

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

August 10, 2012

Stephanie Wenderoth
Nexlink Global Services
Suite A, Building 2
800 Marshall Phelps Road
Windsor, CT 06095

RE: **EM-AT&T-077-120723** – AT&T Mobility notice of intent to modify an existing telecommunications facility located at 52 East Center Street, Manchester, Connecticut.

Dear Ms. Wenderoth:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- AT&T shall submit to the Council a Radio Frequency Exposure Report with field measurements taken in the vicinity of this facility within three months after the installation described in this notice of exempt modification has been completed.
- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Not less than 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated July 18, 2012. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,



Linda Roberts
Executive Director

LR/CDM/cm

c: The Honorable Louis A. Spadaccini, Mayor, Town of Manchester
Scott A. Shanley, General Manager, Town of Manchester
James Davis, Zoning Enforcement Officer, Town of Manchester

**CONNECTICUT SITING COUNCIL
NOTICE OF INTENT TO MODIFY AN EXISTING TOWER FACILITY
EXEMPT MODIFICATION FILING FORM**

Public Utility Environmental Standards Act, Connecticut General Statutes §§ 16-50g - 16-50aa
Regulations of Connecticut State Agencies §§ 16-50j-72(b)(2) and 16-50j-73

TO BE COMPLETED BY FILER

EM-AT&T-077-120723

Date: 7/18/12

Filer Name and Contact Information

Name: Stephanie Wenderoth

Address: Nexlink Global Services; Suite A Building 2
800 Marshall Phelps Road, Windsor, CT 06095

Phone Number: 401.477.2938

Wireless Carrier: AT&T

Tower Owner: AT&T

Tower Site Address: 52 East Center Street, Manchester, CT

Municipality and Name of Chief Elected Official Provided A Copy Of This Notice:
Louis Spedaccini; Mayor

Description of Exempt Modification (including antenna and equipment changes):
Add 3 LTE Antennas, new conduit, RRUs and surge arrester.

Attachments

- Plans
- Power density calculations if applicable
- Tower structural report if applicable
- \$625.00 Filing Fee

If required:

Municipality w/i 2,500' & Name of Chief Elected Official Provided A Copy Of This Notice:

Underlying Property Owner Provided A Copy Of This Notice:

FOR STAFF USE ONLY

-
- _____ Modification will not result in an increase in tower height
 - _____ Modification is within existing site boundaries
 - _____ Modification will not increase noise levels at the site boundary by 6 dbA or more, or to levels that exceed State & local criteria
 - _____ Modification will meet FCC and DEEP MPE limits

- Modification will not result in significant adverse change in physical or environmental characteristics of the site
- Modification will not impair the structural integrity of the facility as determined by PE
- If yes to all of the above, approval of acknowledgement letter

July 18, 2012

VIA UPS Overnight Delivery

Ms. Linda Roberts, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: AT&T Mobility - Notice of Exempt Modification
52 East Center Street, Manchester, CT



Dear Ms. Roberts:

This letter and attachments are submitted on behalf of AT&T Mobility ("AT&T"). AT&T is enhancing the capabilities of its wireless system in Connecticut by implementing LTE technology. In order to do so, AT&T will modify antenna and equipment configurations at a number of existing sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the Mayor of Manchester.

AT&T plans to modify the existing facility at 52 East Center Street, owned by Southern New England Telephone Company (coordinates 41.7756, -72.5208 W). Attached are drawings depicting the planned changes, and documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration. Also included is a power density calculation reflecting the modification to AT&T's operations at the site.

The changes to the facility do not constitute a modification as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C. S.A. Section 16-50j-1 2(b)(2).

1. The height of the overall structure will be unaffected. The existing antennas will remain and AT&T will add three (3) new antennas, six (6) RRU's and one (1) surge arrester. Additionally, AT&T will install one (1) fiber cable and two (2) DC control cables within the existing pole.
2. The proposed changes will not extend the site boundaries. AT&T will install additional equipment in the existing equipment shelter. Thus, there will be no effect on the site compound.

CT1070

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more. The incremental effect of the proposed change will be negligible.

4. The changes to the facility will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environment as calculated for a mixed frequency site. As indicated in the attached power density calculations, AT&T's operations at the site will result in a power density of 10.97%; the combined site operations will result in a total power density of 10.97%.

Please feel free to call me with any questions or concerns regarding this matter.
Thank you for your consideration.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Stephanie Wenderoth". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

AT&T Mobility
Stephanie Wenderoth, Consultant
wenderoths@nexlinkgs.com
401.477.2938

Cc: Louis Spedaccini; Mayor, Town Hall, 41 Center Street, Manchester, CT 06040



C Squared Systems, LLC
65 Dartmouth Drive, Unit A3
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions



CT5200

(Guilford SW)

201 Granite Rd, Guilford, CT 06437

July 13, 2012

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modifications to the existing AT&T antenna arrays mounted on the monopole tower located at 201 Granite Rd in Guilford, CT. The coordinates of the tower are 41° 17' 31.1712" N, -72° 43' 58.7964" W.

AT&T is proposing the following modifications:

- 1) Install three 700 MHz LTE antennas (one per sector).

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

4. Calculation Results

Table 1 below outlines the power density information for the site. Because the proposed AT&T antennas are directional in nature, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical pattern of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm ²)	Limit	%MPE
AT&T	109	1900	4	525	0.0080	1.0000	0.80%
Cingular UMS	109	1900	2	875	0.0067	1.0000	0.67%
Pocket	90	2130	3	631	0.0840	1.0000	8.40%
AT&T UMTS	97	880	2	565	0.0043	0.5867	0.74%
AT&T UMTS	97	1900	2	875	0.0067	1.0000	0.67%
AT&T LTE	97	734	1	1313	0.0050	0.4893	1.03%
AT&T GSM	97	880	1	283	0.0011	0.5867	0.18%
AT&T GSM	97	1900	4	525	0.0080	1.0000	0.80%
						Total	11.82%

Table 1: Carrier Information¹²³

¹ The existing CSC filing for AT&T and Cingular should be removed and replaced with the updated AT&T technologies and values provided in Table 1. The power density information for carriers other than AT&T was taken directly from the CSC database dated 3/29/2012. Please note that %MPE values listed are rounded to two decimal points. The total %MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not identically match the total value reflected in the table.

² In the case where antenna models are not uniform across all 3 sectors for the same frequency band, the antenna model with the highest gain was used for the calculations to present a worse-case scenario.

³ Antenna height listed for AT&T is in reference to the B&T Engineering, Inc Structural Analysis stamped on July 11, 2012.

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz. IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave. IEEE-SA Standards Board

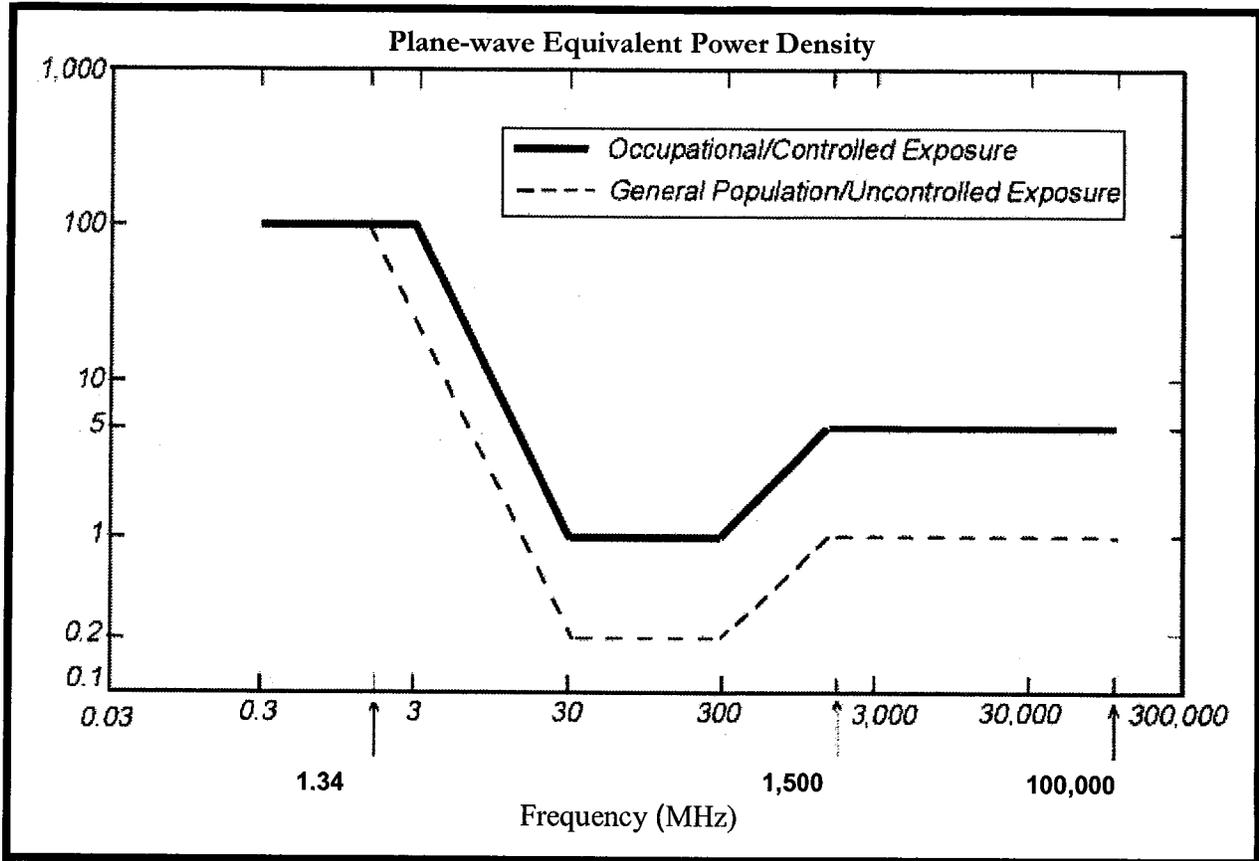
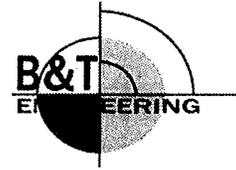


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)



Nexlink Global Services, Inc.
 800 Marshall Phelps Road
 Windsor, CT 06095

B&T Engineering, Inc.
 1717 S. Boulder, Suite 300
 Tulsa, OK 74119

June 6, 2012

B&T No.: 84651.001

**STRUCTURAL ANALYSIS
 100' Monopole Tower**

AT&T DESIGNATION:	Site ID:	25890
	Site FA:	10071060
	Site Name:	Guilford SW
	AT&T Project:	MOD LTE W3 020912
ANALYSIS CRITERIA:	Codes:	TIA/EIA-222-F (mph fastest mile) IBC 2003

SITE DATA: 201 Granite Road, Guilford , CT, New Haven County
 Latitude 41.291992°, Longitude -72.732999°
 Market MA/RI/VT/NH/ME/CT

Ms. Stephanie Wenderoth,

B&T Engineering, Inc. 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

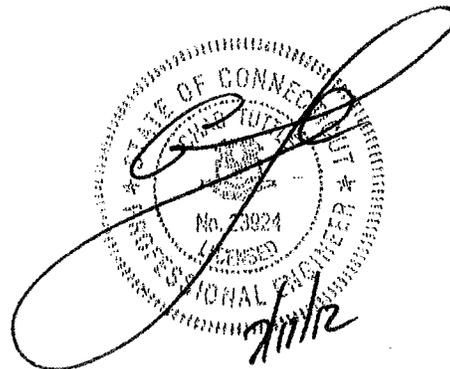
Tower Stress Level with Proposed Equipment:	31.8%	Pass
Foundation Ratio with Proposed Equipment:	17.6%	Pass

We at B&T Engineering, Inc. appreciate the opportunity of providing our continuing professional services to you and Nexlink Global Services, Inc.. If you have any questions or need further assistance on this or any other project please give us a call.

Respectfully Submitted by: B&T Engineering, Inc.

Analysis Prepared by: Ashley VanDine, E.I.

Analysis Reviewed by: Chad E. Tuttle, P.E.



ANALYSIS RESULTS:

Table 1 - Section Capacity (Summary)

Component (Tower Section)	% Capacity	Pass / Fail
100 - 47.92	20.4	Pass
47.92 - 1	30	Pass

Table 2 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	Base	24.2	Pass
1	Base Plate	Base	31.8	Pass
1	Base Foundation	Base	17.6	Pass

Structure Rating (max from all components) =	31.8%
---	--------------

Notes:

- 1.) See additional documentation in "Appendix B - Calculations" for calculation supporting the % capacity consumed.
- 2.) Capacities up to 105% are considered acceptable based on analysis methods used.
- 3.) Foundation capacity determined by comparing analysis reactions to original design reactions.

Recommendations:

N/A

ANALYSIS PROCEDURE:

Table 4 - Documents Provided

Document	Description	Date	Source
Tower Data	EEI Job No. 12051-E02	11/11/2003	Siterra
Foundation Information	EEI Job No. 12051	11/11/2003	Siterra
Geotech Report	Jaworski Geotech, Inc	10/15/2003	Siterra
Loading	Equipment Mod Form	3/5/2012	Siterra
Previous Structural Analysis	GPD Job No. 2008264.62	9/24/2008	Siterra

ANALYSIS METHOD:

tnxTower, a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix B.

ASSUMPTIONS:

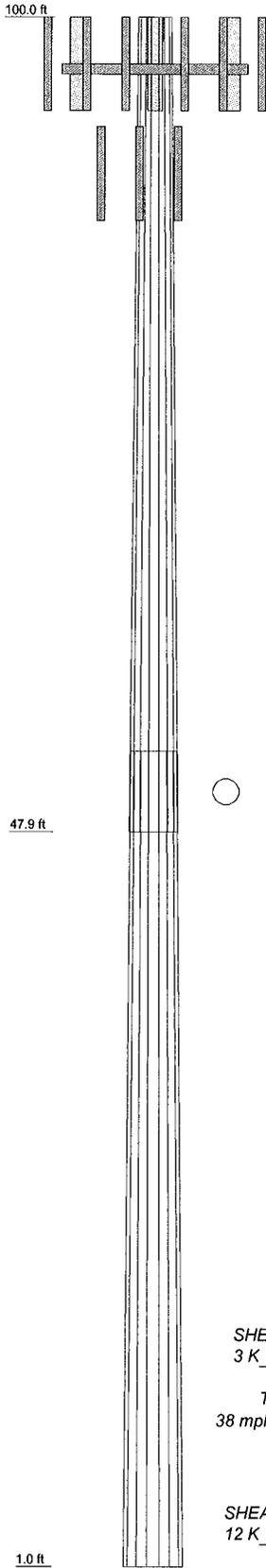
1. Tower and structures were built in accordance with the manufacturer's specifications.
2. The tower and structures have been maintained in accordance with the manufacturer's specifications.
3. The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Appendix A of this report.
4. Mount areas and weights are assumed based on photographs provided.
5. Refer to the base level drawing for transmission line distribution.

If any of these assumptions have been made in error, B&T Engineering should be notified to determine the effect on the structural integrity of the tower.

APPENDIX A
TOWER ANALYSIS LOADING

APPENDIX B
CALCULATIONS

Section	1	2
Length (ft)	52.080	52.080
Number of Sides	18	18
Thickness (in)	0.313	0.375
Socket Length (ft)	5.160	35.435
Top Dia (in)	26.420	46.000
Bot Dia (in)	37.120	
Grade	A572-65	
Weight (K)	5.5	8.5



DESIGNED APPURTENANCE LOADING

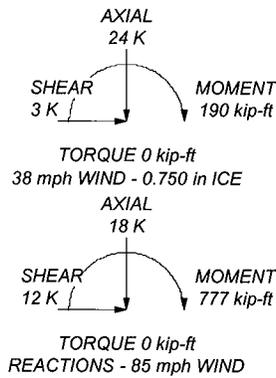
TYPE	ELEVATION	TYPE	ELEVATION
(2) 7770.00 w/ Mount Pipe (ATI E)	97	(2) RBS6000 (ATI P)	97
(2) 7770.00 w/ Mount Pipe (ATI E)	97	(2) RBS6000 (ATI P)	97
(2) 7770.00 w/ Mount Pipe (ATI E)	97	(2) RBS6000 (ATI P)	97
(2) LGP21401 (ATI E)	97	DC6-48-60-18-8F Squid (ATI P)	97
(2) LGP21401 (ATI E)	97	Platform Mount [LP 304-1] (ATI E)	97
(2) LGP21401 (ATI E)	97	APXV18-206517S-C w/ Mount Pipe (MetroPCS-E)	90
AM-X-CD-16-65-00T-RET w/ Mount Pipe (ATI P)	97	APXV18-206517S-C w/ Mount Pipe (MetroPCS-E)	90
AM-X-CD-16-65-00T-RET w/ Mount Pipe (ATI P)	97	APXV18-206517S-C w/ Mount Pipe (MetroPCS-E)	90
AM-X-CD-16-65-00T-RET w/ Mount Pipe (ATI P)	97		

MATERIAL STRENGTH

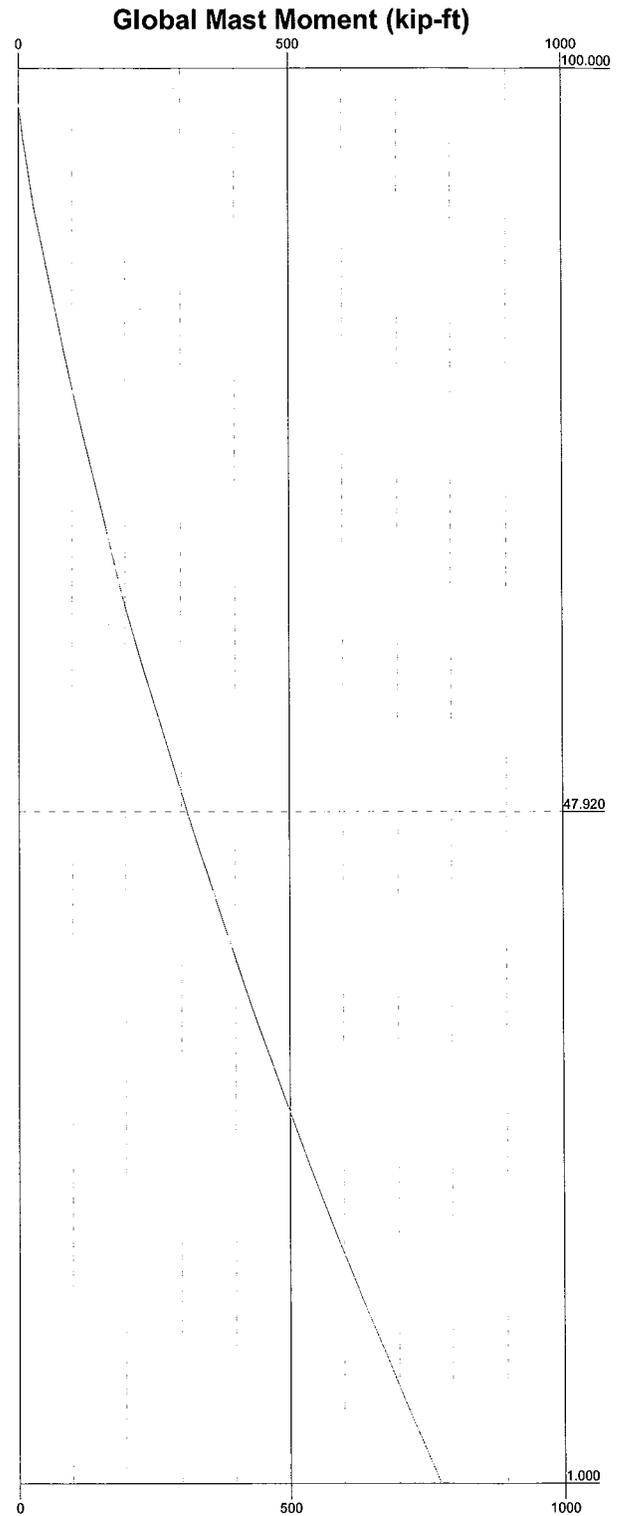
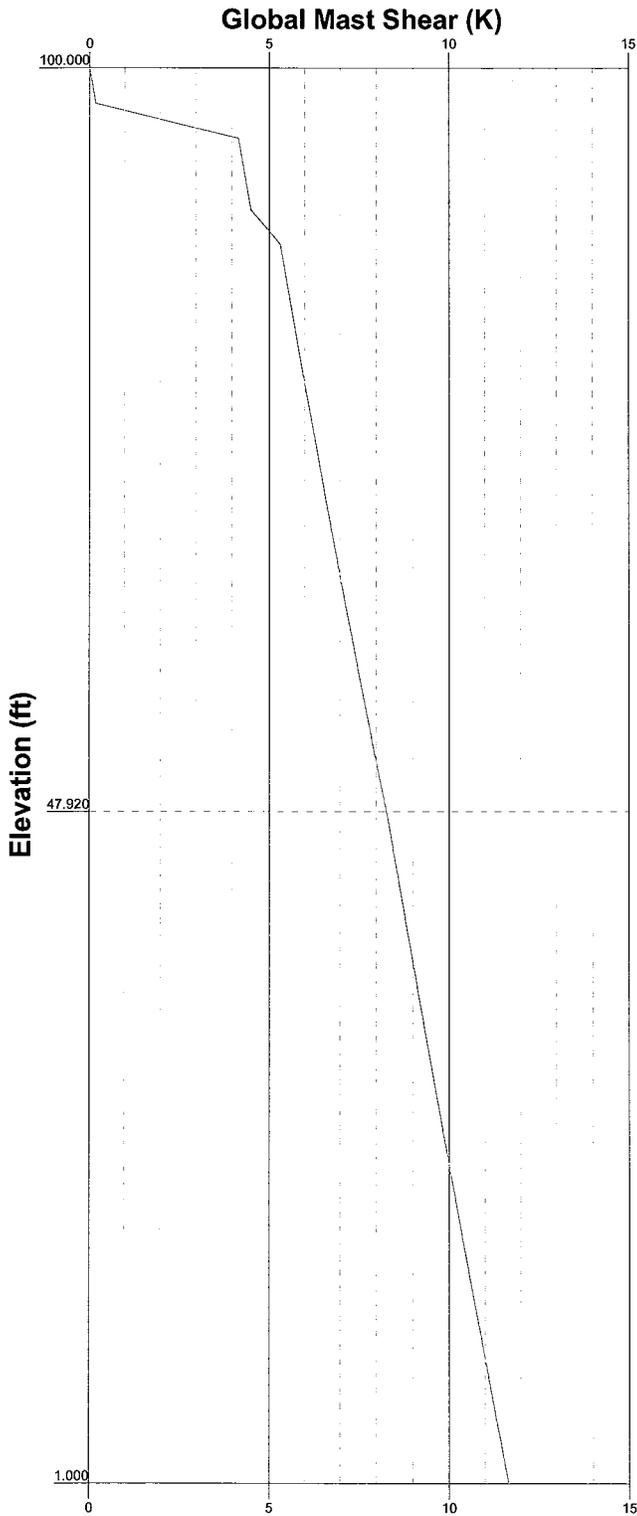
GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

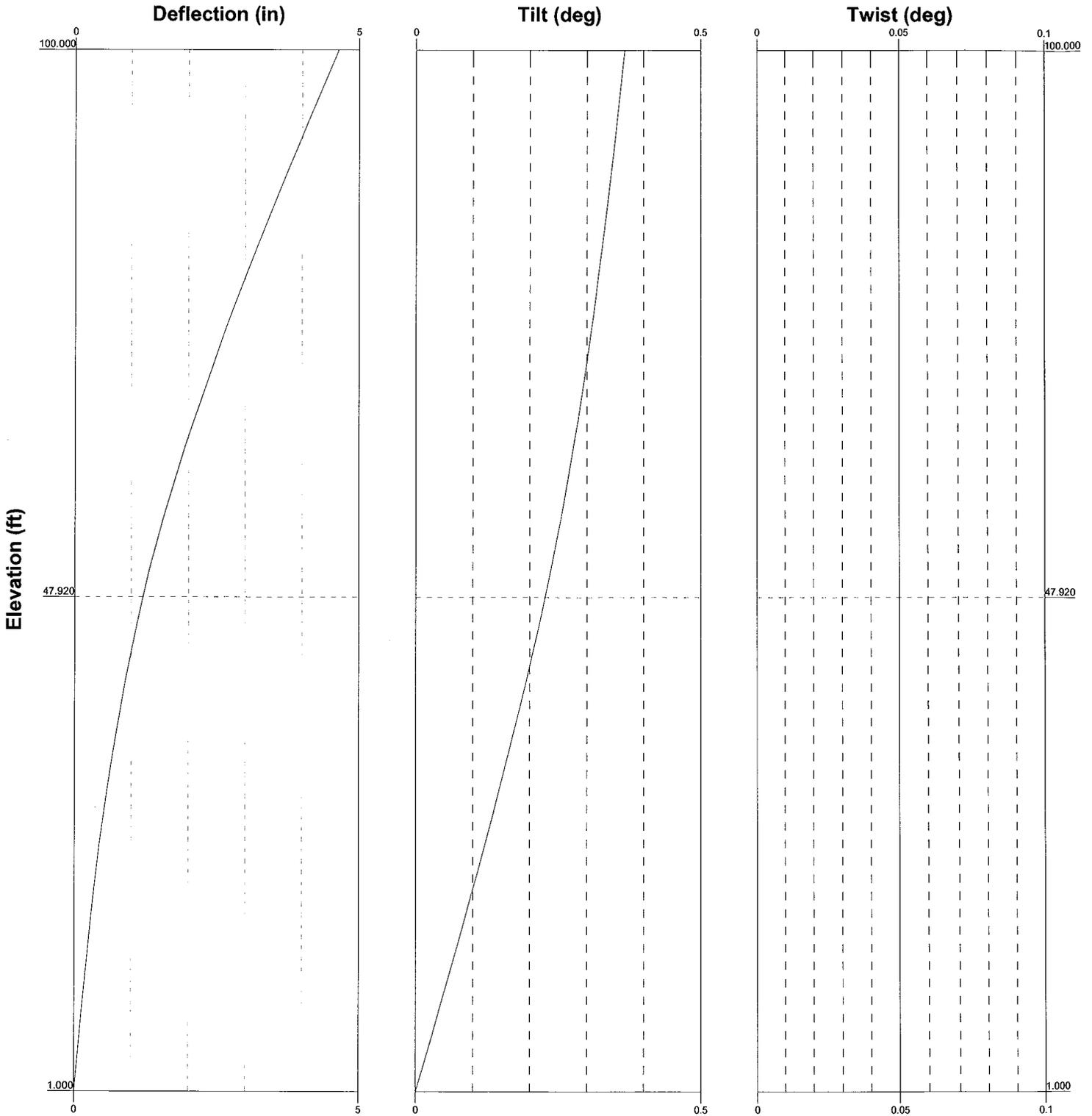
1. Tower is located in New Haven County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 30%



<p>B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 587-4630</p>	Job: 84651.001 - Guilford SW, CT (Site# 25890)		
	Project: 100' EEI MP/ AT&T Co-Locate		
	Client: Nexlinkgs	Drawn by: avandine	App'd:
	Code: TIA/EIA-222-F	Date: 07/11/12	Scale: NTS
	Path:		Dwg No. E-1



 <p>B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 587-4630</p>	<p>Job: 84651.001 - Guilford SW, CT (Site# 25890)</p>		
	<p>Project: 100' EEI MP/ AT&T Co-Locate</p>		
	<p>Client: Nexlinkgs</p>	<p>Drawn by: avandine</p>	<p>App'd:</p>
	<p>Code: TIA/EIA-222-F</p>	<p>Date: 07/11/12</p>	<p>Scale: NTS</p>
<p>Path:</p>	<p>Dwg No. E-4</p>		

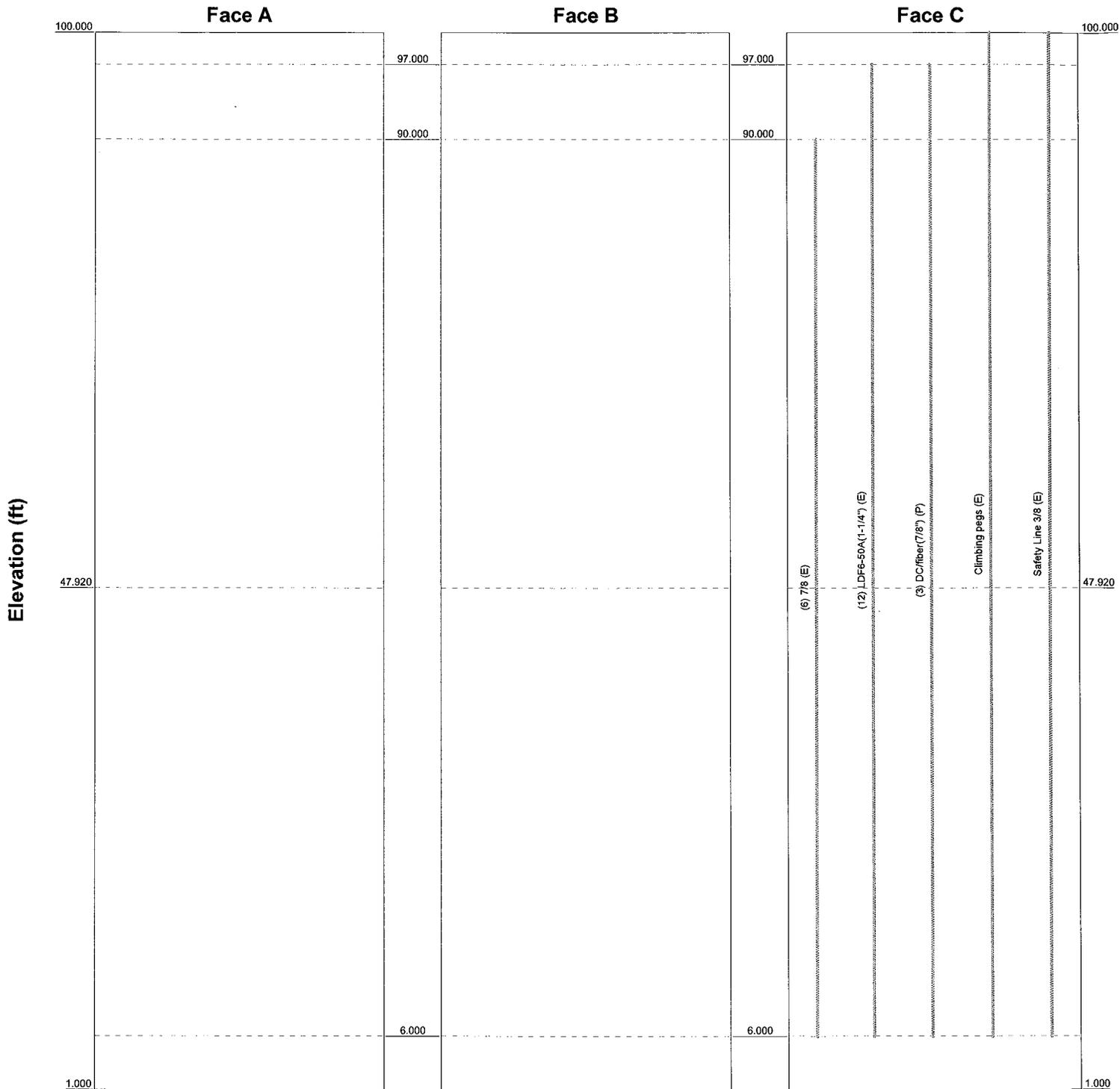


 <p>B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 587-4630</p>	<p>Job: 84651.001 - Guilford SW, CT (Site# 25890)</p>		
	<p>Project: 100' EEI MP/ AT&T Co-Locate</p>		
	<p>Client: Nexlinkgs</p>	<p>Drawn by: avandine</p>	<p>App'd:</p>
	<p>Code: TIA/EIA-222-F</p>	<p>Date: 07/11/12</p>	<p>Scale: NTS</p>
<p>Path: C:\Users\avandine\Desktop\4451 - CT500 25890 - Guilford SW\workspace\B+T\Drawings\100' EEI MP/ AT&T Co-Locate</p>		<p>Dwg No. E-5</p>	

Feedline Distribution Chart

1' - 100'

Round
Flat
App In Face
App Out Face
Truss Leg



 B+T GROUP	B+T Group	Job: 84651.001 - Guilford SW, CT (Site# 25890)			
	1717 S. Boulder, Suite 300		Project: 100' EEI MP/ AT&T Co-Locate		
	Tulsa, OK 74119		Client: Nexlinkgs	Drawn by: avandine	App'd:
	Phone: (918) 587-4630		Code: TIA/EIA-222-F	Date: 07/11/12	Scale: NTS
FAX: (918) 587-4630		Path:		Dwg No. E-7	

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 587-4630	Job 84651.001 - Guilford SW,CT(Site# 25890)	Page 1 of 10
	Project 100' EEI MP/ AT&T Co-Locate	Date 10:22:07 07/11/12
	Client Nexlinkgs	Designed by avandine

Tower Input Data

There is a pole section.

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

The following design criteria apply:

Tower is located in New Haven County, Connecticut.

Basic wind speed of 85 mph.

Nominal ice thickness of 0.750 in.

Ice thickness is considered to increase with height.

Ice density of 56.000 pcf.

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

Temperature drop of 50.000 °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 pole design is 1.333.

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

Options

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

Tapered Pole Section Geometry

Section	Elevation	Section Length	Splice Length	Number of Sides	Top Diameter	Bottom Diameter	Wall Thickness	Bend Radius	Pole Grade
	ft	ft	ft		in	in	in	in	
L1	100.000-47.920	52.080	5.160	18	26.420	37.120	0.313	1.250	A572-65 (65 ksi)
L2	47.920-1.000	52.080		18	35.435	46.000	0.375	1.500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia.	Area	I	r	C	I/C	J	It/Q	w	w/t
	in	in ²	in ⁴	in	in	in ³	in ⁴	in ²	in	
L1	26.828	25.895	2229.925	9.268	13.421	166.147	4462.784	12.950	4.100	13.12
	37.693	36.508	6248.897	13.067	18.857	331.384	12506.016	18.258	5.983	19.146
L2	37.044	41.730	6480.466	12.446	18.001	360.008	12969.459	20.869	5.577	14.871
	46.710	54.305	14281.844	16.197	23.368	611.171	28582.480	27.158	7.436	19.829

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 587-4630	Job 84651.001 - Guilford SW,CT(Site# 25890)	Page 2 of 10
	Project 100' EEI MP/ AT&T Co-Locate	Date 10:22:07 07/11/12
	Client Nexlinkgs	Designed by avandine

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	Double Angle Stitch Bolt Spacing Horizontals
ft	ft ²	in					in	in
L1 100.000-47.92				1	1	1		
0								
L2 47.920-1.000				1	1	1		

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement	Total Number		$C_A A_A$	Weight
				ft			ft ² /ft	klf
7/8 (E)	C	No	Inside Pole	90.000 - 6.000	6	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
LDF6-50A(1-1/4") (E)	C	No	Inside Pole	97.000 - 6.000	12	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
DC/fiber(7/8") (P)	C	No	Inside Pole	97.000 - 6.000	3	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
_ Climbing pegs (E)	C	No	CaAa (Out Of Face)	100.000 - 6.000	1	No Ice	0.088	0.000
						1/2" Ice	0.188	0.001
						1" Ice	0.288	0.003
						2" Ice	0.488	0.007
						4" Ice	0.888	0.024
Safety Line 3/8 (E)	C	No	CaAa (Out Of Face)	100.000 - 6.000	1	No Ice	0.037	0.000
						1/2" Ice	0.137	0.001
						1" Ice	0.238	0.001
						2" Ice	0.437	0.002
						4" Ice	0.838	0.004

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation	Face	A_R	A_F	$C_A A_A$ In Face	$C_A A_A$ Out Face	Weight
	ft		ft ²	ft ²	ft ²	ft ²	K
L1	100.000-47.920	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	6.536	0.637
L2	47.920-1.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	5.261	0.562

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 587-4630	Job 84651.001 - Guilford SW,CT(Site# 25890)	Page 3 of 10
	Project 100' EEI MP/ AT&T Co-Locate	Date 10:22:07 07/11/12
	Client Nexlinkgs	Designed by avandine

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	100.000-47.920	A	0.825	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	23.726	0.776
L2	47.920-1.000	A	0.750	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	19.098	0.673

Feed Line Center of Pressure

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
L1	100.000-47.920	-0.156	0.090	-0.483	0.279
L2	47.920-1.000	-0.139	0.080	-0.451	0.260

Discrete Tower Loads

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 K	
(2) 7770.00 w/ Mount Pipe (AT&T E)	C	From Leg	4.000 0.000 0.000	0.000	97.000	No Ice	6.119	4.254	0.055
						1/2" Ice	6.626	5.014	0.101
						1" Ice	7.128	5.711	0.155
						2" Ice	8.164	7.155	0.287
						4" Ice	10.360	10.412	0.665
(2) 7770.00 w/ Mount Pipe (AT&T E)	B	From Leg	4.000 0.000 0.000	0.000	97.000	No Ice	6.119	4.254	0.055
						1/2" Ice	6.626	5.014	0.101
						1" Ice	7.128	5.711	0.155
						2" Ice	8.164	7.155	0.287
						4" Ice	10.360	10.412	0.665
(2) 7770.00 w/ Mount Pipe (AT&T E)	A	From Leg	4.000 0.000 0.000	0.000	97.000	No Ice	6.119	4.254	0.055
						1/2" Ice	6.626	5.014	0.101
						1" Ice	7.128	5.711	0.155
						2" Ice	8.164	7.155	0.287
						4" Ice	10.360	10.412	0.665
(2) LGP21401 (AT&T E)	C	From Leg	4.000 0.000 0.000	0.000	97.000	No Ice	1.288	0.233	0.014
						1/2" Ice	1.445	0.313	0.021
						1" Ice	1.611	0.403	0.030
						2" Ice	1.969	0.608	0.055
						4" Ice	2.788	1.121	0.135
(2) LGP21401 (AT&T E)	B	From Leg	4.000 0.000 0.000	0.000	97.000	No Ice	1.288	0.233	0.014
						1/2" Ice	1.445	0.313	0.021
						1" Ice	1.611	0.403	0.030
						2" Ice	1.969	0.608	0.055
						4" Ice	2.788	1.121	0.135
(2) LGP21401 (AT&T E)	A	From Leg	4.000 0.000 0.000	0.000	97.000	No Ice	1.288	0.233	0.014
						1/2" Ice	1.445	0.313	0.021
						1" Ice	1.611	0.403	0.030
						2" Ice	1.969	0.608	0.055
						4" Ice	2.788	1.121	0.135

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 587-4630	Job		84651.001 - Guilford SW,CT(Site# 25890)		Page		4 of 10	
	Project		100' EEI MP/ AT&T Co-Locate		Date		10:22:07 07/11/12	
	Client		Nexlinkgs		Designed by		avandine	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _A Front	C _A A _A Side	Weight	
			Horz	Lateral						Vert
AM-X-CD-16-65-00T-RET w/ Mount Pipe (AT&T P)	C	From Leg	4.000	0.000	0.000	97.000	4" Ice	2.788	1.121	0.135
							No Ice	8.498	6.304	0.074
							1/2" Ice	9.149	7.479	0.136
							1" Ice	9.767	8.368	0.210
							2" Ice	11.031	10.179	0.385
AM-X-CD-16-65-00T-RET w/ Mount Pipe (AT&T P)	B	From Leg	4.000	0.000	0.000	97.000	4" Ice	13.679	14.024	0.874
							No Ice	8.498	6.304	0.074
							1/2" Ice	9.149	7.479	0.136
							1" Ice	9.767	8.368	0.210
							2" Ice	11.031	10.179	0.385
AM-X-CD-16-65-00T-RET w/ Mount Pipe (AT&T P)	A	From Leg	4.000	0.000	0.000	97.000	4" Ice	13.679	14.024	0.874
							No Ice	8.498	6.304	0.074
							1/2" Ice	9.149	7.479	0.136
							1" Ice	9.767	8.368	0.210
							2" Ice	11.031	10.179	0.385
(2) RBS6000 (AT&T P)	C	From Leg	4.000	0.000	0.000	97.000	4" Ice	13.679	14.024	0.874
							No Ice	2.942	1.190	0.055
							1/2" Ice	3.172	1.351	0.074
							1" Ice	3.410	1.521	0.097
							2" Ice	3.913	1.887	0.151
(2) RBS6000 (AT&T P)	B	From Leg	4.000	0.000	0.000	97.000	4" Ice	5.023	2.721	0.302
							No Ice	2.942	1.190	0.055
							1/2" Ice	3.172	1.351	0.074
							1" Ice	3.410	1.521	0.097
							2" Ice	3.913	1.887	0.151
(2) RBS6000 (AT&T P)	A	From Leg	4.000	0.000	0.000	97.000	4" Ice	5.023	2.721	0.302
							No Ice	2.942	1.190	0.055
							1/2" Ice	3.172	1.351	0.074
							1" Ice	3.410	1.521	0.097
							2" Ice	3.913	1.887	0.151
DC6-48-60-18-8F Squid (AT&T P)	C	From Leg	4.000	0.000	0.000	97.000	4" Ice	5.023	2.721	0.302
							No Ice	1.266	1.266	0.020
							1/2" Ice	1.456	1.456	0.035
							1" Ice	1.658	1.658	0.053
							2" Ice	2.093	2.093	0.095
Platform Mount [LP 304-1] (AT&T E)	C	None			0.000	97.000	4" Ice	3.098	3.098	0.215
							No Ice	17.460	17.460	1.349
							1/2" Ice	22.440	22.440	1.625
							1" Ice	27.420	27.420	1.900
							2" Ice	37.380	37.380	2.451
** APXV18-206517S-C w/ Mount Pipe (MetroPCS-E)	C	From Leg	0.000	0.000	0.000	90.000	4" Ice	5.404	4.700	0.052
							No Ice	5.404	4.700	0.052
							1/2" Ice	5.960	5.860	0.094
							1" Ice	6.481	6.734	0.148
							2" Ice	7.547	8.515	0.280
APXV18-206517S-C w/ Mount Pipe (MetroPCS-E)	B	From Leg	0.000	0.000	0.000	90.000	4" Ice	9.919	12.277	0.679
							No Ice	5.404	4.700	0.052
							1/2" Ice	5.960	5.860	0.094
							1" Ice	6.481	6.734	0.148
							2" Ice	7.547	8.515	0.280
APXV18-206517S-C w/ Mount Pipe (MetroPCS-E)	A	From Leg	0.000	0.000	0.000	90.000	4" Ice	9.919	12.277	0.679
							No Ice	5.404	4.700	0.052
							1/2" Ice	5.960	5.860	0.094
							1" Ice	6.481	6.734	0.148
							2" Ice	7.547	8.515	0.280
							4" Ice	9.919	12.277	0.679

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 587-4630	Job 84651.001 - Guilford SW,CT(Site# 25890)	Page 5 of 10
	Project 100' EEI MP/ AT&T Co-Locate	Date 10:22:07 07/11/12
	Client Nexlinkgs	Designed by avandine

Load Combinations

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	100 - 47.92	Pole	Max Tension	14	0.000	0.000	0.000
			Max. Compression	14	-11.523	0.387	-0.224
			Max. Mx	11	-7.864	269.654	-0.071
			Max. My	8	-7.864	0.123	-269.602
			Max. Vy	11	-7.866	269.654	-0.071
			Max. Vx	8	7.866	0.123	-269.602
			Max. Torque	13			
L2	47.92 - 1	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-23.610	0.609	-0.352
			Max. Mx	11	-17.725	777.058	-0.096
			Max. My	8	-17.725	0.166	-776.988
			Max. Vy	11	-11.655	777.058	-0.096

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 587-4630	Job 84651.001 - Guilford SW,CT(Site# 25890)	Page 6 of 10
	Project 100' EEI MP/ AT&T Co-Locate	Date 10:22:07 07/11/12
	Client Nexlinkgs	Designed by avandine

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	8	11.655	0.166	-776.988
			Max. Torque	13			0.379

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	14	23.610	0.000	0.000
	Max. H _x	11	17.729	11.649	0.000
	Max. H _z	2	17.729	0.000	11.649
	Max. M _x	2	776.796	0.000	11.649
	Max. M _z	5	776.725	-11.649	0.000
	Max. Torsion	13	0.379	5.825	10.089
	Min. Vert	1	17.729	0.000	0.000
	Min. H _x	5	17.729	-11.649	0.000
	Min. H _z	8	17.729	0.000	-11.649
	Min. M _x	8	-776.988	0.000	-11.649
	Min. M _z	11	-777.058	11.649	0.000
	Min. Torsion	7	-0.379	-5.825	-10.089

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	17.729	0.000	0.000	0.095	0.164	0.000
Dead+Wind 0 deg - No Ice	17.729	0.000	-11.649	-776.796	0.166	-0.328
Dead+Wind 30 deg - No Ice	17.729	5.825	-10.089	-672.712	-388.280	-0.189
Dead+Wind 60 deg - No Ice	17.729	10.089	-5.825	-388.350	-672.642	-0.000
Dead+Wind 90 deg - No Ice	17.729	11.649	0.000	0.096	-776.725	0.189
Dead+Wind 120 deg - No Ice	17.729	10.089	5.825	388.542	-672.642	0.328
Dead+Wind 150 deg - No Ice	17.729	5.825	10.089	672.904	-388.280	0.379
Dead+Wind 180 deg - No Ice	17.729	0.000	11.649	776.988	0.166	0.328
Dead+Wind 210 deg - No Ice	17.729	-5.825	10.089	672.904	388.612	0.189
Dead+Wind 240 deg - No Ice	17.729	-10.089	5.825	388.542	672.974	-0.000
Dead+Wind 270 deg - No Ice	17.729	-11.649	0.000	0.096	777.058	-0.189
Dead+Wind 300 deg - No Ice	17.729	-10.089	-5.825	-388.350	672.974	-0.328
Dead+Wind 330 deg - No Ice	17.729	-5.825	-10.089	-672.712	388.612	-0.379
Dead+Ice+Temp	23.610	0.000	0.000	0.352	0.609	0.000
Dead+Wind 0 deg+Ice+Temp	23.610	0.000	-2.780	-188.591	0.621	-0.125
Dead+Wind 30 deg+Ice+Temp	23.610	1.390	-2.408	-163.277	-93.854	-0.072
Dead+Wind 60 deg+Ice+Temp	23.610	2.408	-1.390	-94.116	-163.014	0.000
Dead+Wind 90 deg+Ice+Temp	23.610	2.780	0.000	0.359	-188.329	0.072
Dead+Wind 120 deg+Ice+Temp	23.610	2.408	1.390	94.833	-163.014	0.125
Dead+Wind 150 deg+Ice+Temp	23.610	1.390	2.408	163.994	-93.854	0.145
Dead+Wind 180 deg+Ice+Temp	23.610	0.000	2.780	189.308	0.621	0.125
Dead+Wind 210 deg+Ice+Temp	23.610	-1.390	2.408	163.994	95.096	0.072
Dead+Wind 240 deg+Ice+Temp	23.610	-2.408	1.390	94.833	164.256	0.000
Dead+Wind 270 deg+Ice+Temp	23.610	-2.780	0.000	0.359	189.571	-0.072
Dead+Wind 300 deg+Ice+Temp	23.610	-2.408	-1.390	-94.116	164.256	-0.125
Dead+Wind 330 deg+Ice+Temp	23.610	-1.390	-2.408	-163.277	95.096	-0.145
Dead+Wind 0 deg - Service	17.729	0.000	-4.031	-268.739	0.166	-0.114

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 587-4630	Job 84651.001 - Guilford SW,CT(Site# 25890)	Page 7 of 10
	Project 100' EEI MP/ AT&T Co-Locate	Date 10:22:07 07/11/12
	Client Nexlinkgs	Designed by avandine

Load Combination	Vertical	Shear _x	Shear _z	Overtuning Moment, M _x	Overtuning Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 30 deg - Service	17.729	2.015	-3.491	-232.722	-134.251	-0.066
Dead+Wind 60 deg - Service	17.729	3.491	-2.015	-134.322	-232.652	0.000
Dead+Wind 90 deg - Service	17.729	4.031	0.000	0.096	-268.669	0.066
Dead+Wind 120 deg - Service	17.729	3.491	2.015	134.514	-232.652	0.114
Dead+Wind 150 deg - Service	17.729	2.015	3.491	232.914	-134.251	0.131
Dead+Wind 180 deg - Service	17.729	0.000	4.031	268.932	0.166	0.114
Dead+Wind 210 deg - Service	17.729	-2.015	3.491	232.914	134.584	0.066
Dead+Wind 240 deg - Service	17.729	-3.491	2.015	134.514	232.985	0.000
Dead+Wind 270 deg - Service	17.729	-4.031	0.000	0.096	269.002	-0.066
Dead+Wind 300 deg - Service	17.729	-3.491	-2.015	-134.322	232.985	-0.114
Dead+Wind 330 deg - Service	17.729	-2.015	-3.491	-232.722	134.584	-0.131

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-17.729	0.000	0.000	17.729	0.000	0.000%
2	0.000	-17.729	-11.649	0.000	17.729	11.649	0.000%
3	5.825	-17.729	-10.089	-5.825	17.729	10.089	0.000%
4	10.089	-17.729	-5.825	-10.089	17.729	5.825	0.000%
5	11.649	-17.729	0.000	-11.649	17.729	0.000	0.000%
6	10.089	-17.729	5.825	-10.089	17.729	-5.825	0.000%
7	5.825	-17.729	10.089	-5.825	17.729	-10.089	0.000%
8	0.000	-17.729	11.649	0.000	17.729	-11.649	0.000%
9	-5.825	-17.729	10.089	5.825	17.729	-10.089	0.000%
10	-10.089	-17.729	5.825	10.089	17.729	-5.825	0.000%
11	-11.649	-17.729	0.000	11.649	17.729	0.000	0.000%
12	-10.089	-17.729	-5.825	10.089	17.729	5.825	0.000%
13	-5.825	-17.729	-10.089	5.825	17.729	10.089	0.000%
14	0.000	-23.610	0.000	0.000	23.610	0.000	0.000%
15	0.000	-23.610	-2.780	0.000	23.610	2.780	0.000%
16	1.390	-23.610	-2.408	-1.390	23.610	2.408	0.000%
17	2.408	-23.610	-1.390	-2.408	23.610	1.390	0.000%
18	2.780	-23.610	0.000	-2.780	23.610	0.000	0.000%
19	2.408	-23.610	1.390	-2.408	23.610	-1.390	0.000%
20	1.390	-23.610	2.408	-1.390	23.610	-2.408	0.000%
21	0.000	-23.610	2.780	0.000	23.610	-2.780	0.000%
22	-1.390	-23.610	2.408	1.390	23.610	-2.408	0.000%
23	-2.408	-23.610	1.390	2.408	23.610	-1.390	0.000%
24	-2.780	-23.610	0.000	2.780	23.610	0.000	0.000%
25	-2.408	-23.610	-1.390	2.408	23.610	1.390	0.000%
26	-1.390	-23.610	-2.408	1.390	23.610	2.408	0.000%
27	0.000	-17.729	-4.031	0.000	17.729	4.031	0.000%
28	2.015	-17.729	-3.491	-2.015	17.729	3.491	0.000%
29	3.491	-17.729	-2.015	-3.491	17.729	2.015	0.000%
30	4.031	-17.729	0.000	-4.031	17.729	0.000	0.000%
31	3.491	-17.729	2.015	-3.491	17.729	-2.015	0.000%
32	2.015	-17.729	3.491	-2.015	17.729	-3.491	0.000%
33	0.000	-17.729	4.031	0.000	17.729	-4.031	0.000%
34	-2.015	-17.729	3.491	2.015	17.729	-3.491	0.000%
35	-3.491	-17.729	2.015	3.491	17.729	-2.015	0.000%
36	-4.031	-17.729	0.000	4.031	17.729	0.000	0.000%
37	-3.491	-17.729	-2.015	3.491	17.729	2.015	0.000%
38	-2.015	-17.729	-3.491	2.015	17.729	3.491	0.000%

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 587-4630	Job 84651.001 - Guilford SW,CT(Site# 25890)	Page 8 of 10
	Project 100' EEI MP/ AT&T Co-Locate	Date 10:22:07 07/11/12
	Client Nexlinkgs	Designed by avandine

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00000001
3	Yes	4	0.00000001	0.00002175
4	Yes	4	0.00000001	0.00002271
5	Yes	4	0.00000001	0.00000001
6	Yes	4	0.00000001	0.00002475
7	Yes	4	0.00000001	0.00002099
8	Yes	4	0.00000001	0.00000001
9	Yes	4	0.00000001	0.00002388
10	Yes	4	0.00000001	0.00002277
11	Yes	4	0.00000001	0.00000001
12	Yes	4	0.00000001	0.00002119
13	Yes	4	0.00000001	0.00002511
14	Yes	4	0.00000001	0.00000001
15	Yes	4	0.00000001	0.00004055
16	Yes	4	0.00000001	0.00004093
17	Yes	4	0.00000001	0.00004090
18	Yes	4	0.00000001	0.00004046
19	Yes	4	0.00000001	0.00004103
20	Yes	4	0.00000001	0.00004113
21	Yes	4	0.00000001	0.00004077
22	Yes	4	0.00000001	0.00004134
23	Yes	4	0.00000001	0.00004136
24	Yes	4	0.00000001	0.00004085
25	Yes	4	0.00000001	0.00004124
26	Yes	4	0.00000001	0.00004115
27	Yes	4	0.00000001	0.00000001
28	Yes	4	0.00000001	0.00000001
29	Yes	4	0.00000001	0.00000001
30	Yes	4	0.00000001	0.00000001
31	Yes	4	0.00000001	0.00000001
32	Yes	4	0.00000001	0.00000001
33	Yes	4	0.00000001	0.00000001
34	Yes	4	0.00000001	0.00000001
35	Yes	4	0.00000001	0.00000001
36	Yes	4	0.00000001	0.00000001
37	Yes	4	0.00000001	0.00000001
38	Yes	4	0.00000001	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	100 - 47.92	4.636	35	0.366	0.001
L2	53.08 - 1	1.443	35	0.245	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
97.000	(2) 7770.00 w/ Mount Pipe	35	4.403	0.360	0.001	92143
90.000	APXV18-206517S-C w/ Mount Pipe	35	3.864	0.345	0.001	46071

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 587-4630	Job 84651.001 - Guilford SW,CT(Site# 25890)	Page 9 of 10
	Project 100' EEI MP/ AT&T Co-Locate	Date 10:22:07 07/11/12
	Client Nexlinkgs	Designed by avandine

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	100 - 47.92	13.385	10	1.056	0.002
L2	53.08 - 1	4.168	10	0.707	0.001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
97.000	(2) 7770.00 w/ Mount Pipe	10	12.714	1.038	0.002	31940
90.000	APXV18-206517S-C w/ Mount Pipe	10	11.158	0.995	0.002	15970

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P/P _a
L1	100 - 47.92 (1)	TP37.12x26.42x0.313	52.080	0.000	0.0	39.000	35.457	-7.864	1382.820	0.006
L2	47.92 - 1 (2)	TP46x35.435x0.375	52.080	0.000	0.0	39.000	54.305	-17.725	2117.900	0.008

Pole Bending Design Data

Section No.	Elevation ft	Size	Actual M _x kip-ft	Actual f _{bx} ksi	Allow. F _{bx} ksi	Ratio f _{bx} /F _{bx}	Actual M _y kip-ft	Actual f _{by} ksi	Allow. F _{by} ksi	Ratio f _{by} /F _{by}
L1	100 - 47.92 (1)	TP37.12x26.42x0.313	269.673	10.356	39.000	0.266	0.000	0.000	39.000	0.000
L2	47.92 - 1 (2)	TP46x35.435x0.375	777.084	15.258	39.000	0.391	0.000	0.000	39.000	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V K	Actual f _v ksi	Allow. F _v ksi	Ratio f _v /F _v	Actual T kip-ft	Actual f _{vt} ksi	Allow. F _{vt} ksi	Ratio f _{vt} /F _{vt}
L1	100 - 47.92 (1)	TP37.12x26.42x0.313	7.866	0.222	26.000	0.017	0.000	0.000	26.000	0.000
L2	47.92 - 1 (2)	TP46x35.435x0.375	11.655	0.215	26.000	0.017	0.000	0.000	26.000	0.000

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 587-4630	Job 84651.001 - Guilford SW,CT(Site# 25890)	Page 10 of 10
	Project 100' EEI MP/ AT&T Co-Locate	Date 10:22:07 07/11/12
	Client Nexlinkgs	Designed by avandine

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	100 - 47.92 (1)	0.006	0.266	0.000	0.017	0.000	0.271	1.333	H1-3+VT ✓
L2	47.92 - 1 (2)	0.008	0.391	0.000	0.017	0.000	0.400	1.333	H1-3+VT ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail	
L1	100 - 47.92	Pole	TP37.12x26.42x0.313	1	-7.864	1843.299	20.4	Pass	
L2	47.92 - 1	Pole	TP46x35.435x0.375	2	-17.725	2823.161	30.0	Pass	
							Summary		
							Pole (L2)	30.0	Pass
							RATING =	30.0	Pass



PROJECT NUMBER: 84651

Stiffened or Unstiffened, UngROUTED, Circular Base Plate - Any Rod Material

TIA Rev F

Site Data

Project#: 25890
Site Name: Guilford SW,CT
App #: New haven
Pole Manufacturer: Other

Reactions		
Moment:	777	ft-kips
Axial:	18	kips
Shear:	12	kips

Anchor Rod Data

Qty:	14	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	55	in

If No stiffeners, Criteria: AISC ASD <-Only Applicable to Unstiffened Cases

Anchor Rod Results

Maximum Rod Tension: 47.2 Kips
 Allowable Tension: 195.0 Kips
 Anchor Rod Stress Ratio: 24.2% Pass

Rigid
Service, ASD
Fty*ASIF

Plate Data

Diam:	61	in
Thick:	2	in
Grade:	60	ksi
Single-Rod B-eff:	10.43	in

Base Plate Results

Base Plate Stress: 19.1 ksi
 Allowable Plate Stress: 60.0 ksi
 Base Plate Stress Ratio: 31.8% Pass

Flexural Check

Rigid
Service ASD
0.75*Fy*ASIF
Y.L. Length: 30.15

Stiffener Data (Welding at both sides)

Config:	0	*
Weld Type:	Both	
Groove Depth:	0.25	in **
Groove Angle:	45	degrees
Fillet H. Weld:	0.3125	in
Fillet V. Weld:	0.3125	in
Width:	5	in
Height:	18	in
Thick:	0.75	in
Notch:	0.5	in
Grade:	50	ksi
Weld str.:	70	ksi

n/a

Stiffener Results

Horizontal Weld : n/a
 Vertical Weld: n/a
 Plate Flex+Shear, fb/Fb+(fv/Fv)^2: n/a
 Plate Tension+Shear, ft/Ft+(fv/Fv)^2: n/a
 Plate Comp. (AISC Bracket): n/a

Pole Results

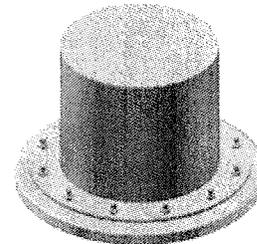
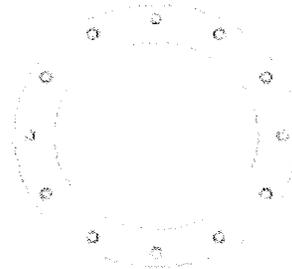
Pole Punching Shear Check: n/a

Pole Data

Diam:	46	in
Thick:	0.375	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Stress Increase Factor

ASIF:	1.333
-------	-------



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

(Bearing and Stability Checks) Tool for TIA Rev F or G - Application (MP, SST with unitbase)

Site Data

BU#: 25890
Site Name: Guilford SW,CT
App #: New Haven County

Enter Load Factors Below:

For P (DL)	1.2	<---- Enter Factor
For P,V, and M (WL)	1.35	<---- Enter Factor

Pad & Pier Data

Base PL Dist. Above Pier:	3	in
Pier Dist. Above Grade:	12	in
Pad Bearing Depth, D:	7	ft
Pad Thickness, T:	3	ft
Pad Width=Length, L:	21.5	ft
Pier Cross Section Shape:	Square	<--Pull Down
Enter Pier Side Width:	7	ft
Concrete Density:	150.0	pcf
Pier Cross Section Area:	49.00	ft^2
Pier Height:	5.00	ft
Soil (above pad) Height:	4.00	ft

Soil Parameters

Unit Weight, γ :	165.0	pcf
Ultimate Bearing Capacity, q_n :	60.00	ksf
Strength Reduct. factor, ϕ :	0.75	
Angle of Friction, Φ :	40.0	degrees
Undrained Shear Strength, C_u :	0.00	ksf
Allowable Bearing: $\phi \cdot q_n$:	45.00	ksf
Passive Pres. Coeff., K_p	4.60	

Forces/Moments due to Wind and Lateral Soil

Minimum of (ϕ *Ultimate Pad Passive Force, V_u):	16.2	kips
Pad Force Location Above D:	1.36	ft
ϕ (Passive Pressure Moment):	22.09	ft-kips
Factored O.T. M(WL), "1.6W":	1182.6	ft-kips
Factored OT (MW-Msoil), M1	1160.51	ft-kips

Resistance due to Foundation Gravity

Soil Wedge Projection grade, a:	3.36	ft
Sum of Soil Wedges Wt:	35.63	kips
Soil Wedges ecc, K1:	11.37	ft
Ftg+Soil above Pad wt:	517.5	kips
Unfactored (Total ftg-soil Wt):	553.14	kips
1.2D. No Soil Wedges.	642.61	kips
0.9D. With Soil Wedges	514.02	kips

Resistance due to Cohesion (Vertical)

$\phi \cdot (1/2 \cdot C_u)$ (Total Vert. Planes)	0.00	kips
Cohesion Force Eccentricity, K2	0.00	ft

Monopole Base Reaction Forces

TIA Revision:	F	<--Pull Down
Unfactored DL Axial, PD:	18	kips
Unfactored WL Axial, PW:	0	kips
Unfactored WL Shear, V:	12	kips
Unfactored WL Moment, M:	777	ft-kips

Load Factor Shaft Factored Loads

Load Factor			
1.20	1.2D+1.6W, Pu:	21.6	kips
0.90	0.9D+1.6W, Pu:	16.2	kips
1.35	Vu:	16.2	kips
	Mu:	1048.95	ft-kips

1.2D+1.6W Load Combination, Bearing Results:

(No Soil Wedges) [Reaction+Conc+Soil]	642.61	P1="1.2D+1.6W" (Kips)
Factored "1.6W" Overturning Moment (MW-Msoil), M1	1160.51	ft-kips

Orthogonal Direction:

ecc1 = $M1/P1$ = 1.81 ft
 Orthogonal q_u = 1.86 ksf
 $q_u/\phi \cdot q_n$ Ratio = **4.13%** Pass

Diagonal Direction:

ecc2 = $(0.707M1)/P1$ = 1.28 ft
 Diagonal q_u = 1.79 ksf
 $q_u/\phi \cdot q_n$ Ratio = **3.98%** Pass

<-- Press Upon Completing All Input

Overtuning Stability Check

0.9D+1.6W Load Combination, Bearing Results:

(w/ Soil Wedges) [Reaction+Conc+Soil]	514.02	P2="0.9D+1.6W" (Kips)
Factored "1.6W" Overturning Moment (MW-Msoil) - 0.9(M of Wedge + M of Cohesion), M2	795.76	ft-kips

Orthogonal ecc3 = $M2/P2$ = 1.55 ft
 Ortho Non Bearing Length, NBL = 3.10 ft
 Orthogonal q_u = 1.43 ksf
 Diagonal q_u = 1.38 ksf

Max Reaction Moment (ft-kips) so that $q_u = \phi \cdot q_n = 100\%$ Capacity Rating

Actual M:	777.00		
M Orthogonal:	4414.93	17.60%	Pass
M Diagonal:	4414.93	17.60%	Pass



WIRELESS COMMUNICATIONS FACILITY

CT5200

GUILFORD SW

201 GRANITE ROAD

GUILFORD, CT 06437

DESIGNED BY: DEB
DRAWN BY: FLO
CHK'D BY: CFC

CONSTRUCTION	DEB	7/18/12	CHK'D BY
CONSTRUCTION	DEB	7/18/12	DATE
CONSTRUCTION - CLIENT REVIEW	DEB	7/18/12	REV



CENTEK engineering
Centered on Solutions™

(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405

www.CentekEng.com

AT&T MOBILITY

WIRELESS COMMUNICATIONS FACILITY LTE UPGRADE
CT5200
GUILFORD SW

201 GRANITE ROAD
GUILFORD, CT 06437

DATE: 07/18/12
SCALE: AS NOTED
JOB NO. 11118.C050

TITLE SHEET

T-1

Sheet No. 1 of 6

GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2005 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2009 CONNECTICUT SUPPLEMENT, INCLUDING THE TIA/EIA-222 REVISION "F" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES." 2005 CONNECTICUT FIRE SAFETY CODE AND 2009 AMENDMENTS, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
- THE COMPOUND, TOWER, PRIMARY GROUND RING, ELECTRICAL SERVICE TO THE METER BANK AND TELEPHONE SERVICE TO THE DEMARCATION POINT ARE PROVIDED BY SITE OWNER. AS BUILT FIELD CONDITIONS REGARDING THESE ITEMS SHALL BE CONFIRMED BY THE CONTRACTOR. SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
- CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
- CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
- CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
- CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
- CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN 'AS-BUILT' SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
- LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S/PROPERTY'S OPERATIONS, COORDINATE WORK WITH BUILDING/PROPERTY OWNER.
- DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
- ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
- ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
- ANY AND ALL ERRORS, DISCREPANCIES, AND "MISSED" ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE AT&T CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO 'EXTRA' WILL BE ALLOWED FOR MISSED ITEMS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
- CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
- COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
- ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED PRIOR TO ANY EXCAVATION WORK. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
- CONTRACTOR SHALL COMPLY WITH OWNERS ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.

SITE DIRECTIONS

FROM: 500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT

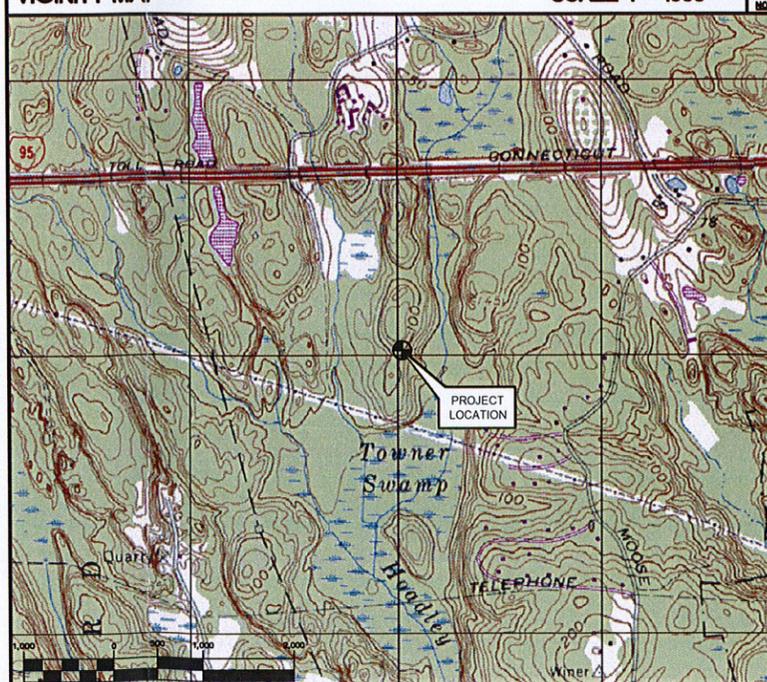
TO: 201 GRANITE ROAD
GUILFORD, CT 06437

- Take ramp left for I-91 South 29.0 mi
- Take ramp left for I-95 North toward New London 7.7 mi
- At exit 55, take ramp right for US-1 toward North Branford 3.4 mi
- Turn right onto Moose Hill Rd 0.8 mi
- Bear right onto Granite Rd 0.9 mi

Arrive at 201 Granite Rd, Guilford, CT 06437

VICINITY MAP

SCALE: 1" = 1000'



PROJECT SUMMARY

- THE PROPOSED SCOPE OF WORK GENERALLY CONSISTS OF THE INSTALLATION OF ONE (1) LTE ANTENNA PER SECTOR FOR A TOTAL OF (3) LTE ANTENNAS TO THE EXISTING AT&T ANTENNA ARRAY. AN LTE BASEBAND EQUIPMENT UNIT (RBS) WILL BE INSTALLED ON THE EXISTING AT&T CONCRETE EQUIPMENT PAD.
- ADDITIONALLY, (2) REMOTE RADIO UNITS (RRUs) PER SECTOR WILL BE INSTALLED. SURGE ARRESTORS WILL BE INSTALLED AT BOTH AT&T RRU AND EQUIPMENT LOCATIONS. REFER TO THESE ACCOMPANYING DRAWINGS FOR FURTHER INFORMATION.

PROJECT INFORMATION

AT&T SITE NUMBER: CT5200
AT&T SITE NAME: GUILFORD SW
SITE ADDRESS: 201 GRANITE ROAD
GUILFORD, CT 06437

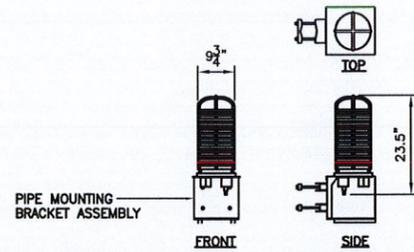
LESSEE/APPLICANT: AT&T MOBILITY
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06087

ENGINEER: CENTEK ENGINEERING, INC.
63-2 NORTH BRANFORD RD.
BRANFORD, CT. 06405

PROJECT COORDINATES: LATITUDE: 41°-17'-31.12"N
LONGITUDE: 72°-43'-58.3"W
GROUND ELEVATION: ±110'AMSL

SHEET INDEX

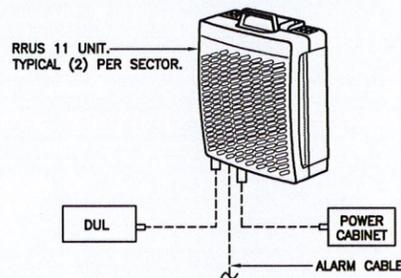
SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	2
N-1	NOTES AND SPECIFICATIONS	2
C-1	PLANS, ELEVATION AND DETAIL	2
C-2	LTE EQUIPMENT DETAILS	2
E-1	ELECTRICAL DETAILS AND NOTES	2
E-2	ELECTRICAL DETAILS	2



SURGE ARRESTOR				
SITE TYPE	ARRESTOR MAKE/MODEL	QTY REQUIRED	ARRESTOR LOCATION	WEIGHT
TOWER	MAKE: RAYCAP (SQUID) MODEL: DC6-48-60-18-8F	(1) PER SITE	TOWER ADJACENT TO AT&T ANTENNAS AND RRU's.	20 LBS. (WITHOUT MOUNT)

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

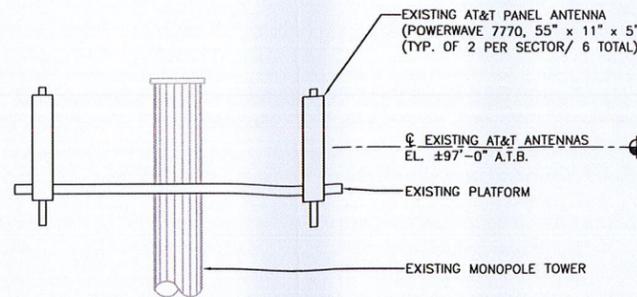
8 SURGE ARRESTOR DETAIL
 C-2 NOT TO SCALE



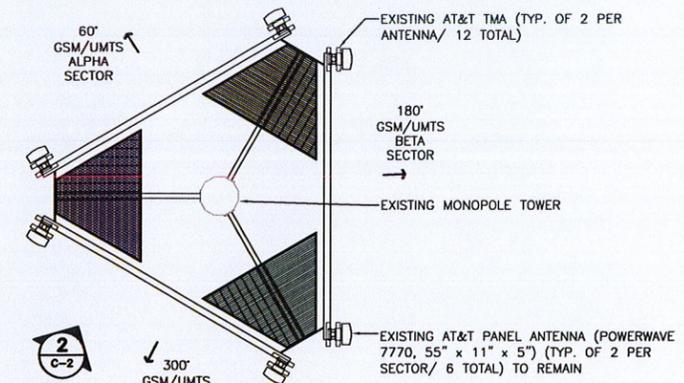
RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRU 11	17.8"L x 17.3"W x 7.2"D	BAND 4: 44 LBS. BAND 12: 50 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. SIDE: 0" MIN.

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

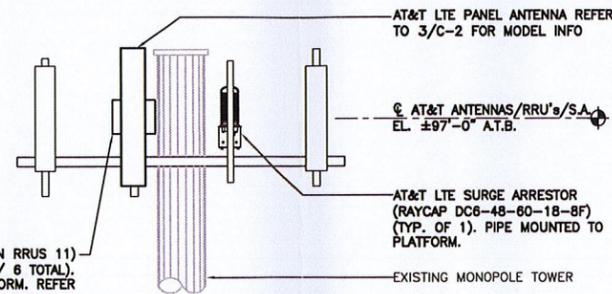
9 RRU DETAIL
 C-2 NOT TO SCALE



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

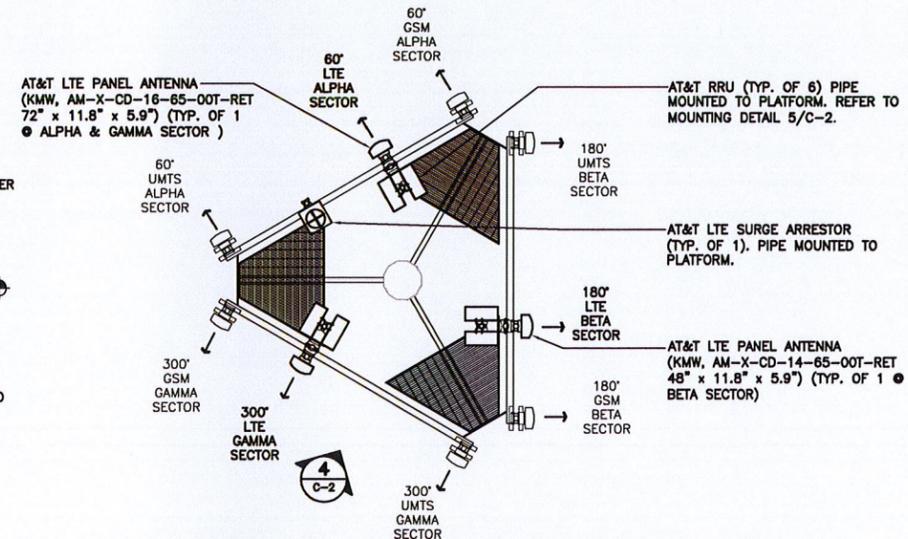


1 EXISTING ANTENNA PLAN
 C-2 SCALE: 1/4" = 1'-0" APPROX. NORTH

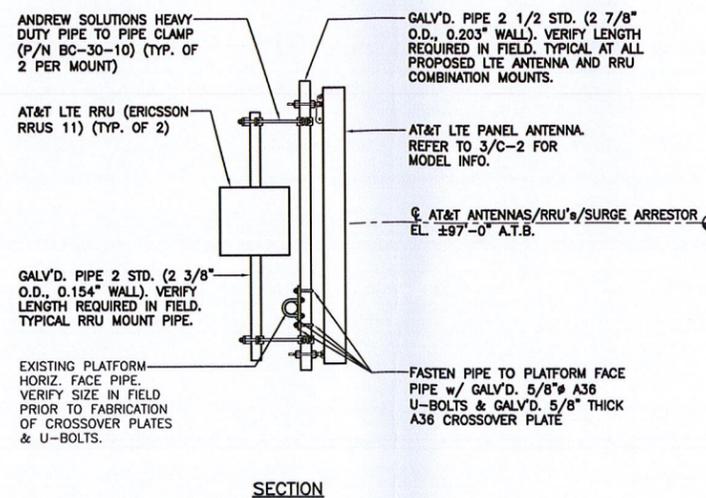


AT&T LTE RRU (ERICSSON RRU 11) (TYP. OF 2 PER SECTOR/ 6 TOTAL). PIPE MOUNTED TO PLATFORM. REFER TO MOUNTING DETAIL 5/C-2.

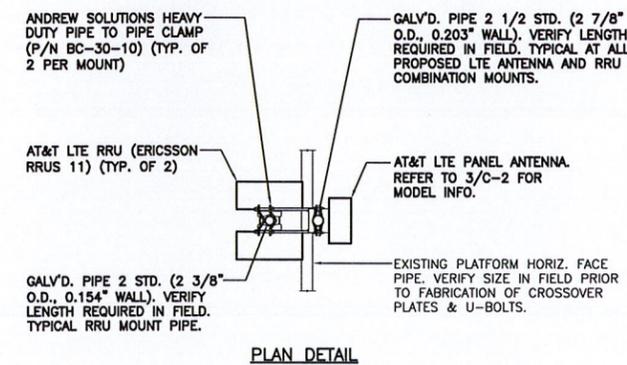
4 PROPOSED ANTENNA SECTOR ELEVATION
 C-2 SCALE: 1/4" = 1'-0"



3 PROPOSED ANTENNA PLAN
 C-2 SCALE: 1/4" = 1'-0" APPROX. NORTH



5 LTE ANTENNA/RRU MOUNT DETAILS
 C-2 SCALE: 1/2" = 1'-0"



DESIGNED BY:	DEB
DRAWN BY:	FLO
CHK'D BY:	CFC

DATE	BY	CHK'D BY	REVISION
7/17/12	FLO	DEB	CONSTRUCTION
7/17/12	FLO	DEB	CONSTRUCTION
7/17/12	FLO	DEB	CONSTRUCTION

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

AT&T MOBILITY
 WIRELESS COMMUNICATIONS FACILITY/LTE UPGRADE
 CT5200
 GUILFORD SW
 201 GRANITE ROAD
 GUILFORD, CT 06437

DATE: 07/18/12
 SCALE: AS NOTED
 JOB NO. 11118.C050
 LTE EQUIPMENT DETAILS
 C-2
 Sheet No. 1 of 6

