Mike Gentile, Site Acquisition
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767
Mobile: (508) 844-9813
mgentile@clinellc.com

October 3, 2016

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

RE: Notice of Exempt Modification // Site Number: CT2133
144 Old Boston Post Road, Danbury, CT 06810 (Site Name: Danbury-Moses Mt)
N 41.3594444 // W -73.466111

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC ("AT&T") currently maintains nine (9) antennas at the 68-foot level of the existing 65-foot lattice tower at 144 Old Boston Post Road. The tower is owned by AT&T. The property is also owned by AT&T. AT&T now intends to replace three (3) of the existing panels with three (3) new antennas for its LTE upgrade. These antennas would be installed at the 68-foot level of the tower. AT&T also intends to install three (3) remote radio units.

The current proposal involves an antenna swap only (three for three); no antennas will be added.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Mark Boughton, Mayor for the City of Danbury, as well as the tower owner and ground owner, AT&T.

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

Attached to accommodate this filing are construction drawings dated September 28, 2016 by ComEx Consultants, a structural analysis dated September 14, 2016 by GPD Engineering and an Emissions Analysis Report dated September 3, 2016 by EBI Consulting.

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed 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 as shown in the attached structural analysis by GPD Engineering, dated September 14, 2016.

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

Sincerely,

_____

Mike Gentile, Site Acquisition
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767
Mobile: (508) 844-9813
mgentile@centerlincommunications.com

Attachments

cc: Mark Boughton, Mayor of Danbury - as elected official
AT&T - as tower owner
AT&T - as property owner

EBI Consulting
environmental | engineering | due diligence

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

AT&T Existing Facility

Site ID: CT2133

S. Danbury
Moses Mountain
Danbury, CT 06810

September 3, 2016

EBI Project Number: 6216003861

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	25.49 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

September 3, 2016

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

Emissions Analysis for Site: **CT2133 – S. Danbury**

EBI Consulting was directed to analyze the proposed AT&T facility located at **Moses Mountain, Danbury, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

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

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

1) 2 UMTS channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 2 UMTS channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

4) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

5) 2 GSM channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

6) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

7) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antennas used in this modeling are the **Powerwave 7770 and the CCI HPA-65R-BUU-H6** for transmission in the 700 MHz, 850 MHz and 1900 MHz (PCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

9) The antenna mounting height centerlines of the proposed antennas are **68 feet** above ground level (AGL) for **Sector A**, **68 feet** above ground level (AGL) for **Sector B** and **68 feet** above ground level (AGL) for Sector C.

10) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770
Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd
Height (AGL):	**68 feet**	Height (AGL):	**68 feet**	Height (AGL):	**68 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	2,140.89	ERP (W):	2,140.89	ERP (W):	2,140.89
Antenna A1 MPE%	**2.59 %**	Antenna B1 MPE%	**2.59 %**	Antenna C1 MPE%	**2.59 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	CCI HPA-65R-BUU-H6
Gain:	11.95 / 14.75 dBd	Gain:	11.95 / 14.75 dBd	Gain:	11.95 / 14.75 dBd
Height (AGL):	**68 feet**	Height (AGL):	**68 feet**	Height (AGL):	**68 feet**
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	5,462.56	ERP (W):	5,462.56	ERP (W):	5,462.56
Antenna A2 MPE%	**7.12 %**	Antenna B2 MPE%	**7.12 %**	Antenna C2 MPE%	**7.12 %**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770
Gain:	11.4 dBd	Gain:	11.4 dBd	Gain:	11.4 dBd
Height (AGL):	**68 feet**	Height (AGL):	**68 feet**	Height (AGL):	**68 feet**
Frequency Bands	850 MHz	Frequency Bands	850 MHz	Frequency Bands	850 MHz
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	60 Watts	Total TX Power(W):	60 Watts	Total TX Power(W):	60 Watts
ERP (W):	828.23	ERP (W):	828.23	ERP (W):	828.23
Antenna A3 MPE%	**1.37 %**	Antenna B3 MPE%	**1.37 %**	Antenna C3 MPE%	**1.37 %**

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max per sector	**11.08 %**
Marcus - antenna #1	0.83 %
Marcus - antenna #2	0.83 %
Marcus - antenna #4	0.02 %
Pagenet	1.81 %
Verizon Wireless	10.92 %
Site Total MPE %:	**25.49 %**

AT&T Sector A Total:	11.08 %
AT&T Sector B Total:	11.08 %
AT&T Sector C Total:	11.08 %
Site Total:	25.49 %

AT&T _ Max Values Per Sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	414.12	68	7.75	850 MHz	567	1.37%
AT&T 1900 MHz (PCS) UMTS	2	656.33	68	12.28	1900 MHz (PCS)	1000	1.23%
AT&T 700 MHz LTE	2	940.05	68	17.58	700 MHz	467	3.77%
AT&T 1900 MHz (PCS) LTE	2	1,791.23	68	33.50	1900 MHz (PCS)	1000	3.35%
AT&T 850 MHz GSM	2	414.12	68	7.75	850 MHz	567	1.37%
						Total:	11.08%

Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	11.08 %
Sector B:	11.08 %
Sector C:	11.08 %
AT&T Maximum Total (per sector):	11.08 %
Site Total:	25.49 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **25.49 %** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Empire Telecommunications
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(508) 844-9813

GPD Engineering and Architecture
Professional Corporation

Christopher Scheks
520 South Main St, Suite 2531
Akron OH, 44311
(614) 588-8973
cscheks@gpdgroup.com

GPD# 2016712.71
September 14, 2016

STRUCTURAL ANALYSIS REPORT

AT&T DESIGNATION:	**AT&T USID:**	**60417**
	FA Number:	**10034995**
	Client #:	**CT2133**
	Site Name:	**DANBURY-MOSES MTN.**
ANALYSIS CRITERIA:	**Codes:**	**TIA/EIA-222-F, 2006 IBC & 2005 CTBC w/2009 Amendments** **85-mph fastest-mile with 0" ice** **38-mph fastest-mile with 3/4" ice**
SITE DATA:		**Moses Mountain, Danbury, CT 06810, Fairfield County** **Latitude 41° 21' 34.272" N, Longitude 73° 27' 55.696" W** **64' Self Support Tower**

Mr. Mike Gentile,

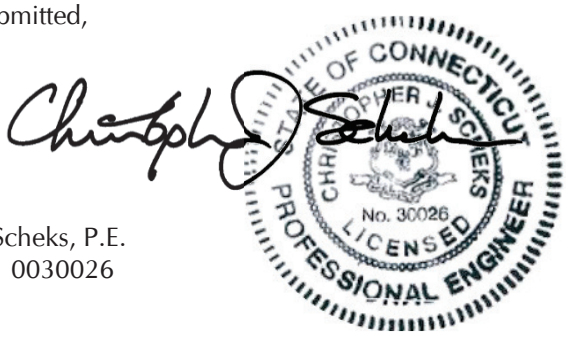
GPD is pleased to submit this Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

Analysis Results

Tower Stress Level with Proposed Equipment:	57.2%	Pass
Foundation Ratio with Proposed Equipment:	77.5%	Pass

We at GPD appreciate the opportunity of providing our continuing professional services to you and Empire Telecommunications. If you have any questions or need further assistance on this or any other projects please do not hesitate to call.

Respectfully submitted,



Christopher J. Scheks, P.E.
Connecticut #: 0030026

SUMMARY & RESULTS

The purpose of this analysis was to verify whether the existing modified structure is capable of carrying the proposed loading configuration as specified by AT&T Mobility to Empire Telecommunications. This report was commissioned by Mr. Mike Gentile of Centerline Communications.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Leg	57.2%	Pass
Diagonal	30.7%	Pass
Horizontal	50.9%	Pass
Anchor Rods	11.6%	Pass
Foundation	77.5%	Pass

ANALYSIS METHOD

RISA-3D (Version 14.0), a commercially available software program, was used to create a three-dimensional model of the tower and calculate primary member stresses for various dead, live, wind, and ice load cases. Selected output from the analysis is included in Appendix B. The following table details the information provided to complete this structural analysis. This analysis is solely based on this information.

DOCUMENTS PROVIDED

Document	Remarks	Source
RF Data Sheet	AT&T RFDS Name: CTV2133, dated 5/13/2016	Centerline
Tower Design	Not Provided	N/A
Foundation Design	Not Provided	N/A
Geotechnical Report	GPD Job #: 2016712.71, dated 9/7/2016	GPD
Foundation Mapping	GPD Job #: 2016712.71, dated 9/7/2016	GPD
Tower Mapping	GPD Job #: 2016712.71, dated 9/12/2016	GPD
Previous Structural Analysis	Not Provided	N/A

ASSUMPTIONS

This structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The tower shaft sizes and shapes are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated in the materials section.
2. The antenna configuration is as supplied and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements.
3. Some assumptions are made regarding antennas and mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
4. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5. The soil parameters are as per data supplied or as assumed and stated in the calculations.
6. Foundations are properly designed and constructed to resist the original design loads indicated in the documents provided.
7. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
8. All welds and connections are assumed to develop at least the member capacity unless determined otherwise and explicitly stated in this report.
9. All prior structural modifications are assumed to be as per data supplied/available and to have been properly installed.
10. Loading interpreted from photos is accurate to $\pm 5'$ AGL, antenna size accurate to ± 3.3 sf, and coax equal to the number of existing antennas without reserve.
11. All existing loading was obtained from the tower mapping by GPD (Job #: 2016712.71, dated 9/12/2016), the provided RFDS and site photos and is assumed to be accurate.
12. Leg A was assumed to be at a 30° azimuth based on the recent tower mapping by GPD.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD should be allowed to review any new information to determine its effect on the structural integrity of the tower.

DISCLAIMER OF WARRANTIES

GPD has performed a site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

This analysis is limited to the designated maximum wind and seismic conditions per the governing tower standards and code. Wind forces resulting in tower vibrations near the structure's resonant frequencies were not considered in this analysis and are outside the scope of this analysis. Lateral loading from any dynamic response was not evaluated under a time-domain based fatigue analysis.

GPD does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the capability of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation in excess of the code specified amount, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

Towers are designed to carry gravity, wind, and ice loads. All members, legs, diagonals, struts, and redundant members provide structural stability to the tower with little redundancy. Absence or removal of a member can trigger catastrophic failure unless a substitute is provided before any removal. Legs carry axial loads and derive their strength from shorter unbraced lengths by the presence of redundant members and their connection to the diagonals with bolts or welds. If the bolts or welds are removed without providing any substitute to the frame, the leg is subjected to a higher unbraced length that immediately reduces its load carrying capacity. If a diagonal is also removed in addition to the connection, the unbraced length of the leg is greatly increased, jeopardizing its load carrying capacity. Failure of one leg can result in a tower collapse because there is no redundancy. Redundant members and diagonals are critical to the stability of the tower.

GPD makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

Tower Analysis Summary Form

Tower Analysis Summary Form

General Info

Site Name	DANBURY- MOSES MTN.
Site Number	60417
FA Number	10034995
Date of Analysis	September 14, 2016
Company Performing Analysis	GPD

The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Tower Info	Description	Date
Tower Type (G, SST, MP)	SST	
Tower Height (top of steel AGL)	64'	
Tower Manufacturer	n/a	
Tower Model	n/a	
Tower Design	n/a	
Foundation Design	n/a	
Geotech Report	GPD Job #: 2016712.71	9/7/2016
Tower Mapping	GPD Job #: 2016712.71	9/12/2016
Previous Structural Analysis	n/a	
Foundation Mapping	GPD Job #: 2016712.71	9/7/2016

Design Parameters	
Design Code Used	TIA/EIA-222-F, 2006 IBC 2005 CTBC w/2009 Amendments
Location of Tower (County, State)	Fairfield, CT
Basic Wind Speed (mph)	85 (fastest-mile)
Ice Thickness (in)	0.75
Structure Classification (I, II, III)	
Exposure Category (B, C, D)	
Topographic Category (1 to 5)	

Analysis Results (% Maximum Usage)	
Existing/Reserved + Proposed Condition	
Tower (%)	57.2%
Tower Base (%)	11.6%
Foundation (%)	77.5%
Foundation Adequate?	Yes

Steel Yield Strength (ksi)

Legs	65
Diagonals	50
Horizontals	50/65
Bolts	A325
Anchor Rods	A36

Note: Steel strenghts have been assumed based on previous experience.

Existing / Reserved Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Face/Leg
Unknown	64	70	1	Yagi	Unknown	2' Yagi		2	Unknown	I-Beam mounts	1	Unknown	3/8"	Face C
Unknown	64	68	4	Panel	Unknown	6'x10"x8" Panel Antenna	0/240			on the same mounts	12	Unknown	1-1/4"	Face C
Unknown	64	68	4	Panel	Amphenol	BXA-171063-12BF-EDIN-4	0/240			on the same mounts	1	Hybrid Cable	1-1/4"	Face C
Unknown	64	68	2	Panel	Amphenol	BXA-70063/6CF E-DIN	0/240			on the same mounts				
Unknown	64	68	1	Panel	Andrew	HBXX-6516DS-A2M	0			on the same mounts				
Unknown	64	68	2	RRH	Alcatel Lucent	RRH2x40-AWS				on the same mounts				
Unknown	64	68	1	Surge	Raycap	RRFDC-3315-PF-48				on the same mounts				
AT&T Mobility	62	62	2	Panel	Powerwave	7770.00	270	3	Unknown	10' T-Booms	12	Unknown	1-5/8"	Face C
AT&T Mobility	62	62	1	Panel	Powerwave	P65-16-XLH-RR	270			on the same mounts	2	DC Power	3/4"	Face C
AT&T Mobility	62	62	2	TMA	Powerwave	LGP21401				on the same mounts	1	Fiber Cable	3/8"	Face C
AT&T Mobility	62	62	2	TMA	Powerwave	LGP13519				on the same mounts				
AT&T Mobility	62	62	1	RRU	Ericsson	RRUS 11 B12				on the same mounts				
AT&T Mobility	62	62	1	Surge	Raycap	DC6-48-60-18-8F				on the same mounts				
AT&T Mobility	62	58	4	Panel	Powerwave	7770.00	20/140			on the same mounts				
AT&T Mobility	62	58	2	Panel	Powerwave	P65-16-XLH-RR	20/140			on the same mounts				
AT&T Mobility	62	58	1	TMA	Unknown	11"x11"x4" TMA				on the same mounts				
AT&T Mobility	62	58	4	TMA	Powerwave	LGP21401				on the same mounts				
AT&T Mobility	62	58	4	TMA	Powerwave	LGP13519				on the same mounts				
AT&T Mobility	62	58	1	TMA	Powerwave	TT19-08BP111-001				on the same mounts				
AT&T Mobility	62	58	2	RRU	Ericsson	RRUS 11 B12								
Unknown	61	61	1	Dish	RFS	6' Dish w/ radome	150			Pipe mounted	1	EW63	Elliptical	Leg B
Unknown	58	58	1	Dish	Radiowaves	SPD2-5.8NS	330			Leg mounted	1	Unknown	1/2"	Face C
Unknown	58	58	1	ODU	Unknown	12"x10"x4" ODU				Leg mounted				
Unknown	57	57	1	Dish	RFS	6' Dish w/ radome	270			Pipe mounted	1	EW63	Elliptical	Leg B
Unknown	54	57	1	Omni	Unknown	6' Omni				Pipe mounted				
Unknown	54	54	1	Yagi	Unknown	6' Yagi				Pipe mounted	1	Unknown	1/2"	Face C
Unknown	53	57	1	Dipole	Unknown	8' Dipole				Pipe mounted	1	Unknown	1/2"	Face C
Unknown	50	58	1	Omni	Unknown	10' Omni		1	Unknown	6' Sidearm	1	Unknown	1-5/8"	Face C
Unknown	50	44	1	Dipole	Unknown	12' Dipole				on the same mount	2	Unknown	7/8"	Face C
Unknown	50	56	1	Omni	Unknown	12' Omni				Tower mounted	1	Unknown	1-1/4"	Leg C
Unknown	50	57	1	Omni	Unknown	10' Omni		1	Unknown	6' Sidearm	1	Unknown	1-1/4"	Leg C
Unknown	50	55	1	Omni	Unknown	10' Omni		1	Unknown	on the same mount	2	Unknown	1-5/8"	Face C
Unknown	50	50	1	Junction	Unknown	18"x16"x7" Junction Box				on the same mount	2	Unknown	3/8"	Face C
Unknown	50	45	1	Omni	Unknown	10' Omni				on the same mount				
Unknown	50	50	1	Junction	Unknown	20"x7"x4" Junction Box		1	Unknown	2' Standoff	1	Unkown	1/2"	Face C
Unknown	50	45	1	Omni	Unknown	10' Omni				on the same mount	1	Unkown	1-5/8"	Face C
Unknown	50	44	2	Omni	Unknown	12' Omni		2	Unknown	6' Standoffs	2	Unknown	1-1/4"	Leg C
Unknown	46	46	1	Dish	Unknown	5'x3' Grid Dish	300	1	Unknown	Dish mount	1	Unknown	1/2"	Face C

Note: The (3) Powerwave P65-16-XLH-RR panel antennas at 62' shall be removed prior to the installation of the proposed loading. All remaining loading shall be reused.

Proposed Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Face/Leg
AT&T Mobility	62	62	3	Panel	CCI	HPA-65R-BUU-H6	20/140/270							
AT&T Mobility	62	62	3	RRU	Ericsson	RRUS 32 B2								

Future Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Face/Leg

APPENDIX B

RISA-3D & tnxTower Output File

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 64.25 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 13.17 ft at the top and 13.17 ft at the base.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
Basic wind speed of 85 mph.
Nominal ice thickness of 0.7500 in.
Ice density of 56 pcf.
A wind speed of 38 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 50 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.333.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

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 klf
Step Pegs	A	Yes	Ar (CfAe)	64.25 - 8.00	0.0000	0.5	1	1	0.8000	0.8000		0.003
Safety Line (3/8")	A	Yes	Ar (CfAe)	64.25 - 8.00	0.0000	0.5	1	1	0.3750	0.3750		0.000
Feedline Ladder (Af)	C	Yes	Af (CfAe)	64.25 - 8.00	-2.0000	0.3	1	1	3.0000	3.0000	12.0000	0.008
Feedline Ladder (Af)	C	Yes	Af (CfAe)	64.25 - 8.00	-1.0000	-0.3	1	1	3.0000	3.0000	12.0000	0.008
Lighting Cable	A	Yes	Ar (CfAe)	64.25 - 8.00	0.0000	-0.5	1	1	0.5000	0.6300		0.000
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	64.00 - 8.00	-1.0000	0.3	12	12	0.7500	1.5500		0.001
1-1/4" Hybrid Cable	C	Yes	Ar (CfAe)	64.00 - 8.00	-1.0000	0.21	1	1	0.7500	1.2500		0.001
LDF2-50A (3/8 FOAM)	C	Yes	Ar (CfAe)	64.00 - 8.00	-1.0000	0.39	1	1	0.4400	0.4400		0.000
LDF7-50A (1-5/8 FOAM)	C	Yes	Ar (CfAe)	62.00 - 8.00	-3.0000	0.3	12	12	0.7500	1.9800		0.001
3/4" DC Power Line	C	Yes	Ar (CfAe)	62.00 - 8.00	-5.5000	0.25	2	2	0.5000	0.7500		0.000
3/8" Fiber Cable	C	Yes	Ar (CfAe)	62.00 - 8.00	-5.5000	0.26	1	1	0.3750	0.3750		0.000
EW63	C	Yes	Af (CfAe)	57.00 - 8.00	-2.0000	-0.46	2	2	1.0000	1.5742	5.0668	0.001
EW63	C	Yes	Af (CfAe)	61.00 - 57.00	-2.0000	-0.46	1	1	1.0000	1.5742	5.0668	0.001
LDF4-50A (1/2 FOAM)	C	Yes	Ar (CfAe)	46.00 - 8.00	-5.5000	0.22	5	5	0.5000	0.6300		0.000
LDF4-50A (1/2 FOAM)	C	Yes	Ar (CfAe)	50.00 - 46.00	-5.5000	0.22	4	4	0.5000	0.6300		0.000
LDF4-50A (1/2 FOAM)	C	Yes	Ar (CfAe)	54.00 - 50.00	-5.5000	0.22	3	3	0.5000	0.6300		0.000
LDF4-50A (1/2 FOAM)	C	Yes	Ar (CfAe)	58.00 - 54.00	-5.5000	0.22	1	1	0.5000	0.6300		0.000

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 klf
LDF7-50A (1-5/8 FOAM)	C	Yes	Ar (CfAe)	50.00 - 8.00	-1.0000	-0.28	4	4	1.0000	1.9800		0.001
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	50.00 - 8.00	-1.0000	-0.33	2	2	0.7500	1.0900		0.000
LDF2-50A (3/8 FOAM)	C	Yes	Ar (CfAe)	50.00 - 8.00	-1.0000	-0.24	1	1	0.4400	0.4400		0.000
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	50.00 - 8.00	0.0000	0.49	4	2	0.7500	1.5500		0.001

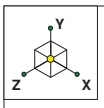
Discrete Tower Loads

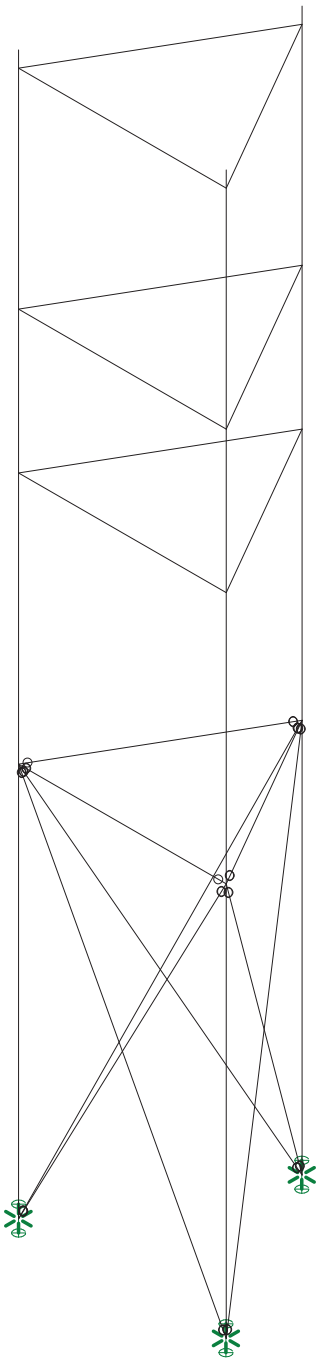
Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
Pipe Mount 7'x4.5"	A	From Leg	0.00 0.000 3.000	0.000	64.25	No Ice 1/2" Ice 1" Ice	2.78 3.21 3.64	2.78 3.21 3.64	83.000 105.150 132.187
(2) Flash Beacon	A	From Leg	0.00 0.000 6.000	0.000	64.25	No Ice 1/2" Ice 1" Ice	3.00 4.50 6.00	3.00 4.50 6.00	100.000 150.000 200.000
14' I-Beam Mount	A	From Leg	0.00 0.000 0.000	0.000	64.00	No Ice 1/2" Ice 1" Ice	7.44 10.60 13.75	0.98 1.54 2.10	349.700 568.100 786.500
14' I-Beam Mount	C	From Leg	0.00 0.000 0.000	0.000	64.00	No Ice 1/2" Ice 1" Ice	7.44 10.60 13.75	0.98 1.54 2.10	349.700 568.100 786.500
Pipe Mount 6'x2.375"	C	From Leg	0.00 0.000 3.000	0.000	64.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	26.100 36.927 51.814
2' Yagi	C	From Leg	0.00 0.000 6.000	0.000	64.00	No Ice 1/2" Ice 1" Ice	0.30 0.43 0.58	0.30 0.43 0.58	5.000 8.283 13.145
(2) 6'x10"x8" Panel w/ Mount Pipe	A	From Leg	1.00 0.000 4.000	0.000	64.00	No Ice 1/2" Ice 1" Ice	7.03 7.54 8.08	7.29 8.25 9.08	71.900 135.329 206.463
(2) 6'x10"x8" Panel w/ Mount Pipe	C	From Leg	1.00 0.000 4.000	0.000	64.00	No Ice 1/2" Ice 1" Ice	7.03 7.54 8.08	7.29 8.25 9.08	71.900 135.329 206.463
(2) BXA-171063-12CF-EDIN-4 w/ Mount Pipe	A	From Leg	1.00 0.000 4.000	0.000	64.00	No Ice 1/2" Ice 1" Ice	4.79 5.24 5.70	5.04 5.98 6.80	36.900 80.239 130.804
(2) BXA-171063-12CF-EDIN-4 w/ Mount Pipe	C	From Leg	1.00 0.000 4.000	0.000	64.00	No Ice 1/2" Ice 1" Ice	4.79 5.24 5.70	5.04 5.98 6.80	36.900 80.239 130.804
BXA-70063-6CF-EDIN-X w/ Mount Pipe	A	From Leg	1.00 0.000 4.000	0.000	64.00	No Ice 1/2" Ice 1" Ice	7.97 8.61 9.22	5.80 6.95 7.82	42.246 103.009 171.494
BXA-70063-6CF-EDIN-X w/ Mount Pipe	C	From Leg	1.00 0.000 4.000	0.000	64.00	No Ice 1/2" Ice 1" Ice	7.97 8.61 9.22	5.80 6.95 7.82	42.246 103.009 171.494
HBXX-6516DS-A2M w/ Mount Pipe	A	From Leg	1.00 0.000 4.000	0.000	64.00	No Ice 1/2" Ice 1" Ice	6.18 6.65 7.14	4.53 5.20 5.90	49.732 98.969 154.423
RRH2x40-AWS	A	From Leg	1.00 0.000	0.000	64.00	No Ice 1/2" Ice	2.52 2.75	1.59 1.80	43.000 60.396

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			4.000			1" Ice	2.99	2.01	80.692
RRH2x40-AWS	C	From Leg	1.00	0.000	64.00	No Ice	2.52	1.59	43.000
			0.000			1/2" Ice	2.75	1.80	60.396
			4.000			1" Ice	2.99	2.01	80.692
RRFDC-3315-PF-48	C	From Leg	1.00	0.000	64.00	No Ice	4.33	2.56	21.400
			0.000			1/2" Ice	4.61	2.79	51.861
			4.000			1" Ice	4.90	3.04	85.968
Sabre 10' T-Boom	A	From Face	1.50	-10.000	62.00	No Ice	16.28	10.62	474.300
			0.000			1/2" Ice	21.50	15.16	663.180
			0.000			1" Ice	26.72	19.70	852.060
Sabre 10' T-Boom	B	From Face	1.50	-10.000	62.00	No Ice	16.28	10.62	474.300
			0.000			1/2" Ice	21.50	15.16	663.180
			0.000			1" Ice	26.72	19.70	852.060
Sabre 10' T-Boom	C	From Face	1.50	0.000	62.00	No Ice	16.28	10.62	474.300
			0.000			1/2" Ice	21.50	15.16	663.180
			0.000			1" Ice	26.72	19.70	852.060
(2) 7770.00 w/ Mount Pipe	A	From Face	3.00	-10.000	62.00	No Ice	6.22	4.35	56.900
			0.000			1/2" Ice	6.77	5.20	105.421
			-4.000			1" Ice	7.30	5.92	160.417
(2) 7770.00 w/ Mount Pipe	B	From Face	3.00	-10.000	62.00	No Ice	6.22	4.35	56.900
			0.000			1/2" Ice	6.77	5.20	105.421
			-4.000			1" Ice	7.30	5.92	160.417
(2) 7770.00 w/ Mount Pipe	C	From Face	3.00	0.000	62.00	No Ice	6.22	4.35	56.900
			0.000			1/2" Ice	6.77	5.20	105.421
			0.000			1" Ice	7.30	5.92	160.417
HPA-65R-BUU-H6 w/ Mount Pipe	A	From Face	3.00	-10.000	62.00	No Ice	10.60	8.11	76.550
			0.000			1/2" Ice	11.27	9.30	158.030
			0.000			1" Ice	11.91	10.21	247.793
HPA-65R-BUU-H6 w/ Mount Pipe	B	From Face	3.00	-10.000	62.00	No Ice	10.60	8.11	76.550
			0.000			1/2" Ice	11.27	9.30	158.030
			0.000			1" Ice	11.91	10.21	247.793
HPA-65R-BUU-H6 w/ Mount Pipe	C	From Face	3.00	0.000	62.00	No Ice	10.60	8.11	76.550
			0.000			1/2" Ice	11.27	9.30	158.030
			0.000			1" Ice	11.91	10.21	247.793
(2) LGP21401	A	From Face	3.00	-10.000	62.00	No Ice	1.29	0.36	14.100
			0.000			1/2" Ice	1.45	0.48	21.263
			-4.000			1" Ice	1.61	0.60	30.319
(2) LGP21401	B	From Face	3.00	-10.000	62.00	No Ice	1.29	0.36	14.100
			0.000			1/2" Ice	1.45	0.48	21.263
			-4.000			1" Ice	1.61	0.60	30.319
(2) LGP21401	C	From Face	3.00	0.000	62.00	No Ice	1.29	0.36	14.100
			0.000			1/2" Ice	1.45	0.48	21.263
			0.000			1" Ice	1.61	0.60	30.319
(2) LGP13519	A	From Face	3.00	-10.000	62.00	No Ice	0.34	0.21	5.300
			0.000			1/2" Ice	0.42	0.28	8.021
			-4.000			1" Ice	0.51	0.36	11.909
(2) LGP13519	B	From Face	3.00	-10.000	62.00	No Ice	0.34	0.21	5.300
			0.000			1/2" Ice	0.42	0.28	8.021
			-4.000			1" Ice	0.51	0.36	11.909
(2) LGP13519	C	From Face	3.00	0.000	62.00	No Ice	0.34	0.21	5.300
			0.000			1/2" Ice	0.42	0.28	8.021
			0.000			1" Ice	0.51	0.36	11.909
TT19-08BP111-001	A	From Face	3.00	-10.000	62.00	No Ice	0.64	0.52	16.000
			0.000			1/2" Ice	0.75	0.62	21.742
			-4.000			1" Ice	0.87	0.73	29.098
11"x11"x4" TMA	B	From Face	3.00	-10.000	62.00	No Ice	0.43	0.39	18.200
			0.000			1/2" Ice	0.53	0.48	25.330

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			-4.000			1" Ice	0.64	0.59	34.274
RRUS 11 B12	A	From Face	3.00	-10.000	62.00	No Ice	3.31	1.36	50.700
			0.000			1/2" Ice	3.55	1.54	71.570
			-4.000			1" Ice	3.80	1.73	95.487
RRUS 11 B12	B	From Face	3.00	-10.000	62.00	No Ice	3.31	1.36	50.700
			0.000			1/2" Ice	3.55	1.54	71.570
			-4.000			1" Ice	3.80	1.73	95.487
RRUS 11 B12	C	From Face	3.00	0.000	62.00	No Ice	3.31	1.36	50.700
			0.000			1/2" Ice	3.55	1.54	71.570
			0.000			1" Ice	3.80	1.73	95.487
RRUS 32 B2	A	From Face	3.00	-10.000	62.00	No Ice	3.19	1.85	52.900
			0.000			1/2" Ice	3.45	2.08	73.957
			-4.000			1" Ice	3.71	2.31	98.206
RRUS 32 B2	B	From Face	3.00	-10.000	62.00	No Ice	3.19	1.85	52.900
			0.000			1/2" Ice	3.45	2.08	73.957
			-4.000			1" Ice	3.71	2.31	98.206
RRUS 32 B2	C	From Face	3.00	0.000	62.00	No Ice	3.19	1.85	52.900
			0.000			1/2" Ice	3.45	2.08	73.957
			0.000			1" Ice	3.71	2.31	98.206
DC6-48-60-18-8F Surge Suppression Unit	C	From Face	3.00	0.000	62.00	No Ice	1.47	1.47	18.900
			0.000			1/2" Ice	1.67	1.67	36.615
			0.000			1" Ice	1.88	1.88	56.825
Pipe Mount 6'x2.375"	B	From Leg	0.50	0.000	61.00	No Ice	1.43	1.43	26.100
			0.000			1/2" Ice	1.92	1.92	36.927
			0.000			1" Ice	2.29	2.29	51.814
12"x10"x4" ODU	C	From Face	0.50	0.000	58.00	No Ice	1.17	0.47	50.000
			0.000			1/2" Ice	1.31	0.57	57.616
			0.000			1" Ice	1.47	0.69	67.111
Pipe Mount 6'x2.375"	C	From Leg	0.50	0.000	57.00	No Ice	1.43	1.43	26.100
			0.000			1/2" Ice	1.92	1.92	36.927
			0.000			1" Ice	2.29	2.29	51.814
Pipe Mount 4'x4.5"	B	From Face	0.00	0.000	54.00	No Ice	1.32	1.32	43.200
			0.000			1/2" Ice	1.58	1.58	56.187
			0.000			1" Ice	1.84	1.84	72.229
6' Omni	B	From Leg	0.50	0.000	54.00	No Ice	1.77	1.77	25.000
			0.000			1/2" Ice	2.13	2.13	38.235
			3.000			1" Ice	2.50	2.50	55.594
Pipe Mount 4'x4.5"	B	From Face	0.00	0.000	54.00	No Ice	1.32	1.32	43.200
			0.000			1/2" Ice	1.58	1.58	56.187
			0.000			1" Ice	1.84	1.84	72.229
6' Yagi	B	From Leg	0.50	0.000	54.00	No Ice	1.20	1.20	30.000
			0.000			1/2" Ice	1.80	1.80	39.392
			0.000			1" Ice	2.17	2.17	52.806
Pipe Mount 3'x2.375"	A	From Face	0.00	0.000	53.00	No Ice	0.58	0.58	11.400
			0.000			1/2" Ice	0.77	0.77	16.959
			0.000			1" Ice	0.97	0.97	24.744
8' Dipole	A	From Face	0.50	0.000	53.00	No Ice	1.60	1.60	15.000
			0.000			1/2" Ice	2.42	2.42	27.446
			4.000			1" Ice	3.24	3.24	45.136
6' Sidearm - Flat (GPD)	B	From Face	3.00	0.000	50.00	No Ice	0.80	4.80	80.030
			0.000			1/2" Ice	1.05	6.00	102.190
			0.000			1" Ice	1.30	7.20	124.350
Pipe Mount 4'x4.5"	B	From Face	6.00	0.000	50.00	No Ice	1.32	1.32	43.200
			0.000			1/2" Ice	1.58	1.58	56.187
			2.000			1" Ice	1.84	1.84	72.229
10' Omni	B	From Face	6.00	0.000	50.00	No Ice	2.00	2.00	25.000
			0.000			1/2" Ice	3.02	3.02	40.501

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			8.000			1" Ice	4.07	4.07	62.466
12' Dipole	B	From Face	6.00	0.000	50.00	No Ice	2.40	2.40	25.000
			0.000			1/2" Ice	3.63	3.63	43.555
			-6.000			1" Ice	4.87	4.87	69.797
12' Dipole	B	From Leg	0.50	0.000	50.00	No Ice	2.40	2.40	25.000
			0.000			1/2" Ice	3.63	3.63	43.555
			6.000			1" Ice	4.87	4.87	69.797
6' Sidearm - Flat (GPD)	C	From Face	3.00	0.000	50.00	No Ice	0.80	4.80	80.030
			0.000			1/2" Ice	1.05	6.00	102.190
			0.000			1" Ice	1.30	7.20	124.350
Pipe Mount 4'x4.5"	C	From Face	3.00	0.000	50.00	No Ice	1.32	1.32	43.200
			0.000			1/2" Ice	1.58	1.58	56.187
			2.000			1" Ice	1.84	1.84	72.229
10' Omni	C	From Face	3.00	0.000	50.00	No Ice	2.00	2.00	25.000
			0.000			1/2" Ice	3.02	3.02	40.501
			7.000			1" Ice	4.07	4.07	62.466
10' Omni	C	From Face	6.00	0.000	50.00	No Ice	2.00	2.00	25.000
			0.000			1/2" Ice	3.02	3.02	40.501
			5.000			1" Ice	4.07	4.07	62.466
10' Omni	C	From Face	6.00	0.000	50.00	No Ice	2.00	2.00	25.000
			0.000			1/2" Ice	3.02	3.02	40.501
			-5.000			1" Ice	4.07	4.07	62.466
Junction Box (18"x16"x7")	C	From Face	6.00	0.000	50.00	No Ice	2.98	1.05	10.000
			0.000			1/2" Ice	3.21	1.21	28.083
			0.000			1" Ice	3.45	1.38	49.019
2' Standoff - Round (GPD)	C	From Face	1.00	0.000	50.00	No Ice	1.14	1.62	37.400
			0.000			1/2" Ice	1.79	2.41	55.340
			0.000			1" Ice	2.44	3.20	73.280
10' Omni	C	From Face	2.00	0.000	50.00	No Ice	2.00	2.00	25.000
			0.000			1/2" Ice	3.02	3.02	40.501
			-5.000			1" Ice	4.07	4.07	62.466
Junction Box (20"x7"x4")	C	From Face	2.00	0.000	50.00	No Ice	1.84	1.02	35.000
			0.000			1/2" Ice	2.04	1.19	47.153
			0.000			1" Ice	2.24	1.38	61.769
6' Standoff - Flat (GPD)	B	From Leg	3.00	0.000	50.00	No Ice	1.96	8.31	97.060
			0.000			1/2" Ice	3.08	11.83	138.190
			0.000			1" Ice	4.20	15.35	179.320
6' Standoff - Flat (GPD)	C	From Leg	3.00	0.000	50.00	No Ice	1.96	8.31	97.060
			0.000			1/2" Ice	3.08	11.83	138.190
			0.000			1" Ice	4.20	15.35	179.320
12' Omni	B	From Leg	6.00	0.000	50.00	No Ice	3.00	3.00	20.000
			0.000			1/2" Ice	4.23	4.23	42.303
			-6.000			1" Ice	5.47	5.47	72.344
12' Omni	C	From Leg	6.00	0.000	50.00	No Ice	3.00	3.00	20.000
			0.000			1/2" Ice	4.23	4.23	42.303
			-6.000			1" Ice	5.47	5.47	72.344
Dish Mount	C	From Face	0.50	0.000	46.00	No Ice	3.41	0.01	45.000
			0.000			1/2" Ice	3.95	0.05	59.758
			0.000			1" Ice	4.50	0.09	80.073
Pipe Mount 4'x2.375"	C	From Face	0.50	0.000	46.00	No Ice	0.87	0.87	18.500
			0.000			1/2" Ice	1.11	1.11	25.815
			0.000			1" Ice	1.36	1.36	35.968





Envelope Only Solution

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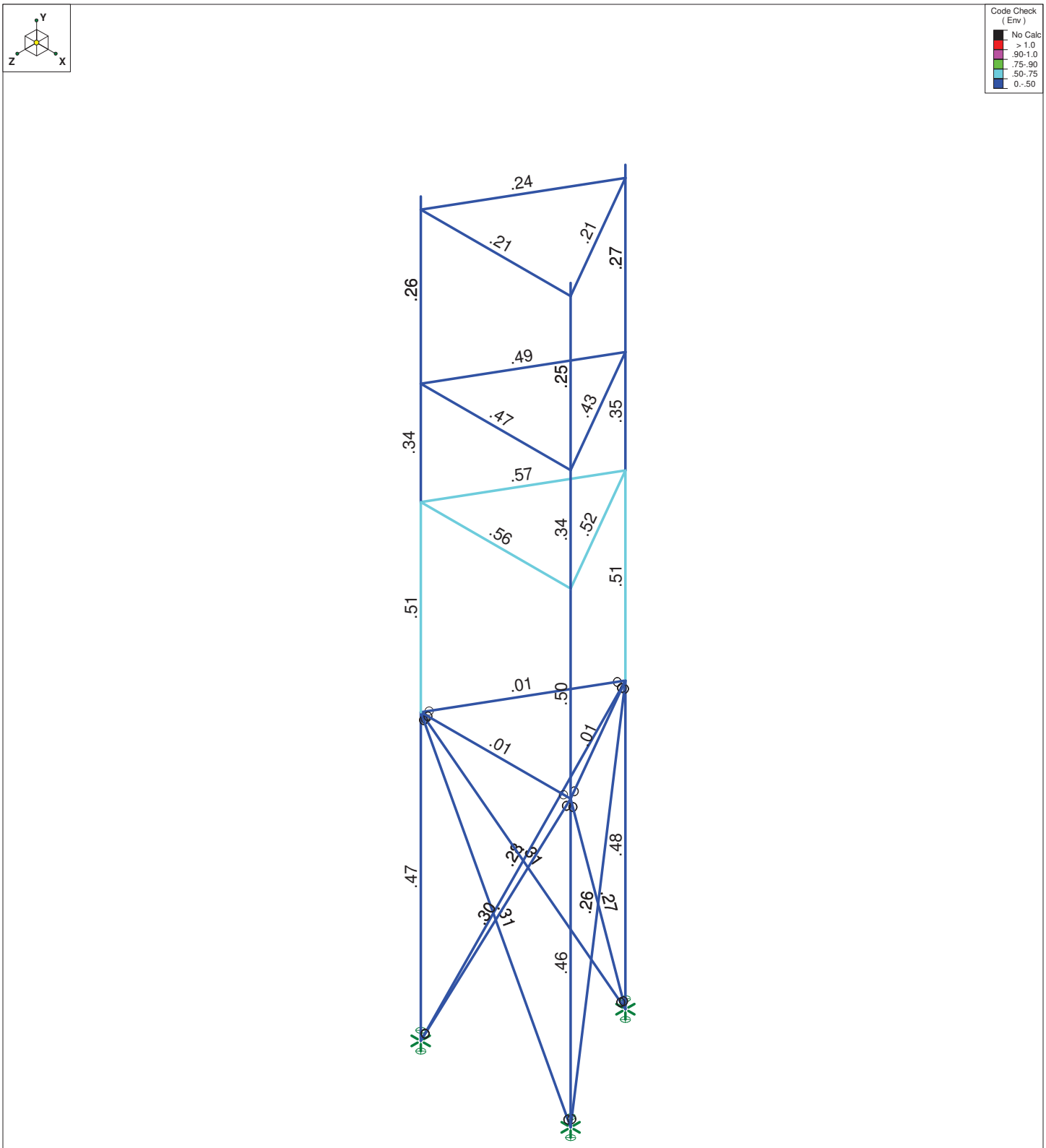
mrisley		Sept 8, 2016 at 4:02 PM
2016712.71		60417 tnx.rt3



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

GPD	60417 (CT2133) DANBURY-MOSES MTN.	SK - 1
mrisley		Sept 9, 2016 at 10:00 AM
2016712.71		60417 tnx.rt3

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A572-65	29000	11200	.295	.65	.49	65	1.1	58	1.2
2	A572-50	29000	11200	.295	.65	.49	50	1.1	58	1.2
3	A992-50	29000	11200	.295	.65	.49	65	1.1	58	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	TWR_LEG_T1	8-sided 15.68" DIA .25" T...	Column	Tube	A572-65	Typical	11.793	315.9	315.9	315.9
2	TWR_TOP_GIR...	8-sided 12" DIA .25" Thick	Beam	Tube	A572-65	Typical	9.793	180.918	180.918	180.918
3	TWR_LEG_T2	8-sided 15.68" DIA .25" T...	Column	Tube	A572-65	Typical	11.793	315.9	315.9	315.9
4	TWR_TOP_GIR...	W10x33	Beam	Wide Flange	A992-50	Typical	9.71	36.6	171	.583
5	TWR_LEG_T3	8-sided 15.68" DIA .25" T...	Column	Tube	A572-65	Typical	11.793	315.9	315.9	315.9
6	TWR_TOP_GIR...	8-sided 12" DIA .25" Thick	Beam	Tube	A572-65	Typical	9.793	180.918	180.918	180.918
7	TWR_LEG_T4	8-sided 15.68" DIA .25" T...	Column	Tube	A572-65	Typical	11.793	315.9	315.9	315.9
8	TWR_TOP_GIR...	8-sided 12" DIA .25" Thick	Beam	Tube	A572-65	Typical	9.793	180.918	180.918	180.918
9	TWR_DIAG_T4	W6x25	Column	Wide Flange	A992-50	Typical	7.34	17.1	53.4	.461

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(M...	Surface...
1	Dead	None		-1		24	201	12		
2	No Ice Wind 0 deg	None				24	468	32		
3	No Ice Wind 30 deg	None				48	535	44		
4	No Ice Wind 60 deg	None				48	554	44		
5	No Ice Wind 90 deg	None				24	484	32		
6	No Ice Wind 120 deg	None				48	552	44		
7	No Ice Wind 150 deg	None				48	524	44		
8	No Ice Wind 180 deg	None				24	468	32		
9	No Ice Wind 210 deg	None				48	535	44		
10	No Ice Wind 240 deg	None				48	554	44		
11	No Ice Wind 270 deg	None				24	484	32		
12	No Ice Wind 300 deg	None				48	552	44		
13	No Ice Wind 330 deg	None				48	524	44		
14	Ice	None				24	201	42		
15	Temperature Drop	None						30		
16	Ice Wind 0 deg	None				24	465	32		
17	Ice Wind 30 deg	None				48	516	39		
18	Ice Wind 60 deg	None				48	546	44		
19	Ice Wind 90 deg	None				24	473	32		
20	Ice Wind 120 deg	None				48	544	44		
21	Ice Wind 150 deg	None				48	511	44		
22	Ice Wind 180 deg	None				24	465	32		
23	Ice Wind 210 deg	None				48	516	39		
24	Ice Wind 240 deg	None				48	546	44		
25	Ice Wind 270 deg	None				24	473	32		
26	Ice Wind 300 deg	None				48	544	44		
27	Ice Wind 330 deg	None				48	511	44		
28	Service Wind 0 deg	None				24	468	32		
29	Service Wind 30 deg	None				48	531	35		
30	Service Wind 60 deg	None				48	552	44		
31	Service Wind 90 deg	None				24	480	32		
32	Service Wind 120 deg	None				48	550	44		
33	Service Wind 150 deg	None				48	519	44		
34	Service Wind 180 deg	None				24	468	32		
35	Service Wind 210 deg	None				48	531	35		
36	Service Wind 240 deg	None				48	552	44		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(M...	Surface...
37	Service Wind 270 deg	None				24	480	32		
38	Service Wind 300 deg	None				48	550	44		
39	Service Wind 330 deg	None				48	519	44		

Load Combinations

	Description	So...	PDelta	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
1	Dead Only	Yes	Y		1	1	40	1	41	1	0		0		0		0		0		0			
2	Dead+Wind 0 deg - ...	Yes	Y		1	1	2	1	40	1	41	1	0		0		0		0		0			
3	Dead+Wind 30 deg ...	Yes	Y		1	1	3	1	40	1	41	1	0		0		0		0		0			
4	Dead+Wind 60 deg ...	Yes	Y		1	1	4	1	40	1	41	1	0		0		0		0		0			
5	Dead+Wind 90 deg ...	Yes	Y		1	1	5	1	40	1	41	1	0		0		0		0		0			
6	Dead+Wind 120 de...	Yes	Y		1	1	6	1	40	1	41	1	0		0		0		0		0			
7	Dead+Wind 150 de...	Yes	Y		1	1	7	1	40	1	41	1	0		0		0		0		0			
8	Dead+Wind 180 de...	Yes	Y		1	1	8	1	40	1	41	1	0		0		0		0		0			
9	Dead+Wind 210 de...	Yes	Y		1	1	9	1	40	1	41	1	0		0		0		0		0			
10	Dead+Wind 240 de...	Yes	Y		1	1	10	1	40	1	41	1	0		0		0		0		0			
11	Dead+Wind 270 de...	Yes	Y		1	1	11	1	40	1	41	1	0		0		0		0		0			
12	Dead+Wind 300 de...	Yes	Y		1	1	12	1	40	1	41	1	0		0		0		0		0			
13	Dead+Wind 330 de...	Yes	Y		1	1	13	1	40	1	41	1	0		0		0		0		0			
14	Dead+Ice+Temp	Yes	Y		1	1	14	1	15	1	40	1	41	1	0		0		0		0			
15	Dead+Wind 0 deg+I...	Yes	Y		1	1	16	1	14	1	15	1	40	1	41	1	0		0		0			
16	Dead+Wind 30 deg...	Yes	Y		1	1	17	1	14	1	15	1	40	1	41	1	0		0		0			
17	Dead+Wind 60 deg...	Yes	Y		1	1	18	1	14	1	15	1	40	1	41	1	0		0		0			
18	Dead+Wind 90 deg...	Yes	Y		1	1	19	1	14	1	15	1	40	1	41	1	0		0		0			
19	Dead+Wind 120 de...	Yes	Y		1	1	20	1	14	1	15	1	40	1	41	1	0		0		0			
20	Dead+Wind 150 de...	Yes	Y		1	1	21	1	14	1	15	1	40	1	41	1	0		0		0			
21	Dead+Wind 180 de...	Yes	Y		1	1	22	1	14	1	15	1	40	1	41	1	0		0		0			
22	Dead+Wind 210 de...	Yes	Y		1	1	23	1	14	1	15	1	40	1	41	1	0		0		0			
23	Dead+Wind 240 de...	Yes	Y		1	1	24	1	14	1	15	1	40	1	41	1	0		0		0			
24	Dead+Wind 270 de...	Yes	Y		1	1	25	1	14	1	15	1	40	1	41	1	0		0		0			
25	Dead+Wind 300 de...	Yes	Y		1	1	26	1	14	1	15	1	40	1	41	1	0		0		0			
26	Dead+Wind 330 de...	Yes	Y		1	1	27	1	14	1	15	1	40	1	41	1	0		0		0			
27	Dead+Wind 0 deg - ...	Yes	Y		1	1	28	1	40	1	41	1	0		0		0		0		0			
28	Dead+Wind 30 deg ...	Yes	Y		1	1	29	1	40	1	41	1	0		0		0		0		0			
29	Dead+Wind 60 deg ...	Yes	Y		1	1	30	1	40	1	41	1	0		0		0		0		0			
30	Dead+Wind 90 deg ...	Yes	Y		1	1	31	1	40	1	41	1	0		0		0		0		0			
31	Dead+Wind 120 de...	Yes	Y		1	1	32	1	40	1	41	1	0		0		0		0		0			
32	Dead+Wind 150 de...	Yes	Y		1	1	33	1	40	1	41	1	0		0		0		0		0			
33	Dead+Wind 180 de...	Yes	Y		1	1	34	1	40	1	41	1	0		0		0		0		0			
34	Dead+Wind 210 de...	Yes	Y		1	1	35	1	40	1	41	1	0		0		0		0		0			
35	Dead+Wind 240 de...	Yes	Y		1	1	36	1	40	1	41	1	0		0		0		0		0			
36	Dead+Wind 270 de...	Yes	Y		1	1	37	1	40	1	41	1	0		0		0		0		0			
37	Dead+Wind 300 de...	Yes	Y		1	1	38	1	40	1	41	1	0		0		0		0		0			
38	Dead+Wind 330 de...	Yes	Y		1	1	39	1	40	1	41	1	0		0		0		0		0			

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N16	max	16.734	10	99.893	10	7.422	4	0	1	.874	13	0	1
2		min	-13.499	4	-80.042	4	-9.263	10	0	1	-.875	7	0	1
3	N17	max	13.592	12	97.172	6	6.902	12	0	1	.882	13	0	1
4		min	-16.743	6	-79.442	12	-8.589	6	0	1	-.883	7	0	1
5	N18	max	1.742	6	99.428	2	19.184	2	0	1	.881	13	0	1
6		min	-1.848	12	-82.169	8	-15.634	8	0	1	-.883	7	0	1
7	Totals:	max	23.782	11	42.43	16	24.629	2						

Envelope Joint Reactions (Continued)

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
8		min	-23.782	5	25.255	34	-24.079	8						

Envelope AISC ASD Steel Code Checks

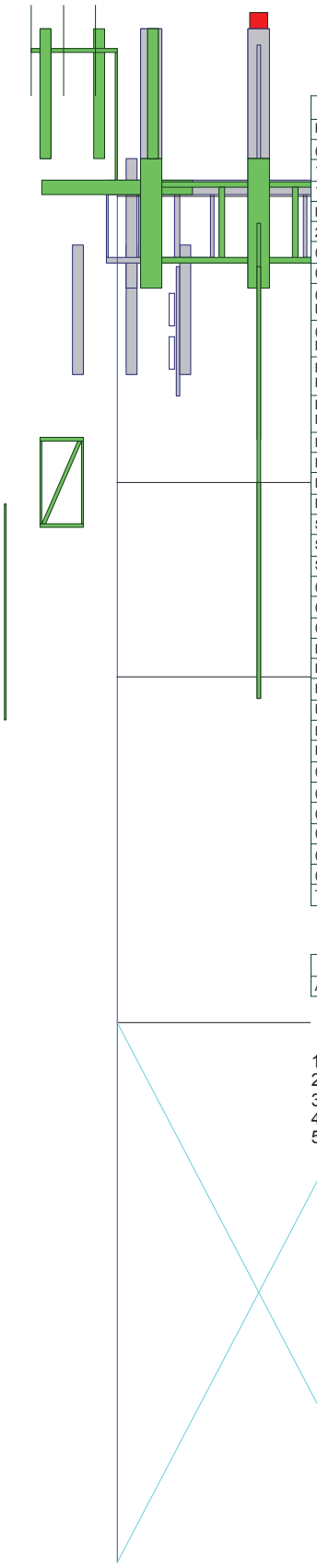
	Member	Shape	Code...	Loc[ft]	LC	Shea...	Loc[...	Dir	LC	Fa [ksi]	Ft [ksi]	Fb y-...	Fb z-...	Cb	C...	C...	ASD ...
1	M18	8-sided 12" DIA .25" Thick	.572	13.167	9	.087	0		3	33.229	39	42.9	42.9	2...	.203	.85	H2-1
2	M16	8-sided 12" DIA .25" Thick	.557	13.167	5	.085	0		11	33.229	39	42.9	42.9	2...	.333	.85	H2-1
3	M17	8-sided 12" DIA .25" Thick	.516	0	7	.070	13.1...		13	33.229	39	42.9	42.9	2...	.229	.85	H2-1
4	M15	8-sided 15.68" DIA .25" Thick	.511	16	2	.058	0		2	33.157	39	39	39	2...	.85	.85	H1-2
5	M13	8-sided 15.68" DIA .25" Thick	.505	16	10	.055	0		11	33.157	39	39	39	2...	.85	.85	H1-2
6	M14	8-sided 15.68" DIA .25" Thick	.496	16	6	.058	0		6	33.157	39	39	39	2...	.85	.85	H1-2
7	M12	W10x33	.492	13.167	9	.118	.274	y	3	18.735	30	37.5	30	2...	.204	.85	H2-1
8	M21	8-sided 15.68" DIA .25" Thick	.476	25	2	.022	25		2	28.146	39	39	39	1...	.85	.85	H1-1
9	M19	8-sided 15.68" DIA .25" Thick	.473	25	10	.023	25		7	28.146	39	39	39	1...	.85	.85	H1-1
10	M10	W10x33	.465	13.167	5	.110	0	y	11	18.735	30	37.5	30	2...	.201	.85	H2-1
11	M20	8-sided 15.68" DIA .25" Thick	.462	25	6	.022	25		6	28.146	39	39	39	1...	.85	.85	H1-1
12	M11	W10x33	.435	0	7	.104	13.1...	y	13	18.735	30	37.5	30	2...	.201	.85	H2-1
13	M9	8-sided 15.68" DIA .25" Thick	.348	9	2	.073	0		2	36.252	39	39	39	2...	.85	.85	H1-2
14	M7	8-sided 15.68" DIA .25" Thick	.344	9	10	.067	0		10	36.252	39	39	39	2...	.85	.85	H1-2
15	M8	8-sided 15.68" DIA .25" Thick	.336	9	6	.070	0		6	36.252	39	39	39	2...	.85	.85	H1-2
16	M26	W6x25	.307	7.947	6	.004	14.1...	y	24	12.105	30	37.5	30	1	.6	1	H1-1
17	M29	W6x25	.306	7.947	2	.004	14.1...	y	22	12.105	30	37.5	30	1	.6	1	H1-1
18	M25	W6x25	.296	7.652	10	.004	14.1...	y	18	12.105	30	37.5	30	1	.6	1	H1-1
19	M30	W6x25	.282	7.947	10	.004	14.1...	y	16	12.105	30	37.5	30	1	.6	1	H1-1
20	M28	W6x25	.274	7.947	2	.004	14.1...	y	20	12.105	30	37.5	30	1	.6	1	H1-1
21	M3	8-sided 15.68" DIA .25" Thick	.265	13.211	2	.044	0		2	34.463	39	39	39	1	.85	.85	H1-2
22	M1	8-sided 15.68" DIA .25" Thick	.265	13.211	10	.041	0		10	34.463	39	39	39	1	.85	.85	H1-2
23	M27	W6x25	.261	7.947	6	.004	14.1...	y	26	12.105	30	37.5	30	1	.6	1	H1-1
24	M2	8-sided 15.68" DIA .25" Thick	.253	13.211	6	.039	0		6	34.463	39	39	39	1	.85	.85	H1-2
25	M6	8-sided 12" DIA .25" Thick	.240	0	3	.042	13.1...		9	33.229	39	42.9	42.9	2...	.201	.85	H1-2
26	M4	8-sided 12" DIA .25" Thick	.210	13.167	5	.033	13.1...		5	33.229	39	42.9	42.9	2...	.263	.85	H2-1
27	M5	8-sided 12" DIA .25" Thick	.206	0	7	.032	0		7	33.229	39	42.9	42.9	2...	.201	.85	H2-1
28	M22	8-sided 12" DIA .25" Thick	.013	6.583	8	.002	0		18	33.229	39	42.9	42.9	1	.6	1	H2-1
29	M24	8-sided 12" DIA .25" Thick	.012	6.583	12	.002	13.1...		14	33.229	39	42.9	42.9	1	.6	1	H2-1
30	M23	8-sided 12" DIA .25" Thick	.012	6.583	4	.002	13.1...		14	33.229	39	42.9	42.9	1	.6	1	H2-1

Bolt Checks

	Elevation	Component Type	Bolt Gr.	Bolt Size	#	Max Load/bolt	Allowable Load	Ratio	
1	62.25	Top Girt	A325N	1.25	4	309.157	25770.90	0.012	Bolt Shear
2	50	Top Girt	A325N	1.25	4	614.055	24151.60	0.025	Bearing
3	41	Top Girt	A325N	1.00	8	370.759	16493.40	0.022	Bolt Shear
4	25	Diagonal	A325N	0.75	6	4017.230	9277.52	0.154	Bolt Shear
5	25	Top Girt	A325N	1.25	4	263.938	25.770.90	0.433	Bolt Shear
6	0	Anchor Rod	A36	2.25	6	11726.70	76102.10	0.010	Tension

APPENDIX C

Tower Elevation Drawing



Section	T1	T2	T3	T4
Legs	8-Sided 15.68" Dia. 0.25" Thick Pole			
Leg Grade	A572-65			
Diagonals	N.A.			W6x25
Diagonal Grade	N.A.			A572-50
Top Girts	8-Sided 12.07" Dia. 0.25" Thick Pole	W10x33	8-Sided 12.07" Dia. 0.25" Thick Pole	
Face Width (ft)			13.1667	
# Panels @ (ft)	1 @ 13.25	1 @ 9	1 @ 16	1 @ 25
Weight (lb)	4294.6	2779.9	4581.3	10290.4
21946.2				

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Pipe Mount 7'x4.5"	64.25	11"x11"x4" TMA	62
(2) Flash Beacon	64.25	RRUS 11 B12	62
14' I-Beam Mount	64	RRUS 11 B12	62
14' I-Beam Mount	64	RRUS 11 B12	62
Pipe Mount 6'x2.375"	64	RRUS 32 B2	62
2' Yagi	64	RRUS 32 B2	62
(2) 6'x10"x8" Panel w/ Mount Pipe	64	RRUS 32 B2	62
(2) 6'x10"x8" Panel w/ Mount Pipe	64	DC6-48-60-18-8F Surge Suppression Unit	62
(2) BXA-171063-12CF-EDIN-4 w/ Mount Pipe	64	Pipe Mount 6'x2.375"	61
(2) BXA-171063-12CF-EDIN-4 w/ Mount Pipe	64	12"x10"x4" ODU	58
BXA-70063-6CF-EDIN-X w/ Mount Pipe	64	Pipe Mount 6'x2.375"	57
BXA-70063-6CF-EDIN-X w/ Mount Pipe	64	Pipe Mount 4'x4.5"	54
HBXX-6516DS-A2M w/ Mount Pipe	64	6' Omni	54
RRH2x40-AWS	64	Pipe Mount 4'x4.5"	54
RRH2x40-AWS	64	6' Yagi	54
RRFDC-3315-PF-48	64	Pipe Mount 3'x2.375"	53
Sabre 10' T-Boom	62	8' Dipole	53
Sabre 10' T-Boom	62	6' Sidearm - Flat (GPD)	50
Sabre 10' T-Boom	62	Pipe Mount 4'x4.5"	50
(2) 7770.00 w/ Mount Pipe	62	10' Omni	50
(2) 7770.00 w/ Mount Pipe	62	12' Dipole	50
(2) 7770.00 w/ Mount Pipe	62	12' Dipole	50
P65-16-XLH-RR w/ mount pipe	62	6' Sidearm - Flat (GPD)	50
P65-16-XLH-RR w/ mount pipe	62	Pipe Mount 4'x4.5"	50
P65-16-XLH-RR w/ mount pipe	62	10' Omni	50
HPA-65R-BUU-H6 w/ Mount Pipe	62	10' Omni	50
HPA-65R-BUU-H6 w/ Mount Pipe	62	10' Omni	50
HPA-65R-BUU-H6 w/ Mount Pipe	62	Junction Box (18"x16"x7")	50
(2) LGP21401	62	2' Standoff - Round (GPD)	50
(2) LGP21401	62	10' Omni	50
(2) LGP21401	62	Junction Box (20"x7"x4")	50
(2) LGP13519	62	6' Standoff - Flat (GPD)	50
(2) LGP13519	62	6' Standoff - Flat (GPD)	50
(2) LGP13519	62	12' Omni	50
TT19-08BP111-001	62	12' Omni	50
		Dish Mount	46
		Pipe Mount 4'x2.375"	46

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi	A572-50	50 ksi	65 ksi

TOWER DESIGN NOTES

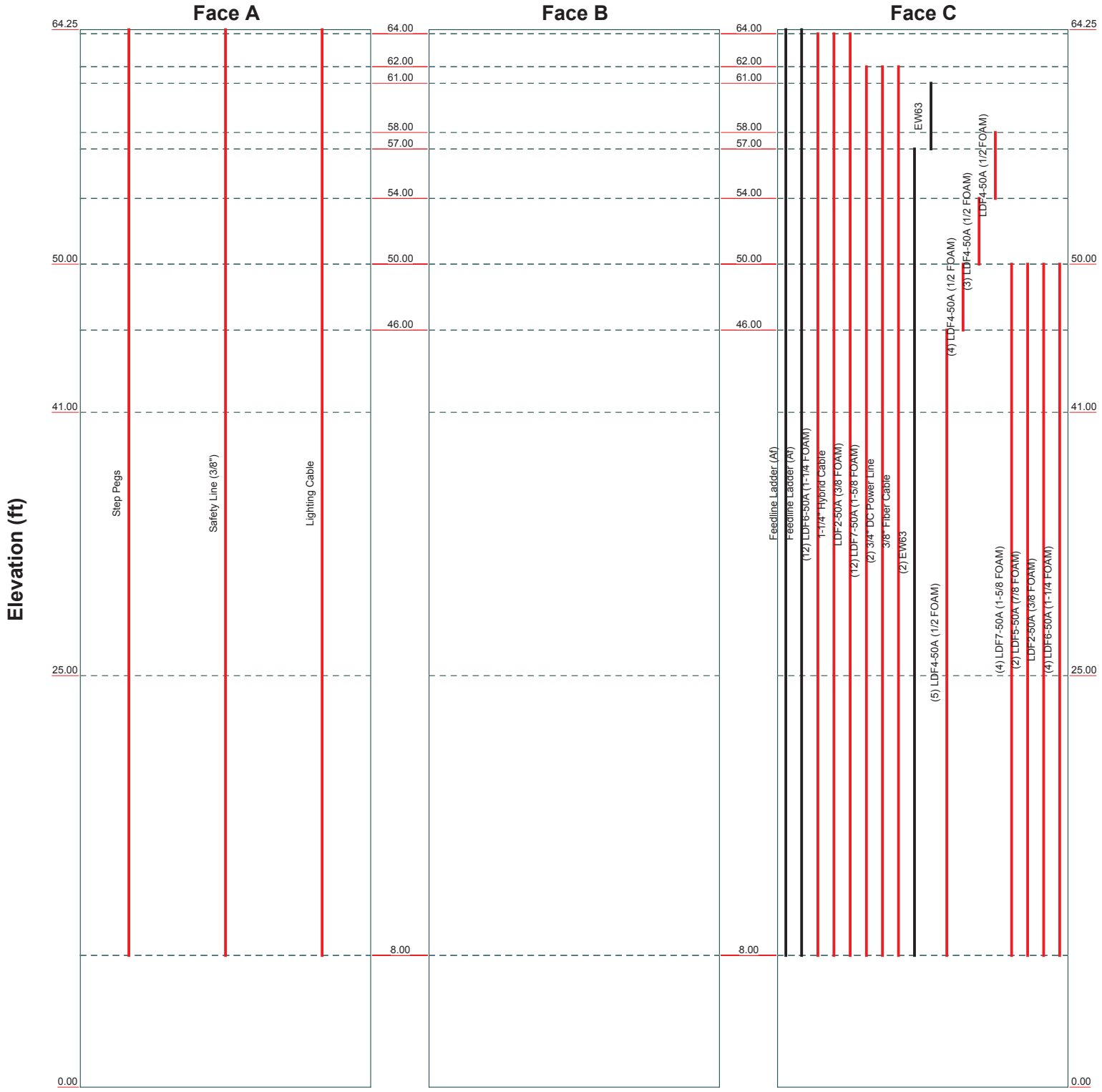
1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower isalso designed for a 38 mph basic wind with 0.75 in ice.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 57.2%

GPD GROUP
GPD
520 South Main Street Suite 2531
Akron, Ohio 44311
Phone: (330) 572-2100
FAX: (330) 572-2101

Job:	***60417 (CT2133) DANBURY-MOSES MTN***		
Project:	***2016712.71***		
Client: Empire Telecom	Drawn by: mrisley	App'd:	
Code: TIA/EIA-222-F	Date: 09/08/16	Scale: NTS	
Path: T:\ATandT\60417\01 2016712.71 Empire SA Map Fndt Geo\TNX\60417.tnx.eri		Dwg No. E-1	

Feed Line Distribution Chart
0' - 64'3"

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



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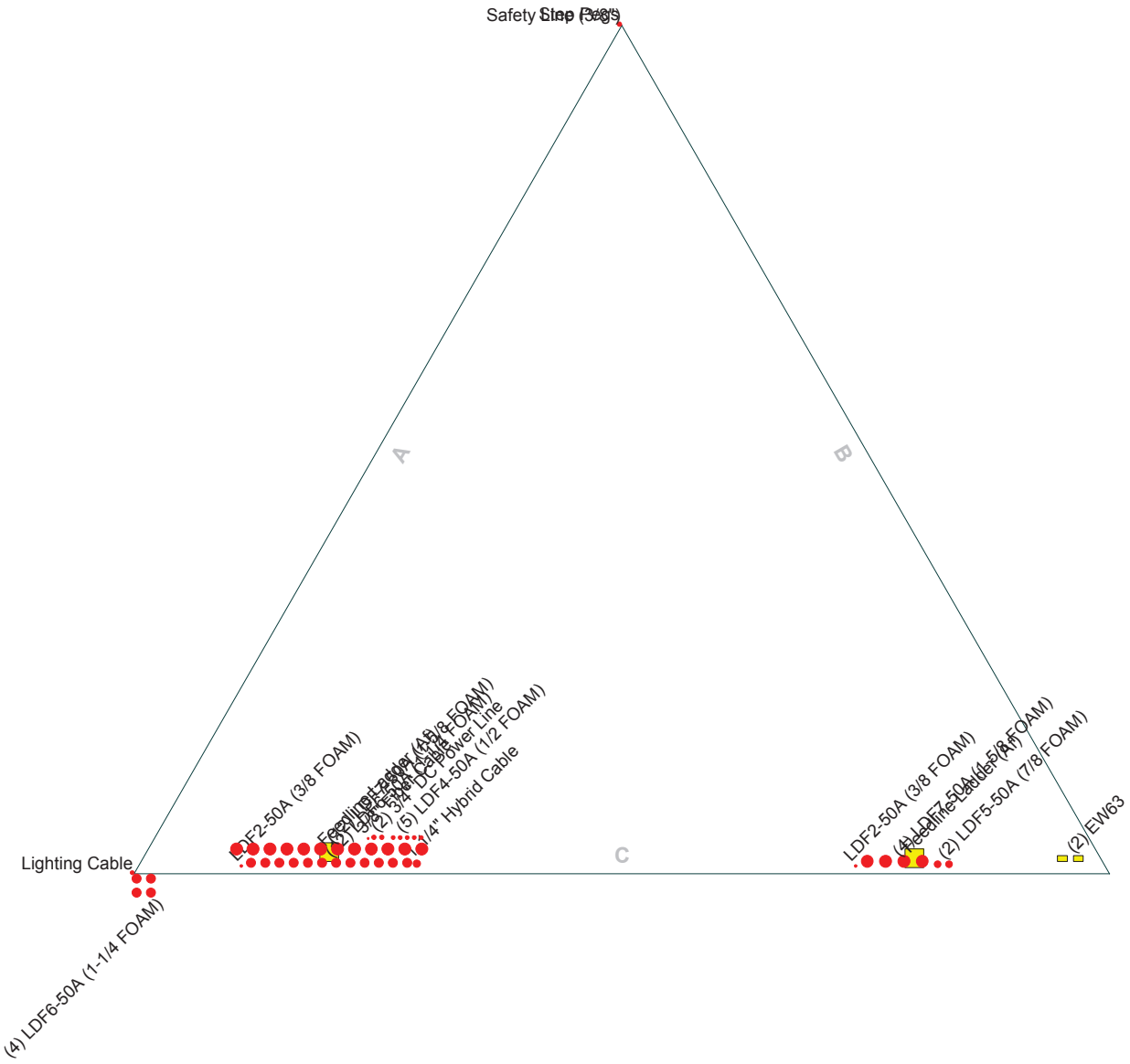
Path: T:\ATandT\60417\01 2016712.71 Empire SA Map Fndt Geo\TNX\60417 tnx.eri			Dwg No. E-7

Feed Line Plan

Round Flat App In Face App Out Face



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Project:	***2016712.71***		
Client: Empire Telecom		Drawn by: mrisley	App'd:
Code: TIA/EIA-222-F		Date: 09/08/16	Scale: NTS
Path: T:\ATandT\60417\01 2016712 71 Empire SA Map Fndt Geo\TNX\60417 tnx.dn			Dwg No. E-7

APPENDIX D

Foundation Analysis

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	100
Mesh Size (in)	12
Subgrade Modulus (k/ft^3)	260
Allowable Bearing (ksf) (Gross Allowable)	9.023
Max Iterations	10
Merge Tolerance (in)	.12
Solver	Sparse Accelerated
Coefficient of Friction	.3

No. of Shear Regions	4
Shear Region Spacing Increment (in)	4
Min 1 Bar Dia Spacing for Beams?	No
Optimize footings for OTM / Sliding?	Yes
Parme Beta Factor	.65
Concrete Stress Block	Rectangular
Concrete Rebar Set	ASTM A615
Concrete Code	ACI 318-05

Slabs

	Label	Thickness[in]	Material	Local Axis Angle[deg]
1	S1	36	Conc3000NW	0

General Design Parameters

	Label	Max Bending Chk	Max Shear Chk	Top Cover[in]	Bottom Cover[in]
1	Typical	2	2	4	4

Slab Rebar Parameters

	Label	Top Bar	Bottom ...	Max Top Bar Spa...	Min Top Bar S...	Max Bot Bar...	Min Bot Bar ...	Spacing Increment[...	Rebar Options
1	Typical	#7	#7	11	11	11	11	3	Force Top and Botto..

Point Loads and Moments (Cat 16 : OL1)

	Label	Direction	Magnitude[k,k-ft]
1	N7	X	16.734
2	N7	Y	99.893
3	N7	Z	7.422
4	N8	X	13.592
5	N8	Y	97.172
6	N8	Z	6.902
7	N9	X	1.742
8	N9	Y	99.428
9	N9	Z	19.184

Point Loads and Moments (Cat 17 : OL2)

	Label	Direction	Magnitude[k,k-ft]
1	N7	X	-13.499
2	N7	Y	-80.042
3	N7	Z	-9.263
4	N8	X	-16.743
5	N8	Y	-79.442
6	N8	Z	-8.589
7	N9	X	-1.848
8	N9	Y	-82.169

Point Loads and Moments (Cat 17 : OL2) (Continued)

	Label	Direction	Magnitude[k,k-ft]
9	N9	Z	-15.634
10	N1	Y	0

Load Combinations

	Label	So..	Se..	A...	SF	Cat...	Fac...	Cat...	Fac...	Cat...	Fac...	Cat...	Fac...	Cat...	Fac...	Cat...	Fac...	Cat...	Fac...	Cat...	Fac...	Cat...	Fac...	Cat...	Fac...
1	Compres..	Yes	Yes		1.5	DL	1	LL	1	OL1	1														
2	Uplift 1 D..	Yes	Yes		1.5	DL	1	LL	1	OL2	1														
3	0 deg 1 ...	Yes				DL	1.3	LL	1.3	OL1	1.3														
4	45 deg 1 ..	Yes				DL	1.3	LL	1.3	OL2	1.3														

Envelope Slab Soil Pressures

	Label	UC	LC	Soil Pressure[ksf]	Allowable Bearing[ksf]	Point
1	S1	.076	1	.681	9.023	N208

Slab Overturning Safety Factors

	LC	Slab	Angle[deg]	Mo-xx[k-ft]	Ms-xx[k-ft]	Mo-zz[k-ft]	Ms-zz[k-ft]	Ms-xx/Mo-xx	Ms-zz/Mo-zz
1	1	S1	0	0	4073.369	0	5632.2	9.999+	9.999+
2	2	S1	0	2221.655	1386.013	3112.983	2004.328	.624	.644

Strip Reinforcing

	Label	UC Top	Top Bars	Governing De...	UC Bot	Bot Bar...	Governing...	UC Shear	Govern...
1	DS1	.232	#7@11in	DS1-X38	.576	#7@11in	DS1-X37	.772	DS1-X50
2	DS2	.215	#7@11in	DS2-X14	.579	#7@11in	DS2-X14	.775	DS2-X1
3	DS3	.212	#7@11in	DS3-X37	.569	#7@11in	DS3-X37	.763	DS3-X50

PROJECT INFORMATION

SCOPE OF WORK:
- AT&T ANTENNAS: (1) ANTENNA PER SECTOR TO REPLACE EXISTING ANTENNA FOR A TOTAL OF (3) REPLACED ANTENNAS – ANTENNA MOUNT MODIFICATIONS REQUIRED
- AT&T RRUs: (1) NEW RRUs PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (3) NEW RRUs; (1) EXISTING RRU PER SECTOR TO REMAIN, FOR A TOTAL OF (3) EXISTING RRUs; (1) EXISTING RRU PER SECTOR TO BE REMOVED, FOR A TOTAL OF (3) EXISTING REMOVED RRUS;

SITE ADDRESS: MOSES MOUNTAIN
DANBURY, CT 06810

LATITUDE: 41.3595200 41° 21' 34.27"N
LONGITUDE: −73.4654711 −73° 27' 55.69"W

USID: 60417

TOWER OWNER: AFFILIATE BILLING

TYPE OF SITE: SELF SUPPORT/INDOOR EQUIPMENT

TOWER HEIGHT: 68'−0"±
RAD CENTER: 68'−0"±

CURRENT USE: UNMANNED WIRELESS TELECOMMUNICATIONS FACILITY

PROPOSED USE: UNMANNED WIRELESS TELECOMMUNICATIONS FACILITY

DRAWING INDEX

		REV.
T−1	TITLE SHEET	0
GN−1	GROUNDING & GENERAL NOTES	0
A−1	COMPOUND LAYOUT	0
A−2	EQUIPMENT LAYOUT	0
A−3	ANTENNA LAYOUTS & ELEVATIONS	0
A−4	ANTENNA MOUNTING DETAILS	0
G−1	GROUNDING, ONE−LINE DIAGRAM & DETAILS	0

APPROVALS

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

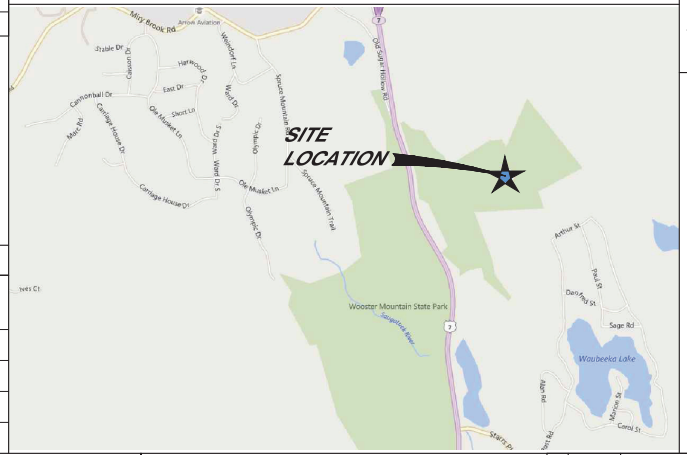
DISCIPLINE:	NAME:	DATE:
SITE ACQUISITION:		
CONSTRUCTION MANAGER:		
AT&T PROJECT MANAGER:		

at&t MOBILITY

FA CODE: 10034995
SITE NUMBER: CT2133
SITE NAME: S. DANBURY

VICINITY MAP

1.) DEPART RT−30 W/COCHITUATE RD TOWARD BURR ST (0.3 MI) 2.) TURN BACK ON RT−30 E/COCHITUATE RD (0.3 MI) 3.) TAKE RAMP RIGHT FOR I−90 WEST TOWARD WORCESTER/SPRINGFIELD (38.9 MI) 4.) AT EXIT 9, TAKE RAMP RIGHT FOR I−84 TOWARD NEW YORK CITY/HARTFORD ENTERING CONNECTICUT (41.7 MI) 5.) AT EXIT 57, TAKE RAMP LEFT FOR CT−15 SOUTH TOWARD N.Y. CITY/CHARTER OAK BR (1.1 MI) 6.) KEEP STRAIGHT ONTO US−5 S/CT−15 S (0.8 MI) 7.) AT EXIT 86, TAKE RAMP RIGHT FOR I−91 SOUTH TOWARD N.Y. CITY/NEW HAVEN (16.6 MI) 8.) AT EXIT 18, TAKE RAMP RIGHT FOR I−691 WEST TOWARD MERIDEN/WATERBURY (7.9 MI) 9.) AT EXIT 1, TAKE RAMP LEFT FOR I−84 WEST TOWARD DANBURY/WATERBURY (37.1 MI) 10.) BEAR LEFT ONTO US−7 S (3.1 MI) 11.) TURN LEFT ONTO STARRS PLAIN RD (0.3 MI) 12.) BEAR LEFT ONTO POST RD PRIVATE, GATED ROAD (1.0 MI) 13.) TURN RIGHT ONTO ARTHUR ST PRIVATE ROAD ARRIVE MOSES MOUNTAIN STRAIGHT AHEAD DOWN DIRT ROAD



PROJECT TEAM

CLIENT REPRESENTATIVE
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ADDRESS: 16 ESQUIRE ROAD
BILLERICA, MA 01821
CONTACT: DAVID COOPER
PHONE: 617−639−4908
EMAIL: dcooper@empiretelecomm.com

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CONTACT: DAVID BASS
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RF ENGINEER:
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FRAMINGHAM, MA 01701
CONTACT: CAMERON SYME
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EMAIL: cs6970@att.com

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BILLERICA, MA 01821
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PHONE: 484−683−1750
EMAIL: gdorman@empiretelecomm.com

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY, AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CONNECTICUT ONE CALL SYSTEM, INC. 1-800-922-4455 STOP - CALL BEFORE YOU DIG!

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

COM-EX Consultants
115 ROUTE 46
SUITE E39
MOUNTAIN LAKES, NJ 07046
PHONE: 862.209.4300
FAX: 862.209.4301

EMPIRE telecom
16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT2133
SITE NAME: S. DANBURY
MOSES MOUNTAIN
DANBURY, CT 06810
FAIRFIELD COUNTY

at&t MOBILITY
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	09/28/16	ISSUED AS FINAL	LAG	NDB	NDB

SCALE: AS SHOWN | DESIGNED BY: LAG | DRAWN BY: LAG

SEAL: STATE OF CONNECTICUT — NICHOLAS D. BARILE — PROFESSIONAL ENGINEER — CT LICENSE NO. 28643

AT&T

DRAWING TITLE: TITLE SHEET

JOB NUMBER	DRAWING NUMBER	REV
16032−EMP	T−1	0

GROUNDING NOTES:

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS. TESTS SHALL BE PERFORMED IN ACCORDANCE WITH 25471-000-3PS-EG00-0001, DESIGN & TESTING OF FACILITY GROUNDING FOR CELL SITES.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED WITH STAINLESS STEEL HARDWARE TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
13. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF ANSI/TIA 222. FOR TOWERS BEING BUILT TO REV-G OF THE STANDARD, THE WIRE SIZE OF THE BURIED GROUND RING AND CONNECTIONS BETWEEN THE TOWER AND THE BURIED GROUND RING SHALL BE CHANGED FROM 2 AWG TO 2/0 AWG. IN ADDITION, THE MINIMUM LENGTH OF THE GROUND RODS SHALL BE INCREASED FROM EIGHT FEET (8') TO TEN FEET (10').
14. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE ½" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID TINNED COPPER GROUND WIRE, PER NEC 250.50.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – EMPIRE TELECOM
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY
   OEM – ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR (EMPIRE TELECOM).
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR. ROUTING OF TRENCHING SHALL BE APPROVED BY CONTRACTOR
9. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
10. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OFF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
12. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
13. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS UNLESS OTHERWISE SPECIFIED. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
14. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy=36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
15. CONSTRUCTION SHALL COMPLY WITH SPECIFICATION 25741-000-3APS-A00Z-00002, "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
17. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK MAY NEED TO BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
18. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
19. SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
    - INTERNATIONAL BUILDING CODE: IBC 2009 WITH LOCAL & COUNTY AMENDMENTS
    - NATIONAL ELECTRICAL CODE: NEC 2011 WITH LOCAL & COUNTY AMENDMENTS
    - FIRE/LIFE SAFETY CODE: NFPA-101 2009 WITH LOCAL & COUNTY AMENDMENTS
20. SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
    - AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
    - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, THIRTEENTH EDITION
    - AMERICAN SOCIETY OF TESTING OF MATERIALS, ASTM
    - TELECOMMUNICATIONS INDUSTRY ASSOCIATION (ANSI/TIA-222-G-1), STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
    - TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS
    - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, OSHA
    - INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVELY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT
    - TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS
21. FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.
22. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA AND SUBMIT TO THE ENGINEER ANY DISCREPANCIES FROM THE DRAWINGS.
23. INFORMATION SHOWN ON THIS SET OF PLANS TAKEN FROM DRAWINGS PREPARED BY CENTEK ENGINEERING FOR A RECENT UPGRADE DATED 04/06/2011. CONTRACTOR TO NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.

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EMPIRE telecom
16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT2133
SITE NAME: S. DANBURY
MOSES MOUNTAIN
DANBURY, CT 06810
FAIRFIELD COUNTY

at&t MOBILITY
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	09/28/16	ISSUED AS FINAL	LAG	NDB	NDB

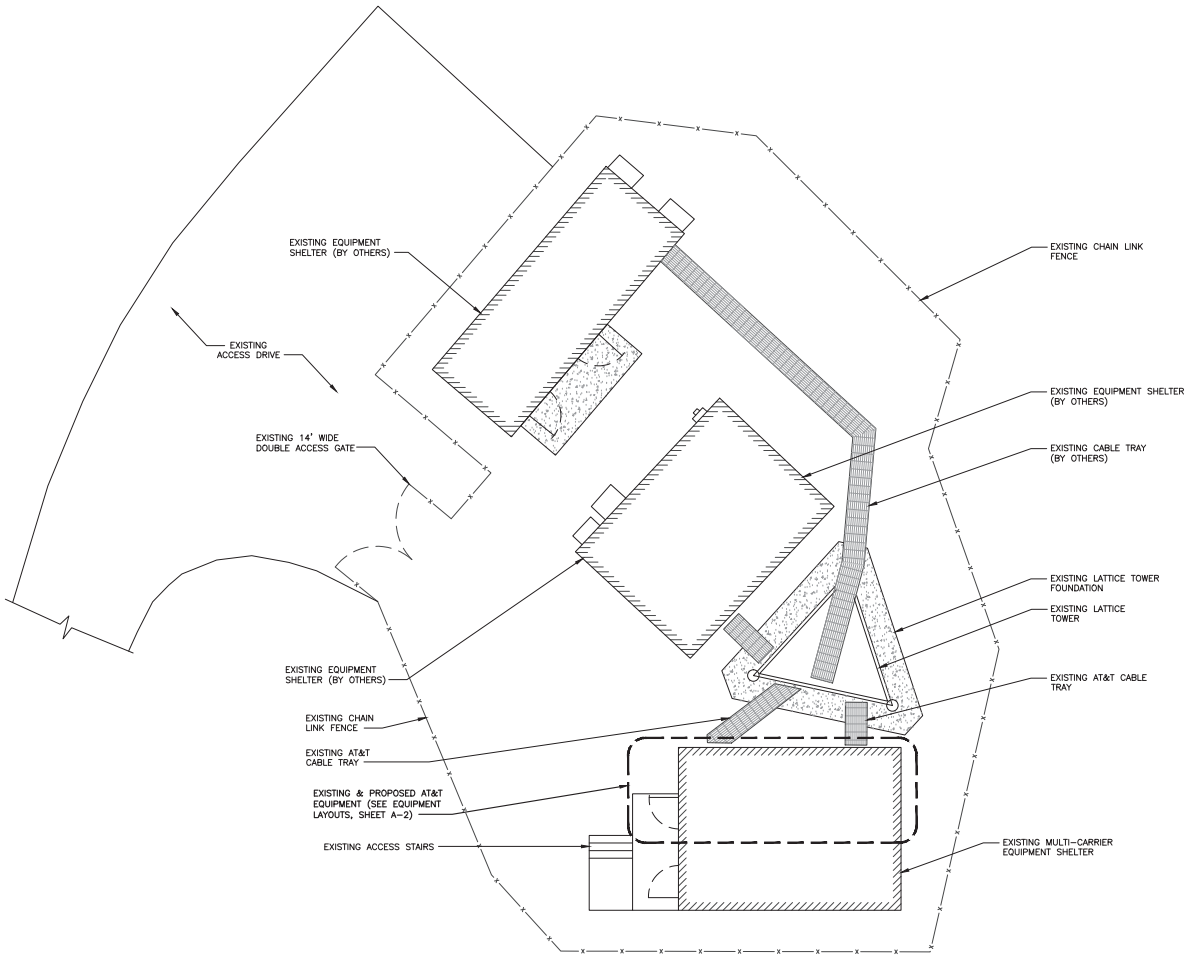
SCALE: AS SHOWN | DESIGNED BY: LAG | DRAWN BY: LAG

SEAL: STATE OF CONNECTIONS — THOMAS B. BABLE — 28643 — PROFESSIONAL ENGINEER — CT LICENSE NUMBER

AT&T

DRAWING TITLE: GROUNDING & GENERAL NOTES

JOB NUMBER	DRAWING NUMBER	REV
16032-EMP	GN-1	0



COMPOUND LAYOUT

SCALE: 1/8" = 1'-0"

NORTH

NOTE:
CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA AND SUBMIT TO THE ENGINEER ANY DISCREPANCIES FROM THE DRAWINGS.

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SCALE: AS SHOWN | DESIGNED BY: LAG | DRAWN BY: LAG

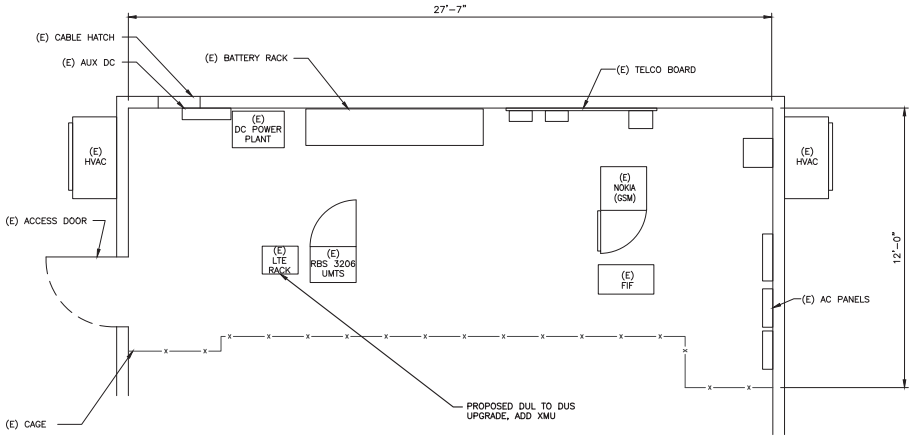
SEAL:

THEODORUS B. BIALE
PROFESSIONAL ENGINEER
CT LICENSE NO. 28643

AT&T

DRAWING TITLE:
COMPOUND LAYOUT

JOB NUMBER	DRAWING NUMBER	REV
16032-EMP	A-1	0



EXISTING EQUIPMENT LAYOUT

SCALE: 3/8 = 1'-0"

(IN FEET)
1/2 Inch = 1 Foot

NORTH

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SCALE: AS SHOWN | DESIGNED BY: LAG | DRAWN BY: LAG

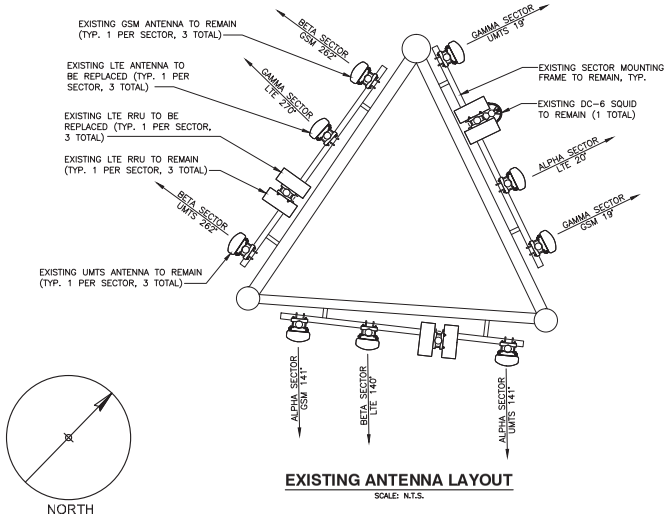
SEAL:

STATE OF CONNECTION
DOUGLAS B. BAGLE
PROFESSIONAL ENGINEER
CT LICENSE NO. 28643

AT&T

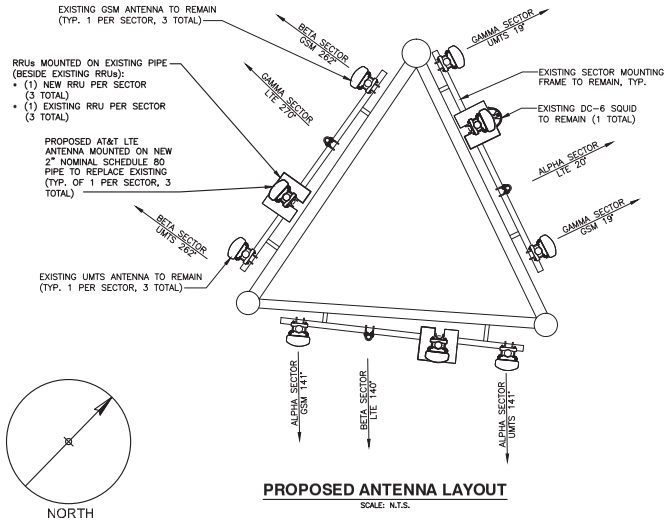
DRAWING TITLE:
EQUIPMENT LAYOUTS

JOB NUMBER	DRAWING NUMBER	REV
16032-EMP	A-2	0



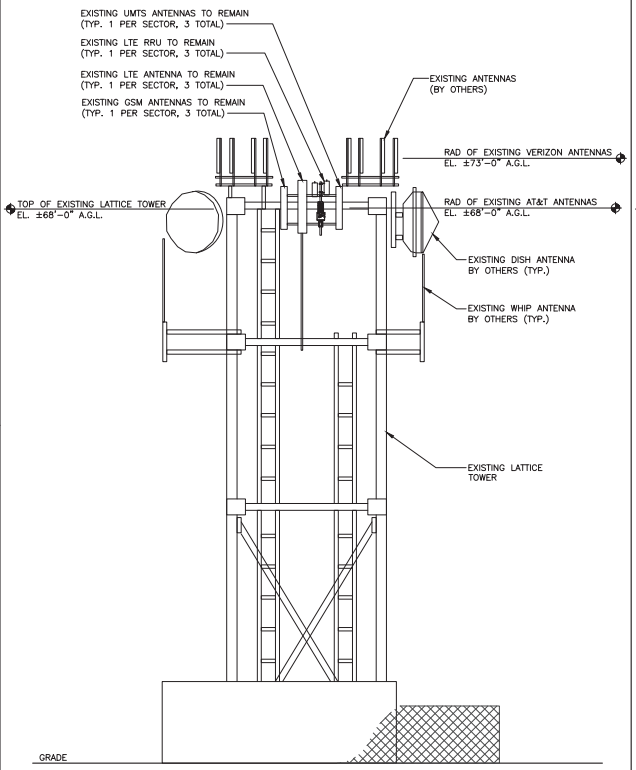
EXISTING ANTENNA LAYOUT

SCALE: N.T.S.



PROPOSED ANTENNA LAYOUT

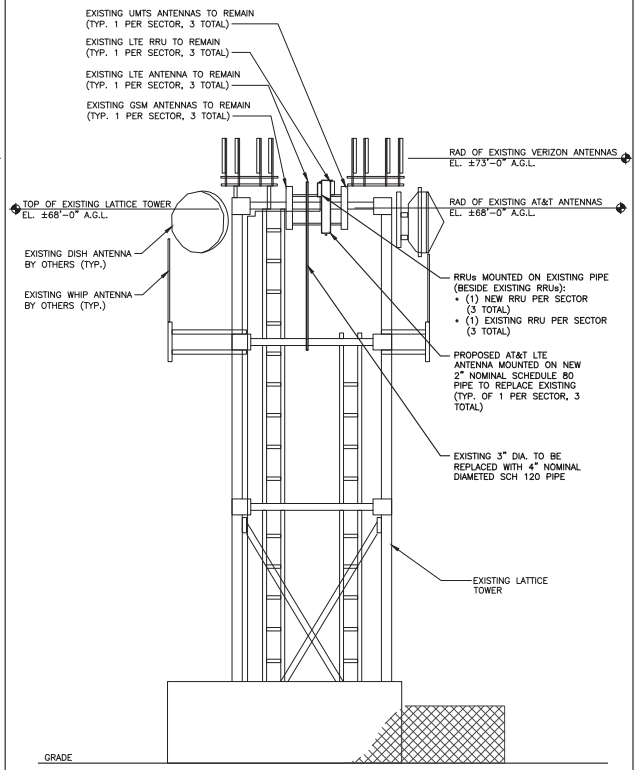
SCALE: N.T.S.



EXISTING TOWER ELEVATION

SCALE: NTS

EXISTING CABLES TO BE UTILIZED FOR NEW EQUIPMENT (PER RFDS)



PROPOSED TOWER ELEVATION

SCALE: NTS

PROJECT OWNER IS RESPONSIBLE FOR PROVIDING A STRUCTURAL STABILITY ANALYSIS TO DETERMINE THE CAPACITY AND SUITABILITY OF THE EXISTING ANTENNA SUPPORT STRUCTURE TO SAFELY CARRY ALL ADDITIONAL LOADS IMPOSED BY THE PROPOSED EQUIPMENT AS SHOWN HEREIN. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCORPORATING ANY REQUIRED STRUCTURAL MODIFICATIONS INTO THEIR SCOPE OF WORK.

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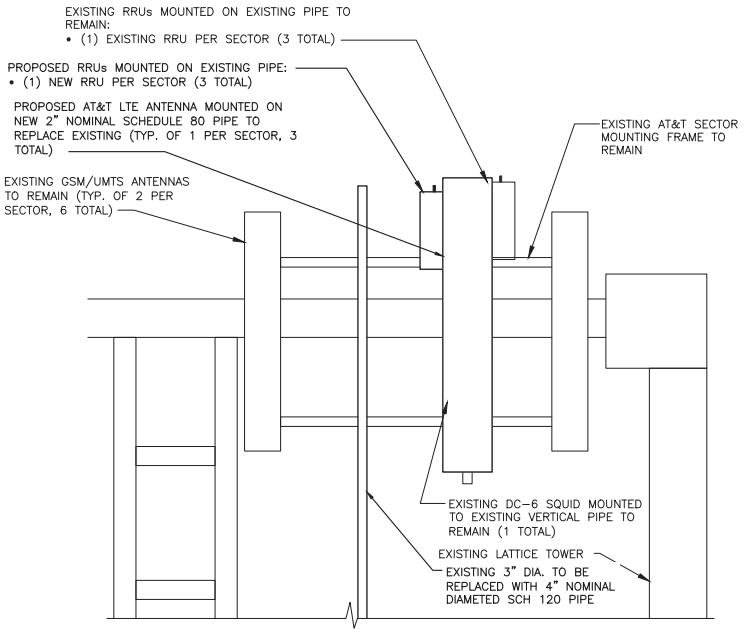
SCALE: AS SHOWN | DESIGNED BY: LAG | DRAWN BY: LAG

SEAL:
STATE OF CONNECTION
DOUGLAS B. BOYLE
PROFESSIONAL ENGINEER
CT LICENSE NO. 28643

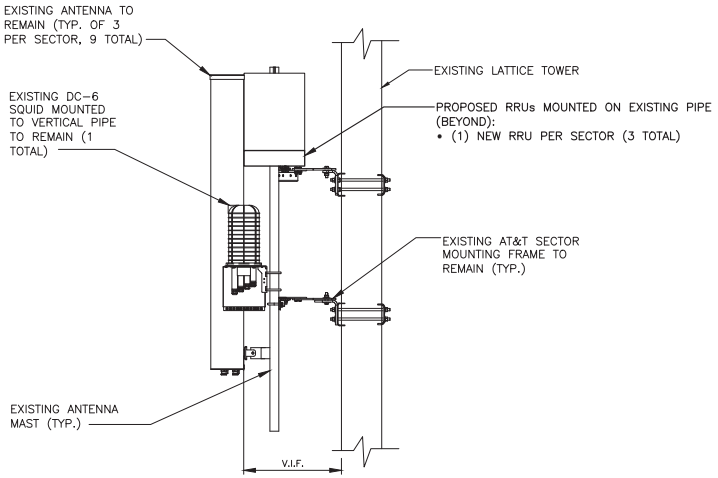
AT&T

DRAWING TITLE:
ANTENNA LAYOUTS & ELEVATIONS

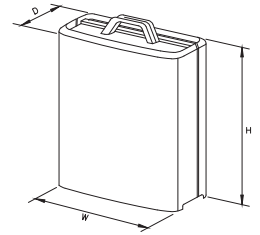
JOB NUMBER	DRAWING NUMBER	REV
16032-EMP	A-3	0



EXISTING ANTENNA MOUNTING DETAIL (FRONT VIEW)
SCALE: N.T.S.



PROPOSED ANTENNA MOUNTING DETAIL (SIDE VIEW)
SCALE: N.T.S.



MODEL	L x W x H	WEIGHT
RRUS-32 B2	29.9" x 13.3" x 9.5"	77 LBS
RRUS-11	19.69" x 16.97" x 7.17"	50.7 LBS

RRU DETAIL
SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE

SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	POWERWAVE	7770	55"x11"x5"
	A2	–	–	–
	A3	POWERWAVE	P65-16-XLH-RR	72"x12"x6"
	A4	POWERWAVE	7770	55"x11"x5"
BETA	B1	POWERWAVE	7770	55"x11"x5"
	B2	–	–	–
	B3	POWERWAVE	P65-16-XLH-RR	72"x12"x6"
	B4	POWERWAVE	7770	55"x11"x5"
GAMMA	G1	POWERWAVE	7770	55"x11"x5"
	G2	–	–	–
	G3	POWERWAVE	P65-16-XLH-RR	72"x12"x6"
	G4	POWERWAVE	7770	55"x11"x5"

FINAL ANTENNA SCHEDULE

SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	POWERWAVE	7770	55"x11"x5"
	A2	CCI	HPA-65R-BUU-H6	72"X14"X9"
	A3	–	–	–
	A4	POWERWAVE	7770	55"x11"x5"
BETA	B1	POWERWAVE	7770	55"x11"x5"
	B2	CCI	HPA-65R-BUU-H6	72"X14"X9"
	B3	–	–	–
	B4	POWERWAVE	7770	55"x11"x5"
GAMMA	G1	POWERWAVE	7770	55"x11"x5"
	G2	CCI	HPA-65R-BUU-H6	72"X14"X9"
	G3	–	–	–
	G4	POWERWAVE	7770	55"x11"x5"

FINAL RRU SCHEDULE

SECTOR	MAKE	MODEL	SIZE (INCHES)	ADDITIONAL COMPONENT	SIZE (INCHES)
ALPHA	ERICSSON	RRUS-32 B2	29.9"x13.3"x9.5"		
	ERICSSON	RRUS-11 (EXISTING)	19.7"x16.9"x7.2"		
BETA	ERICSSON	RRUS-32 B2	29.9"X13.3"X9.5"		
	ERICSSON	RRUS-11 (EXISTING)	19.7"x16.9"x7.2"		
GAMMA	ERICSSON	RRUS-32 B2	29.9"X13.3"X9.5"		
	ERICSSON	RRUS-11 (EXISTING)	19.7"x16.9"x7.2"		

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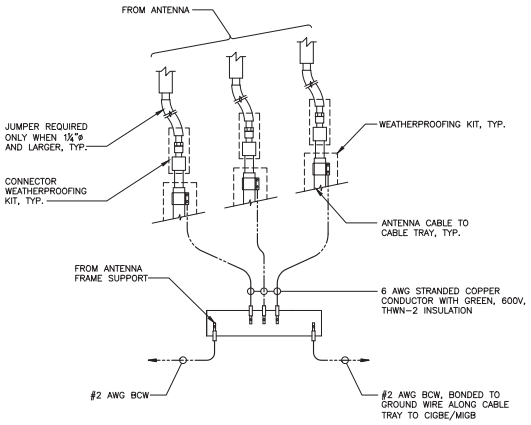
SEAL:
STATE OF CONNECTION
THOMAS B. BAILEY
PROFESSIONAL ENGINEER
CT LICENSE NO. 28643

AT&T

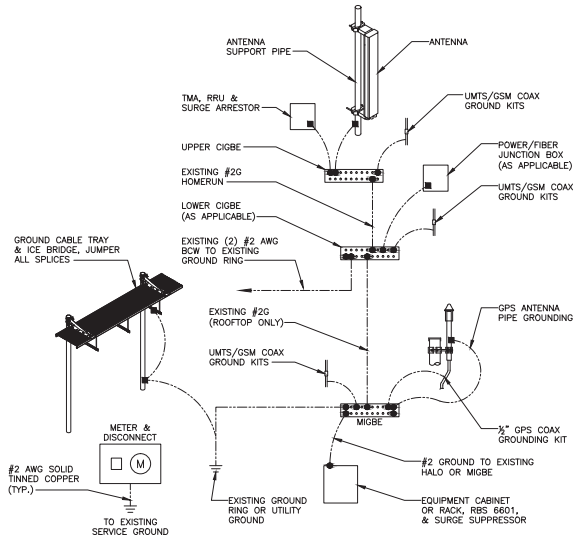
DRAWING TITLE:
ANTENNA MOUNTING DETAILS

JOB NUMBER	DRAWING NUMBER	REV
16032-EMP	A-4	0



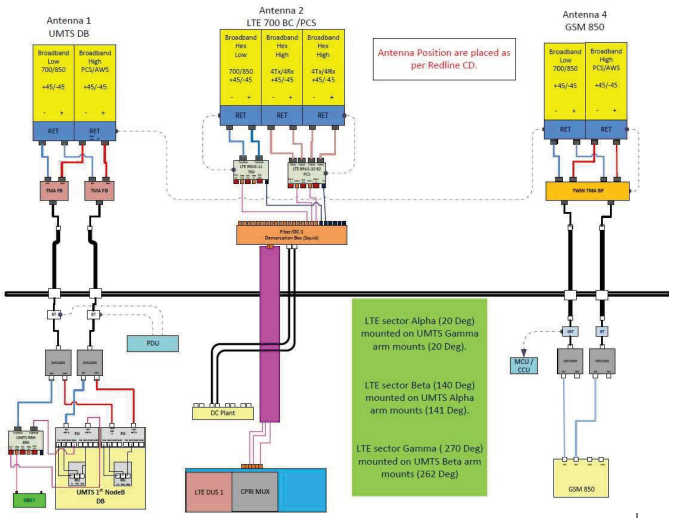
GROUND WIRE TO GROUND BAR CONNECTION DETAIL

SCALE: N.T.S.



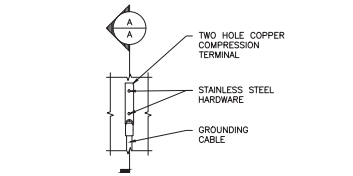
GROUNDING RISER DIAGRAM

SCALE: N.T.S.

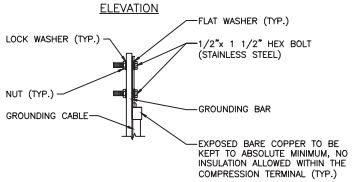


TYPICAL PLUMBING DIAGRAM (PER SECTOR)

SCALE: N.T.S.



ELEVATION



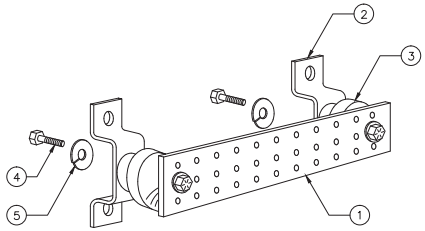
SECTION "A–A"

NOTE:

1. "DOUBLING UP" OR "STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.

TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S.



ITEM NO.	QTY.	DESCRIPTION
1	1	SOLID GROUND BAR (20"x 4"x ¼")
2	2	WALL MOUNTING BRACKET
3	2	INSULATORS
4	4	⅝"–11x1" H.H.C.S.
5	4	⅝" LOCK WASHER

NOTES:

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION

SECTION "B" – SURGE PRODUCERS
- CABLE ENTRY PORTS (HATCH PLATES) (#2)
- GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
- TELCO GROUND BAR
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
- +24V POWER SUPPLY RETURN BAR (#2)
- –48V POWER SUPPLY RETURN BAR (#2)
- RECTIFIER FRAMES

SECTION "A" – SURGE ABSORBERS
- INTERIOR GROUND RING (#2)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
- METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
- BUILDING STEEL (IF AVAILABLE) (#2)

GROUND BAR DETAIL

SCALE: N.T.S.

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SCALE: AS SHOWN | DESIGNED BY: LAG | DRAWN BY: LAG

SEAL:

AT&T

DRAWING TITLE:
GROUNDING, ONE–LINE DIAGRAM & DETAILS

JOB NUMBER	DRAWING NUMBER	REV
16032–EMP	G–1	0