



# 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](mailto:siting.council@ct.gov)

[www.ct.gov/csc](http://www.ct.gov/csc)

October 19, 2011

Kenneth C. Baldwin, Esq.  
Robinson & Cole LLP  
280 Trumbull Street  
Hartford, CT 06103

RE: **EM-VER-057-110930** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 363 Riversville Road, Greenwich, Connecticut.

Dear Attorney Baldwin:

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:

- 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 September 29, 2011. 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/laf

c: The Honorable Peter J. Tesei, First Selectman, Town of Greenwich  
Diane Fox, Planning & Zoning Director, Town of Greenwich  
Christopher B. Fisher, Esq., Cuddy & Feder LLP



# 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](mailto:siting.council@ct.gov)

[www.ct.gov/csc](http://www.ct.gov/csc)

October 4, 2011

The Honorable Peter J. Tesei  
First Selectman  
Town of Greenwich  
Town Hall  
101 Field Point Road  
P. O. Box 2540  
Greenwich, CT 06836-2540

RE: **EM-VER-057-110930** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 363 Riversville Road, Greenwich, Connecticut.

Dear First Selectman Tesei:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

If you have any questions or comments regarding this proposal, please call me or inform the Council by October 19, 2011.

Thank you for your cooperation and consideration.

Very truly yours,

Linda Roberts  
Executive Director

LR/jbw

Enclosure: Notice of Intent

c: Diane Fox, Planning & Zoning Director, Town of Greenwich

EM-VER-057-110930

280 Trumbull Street  
Hartford, CT 06103-3597  
Main (860) 275-8200  
Fax (860) 275-8299  
kbaldwin@rc.com  
Direct (860) 275-8345

September 29, 2011

**RECEIVED**  
SEP 30 2011  
CONNECTICUT  
SITING COUNCIL

Linda Roberts  
Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

Re: **Notice of Exempt Modification – Antenna Swap  
363 Riversville Road, Greenwich, Connecticut**

Dear Ms. Roberts:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains wireless telecommunications antennas at the 140-foot level on the existing 160-foot tower at the above-referenced address. The tower is owned by AT&T. The Council approved Cellco’s shared use of the existing tower in 1994. Cellco now intends to modify its installation by replacing six (6) of its cellular antennas with six (6) newer cellular antennas (model APL 868013-42T0), at the same 140-foot level on the tower. Attached behind Tab 1 are the specifications for the proposed replacement antennas.

Please accept this letter as notification pursuant to R.C.S.A. § 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 Peter J. Tesei, First Selectman of the Town of Greenwich. A copy of this letter is also being sent to The Greenwich Council, Boy Scouts of America, Inc., the owner of the property on which the tower is located.

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

1. The proposed modifications will not result in any increase in the overall height of the existing tower. Cellco’s antennas will be located at the same 140-foot level on the existing 160-foot tower.



Law Offices

BOSTON

PROVIDENCE

HARTFORD

NEW LONDON

STAMFORD

WHITE PLAINS

NEW YORK CITY

ALBANY

SARASOTA

www.rc.com

11289396-v1

Linda Roberts  
September 29, 2011  
Page 2

2. The proposed modifications will not involve any modifications to ground-mounted equipment and, therefore, will not require the extension of the site boundaries.

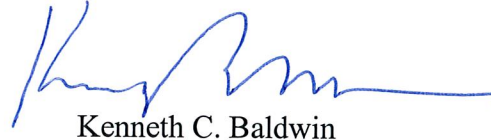
3. The proposed modifications will not increase noise levels at the facility by six decibels or more.

4. The operation of the replacement antennas will not increase radio frequency (RF) power density levels at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard. A cumulative power density table for Cellco's modified facility is included behind Tab 2.

Also attached is a Structural Analysis Report confirming that the tower and foundation can support Cellco's proposed antennas modification. (See Tab 3).

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

Sincerely,



Kenneth C. Baldwin

Enclosures

Copy to:

Peter J. Tesei, Greenwich First Selectman  
The Greenwich Council, Boy Scouts of America, Inc.  
Sandy M. Carter







Maximizer® Log Periodic Antenna, 806-894, 80deg, 14.1dBi, 1.2m, FET, 0deg

**Product Description**

The Celwave® Maximizer series is a log periodic dipole array which uses a patented design to achieve a front-to-back ratio of 45 dB, the highest front-to-back ratio in the industry. Maximizers are available to cover ESMR, AMPS, PCS and DCS frequency ranges. They use RFS's patented monolithic CELLite® technology, which eliminates cable and soldered joints to reduce the possibility of inter-modulation products. The CELLite technology assures high reliability and excellent repeatability of electrical characteristics. The cellular Maximizers are available in 65°, 80° and 90° horizontal beamwidths and the PCS/DCS Maximizers are available in 65° and 90° horizontal beamwidths. Patent number 6,133,889.

**Features/Benefits**

- 45 dB front-to-back ratio reduces co-channel interference.
- Monolithic construction reduces IM.
- No solder joints, high reliability.
- Surface treated components prevent galvanic corrosion.
- UV stabilized radome assures long life without radome deterioration due to UV exposure.



**Technical Specifications**

**Electrical Specifications**

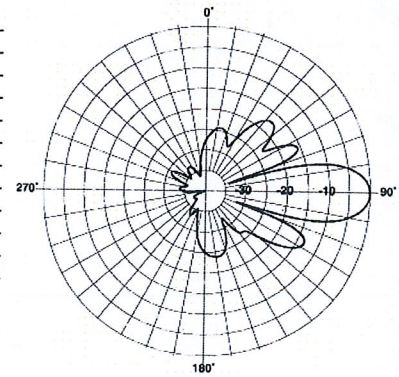
Frequency Range, MHz	806-894
Horizontal Beamwidth, deg	80
Vertical Beamwidth, deg	15
Electrical Downtilt, deg	0
Gain, dBi (dBd)	14.1 (12)
Front-To-Back Ratio, dB	45
Polarization	Vertical
VSWR	< 1.5:1
Impedance, Ohms	50
Maximum Power Input, W	500
Lightning Protection	Direct Ground
Connector Type	7-16 DIN Female

**Mechanical Specifications**

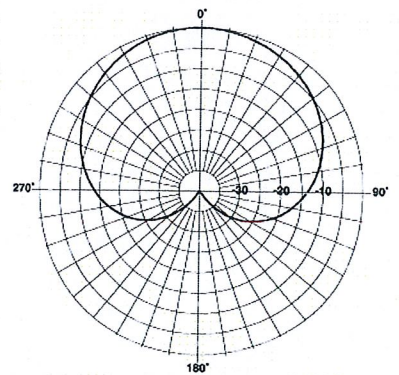
Dimensions - HxWxD, mm (in)	1219 x 152 x 203 (48 x 6 x 8)
Weight w/o Mtg Hardware, kg (lb)	2.8 (6.32)
Survival Wind Speed, km/h (mph)	200 (125)
Rated Wind Speed, km/h (mph)	200 (125)
Max Wind Loading Area, m² (ft²)	0.307 (3.3)
Maximum Thrust @ Rated Wind, N (lbf)	916 (206)
Wind Load - Side @ Rated Wind, N (lbf)	743 (167)
Radome Material	UV Stabilized High Impact ABS
Shipping Weight, kg (lb)	7.9 (17.5)
Packing Dimensions, HxWxD, mm (in)	1270 x 305 x 203 (50 x 12 x 8)

**Ordering Information**

Mounting Hardware	APM21-3
-------------------	---------



Vertical Pattern



Horizontal Pattern

**Other Documentation**

All information contained in the present datasheet is subject to confirmation at time of ordering

		General		Power		Density							
Site Name: West Greenwich													
Tower Height: Verizon @ 140ft													
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total					
*AT&T UMTS	1	500	150	0.0080	880	0.5867	1.36%						
*AT&T UMTS	1	500	150	0.0080	1900	1.0000	0.80%						
*AT&T GSM	6	296	150	0.0284	880	0.5867	4.84%						
*AT&T GSM	6	427	150	0.0409	1900	1.0000	4.09%						
*AT&T LTE	1	500	150	0.0080	740	0.4933	1.62%						
*T-Mobile GSM	8	118	163	0.0128	1945	1.0000	1.28%						
*T-Mobile UMTS	2	665	163	0.0180	2100	1.0000	1.80%						
*Nextel	9	100	130	0.0191	851	0.5673	3.38%						
*Sprint	11	122	120	0.0335	1962.5	1.0000	3.35%						
Verizon	3	313	140	0.0172	1970	1.0000	1.72%						
Verizon	9	272	140	0.0449	869	0.5793	7.75%						
Verizon	1	673	140	0.0123	757	0.4973	2.48%						
								34.47%					
* Source: Siting Council													





**at&t**  
Tamiko Lowry  
AT&T Mobility  
5405 Windward Pkwy  
Alpharetta, GA 30004  
(770) 708-6122



**GPD GROUP**  
Towers, Pylons, Structures, Masts & Antennas, Inc.  
Kevin Clements  
12600 Deerfield Pkwy; Suite 2039  
Alpharetta, GA 30004  
(678) 762-3305  
[kclements@gpdgroup.com](mailto:kclements@gpdgroup.com)

GPD# 2011267.28  
September 7, 2011

### STRUCTURAL ANALYSIS REPORT

**AT&T DESIGNATION:**  
Site USID: 26225  
Site FA: 10034990  
Site Name: GREENWICH NORTH  
AT&T Project: Verizon Modification 8-11-2011

**VERIZON DESIGNATION:**  
Site Name: West Greenwich  
Site Number: BRG 2051

**ANALYSIS CRITERIA:**  
TIA/EIA-222-F & 2003 IBC  
85-mph with 0" ice  
74-mph with 1/2" ice

**SITE DATA:**  
363 Riversville Road, Greenwich, CT 06831, Fairfield County  
Latitude 41° 3' 59.572" N, Longitude 73° 40' 17.097" W  
160' EEI Monopole

Ms. Lowry,

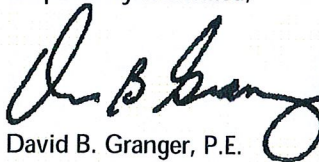
GPD is pleased to submit this Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the addition of the following proposed loading configuration:

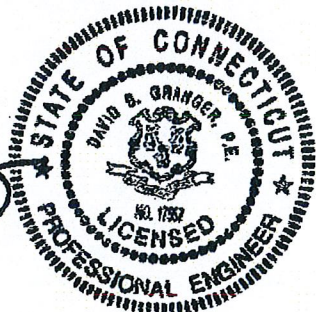
Elev. 141.5' (6) Andrew APL 868013 – 42TO antennas on an existing 12' LP Platform w/ (18) existing 1-5/8" coax

Based on our analysis we have determined the design of the tower and its foundation are sufficient for the proposed, existing, and reserved loadings as referenced in Appendix A.

We at GPD appreciate the opportunity of providing our continuing professional services to you and AT&T. If you have any questions please do not hesitate to call.

Respectfully submitted,

  
David B. Granger, P.E.  
Connecticut #: 17557



**SUMMARY & RESULTS**

The purpose of this analysis was to verify whether the design for the existing structure is capable of carrying the proposed loading configuration as specified by Verizon to AT&T. This report was commissioned by Ms. Tamiko Lowry of AT&T.

**TOWER SUMMARY AND RESULTS**

Member	Capacity	Results
Monopole	68.4%	Pass
Base Plate	72.1%	Pass
Anchor Rods	57.0%	Pass
Flange Plate @ 152'	8.3%	Pass
Flange Bolts @ 152'	9.1%	Pass
Foundation	50.9%	Pass

**ANALYSIS METHOD**

RISA Tower (Version 5.4.2.0), 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 and is being provided without the benefit of a recent site visit.

**DOCUMENTS PROVIDED**

Document	Remarks	Source
Preliminary Tower Summary	Verizon Co-location Document	Siterra
Site Lease Application	Verizon Application, dated 8/10/11	Siterra
Tower Mapping	GPD & MTSI Northeast, dated 2/18/09	Siterra
Previous Structural Analysis	GPD Group Project #: 2011267.08, 8/30/11	Siterra
Original Tower Drawings	EI Project #: 5590, dated 4/10/03	Siterra
Geotechnical Report	WEI Project #: 2009-895, dated 9/4/09	Siterra
Foundation Investigation	WEI Project #: 2009-895, dated 9/4/09	Siterra



## 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 shape 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. If no data is available, the foundation system is not verified. In the case of absent foundation data, it is the tower owner's responsibility to insure that the foundation system is adequate to support the structure with its new reactions.
6. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
7. All welds and connections are assumed to develop at least the member capacity, unless determined otherwise and explicitly stated in this report.
8. Tower Mounted Amplifiers are assumed to be installed behind antennas.
9. All existing loading was obtained from a previous analysis by GPD Group Project #: 2011267.08, 8/30/11, the provided Preliminary Tower Summary and site photos and is assumed to be accurate.
10. The future loading has been based on the final loading configuration within the MOD LTE 4-22-11 project on Siterra.
11. Verizon's RAD center differs from the site lease application and is based on the mapping by GPD & MTSI Northeast, dated 2/18/09.
12. The existing AT&T elevation found in the previous analysis by GPD Project #: 2011267.08, dated 8/30/11, was found to vary from the loading and elevation listed within the provided Preliminary Tower Summary. The existing/reserved elevation has been modeled based on the previous analysis.
13. The RET cable has been assumed for the future AT&T Panels since they have internal RETs.

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

## DISCLAIMER OF WARRANTIES

GPD GROUP has not performed a recent site visit to the tower to verify the member sizes and/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 GROUP in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. 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.

GPD GROUP 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 GROUP 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 feasibility of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice, 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 GROUP, 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.

GPD GROUP 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 GROUP 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 GROUP 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

<b>General Info</b>	
Site Name	GREENWICH NORTH
Site Number	26225
PA Number	10034990
Date of Analysis	9/7/2011
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)	MP	
Tower Height (top of steel AGL)	160'	
Tower Manufacturer	EEI	
Tower Model	n/a	
Tower Design	EEI Project #: 5590	4/10/2003
Foundation Design	n/a	
Geotech Report	WEI Project #: 2009-895	9/4/2009
Tower Mapping	GPD Group & MTSI Northeast	2/18/2009
Previous Structural Analysis	GPD Project #: 2011267, 28	8/30/2011
Foundation Mapping	WEI Project #: 2009-895	9/4/2009

<b>Steel Yield Strength (ksi)</b>	
Pole	65
Base Plate	80
Anchor Rods	75

<b>Design Parameters</b>	
Design Code Used	TIA/EIA-222-F, 2003 IBC
Location of Tower (County, State)	Fairfield, Connecticut
Basic Wind Speed (mph)	85-fastest
Ice Thickness (in)	0.5"
Structure Classification (I, II, III)	
Exposure Category (B, C, D)	
Topographic Category (1 to 5)	

<b>Analysis Results (% Maximum Usage)</b>	
Tower (%)	58.9%
Tower Base (%)	72.1%
Foundation (%)	50.9%
Foundation Adequate?	Yes

### Existing / Reserved Loading

Antenna Owner	Antenna				Mount				Transmission Line					
	Mount Height (ft)	Antenna Cl. (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Internal / External
T-Mobile	160	163	5	Panel	EMS Wireless	RR90-17-02DP	40,185,310	1	Unknown	12' LP Platform	18	Unknown	1-5/8"	Internal
T-Mobile	160	163	5	TMA	Communication Components	DTMA-1819-DD-12	40,185,310			behind the antennas				Internal
T-Mobile	160	163	3	Panel	RFS	APX16DWW-16DWW-A20	40,185,310			on same mount				Internal
T-Mobile	160	163	1	Panel	RFS	APXV18-206516SA20	40,185,310			on same mount				Internal
T-Mobile	160	163	4	TMA	RFS	ATMAA1412D-A20	40,185,310			behind the antennas				Internal
AT&T Mobility	148	154	6	Panel	Powerwave	7770.90	62,183,302	1	Unknown	12' LP Platform	12	Unknown	1-5/8"	Internal
AT&T Mobility	148	154	12	TMA	Powerwave	LGP 21401	62,183,302			on same mount				Internal
Verizon	141.5	141.5	6	Panel	Decibel	DB844H80E-XY	40,155,275	1	Unknown	12' LP Platform	18	Unknown	1-5/8"	Internal
Verizon	141.5	141.5	3	Panel	Powerwave	P6516XL-2	40,155,275			on same mount				Internal
Verizon	141.5	141.5	3	Panel	Rymasa	MG D3-800TO	40,155,275			on same mount				Internal
Nextel	131	131	12	Panel	Decibel	DB4H9E	20,140,260	1	Unknown	12' LP Platform	12	Unknown	1-1/4"	Internal
Nextel	131	131	12	Panel	Decibel	DB4H9E	20,140,260	1	Unknown	12' LP Platform	3	Unknown	1/2"	Internal
Sprint	122	122	6	Panel	Decibel	DB80F90E-M		1	Unknown	12' LP Platform	6	Unknown	1-5/8"	Internal
Sprint	72	73	1	GPS	Unknown	GPS	110	1	Unknown	4' Standoff	1	Unknown	1/2"	Internal

Note: Prior to installation of the proposed loading, (6) DB844H80E-XY antennas at 141.5' shall be removed. All remaining loading shall be reused.

### Proposed Loading

Antenna Owner	Antenna				Mount				Transmission Line					
	Mount Height (ft)	Antenna Cl. (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Internal / External
Verizon	141.5	141.5	6	Panel	Andrew	APL 868013 - 42TO	40,155,275			on existing mount				Internal

Note: The proposed loading is in addition to the remaining existing/reserved loading at the same elevation.

### Future Loading

Antenna Owner	Antenna				Mount				Transmission Line					
	Mount Height (ft)	Antenna Cl. (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Internal / External
AT&T Mobility	148	150	3	Panel	Powerwave	P65-16-XLLH-RR	62,183,302	2		on existing mount	2	DC Power	7/8"	Internal
AT&T Mobility	148	148	6	RRH	Ericsson	RRU-11		1		on the same mount	1	Fiber	1/2"	Internal
AT&T Mobility	148	148	1	DC Unit	Raycap	DC8-48-60-18-8F		1		on the same mount	1	Unknown	RET Cable	Internal

Note: The future loading is in addition to the existing loading at the same elevation.



## APPENDIX B

### RISA Tower Output File

<b>RISATower</b>  <b>GPD GROUP</b> 520 South Main Street, Suite 2531 Akron, OH Phone: (330)572.2100 FAX: (330)572.2101	<b>Job</b> 26225 GREENWICH NORTH	<b>Page</b> 1 of 5
	<b>Project</b> 2011267.28	<b>Date</b> 09:21:13 08/31/11
	<b>Client</b> AT&T Mobility	<b>Designed by</b> mmoeller

### 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 Fairfield County, Connecticut.

Basic wind speed of 85 mph.

Nominal ice thickness of 0.5000 in.

Ice density of 56 pcf.

A wind speed of 74 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 pole design is 1.333.

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

### Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or	Perimeter	Weight plf
							Diameter in	in	
Climbing Pegs	C	Surface Ar (CaAa)	160.00 - 0.00	1	1	0.000	0.1500		0.31
Safety Line 3/8	C	Surface Ar (CaAa)	160.00 - 0.00	1	1	0.000	0.3750		0.22
						0.000			

### Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	C <sub>A</sub> A <sub>A</sub>	Weight
							plf
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	160.00 - 4.00	18	No Ice 1/2" Ice	0.00 0.82
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	154.00 - 8.00	12	No Ice 1/2" Ice	0.00 0.82
1/2" Fiber Cable	C	No	Inside Pole	150.00 - 8.00	1	No Ice 1/2" Ice	0.00 0.15
LDF5-50A (7/8 FOAM)	C	No	Inside Pole	150.00 - 8.00	2	No Ice 1/2" Ice	0.00 0.33
LDF7-50A (1-5/8 FOAM)	B	No	Inside Pole	141.50 - 4.00	18	No Ice 1/2" Ice	0.00 0.82
LDF6-50A (1-1/4 FOAM)	A	No	Inside Pole	131.00 - 12.00	12	No Ice 1/2" Ice	0.00 0.66
LDF4P-50A (1/2 FOAM)	A	No	Inside Pole	131.00 - 12.00	3	No Ice 1/2" Ice	0.00 0.15
LDF7-50A (1-5/8 FOAM)	C	No	Inside Pole	122.00 - 4.00	6	No Ice 1/2" Ice	0.00 0.82
LDF4P-50A (1/2 FOAM)	C	No	Inside Pole	72.00 - 4.00	1	No Ice 1/2" Ice	0.00 0.15
RET Cable	C	No	Inside Pole	150.00 - 8.00	1	No Ice 1/2" Ice	0.00 0.08

<b>RISATower</b>  <b>GPD GROUP</b> 520 South Main Street, Suite 2531 Akron, OH Phone: (330)572.2100 FAX: (330)572.2101	<b>Job</b> 26225 GREENWICH NORTH	<b>Page</b> 2 of 5
	<b>Project</b> 2011267.28	<b>Date</b> 09:21:13 08/31/11
	<b>Client</b> AT&T Mobility	<b>Designed by</b> mmoeller

### Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C <sub>A</sub> A <sub>A</sub> Front	C <sub>A</sub> A <sub>A</sub> Side	Weight	
			Horz	Vert						
			ft	ft	°	ft	ft <sup>2</sup>	ft <sup>2</sup>	lb	
12' LP Platform	C	None			0.0000	160.00	No Ice 1/2" Ice	24.53 29.94	24.53 29.94	1335.00 1646.00
(2) RR90-17-02DP w/ Mount Pipe	A	From Centroid-Fa ce	4.00 0.00	3.00	10.0000	160.00	No Ice 1/2" Ice	4.59 5.09	3.32 4.09	34.18 69.33
RR90-17-02DP w/ Mount Pipe	B	From Centroid-Fa ce	4.00 0.00	3.00	-20.0000	160.00	No Ice 1/2" Ice	4.59 5.09	3.32 4.09	34.18 69.33
(2) RR90-17-02DP w/ Mount Pipe	C	From Centroid-Fa ce	4.00 0.00	3.00	5.0000	160.00	No Ice 1/2" Ice	4.59 5.09	3.32 4.09	34.18 69.33
(2) DTMA-1819-DD-12	A	From Centroid-Fa ce	4.00 0.00	3.00	10.0000	160.00	No Ice 1/2" Ice	0.00 0.00	0.41 0.52	10.00 19.33
DTMA-1819-DD-12	B	From Centroid-Fa ce	4.00 0.00	3.00	-20.0000	160.00	No Ice 1/2" Ice	0.00 0.00	0.41 0.52	10.00 19.33
(2) DTMA-1819-DD-12	C	From Centroid-Fa ce	4.00 0.00	3.00	5.0000	160.00	No Ice 1/2" Ice	0.00 0.00	0.41 0.52	10.00 19.33
APX16DWV-16DWVS-E-A 20w/ Mount Pipe	A	From Centroid-Fa ce	4.00 0.00	3.00	10.0000	160.00	No Ice 1/2" Ice	7.30 7.83	3.50 4.27	67.68 113.36
APX16DWV-16DWVS-E-A 20w/ Mount Pipe	B	From Centroid-Fa ce	4.00 0.00	3.00	-20.0000	160.00	No Ice 1/2" Ice	7.30 7.83	3.50 4.27	67.68 113.36
APXV18-206516SA20 w/ Mount Pipe	B	From Centroid-Fa ce	4.00 0.00	3.00	-20.0000	160.00	No Ice 1/2" Ice	3.51 3.85	3.00 3.59	34.82 64.37
APX16DWV-16DWVS-E-A 20w/ Mount Pipe	C	From Centroid-Fa ce	4.00 0.00	3.00	5.0000	160.00	No Ice 1/2" Ice	7.30 7.83	3.50 4.27	67.68 113.36
ATMAA1412D-1A20	A	From Centroid-Fa ce	4.00 0.00	3.00	10.0000	160.00	No Ice 1/2" Ice	0.00 0.00	0.47 0.57	10.00 20.62
(2) ATMAA1412D-1A20	B	From Centroid-Fa ce	4.00 0.00	3.00	-20.0000	160.00	No Ice 1/2" Ice	0.00 0.00	0.47 0.57	10.00 20.62
ATMAA1412D-1A20	C	From Centroid-Fa ce	4.00 0.00	3.00	5.0000	160.00	No Ice 1/2" Ice	0.00 0.00	0.47 0.57	10.00 20.62
2" x 4' Mount Pipe	A	From Centroid-Fa ce	4.00 0.00	3.00	10.0000	160.00	No Ice 1/2" Ice	0.79 1.03	0.79 1.03	20.00 26.34
2" x 4' Mount Pipe	B	From Centroid-Fa ce	4.00 0.00	3.00	-20.0000	160.00	No Ice 1/2" Ice	0.79 1.03	0.79 1.03	20.00 26.34
2" x 4' Mount Pipe	C	From Centroid-Fa ce	4.00 0.00	3.00	5.0000	160.00	No Ice 1/2" Ice	0.79 1.03	0.79 1.03	20.00 26.34
12' LP Platform	C	None			0.0000	148.00	No Ice 1/2" Ice	24.53 29.94	24.53 29.94	1335.00 1646.00

<b>RISATower</b>  <b>GPD GROUP</b> 520 South Main Street, Suite 2531 Akron, OH Phone: (330)572.2100 FAX: (330)572.2101	Job	26225 GREENWICH NORTH	Page	3 of 5
	Project	2011267.28	Date	09:21:13 08/31/11
	Client	AT&T Mobility	Designed by	mmoeller

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C <sub>AA</sub> Front ft <sup>2</sup>	C <sub>AA</sub> Side ft <sup>2</sup>	Weight lb	
(2) 7770.00 w/Mount Pipe	A	From Centroid-Le g	3.46 2.00 6.00	-58.0000	148.00	No Ice 1/2" Ice	5.88 6.31	4.10 4.73	61.54 107.08
(2) 7770.00 w/Mount Pipe	B	From Centroid-Le g	3.46 2.00 6.00	-58.0000	148.00	No Ice 1/2" Ice	5.88 6.31	4.10 4.73	61.54 107.08
(2) 7770.00 w/Mount Pipe	C	From Centroid-Le g	3.46 2.00 6.00	-57.0000	148.00	No Ice 1/2" Ice	5.88 6.31	4.10 4.73	61.54 107.08
(4) LGP21401	A	From Centroid-Le g	3.46 2.00 6.00	-58.0000	148.00	No Ice 1/2" Ice	1.29 1.45	0.23 0.31	14.10 21.26
(4) LGP21401	B	From Centroid-Le g	3.46 2.00 6.00	-58.0000	148.00	No Ice 1/2" Ice	1.29 1.45	0.23 0.31	14.10 21.26
(4) LGP21401	C	From Centroid-Le g	3.46 2.00 6.00	-57.0000	148.00	No Ice 1/2" Ice	1.29 1.45	0.23 0.31	14.10 21.26
P65-16-XLH-RR w/ Mount Pipe	A	From Centroid-Le g	3.46 2.00 2.00	-58.0000	148.00	No Ice 1/2" Ice	8.64 9.29	6.36 7.54	89.55 152.50
P65-16-XLH-RR w/ Mount Pipe	B	From Centroid-Le g	3.46 2.00 2.00	-58.0000	148.00	No Ice 1/2" Ice	8.64 9.29	6.36 7.54	89.55 152.50
P65-16-XLH-RR w/ Mount Pipe	C	From Centroid-Le g	3.46 2.00 2.00	-57.0000	148.00	No Ice 1/2" Ice	8.64 9.29	6.36 7.54	89.55 152.50
(2) RRU-11	A	From Centroid-Le g	3.46 2.00 0.00	-58.0000	148.00	No Ice 1/2" Ice	2.90 3.14	1.96 2.17	51.00 72.16
(2) RRU-11	B	From Centroid-Le g	3.46 2.00 0.00	-58.0000	148.00	No Ice 1/2" Ice	2.90 3.14	1.96 2.17	51.00 72.16
(2) RRU-11	C	From Centroid-Le g	3.46 2.00 0.00	-57.0000	148.00	No Ice 1/2" Ice	2.90 3.14	1.96 2.17	51.00 72.16
DC6-48-60-18-8F	A	From Centroid-Le g	3.46 2.00 0.00	-58.0000	148.00	No Ice 1/2" Ice	2.22 2.44	2.22 2.44	20.00 39.25
12' LP Platform	C	None		0.0000	141.50	No Ice 1/2" Ice	24.53 29.94	24.53 29.94	1335.00 1646.00
(2) APL868013-42T0 w/ Mount Pipe	A	From Centroid-Le g	3.28 2.29 0.00	40.0000	141.50	No Ice 1/2" Ice	3.58 4.20	5.40 6.49	31.87 72.91
(2) APL868013-42T0 w/ Mount Pipe	B	From Centroid-Le g	3.28 2.29 0.00	35.0000	141.50	No Ice 1/2" Ice	3.58 4.20	5.40 6.49	31.87 72.91
(2) APL868013-42T0 w/ Mount Pipe	C	From Centroid-Le g	3.28 2.29 0.00	35.0000	141.50	No Ice 1/2" Ice	3.58 4.20	5.40 6.49	31.87 72.91
P6516XL-2 w/ Mount Pipe	A	From Centroid-Le g	3.28 2.29 0.00	40.0000	141.50	No Ice 1/2" Ice	8.74 9.35	6.52 7.39	86.06 157.31
MG D3-800TO w/ Mount Pipe	A	From Centroid-Le g	3.28 2.29 0.00	35.0000	141.50	No Ice 1/2" Ice	3.59 3.98	3.74 4.38	58.03 97.75
P6516XL-2 w/ Mount Pipe	B	From	3.28	35.0000	141.50	No Ice	8.74	6.52	86.06



<b>RISATower</b>  <b>GPD GROUP</b> 520 South Main Street, Suite 2531 Akron, OH Phone: (330)572.2100 FAX: (330)572.2101	<b>Job</b> 26225 GREENWICH NORTH	<b>Page</b> 4 of 5
	<b>Project</b> 2011267.28	<b>Date</b> 09:21:13 08/31/11
	<b>Client</b> AT&T Mobility	<b>Designed by</b> mmoeller

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAA Front	CAA Side	Weight
			Horz	Lateral Vert					
			ft	ft	°	ft	ft <sup>2</sup>	ft <sup>2</sup>	lb
		Centroid-Le	2.29			1/2" Ice	9.35	7.39	157.31
		g	0.00						
MG D3-800TO w/ Mount Pipe	B	From	3.28		40.0000	No Ice	3.59	3.74	58.03
		Centroid-Le	2.29			1/2" Ice	3.98	4.38	97.75
		g	0.00						
P6516XL-2 w/ Mount Pipe	C	From	3.28		35.0000	No Ice	8.74	6.52	86.06
		Centroid-Le	2.29			1/2" Ice	9.35	7.39	157.31
		g	0.00						
MG D3-800TO w/ Mount Pipe	C	From	3.28		35.0000	No Ice	3.59	3.74	58.03
		Centroid-Le	2.29			1/2" Ice	3.98	4.38	97.75
		g	0.00						
12' LP Platform	C	None			0.0000	No Ice	24.53	24.53	1335.00
						1/2" Ice	29.94	29.94	1646.00
(4) DB4H9E w/ Mount Pipe	A	From	3.76		20.0000	No Ice	2.87	1.53	30.00
		Centroid-Le	1.37			1/2" Ice	3.18	2.24	54.55
		g	0.00						
(4) DB4H9E w/ Mount Pipe	B	From	3.76		20.0000	No Ice	2.87	1.53	30.00
		Centroid-Le	1.37			1/2" Ice	3.18	2.24	54.55
		g	0.00						
(4) DB4H9E w/ Mount Pipe	C	From	3.76		20.0000	No Ice	2.87	1.53	30.00
		Centroid-Le	1.37			1/2" Ice	3.18	2.24	54.55
		g	0.00						
12' LP Platform	C	None			0.0000	No Ice	24.53	24.53	1335.00
						1/2" Ice	29.94	29.94	1646.00
(2) DB980F90E-M w/Mount Pipe	A	From	4.00		0.0000	No Ice	4.37	3.95	34.05
		Centroid-Le	0.00			1/2" Ice	4.96	5.04	70.69
		g	0.00						
(2) DB980F90E-M w/Mount Pipe	B	From	4.00		0.0000	No Ice	4.37	3.95	34.05
		Centroid-Le	0.00			1/2" Ice	4.96	5.04	70.69
		g	0.00						
(2) DB980F90E-M w/Mount Pipe	C	From	4.00		0.0000	No Ice	4.37	3.95	34.05
		Centroid-Le	0.00			1/2" Ice	4.96	5.04	70.69
		g	0.00						
(2) 2" x 6' Mount Pipe	A	From	4.00		0.0000	No Ice	1.20	1.20	30.00
		Centroid-Le	0.00			1/2" Ice	1.80	1.80	39.39
		g	0.00						
(2) 2" x 6' Mount Pipe	B	From	4.00		0.0000	No Ice	1.20	1.20	30.00
		Centroid-Le	0.00			1/2" Ice	1.80	1.80	39.39
		g	0.00						
(2) 2" x 6' Mount Pipe	C	From	4.00		0.0000	No Ice	1.20	1.20	30.00
		Centroid-Le	0.00			1/2" Ice	1.80	1.80	39.39
		g	0.00						
4' Standoff	B	From Face	1.29		50.0000	No Ice	3.41	3.41	80.00
			1.53			1/2" Ice	4.47	4.47	104.00
			0.00						
GPS	B	From Face	2.57		50.0000	No Ice	0.17	0.17	0.87
			3.06			1/2" Ice	0.24	0.24	3.85
			1.00						

<b>RISA Tower</b>  <b>GPD GROUP</b> 520 South Main Street, Suite 2531 Akron, OH Phone: (330)572.2100 FAX: (330)572.2101	<b>Job</b> 26225 GREENWICH NORTH	<b>Page</b> 5 of 5
	<b>Project</b> 2011267.28	<b>Date</b> 09:21:13 08/31/11
	<b>Client</b> AT&T Mobility	<b>Designed by</b> mmoeller

**Critical Deflections and Radius of Curvature - Service Wind**

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
160.00	12' LP Platform	27	24.996	1.3390	0.0010	54213
148.00	12' LP Platform	27	21.647	1.3207	0.0009	21957
141.50	12' LP Platform	27	19.861	1.2964	0.0008	13960
131.00	12' LP Platform	33	17.058	1.2361	0.0007	8788
122.00	12' LP Platform	33	14.773	1.1667	0.0006	6670
72.00	4' Standoff	33	5.008	0.6494	0.0003	5496

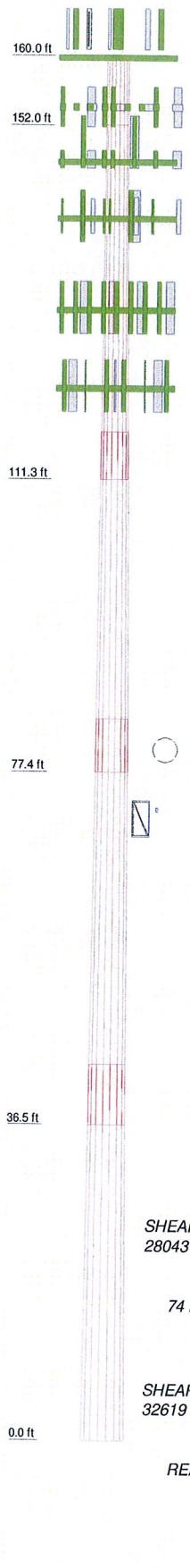
**Section Capacity Table**

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P <sub>allow</sub> lb	% Capacity	Pass Fail	
L1	160 - 152	Pole	TP30.62x29x0.1875	1	-2233.86	908478.12	7.0	Pass	
L2	152 - 111.29	Pole	TP38.86x30.62x0.25	2	-13853.20	1547466.31	48.9	Pass	
L3	111.29 - 77.42	Pole	TP45.09x37.263x0.3125	3	-20892.70	2245558.38	68.4	Pass	
L4	77.42 - 36.46	Pole	TP52.62x43.2359x0.4375	4	-33319.40	3665309.96	65.0	Pass	
L5	36.46 - 0	Pole	TP59x50.3353x0.5	5	-50369.80	4826446.22	66.5	Pass	
							Summary		
							Pole (L3)	68.4	Pass
							<b>RATING =</b>	<b>68.4</b>	<b>Pass</b>

## APPENDIX C

### Tower Elevation Drawing

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (lb)
1	8.00	18	0.1875	29.0000	30.6200	30.6200	A572-65	479.9
2	40.71	18	0.2500	5.42	30.6200	38.8500	A572-65	3791.2
3	39.29	18	0.3125	6.17	37.2630	45.0900	A572-65	5418.9
4	47.13	18	0.4375	7.08	43.2359	52.6200	A572-65	10576.1
5	43.54	18	0.5000	50.3353	59.0000	12796.2	A572-65	33002.3



### DESIGNED APPURTENANCE LOADING

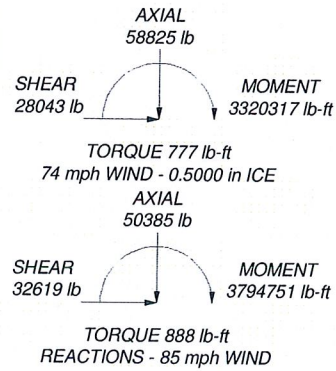
TYPE	ELEVATION	TYPE	ELEVATION
12' LP Platform	160	P65-16-XLH-RR w/ Mount Pipe	148
(2) RR90-17-02DP w/ Mount Pipe	160	(2) RRU-11	148
RR90-17-02DP w/ Mount Pipe	160	(2) RRU-11	148
(2) RR90-17-02DP w/ Mount Pipe	160	(2) RRU-11	148
(2) DTMA-1819-DD-12	160	DC6-48-60-18-8F	148
DTMA-1819-DD-12	160	12' LP Platform	141.5
(2) DTMA-1819-DD-12	160	(2) APL868013-42T0 w/ Mount Pipe	141.5
APX16DWV-16DWVS-E-A20w/ Mount Pipe	160	(2) APL868013-42T0 w/ Mount Pipe	141.5
APX16DWV-16DWVS-E-A20w/ Mount Pipe	160	(2) APL868013-42T0 w/ Mount Pipe	141.5
APX16DWV-16DWVS-E-A20w/ Mount Pipe	160	P6516XL-2 w/ Mount Pipe	141.5
APXV18-206516SA20 w/ Mount Pipe	160	MG D3-800TO w/ Mount Pipe	141.5
APX16DWV-16DWVS-E-A20w/ Mount Pipe	160	P6516XL-2 w/ Mount Pipe	141.5
ATMAA1412D-1A20	160	MG D3-800TO w/ Mount Pipe	141.5
(2) ATMAA1412D-1A20	160	12' LP Platform	131
ATMAA1412D-1A20	160	(4) DB4H9E w/ Mount Pipe	131
2" x 4' Mount Pipe	160	(4) DB4H9E w/ Mount Pipe	131
2" x 4' Mount Pipe	160	(4) DB4H9E w/ Mount Pipe	131
2" x 4' Mount Pipe	160	(4) DB4H9E w/ Mount Pipe	131
12' LP Platform	148	12' LP Platform	122
(2) 7770.00 w/Mount Pipe	148	(2) DB980F90E-M w/Mount Pipe	122
(2) 7770.00 w/Mount Pipe	148	(2) DB980F90E-M w/Mount Pipe	122
(2) 7770.00 w/Mount Pipe	148	(2) DB980F90E-M w/Mount Pipe	122
(4) LGP21401	148	(2) 2" x 6' Mount Pipe	122
(4) LGP21401	148	(2) 2" x 6' Mount Pipe	122
(4) LGP21401	148	(2) 2" x 6' Mount Pipe	122
P65-16-XLH-RR w/ Mount Pipe	146	4' Standoff	72
P65-16-XLH-RR w/ Mount Pipe	148	GPS	72


### MATERIAL STRENGTH

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

### TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 68.4%



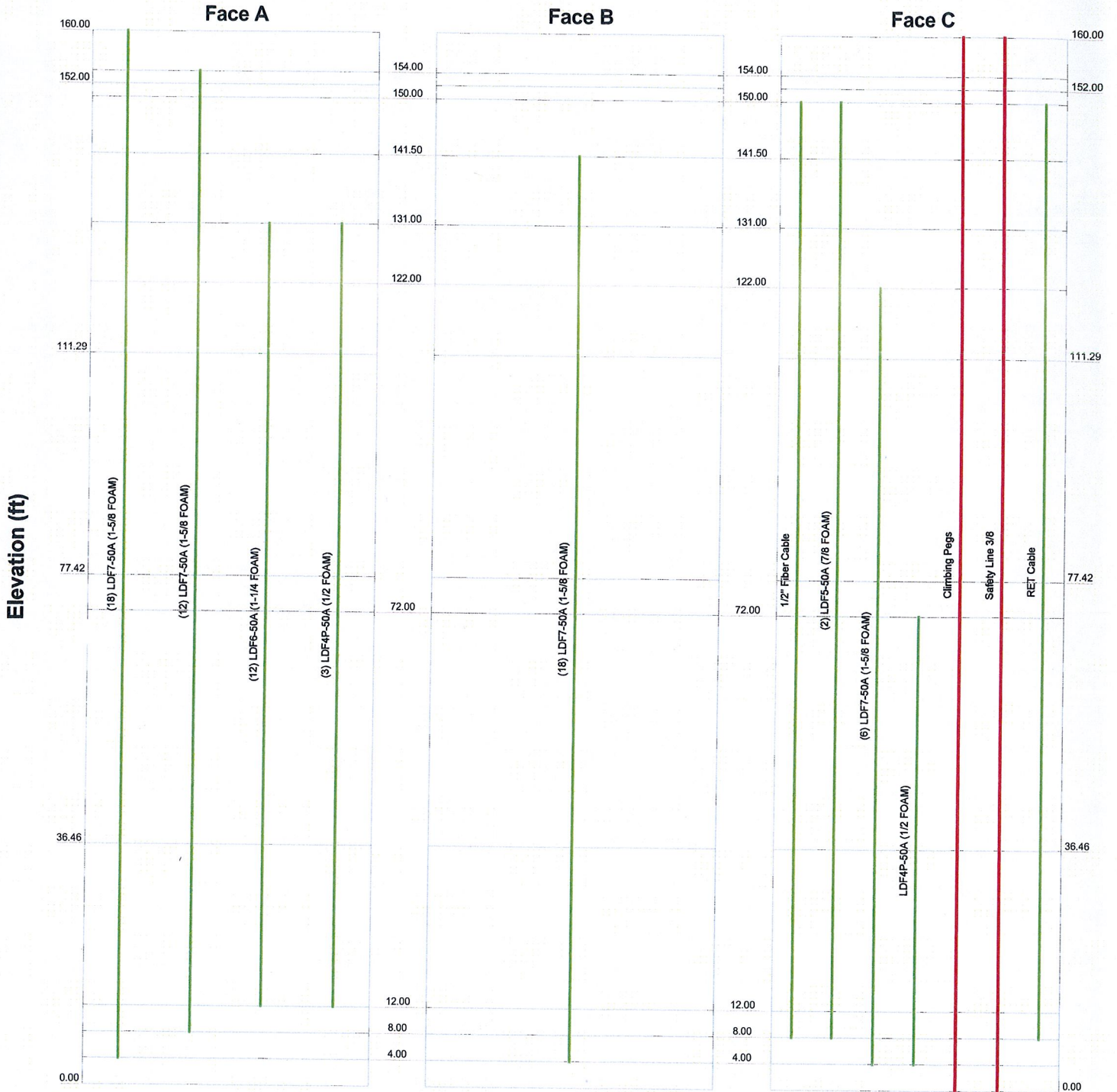
 <b>GPD GROUP</b> Consulting Engineers	<b>520 South Main Street, Suite 2531</b> Akron, OH Phone: (330)572.2100 FAX: (330)572.2101	<b>Job: 26225 GREENWICH NORTH</b> Project: 2011267.28	Client: AT&T Mobility Code: TIA/EIA-222-F Path: N:\2011\2011267\28\RISA\26225 Greenwich North.eri
	Drawn by: mmoeller Date: 08/31/11	App'd: Scale: NTS Dwg No: E-1	



# Feedline Distribution Chart

## 0' - 160'

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



 <b>GPD GROUP</b> Consulting Engineers	<b>GPD GROUP</b> 520 South Main Street, Suite 2531 Akron, OH Phone: (330)572.2100 FAX: (330)572.2101	<b>26225 GREENWICH NORTH</b>		
	Project: <b>2011267.28</b>			
	Client: AT&T Mobility	Drawn by: mmoeller	App'd:	
	Code: TIA/EIA-222-F	Date: 09/07/11	Scale: NTS	
Path: N:\2011\2011267\28\RISA\26225 Greenwich North.en		Dwg No. E-7		

# Feedline Plan 36'5-17/32"

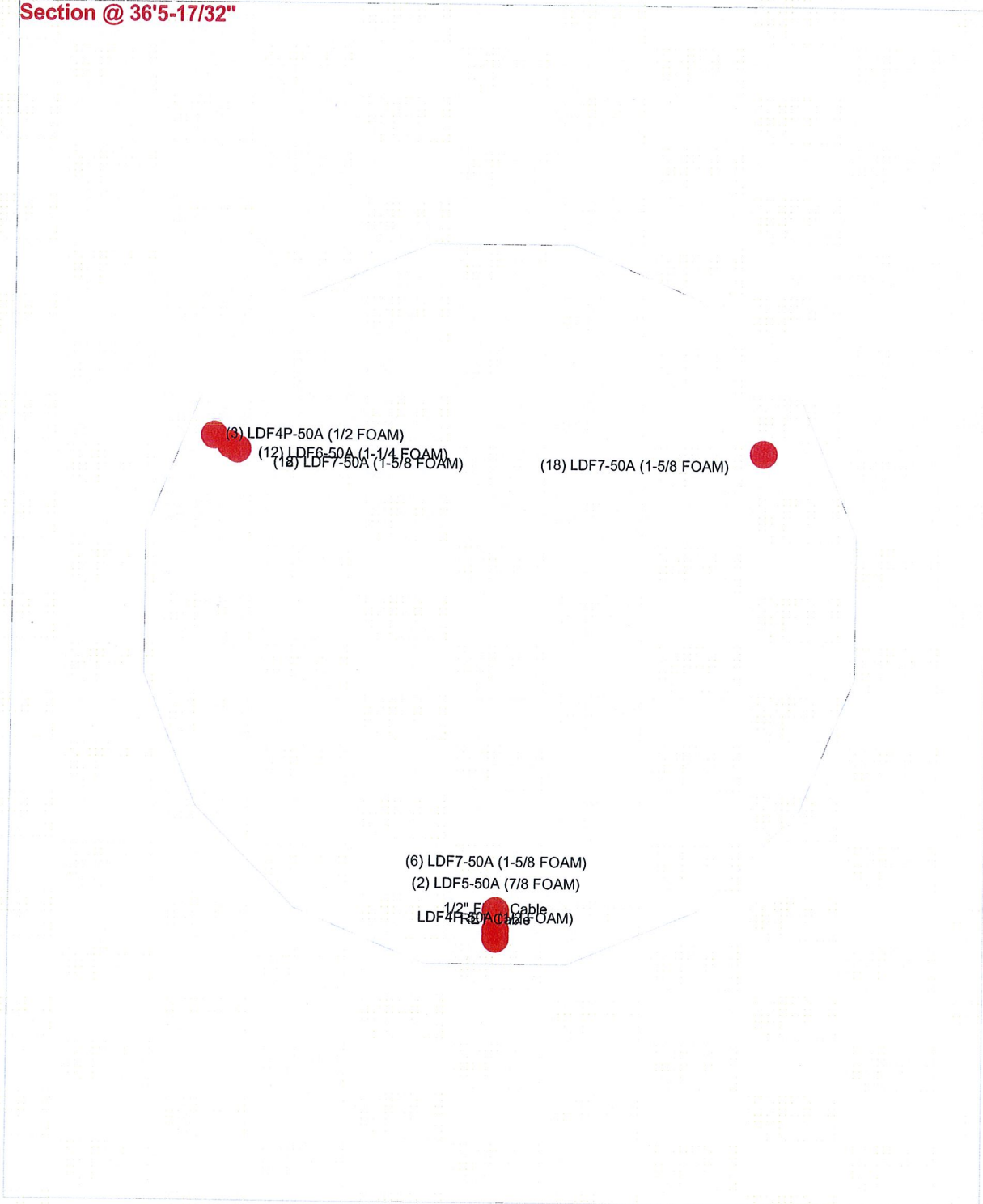
Round


Flat

App In Face

App Out Face

## Section @ 36'5-17/32"



 <b>GPD GROUP</b> Consulting Engineers	<b>GPD GROUP</b>		<b>Job: 26225 GREENWICH NORTH</b>		
	520 South Main Street, Suite 2531		Project: <b>2011267.28</b>		
	Akron, OH		Client: AT&T Mobility	Drawn by: mmoeller	App'd:
	Phone: (330)572.2100		Code: TIA/EIA-222-F	Date: 09/07/11	Scale: NTS
FAX: (330)572.2101		Path: N:\2011\2011267\28\IRISA\26225 Greenwich North.eni		Dwg No. E-7	

## APPENDIX D

### Base Plate & Anchor Rod Analysis



**Anchor Rod and Base Plate Stresses**  
**26225 GREENWICH NORTH**  
 GPD Project Number: 2011267.28

Overturning Moment =	3794.75	k*ft
Axial Force =	50.39	k
Shear Force =	32.62	k

Acceptable Stress	
Ratio =	100.0%

Anchor Rods		
Number of Rods =	24	
Type =	Upset Rod	
Rod Yield Strength (F <sub>y</sub> ) =	75	ksi
ASIF =	1.333	
Rod Circle =	67	in
Rod Diameter =	2.25	in
Net Tensile Area =	3.25	in <sup>2</sup>
Max Tension on Rod =	111.11	kips
Max Compression on Rod =	115.31	kips
Allow. Rod Force =	195.00	kips
<b>Anchor Rod Capacity =</b>	<b>57.0%</b>	<b>OK</b>

Base Plate		
Location =	External	
Plate Strength (F <sub>y</sub> ) =	60	ksi
Outside Diameter =	73	in
Plate Thickness =	2.25	in
w <sub>calc</sub> =	31.75	in
w <sub>max</sub> =	48.14	in
w =	31.75	in
S =	26.79	in <sup>3</sup>
fb =	43.25	ksi
Fb =	60	ksi
<b>BP Capacity =</b>	<b>72.1%</b>	<b>OK</b>

Stiffeners		
Configuration =	None	

Pole		
Pole Diameter =	59	in
Number of Sides =	18	
Thickness =	0.5	in
Pole Yield Strength =	65	ksi

## APPENDIX E

### Flange Analysis





Existing Flange Connection @  
26225 GREENWICH NORTH  
GPD Project Number: 2011267.28

152'

O.T. Moment =	38.27	k-ft
Axial =	2.23	kips
Shear =	4.28	kips

Acceptable Stress	
Ratio =	100.0%

Flange Bolts	
# Bolts =	12
Bolt Type =	A325
F <sub>t</sub> =	44 ksi
ASIF =	1.333
Bolt Circle =	35 in
Bolt Diameter =	1 in
<i>Tension &amp; Shear (ASD, Section J3.5)</i>	
F <sub>v</sub> =	21 ksi
Nominal Area =	0.79 in <sup>2</sup>
f <sub>v</sub> =	0.45 ksi
Applied Shear =	0.36 kips
Allowable Shear =	21.99 kips
F <sub>t</sub> <sup>2</sup> - 4.39(f <sub>v</sub> <sup>2</sup> ) <sup>1/2</sup> =	43.99 ksi
Allowable Bolt Stress =	58.65295 ksi
B =	46.07 kips
<i>Prying Action Check</i>	
N/A, top flange thickness > t <sub>c</sub>	
Max Comp. on Bolt =	4.56 kips
Max Tension on Bolt =	4.19 kips
Shear Capacity =	1.6%
Tensile Capacity =	9.1%
<b>Bolt Capacity =</b>	<b>9.1% OK</b>
<b>Pole Information</b>	
Shaft Diam. (Upper) =	30.62 in
Thickness (Upper) =	0.1875 in
# of Sides (Upper) =	18
F <sub>y</sub> (Upper) =	65 ksi
Shaft Diam. (Lower) =	30.62 in
Thickness (Lower) =	0.25 in
# of Sides (Lower) =	18
F <sub>y</sub> (Lower) =	65 ksi

Upper Flange Plate	
Location =	External
Plate Strength (F <sub>y</sub> ) =	60 ksi
Plate Thickness =	1 in
Outer Diameter =	38 in
w <sub>calc</sub> =	16.95 in
w <sub>max</sub> =	19.06 in
w =	16.95 in
S =	2.83 in <sup>3</sup>
f <sub>b</sub> =	4.97 ksi
F <sub>b</sub> =	60 ksi
<b>UP Capacity =</b>	<b>8.3% OK</b>

UpperStiffeners	
Configuration =	None

Lower Flange Plate	
Location =	External
Plate Strength (F <sub>y</sub> ) =	60 ksi
Plate Thickness =	1 in
Outer Diameter =	38 in
w <sub>calc</sub> =	16.95 in
w <sub>max</sub> =	19.06 in
w =	16.95 in
S =	2.83 in <sup>3</sup>
f <sub>b</sub> =	4.97 ksi
F <sub>b</sub> =	60 ksi
<b>LP Capacity =</b>	<b>8.3% OK</b>

Lower Stiffeners	
Configuration =	None



## APPENDIX F

### Foundation Calculations



**Mat Foundation Analysis**  
**26225 GREENWICH NORTH**  
**GPD Project Number: 2011267.28**

General Info	
Code	TIA/EIA-222-F (ASD)
Bearing On	Rock
Foundation Type	Mono Pad
Pier Type	Square
Reinforcing Known	No
Max Capacity	1

Tower Reactions	
Moment, M	3794.751 k-ft
Axial, P	50.385 k
Shear, V	32.619 k

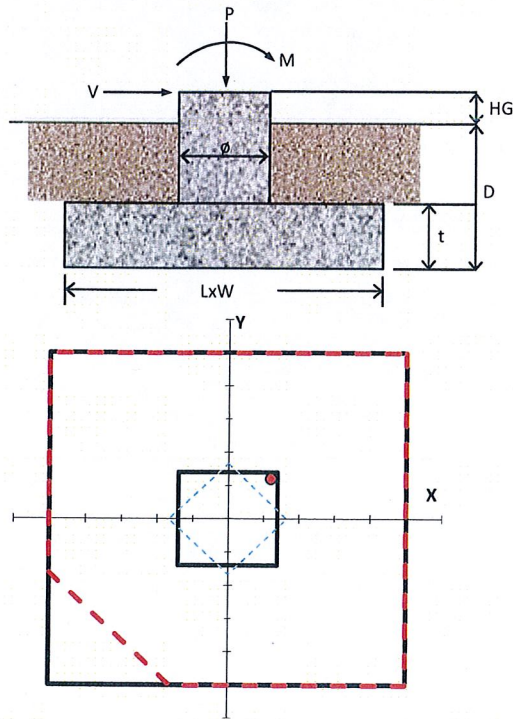
Pad & Pier Geometry	
Pier Width, $\phi$	7 ft
Pad Length, L	25 ft
Pad Width, W	25 ft
Pad Thickness, t	4.5 ft
Depth, D	9.5 ft
Height Above Grade, HG	0.5 ft

Pad & Pier Reinforcing	
Rebar Fy	ksi
Concrete Fc'	ksi
Clear Cover	in
Reinforced Top & Bottom?	
Pad Reinforcing Size	
Pad Quantity Per Layer	
Pier Rebar Size	
Pier Quantity of Rebar	

Soil Properties	
Soil Type	Granular
Soil Unit Weight	120 pcf
Angle of Friction, $\phi$	34 °
Bearing Type	Net
Ultimate Bearing	30 ksf
Water Table Depth	999 ft
Frost Depth	3.33 ft

Bearing Summary			Load Case
Qxmax	2.77	ksf	1D+1W
Qymax	2.77	ksf	1D+1W
Qmax @ 45°	3.42	ksf	1D+1W
Q <sub>(all) Gross</sub>	15.57	ksf	
<b>Controlling Capacity</b>	<b>22.0%</b>	<b>Pass</b>	

Overturning Summary (Required FS=1.5)			Load Case
FS(ot)x	2.95	≥1.5	1D+1W
FS(ot)y	2.95	≥1.5	1D+1W
<b>Controlling Capacity</b>	<b>50.9%</b>	<b>Pass</b>	



RECEIVED  
OCT 25 2011  
CONNECTICUT  
SITING COUNCIL

280 Trumbull Street  
Hartford, CT 06103-3597  
Main (860) 275-8200  
Fax (860) 275-8299  
kbaldwin@rc.com  
Direct (860) 275-8345

October 24, 2011

Linda Roberts  
Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

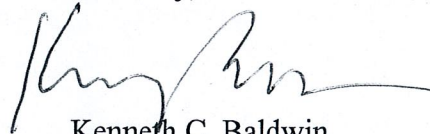
Re: **Notice of Completion of Construction Activity**  
**EM-VER-047-110930 – 232 South Main Street, East Windsor, CT**  
**EM-VER-057-110930 – 363 Riversville Road, Greenwich, CT**  
**EM-VER-161-110526 – 160 Deer Run Road, Wilton, CT**

Dear Ms. Roberts:

The purpose of this letter is to notify the Council that construction activity associated with the above-referenced facility modifications has been completed.

If you have any questions or need any additional information regarding any of these facilities, please do not hesitate to contact me.

Sincerely,



Kenneth C. Baldwin



Law Offices

BOSTON

PROVIDENCE

HARTFORD

NEW LONDON

STAMFORD

WHITE PLAINS

NEW YORK CITY

ALBANY

SARASOTA

[www.rc.com](http://www.rc.com)

Copy to:  
Sandy M. Carter

11346295-v1