	0.00000000
86	Yes	18	0.00010000	0.00003300
87	Yes	24	0.00000001	0.00000782
88	Yes	24	0.00000001	0.00000885
89	Yes	22	0.00009521	0.00001491
90	Yes	26	0.00008164	0.00001188
91	Yes	26	0.00009005	0.00001485
92	Yes	25	0.00009908	0.00002292
93	Yes	23	0.00008255	0.00002095
94	Yes	26	0.00009072	0.00001806
95	Yes	27	0.00007948	0.00001151
96	Yes	27	0.00006892	0.00001038
97	Yes	23	0.00009110	0.00001659
98	Yes	23	0.00009169	0.00001511
99	Yes	13	0.00000001	0.00002879
100	Yes	14	0.00000001	0.00001733
101	Yes	14	0.00000001	0.00002355
102	Yes	15	0.00000001	0.00001871
103	Yes	14	0.00000001	0.00001900
104	Yes	15	0.00000001	0.00002500
105	Yes	16	0.00000001	0.00001907
106	Yes	15	0.00000001	0.00002154
107	Yes	14	0.00000001	0.00001871

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108	Yes	15	0.00000001	0.00001953
109	Yes	14	0.00000001	0.00002962
110	Yes	14	0.00000001	0.00001907

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	345 - 330	4.076	105	0.0459	0.2835
T1	330 - 320	4.076	105	0.0543	0.2735
T2	320 - 300	4.101	105	0.0512	0.2735
T3	300 - 280	4.099	105	0.0396	0.2528
T4	280 - 260	4.033	105	0.0230	0.2040
T5	260 - 240	3.936	105	0.0325	0.1644
T6	240 - 220	3.738	105	0.0687	0.1310
T7	220 - 200	3.358	105	0.1077	0.1008
T8	200 - 180	2.846	105	0.1182	0.0694
T9	180 - 160	2.360	105	0.0888	0.0467
T10	160 - 140	2.096	105	0.0524	0.0365
T11	140 - 120	1.918	105	0.0428	0.0184
T12	120 - 100	1.751	104	0.0411	0.0149
T13	100 - 80	1.590	104	0.0286	0.0152
T14	80 - 60	1.515	104	0.0304	0.0198
T15	60 - 40	1.358	104	0.0565	0.0222
T16	40 - 20	1.047	104	0.0930	0.0221
T17	20 - 12	0.574	104	0.1244	0.0213
T18	12 - 6.6667	0.352	104	0.1324	0.0208
T19	6.6667 - 0	0.195	104	0.1357	0.0197

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
342.00	1105-1A	105	4.073	0.0483	0.2808	104684
338.00	MP-3E	105	4.071	0.0512	0.2775	74774
332.50	1105-1A	105	4.073	0.0539	0.2742	43147
329.92	Guy	105	4.077	0.0543	0.2734	43683
317.50	P-9A120GN	105	4.106	0.0499	0.2729	50161
317.00	3' Side Arm	105	4.106	0.0496	0.2727	49933
312.00	SHP-1AE	105	4.111	0.0469	0.2696	54015
308.00	P-9A120GN	105	4.110	0.0445	0.2655	58564
307.33	3" Dia 20' Omni	105	4.109	0.0441	0.2647	59399
305.50	3" Dia 20' Omni	105	4.108	0.0430	0.2622	61819
297.46	Guy	105	4.093	0.0379	0.2474	79357
295.50	3' Side Arm	105	4.088	0.0366	0.2430	84427
294.00	LeBlanc 10' Standoff (3)	105	4.083	0.0356	0.2394	87102
289.00	3" Dia 20' Omni	105	4.067	0.0317	0.2268	95620
288.00	1105-1A	105	4.064	0.0309	0.2242	97528
284.00	3" Dia 20' Omni	105	4.049	0.0273	0.2139	105918
279.00	1105-1A	105	4.029	0.0219	0.2016	103369
274.25	3" Dia 20' Omni	105	4.010	0.0229	0.1912	79840
274.00	SPD6-58	105	4.009	0.0230	0.1906	78771
270.10	Guy	105	3.992	0.0248	0.1828	65159
264.25	Pirot 4' Side Mount Standoff (1)	105	3.962	0.0285	0.1720	51751

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Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
ft						
262.00	Pirol 4' Side Mount Standoff (1)	105	3.949	0.0304	0.1679	47703
252.00	3" Dia 20' Omni	105	3.875	0.0444	0.1506	30640
251.00	P-9A72GN-S	105	3.866	0.0462	0.1489	29463
226.50	Site Pro LTF12-4126	105	3.500	0.0968	0.1107	25496
219.50	1105-1A	105	3.346	0.1084	0.1000	29663
213.00	15' OMNI	105	3.188	0.1159	0.0897	39963
209.00	MFF-950B	105	3.085	0.1185	0.0833	51541
208.00	2" Dia 8' Omni	105	3.059	0.1190	0.0817	55566
205.50	Pirol 6-8' Box Arm (1)	105	2.993	0.1195	0.0778	69045
204.00	Pirol 6-8' Box Arm (1)	105	2.953	0.1195	0.0755	80899
200.00	7770	105	2.846	0.1182	0.0694	201218
188.50	(2) AIR 21 B2A B4P	105	2.546	0.1047	0.0545	26238
186.50	Valmont 10' Wireless Frame (3)	105	2.498	0.1013	0.0523	22226
177.25	Guy	105	2.310	0.0832	0.0450	16936
169.50	(2) LPA-80080-4CF-EDIN w/MP	105	2.198	0.0676	0.0414	25601
168.00	Pirol 12' T-Frame Sector Mount (1)	105	2.180	0.0648	0.0407	28489
150.50	13' Diapole	105	2.009	0.0448	0.0284	138788
146.00	3" Dia 20' Omni	105	1.970	0.0434	0.0239	250446
138.50	Pirol 4' Side Mount Standoff (1)	105	1.905	0.0428	0.0172	240066
130.00	P-9A72GN-S	104	1.834	0.0429	0.0155	149098
123.50	(2) HP2-18	104	1.781	0.0422	0.0153	115474
112.00	MTZ-940B	104	1.680	0.0364	0.0132	98172
106.50	(2) HP2-18	104	1.634	0.0325	0.0119	45690
99.92	Guy	104	1.590	0.0285	0.0152	31596
90.00	1.9"x4' pipe mount	104	1.550	0.0264	0.0182	140517
36.00	SPD3-2.4NS	104	0.964	0.1002	0.0220	29365

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	345 - 330	43.213	60	0.5019	1.3128
T1	330 - 320	41.967	60	0.4558	1.2643
T2	320 - 300	41.251	60	0.4740	1.2687
T3	300 - 280	39.753	59	0.5322	1.1772
T4	280 - 260	37.941	59	0.5864	0.9553
T5	260 - 240	35.871	31	0.6126	0.7800
T6	240 - 220	33.256	31	0.7893	0.6343
T7	220 - 200	29.730	31	0.9675	0.5000
T8	200 - 180	25.651	30	0.9949	0.3729
T9	180 - 160	21.794	30	0.8209	0.2958
T10	160 - 140	19.219	36	0.5889	0.2641
T11	140 - 120	17.210	35	0.5123	0.2012
T12	120 - 100	15.306	35	0.4848	0.1637
T13	100 - 80	13.434	34	0.4172	0.1485
T14	80 - 60	11.980	34	0.4087	0.1647
T15	60 - 40	10.111	34	0.5433	0.1703
T16	40 - 20	7.460	34	0.7292	0.1639
T17	20 - 12	3.987	34	0.8885	0.1536
T18	12 - 6.6667	2.429	34	0.9288	0.1490
T19	6.6667 - 0	1.345	34	0.9454	0.1417

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Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
342.00	1105-1A	60	42.952	0.4884	1.2993	22050
338.00	MP-3E	60	42.610	0.4724	1.2829	15750
332.50	1105-1A	60	42.159	0.4579	1.2673	9095
329.92	Guy	60	41.961	0.4558	1.2642	9264
317.50	P-9A120GN	60	41.065	0.4810	1.2670	10029
317.00	3' Side Arm	60	41.026	0.4824	1.2663	9945
312.00	SHP-1AE	59	40.677	0.4966	1.2534	10063
308.00	P-9A120GN	59	40.385	0.5081	1.2352	10252
307.33	3" Dia 20' Omni	59	40.335	0.5100	1.2314	10285
305.50	3" Dia 20' Omni	59	40.195	0.5154	1.2201	10374
297.46	Guy	59	39.540	0.5401	1.1530	11237
295.50	3' Side Arm	59	39.371	0.5463	1.1326	11699
294.00	LeBlanc 10' Standoff (3)	59	39.240	0.5510	1.1163	12095
289.00	3" Dia 20' Omni	59	38.791	0.5659	1.0588	13631
288.00	1105-1A	59	38.699	0.5687	1.0470	13986
284.00	3" Dia 20' Omni	59	38.324	0.5787	1.0001	15605
279.00	1105-1A	59	37.844	0.5879	0.9447	15957
274.25	3" Dia 20' Omni	59	37.375	0.5932	0.8978	12839
274.00	SPD6-58	59	37.350	0.5934	0.8955	12688
270.10	Guy	59	36.953	0.5968	0.8606	10722
264.25	Pirol 4' Side Mount Standoff (1)	31	36.338	0.6038	0.8127	8682
262.00	Pirol 4' Side Mount Standoff (1)	31	36.093	0.6080	0.7952	8064
252.00	3" Dia 20' Omni	31	34.920	0.6713	0.7205	5767
251.00	P-9A72GN-S	31	34.793	0.6803	0.7133	5597
226.50	Site Pro LTF12-4126	31	30.969	0.9198	0.5400	5442
219.50	1105-1A	31	29.632	0.9705	0.4968	6552
213.00	15' OMNI	30	28.335	0.9998	0.4551	9407
209.00	MFF-950B	30	27.519	1.0079	0.4293	13077
208.00	2" Dia 8' Omni	30	27.313	1.0086	0.4228	14491
205.50	Pirol 6-8' Box Arm (1)	30	26.795	1.0082	0.4069	19857
204.00	Pirol 6-8' Box Arm (1)	30	26.484	1.0063	0.3975	25570
200.00	7770	30	25.651	0.9949	0.3729	15147
188.50	(2) AIR 21 B2A B4P	30	23.320	0.9141	0.3181	4608
186.50	Valmont 10' Wireless Frame (3)	30	22.939	0.8942	0.3121	4002
177.25	Guy	36	21.361	0.7871	0.2908	3073
169.50	(2) LPA-80080-4CF-EDIN w/MP	36	20.310	0.6895	0.2800	4261
168.00	Pirol 12' T-Frame Sector Mount (1)	36	20.126	0.6712	0.2780	4615
150.50	13' Diapole	36	18.232	0.5366	0.2358	11529
146.00	3" Dia 20' Omni	36	17.784	0.5232	0.2203	14150
138.50	Pirol 4' Side Mount Standoff (1)	35	17.069	0.5104	0.1970	21632
130.00	P-9A72GN-S	35	16.268	0.5014	0.1781	24909
123.50	(2) HP2-18	35	15.646	0.4923	0.1681	18793
112.00	MTZ-940B	35	14.519	0.4593	0.1554	13991
106.50	(2) HP2-18	35	13.994	0.4390	0.1506	8486
99.92	Guy	34	13.428	0.4169	0.1486	6167
90.00	1.9"x4' pipe mount	34	12.697	0.3988	0.1590	22564
36.00	SPD3-2.4NS	34	6.825	0.7653	0.1617	5398

Bolt Design Data

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Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load lb	Ratio Load Allowable	Allowable Ratio	Criteria
T1	330	Leg	A325N	1.1250	5	865.20	67096.30	0.013 ✓	1	Bolt Tension
T2	320	Leg	A325N	0.7500	5	1944.79	29820.60	0.065 ✓	1	Bolt Tension
T3	300	Leg	A325N	0.7500	5	2214.54	29820.60	0.074 ✓	1	Bolt Tension
T4	280	Leg	A325N	0.7500	5	2840.89	29820.60	0.095 ✓	1	Bolt Tension
T5	260	Leg	A325N	0.7500	5	5418.27	29820.60	0.182 ✓	1	Bolt Tension
T6	240	Leg	A325N	0.7500	5	6464.46	29820.60	0.217 ✓	1	Bolt Tension
T7	220	Leg	A325N	0.7500	5	5666.47	29820.60	0.190 ✓	1	Bolt Tension
T8	200	Leg	A325N	0.8750	5	5739.62	40589.10	0.141 ✓	1	Bolt Tension
T9	180	Leg	A325N	0.8750	5	16962.70	40589.10	0.418 ✓	1	Bolt Tension
		Torque Arm Top@177.25	A325N	1.0000	4	9320.59	63617.30	0.147 ✓	1	Bolt Shear
		Torque Arm Bottom@177.25	A325N	1.0000	4	7326.22	63617.30	0.115 ✓	1	Bolt Shear
T10	160	Leg	A325N	0.8750	5	10536.00	40589.10	0.260 ✓	1	Bolt Tension
T11	140	Leg	A325N	0.8750	5	8064.11	40589.10	0.199 ✓	1	Bolt Tension
T12	120	Leg	A325N	0.8750	5	7800.14	40589.10	0.192 ✓	1	Bolt Tension
T13	100	Leg	A325N	0.8750	5	9666.54	40589.10	0.238 ✓	1	Bolt Tension
T14	80	Leg	A325N	0.7500	5	9269.44	29820.60	0.311 ✓	1	Bolt Tension
T15	60	Leg	A325N	0.7500	4	14324.20	29820.60	0.480 ✓	1	Bolt Tension
T16	40	Leg	A325N	0.7500	5	11760.70	29820.60	0.394 ✓	1	Bolt Tension
T17	20	Leg	A325N	0.7500	5	10328.00	29820.60	0.346 ✓	1	Bolt Tension

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension lb	Breaking Load lb	Actual T_u lb	Allowable ϕT_u lb	Required S.F.	Actual S.F.
T1	329.92 (A) (1089)	11/16 BS	5800.00	57999.90	24912.30	34800.00	1.000	1.397 ✓
	329.92 (B) (1088)	11/16 BS	5800.00	57999.90	23139.10	34800.00	1.000	1.504 ✓
	329.92 (C) (1087)	11/16 BS	5800.00	57999.90	23063.20	34800.00	1.000	1.509 ✓
T3	297.46 (A) (1116)	9/16 BS	3800.00	38000.00	17822.90	22800.00	1.000	1.279 ✓
	297.46 (B) (1115)	9/16 BS	3800.00	38000.00	16701.80	22800.00	1.000	1.365 ✓
	297.46 (C) (1114)	9/16 BS	3800.00	38000.00	16664.30	22800.00	1.000	1.368 ✓
T4	270.10 (A) (1092)	13/16 BS	8000.00	79999.92	38714.90	48000.00	1.000	1.240 ✓
	270.10 (B) (1091)	13/16 BS	8000.00	79999.92	36538.50	48000.00	1.000	1.314 ✓
	270.10 (C) (1090)	13/16 BS	8000.00	79999.92	36470.00	48000.00	1.000	1.316 ✓

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Section No.	Elevation ft	Size	Initial Tension lb	Breaking Load lb	Actual T_u lb	Allowable ϕT_n lb	Required S.F.	Actual S.F.
T9	177.25 (A) (1105)	15/16 BS	10800.00	108000.22	47850.20	64800.00	1.000	1.354 ✓
	177.25 (A) (1106)	15/16 BS	10800.00	108000.22	48459.70	64800.00	1.000	1.337 ✓
	177.25 (B) (1099)	15/16 BS	10800.00	108000.22	44329.10	64800.00	1.000	1.462 ✓
	177.25 (B) (1100)	15/16 BS	10800.00	108000.22	43214.60	64800.00	1.000	1.499 ✓
	177.25 (C) (1093)	15/16 BS	10800.00	108000.22	43253.60	64800.00	1.000	1.498 ✓
	177.25 (C) (1094)	15/16 BS	10800.00	108000.22	43717.00	64800.00	1.000	1.482 ✓
T13	99.92 (A) (1113)	15/16 BS	10800.00	108000.22	45256.00	64800.00	1.000	1.432 ✓
	99.92 (B) (1112)	15/16 BS	10800.00	108000.22	41264.20	64800.00	1.000	1.570 ✓
	99.92 (C) (1111)	15/16 BS	10800.00	108000.22	41300.30	64800.00	1.000	1.569 ✓

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in ²	Mast Stability Index	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
L1	345 - 330	1 1/4	15.00	1.49	57.3 K=1.00	1.2272	1.00	-9299.40	43444.60	0.214 ¹ ✓
T1	330 - 320	2 1/4	10.00	2.41	51.4 K=1.00	3.9761	1.00	-29170.10	147494.00	0.198 ¹ ✓
T2	320 - 300	2 1/4	20.00	2.45	52.4 K=1.00	3.9761	1.00	-35068.50	146416.00	0.240 ¹ ✓
T3	300 - 280	2 1/4	20.00	2.45	52.4 K=1.00	3.9761	1.00	-49129.90	146416.00	0.336 ¹ ✓
T4	280 - 260	2 1/4	20.00	2.45	52.4 K=1.00	3.9761	1.00	-81272.00	146416.00	0.555 ¹ ✓
T5	260 - 240	2 1/4	20.00	2.45	52.4 K=1.00	3.9761	1.00	-96965.20	146416.00	0.662 ¹ ✓
T6	240 - 220	2 1/4	20.00	2.45	52.4 K=1.00	3.9761	1.00	-97396.80	146416.00	0.665 ¹ ✓
T7	220 - 200	2 1/2	20.00	2.44	46.9 K=1.00	4.9087	1.00	-85405.40	188051.00	0.454 ¹ ✓
T8	200 - 180	2 3/4	20.00	2.44	42.7 K=1.00	5.9396	1.00	-187487.00	232914.00	0.805 ¹ ✓
T9	180 - 160	2 3/4	20.00	2.44	42.7 K=1.00	5.9396	1.00	-214241.00	233988.00	0.916 ¹ ✓
T10	160 - 140	2 3/4	20.00	2.44	42.7 K=1.00	5.9396	1.00	-158040.00	233988.00	0.675 ¹ ✓
T11	140 - 120	2 3/4	20.00	2.44	42.7	5.9396	1.00	-120962.00	233988.00	0.517 ¹ ✓

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	Mast Stability Index	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
					K=1.00					
T12	120 - 100	2 3/4	20.00	2.44	42.7	5.9396	1.00	-144996.00	233988.00	0.620 ¹
					K=1.00					
T13	100 - 80	2 3/4	20.00	2.44	42.7	5.9396	0.98	-144998.00	229118.00	0.633 ¹
					K=1.00					
T14	80 - 60	2 3/4	20.00	2.44	42.7	5.9396	0.98	-171888.00	229182.00	0.750 ¹
					K=1.00					
T15	60 - 40	2 3/4	20.00	2.44	42.7	5.9396	0.98	-177827.00	229268.00	0.776 ¹
					K=1.00					
T16	40 - 20	2 3/4	20.00	2.44	42.7	5.9396	0.98	-176411.00	229208.00	0.770 ¹
					K=1.00					
T17	20 - 12	2 3/4	8.00	2.53	44.1	5.9396	0.96	-154319.00	223054.00	0.692 ¹
					K=1.00					
T18	12 - 6.6667	2 3/4	5.33	2.46	32.2	5.9396	0.90	-152977.00	223736.00	0.684 ¹
					K=0.75					
T19	6.6667 - 0	2 3/4	7.26	2.41	42.0	5.9396	0.95	-164848.00	222848.00	0.740 ¹
					K=1.00					

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 lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
L1	345 - 330	1/2	2.91	1.39	120.5	0.1963	-1358.84	3053.70	0.445 ¹
					K=0.90				
T1	330 - 320	7/8	5.55	2.67	131.9	0.6013	-2107.70	7811.43	0.270 ¹
					K=0.90				
T2	320 - 300	7/8	5.57	2.68	132.3	0.6013	-2657.28	7755.94	0.343 ¹
					K=0.90				
T3	300 - 280	7/8	5.57	2.68	132.3	0.6013	-4295.80	7755.94	0.554 ¹
					K=0.90				
T4	280 - 260	1	5.57	2.68	115.8	0.7854	-5517.11	13231.30	0.417 ¹
					K=0.90				
T5	260 - 240	1	5.57	2.68	115.8	0.7854	-4856.10	13231.30	0.367 ¹
					K=0.90				
T6	240 - 220	1	5.57	2.68	115.8	0.7854	-5243.87	13231.30	0.396 ¹
					K=0.90				
T7	220 - 200	1	5.57	2.67	115.2	0.7854	-7870.10	13369.70	0.589 ¹
					K=0.90				
T8	200 - 180	1 1/4	5.57	2.66	101.0	1.2272	-13479.60	26209.70	0.514 ¹
					K=0.99				
T9	180 - 160	1 1/4	5.57	2.66	101.0	1.2272	-9634.78	26209.70	0.368 ¹
					K=0.99				
T10	160 - 140	1	5.57	2.66	114.7	0.7854	-6545.86	13486.70	0.485 ¹
					K=0.90				
T11	140 - 120	1	5.57	2.66	114.7	0.7854	-3300.47	13486.70	0.245 ¹
					K=0.90				

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	120 - 100	1	5.57	2.66	114.7 K=0.90	0.7854	-5385.73	13486.70	0.399 ¹ ✓
T13	100 - 80	1	5.57	2.66	114.7 K=0.90	0.7854	-7351.59	13486.70	0.545 ¹ ✓
T14	80 - 60	1	5.57	2.66	114.7 K=0.90	0.7854	-5442.67	13486.70	0.404 ¹ ✓
T15	60 - 40	1	5.57	2.66	114.7 K=0.90	0.7854	-2477.38	13486.70	0.184 ¹ ✓
T16	40 - 20	1	5.57	2.66	114.7 K=0.90	0.7854	-4349.04	13486.70	0.322 ¹ ✓
T17	20 - 12	1 1/4	5.60	2.67	101.3 K=0.99	1.2272	-6173.91	26083.30	0.237 ¹ ✓
T18	12 - 6.6667	1 1/4	3.51	3.35	89.9 K=0.70	1.2272	-6743.61	30572.50	0.221 ¹ ✓
T19	6.6667 - 0	1 1/4	3.37	2.47	97.2 K=1.03	1.2272	-21087.00	27671.20	0.762 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 lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T18	12 - 6.6667	6x3/4	5.00	2.39	132.2 K=1.00	4.5000	-2649.65	58090.00	0.046 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 lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T19	6.6667 - 0	7/8	3.61	3.38	129.8 K=0.70	0.6013	-3040.98	8065.10	0.377 ¹ ✓

¹ P_u / φP_n controls

Top Girt Design Data (Compression)

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
L1	345 - 330	3/4	2.50	2.40	107.3 K=0.70	0.4418	-22.64	8562.48	0.003 ¹ ✓
T2	320 - 300	1	5.00	4.81	161.7 K=0.70	0.7854	-244.95	6785.94	0.036 ¹ ✓
T3	300 - 280	1	5.00	4.81	161.7 K=0.70	0.7854	-1163.78	6785.94	0.171 ¹ ✓
T4	280 - 260	1	5.00	4.81	161.7 K=0.70	0.7854	-273.62	6785.94	0.040 ¹ ✓
T5	260 - 240	1	5.00	4.81	161.7 K=0.70	0.7854	-93.27	6785.94	0.014 ¹ ✓
T6	240 - 220	1	5.00	4.81	161.7 K=0.70	0.7854	-60.25	6785.94	0.009 ¹ ✓
T7	220 - 200	1 1/4	5.00	4.79	128.8 K=0.70	1.2272	-799.94	16711.60	0.048 ¹ ✓
T8	200 - 180	1 1/2	5.00	4.77	106.9 K=0.70	1.7672	-1700.87	34501.20	0.049 ¹ ✓
T9	180 - 160	1 1/2	5.00	4.77	106.9 K=0.70	1.7672	-12656.30	34501.20	0.367 ¹ ✓
T10	160 - 140	1 1/4	5.00	4.77	128.2 K=0.70	1.2272	-815.53	16857.90	0.048 ¹ ✓
T11	140 - 120	1 1/4	5.00	4.77	128.2 K=0.70	1.2272	-72.47	16857.90	0.004 ¹ ✓
T14	80 - 60	1 1/4	5.00	4.77	128.2 K=0.70	1.2272	-274.58	16857.90	0.016 ¹ ✓
T16	40 - 20	1 1/4	5.00	4.77	128.2 K=0.70	1.2272	-86.97	16857.90	0.005 ¹ ✓
T18	12 - 6.6667	7/8	5.00	3.58	137.4 K=0.70	0.6013	-3766.68	7195.69	0.523 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 lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	330 - 320	1	5.00	4.81	161.7 K=0.70	0.7854	-257.89	6785.94	0.038 ¹ ✓
T2	320 - 300	1	5.00	4.81	161.7 K=0.70	0.7854	-887.47	6785.94	0.131 ¹ ✓
T3	300 - 280	1	5.00	4.81	161.7 K=0.70	0.7854	-97.41	6785.94	0.014 ¹ ✓
T4	280 - 260	1	5.00	4.81	161.7 K=0.70	0.7854	-431.58	6785.94	0.064 ¹ ✓
T5	260 - 240	1	5.00	4.81	161.7 K=0.70	0.7854	-173.01	6785.94	0.025 ¹ ✓
T6	240 - 220	1	5.00	4.81	161.7 K=0.70	0.7854	-290.31	6785.94	0.043 ¹ ✓
T7	220 - 200	1 1/4	5.00	4.79	128.8 K=0.70	1.2272	-1161.93	16711.60	0.070 ¹ ✓

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T8	200 - 180	1 1/2	5.00	4.77	106.9 K=0.70	1.7672	-8228.65	34501.20	0.239 ¹
T9	180 - 160	1 1/2	5.00	4.77	106.9 K=0.70	1.7672	-396.71	34501.20	0.011 ¹
T10	160 - 140	1 1/4	5.00	4.77	128.2 K=0.70	1.2272	-29.36	16857.90	0.002 ¹
T13	100 - 80	1 1/4	5.00	4.77	128.2 K=0.70	1.2272	-589.55	16857.90	0.035 ¹
T14	80 - 60	1 1/4	5.00	4.77	128.2 K=0.70	1.2272	-218.73	16857.90	0.013 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 lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
L1	345 - 330	3/4	2.50	2.40	107.3 K=0.70	0.4418	-85.29	8562.48	0.010 ¹
T1	330 - 320	1	5.00	4.81	161.7 K=0.70	0.7854	-75.44	6785.94	0.011 ¹
T2	320 - 300	1	5.00	4.81	161.7 K=0.70	0.7854	-33.77	6785.94	0.005 ¹
T3	300 - 280	1	5.00	4.81	161.7 K=0.70	0.7854	-319.94	6785.94	0.047 ¹
T5	260 - 240	1	5.00	4.81	161.7 K=0.70	0.7854	-247.50	6785.94	0.036 ¹
T8	200 - 180	1 1/2	5.00	4.77	106.9 K=0.70	1.7672	-256.06	34501.20	0.007 ¹
T9	180 - 160	1 1/2	5.00	4.77	106.9 K=0.70	1.7672	-66.48	34501.20	0.002 ¹

¹ P_u / φP_n controls

Torque-Arm Bottom Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T9	180 - 160 (1097)	2L4x4x3/8	4.61	4.48	32.8 K=0.75	5.7200	-23743.20	175132.00	0.136 ¹
T9	180 - 160 (1098)	2L4x4x3/8	4.61	4.48	32.8 K=0.75	5.7200	-28670.80	175132.00	0.164 ¹
T9	180 - 160 (1103)	2L4x4x3/8	4.61	4.48	32.8 K=0.75	5.7200	-23650.60	175132.00	0.135 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T9	180 - 160 (1104)	2L4x4x3/8	4.61	4.48	32.8 K=0.75	5.7200	-23650.00	175132.00	0.135 ¹ ✓
T9	180 - 160 (1109)	2L4x4x3/8	4.61	4.48	32.8 K=0.75	5.7200	-24373.20	175132.00	0.139 ¹ ✓
T9	180 - 160 (1110)	2L4x4x3/8	4.61	4.48	32.8 K=0.75	5.7200	-29304.90	175132.00	0.167 ¹ ✓

¹ P_u / φP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
L1	345 - 330	1 1/4	15.00	1.49	57.3	1.2272	8667.31	55223.30	0.157 ¹ ✓
T1	330 - 320	2 1/4	10.00	2.41	51.4	3.9761	6014.43	178924.00	0.034 ¹ ✓
T2	320 - 300	2 1/4	20.00	2.45	52.4	3.9761	12186.30	178924.00	0.068 ¹ ✓
T3	300 - 280	2 1/4	20.00	2.45	52.4	3.9761	10954.00	178924.00	0.061 ¹ ✓
T4	280 - 260	2 1/4	20.00	2.45	52.4	3.9761	6389.15	178924.00	0.036 ¹ ✓
T5	260 - 240	2 1/4	20.00	2.45	52.4	3.9761	21562.70	178924.00	0.121 ¹ ✓
T6	240 - 220	2 1/4	20.00	2.45	52.4	3.9761	21586.20	178924.00	0.121 ¹ ✓
T7	220 - 200	2 1/2	20.00	2.44	46.9	4.9087	2303.28	220893.00	0.010 ¹ ✓
T8	200 - 180	2 3/4	20.00	2.44	42.7	5.9396	84829.20	267281.00	0.317 ¹ ✓
T9	180 - 160	2 3/4	20.00	2.44	42.7	5.9396	84813.70	267281.00	0.317 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 lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
L1	345 - 330	1/2	2.91	1.39	133.9	0.1963	1357.45	8835.73	0.154 ¹
T1	330 - 320	7/8	5.55	2.67	146.5	0.6013	2086.56	27059.40	0.077 ¹
T2	320 - 300	7/8	5.57	2.68	147.0	0.6013	2463.63	27059.40	0.091 ¹
T3	300 - 280	7/8	5.57	2.68	147.0	0.6013	7385.18	27059.40	0.273 ¹
T4	280 - 260	1	5.57	2.68	128.7	0.7854	5768.82	35342.90	0.163 ¹
T5	260 - 240	1	5.57	2.68	128.7	0.7854	4589.27	35342.90	0.130 ¹
T6	240 - 220	1	5.57	2.68	128.7	0.7854	4897.03	35342.90	0.139 ¹
T7	220 - 200	1	5.57	2.67	128.0	0.7854	7498.90	35342.90	0.212 ¹
T8	200 - 180	1 1/4	5.57	2.66	102.0	1.2272	12998.20	55223.30	0.235 ¹
T9	180 - 160	1 1/4	5.57	2.66	102.0	1.2272	9468.04	55223.30	0.171 ¹
T10	160 - 140	1	5.57	2.66	127.4	0.7854	5918.20	35342.90	0.167 ¹
T11	140 - 120	1	5.57	2.66	127.4	0.7854	2664.78	35342.90	0.075 ¹
T12	120 - 100	1	5.57	2.66	127.4	0.7854	4727.39	35342.90	0.134 ¹
T13	100 - 80	1	5.57	2.66	127.4	0.7854	7344.49	35342.90	0.208 ¹
T14	80 - 60	1	5.57	2.66	127.4	0.7854	4646.21	35342.90	0.131 ¹
T15	60 - 40	1	5.57	2.66	127.4	0.7854	1664.13	35342.90	0.047 ¹
T16	40 - 20	1	5.57	2.66	127.4	0.7854	3531.64	35342.90	0.100 ¹
T17	20 - 12	1 1/4	5.60	2.67	102.6	1.2272	4076.22	55223.30	0.074 ¹
T18	12 - 6.6667	1 1/4	3.51	3.35	128.5	1.2272	6778.20	55223.30	0.123 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 lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T17	20 - 12	7/8	5.00	4.77	261.7	0.6013	3369.79	27059.40	0.125 ¹
T18	12 - 6.6667	6x3/4	5.00	2.39	132.2	4.5000	11432.90	145800.00	0.078 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
									✓

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 lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T19	6.6667 - 0	7/8	3.61	3.38	185.4	0.6013	3040.98	27059.40	0.112 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 lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
L1	345 - 330	3/4	2.50	2.40	153.3	0.4418	21.25	19880.40	0.001 ¹
T1	330 - 320	6x3/4	5.00	4.81	266.7	4.5000	40220.30	145800.00	0.276 ¹
T2	320 - 300	1	5.00	4.81	231.0	0.7854	280.26	35342.90	0.008 ¹
T4	280 - 260	1	5.00	4.81	231.0	0.7854	697.75	35342.90	0.020 ¹
T5	260 - 240	1	5.00	4.81	231.0	0.7854	606.67	35342.90	0.017 ¹
T6	240 - 220	1	5.00	4.81	231.0	0.7854	394.93	35342.90	0.011 ¹
T7	220 - 200	1 1/4	5.00	4.79	184.0	1.2272	1252.88	55223.30	0.023 ¹
T8	200 - 180	1 1/2	5.00	4.77	152.7	1.7672	2270.10	79521.60	0.029 ¹
T9	180 - 160	1 1/2	5.00	4.77	152.7	1.7672	10073.10	79521.60	0.127 ¹
T10	160 - 140	1 1/4	5.00	4.77	183.2	1.2272	1397.69	55223.30	0.025 ¹
T11	140 - 120	1 1/4	5.00	4.77	183.2	1.2272	756.95	55223.30	0.014 ¹
T12	120 - 100	1 1/4	5.00	4.77	183.2	1.2272	713.91	55223.30	0.013 ¹
T13	100 - 80	1 1/4	5.00	4.77	183.2	1.2272	13428.30	55223.30	0.243 ¹
T14	80 - 60	1 1/4	5.00	4.77	183.2	1.2272	1112.90	55223.30	0.020 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T15	60 - 40	1 1/4	5.00	4.77	183.2	1.2272	663.68	55223.30	0.012 ¹
T16	40 - 20	1 1/4	5.00	4.77	183.2	1.2272	1039.45	55223.30	0.019 ¹
T17	20 - 12	1 1/4	5.00	4.77	183.2	1.2272	2414.82	55223.30	0.044 ¹
T18	12 - 6.6667	7/8	5.00	3.58	196.3	0.6013	5001.28	27059.40	0.185 ¹
T19	6.6667 - 0	6x3/4	4.94	4.71	261.0	4.5000	32775.20	145800.00	0.225 ¹

¹ P_u / φP_n controls

Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	330 - 320	1	5.00	4.81	231.0	0.7854	368.64	35342.90	0.010 ¹
T2	320 - 300	1	5.00	4.81	231.0	0.7854	16.44	35342.90	0.000 ¹
T3	300 - 280	1	5.00	4.81	231.0	0.7854	445.36	35342.90	0.013 ¹
T4	280 - 260	1	5.00	4.81	231.0	0.7854	986.73	35342.90	0.028 ¹
T5	260 - 240	1	5.00	4.81	231.0	0.7854	452.02	35342.90	0.013 ¹
T6	240 - 220	1	5.00	4.81	231.0	0.7854	556.98	35342.90	0.016 ¹
T7	220 - 200	1 1/4	5.00	4.79	184.0	1.2272	1466.61	55223.30	0.027 ¹
T8	200 - 180	1 1/2	5.00	4.77	152.7	1.7672	7999.37	79521.60	0.101 ¹
T9	180 - 160	1 1/2	5.00	4.77	152.7	1.7672	1397.41	79521.60	0.018 ¹
T10	160 - 140	1 1/4	5.00	4.77	183.2	1.2272	865.81	55223.30	0.016 ¹
T11	140 - 120	1 1/4	5.00	4.77	183.2	1.2272	765.00	55223.30	0.014 ¹
T12	120 - 100	1 1/4	5.00	4.77	183.2	1.2272	3509.60	55223.30	0.064 ¹
T13	100 - 80	1 1/4	5.00	4.77	183.2	1.2272	1516.67	55223.30	0.027 ¹
T14	80 - 60	1 1/4	5.00	4.77	183.2	1.2272	1145.96	55223.30	0.021 ¹
T15	60 - 40	1 1/4	5.00	4.77	183.2	1.2272	694.88	55223.30	0.013 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T16	40 - 20	1 1/4	5.00	4.77	183.2	1.2272	1221.28	55223.30	0.022 ¹
T19	6.6667 - 0	6x3/4	0.75	0.52	28.9	4.5000	15649.00	145800.00	0.107 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 lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
L1	345 - 330	3/4	2.50	2.40	153.3	0.4418	90.71	19880.40	0.005 ¹
T1	330 - 320	1	5.00	4.81	231.0	0.7854	739.16	35342.90	0.021 ¹
T2	320 - 300	1	5.00	4.81	231.0	0.7854	178.99	35342.90	0.005 ¹
T4	280 - 260	1	5.00	4.81	231.0	0.7854	8672.43	35342.90	0.245 ¹
T5	260 - 240	1	5.00	4.81	231.0	0.7854	825.82	35342.90	0.023 ¹
T6	240 - 220	1	5.00	4.81	231.0	0.7854	448.35	35342.90	0.013 ¹
T7	220 - 200	1 1/4	5.00	4.79	184.0	1.2272	606.06	55223.30	0.011 ¹
T8	200 - 180	1 1/2	5.00	4.77	152.7	1.7672	1102.97	79521.60	0.014 ¹
T9	180 - 160	1 1/2	5.00	4.77	152.7	1.7672	2114.89	79521.60	0.027 ¹
T10	160 - 140	1 1/4	5.00	4.77	183.2	1.2272	994.88	55223.30	0.018 ¹
T11	140 - 120	1 1/4	5.00	4.77	183.2	1.2272	1077.65	55223.30	0.020 ¹
T12	120 - 100	1 1/4	5.00	4.77	183.2	1.2272	1120.31	55223.30	0.020 ¹
T13	100 - 80	1 1/4	5.00	4.77	183.2	1.2272	1191.92	55223.30	0.022 ¹
T14	80 - 60	1 1/4	5.00	4.77	183.2	1.2272	1427.33	55223.30	0.026 ¹
T15	60 - 40	1 1/4	5.00	4.77	183.2	1.2272	1555.23	55223.30	0.028 ¹
T16	40 - 20	1 1/4	5.00	4.77	183.2	1.2272	1502.47	55223.30	0.027 ¹
T19	6.6667 - 0	6x3/4	2.84	2.61	144.9	3.3750	12997.30	164531.00	0.079 ¹

¹ P_u / φP_n controls

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Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T9	180 - 160 (1095)	2L4x4x3/8	4.84	4.70	45.9	5.7200	36899.10	185328.00	0.199 ¹ ✓
T9	180 - 160 (1096)	2L4x4x3/8	4.84	4.70	45.9	5.7200	36543.20	185328.00	0.197 ¹ ✓
T9	180 - 160 (1101)	2L4x4x3/8	4.84	4.70	45.9	5.7200	36079.80	185328.00	0.195 ¹ ✓
T9	180 - 160 (1102)	2L4x4x3/8	4.84	4.70	45.9	5.7200	34429.00	185328.00	0.186 ¹ ✓
T9	180 - 160 (1107)	2L4x4x3/8	4.84	4.70	45.9	5.7200	35187.60	185328.00	0.190 ¹ ✓
T9	180 - 160 (1108)	2L4x4x3/8	4.84	4.70	45.9	5.7200	37282.40	185328.00	0.201 ¹ ✓

¹ P_u / φP_n controls

Torque-Arm Bottom Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T9	180 - 160 (1097)	2L4x4x3/8	4.61	4.48	43.7	5.7200	7704.05	185328.00	0.042 ¹ ✓
T9	180 - 160 (1098)	2L4x4x3/8	4.61	4.48	43.7	5.7200	8439.80	185328.00	0.046 ¹ ✓
T9	180 - 160 (1103)	2L4x4x3/8	4.61	4.48	43.7	5.7200	8639.55	185328.00	0.047 ¹ ✓
T9	180 - 160 (1104)	2L4x4x3/8	4.61	4.48	43.7	5.7200	8654.07	185328.00	0.047 ¹ ✓
T9	180 - 160 (1109)	2L4x4x3/8	4.61	4.48	43.7	5.7200	8563.59	185328.00	0.046 ¹ ✓
T9	180 - 160 (1110)	2L4x4x3/8	4.61	4.48	43.7	5.7200	9280.26	185328.00	0.050 ¹ ✓

¹ P_u / φP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	φP _{allow} lb	% Capacity	Pass Fail
L1	345 - 330	Latticed Pole Leg	1 1/4	2	-9299.40	43444.60	21.4	Pass
		Latticed Pole Diagonal	1/2	10	-1358.84	3053.70	44.5	Pass

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Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	330 - 320	Latticed Pole Top Girt	3/4	5	-22.64	8562.48	0.3	Pass
		Latticed Pole Mid Girt	3/4	9	-85.29	8562.48	1.0	Pass
		Leg	2 1/4	70	-4758.83	147494.00	63.0	Pass
		Diagonal	7/8	104	-2107.70	7811.43	27.0	Pass
		Top Girt	6x3/4	74	40220.30	145800.00	27.6	Pass
		Bottom Girt	1	76	-257.89	6785.94	3.8	Pass
		Mid Girt	1	80	739.16	35342.90	2.1	Pass
		Guy A@329.917	11/16	1089	24912.30	34800.00	71.6	Pass
		Guy B@329.917	11/16	1088	23139.10	34800.00	66.5	Pass
		Guy C@329.917	11/16	1087	23063.20	34800.00	66.3	Pass
T2	320 - 300	Leg	2 1/4	108	-35068.50	146416.00	24.0	Pass
		Diagonal	7/8	118	-2657.28	7755.94	34.3	Pass
		Top Girt	1	111	-244.95	6785.94	3.6	Pass
		Bottom Girt	1	112	-887.47	6785.94	13.1	Pass
		Mid Girt	1	117	178.99	35342.90	0.5	Pass
T3	300 - 280	Leg	2 1/4	168	-49129.90	146416.00	33.6	Pass
		Diagonal	7/8	178	-4295.80	7755.94	55.4	Pass
		Top Girt	1	170	-1163.78	6785.94	17.1	Pass
		Bottom Girt	1	174	-97.41	6785.94	1.4	Pass
		Mid Girt	1	175	-319.94	6785.94	4.7	Pass
		Guy A@297.462	9/16	1116	17822.90	22800.00	78.2	Pass
		Guy B@297.462	9/16	1115	16701.80	22800.00	73.3	Pass
		Guy C@297.462	9/16	1114	16664.30	22800.00	73.1	Pass
T4	280 - 260	Leg	2 1/4	228	-81272.00	146416.00	55.5	Pass
		Diagonal	1	252	-5517.11	13231.30	41.7	Pass
		Top Girt	1	229	-273.62	6785.94	4.0	Pass
		Bottom Girt	1	234	-431.58	6785.94	6.4	Pass
		Mid Girt	1	235	8672.43	35342.90	24.5	Pass
		Guy A@270.098	13/16	1092	38714.90	48000.00	80.7	Pass
		Guy B@270.098	13/16	1091	36538.50	48000.00	76.1	Pass
		Guy C@270.098	13/16	1090	36470.00	48000.00	76.0	Pass
T5	260 - 240	Leg	2 1/4	288	-96965.20	146416.00	66.2	Pass
		Diagonal	1	342	-4856.10	13231.30	36.7	Pass
		Top Girt	1	291	606.67	35342.90	1.7	Pass
		Bottom Girt	1	294	-173.01	6785.94	2.5	Pass
		Mid Girt	1	295	-247.50	6785.94	3.6	Pass
T6	240 - 220	Leg	2 1/4	348	-97396.80	146416.00	66.5	Pass
		Diagonal	1	359	-5243.87	13231.30	39.6	Pass
		Top Girt	1	351	394.93	35342.90	1.1	Pass
		Bottom Girt	1	354	-290.31	6785.94	4.3	Pass
		Mid Girt	1	355	448.35	35342.90	1.3	Pass
T7	220 - 200	Leg	2 1/2	406	-85405.40	188051.00	45.4	Pass
		Diagonal	1	419	-7870.10	13369.70	58.9	Pass
		Top Girt	1 1/4	409	-799.94	16711.60	4.8	Pass
		Bottom Girt	1 1/4	414	-1161.93	16711.60	7.0	Pass
		Mid Girt	1 1/4	417	606.06	55223.30	1.1	Pass
T8	200 - 180	Leg	2 3/4	466	-187487.00	232914.00	80.5	Pass
		Diagonal	1 1/4	479	-13479.60	26209.70	51.4	Pass
		Top Girt	1 1/2	469	-1700.87	34501.20	4.9	Pass
		Bottom Girt	1 1/2	474	-8228.65	34501.20	23.9	Pass
		Mid Girt	1 1/2	475	1102.97	79521.60	1.4	Pass
T9	180 - 160	Leg	2 3/4	526	-214241.00	233988.00	91.6	Pass
		Diagonal	1 1/4	565	-9634.78	26209.70	36.8	Pass
		Top Girt	1 1/2	531	-12656.30	34501.20	36.7	Pass
		Bottom Girt	1 1/2	534	1397.41	79521.60	1.8	Pass
		Mid Girt	1 1/2	537	2114.89	79521.60	2.7	Pass
		Guy A@177.25	15/16	1106	48459.70	64800.00	74.8	Pass
		Guy B@177.25	15/16	1099	44329.10	64800.00	68.4	Pass
		Guy C@177.25	15/16	1094	43717.00	64800.00	67.5	Pass

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Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T10	160 - 140	Torque Arm Top@177.25	2L4x4x3/8	1108	37282.40	185328.00	20.1	Pass
		Torque Arm Bottom@177.25	2L4x4x3/8	1110	-29304.90	175132.00	16.7	Pass
		Leg	2 3/4	586	-158040.00	233988.00	67.5	Pass
		Diagonal	1	642	-6545.86	13486.70	48.5	Pass
		Top Girt	1 1/4	589	-815.53	16857.90	4.8	Pass
T11	140 - 120	Bottom Girt	1 1/4	593	865.81	55223.30	1.6	Pass
		Mid Girt	1 1/4	595	994.88	55223.30	1.8	Pass
		Leg	2 3/4	646	-120962.00	233988.00	51.7	Pass
		Diagonal	1	702	-3300.47	13486.70	24.5	Pass
		Top Girt	1 1/4	651	756.95	55223.30	1.4	Pass
T12	120 - 100	Bottom Girt	1 1/4	652	765.00	55223.30	1.4	Pass
		Mid Girt	1 1/4	657	1077.65	55223.30	2.0	Pass
		Leg	2 3/4	707	-144996.00	233988.00	62.0	Pass
		Diagonal	1	719	-5385.73	13486.70	39.9	Pass
		Top Girt	1 1/4	711	713.91	55223.30	1.3	Pass
T13	100 - 80	Bottom Girt	1 1/4	714	3509.60	55223.30	6.4	Pass
		Mid Girt	1 1/4	715	1120.31	55223.30	2.0	Pass
		Leg	2 3/4	767	-144998.00	229118.00	63.3	Pass
		Diagonal	1	816	-7351.59	13486.70	54.5	Pass
		Top Girt	1 1/4	771	13428.30	55223.30	24.3	Pass
T14	80 - 60	Bottom Girt	1 1/4	774	-589.55	16857.90	3.5	Pass
		Mid Girt	1 1/4	777	1191.92	55223.30	2.2	Pass
		Guy A@99.9167	15/16	1113	45256.00	64800.00	69.8	Pass
		Guy B@99.9167	15/16	1112	41264.20	64800.00	63.7	Pass
		Guy C@99.9167	15/16	1111	41300.30	64800.00	63.7	Pass
T15	60 - 40	Leg	2 3/4	828	-171888.00	229182.00	75.0	Pass
		Diagonal	1	883	-5442.67	13486.70	40.4	Pass
		Top Girt	1 1/4	829	1112.90	55223.30	2.0	Pass
		Bottom Girt	1 1/4	833	1145.96	55223.30	2.1	Pass
		Mid Girt	1 1/4	837	1427.33	55223.30	2.6	Pass
T16	40 - 20	Leg	2 3/4	888	-177827.00	229268.00	77.6	Pass
		Diagonal	1	942	-2477.38	13486.70	18.4	Pass
		Top Girt	1 1/4	891	663.68	55223.30	1.2	Pass
		Bottom Girt	1 1/4	892	694.88	55223.30	1.3	Pass
		Mid Girt	1 1/4	897	1555.23	55223.30	2.8	Pass
T17	20 - 12	Leg	2 3/4	948	-176411.00	229208.00	77.0	Pass
		Diagonal	1	960	-4349.04	13486.70	32.2	Pass
		Top Girt	1 1/4	951	1039.45	55223.30	1.9	Pass
		Bottom Girt	1 1/4	952	1221.28	55223.30	2.2	Pass
		Mid Girt	1 1/4	957	1502.47	55223.30	2.7	Pass
T18	12 - 6.6667	Leg	2 3/4	1008	-154319.00	223054.00	69.2	Pass
		Diagonal	1 1/4	1032	-6173.91	26083.30	23.7	Pass
		Horizontal	7/8	1028	3369.79	27059.40	12.5	Pass
		Top Girt	1 1/4	1011	2414.82	55223.30	4.4	Pass
		Leg	2 3/4	1038	-152977.00	223736.00	68.4	Pass
T19	6.6667 - 0	Diagonal	1 1/4	1047	-6743.61	30572.50	22.1	Pass
		Horizontal	6x3/4	1045	11432.90	145800.00	7.8	Pass
		Top Girt	7/8	1040	-3766.68	7195.69	52.3	Pass
		Leg	2 3/4	1059	-164848.00	222848.00	74.0	Pass
		Diagonal	1 1/4	1074	-21087.00	27671.20	76.2	Pass
		Secondary Horizontal	7/8	1085	-3040.98	8065.10	37.7	Pass
		Top Girt	6x3/4	1062	32775.20	145800.00	22.5	Pass
		Bottom Girt	6x3/4	1065	15649.00	145800.00	10.7	Pass
		Mid Girt	6x3/4	1068	12997.30	164531.00	7.9	Pass
						Summary		
						Latticed Pole Leg (L1)	21.4	Pass
						Latticed	44.5	Pass

tnxTower Maser Consulting P.A 400 Valley Road Mt Arlington, NJ Phone: 973.398.3110 FAX: 973.398.3199	Job	Ledyard Colonel Rd	Page	97 of 97
	Project	16963002A	Date	17:26:05 10/09/17
	Client	AT&T Mobility	Designed by	gpenumatsa

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
						Pole Diagonal (L1)		
						Latticed Pole Top Girt (L1)	0.3	Pass
						Latticed Pole Mid Girt (L1)	1.0	Pass
						Leg (T9)	91.6	Pass
						Diagonal (T19)	76.2	Pass
						Horizontal (T17)	12.5	Pass
						Secondary Horizontal (T19)	37.7	Pass
						Top Girt (T18)	52.3	Pass
						Bottom Girt (T8)	23.9	Pass
						Mid Girt (T4)	24.5	Pass
						Guy A (T4)	80.7	Pass
						Guy B (T4)	76.1	Pass
						Guy C (T4)	76.0	Pass
						Torque Arm Top (T9)	20.1	Pass
						Torque Arm Bottom (T9)	16.7	Pass
						Bolt Checks	48.0	Pass
						RATING =	91.6	Pass

SITE ID: CT23XC506
SITE NAME: UNCASVILLE

899 COLONEL LEDYARD ROAD
LEDYARD, CT 06339
DO MACRO PROJECT

SITE INFORMATION

ADDRESS: 899 COLONEL LEDYARD ROAD
LEDYARD, CT 06339
JURISDICTION: TOWN OF LEDYARD
COUNTY: NEW LONDON
PROPERTY OWNER: TOWN OF LEDYARD
741 COLONEL LEDYARD HIGHWAY
LEDYARD, CT 06339
APPLICANT: SPRINT
201 STATE ROUTE 17
RUTHERFORD, NEW JERSEY 07070
LATITUDE (NAD 83): N 41° 27' 43.05"
LONGITUDE (NAD 83): W 72° 01' 25.00"
CURRENT USE: UNMANNED TELECOMMUNICATIONS
FACILITY
PROPOSED USE: NO CHANGE
UTILITY COMPANY: CONNECTICUT LIGHT AND POWER
PHONE: 800-922-4455

RF CONFIGURATION

THE CONTRACTOR SHALL OBTAIN THE LATEST RF DATA SHEET AND
CONFIRM SAME WITH THE SPRINT CONSTRUCTION MANAGER PRIOR TO
START OF CONSTRUCTION.

PROJECT CONTACTS

	NAME	COMPANY:	PHONE #:
ENGINEER:	JEREMY MCKEON	MASER CONSULTING P.A.	973.398.3110
CONSTRUCTION:	TOM JUPIN	CHERUNDOLO CONSULTING	973.819.9033

STRUCTURAL STATEMENT

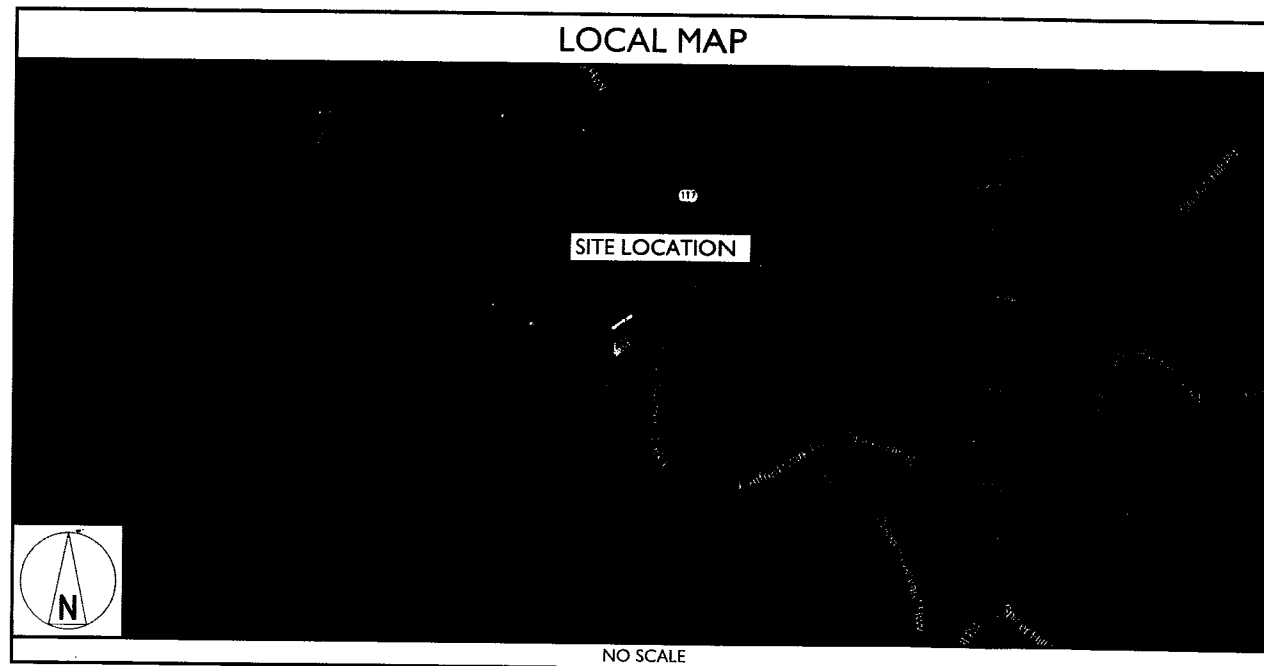
THE PROPOSED ANTENNA AND EQUIPMENT INSTALLATION SHALL BE EVALUATED
INCLUDING THE NEW LOAD CONDITIONS ON THE SUPPORTING ELEMENTS OF THE
EXISTING STRUCTURE. THESE PLANS HAVE BEEN DEVELOPED FOR THE PROPOSED
TELECOMMUNICATION FACILITY TO BE OWNED OR LEASED BY SPRINT IN ACCORDANCE
WITH THE SCOPE OF WORK PROVIDED BY CHERUNDOLO CONSULTING. MASER HAS
INCORPORATED THE SCOPE OF WORK WITHIN THESE PLANS. ELEMENTS OF THE
STRUCTURE AFFECTED BY THE SCOPE OF WORK SHALL BE ANALYZED UNDER SEPARATE
COVER. MASER ASSUMES NO RESPONSIBILITY FOR ANY ELEMENTS OF THE SITE NOT
AFFECTED BY THE SCOPE OR FOR CHANGES TO THE SCOPE OF WORK NOT SPECIFICALLY
SHOWN ON THESE DRAWINGS.

APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND
AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED
HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING
DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

CONSTRUCTION:	DATE:
LEASING/SITE ACQUISITION:	DATE:
RF ENGINEERING:	DATE:
LANDLORD/PROPERTY OWNER:	DATE:

LOCAL MAP



DRIVING DIRECTIONS

DIRECTIONS FROM SPRINT OFFICE AT 1 INTERNATIONAL BOULEVARD, MAHWAY, NEW JERSEY:
HEAD NORTHWEST ON INTERNATIONAL BLVD/PARK STREET TOWARD QUEENSLAND ROAD. CONTINUE TO FOLLOW INTERNATIONAL BOULEVARD.
INTERNATIONAL BOULEVARD TURNS SLIGHTLY LEFT AND BECOMES PARK STREET. TURN RIGHT ONTO PARK LANE. CONTINUE ONTO LEISURE LANE. MERGE
ONTO NJ-17 NORTH. USE THE LEFT 3 LANES TO MERGE ONTO I-287 NORTH/NJ-17 NORTH TOWARD NY THRUWAY. USE THE RIGHT 2 LANES TO MERGE ONTO
I-287 EAST/I-87 SOUTH TOWARD TAPPAN ZEE BRIDGE/NEW YORK CITY. KEEP LEFT AT THE FORK TO CONTINUE ON I-287 EAST. FOLLOW SIGNS FOR WHITE
PLAINS/RYE. TAKE EXIT 9N-9S FOR HUTCHINSON PARKWAY TOWARD WHITESTONE BRIDGE/MERRITT PARKWAY. KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR
WESTCHESTER AVENUE AND MERGE ONTO WESTCHESTER AVENUE. USE THE RIGHT LANE TO TAKE THE HUTCHINSON PARKWAY NORTH RAMP TO MERRITT
PARKWAY. MERGE ONTO HUTCHINSON RIVER PARKWAY NORTH. KEEP RIGHT AT THE FORK TO STAY ON HUTCHINSON RIVER PARKWAY NORTH. CONTINUE
ONTO CT-15 NORTH. TAKE EXIT 54 TOWARD INTERSTATE 95/SJLS. I/MILFORD/NEW LONDON. MERGE ONTO MILFORD PARKWAY. TAKE THE INTERSTATE 95
NORTH EXIT TOWARD NEW LONDON/NEW HAVEN. MERGE ONTO I-95 NORTH. KEEP LEFT AT THE FORK TO CONTINUE ON I-395 NORTH. FOLLOW SIGNS FOR
INTERSTATE 395 NORTH/NORWICH/PLAINFIELD. TAKE EXIT 9 FOR CONNECTICUT 2 ALTERNATE EAST TOWARD PRESTON/LEDYARD. CONTINUE ONTO CT-2A
EAST. USE THE MIDDLE LANE TO TURN LEFT ONTO CT-12 N/CT-2A EAST. TURN RIGHT ONTO CT-2A EAST. SLIGHT RIGHT ONTO CT-117. THE TOWER SITE WILL BE
ON THE RIGHT.

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EXPRESS WRITTEN CONSENT OF MASER
CONSULTING, P.A.

DRAWING INDEX

NYC DOB NUMBER	SHEET TITLE	REV.
T-001.00	TITLE SHEET	1
ANT-001.00	GENERAL NOTES - 1	1
ANT-002.00	GENERAL NOTES - 2	1
ANT-003.00	GENERAL NOTES - 3	1
ANT-004.00	COMPOUND PLAN AND EQUIPMENT LAYOUT	1
ANT-005.00	ELEVATION	1
ANT-006.00	ANTENNA ORIENTATION PLANS	1
ANT-007.00	DETAILS - 1	1
ANT-008.00	DETAILS - 2	1
ANT-009.00	ANTENNA SCHEDULE, WIRING DIAGRAM, BILL OF MATERIALS AND NOTES	1
ANT-010.00	FIBER PLUMBING DIAGRAMS - 1	1
ANT-011.00	FIBER PLUMBING DIAGRAMS - 2	1
ANT-012.00	CABLE COLOR CODING, DC POWER DETAILS & PANEL SCHEDULES	1
ANT-013.00	ELECTRICAL AND GROUNDING NOTES	1
ANT-014.00	GROUNDING SCHEMATIC AND DETAILS	1

APPLICABLE BUILDING CODES & STANDARDS

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT
EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN
THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE
FOLLOWING CODES.

- 2016 CONNECTICUT STATE BUILDING CODE, INCORPORATING THE 2012
INTERNATIONAL BUILDING CODE
- TIA/EIA-222-G OR LATEST EDITION
- NFPA 780-LIGHTNING PROTECTION CODE 2011
- 2014 NATIONAL ELECTRIC CODE OR LATEST EDITION
- ANY OTHER NATIONAL OR LOCAL APPLICABLE CODES MOST RECENT EDITIONS
- CT BUILDING CODE
- LOCAL BUILDING CODE
- CITY/COUNTY ORDINANCES

SCOPE OF WORK

SPRINT PROPOSED TO MODIFY AN EXISTING UNMANNED
TELECOMMUNICATIONS FACILITY.

- REMOVE (3) EXISTING ANTENNAS
- INSTALL (3) NEW ANTENNAS ON EXISTING MAST
- INSTALL (9) NEW RRH'S
- INSTALL (2) HYBRID CABLES
- RELOCATE (3) 1900 RRH'S TO TOWER



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Landscape Architects • Environmental Scientists

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201 STATE ROUTE 17 NORTH
RUTHERFORD, NJ 07070
PHONE: (201) 684-4000 FAX: (201) 684-4223

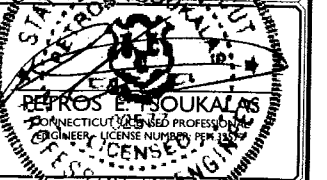


Charles Cherundolo Consulting, Inc.
713 Clover Lane
Moscow, PA 18444
Phone: 973-207-4248
Fax: 570-842-5592



SCALE: AS SHOWN JOB NUMBER: 17924004A

1	10/27/17	REVISED PER COMMENTS	DTS	PET
2	08/28/17	ISSUED FOR	DTS	FEP
3	08/03/17	ISSUED FOR	DTS	FEP
4	08/03/17	ISSUED FOR	DTS	FEP
5	08/03/17	ISSUED FOR	DTS	FEP
6	08/03/17	ISSUED FOR	DTS	FEP
7	08/03/17	ISSUED FOR	DTS	FEP
8	08/03/17	ISSUED FOR	DTS	FEP
9	08/03/17	ISSUED FOR	DTS	FEP
10	08/03/17	ISSUED FOR	DTS	FEP
11	08/03/17	ISSUED FOR	DTS	FEP
12	08/03/17	ISSUED FOR	DTS	FEP
13	08/03/17	ISSUED FOR	DTS	FEP
14	08/03/17	ISSUED FOR	DTS	FEP
15	08/03/17	ISSUED FOR	DTS	FEP
16	08/03/17	ISSUED FOR	DTS	FEP
17	08/03/17	ISSUED FOR	DTS	FEP
18	08/03/17	ISSUED FOR	DTS	FEP
19	08/03/17	ISSUED FOR	DTS	FEP
20	08/03/17	ISSUED FOR	DTS	FEP



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS
THEY ARE ACTING UNDER THE DIRECTION OF THE
RESPONSIBLE LICENSED PROFESSIONAL ENGINEER, TO
ALTER THIS DOCUMENT.

SITE NAME: UNCASVILLE
SITE ID: CT23XC506

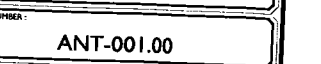
899 COLONEL LEDYARD RD.
LEDYARD, CT 06339



TITLE SHEET

SHEET NUMBER: T-001.00

1. THE CONTRACTOR SHALL NOT COMMENCE ANY WORK UNTIL HE OBTAINS, AT HIS OWN EXPENSE, ALL INSURANCE REQUIRED BY SPRINT, THE PROPERTY OWNER AND/OR PROPERTY MANAGEMENT COMPANY.
2. THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED AND EACH OF THE DRAWINGS HAVE BEEN REVISED TO INDICATE "ISSUED FOR CONSTRUCTION."
3. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITIES OR OTHER PUBLIC AUTHORITIES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
5. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS FOR PERFORMANCE OF WORK. MINOR OMISSIONS OR ERRORS IN THE BID DOCUMENTS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THIS PROJECT IN ACCORDANCE WITH THE OVERALL INTENT OF THESE DRAWINGS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING DEMOLITION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED AS A RESULT OF REMOVAL OF THIS FACILITY.
7. THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR AS REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
8. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING A BID TO VERIFY THAT THE PROJECT CAN BE REMOVED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
9. THE DEMOLITION CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ALL REMOVAL MEANS AND METHODS. THE DEMOLITION CONTRACTOR IS ALSO RESPONSIBLE FOR ALL JOB SITE SAFETY.
10. THE CONTRACTOR IS TO REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. THE CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND RELATED PARTIES. THE SUBCONTRACTOR SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT EFFECTS THEIR WORK.
11. THE CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON THE SITE AT ALL TIMES AND INSURE THE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. CONTRACTOR FURNISH 3 SETS OF REDLINE "AS-REMOVED" DRAWINGS TO SPRINT UPON COMPLETION OF THE WORK.
12. REPAIR MATERIALS INSTALLED SHALL MEET REQUIREMENTS OF CONTRACTORS DOCUMENTS. NO SUBSTITUTIONS ARE ALLOWED.
13. THE CONTRACTOR SHALL RECEIVE CLARIFICATION IN WRITING AND SHALL RECEIVE IN WRITING AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEMS NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
14. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ALL PRODUCTS OR ITEMS NOTED AS EXISTING WHICH ARE NOT FOUND TO BE IN THE FIELD.
15. DEMOLITION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMEN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST-ACCEPTED PRACTICE. ALL SURFACES SHALL BE REPAIRED TO MATCH THEIR SURROUNDINGS AND PROVIDE WEATHER TIGHT SEAL ON SAME DAY AS REMOVAL.
16. THE CONTRACTOR SHALL COORDINATE HIS WORK AND SCHEDULE HIS ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROPERTY OWNER AND/OR PROPERTY MANAGEMENT COMPANY.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF OTHERS AS IT MAY RELATE TO RADIO EQUIPMENT, ANTENNAS AND ANY OTHER PORTIONS OF THE WORK.
18. THE CONTRACTOR SHALL REPAIR ALL EXISTING SURFACES DAMAGED DURING REMOVAL SUCH THAT THEY MATCH AND BLEND WITH ADJACENT SURFACES.
19. THE CONTRACTOR SHALL KEEP CONTRACT AREA CLEAN, HAZARD FREE AND DISPOSE OF ALL DEBRIS AND RUBBISH. LEAVE PREMISES IN CLEAN CONDITION AND FREE FROM PAINT SPOTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ITEMS UNTIL COMPLETION OF CONSTRUCTION.
20. BEFORE FINAL ACCEPTANCE OF THE WORK, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT, TEMPORARY WORKS, UNUSED AND USELESS MATERIALS, RUBBISH AND TEMPORARY STRUCTURES.



SECTION 01 100 - SCOPE OF WORK

THE WORK:
THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE CONSTRUCTION DRAWINGS AND ASSOCIATED OUTLINE SPECIFICATIONS AND THE SITE SPECIFIC WORK ORDER, DESCRIBE THE WORK TO BE PERFORMED BY THIS CONSTRUCTION CONTRACTOR (SUPPLIER).

RELATED DOCUMENTS:

- THE REQUIREMENTS OF EACH SECTION OF THIS SPECIFICATION APPLY TO ALL SECTIONS, INDIVIDUALLY AND COLLECTIVELY.
- RELATED DOCUMENTS: THE CONTRACTOR SHALL COMPLY WITH THE MOST CURRENT VERSION OF THE FOLLOWING SUPPLEMENTAL REQUIREMENTS FOR INSTALLATION AND TESTING.
 - EN-2012-001: FIBER OPTIC, DC CABLE, AND DC CIRCUIT BREAKER TAGGING STANDARDS
 - TS-0200 - (TRANSMISSION ANTENNA LINE ACCEPTANCE STANDARDS)
 - EL-0568: (FIBER TESTING POLICY)
 - NP-312-201: (EXTERIOR GROUNDING SYSTEM TESTING)
 - NP-760-500: ETHERNET, MICROWAVE, TESTING AND ACCEPTANCE

PRECEDENCE:

SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE. NOTIFY SPRINT CONSTRUCTION MANAGER IF THIS OCCURS.

NATIONALLY RECOGNIZED CODES AND STANDARDS:

THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL AND LOCAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:

- GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
- GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
- GR-1089-CORE, ELECTROMAGNETIC COMPATIBILITY AND ELECTRICAL SAFETY -GENERIC CRITERIA FOR NETWORK TELECOMMUNICATIONS EQUIPMENT.
- NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE - "NEC") AND NFPA 101 (LIFE SAFETY CODE).
- AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM)
- INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE)
- AMERICAN CONCRETE INSTITUTE (ACI)
- AMERICAN WIRE PRODUCERS ASSOCIATION (AWPA)
- CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
- AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
- PORTLAND CEMENT ASSOCIATION (PCA)
- NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)
- BRICK INDUSTRY ASSOCIATION (BIA)
- AMERICAN WELDING SOCIETY (AWS)
- NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)
- SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)
- DOOR AND HARDWARE INSTITUTE (DHI)
- OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
- APPLICABLE BUILDING CODES INCLUDING UNIFORM BUILDING CODE, SOUTHERN BUILDING CODE, BOCA, AND THE INTERNATIONAL BUILDING CODE.

DEFINITIONS:

- WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
- COMPANY: "SPRINT"; SPRINT NEXTEL CORPORATION AND ITS OPERATING ENTITIES.
- ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
- CONTRACTOR: CONSTRUCTION CONTRACTOR, SUPPLIER, CONSTRUCTION VENDOR, INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
- THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.
- CONSTRUCTION MANAGER - ALL PROJECTS RELATED COMMUNICATION TO FLOW THROUGH SPRINT REPRESENTATIVE IN CHARGE OF PROJECT.

SITE FAMILIARITY:

CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SPRINT CONSTRUCTION MANAGER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OR FIELD CONDITIONS.

POINT OF CONTACT:

COMMUNICATION BETWEEN SPRINT AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE SPRINT CONSTRUCTION MANAGER APPOINTED TO MANAGE THE PROJECT FOR SPRINT.

ON-SITE SUPERVISION:

THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

DRAWINGS REQUIRED AT JOBSITE:

THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS FOR WIRELESS SITES AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.

A. THE JOBSITE DRAWINGS SHALL BE CLEARLY MARKED DAILY IN RED PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.

B. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. SPACING BETWEEN EQUIPMENT IS THE REQUIRED CLEARANCE. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE SPRINT CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE WORK.

USE OF JOB SITE:

THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.

UTILITY SERVICES:

WHERE NECESSARY TO CUT EXISTING PIPES, ELECTRICAL WIRES, CONDUITS, CABLES, ETC., OF UTILITY SERVICES, OR OF FIRE PROTECTION OR COMMUNICATIONS SYSTEMS, THEY SHALL BE CUT AND CAPPED AT SUITABLE PLACES OR WHERE SHOWN. ALL SUCH ACTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANY INVOLVED.

PERMITS/FEE:

WHEN REQUIRED THAT A PERMIT OR CONNECTION FEE BE PAID TO A PUBLIC UTILITY PROVIDER FOR NEW SERVICE TO THE CONSTRUCTION PROJECT, PAYMENT OF SUCH FEE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

CONTRACTOR:

CONTRACTOR SHALL TAKE ALL MEASURES AND PROVIDE ALL MATERIAL NECESSARY FOR PROTECTING EXISTING EQUIPMENT AND PROPERTY.

USE OF ELECTRONIC PROJECT MANAGEMENT SYSTEMS:

CONTRACTOR WILL UTILIZE ITS BEST EFFORTS TO WORK WITH SPRINT ELECTRONIC PROJECT MANAGEMENT SYSTEMS. CONTRACTOR UNDERSTANDS THAT SUFFICIENT INTERNET ACCESS, EQUIVALENT TO "BROADBAND"

OR BETTER, IS REQUIRED TO TIMELY AND EFFECTIVELY UTILIZE SPRINT DATA AND DOCUMENT MANAGEMENT SYSTEMS AND AGREES TO MAINTAIN APPROPRIATE CONNECTIONS FOR CONTRACTOR'S STAFF AND OFFICES THAT ARE COMPATIBLE WITH SPRINT DATA AND DOCUMENT MANAGEMENT SYSTEMS

TEMPORARY UTILITIES AND FACILITIES:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSOR'S OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.

ACCESS TO WORK:

THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.

DIMENSIONS:

VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

EXISTING CONDITIONS:

NOTIFY THE SPRINT CONSTRUCTION MANAGER OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

SECTION 01 200 - COMPANY FURNISHED MATERIAL AND EQUIPMENT

FURNISHED MATERIALS:

COMPANY FURNISHED MATERIALS AND EQUIPMENT TO BE INSTALLED BY THE CONTRACTOR (ORC) IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DOCUMENTS.

RECEIPT OF MATERIAL AND EQUIPMENT:

- THE CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
 - ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
 - VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
 - TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
- RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
- PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
- COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

DELIVERABLES:

- COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.
- IF APPLICABLE, COMPLETE LOST/STOLEN/DAMAGED DOCUMENTATION REPORT AS NECESSARY IN ACCORDANCE WITH COMPANY PRACTICE, AND AS DIRECTED BY COMPANY.

SECTION 01 300 - CELL SITE CONSTRUCTION

NOTICE TO PROCEED:

- NO WORK SHALL COMMENCE PRIOR TO COMPANY'S ISSUANCE OF THE WORK ORDER.
- UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT WITH AN OPERATIONAL WIRELESS FACILITY.

GENERAL REQUIREMENTS FOR CONSTRUCTION:

- CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.
- EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.
- CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
 - IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
 - CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.
- CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION.

FUNCTIONAL REQUIREMENTS:

- THE ACTIVITIES DESCRIBED IN THIS PARAGRAPH REPRESENT MINIMUM ACTIONS AND PROCESSES REQUIRED TO SUCCESSFULLY COMPLETE THE WORK. CONTRACTOR SHALL TAKE ALL ACTIONS AS NECESSARY TO SUCCESSFULLY COMPLETE THE CONSTRUCTION OF A FULLY FUNCTIONING WIRELESS FACILITY AT THE SITE IN ACCORDANCE WITH COMPANY PROCESSES.
- SUBMIT SPECIFIC DOCUMENTATION AS INDICATED HEREIN, AND OBTAIN REQUIRED APPROVALS WHILE THE WORK IS BEING PERFORMED.
- MANAGE AND CONDUCT ALL FIELD CONSTRUCTION SERVICE RELATED ACTIVITIES
- PROVIDE CONSTRUCTION ACTIVITIES TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - PERFORM ANY REQUIRED SITE ENVIRONMENTAL MITIGATION.
 - PREPARE GROUND SITES; PROVIDE DE-GRUBBING; AND ROUGH AND FINAL GRADING, AND COMPOUND SURFACE TREATMENTS.
 - MANAGE AND CONDUCT ALL ACTIVITIES FOR INSTALLATION OF UTILITIES INCLUDING ELECTRICAL AND BACKHAUL (FIBER, COPPER, OR MICROWAVE).
 - INSTALL UNDERGROUND FACILITIES INCLUDING UNDERGROUND POWER AND COMMUNICATIONS CONDUITS, AND UNDERGROUND GROUNDING SYSTEM.
 - INSTALL ABOVE GROUND GROUNDING SYSTEMS, CONDUIT AND BOXES.
 - PROVIDE NEW HVAC INSTALLATIONS AND MODIFICATIONS.
 - INSTALL "H-FRAMES", CABINETS AND PADS AND PLATFORMS AS INDICATED.
 - INSTALL ROADS, ACCESS WAYS, CURBS AND DRAINS AS INDICATED.
 - ACCOMPLISH REQUIRED MODIFICATION OF EXISTING FACILITIES.
 - PROVIDE ANTENNA SUPPORT STRUCTURE FOUNDATIONS.
 - PROVIDE SLABS AND EQUIPMENT PLATFORMS.
 - INSTALL COMPOUND FENCING, SIGHT SHIELDING, LANDSCAPING AND ACCESS BARRIERS.
 - PERFORM INSPECTION AND MATERIAL TESTING AS REQUIRED HEREINAFTER.
 - CONDUCT SITE RESISTANCE TO EARTH TESTING AS REQUIRED HEREINAFTER.
 - INSTALL FIXED GENERATOR SETS AND OTHER STANDBY POWER SOLUTIONS.
 - INSTALL TOWERS, ANTENNA SUPPORT STRUCTURES AND PLATFORMS ON EXISTING TOWERS AS REQUIRED.
 - INSTALL CELL SITE RADIOS, MICROWAVE, GPS, COAXIAL MAINLINE, ANTENNAS, CROSS BAND COUPLERS, TOWER TOP AMPLIFIERS, LOW NOISE AMPLIFIERS AND RELATED EQUIPMENT.
 - CONDUCT ALL REQUIRED TESTS AND INSPECTIONS
 - PERFORM, DOCUMENT, AND CLOSE OUT ALL JURISDICTIONAL PERMITTING REQUIREMENTS AND ANY CONSTRUCTION CONTROL DOCUMENTS THAT MAY BE REQUIRED BY GOVERNMENT AGENCIES AND LANDLORDS.
 - PERFORM ALL ADDITIONAL WORK AS IDENTIFIED IN SCOPE OF SERVICES ATTACHED TO THE SUPPLIER AGREEMENT FOR THIS PROJECT. THIS WORK MAY INCLUDE COMMISSIONING, INTEGRATION, SPECIAL WAREHOUSING, REVERSE LOGISTICS ACTIVITIES, ETC. PERFORM COMMISSIONING AND INTEGRATION ACTIVITIES PER APPLICABLE MOPS.

DELIVERABLES:

- THE CONTRACTOR SHALL PROVIDE ALL REQUIRED TEST REPORTS AND DOCUMENTATION INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
 - PRODUCT SPECIFICATIONS FOR MATERIALS OR SPECIAL CONSTRUCTION IF REQUESTED BY SPRINT
 - ACTUALIZE ALL CONSTRUCTION RELATED MILESTONES IN SITERA AND COMPLETE ALL ON-LINE FORMS AND COMPLETE DOCUMENT UP-LOADS. UPLOAD ALL REQUIRED CLOSEOUT DOCUMENTS AND FINAL SITE PHOTOS
 - SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT LEFT ON SITE INSIDE BASE OF MAIN RF CABINET IN A PROTECTIVE POUCH.
 - ALL REQUIRED TEST REPORTS.
 - REQUIRED CLOSEOUT DOCUMENTATION INCLUDING BUT NOT LIMITED TO:
 - ALL JURISDICTIONAL PERMITTING AND OCCUPANCY INFORMATION
 - PDF SCAN OF REDLINES PRODUCED IN THE FIELD
 - ELECTRONIC AS-BUILT DRAWINGS IN AUTOCAD AND PDF FORMATS
 - LIEN WAIVERS
 - FINAL PAYMENT APPLICATION
 - REQUIRED FINAL CONSTRUCTION PHOTOS
 - CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
 - LISTS OF SUBCONTRACTORS
- PROVIDE ADDITIONAL DOCUMENTATION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING. DOCUMENTATION SHALL BE FORWARDED IN ORIGINAL FORMAT AND/OR UPLOADED INTO SMS.
 - ALL CORRESPONDENCE AND PRELIMINARY CONSTRUCTION REPORTS.
 - PROJECT PROGRESS REPORTS.
 - PRE-CONSTRUCTION MEETING NOTES.

SECTION 01 400 - TESTS, INSPECTIONS, SUBMITTALS, AND PROJECT CLOSEOUT

TESTS AND INSPECTIONS:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
- CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - COAX SWEEPS AND FIBER TESTS PER TS-0200 (CURRENT VERSION) ANTENNA LINE ACCEPTANCE STANDARDS
 - POST CONSTRUCTION HEIGHT VERIFICATION, AZIMUTH AND DOWNTILT USING ELECTRONIC COMMERCIAL MADE-FOR-THE-PURPOSE ANTENNA ALIGNMENT TOOL.
 - CONCRETE BREAK TESTS
 - SITE RESISTANCE TO EARTH TEST
 - STRUCTURAL BACKFILL COMPACTION TESTS
 - CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.
 - ADDITIONAL TESTING AS REQUIRED ELSEWHERE IN THIS SPECIFICATION.

SUBMITTALS:

- THE WORK IN ALL ASPECTS SHALL COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.
- UPLOAD THE FOLLOWING TO SITERA AS APPLICABLE INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - CONCRETE MIX-DESIGNS FOR TOWER FOUNDATIONS, ANCHORS PIERS, AND CONCRETE PAVING.
 - CONCRETE BREAK TESTS AS SPECIFIED HEREIN.
 - CHEMICAL GROUNDING SYSTEM.
 - REINFORCEMENT CERTIFICATIONS
 - STRUCTURAL BACKFILL TEST RESULTS
 - SWEEP AND FIBER TESTS
 - ANTENNA AZIMUTH AND DOWN-TILT VERIFICATION
 - POST CONSTRUCTION HEIGHT VERIFICATION
- ADDITIONAL SUBMITTALS MAY BE REQUIRED FOR SPECIAL CONSTRUCTION OR MINOR MATERIALS
- ALTERNATES: AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINT'S CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO BEING SHIPPED TO SITE. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED. SUBMITTAL FOR APPROVAL SHALL INCLUDE A STATEMENT OF COST REDUCTION PROPOSED FOR USE OF ALTERNATE PRODUCT.

TESTING BY THIRD PARTY AGENCY:

- EMPLOY AN AGENCY OF ENGINEERS AND SCIENTISTS WHO IS REGULARLY ENGAGED IN FIELD AND LABORATORY TESTING AND ANALYSIS. AGENCY SHALL HAVE BEEN IN BUSINESS A MINIMUM OF FIVE YEARS, AND BE LICENSED AS PROFESSIONAL ENGINEERS IN THE STATE WHERE THE PROJECT IS LOCATED. AGENCY IS SUBJECT TO APPROVAL BY COMPANY.
 - AGENCY MUST HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
 - AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
 - EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASHTO, AND OTHER METHODS IS NEEDED.
- REQUIRED THIRD PARTY TESTS:
 - SITE RESISTANCE TO EARTH TEST PER NP-312-201
 - CONCRETE CYLINDER BREAK TESTS FOR TOWER PIER AND ANCHORS PER NATIONALLY RECOGNIZED STANDARDS
 - STRUCTURAL SOILS COMPACTION TESTS PER NATIONALLY RECOGNIZED STANDARDS
 - REBAR PLACEMENT VERIFICATION WITH REPORT
 - TESTING TENSION STUDY FOR ROCK ANCHORS
 - ALL THIRD PARTY TESTS AS REQUIRED BY LOCAL JURISDICTION
- REQUIRED TESTS BY CONTRACTOR
 - COAX SWEEP TESTS PER SPRINT STANDARD TS-0200
 - FIBER TESTS PER SPRINT STANDARD EL-0568
 - MICROWAVE LINK TESTS PER NP-760-500
 - ANTENNA AZIMUTHS AND DOWN TILT USING ELECTRONIC ALIGNMENT TOOL PER ANTENNA INSTALLATION SPECIFICATION HEREIN.
 - POST CONSTRUCTION HEIGHT VERIFICATION AS REQUIRED HEREWITH IN THE TOWER INSTALLATION SPECIFICATIONS.
 - ASPHALT ROADWAY COMPACTED THICKNESS, SURFACE SMOOTHNESS, AND COMPACTED DENSITY TESTING AS SPECIFIED HEREWITH IN THE ASPHALT PAVING SPECIFICATIONS.
 - FIELD QUALITY CONTROL TESTING AS SPECIFIED HEREWITH IN THE CONCRETE PAVING SPECIFICATIONS.
 - TESTING REQUIRED HEREWITH UNDER SPECIFICATIONS FOR AGGREGATE BASE FOR ROADWAYS
 - ALL OTHER TESTS REQUIRED BY LOCAL JURISDICTION
- INSPECTIONS BY COMPANY: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN INSPECTION ACTIVITIES, FINAL ACCEPTANCE / PUNCH WALK REVIEW, AND/OR AS A RESULT OF TESTING.
- SPRINT RESERVES THE RIGHT TO INSPECT THE CONSTRUCTION SITE AT ANY TIME VIA SITE WALKS AND/OR PHOTO REVIEWS. CONTRACTOR SHALL GIVE SPRINT 24 HOURS NOTICE PRIOR TO THE COMMENCEMENT OF THE FOLLOWING CONSTRUCTION ACTIVITIES AND PHOTOGRAPHS OF THE IN-PROGRESS WORK.
 - GROUNDING SYSTEM AND BURIED UTILITIES INSTALLATION PRIOR TO EARTH CONCEALMENT DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
 - FORMING FOR CONCRETE AND REBAR PLACEMENT PRIOR TO POUR DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
 - COMPACTION OF BACKFILL MATERIALS, AGGREGATE BASE FOR ROADS, PADS, AND ANCHORS, ASPHALT PAVING, AND SHAFT BACKFILL FOR CONCRETE AND WOOD POLES, BY INDEPENDENT THIRD PARTY AGENCY.
 - PRE AND POST CONSTRUCTION ROOFTOP AND STRUCTURAL INSPECTIONS ON EXISTING FACILITIES. PRIOR TO CONSTRUCTION ACTIVITIES AND AFTER CONSTRUCTION IS COMPLETE, PROVIDE PHOTOGRAPHIC DOCUMENTATION OF ROOF, FLASHINGS, AND PARAPETS, BOTH BEFORE AND AFTER CONSTRUCTION IS COMPLETE.
 - TOWER ERECTION SECTION STACKING AND PLATFORM ATTACHMENT DOCUMENTED BY DIGITAL PHOTOGRAPHS BY THIRD PARTY AGENCY.
 - TOWER TOP AND INACCESSIBLE EQUIPMENT (RRUS, ANTENNAS, AND CABLING): PROVIDE PHOTOS OF THE BACKS OF ALL ANTENNAS, RRUS, COMBINERS, FILTERS, FIBER AND DC CABLING, CABLE COLOR CODING, EQUIPMENT GROUNDING AND CONNECTOR WATER PROOFING INCLUDING NAME PLATE AND SERIAL NUMBER FOR ALL SERIALIZED EQUIPMENT.



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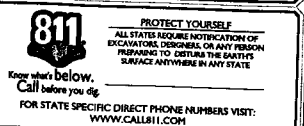
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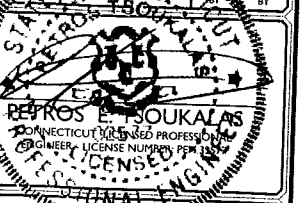


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713 Clover Lane
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Phone: 973-207-4248
Fax: 570-842-5592



SCALE: AS SHOWN FOR MEMBER: 17924004A

DATE	REVISION	REVISION DESCRIPTION	DATE	REVISION	REVISION DESCRIPTION
1	10/27/17	REVISED PER COMMENTS	DTS	PET	
2	08/28/17	REVISED PER COMMENTS	DTS	FEP	
3	08/01/17	REVISED PER COMMENTS	DTS	FEP	
REV					CHECKED BY:



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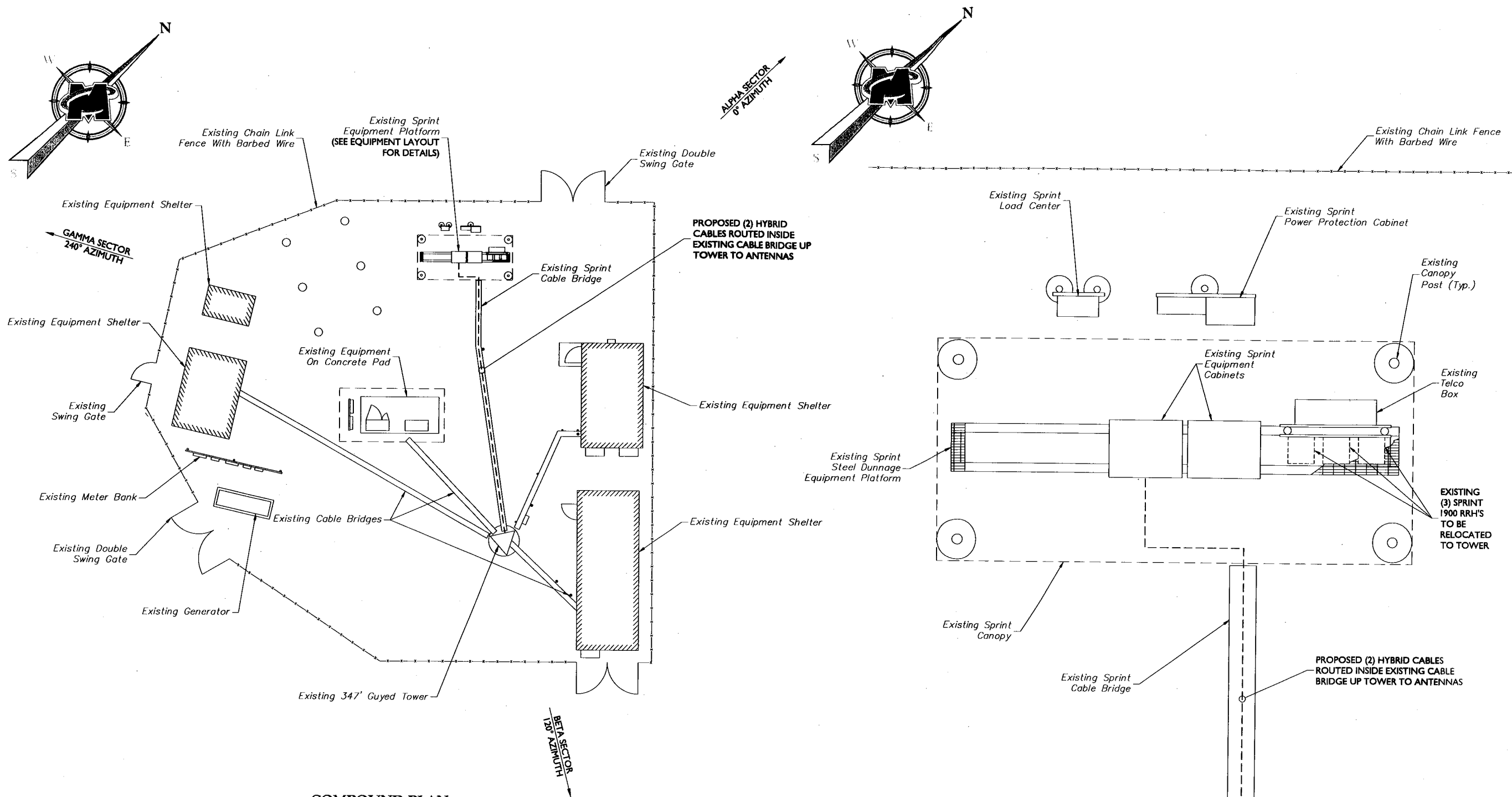
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GENERAL NOTES - 2

SHEET NUMBER: ANT-002.00



COMPOUND PLAN

10 0 10 20

SCALE: 1" = 10'

(DO NOT SCALE 11"X17" DRAWINGS)

EQUIPMENT LAYOUT

2 0 2 4

SCALE: 1" = 2'

(DO NOT SCALE 11"X17" DRAWINGS)

LEGEND

— LIGHT LINE WORK INDICATES EXISTING OBJECTS

— HEAVY LINE WORK INDICATED PROPOSED OBJECTS



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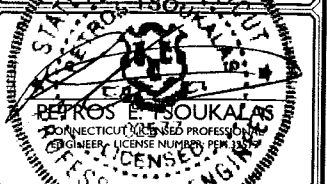


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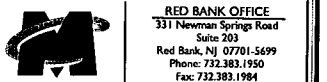
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Red Bank, NJ 07701-5699
Phone: 732.383.1950
Fax: 732.383.1984

COMPOUND PLAN AND EQUIPMENT LAYOUT

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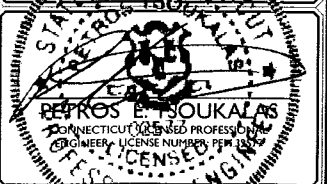
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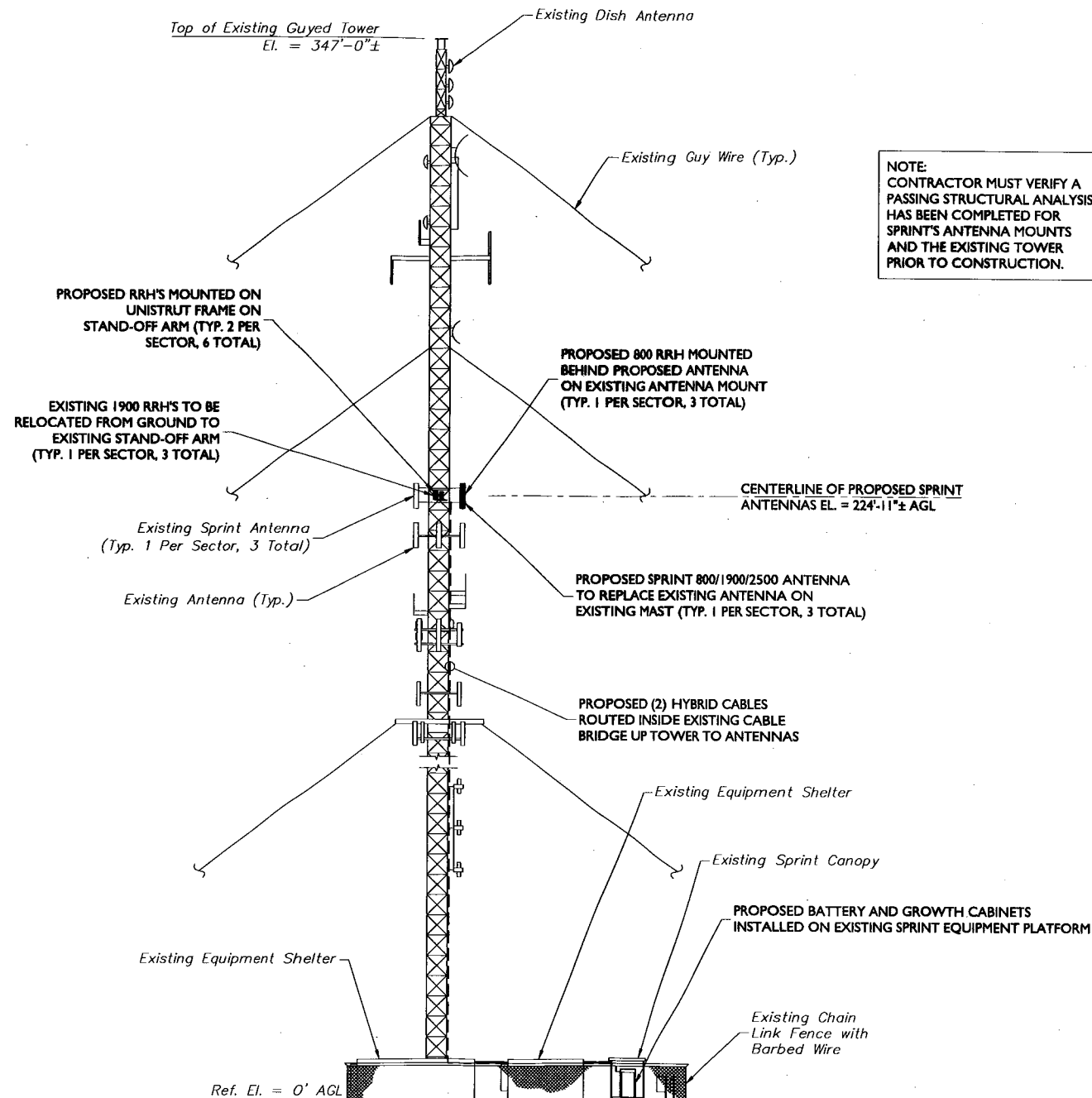
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SHEET TITLE:
ELEVATION

SHEET NUMBER:
ANT-005.00

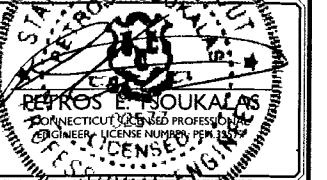


NOTE:
CONTRACTOR MUST VERIFY A
PASSING STRUCTURAL ANALYSIS
HAS BEEN COMPLETED FOR
SPRINT'S ANTENNA MOUNTS
AND THE EXISTING TOWER
PRIOR TO CONSTRUCTION.

TOWER ELEVATION (LOOKING SOUTHWEST)
SCALE: 1" = 10'

LEGEND
LIGHT LINE WORK INDICATES EXISTING OBJECTS
HEAVY LINE WORK INDICATED PROPOSED OBJECTS

REV	DATE	DESCRIPTION	ISSUED FOR	DTS	PET
1	10/27/17	REVISED PER COMMENTS		DTS	PET
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A	08/01/17	ISSUED FOR		DTS	PET
REV	DATE	DESCRIPTION	ISSUED FOR	DTS	PET



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THEY ARE AN ACTIVE LICENSED PROFESSIONAL ENGINEER,
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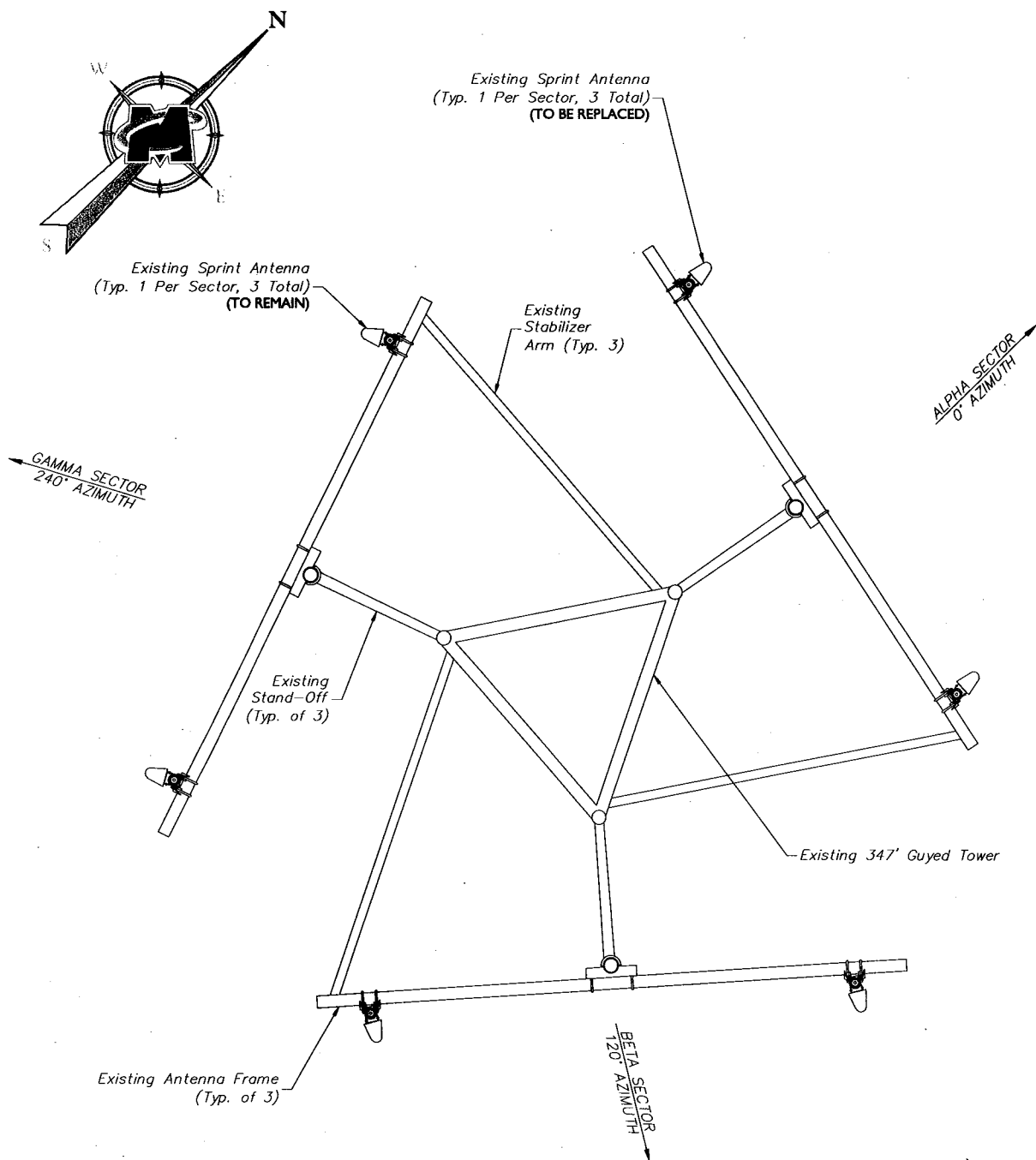
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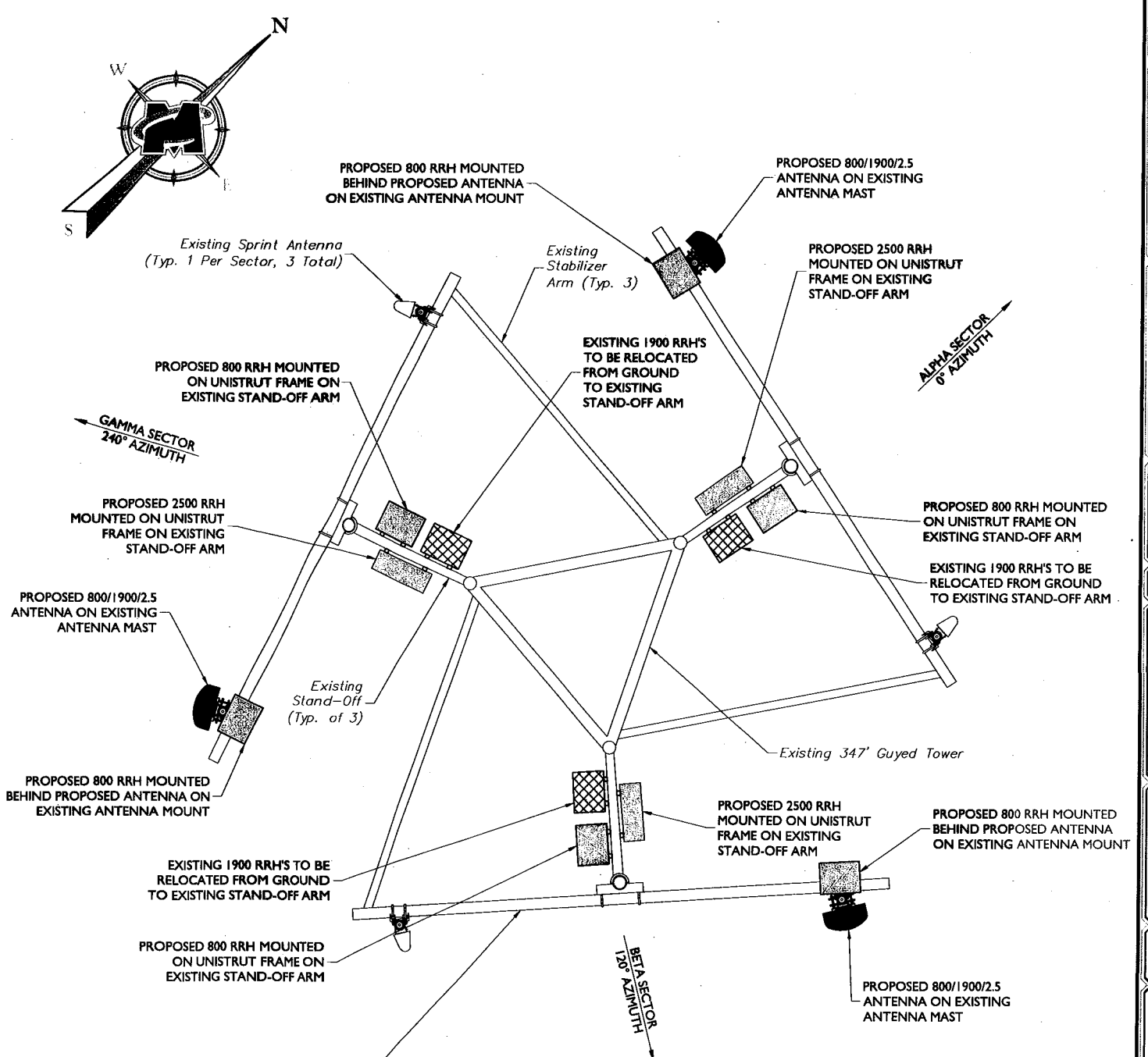
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PROJECT TITLE:
ANTENNA
ORIENTATION PLANS

PROJECT NUMBER:
ANT-006.00



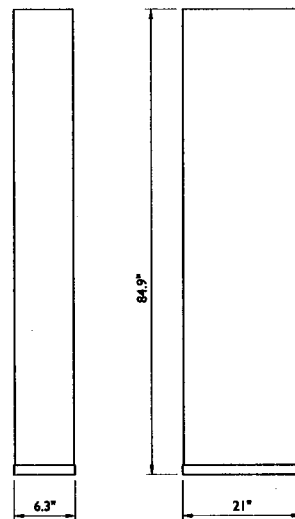
EXISTING ANTENNA LAYOUT
SCALE: 1" = 2'-0"



PROPOSED ANTENNA LAYOUT
SCALE: 1" = 2'-0"

NOTE:
CONTRACTOR MUST VERIFY A
PASSING STRUCTURAL ANALYSIS
HAS BEEN COMPLETED FOR
SPRINT'S ANTENNA MOUNTS
AND THE EXISTING TOWER
PRIOR TO CONSTRUCTION.

NOTE:
PROPOSED ANTENNA INSTALLATION MUST
MEET SPRINT GUIDELINES FOR SPACING.
CONTRACTOR TO VERIFY IN FIELD.

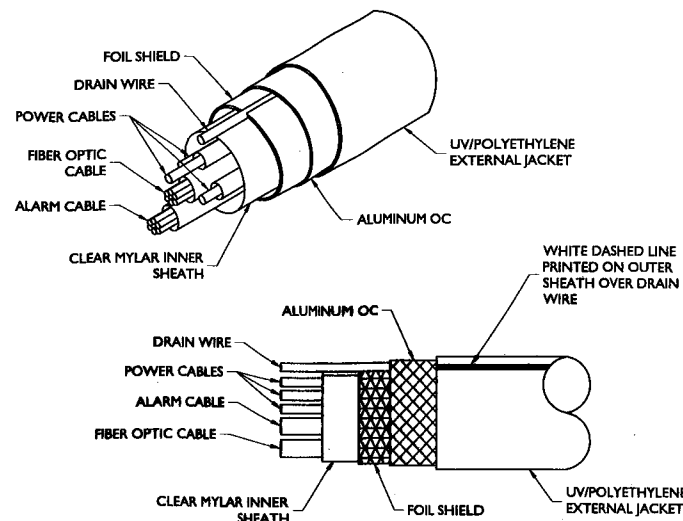


WEIGHT = 85 LBS

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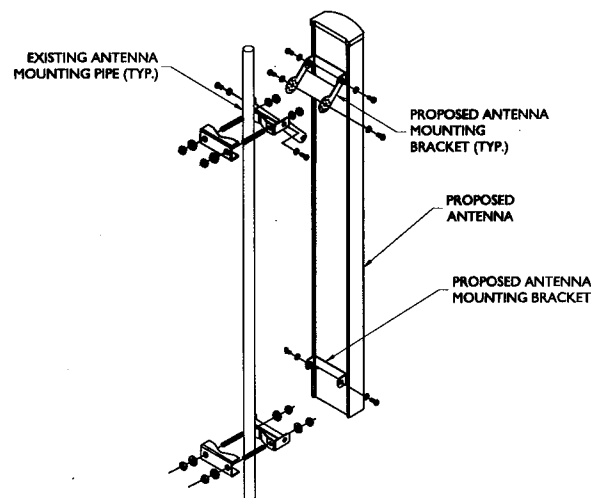
ANTENNA DETAIL

NOT TO SCALE



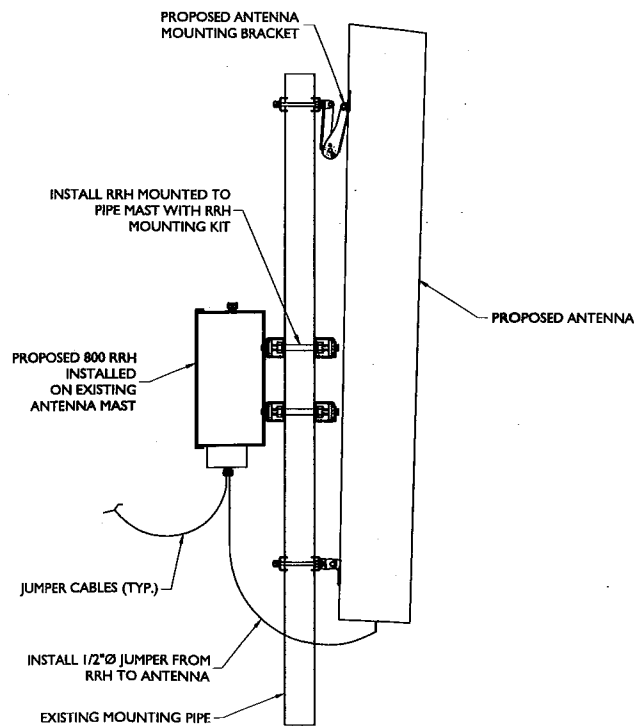
HYBRID CABLE

NOT TO SCALE



ANTENNA MOUNTING DETAIL

NOT TO SCALE



ANTENNA AND RRH MOUNTING DETAIL

NOT TO SCALE



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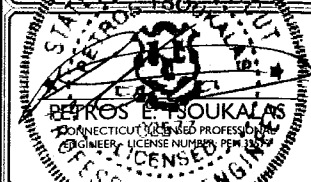
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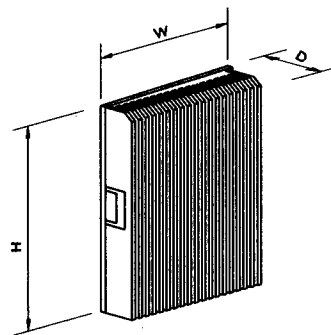
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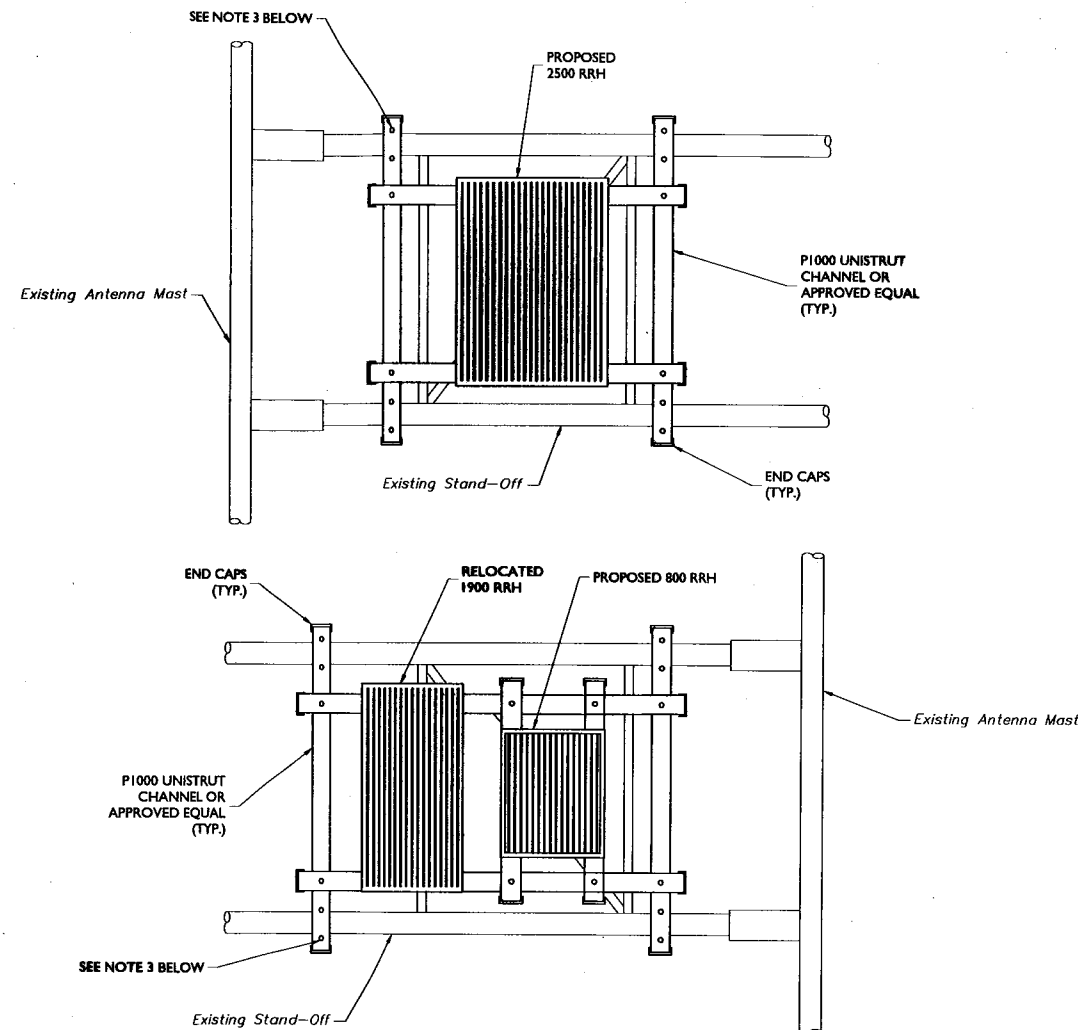
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MODEL	HEIGHT (H)	WIDTH (W)	DEPTH (D)	WEIGHT
ALU TD-RRH8x20-25	26"	18.6"	6.7"	76.2 LBS
ALU RRH-4x45-1900	25"	12"	12"	69.5 LBS
ALU RRH-2x50-800	16"	13"	10"	69.1 LBS

RRH SPECIFICATIONS

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NOTES:

- SPRINT SUPPLIES THE RRH. SUBCONTRACTOR SHALL SUPPLY ALL OTHER MATERIALS AND INSTALL ALL MOUNTING HARDWARE. ALU INSTALLS RRH AND MAKES CABLE TERMINATIONS.
- A SUPPORT FRAME FOR ANY EQUIPMENT SHALL BE INSTALLED ON A MINIMUM OF TWO HORIZONTAL UNISTRUTS THAT ENGAGE A MINIMUM OF TWO VERTICAL PIPE MASTS (MAXIMUM 4'-6" CLEAR SPAN). INSTALL VERTICAL UNISTRUT CHANNELS AS REQUIRED TO ALIGN FRAME WITH EQUIPMENT MOUNTING HOLES. FASTEN UNISTRUT CHANNELS TOGETHER WITH 3/8" UNISTRUT BOLTING HARDWARE AND SPRING NUTS.
- EACH UNISTRUT TO BE MOUNTED TO EXISTING STAND-OFF ARM USING 1/2"Ø U-BOLTS.
- MOUNT RRH TO UNISTRUT WITH 3/8"Ø UNISTRUT BOLTING HARDWARE AND SPRING NUTS. TYPICAL FOUR PER BRACKET. SUBCONTRACTOR SHALL SUPPLY.

REMOTE RADIO HEAD (RRH) MOUNTING DETAIL

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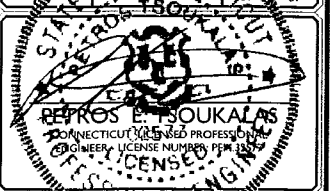


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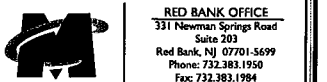
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DETAILS - 2

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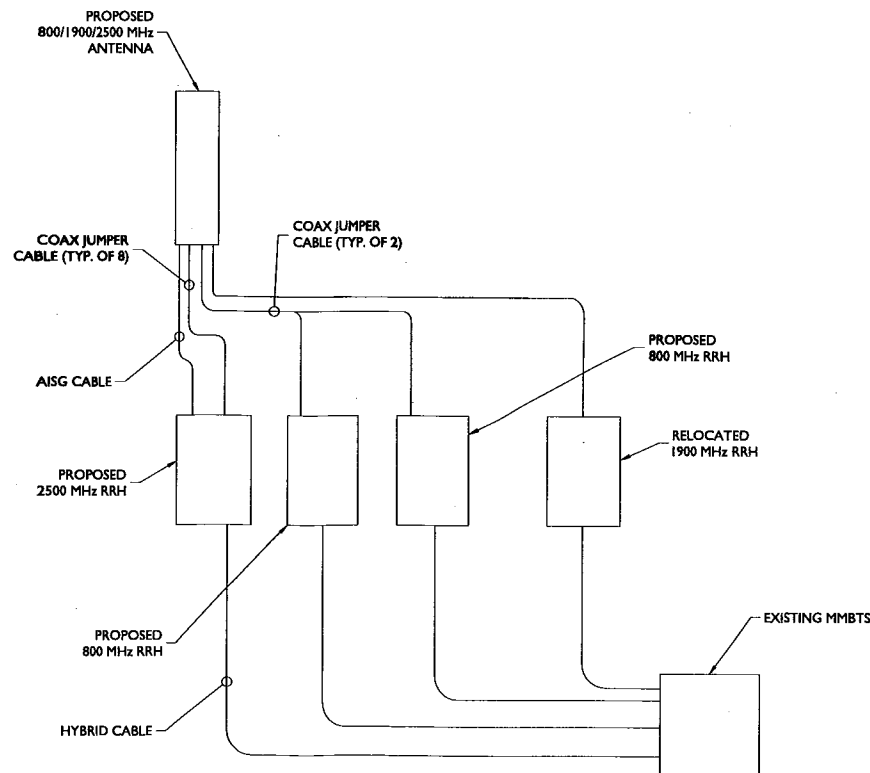
1. ACTUAL CABLE LENGTHS SHALL BE DETERMINED PER SITE CONDITION BY SUBCONTRACTOR.
2. THE DESIGN IS BASED ON RF DATA SHEETS, SIGNED AND APPROVED.
3. RADIO SIGNAL CABLE AND RACEWAY SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70), CHAPTER 8.
4. ALL SPECIFIED MATERIAL FOR EACH LOCATION (E.G., OUTDOORS, INDOORS-OCCUPIED, INDOORS-UNOCCUPIED, PLENUMS, RISER SHAFTS, ETC.) SHALL BE APPROVED, LISTED, OR LABELED AS REQUIRED BY THE NEC.
5. HARDLINE AND JUMPER CABLES SHALL BE SUPPORTED WITH HANGERS AND AT INTERVALS AS REQUIRED BY THE MANUFACTURER FOR 125 mph WIND SPEED AND EXPECTED ICE CONDITIONS. FOR SITES WITH TOWER HEIGHT OVER 300' OR ARE LOCATED IN THE EXTREME WEATHER/OPERATION AREAS, THE WORST CASE SCENARIO FOR 150 mph WIND SPEED AND 1" ICE CONDITION SHOULD BE APPLIED. ALL CABLES SHOULD BE SUPPORTED AT HALF THE DISTANCE OF THE MAXIMUM HANGER SPACING FROM THE CABLE CONNECTOR LOCATION TO THE 1ST HANGER. MANUFACTURER RECOMMENDED CABLE SUPPORT ACCESSORIES SHALL BE USED. PLASTIC CABLE TIES ARE NOT ACCEPTABLE. HANGER STACKING LIMIT SHOULD ALSO REFER TO VENDOR'S RECOMMENDATION.
6. THE OUTDOOR CABLE SUPPORT SYSTEM SHALL BE PROVIDED WITH AN ICE SHIELD TO SUPPORT AND PROTECT ANTENNA CABLE RUNS.
7. DRIP LOOPS SHALL BE REQUIRED ON ALL OUTSIDE CABLES. CABLES SHALL BE SLOPED AWAY FROM THE BUILDING OR OUTDOOR BTS CABINETS TO PREVENT WATER FROM ENTERING THROUGH THE COAXIAL CABLE PORT.
8. ALL FEEDER LINE AND JUMPER CONNECTORS SHALL BE 7/16 DIN CABLE CONNECTORS THAT MEET IP68 STANDARDS.
9. CONNECTORS IN INDOOR APPLICATIONS REQUIRE NO WEATHERPROOFING. OUTDOOR APPLICATIONS REQUIRE WEATHERPROOFING AND THE FOLLOWING PROCEDURES SHOULD BE FOLLOWED:

RE-ENTERABLE AND RE-SEALABLE PLASTIC ENCLOSURE APPROVED BY CABLE MANUFACTURER AND CONTRACTOR IS RECOMMENDED METHOD TO WEATHERPROOF CONNECTORS.

ALSO ACCEPTABLE IS THE USE OF BUTYL RUBBER WEATHERPROOFING KIT APPROVED BY CABLE MANUFACTURER AND CONTRACTOR. START BUTYL RUBBER TAPE APPROXIMATELY 5 INCHES FROM THE CONNECTOR AND WRAP 2 INCHES TOWARD THE CONNECTOR. THEN REVERSE THE TAPE SO THAT THE STICKY SIDE IS UP. TAPE OVER THE CONNECTOR OR SURGE ARRESTOR UNTIL THREE (3) TO FOUR (4) INCHES BEYOND THE CONNECTOR AND REVERSE AGAIN WITH THE STICKY SIDE DOWN FOR ANOTHER TWO INCHES. FINISH WITH TWO LAYERS OF VINYL TAPE. COLD SHRINK IS STRICTLY PROHIBITED. SELF-BONDING, AMALGAMATING TAPE MAYBE USED AS AN ALTERNATIVE TO BUTYL RUBBER TAPE.
10. ANTENNAS SHALL BE PAINTED, WHEN REQUIRED, BY THE LANDLORD OR AUTHORITY HAVING JURISDICTION IN ACCORDANCE WITH ANTENNA MANUFACTURERS' SURFACE PREPARATION AND PAINTING REQUIREMENTS.
11. CABLE SHIELDS, AND TOWER CONDUITS SHALL BE GROUNDED AT THE TOP OF THE TOWER, WITHIN 10 FEET OF THEIR CONNECTORS, AND AT THE BOTTOM OF THE TOWER ABOUT 6 INCHES BEFORE THEY TURN TOWARD THE FACILITY. THEY SHALL BE GROUNDED AT THE MIDPOINT OF TOWERS THAT ARE BETWEEN 100 FEET AND 200 FEET HIGH, AND AT INTERVALS OF 100 FEET OR LESS ON TOWERS THAT ARE HIGHER THAN 200 FEET.
12. APPROVED GROUNDING KITS, WHICH INCLUDE GROUNDING STRAPS, SHALL BE USED TO GROUND THE COAXIAL CABLE SHIELDS, AND CONDUITS. THE GROUND CONDUCTORS FOR THE KITS AT THE TOP OF THE TOWER, AND IN THE MIDDLE SECTION OF THE TOWER, ARE BONDED DIRECTLY TO TOWER STEEL USING BOLTED, OR APPROVED CLAMP CONNECTIONS. EXOTHERMIC WELDS SHALL BE PERMITTED ON TOWERS ONLY WITH THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE CONTRACTORS STRUCTURAL ENGINEER.
13. ALL RADIO SIGNAL CABLE SHALL BE LABELED AND COLOR CODED PER MARKET REQUIREMENTS.
14. ANTENNA FEED LINE SYSTEM SWEEP TESTING SHALL BE PERFORMED AND REPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF PROJECT SPECIFICATIONS. CONTRACTOR WILL NOT ACCEPT A RADIO SIGNAL CABLE INSTALLATION WITH UNSATISFACTORY SWEEP TEST RESULTS.
15. PIM TESTS SHALL BE PERFORMED ON NEW AND MOVED OR MODIFIED COAXIAL CABLE INSTALLATIONS. TEST SHALL BE PERFORMED AND REPORTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
16. DC CONNECTORS AT OUTDOOR BIAS-Ts OR DUPLEXER/TRIPLEXER PORTS SHALL BE WEATHERPROOFED PER MANUFACTURER RECOMMENDATIONS.
17. AISG CONNECTIONS DO NOT REQUIRE ADDITIONAL WEATHERPROOFING UNLESS RECOMMENDED BY MANUFACTURER OR BY MARKET REQUIREMENTS.
18. INSTALL ONLY STANDARD RF JUMPER CABLES (e.g. LDM4 OR LCF12) AT TOWER-TOP APPLICATIONS. FLEXIBLE RF CABLES (e.g. F54 OR SCF12) SHALL NOT BE USED.
19. CABLES AND CONNECTORS MUST BE PREPARED AND INSTALLED USING THE TOOLS RECOMMENDED BY THE COAXIAL CABLE MANUFACTURER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE CORRECT TOOLS ARE USED FOR THE SIZE AND TYPE OF COAX AND CONNECTOR. ALL ASPECTS OF INSTALLATION OF ALL COAXIAL CABLE SHALL FOLLOW THE CABLE MANUFACTURER'S RECOMMENDATIONS, INCLUDING THOSE FOR PULLING, MOUNTING AND GROUNDING.

PROPOSED ANTENNA CONFIGURATION												
SECTOR		PROPOSED ANTENNA	TECH.	ANTENNA STATUS	HEIGHT (in)	WIDTH (in)	DEPTH (in)	WEIGHT (lbs)	ANTENNA AZIMUTH	ANT. CL. ELEV. (ft.)	ELECTRICAL DOWNTILT	MECHANICAL DOWNTILT
ALPHA	A1	KMW ETCR-654L12H6	800/1900/2500	REPLACED	84.9	21	6.3	85	0°	224°-11"	5°/3°/2°	0°
BETA	B1	KMW ETCR-654L12H6	800/1900/2500	REPLACED	84.9	21	6.3	85	120°	224°-11"	5°/3°/2°	0°
GAMMA	C1	KMW ETCR-654L12H6	800/1900/2500	REPLACED	84.9	21	6.3	85	240°	224°-11"	5°/3°/2°	0°

BILL OF MATERIALS				
NUMBER	QUANTITY	DESCRIPTION	MANUFACTURER	MODEL NUMBER
1	3	PANEL ANTENNA	KMW	ETCR-654L12H6
2	6	800MHZ RRH	ALU	RRH-2X50-800
3	3	2500MHZ RRH	ALU	TD-RRH8X20-25
4	330 LF	1-5/8"Ø HYBRID	ALU	TBD
5	30	1/2"Ø JUMPER CABLE (8' LONG)	TBD	
6	TBD	0.315"Ø AISI316 CABLE (8' LONG)	COMMSCOPE	ATCB-B01-006



ANTENNA WIRING DIAGRAM



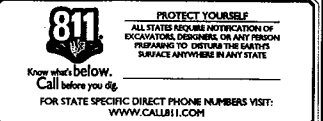
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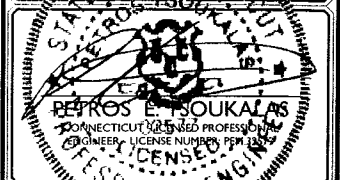
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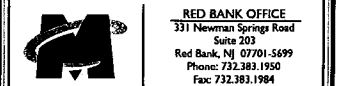
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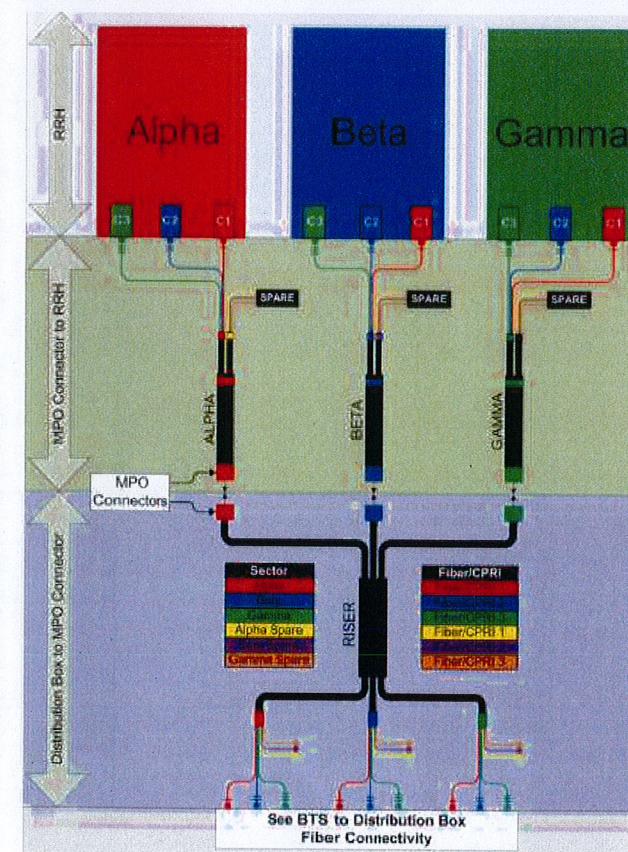
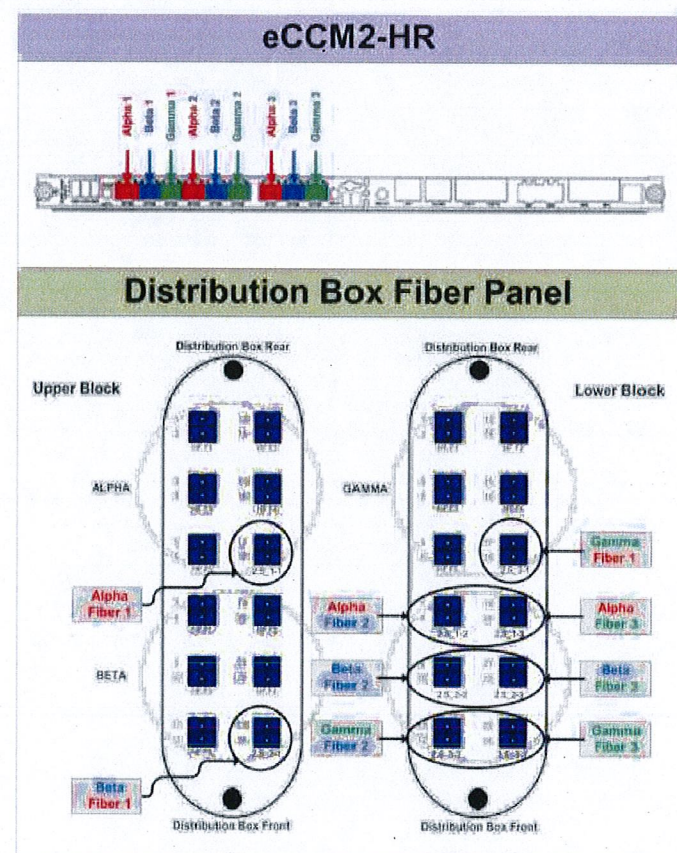
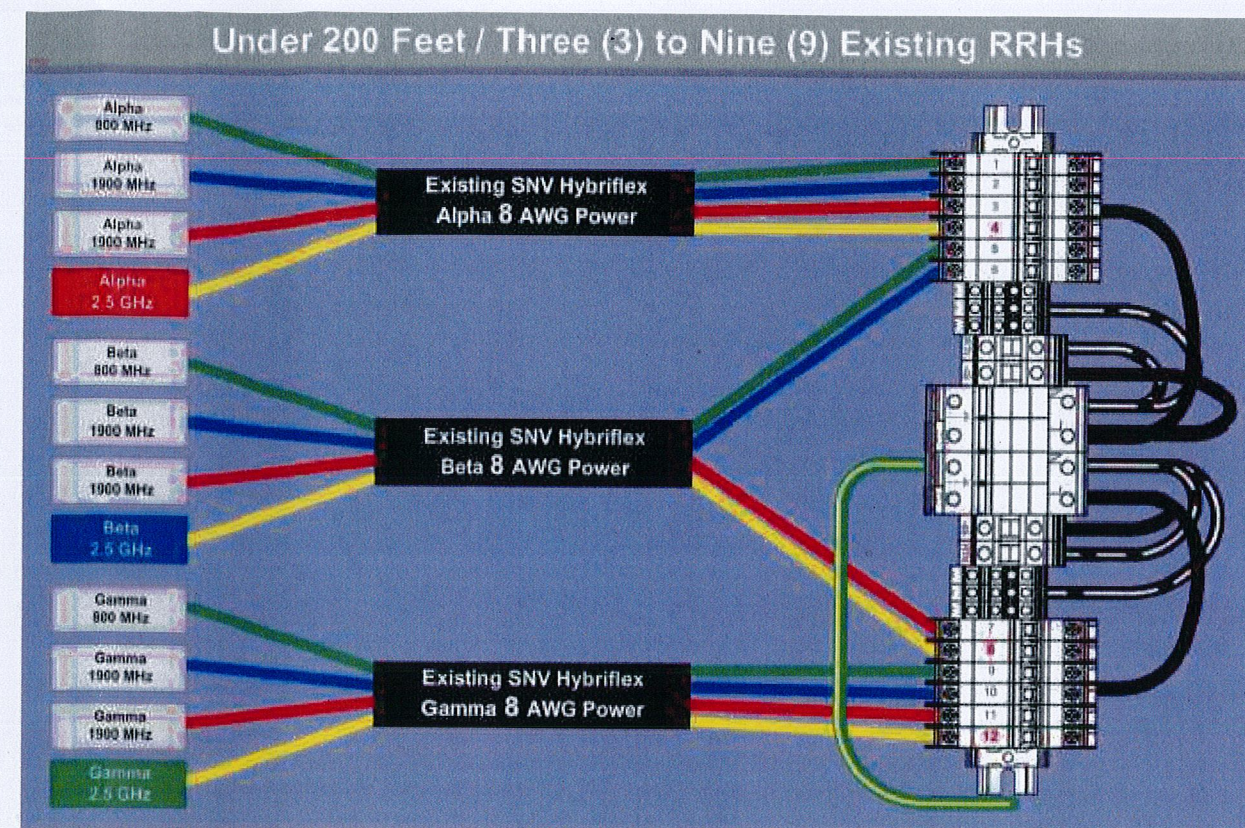
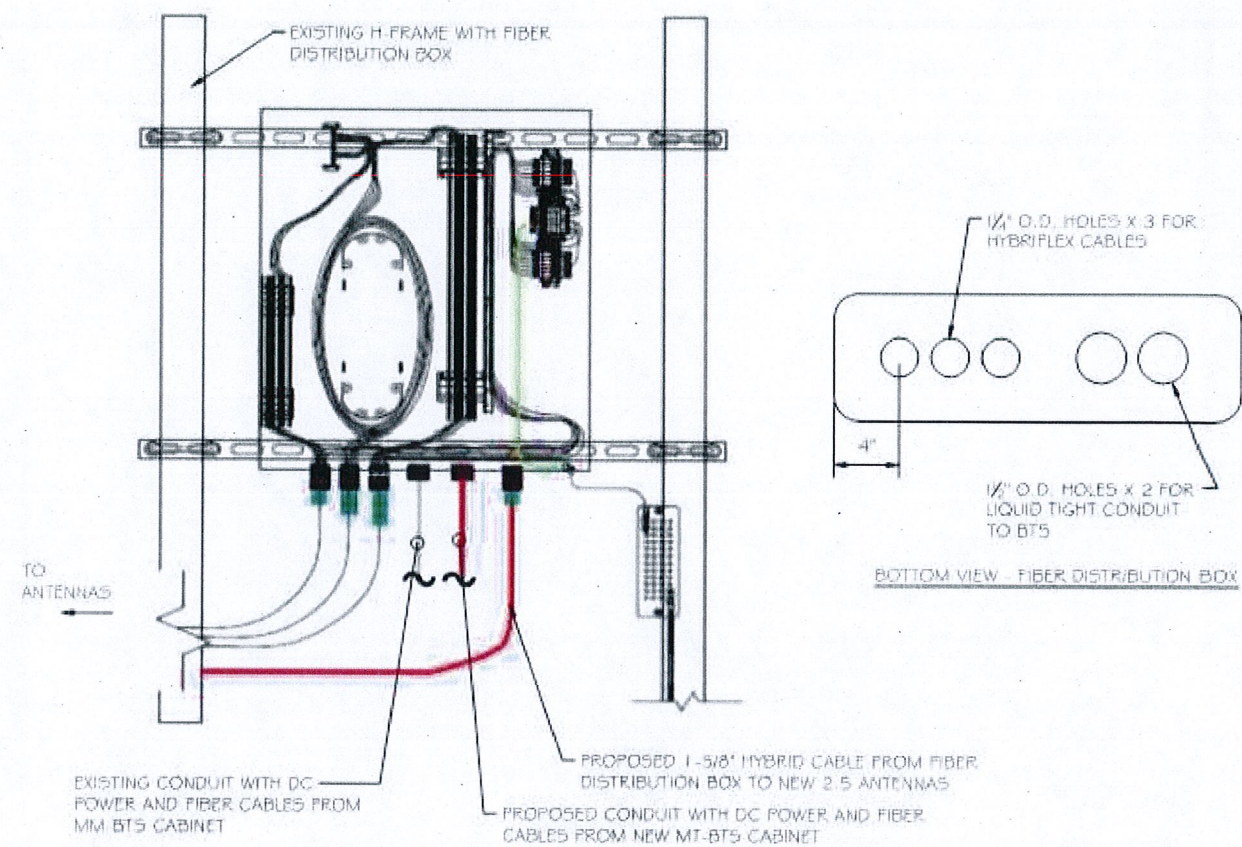
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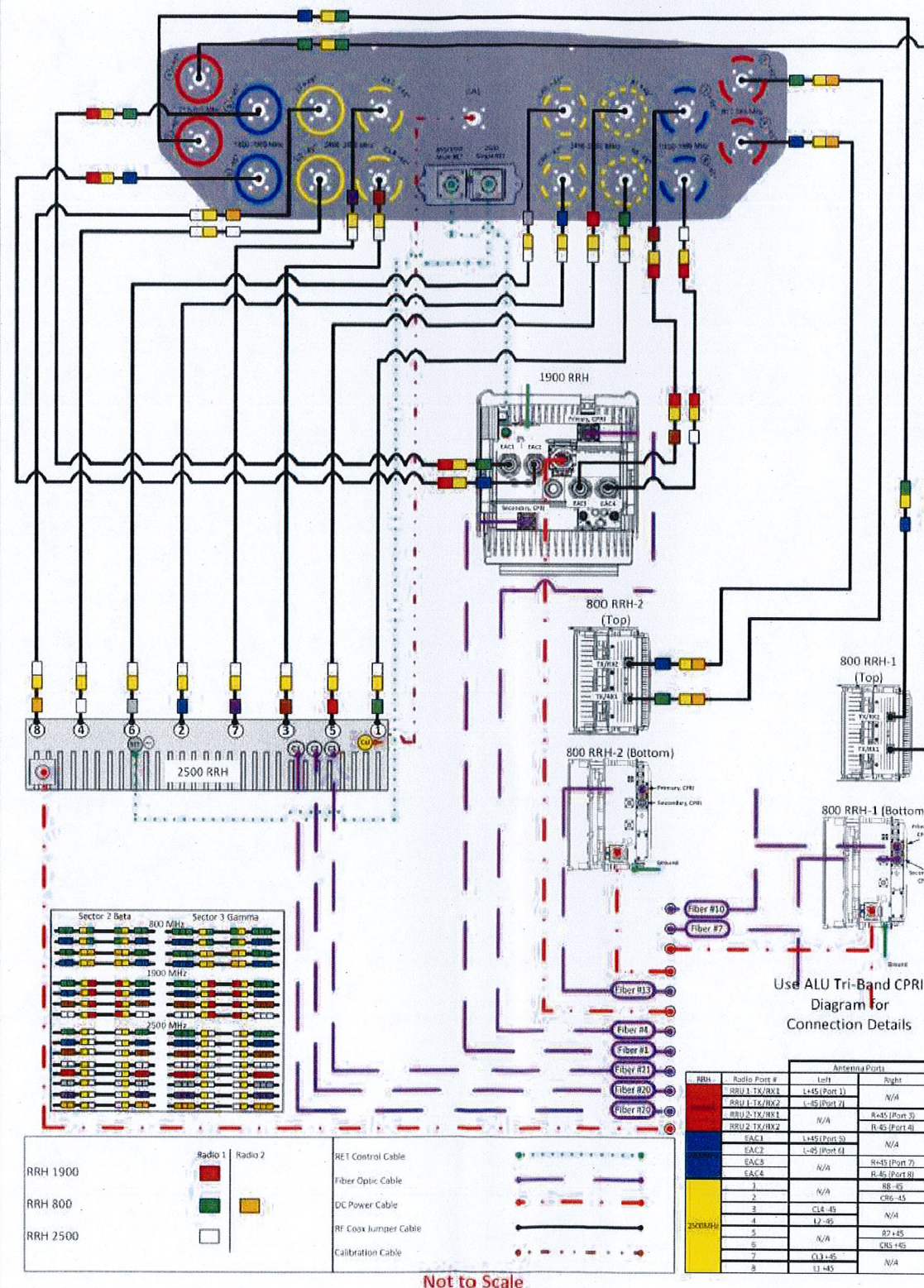
SHEET TITLE: ANTENNA SCHEDULE, WIRING
DIAGRAM, BILL OF MATERIALS
AND NOTES

SHEET NUMBER : ANT-009.00



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KMW 16 Port Nokia-A RRH 800, 1900, and 2500



TRI-BAND W/O FILTER DETAIL

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1. ALL CABLES SHALL BE MARKED WITH 2" WIDE, UV STABILIZED, UL APPROVED TAPE.
2. THE FIRST RING SHALL BE CLOSEST TO THE END OF THE CABLE AND SPACED APPROXIMATELY 2" FROM THE END CONNECTOR, WEATHERPROOFING, OR BREAKOUT UNIT. THERE SHALL BE 1" SPACE BETWEEN EACH RING.
3. A 2" GAP SHALL SEPARATE THE CABLE COLOR CODE FROM THE FREQUENCY COLOR CODE. THE 2" COLOR RINGS FOR THE FREQUENCY CODE SHALL BE PLACED NEXT TO EACH OTHER WITH NO SPACES.
4. THE 2" COLORED TAPE(S) SHALL BE WRAPPED A MINIMUM OF 3 TIMES AROUND THE INDIVIDUAL CABLES, AND THE TAPE SHALL BE KEPT IN THE SAME LOCATION AS MUCH AS POSSIBLE.
5. SITES WITH MORE THAN FOUR (4) SECTORS WILL REQUIRE ADDITIONAL RINGS FOR EACH SECTOR, FOLLOWING THE PATTERN. HIGH CAPACITY SITES WILL USE THE SECOND CABLE IDENTIFIED BY BLUE BANDS OF TAPE
6. HYBRID FIBER CABLE SHALL BE SECTOR IDENTIFIED INSIDE THE CABINET ON FREQUENCY BUNDLES, ON THE SEALTITE, ON THE MAIN LINE UPON EXIT OF SEALTITE, AND BEFORE AND AFTER THE BREAKOUT UNIT (MEDUSA), AS WELL AS BEFORE AND AFTER ANY ENTRANCE OR EXIT.
7. HFC "MAIN TRUNK" WILL NOT BE MARKED WITH THE FREQUENCY CODES, AS IT CONTAINS ALL FREQUENCIES.
8. INDIVIDUAL POWER PAIRS AND FIBER BUNDLES SHALL BE LABEL

NV FREQUENCY	INDICATOR	ID
800-1	YEL	GRN
1900-1	YEL	RED
1900-2	YEL	BRN
1900-3	YEL	BLU
1900-4	YEL	SLT
800-1	YEL	ORG
RESERVED	YEL	WHT
RESERVED	YEL	PPL

The diagram illustrates a 4-wire, 2-fiber, 2-sector RRU architecture. It shows a central vertical unit with two horizontal sections. The top section is labeled '1500-RRU #1' and the bottom section is labeled '1500-RRU #2'. On the left side, there are two large arrows pointing outwards, labeled 'TO RRU POWER INPUT'. On the right side, there are two large arrows pointing inwards, labeled 'TO RRU FIBER INPUT'. The central unit has two 'DC POWER' inputs at the top and bottom. It also has two 'FIBER' inputs at the top and bottom. The top section is labeled 'SECTOR #2 CABLE #2' and the bottom section is labeled 'SECTOR #2 CABLE #2'. A 'TECHNOLOGY INDICATOR' is located in the center of the unit. The diagram shows the internal wiring and connections between the RRU units and the power/fiber inputs.



SHEET NUMBER : ANT-012.00

1. THE WORK TO BE DONE UNDER THIS PROJECT INCLUDES PROVIDING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES, AND PERFORMING ALL OPERATIONS FOR COMPLETE AND OPERATING SYSTEMS. ANY WORK NOT SPECIFICALLY COVERED BY NECESSARY TO COMPLETE THIS INSTALLATION, SHALL BE PROVIDED. ALL EQUIPMENT AND WIRING TO BE NEW AND PROVIDED UNDER THIS CONTRACT UNLESS OTHERWISE NOTED.
2. ENTIRE INSTALLATION, INCLUDING MATERIALS, EQUIPMENT AND WORKMANSHIP, SHALL CONFORM TO THE 2011 EDITION OF THE NATIONAL ELECTRIC CODE (NEC) AS WELL AS ALL APPLICABLE LAWS AND REGULATIONS AND REGULATORY BODIES HAVING JURISDICTION OVER THIS WORK.
3. THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND SUPPLY THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "CONTRACTOR" SHALL MEAN ELECTRICAL CONTRACTOR.
4. ONLY WRITTEN CHANGES AND/OR MODIFICATIONS APPROVED BY THE ENGINEER, CONSULTING ENGINEER OR OWNER'S REPRESENTATIVE WILL BE RECOGNIZED.
5. THE ELECTRICAL CONTRACTOR SHALL SUBMIT, FOR THE ENGINEER'S APPROVAL, DETAILED SHOP DRAWINGS OF ALL EQUIPMENT SPECIFIED.
6. CONTRACTOR SHALL COORDINATE WITH SPECIFICATIONS BY OTHER TRADES.
7. PROVIDE OPERATING AND MAINTENANCE MANUALS, PER SPECIFICATIONS, AND GIVE INSTRUCTIONS TO USER FOR ALL EQUIPMENT AND SYSTEMS PROVIDED UNDER THIS CONTRACT AFTER ALL ARE CLEANED AND OPERATING.
8. KEEP PREMISES FREE FROM RUBBISH. REMOVE ALL ELECTRICAL RUBBISH FROM SITE.
9. ALL WORK SHALL BE INSTALLED CONCEALED UNLESS OTHERWISE NOTED.
10. THE WORK SHALL INCLUDE ALL PANELS, DEVICES, FEEDERS AND BRANCH CIRCUIT WIRING AS REQUIRED FOR THE DISTRIBUTION SYSTEM INDICATED AND CALLED FOR ON THE DRAWINGS. REQUIRED BY SPECIFICATIONS AND AS NECESSARY FOR COMPLETE FUNCTIONAL SYSTEMS PRESENTED AND INTENDED.
11. THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR, TOOLS, EQUIPMENT, CONSUMABLES AND SERVICES REQUIRED FOR OBTAINING, DELIVERY, INSTALLATION, CONNECTION, DISCONNECTION, REMOVAL, RELOCATION, REPAIR, REPLACEMENT, TESTING AND COMMISSIONING OF ALL EQUIPMENT AND DEVICES INCLUDED IN OR NECESSARY FOR THE WORK, AS APPLICABLE. THIS INCLUDES SCAFFOLDING, LADDERS, RIGGING, HOISTING, ETC.
12. ELECTRICAL WORK SHALL INCLUDE ALL REQUIRED CUTTING, PATCHING AND THE FULL RESTORATION OF WALL AND FLOOR STRUCTURE AND SURFACES. ALL EQUIPMENT, WALLS, FLOORS, ETC., DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER, AT THE CONTRACTOR'S EXPENSE.
13. BEFORE SUBMITTING HIS BID, THE CONTRACTOR SHALL FULLY ACQUAINT HIMSELF/HERSELF WITH THE JOB CONDITIONS AND DIFFICULTIES THAT WILL PERTAIN TO THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED, WHICH COULD NOT HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
14. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING UTILITIES.
15. UPON COMPLETION OF THE ELECTRICAL WORK, THE CONTRACTOR SHALL TEST THE COMPLETE ELECTRICAL SYSTEM FOR SHORTS, GROUNDS, AND PROPER OPERATION, IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.
16. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL CLEAN AND ADJUST ALL EQUIPMENT AND LIGHTING AND TEST SYSTEMS TO THE SATISFACTION OF OWNER AND ENGINEER. RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
17. THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF FINISHED CONSTRUCTION PRIOR TO FABRICATION AND INSTALLATION OF FIXTURES AND EQUIPMENT.
18. EXACT ROUTING OF CONDUITS AND "MC" CABLES SHALL BE DETERMINED IN THE FIELD.
19. IF THE OWNER AND/OR HIS REPRESENTATIVE CONSIDERS ANY WORK TO BE INFERIOR, THE RESPECTIVE CONTRACTOR SHALL REPLACE SAME WITH CONTRACT STANDARD WORK WITHOUT ADDITIONAL CHARGE. ALL WORK SHALL BE DONE IN A NEAT, WORKMANLIKE MANNER. LEFT CLEAN AND FREE FROM DEFECTS, AND COMPLETELY OPERABLE.
20. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AS SHOWN ON THE DRAWINGS AND/OR AS SPECIFIED. ALL MATERIALS SHALL BE NEW, AND BEAR THE UL LABEL. ALL WORK SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.
21. DRAWINGS ARE TO BE CONSIDERED DIAGRAMMATIC, AND SHALL BE FOLLOWED AS CLOSELY AS CONDITIONS ALLOW TO COMPLETE THE INTENT OF THE CONTRACT. THE DRAWINGS AND SPECIFICATIONS COMPLEMENT AND VICE VERSA, IS TO BE INCLUDED IN THE SCOPE OF WORK.
22. ALL EQUIPMENT CONNECTIONS SHALL BE INSTALLED PER APPLICABLE SEISMIC REQUIREMENTS.
23. ENGINEER WILL MAKE A FINAL INSPECTION WITH THE OWNER AND CONTRACTOR AND WILL NOTIFY THE CONTRACTOR IN WRITING OF ALL PARTICULARS IN WHICH THIS INSPECTION REVEALS THAT THE WORK IS INCOMPLETE OR DEFECTIVE. THE CONTRACTOR SHALL IMMEDIATELY TAKE SUCH MEASURES AS ARE NECESSARY TO COMPLETE SUCH WORK OR REMEDY SUCH DEFICIENCIES.
24. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION, TRENCHING, AND BACKFILL AS REQUIRED FOR ELECTRICAL WORK. BACKFILL SHALL BE SUITABLE MATERIAL PROPERLY COMPACTED TO 95% DENSITY IN EACH LAYER OF SIX (6) INCH DEPTH. CONDUIT SHALL BE MINIMUM 36" BELOW FINISHED GRADE.

1. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AT THE SITE AND NOTIFY THE OWNER OF ANY DISCREPANCIES, PRIOR TO COMMENCING WITH THE WORK.
2. THE CONTRACTOR SHALL REVIEW AND COORDINATE WITH THE DOCUMENTS OF ALL TRADES.
3. THE CONTRACTOR SHALL FURNISH A SCHEDULE INDICATING HIS PORTION OF TIME, WITHIN THE OVERALL SCHEDULE, REQUIRED TO COMPLETE THE WORK, IN CONJUNCTION WITH ALL TRADES. ALL WORK THAT MAY AFFECT OPERATION OF BUILDING SYSTEMS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE.
4. SHUT DOWN OF POWER SHALL BE COORDINATED WITH THE OWNER, ARCHITECT AND PROJECT MANAGER AT LEAST 14 WORKING DAYS PRIOR TO SHUT DOWN. SHUT DOWNS LONGER THAN 2 DAYS SHALL BE COORDINATED WITH THE ABOVE PERSONNEL AT LEAST ONCE A MONTH IN ADVANCE. TEMPORARY POWER FOR CONSTRUCTION SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR FOR SHUT DOWNS OVER 2 DAYS.
5. ALL CONDUITS AND DEVICE BOXES SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR, INCLUDING ALL TECHNOLOGY CONDUITS AND BOXES.
6. INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED. TEMPORARY SHUT DOWNS OF ANY SYSTEMS SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER AND ARCHITECT.

I. EFFECTIVELY PROTECT ALL MATERIALS AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE ITEMS DAMAGED.

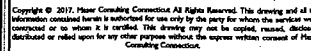
1. ALL MATERIALS, EQUIPMENT AND WORKMANSHIP SHALL BE GUARANTEED IN WRITING FOR A MINIMUM OF ONE YEAR AFTER FINAL ACCEPTANCE BY OWNER.
2. OBTAIN AND DELIVER TO THE OWNER'S REPRESENTATIVE ALL GUARANTEES AND CERTIFICATES OF COMPLIANCE.

I. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTION FEES FOR ELECTRICAL WORK.

1. ALL CONDUIT SHALL BE MINIMUM SIZE OF 3/4" FOR POWER CIRCUITS AND CONTROL CIRCUITS EXCEPT WHERE FLEXIBLE CONDUIT IS CALLED FOR ON PROJECT DOCUMENTS. ALL EXTERIOR EXPOSED CONDUIT SHALL BE GRC (GALVANIZED RIGID METAL CONDUIT). ALL UNDERGROUND, IN SLAB OR UNDER SLAB SHALL BE RNC (RIGID NONMETALLIC CONDUIT). CHANGE RIGID METALLIC CONDUIT FOR INTERMEDIATE METALLIC CONDUIT BEFORE EXITING OUT OF CONCRETE OR PENETRATING A WALL, FLOOR OR ROOF. EMT IS ALLOWED IN INTERIOR DRY LOCATIONS WHERE NOT SUBJECT TO DAMAGE.
2. ALL FLEXIBLE CONDUIT IN WET OR DRY AREAS SHALL BE LIQUID TIGHT CONDUIT. NONMETALLIC FLEXIBLE CONDUIT IS SPECIFICALLY PROHIBITED.
3. CONDUIT SHALL BE RUN AT RIGHT ANGLES AND PARALLEL TO BUILDING LINES, SHALL BE NEATLY RACKED AND SECURELY FASTENED. JUNCTION BOXES SHALL BE PROVIDED WHERE REQUIRED TO FACILITATE INSTALLATION OF WIRES.
4. ALL CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN AN APPROVED MANNER.
5. ALL EMPTY RACEWAYS SHALL BE FURNISHED WITH A 200 LB. TEST NYLON DRAG LINE.
6. ARRANGEMENT OF CONDUIT AND EQUIPMENT SHALL BE AS INDICATED, UNLESS MODIFICATION IS REQUIRED TO AVOID INTERFERENCES.
7. FOR CONDUITS CROSSING EXPANSION JOINTS, PROVIDE EXPANSION FITTINGS FOR SIZE 1 1/4" AND LARGER. PROVIDE SECTIONS OF FLEXIBLE CONDUIT WITH GROUNDING JUMPERS FOR SIZES 1" AND SMALLER.
8. THE CONTRACTOR SHALL INSTALL DETECTABLE UNDERGROUND TAPES FOR THE PROTECTION, LOCATION AND IDENTIFICATION OF UNDERGROUND CONDUIT INSTALLATION.
9. EXACT ROUTING OF CONDUITS AND CABLES SHALL BE DETERMINED IN FIELD.

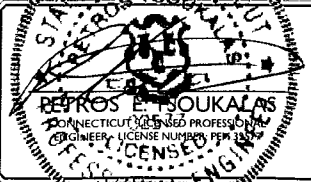
1. ALL WIRE SHALL BE COPPER WITH TYPE THHN/THWN 600 VOLT INSULATION, MINIMUM #12 AWG FOR POWER AND LIGHTING CIRCUITS AND #16 AWG FOR CONTROL CIRCUITS.
2. UNDER NO CIRCUMSTANCES SHALL FEEDERS BE SPLICED.
3. ALL COMPUTER CIRCUITS SHALL HAVE SEPARATE NEUTRAL CONDUCTORS. ALL OTHER CIRCUITS MAY SHARE GROUND AND NEUTRAL CONDUCTORS.
4. WHERE EQUIPMENT, LIGHTING FIXTURES AND WIRING DEVICES ARE SHOWN WITH CIRCUIT NUMBERS ONLY, THE MINIMUM BRANCH CIRCUITING REQUIREMENTS SHALL BE AS FOLLOWS.
5. CONTRACTOR SHALL INCREASE SIZE OF CIRCUIT WIRING/CONDUCTORS TO COMPENSATE FOR VOLTAGE DROP.
6. WIRE SIZES SHALL BE INCREASED TO COMPENSATE FOR VOLTAGE DROP AS FOLLOWS:

3. PROVIDE A COMPLETE EQUIPMENT GROUNDING SYSTEM FOR THE ELECTRICAL SYSTEM AS REQUIRED BY ARTICLE 250, OF THE NEC, AND AS SPECIFIED HEREIN.
2. ALL BRANCH CIRCUITS FOR POWER WIRING SHALL CONTAIN A COPPER GROUND WIRE. NO FLEXIBLE METAL CONDUIT OF ANY KIND OR LENGTH SHALL BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR.
3. THE EQUIPMENT BONDING JUMPER SHALL BE PERMITTED TO BE INSTALLED INSIDE OR OUTSIDE OF A RACEWAY OR ENCLOSURE. WHERE INSTALLED ON OUTSIDE, THE LENGTH OF THE EQUIPMENT BONDING JUMPER SHALL NOT EXCEED 6 FEET AND SHALL BE ROUTED WITH THE RACEWAY OR ENCLOSURE. REFER TO NEC 201.1 - 250.102 (F)
4. ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE.
5. ALL WIRES SHALL BE AWG THHN/THWN COPPER UNLESS NOTED OTHERWISE.
6. GROUNDING CONNECTIONS TO GROUND RODS, GROUND RING WIRE, TOWER BASE AND FENCE POSTS SHALL BE EXOTHERMIC ("CADWELDS") UNLESS NOTED OTHERWISE. CLEAN SURFACES TO SHINY METAL. WHERE GROUND WIRES ARE CADWELDED TO GALVANIZED SURFACES, SPRAY CADWELD WITH GALVANIZING PAINT.
7. GROUNDING CONNECTIONS TO GROUND BARS ARE TO BE TWO-HOLE BRASS MECHANICAL CONNECTORS WITH STAINLESS STEEL HARDWARE (INCLUDE SCREW SET), CLEAN GROUND BAR TO SHINY METAL. AFTER MECHANICAL CONNECTION, TREAT WITH PROTECTIVE ANTIOXIDANT COATING.
8. GROUND COAXIAL CABLE SHIELDS AT BOTH ENDS WITH MANUFACTURERS' GROUNDING KITS.
9. ROUTE GROUNDING CONDUCTORS THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 12" RADIUS.
10. INSTALL #2 AWG GREEN-INSULATED STRANDED WIRE FOR ABOVE GRADE GROUNDING AND #2 BARE TINNED COPPER WIRE FOR BELOW GRADE GROUNDING UNLESS OTHERWISE NOTED.
11. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE ("CADWELDS") TO GROUND RING. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION FITTINGS. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO-HOLE LUGS.
12. EXOTHERMIC WELDS SHALL BE MADE IN ACCORDANCE WITH ERICO PRODUCTS BULLETIN A-AT.
13. CONSTRUCTION OF GROUND RING AND CONNECTIONS TO EXISTING GROUND RING SYSTEM SHALL BE DOCUMENTED WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PROVIDE PHOTOS TO CARRIER'S CONSTRUCTION MANAGER.
14. ALL GROUND LEADS EXCEPT THOSE TO THE EQUIPMENT ARE TO BE #2/0 TINNED. ALL EXTERIOR GROUND BARS TINNED COPPER.
15. PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETTS KOPR-SHIELD (TM OF JET LUBE INC.) PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BARS, APPLY KOPR-SHIELD OR EQUAL.
16. ENGAGE IN INDEPENDENTLY ELECTRICAL TESTING FIRM TO TEST AND VERIFY THAT IMPEDANCE DOES NOT EXCEED FIVE OHMS TO GROUND BY MEANS OF "FALL OF POTENTIAL TEST". TEST SHALL BE WITNESSED BY CARRIER REPRESENTATIVE, AND RECORDED ON CARRIER'S "GROUND RESISTANCE TEST" FORM.
17. WHERE BARE COPPER GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO GROUND RING, INSTALL WIRE IN 3/4" PVC SLEEVE, FROM 1' BELOW GRADE AND SEAL TOP WITH SILICONE MATERIAL.
18. PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL. FOLLOWING CONNECTION, APPLY APPROPRIATE ANTI-OXIDIZATION PAINT.
19. ANY SITE WHERE THE EQUIPMENT (BTS, CABLE BRIDGE, PPC, GENERATOR, ETC.) IS LOCATED WITHIN 6 FEET OF METAL FENCING THE BGR SHALL BE BONDED TO THE NEAREST FENCE POST USING (2) RUNS OF #2 BARE TINNED COPPER WIRE.



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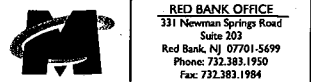
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O	08/28/17				ISSUED FOR	DTS	FEP		
A	08/01/17				ISSUED FOR	SF	FEP		
REV	DATE				DESCRIPTION		CHECKED BY		



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SITE ID: CT23XC506

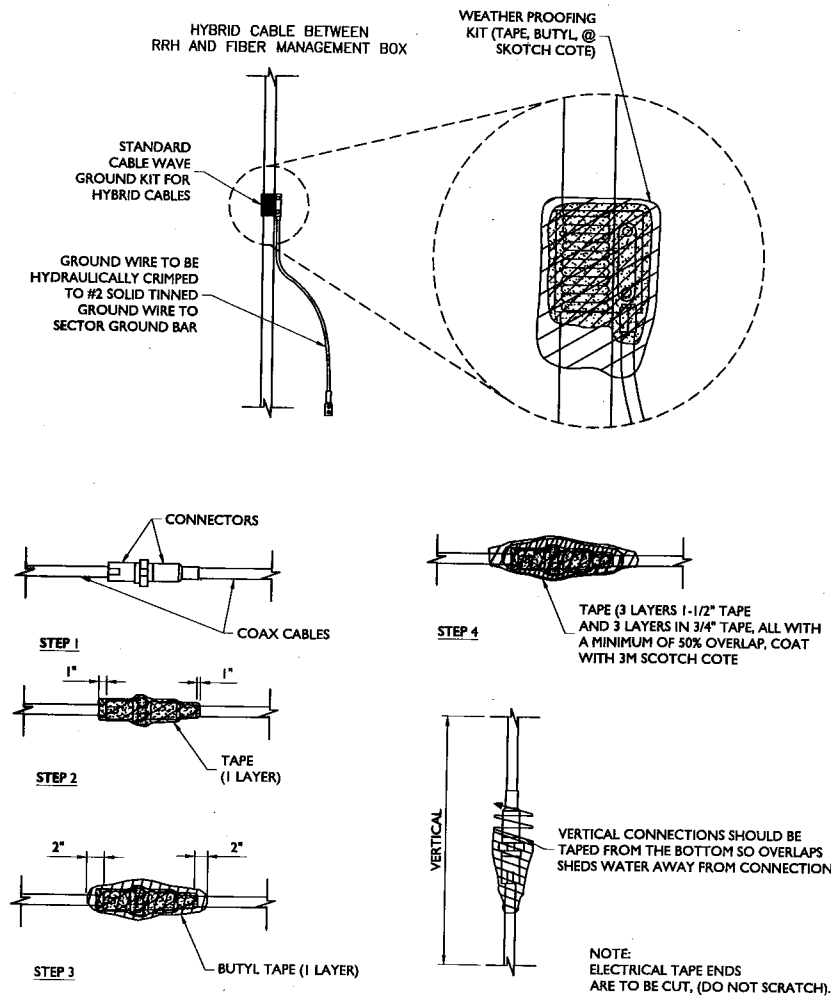
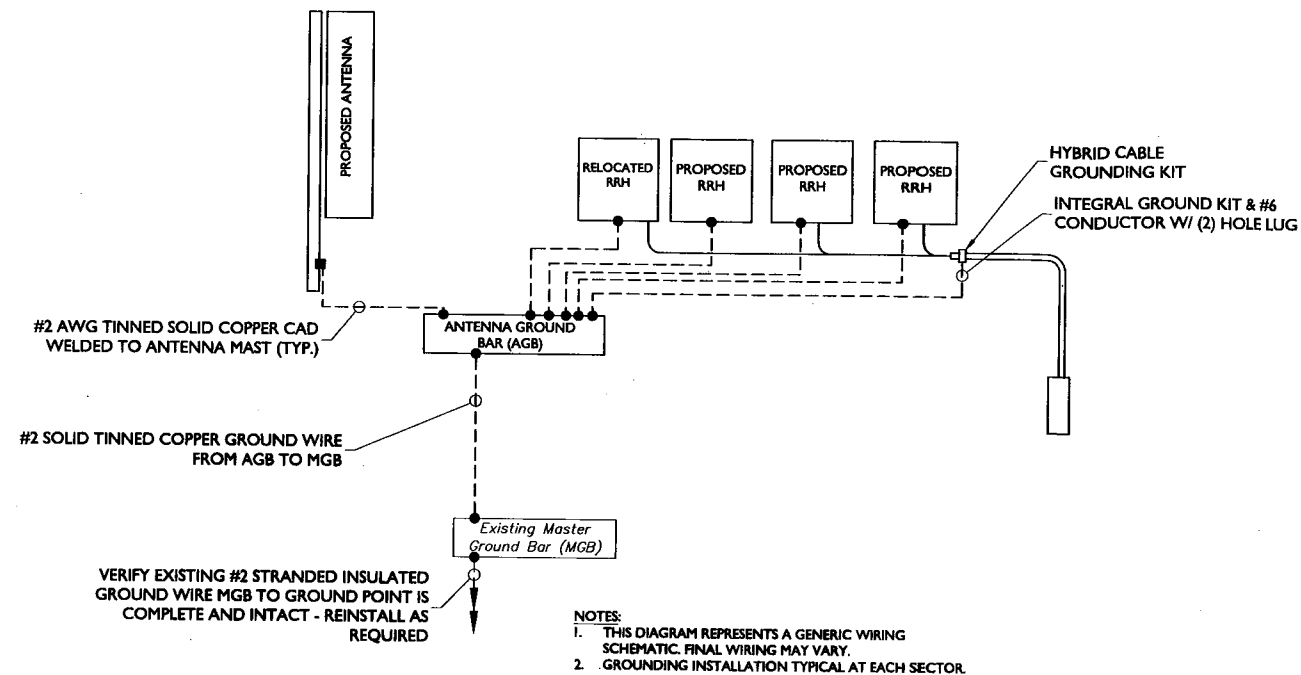
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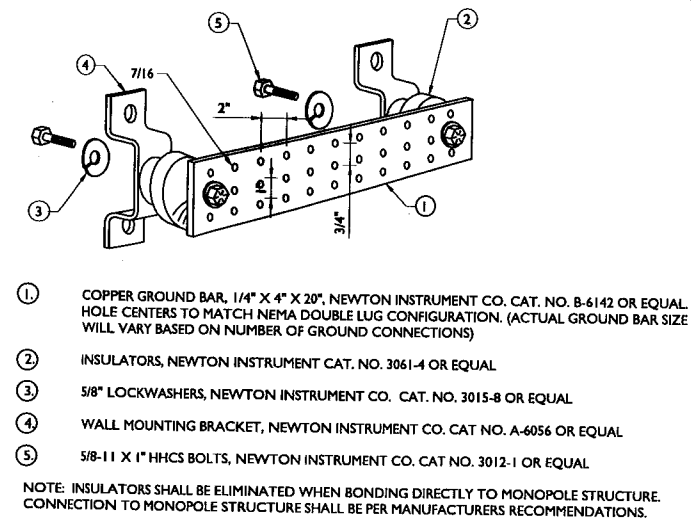
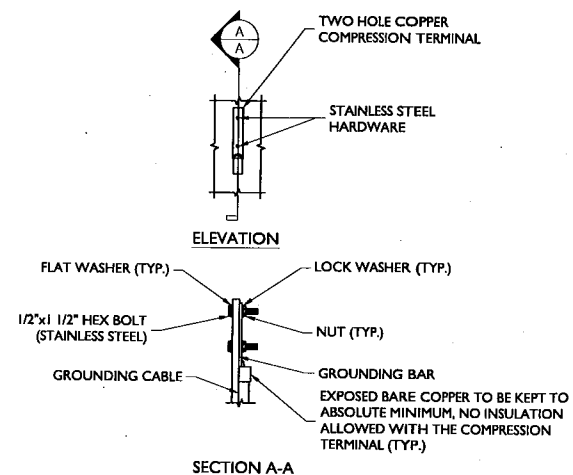
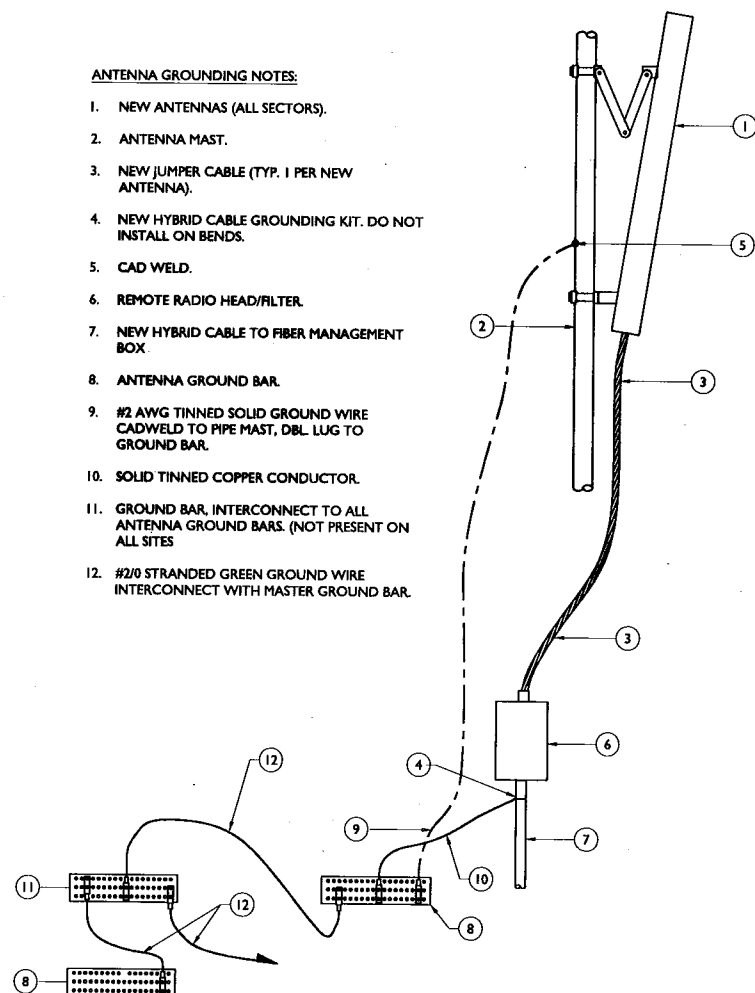
**ELECTRICAL AND
GROUNDING NOTES**

SHEET NUMBER : **ANT-013.00**

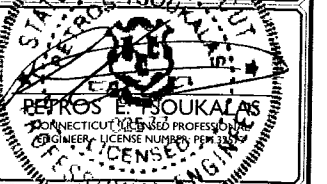


ANTENNA GROUNDING NOTES:

1. NEW ANTENNAS (ALL SECTORS).
2. ANTENNA MAST.
3. NEW JUMPER CABLE (TYP. 1 PER NEW ANTENNA).
4. NEW HYBRID CABLE GROUNDING KIT. DO NOT INSTALL ON BENDS.
5. CAD WELD.
6. REMOTE RADIO HEAD/FILTER.
7. NEW HYBRID CABLE TO FIBER MANAGEMENT BOX.
8. ANTENNA GROUND BAR.
9. #2 AWG TINNED SOLID GROUND WIRE CADWELD TO PIPE MAST, DBL LUG TO GROUND BAR.
10. SOLID TINNED COPPER CONDUCTOR.
11. GROUND BAR, INTERCONNECT TO ALL ANTENNA GROUND BARS. (NOT PRESENT ON ALL SITES)
12. #2/0 STRANDED GREEN GROUND WIRE INTERCONNECT WITH MASTER GROUND BAR.



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