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

July 11, 2012

Julie D. Kohler, Esq.
Cohen and Wolf, P.C.
1115 Broad Street
Bridgeport, CT 06604

RE: **EM-T-MOBILE-080-120622** - Omnipoint Communications, as subsidiary of T-Mobile USA, Inc., notice of intent to modify an existing telecommunications facility located at 462 West Main Street, Meriden, Connecticut.

Dear Attorney Kohler:

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 June 21, 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,

LRoberts

Linda Roberts
Executive Director

LR/CDM/jbw

c: The Honorable Michael S. Rohde, Mayor, City of Meriden
Lawrence Kendzior, City Manager, City of Meriden
Dominick Caruso, City Planner, City of Meriden
Christopher B. Fisher, Esq.

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June 26, 2012

The Honorable Michael S. Rohde
Mayor
City of Meriden
City Hall
142 East Main Street
Room 124
Meriden, CT 06450

RE: **EM-T-MOBILE-080-120622** - Omnipoint Communications, as subsidiary of T-Mobile USA, Inc., notice of intent to modify an existing telecommunications facility located at 462 West Main Street, Meriden, Connecticut.

Dear Mayor Rohde:

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 July 11, 2012.

Thank you for your cooperation and consideration.

Very truly yours,

LRoberts

Linda Roberts
Executive Director

LR/jbw

Enclosure: Notice of Intent

c: Lawrence Kendzior, City Manager, City of Meriden
Dominick Caruso, City Planner, City of Meriden

CSC
CONNECTICUT SITING COUNCIL

COHEN and WOLF P.C.
ATTORNEYS AT LAW

EM-T-MOBILE-080-120622

JULIE D. KOHLER

PLEASE REPLY TO: Bridgeport
WRITER'S DIRECT DIAL: (203) 337-4157
E-Mail Address: jkohler@cohenandwolf.com

June 21, 2012

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

Re: Notice of Exempt Modification
New Cingular Wireless/T-Mobile co-location
T-Mobile Site ID CT11733B
462 West Main Street, Meriden CT

Dear Ms. Roberts:

This office represents T-Mobile Northeast LLC ("T-Mobile") and has been retained to file exempt modification filings with the Connecticut Siting Council on its behalf.

In this case, New Cingular Wireless owns the existing telecommunications tower and related facility at 462 West Main Street, Meriden Connecticut (latitude 41.53998, longitude 72.81906). T-Mobile intends to remove replace six antennas and add related equipment at this existing facility in Meriden ("Meriden Facility"). Please accept this letter as notification, pursuant to R.C.S.A. § 16-50j-73, of construction which 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 Mayor Michael S. Rohde.

The existing Meriden Facility consists of a 100 foot tower. T-Mobile plans to replace six antennas and relocate a microwave dish mounted on the tower at a centerline of 90 feet. T-Mobile will also add two equipment cabinets within the existing compound area near the base of the tower. (See the plans dated April 27, 2012 attached hereto as Exhibit A). The existing tower is structurally capable of supporting T-Mobile's proposed use, as indicated in the structural analysis dated June 7, 2012 and attached hereto as Exhibit B. The planned modifications to the Meriden Facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modification will not increase the height of the tower. T-Mobile's replacement antennas will be installed and microwave dish relocated at the 90 foot level. The enclosed tower drawing confirms that the proposed modification will not increase the height of

the tower.

2 . The installation of the T-Mobile equipment in the existing compound, as reflected on the attached site plan, will not require an extension of the site boundaries. T-Mobile's proposed equipment will be located entirely within the existing compound area.

3 . The proposed modification to the Facility will not increase the noise levels at the existing facility by six decibels or more.

4 . The operation of the replacement antennas will not increase the total radio frequency (RF) power density, measured at the base of the tower, to a level at or above the applicable standard. According to a RF Exposure Analysis prepared by EBI dated June 19, 2012 T-Mobile's operations would add 1.477% of the FCC Standard. Therefore, the calculated "worst case" power density for the planned combined operation at the site including all of the proposed antennas would be 86.047% of the FCC Standard as calculated for a mixed frequency site as evidenced by the engineering exhibit attached hereto as Exhibit C.

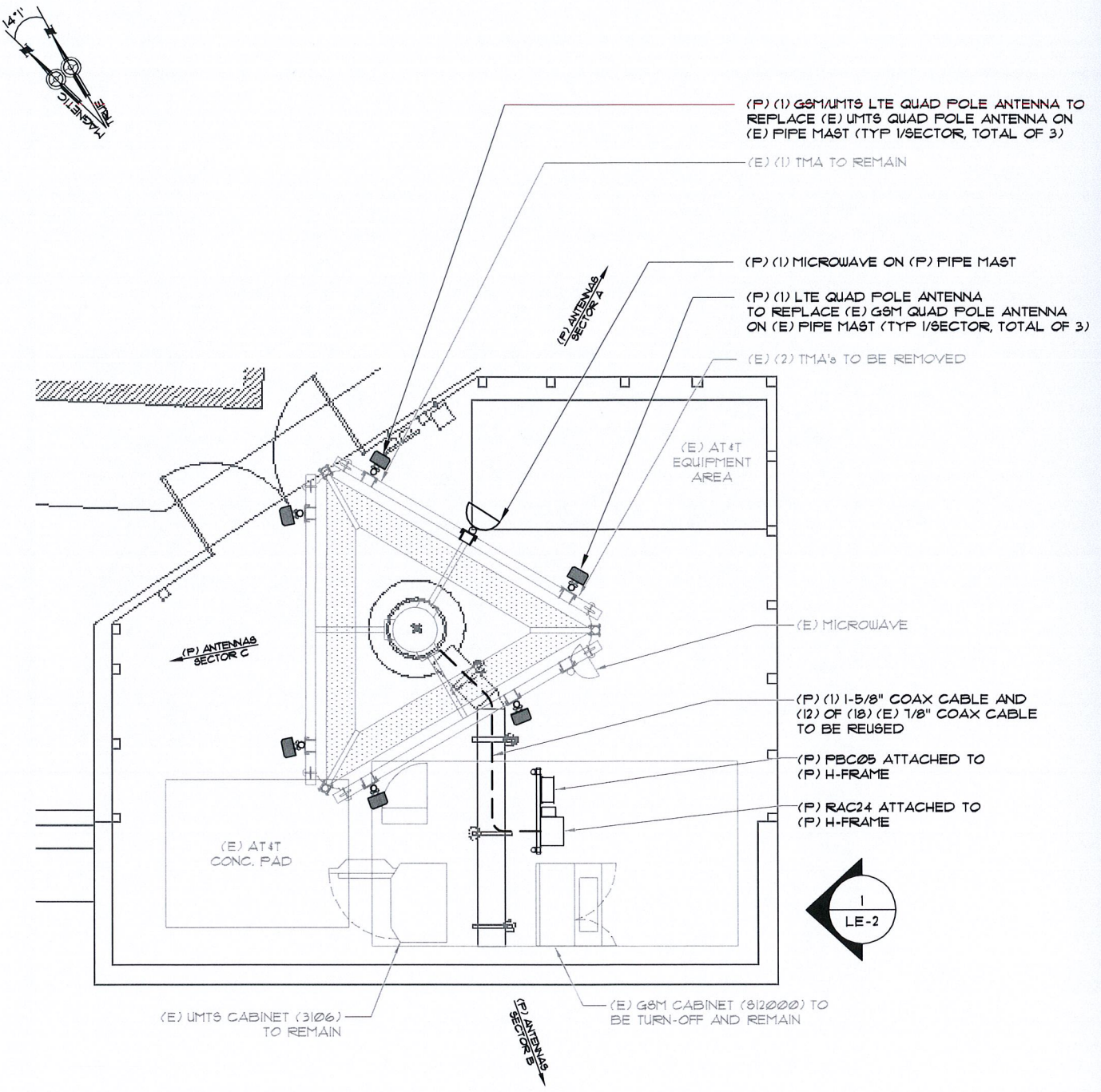
For the foregoing reasons, T-Mobile respectfully submits that the proposed replacement antennas and equipment at the Meriden Facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Julie D. Kohler, Esq.

cc: Mayor Michael S. Rohde, City of Meriden
Scott Chase, Northeast Site Solutions (via e-mail)

EXHIBIT A



ALL EQUIPMENT LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO APPROVAL BY LESSEE/LICENSEE'S STRUCTURAL & RF ENGINEERS. LOCATIONS OF POWER & TELEPHONE FACILITIES ARE SUBJECT TO APPROVAL BY UTILITY COMPANIES.

SITE PLAN

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

1
LE-1

Configuration
2C

SUBMITTALS	
LE REV A	04.06.12
LE REV 0	04.27.12

ATLANTIS GROUP
1340 Centre Street
Suite 203
Newton, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

LEASE EXHIBIT

SITE NUMBER:
CT11733B

SITE NAME:
CT733/AT&T/HUNTER AMBULANCE

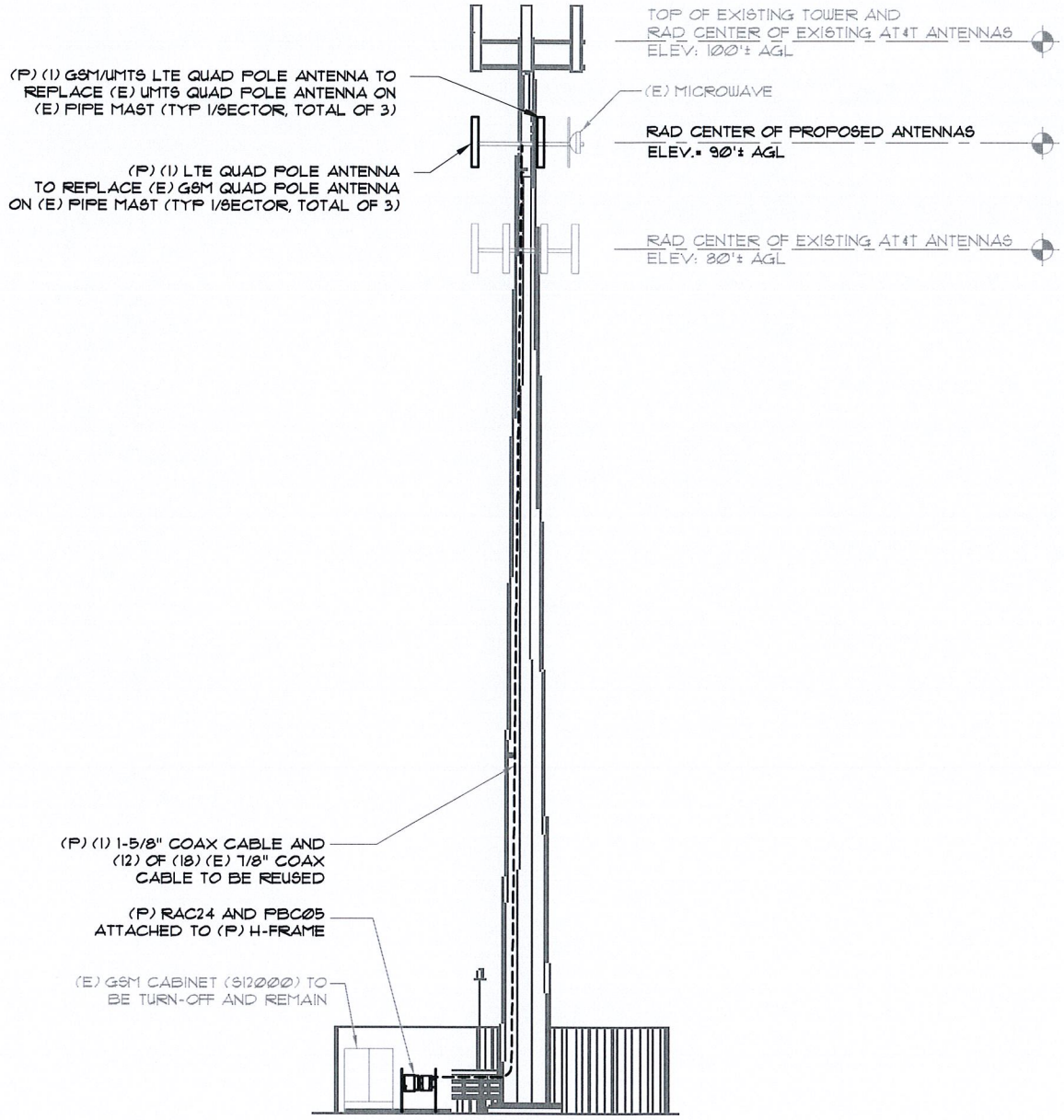
SITE ADDRESS:
462 WEST MAIN STREET
MERIDEN, CT 06451

NORTHEAST TOWERS
199 BRICKYARD ROAD
FARMINGTON, CT 06032
OFFICE: (860) 677-1999

FOR

T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX: (860) 692-7159

DRAWN BY: GC | CHECKED BY: SM



ELEVATION

SCALE: 1/16"= 1'-0"

1

LE-2

Configuration

2C

SUBMITTALS	
LE REV A	04.06.12
LE REV 0	04.27.12

ATLANTIS GROUP
1340 Centre Street
Suite 203
Newton, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

LEASE EXHIBIT

SITE NUMBER:
CT11733B

SITE NAME:
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FAX: (860) 692-7159

DRAWN BY: GC | CHECKED BY: SM

EXHIBIT B

AT&T Towers
5405 Windward Parkway
Alpharetta, GA 30004

June 7, 2012

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

B&T No.: 84503.001a

STRUCTURAL ANALYSIS
100' Monopole Tower

AT&T DESIGNATION:	Site ID:	25975
	Site FA:	10071118
	Site Name:	Meriden West Central
	AT&T Project:	T-Mobile Modification 4-4-2012
ANALYSIS CRITERIA:	Codes:	TIA/EIA-222-F IBC 2003 2005 CT Supplement (85 mph fastest mile)
SITE DATA:		450-478 West Main Street, Meriden , CT, New Haven County Latitude 41.539892°, Longitude -72.818899° Market MA/RI/VT/NH/ME/CT

Ms. Charlotte Malone,

B&T Engineering, Inc. is pleased to submit this Structural Analysis Report to determine the structural integrity of the aformentioned 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:	**54.1%**	**Pass**
Foundation Ratio with Proposed Equipment:	**67.4%**	**Pass**

We at B&T Engineering, Inc. appreciate the opportunity of providing our continuing professioinal services to you and AT&T Towers. 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: Kristin Mears, E.I.

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

ANALYSIS RESULTS:

Table 1 - Section Capacity (Summary)

Component (Tower Section)	% Capacity	Pass / Fail
101 - 48	38.9	Pass
48 - 1	54.1	Pass

Table 2 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	Base	50.3	**Pass**
1	Base Plate	Base	38.9	**Pass**
1	Base Foundation	Base	67.4	**Pass**

Structure Rating (max from all components) =	**67.4%**

Notes:
1.) See additional documentation in "Appendix B - Calculations" for calculation supporting the % capacity consumed.

Recommendations:

N/A

ANALYSIS PROCEDURE:

Table 4 - Documents Provided

Document	Description	Date	Source
Tower Data	Glen Martin	6/4/2003	Siterra
Foundation Information	Glen Martin	12/13/2003	Siterra
Geotech Report	Tectonic Engineering & Surveying Consultants	8/28/2002	Siterra
Loading	Site Lease Application (T-Mobile)	4/1/2012	Siterra
	Previous SA by B&T Engineering, Inc.	5/2/2012	Siterra
	NOC Form	5/14/2012	Siterra
	Post Construction Site Walk Report	12/17/2009	Siterra
Previous Structural Analysis	B&T Engineering, Inc.; Project No. 84429.001	5/2/2012	Siterra
	GPD	1/19/2010	Siterra
	GPD	11/20/2009	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.
6. T-Mobile's existing centerlines were taken from the previous analysis and were assumed to be incorrect on the application.
7. AT&T's existing centerlines were taken from the previous analysis and were assumed to be incorrect on the NOC Form.
8. (6) TMAs for AT&T Mobility were considered as existing per the NOC Form and photographs.
9. AT&T's future loading on the NOC Form was considered as existing/reserved per the 2012 MOD LTE Project. Generic future loading was used for AT&T Mobility in this analysis.
10. (3) 7/8" external coax for Nextel was included in this analysis per the December 2009 Post Construction Site Walk Report and site photographs.
11. This is a rerun of the 5/29/2012 analysis to include (1) DC6-48-60-18-8F at 101'.

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

100 Ft Monopole Tower Structural Analysis
Meriden West Central, 25975

June 7, 2012
B&T Project No: 84503.001a

TOWER ANALYSIS LOADING:

Existing / Reserved Loading

Antenna						Mount		Transmission Line	
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Manufacturer	Model	Quantity	Type	Quantity	Size (in)
Unknown	100	115	1	Unknown	25' Omni Antenna	1	Platform w/ Handrails		
Unknown	100	106	3	Unknown	5' Whip Antenna			3	1/2"
Unknown	100	103	4	Unknown	3' Yagi Antenna			4	1/2"
AT&T Mobility	100	103	6	Powerwave	LGP21401			6	1-1/4"
AT&T Mobility	100	103	3	Kathrein	800-10121				
AT&T Mobility	100	103	6	Kathrein	860-10025				
AT&T Mobility	100	103	3	KMW	AM-X-CD-16-65-00T-RET			3	1/2"
AT&T Mobility	100	103	6	Ericsson	RRUS-11				
AT&T Mobility	100	101	1	Raycap	DC6-48-60-18-8F				
T-Mobile	86	90	3*	RFS*	APX16PV-16PVL-E*	1	LP Platform	18	7/8"
T-Mobile	86	90	3*	RFS*	APX16DWV-16DWVS-E*			1	3/8"
T-Mobile	86	90	3	RFS	ATMAA1412D-1A20				
T-Mobile	86	90	6	Andrew	DTMA1.9 GHz				
T-Mobile	86	87	1	RFS	MA0528-28AN				
Sprint/Nextel	78	78	12	Andrew	844G65VTXASX	1	LP Platform	12	1 1/4"
								3	7/8"

*Equipment to be Removed

Proposed Loading

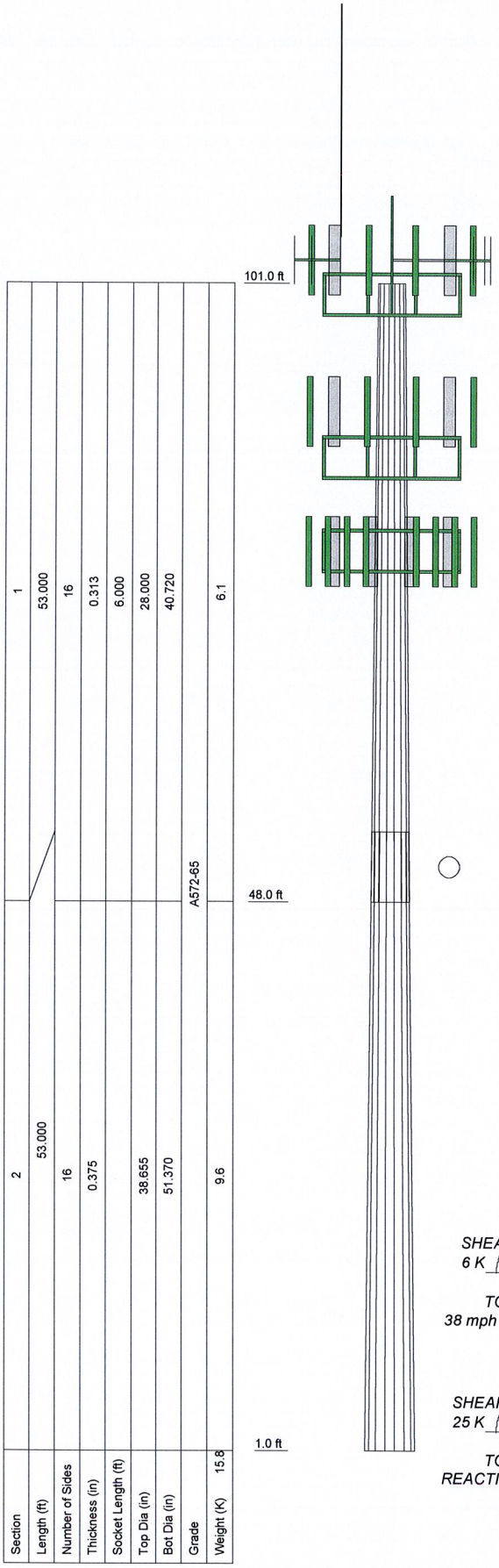
Antenna						Mount		Transmission Line	
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Manufacturer	Model	Quantity	Type	Quantity	Size (in)
T-Mobile	90	90	6	Ericsson	AIR21			1	1-5/8"
								2	3/8"

Future Loading

Antenna						Mount		Transmission Line	
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Manufacturer	Model	Quantity	Type	Quantity	Size (in)
AT&T Mobility	100	103	3	KMW	AM-X-CD-16-65-00T-RET			6	1-5/8"

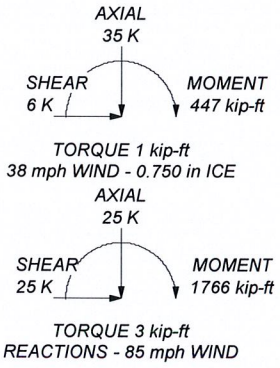
APPENDIX B

CALCULATIONS



Section	1	2
Length (ft)	53.000	53.000
Number of Sides	16	16
Thickness (in)	0.313	0.375
Socket Length (ft)	6.000	
Top Dia (in)	28.000	38.655
Bot Dia (in)	40.720	51.370
Grade	A572-65	
Weight (K)	6.1	9.6

15.8



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
25' Omni (E-ATI)	115	DC6-48-60-18-8F (R-ATI)	101
1" x 5' Whip (E-ATI)	106	6' x 2" Mount Pipe (E-ATI)	100
1" x 5' Whip (E-ATI)	106	6' x 2" Mount Pipe (E-ATI)	100
1" x 5' Whip (E-ATI)	106	6' x 2" Mount Pipe (E-ATI)	100
Lighting Rod 3/4" x 7' (E)	103.5	Platform Mount [LP 602-1] (E-ATI)	100
(2) 3' Yagi (E-ATI)	103		
3' Yagi (E-ATI)	103	(2) DTMA-1.9 GHz (E-T-Mobile)	90
3' Yagi (E-ATI)	103	(2) DTMA-1.9 GHz (E-T-Mobile)	90
(2) 860 10025 (E-ATI)	103	(2) DTMA-1.9 GHz (E-T-Mobile)	90
(2) 860 10025 (E-ATI)	103	ATMAA1412D-1A20 (E-T-Mobile)	90
(2) 860 10025 (E-ATI)	103	ATMAA1412D-1A20 (E-T-Mobile)	90
(2) LGP21401 (E-ATI)	103	ATMAA1412D-1A20 (E-T-Mobile)	90
(2) LGP21401 (E-ATI)	103	(2) AIR21 w/Mount Pipe (P-T-Mobile)	90
(2) LGP21401 (E-ATI)	103		
800 10121 w/ Mount Pipe (E-ATI)	103	(2) AIR21 w/Mount Pipe (P-T-Mobile)	90
800 10121 w/ Mount Pipe (E-ATI)	103		
800 10121 w/ Mount Pipe (E-ATI)	103	(2) AIR21 w/Mount Pipe (P-T-Mobile)	90
AM-X-CD-16-65-00T-RET w/ Mount Pipe (R-ATI)	103	MA0528-28AN w/ Mount Pipe (E-T-Mobile)	87
AM-X-CD-16-65-00T-RET w/ Mount Pipe (R-ATI)	103	Platform Mount [LP 306-1] (E-T-Mobile)	86
AM-X-CD-16-65-00T-RET w/ Mount Pipe (R-ATI)	103	(4) 844G65VTZASX w/ Mount Pipe (E-Nextel)	78
(2) RRUS-11 (R-ATI)	103	(4) 844G65VTZASX w/ Mount Pipe (E-Nextel)	78
(2) RRUS-11 (R-ATI)	103		
(2) RRUS-11 (R-ATI)	103	(4) 844G65VTZASX w/ Mount Pipe (E-Nextel)	78
AM-X-CD-16-65-00T-RET w/ Mount Pipe (Future-ATI)	103	Platform Mount [LP 304-1] (E-Nextel)	78
AM-X-CD-16-65-00T-RET w/ Mount Pipe (Future-ATI)	103		
AM-X-CD-16-65-00T-RET w/ Mount Pipe (Future-ATI)	103		

MATERIAL STRENGTH

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

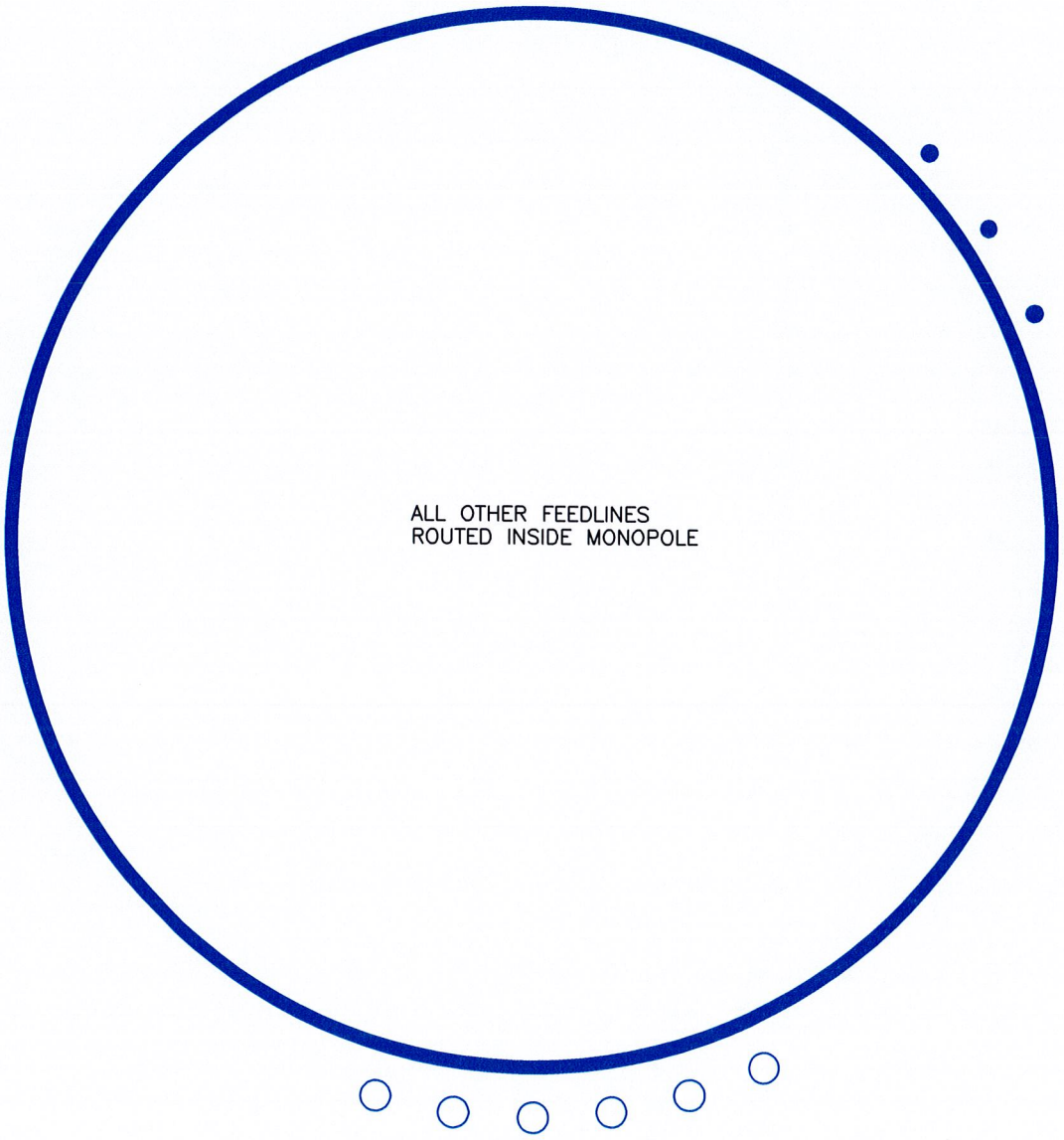
TOWER DESIGN NOTES

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: 54.1%

B&T Engineering, Inc.
1717 S. Boulder, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

Job: 84503.001a - MERIDEN WEST CENTRAL, CT (USID# 2597		
Project: 100' GlenMartin MP / T-Mobile USA Co-Locate		
Client: AT&T Towers	Drawn by: K. Mears	App'd:
Code: TIA/EIA-222-F	Date: 06/07/12	Scale: NTS
Path:		Dwg No. E-1

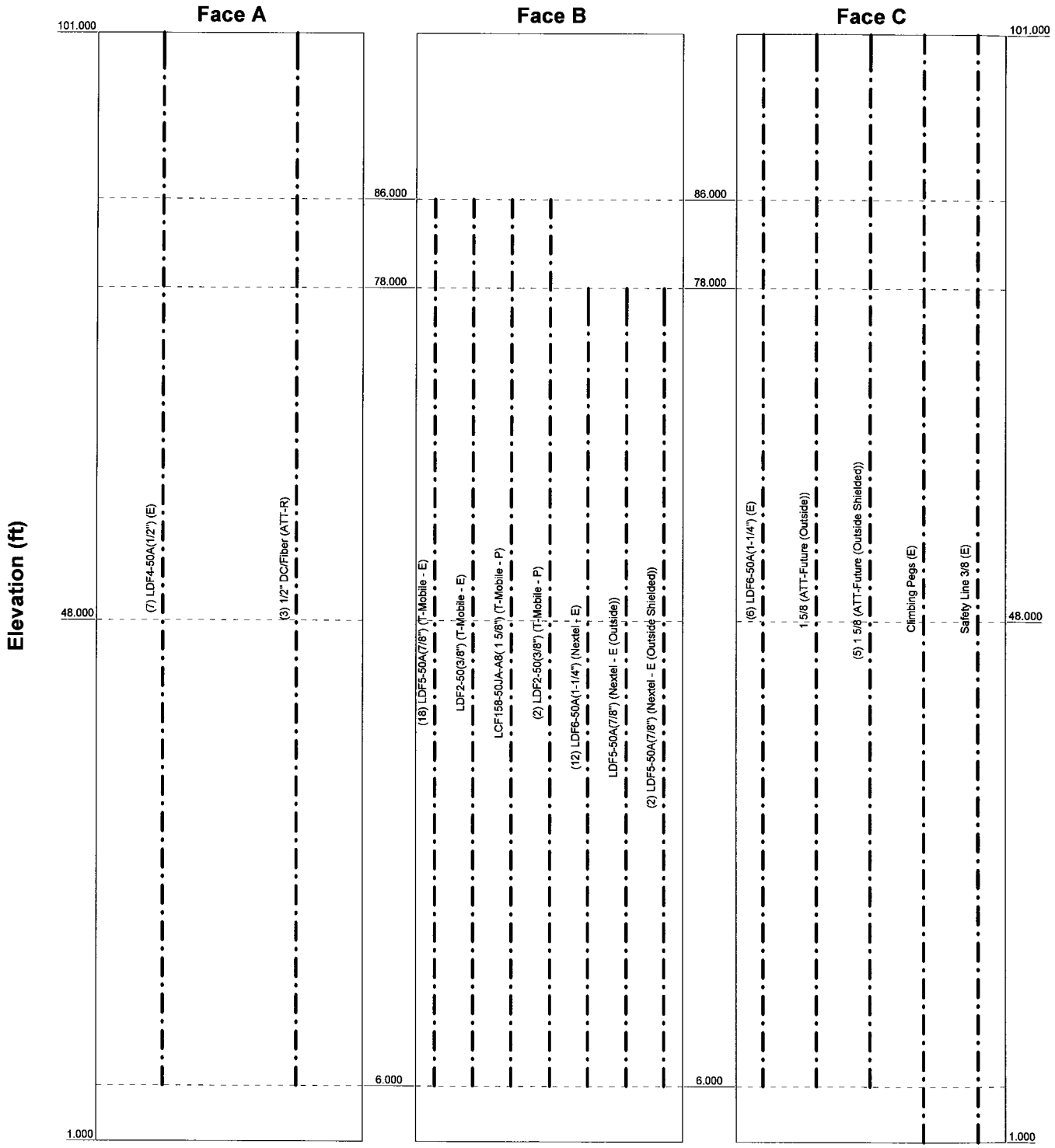
PROJECT#: 84503



NOT TO SCALE

Feedline Distribution Chart
1' - 101'

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



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Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

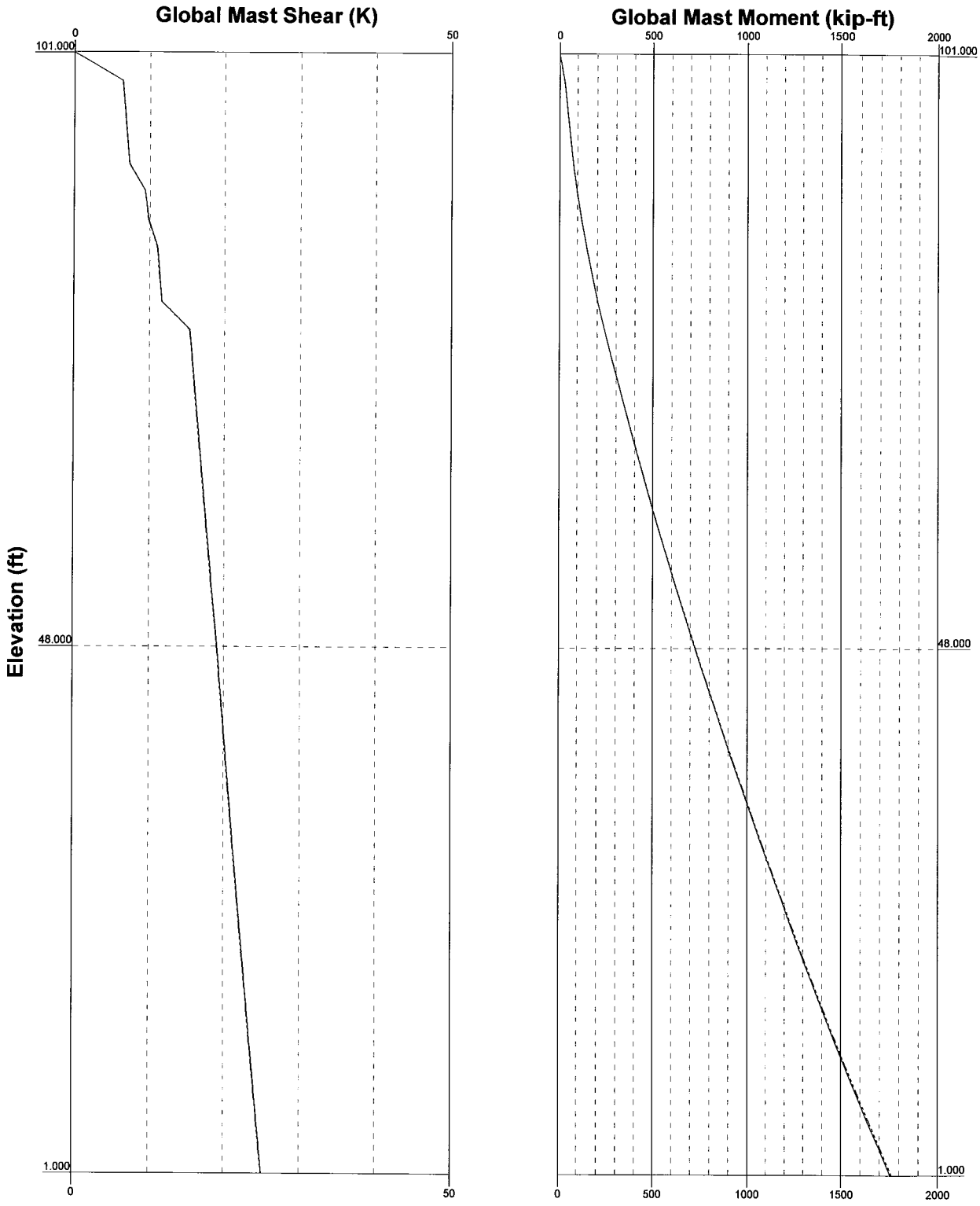
Job:	***84503.001a - MERIDEN WEST CENTRAL, CT (USID# 2597***		
Project:	***100' GlenMartin MP / T-Mobile USA Co-Locate***		
Client: AT&T Towers	Drawn by: K. Mears	App'd:	
Code: TIA/EIA-222-F	Date: 06/07/12	Scale: NTS	
Path:		Dwg No. E-7	

TIA/EIA-222-F - 85 mph/38 mph 0.750 in Ice

Vx ---------- Vz

Maximum Values

Mx ---------- Mz



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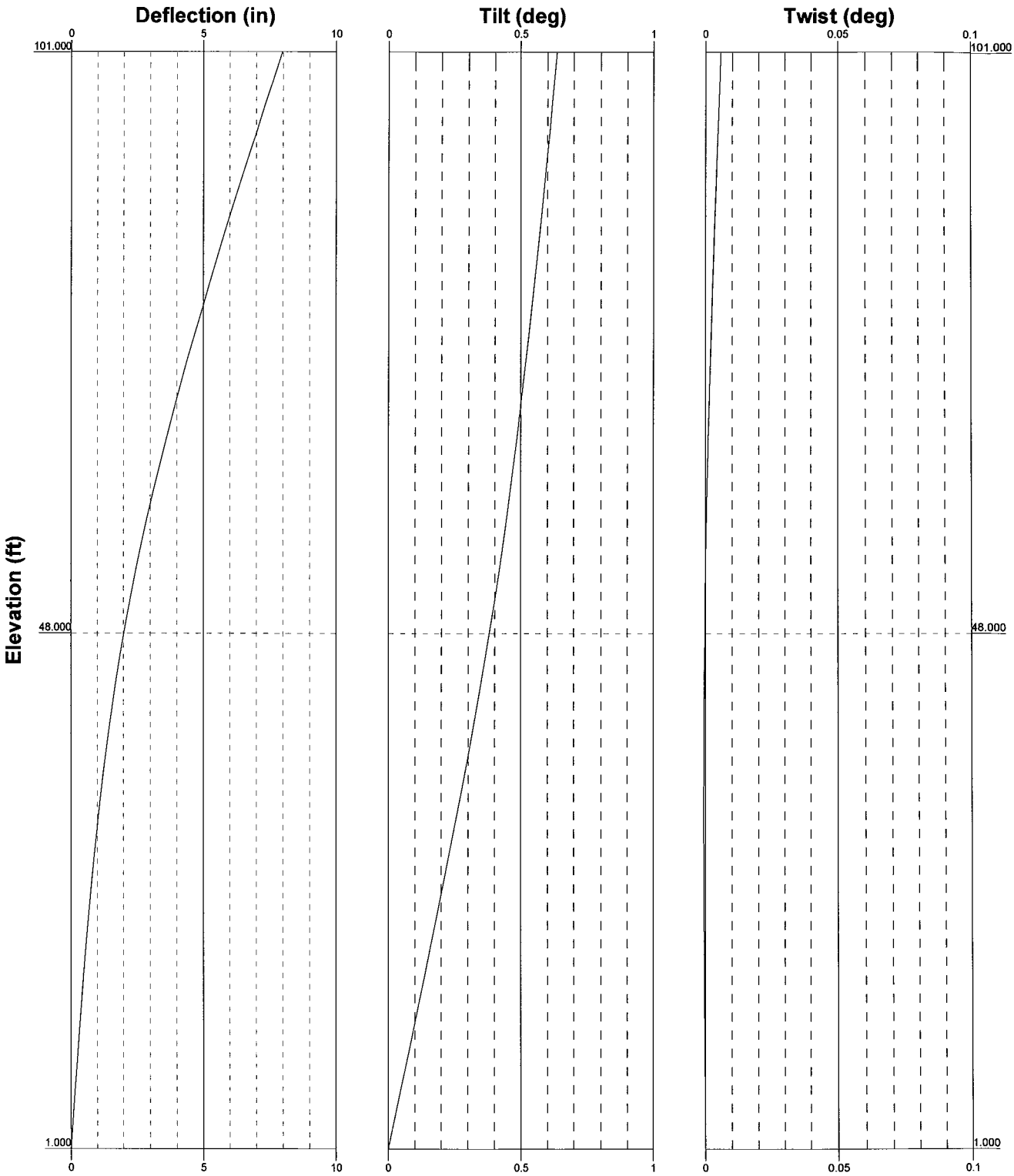
FAX: (918) 295-0265

Job: 84503.001a - MERIDEN WEST CENTRAL, CT (USID# 2597			
Project: 100' GlenMartin MP / T-Mobile USA Co-Locate			
Client: AT&T Towers	Drawn by: K. Mears	App'd:	
Code: TIA/EIA-222-F	Date: 06/07/12	Scale: NTS	
Path:		Dwg No. E-4	

TIA/EIA-222-F - Service - 50 mph

Maximum Values



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Job: 84503.001a - MERIDEN WEST CENTRAL, CT (USID# 2597			
Project: 100' GlenMartin MP / T-Mobile USA Co-Locate			
Client: AT&T Towers	Drawn by: K. Mears	App'd:	
Code: TIA/EIA-222-F	Date: 06/07/12	Scale: NTS	
Path:		Dwg No. E-5	

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

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

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	101.000-48.000	53.000	6.000	16	28.000	40.720	0.313	1.250	A572-65 (65 ksi)
L2	48.000-1.000	53.000		16	38.655	51.370	0.375	1.500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	28.549	27.601	2673.045	9.857	14.280	187.188	5386.564	13.647	4.950	15.84
	41.518	40.281	8308.852	14.385	20.767	400.095	16743.510	19.917	7.481	23.94
L2	40.880	45.792	8477.194	13.628	19.714	430.008	17082.742	22.642	6.946	18.523
	52.376	61.003	20040.987	18.154	26.199	764.961	40385.419	30.163	9.476	25.27

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
L1 101.000-48.000				1	1	1		
L2 48.000-1.000				1	1	1		

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
*****										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
LDF4-50A(1/2") (E)	A	No	Inside Pole	101.000 - 6.000	7	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
1/2" DC/Fiber (ATT-R)	A	No	Inside Pole	101.000 - 6.000	3	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
LDF6-50A(1-1/4") (E)	C	No	Inside Pole	101.000 - 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
1 5/8 (ATT-Future (Outside))	C	No	CaAa (Out Of Face)	101.000 - 6.000	1	No Ice	0.198	0.001
						1/2" Ice	0.298	0.003
						1" Ice	0.398	0.005
						2" Ice	0.598	0.011
						4" Ice	0.998	0.030
1 5/8 (ATT-Future (Outside Shielded))	C	No	Inside Pole	101.000 - 6.000	5	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
*****								
LDF5-50A(7/8") (T-Mobile - E)	B	No	Inside Pole	86.000 - 6.000	18	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
LDF2-50(3/8") (T-Mobile - E)	B	No	Inside Pole	86.000 - 6.000	1	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
LCF158-50JA-A8(1 5/8") (T-Mobile - P)	B	No	Inside Pole	86.000 - 6.000	1	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
LDF2-50(3/8") (T-Mobile - P)	B	No	Inside Pole	86.000 - 6.000	2	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
*****								
LDF6-50A(1-1/4") (Nextel - E)	B	No	Inside Pole	78.000 - 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
LDF5-50A(7/8") (Nextel - E (Outside))	B	No	CaAa (Out Of Face)	78.000 - 6.000	1	No Ice	0.109	0.000
						1/2" Ice	0.209	0.001
						1" Ice	0.309	0.003
						2" Ice	0.509	0.008
						4" Ice	0.909	0.025
LDF5-50A(7/8") (Nextel - E (Outside Shielded))	B	No	Inside Pole	78.000 - 6.000	2	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
*****								
Climbing Pegs (E)	C	No	CaAa (Out Of Face)	101.000 - 1.000	1	No Ice	0.088	0.001
						1/2" Ice	0.188	0.001
						1" Ice	0.287	0.003
						2" Ice	0.487	0.008
						4" Ice	0.887	0.024
Safety Line 3/8 (E)	C	No	CaAa (Out Of Face)	101.000 - 1.000	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 ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	101.000-48.000	A	0.000	0.000	0.000	0.000	0.080
		B	0.000	0.000	0.000	3.270	0.533
		C	0.000	0.000	0.000	17.119	0.581
L2	48.000-1.000	A	0.000	0.000	0.000	0.000	0.063
		B	0.000	0.000	0.000	4.578	0.667
		C	0.000	0.000	0.000	14.191	0.464

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	101.000-48.000	A	0.826	0.000	0.000	0.000	0.000	0.080
		B		0.000	0.000	0.000	8.224	0.593
		C		0.000	0.000	0.000	43.376	0.875
L2	48.000-1.000	A	0.750	0.000	0.000	0.000	0.000	0.063
		B		0.000	0.000	0.000	11.514	0.751
		C		0.000	0.000	0.000	36.650	0.711

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	101.000-48.000	-0.294	0.258	-0.609	0.533
L2	48.000-1.000	-0.239	0.269	-0.531	0.585

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Lighting Rod 3/4" x 7' (E)	C	None		0.000	103.500	No Ice	0.525	0.525	0.030
						1/2" Ice	1.240	1.240	0.035
						1" Ice	1.971	1.971	0.045
						2" Ice	3.066	3.066	0.079
						4" Ice	4.909	4.909	0.208
*****									
1" x 5' Whip (E-AT&T)	C	From Leg	4.000 0.000 0.000	0.000	106.000	No Ice	0.500	0.500	0.010
						1/2" Ice	1.017	1.017	0.015
						1" Ice	1.426	1.426	0.023
						2" Ice	2.064	2.064	0.049

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						4" Ice	3.452	3.452	0.149
1" x 5' Whip (E-AT&T)	B	From Leg	4.000 0.000 0.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.500 1.017 1.426 2.064 3.452	0.500 1.017 1.426 2.064 3.452	0.010 0.015 0.023 0.049 0.149
1" x 5' Whip (E-AT&T)	A	From Leg	4.000 0.000 0.000	0.000	106.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.500 1.017 1.426 2.064 3.452	0.500 1.017 1.426 2.064 3.452	0.010 0.015 0.023 0.049 0.149
3' Yagi (E-AT&T)	C	From Leg	4.000 0.000 0.000	0.000	103.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.083 3.787 5.517 9.083 15.563	2.083 3.787 5.517 9.083 15.563	0.031 0.052 0.085 0.184 0.533
(2) 3' Yagi (E-AT&T)	B	From Leg	4.000 0.000 0.000	0.000	103.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.083 3.787 5.517 9.083 15.563	2.083 3.787 5.517 9.083 15.563	0.031 0.052 0.085 0.184 0.533
3' Yagi (E-AT&T)	A	From Leg	4.000 0.000 0.000	0.000	103.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.083 3.787 5.517 9.083 15.563	2.083 3.787 5.517 9.083 15.563	0.031 0.052 0.085 0.184 0.533
25' Omni (E-AT&T)	C	From Leg	4.000 0.000 0.000	0.000	115.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.500 10.033 12.583 17.733 28.233	7.500 10.033 12.583 17.733 28.233	0.024 0.078 0.147 0.334 0.904
(2) 860 10025 (E-AT&T)	C	From Leg	4.000 0.000 0.000	30.000	103.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.163 0.229 0.302 0.476 0.927	0.136 0.199 0.270 0.439 0.879	0.001 0.003 0.005 0.014 0.051
(2) 860 10025 (E-AT&T)	B	From Leg	4.000 0.000 0.000	30.000	103.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.163 0.229 0.302 0.476 0.927	0.136 0.199 0.270 0.439 0.879	0.001 0.003 0.005 0.014 0.051
(2) 860 10025 (E-AT&T)	A	From Leg	4.000 0.000 0.000	30.000	103.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.163 0.229 0.302 0.476 0.927	0.136 0.199 0.270 0.439 0.879	0.001 0.003 0.005 0.014 0.051
(2) LGP21401 (E-AT&T)	C	From Leg	4.000 0.000 0.000	30.000	103.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.288 1.445 1.611 1.969 2.788	0.233 0.313 0.403 0.608 1.121	0.014 0.021 0.030 0.055 0.135
(2) LGP21401 (E-AT&T)	B	From Leg	4.000 0.000 0.000	30.000	103.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.288 1.445 1.611 1.969 2.788	0.233 0.313 0.403 0.608 1.121	0.014 0.021 0.030 0.055 0.135
(2) LGP21401	A	From Leg	4.000	30.000	103.000	No Ice	1.288	0.233	0.014

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(E-AT&T)			0.000				1/2" Ice	1.445	0.313	0.021
			0.000				1" Ice	1.611	0.403	0.030
							2" Ice	1.969	0.608	0.055
							4" Ice	2.788	1.121	0.135
800 10121 w/ Mount Pipe (E-AT&T)	C	From Leg	4.000	0.000	30.000	103.000	No Ice	5.685	4.600	0.066
			0.000				1/2" Ice	6.182	5.351	0.112
							1" Ice	6.676	6.046	0.167
							2" Ice	7.695	7.526	0.298
							4" Ice	9.858	10.832	0.675
800 10121 w/ Mount Pipe (E-AT&T)	B	From Leg	4.000	0.000	30.000	103.000	No Ice	5.685	4.600	0.066
			0.000				1/2" Ice	6.182	5.351	0.112
							1" Ice	6.676	6.046	0.167
							2" Ice	7.695	7.526	0.298
							4" Ice	9.858	10.832	0.675
800 10121 w/ Mount Pipe (E-AT&T)	A	From Leg	4.000	0.000	30.000	103.000	No Ice	5.685	4.600	0.066
			0.000				1/2" Ice	6.182	5.351	0.112
							1" Ice	6.676	6.046	0.167
							2" Ice	7.695	7.526	0.298
							4" Ice	9.858	10.832	0.675
AM-X-CD-16-65-00T-RET w/ Mount Pipe (R-AT&T)	C	From Leg	4.000	0.000	0.000	103.000	No Ice	8.498	6.304	0.074
			0.000				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
							4" Ice	13.679	14.024	0.874
AM-X-CD-16-65-00T-RET w/ Mount Pipe (R-AT&T)	B	From Leg	4.000	0.000	0.000	103.000	No Ice	8.498	6.304	0.074
			0.000				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
							4" Ice	13.679	14.024	0.874
AM-X-CD-16-65-00T-RET w/ Mount Pipe (R-AT&T)	A	From Leg	4.000	0.000	0.000	103.000	No Ice	8.498	6.304	0.074
			0.000				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
							4" Ice	13.679	14.024	0.874
DC6-48-60-18-8F (R-AT&T)	C	From Leg	4.000	0.000	0.000	101.000	No Ice	2.567	4.317	0.019
			0.000				1/2" Ice	2.798	4.596	0.050
							1" Ice	3.038	4.885	0.085
							2" Ice	3.543	5.488	0.167
							4" Ice	4.658	6.797	0.383
(2) RRUS-11 (R-AT&T)	C	From Leg	4.000	0.000	0.000	103.000	No Ice	4.424	1.186	0.055
			0.000				1/2" Ice	4.708	1.351	0.081
							1" Ice	5.001	1.526	0.110
							2" Ice	5.613	1.900	0.179
							4" Ice	6.940	2.753	0.368
(2) RRUS-11 (R-AT&T)	B	From Leg	4.000	0.000	0.000	103.000	No Ice	4.424	1.186	0.055
			0.000				1/2" Ice	4.708	1.351	0.081
							1" Ice	5.001	1.526	0.110
							2" Ice	5.613	1.900	0.179
							4" Ice	6.940	2.753	0.368
(2) RRUS-11 (R-AT&T)	A	From Leg	4.000	0.000	0.000	103.000	No Ice	4.424	1.186	0.055
			0.000				1/2" Ice	4.708	1.351	0.081
							1" Ice	5.001	1.526	0.110
							2" Ice	5.613	1.900	0.179
							4" Ice	6.940	2.753	0.368
6' x 2" Mount Pipe (E-AT&T)	C	From Leg	4.000	0.000	0.000	100.000	No Ice	1.425	1.425	0.022
			0.000				1/2" Ice	1.925	1.925	0.033
							1" Ice	2.294	2.294	0.048

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	3.060	3.060	0.090
						4" Ice	4.702	4.702	0.231
6' x 2" Mount Pipe (E-AT&T)	B	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice	1.425	1.425	0.022
						1/2" Ice	1.925	1.925	0.033
						1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
						4" Ice	4.702	4.702	0.231
6' x 2" Mount Pipe (E-AT&T)	A	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice	1.425	1.425	0.022
						1/2" Ice	1.925	1.925	0.033
						1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
						4" Ice	4.702	4.702	0.231
AM-X-CD-16-65-00T-RET w/ Mount Pipe (Future-AT&T)	C	From Leg	4.000 0.000 0.000	0.000	103.000	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
						4" Ice	13.679	14.024	0.874
AM-X-CD-16-65-00T-RET w/ Mount Pipe (Future-AT&T)	B	From Leg	4.000 0.000 0.000	0.000	103.000	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
						4" Ice	13.679	14.024	0.874
AM-X-CD-16-65-00T-RET w/ Mount Pipe (Future-AT&T)	A	From Leg	4.000 0.000 0.000	0.000	103.000	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
						4" Ice	13.679	14.024	0.874
Platform Mount [LP 602-1] (E-AT&T)	C	None		0.000	100.000	No Ice	32.030	32.030	1.343
						1/2" Ice	38.710	38.710	1.800
						1" Ice	45.390	45.390	2.257
						2" Ice	58.750	58.750	3.170
						4" Ice	85.470	85.470	4.998
*****									
(2) DTMA-1.9 GHz (E-T-Mobile)	C	From Leg	4.000 0.000 0.000	0.000	90.000	No Ice	0.410	0.410	0.030
						1/2" Ice	0.520	0.520	0.030
						1" Ice	0.630	0.630	0.030
						2" Ice	0.850	0.850	0.030
						4" Ice	1.290	1.290	0.030
(2) DTMA-1.9 GHz (E-T-Mobile)	B	From Leg	4.000 0.000 0.000	0.000	90.000	No Ice	0.410	0.410	0.030
						1/2" Ice	0.520	0.520	0.030
						1" Ice	0.630	0.630	0.030
						2" Ice	0.850	0.850	0.030
						4" Ice	1.290	1.290	0.030
(2) DTMA-1.9 GHz (E-T-Mobile)	A	From Leg	4.000 0.000 0.000	0.000	90.000	No Ice	0.410	0.410	0.030
						1/2" Ice	0.520	0.520	0.030
						1" Ice	0.630	0.630	0.030
						2" Ice	0.850	0.850	0.030
						4" Ice	1.290	1.290	0.030
ATMAA1412D-1A20 (E-T-Mobile)	C	From Leg	4.000 0.000 0.000	0.000	90.000	No Ice	1.167	0.467	0.013
						1/2" Ice	1.314	0.575	0.021
						1" Ice	1.469	0.691	0.030
						2" Ice	1.806	0.951	0.056
						4" Ice	2.584	1.573	0.137
ATMAA1412D-1A20 (E-T-Mobile)	B	From Leg	4.000 0.000 0.000	0.000	90.000	No Ice	1.167	0.467	0.013
						1/2" Ice	1.314	0.575	0.021
						1" Ice	1.469	0.691	0.030
						2" Ice	1.806	0.951	0.056

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						4" Ice	2.584	1.573	0.137
ATMAA1412D-1A20 (E-T-Mobile)	A	From Leg	4.000 0.000 0.000	0.000	90.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.167 1.314 1.469 1.806 2.584	0.467 0.575 0.691 0.951 1.573	0.013 0.021 0.030 0.056 0.137
MA0528-28AN w/ Mount Pipe (E-T-Mobile)	C	From Leg	4.000 0.000 0.000	0.000	87.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.608 5.981 6.366 7.180 8.986	0.971 1.302 1.650 2.441 4.407	0.022 0.050 0.085 0.170 0.419
Platform Mount [LP 306-1] (E-T-Mobile)	C	None		0.000	86.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	20.810 26.900 32.990 45.170 69.530	20.810 26.900 32.990 45.170 69.530	1.616 1.892 2.167 2.719 3.821
(2) AIR21 w/Mount Pipe (P-T-Mobile)	C	From Leg	4.000 0.000 0.000	50.000	90.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.771 7.292 7.807 8.869 11.116	5.701 6.552 7.329 8.938 12.371	0.041 0.095 0.160 0.312 0.736
(2) AIR21 w/Mount Pipe (P-T-Mobile)	B	From Leg	4.000 0.000 0.000	70.000	90.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.771 7.292 7.807 8.869 11.116	5.701 6.552 7.329 8.938 12.371	0.041 0.095 0.160 0.312 0.736
(2) AIR21 w/Mount Pipe (P-T-Mobile)	A	From Leg	4.000 0.000 0.000	60.000	90.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.771 7.292 7.807 8.869 11.116	5.701 6.552 7.329 8.938 12.371	0.041 0.095 0.160 0.312 0.736
*****									
(4) 844G65VTZASX w/ Mount Pipe (E-Nextel)	C	From Leg	4.000 0.000 0.000	0.000	78.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.132 6.594 7.064 8.037 10.117	5.205 5.894 6.591 8.037 11.188	0.034 0.084 0.144 0.283 0.672
(4) 844G65VTZASX w/ Mount Pipe (E-Nextel)	B	From Leg	4.000 0.000 0.000	0.000	78.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.132 6.594 7.064 8.037 10.117	5.205 5.894 6.591 8.037 11.188	0.034 0.084 0.144 0.283 0.672
(4) 844G65VTZASX w/ Mount Pipe (E-Nextel)	A	From Leg	4.000 0.000 0.000	0.000	78.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.132 6.594 7.064 8.037 10.117	5.205 5.894 6.591 8.037 11.188	0.034 0.084 0.144 0.283 0.672
Platform Mount [LP 304-1] (E-Nextel)	C	None		0.000	78.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	17.460 22.440 27.420 37.380 57.300	17.460 22.440 27.420 37.380 57.300	1.349 1.625 1.900 2.451 3.554
*****									

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	101 - 48	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-20.189	1.268	-1.218
			Max. Mx	11	-12.540	615.370	-2.450
			Max. My	8	-12.543	2.378	-612.971
			Max. Vy	11	-18.306	615.370	-2.450
			Max. Vx	8	18.218	2.378	-612.971
			Max. Torque	13			2.792
L2	48 - 1	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-34.835	1.687	-1.656

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	11	-24.684	1762.706	-6.590
			Max. My	8	-24.684	6.543	-1755.631
			Max. Vy	11	-25.056	1762.706	-6.590
			Max. Vx	8	24.969	6.543	-1755.631
			Max. Torque	13			2.993

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	23	34.835	5.334	-3.080
	Max. H_x	11	24.697	25.043	-0.075
	Max. H_z	2	24.697	-0.075	24.956
	Max. M_x	2	1754.790	-0.075	24.956
	Max. M_z	5	1761.960	-25.043	0.075
	Max. Torsion	13	2.993	12.456	21.575
	Min. Vert	1	24.697	0.000	0.000
	Min. H_x	5	24.697	-25.043	0.075
	Min. H_z	8	24.697	0.075	-24.956
	Min. M_x	8	-1755.631	0.075	-24.956
	Min. M_z	11	-1762.706	25.043	-0.075
	Min. Torsion	7	-2.993	-12.456	-21.575

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	24.697	0.000	0.000	0.414	0.367	0.000
Dead+Wind 0 deg - No Ice	24.697	0.075	-24.956	-1754.790	-5.800	-2.285
Dead+Wind 30 deg - No Ice	24.697	12.587	-21.650	-1522.719	-886.138	-0.964
Dead+Wind 60 deg - No Ice	24.697	21.726	-12.543	-882.527	-1528.937	0.615
Dead+Wind 90 deg - No Ice	24.697	25.043	-0.075	-5.752	-1761.960	2.030
Dead+Wind 120 deg - No Ice	24.697	21.650	12.413	872.680	-1522.770	2.901
Dead+Wind 150 deg - No Ice	24.697	12.456	21.575	1517.392	-875.453	2.993
Dead+Wind 180 deg - No Ice	24.697	-0.075	24.956	1755.631	6.542	2.284
Dead+Wind 210 deg - No Ice	24.697	-12.587	21.650	1523.561	886.883	0.963
Dead+Wind 240 deg - No Ice	24.697	-21.726	12.543	883.368	1529.683	-0.615
Dead+Wind 270 deg - No Ice	24.697	-25.043	0.075	6.590	1762.706	-2.029
Dead+Wind 300 deg - No Ice	24.697	-21.650	-12.413	-871.842	1523.514	-2.899
Dead+Wind 330 deg - No Ice	24.697	-12.456	-21.575	-1516.553	876.196	-2.993
Dead+Ice+Temp	34.835	0.000	0.000	1.656	1.687	-0.000
Dead+Wind 0 deg+Ice+Temp	34.835	0.012	-6.138	-441.605	0.740	-0.650
Dead+Wind 30 deg+Ice+Temp	34.835	3.087	-5.322	-382.709	-221.352	-0.229
Dead+Wind 60 deg+Ice+Temp	34.835	5.334	-3.080	-220.811	-383.669	0.254
Dead+Wind 90 deg+Ice+Temp	34.835	6.152	-0.012	0.709	-442.718	0.668
Dead+Wind 120 deg+Ice+Temp	34.835	5.322	3.058	222.494	-382.677	0.904
Dead+Wind 150 deg+Ice+Temp	34.835	3.065	5.309	385.118	-219.634	0.897
Dead+Wind 180 deg+Ice+Temp	34.835	-0.012	6.138	445.005	2.723	0.650
Dead+Wind 210 deg+Ice+Temp	34.835	-3.087	5.322	386.109	224.816	0.229
Dead+Wind 240 deg+Ice+Temp	34.835	-5.334	3.080	224.211	387.133	-0.254
Dead+Wind 270 deg+Ice+Temp	34.835	-6.152	0.012	2.692	446.182	-0.668

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 300 deg+Ice+Temp	34.835	-5.322	-3.058	-219.094	386.141	-0.904
Dead+Wind 330 deg+Ice+Temp	34.835	-3.065	-5.309	-381.717	223.098	-0.897
Dead+Wind 0 deg - Service	24.697	0.026	-8.635	-607.013	-1.762	-0.791
Dead+Wind 30 deg - Service	24.697	4.355	-7.491	-526.700	-306.426	-0.334
Dead+Wind 60 deg - Service	24.697	7.518	-4.340	-305.145	-528.883	0.213
Dead+Wind 90 deg - Service	24.697	8.665	-0.026	-1.715	-609.526	0.703
Dead+Wind 120 deg - Service	24.697	7.491	4.295	302.288	-526.748	1.005
Dead+Wind 150 deg - Service	24.697	4.310	7.465	525.406	-302.727	1.037
Dead+Wind 180 deg - Service	24.697	-0.026	8.635	607.854	2.509	0.791
Dead+Wind 210 deg - Service	24.697	-4.355	7.491	527.542	307.172	0.334
Dead+Wind 240 deg - Service	24.697	-7.518	4.340	305.987	529.629	-0.213
Dead+Wind 270 deg - Service	24.697	-8.665	0.026	2.556	610.273	-0.703
Dead+Wind 300 deg - Service	24.697	-7.491	-4.295	-301.447	527.494	-1.004
Dead+Wind 330 deg - Service	24.697	-4.310	-7.465	-524.564	303.473	-1.037

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.000	-24.697	0.000	0.000	24.697	0.000	0.000%
2	0.075	-24.697	-24.956	-0.075	24.697	24.956	0.000%
3	12.587	-24.697	-21.650	-12.587	24.697	21.650	0.000%
4	21.726	-24.697	-12.543	-21.726	24.697	12.543	0.000%
5	25.043	-24.697	-0.075	-25.043	24.697	0.075	0.000%
6	21.650	-24.697	12.413	-21.650	24.697	-12.413	0.000%
7	12.456	-24.697	21.575	-12.456	24.697	-21.575	0.000%
8	-0.075	-24.697	24.956	0.075	24.697	-24.956	0.000%
9	-12.587	-24.697	21.650	12.587	24.697	-21.650	0.000%
10	-21.726	-24.697	12.543	21.726	24.697	-12.543	0.000%
11	-25.043	-24.697	0.075	25.043	24.697	-0.075	0.000%
12	-21.650	-24.697	-12.413	21.650	24.697	12.413	0.000%
13	-12.456	-24.697	-21.575	12.456	24.697	21.575	0.000%
14	0.000	-34.835	0.000	0.000	34.835	0.000	0.000%
15	0.012	-34.835	-6.138	-0.012	34.835	6.138	0.000%
16	3.087	-34.835	-5.322	-3.087	34.835	5.322	0.000%
17	5.334	-34.835	-3.080	-5.334	34.835	3.080	0.000%
18	6.152	-34.835	-0.012	-6.152	34.835	0.012	0.000%
19	5.322	-34.835	3.058	-5.322	34.835	-3.058	0.000%
20	3.065	-34.835	5.309	-3.065	34.835	-5.309	0.000%
21	-0.012	-34.835	6.138	0.012	34.835	-6.138	0.000%
22	-3.087	-34.835	5.322	3.087	34.835	-5.322	0.000%
23	-5.334	-34.835	3.080	5.334	34.835	-3.080	0.000%
24	-6.152	-34.835	0.012	6.152	34.835	-0.012	0.000%
25	-5.322	-34.835	-3.058	5.322	34.835	3.058	0.000%
26	-3.065	-34.835	-5.309	3.065	34.835	5.309	0.000%
27	0.026	-24.697	-8.635	-0.026	24.697	8.635	0.000%
28	4.355	-24.697	-7.491	-4.355	24.697	7.491	0.000%
29	7.518	-24.697	-4.340	-7.518	24.697	4.340	0.000%
30	8.665	-24.697	-0.026	-8.665	24.697	0.026	0.000%
31	7.491	-24.697	4.295	-7.491	24.697	-4.295	0.000%
32	4.310	-24.697	7.465	-4.310	24.697	-7.465	0.000%
33	-0.026	-24.697	8.635	0.026	24.697	-8.635	0.000%
34	-4.355	-24.697	7.491	4.355	24.697	-7.491	0.000%
35	-7.518	-24.697	4.340	7.518	24.697	-4.340	0.000%
36	-8.665	-24.697	0.026	8.665	24.697	-0.026	0.000%
37	-7.491	-24.697	-4.295	7.491	24.697	4.295	0.000%
38	-4.310	-24.697	-7.465	4.310	24.697	7.465	0.000%

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	0.00003407
3	Yes	4	0.00000001	0.00010103
4	Yes	4	0.00000001	0.00010333
5	Yes	4	0.00000001	0.00002987
6	Yes	4	0.00000001	0.00013397
7	Yes	4	0.00000001	0.00009275
8	Yes	4	0.00000001	0.00003582
9	Yes	4	0.00000001	0.00011597
10	Yes	4	0.00000001	0.00011268
11	Yes	4	0.00000001	0.00003161
12	Yes	4	0.00000001	0.00009255
13	Yes	4	0.00000001	0.00013484
14	Yes	4	0.00000001	0.00000001
15	Yes	4	0.00000001	0.00009664
16	Yes	4	0.00000001	0.00009985
17	Yes	4	0.00000001	0.00009995
18	Yes	4	0.00000001	0.00009686
19	Yes	4	0.00000001	0.00010092
20	Yes	4	0.00000001	0.00010076
21	Yes	4	0.00000001	0.00009784
22	Yes	4	0.00000001	0.00010182
23	Yes	4	0.00000001	0.00010195
24	Yes	4	0.00000001	0.00009810
25	Yes	4	0.00000001	0.00010090
26	Yes	4	0.00000001	0.00010082
27	Yes	4	0.00000001	0.00000001
28	Yes	4	0.00000001	0.00000001
29	Yes	4	0.00000001	0.00000703
30	Yes	4	0.00000001	0.00000001
31	Yes	4	0.00000001	0.00001298
32	Yes	4	0.00000001	0.00000827
33	Yes	4	0.00000001	0.00000001
34	Yes	4	0.00000001	0.00000912
35	Yes	4	0.00000001	0.00000849
36	Yes	4	0.00000001	0.00000001
37	Yes	4	0.00000001	0.00000808
38	Yes	4	0.00000001	0.00001317

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	101 - 48	7.970	35	0.635	0.005
L2	54 - 1	2.484	35	0.417	0.001

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
115.000	25' Omni	35	7.970	0.635	0.005	53845
106.000	1" x 5' Whip	35	7.970	0.635	0.005	53845
103.500	Lighting Rod 3/4" x 7'	35	7.970	0.635	0.005	53845
103.000	3' Yagi	35	7.970	0.635	0.005	53845
101.000	DC6-48-60-18-8F	35	7.970	0.635	0.005	53845
100.000	6' x 2" Mount Pipe	35	7.837	0.631	0.005	53845
90.000	(2) DTMA-1.9 GHz	35	6.516	0.592	0.004	24475
87.000	MA0528-28AN w/ Mount Pipe	35	6.127	0.580	0.004	19230
86.000	Platform Mount [LP 306-1]	35	5.998	0.575	0.004	17948
78.000	(4) 844G65VTZASX w/ Mount Pipe	35	4.999	0.541	0.003	11705

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	101 - 48	23.003	10	1.832	0.014
L2	54 - 1	7.173	10	1.203	0.004

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
115.000	25' Omni	10	23.003	1.832	0.014	18691
106.000	1" x 5' Whip	10	23.003	1.832	0.014	18691
103.500	Lighting Rod 3/4" x 7'	10	23.003	1.832	0.014	18691
103.000	3' Yagi	10	23.003	1.832	0.014	18691
101.000	DC6-48-60-18-8F	10	23.003	1.832	0.014	18691
100.000	6' x 2" Mount Pipe	10	22.619	1.821	0.014	18691
90.000	(2) DTMA-1.9 GHz	10	18.806	1.707	0.011	8496
87.000	MA0528-28AN w/ Mount Pipe	10	17.684	1.673	0.011	6675
86.000	Platform Mount [LP 306-1]	10	17.313	1.661	0.010	6230
78.000	(4) 844G65VTZASX w/ Mount Pipe	10	14.429	1.563	0.009	4062

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 $\frac{P}{P_a}$
L1	101 - 48 (1)	TP40.72x28x0.313	53.000	0.000	0.0	39.000	38.846	-12.538	1514.980	0.008

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 $\frac{P}{P_a}$
L2	48 - 1 (2)	TP51.37x38.655x0.375	53.000	0.000	0.0	39.000	61.003	-24.684	2379.110	0.010

Pole Bending Design Data

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L1	101 - 48 (1)	TP40.72x28x0.313	616.732	19.896	39.000	0.510	0.000	0.000	39.000	0.000
L2	48 - 1 (2)	TP51.37x38.655x0.375	1766.425	27.710	39.000	0.711	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 $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_{vt} ksi	Allow. F_{vt} ksi	Ratio $\frac{f_{vt}}{F_{vt}}$
L1	101 - 48 (1)	TP40.72x28x0.313	18.351	0.472	26.000	0.037	0.552	0.009	26.000	0.000
L2	48 - 1 (2)	TP51.37x38.655x0.375	25.100	0.411	26.000	0.032	0.615	0.005	26.000	0.000

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	101 - 48 (1)	0.008	0.510	0.000	0.037	0.000	0.519 ✔	1.333	H1-3+VT ✔
L2	48 - 1 (2)	0.010	0.711	0.000	0.032	0.000	0.721 ✔	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	101 - 48	Pole	TP40.72x28x0.313	1	-12.538	2019.468	38.9	Pass
L2	48 - 1	Pole	TP51.37x38.655x0.375	2	-24.684	3171.353	54.1	Pass
						Summary		
						Pole (L2)	54.1	Pass
						RATING =	**54.1**	**Pass**

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

TIA Rev F

Site Data

USID#: *25975*
Site Name: *Meriden West Central, CT*

Pole Manufacturer:	*Other*

Reactions		
Moment:	1766	ft-kips
Axial:	25	kips
Shear:	25	kips

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

Anchor Rod Data		
Qty:	20	
Diam:	2.5	in
Rod Material:	Other	
Strength (Fu):	65	ksi
Yield (Fy):	50	ksi
Bolt Circle:	59	in

Anchor Rod Results

Maximum Rod Tension:	70.6 Kips	Rigid
Allowable Tension:	140.4 Kips	Service, ASD
Anchor Rod Stress Ratio:	50.3% Pass	Fty*ASIF

Plate Data		
Diam:	69	in
Thick:	3	in
Grade:	36	ksi
Single-Rod B-eff:	8.17	in

Base Plate Results

	Flexural Check	Rigid
Base Plate Stress:	14.0 ksi	Service ASD
Allowable Plate Stress:	36.0 ksi	0.75*Fy*ASIF
Base Plate Stress Ratio:	38.9% Pass	Y.L. Length: 29.02

Stiffener Data (Welding at both sides)		
Config:	0	*
Weld Type:		
Groove Depth:		in **
Groove Angle:		degrees
Fillet H. Weld:		<-- Disregard
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

n/a

Stiffener Results

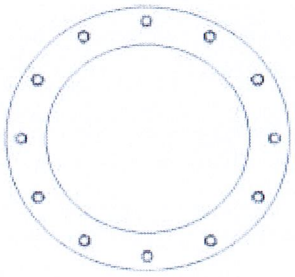
Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	n/a
Plate Comp. (AISC Bracket):	n/a

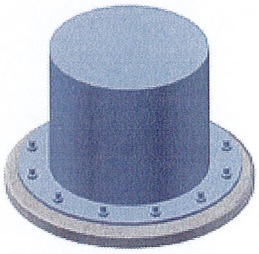
Pole Data		
Diam:	51.37	in
Thick:	0.375	in
Grade:	65	ksi
# of Sides:	16	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Pole Results

Pole Punching Shear Check: n/a

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

USID#: *25975*
Site Name: *Meriden West Central, CT*

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:	7.5	ft
Pad Thickness, T:	2.5	ft
Pad Width=Length, L:	20	ft
Pier Cross Section Shape:	Square	<--Pull Down
Enter Pier Side Width:	8	ft
Concrete Density:	150.0	pcf
Pier Cross Section Area:	64.00	ft^2
Pier Height:	6.00	ft
Soil (above pad) Height:	5.00	ft

Soil Parameters		
Unit Weight, γ:	110.0	pcf
Ultimate Bearing Capacity, qn:	8.00	ksf
Strength Reduct. factor, ϕ:	0.75	
Angle of Friction, Φ:	30.0	degrees
Undrained Shear Strength, Cu:	0.00	ksf
Allowable Bearing: ϕ*qn:	6.00	ksf
Passive Pres. Coeff., Kp	3.00	

Forces/Moments due to Wind and Lateral Soil		
Minimum of (φ*Ultimate Pad Passive Force, Vu):	33.8	kips
Pad Force Location Above D:	1.17	ft
ϕ(Passive Pressure Moment):	39.38	ft-kips
Factored O.T. M(WL), "1.6W":	2679.4	ft-kips
Factored OT (MW-Msoil), M1	2640.04	ft-kips

Resistance due to Foundation Gravity		
Soil Wedge Projection grade, a:	2.89	ft
Sum of Soil Wedges Wt:	36.37	kips
Soil Wedges ecc, K1:	7.88	ft
Ftg+Soil above Pad wt:	392.4	kips
Unfactored (Total ftg-soil Wt):	428.77	kips
1.2D. **No Soil Wedges.**	523.59	kips
0.9D. **With Soil Wedges**	433.86	kips

Resistance due to Cohesion (Vertical)		
ϕ*(1/2*Cu)(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:	15.8	kips
Unfactored WL Axial, PW:	25	kips
Unfactored WL Shear, V:	25	kips
Unfactored WL Moment, M:	1766	ft-kips

Load Factor	Shaft Factored Loads		
1.20	1.2D+1.6W, Pu:	52.71	kips
0.90	0.9D+1.6W, Pu:	47.97	kips
1.35	Vu:	33.75	kips
	Mu:	2384.1	ft-kips

1.2D+1.6W Load Combination, Bearing Results:

(**No Soil Wedges**) [Reaction+Conc+Soil]	523.59	P1="1.2D+1.6W" (Kips)
Factored "1.6W" Overturning Moment (MW-Msoil), M1	2640.04	ft-kips

Orthogonal Direction:

ecc1 = M1/P1 =	5.04	ft
Orthogonal qu=	2.64	ksf
qu/ϕ*qn Ratio=	**44.00%**	**Pass**

Diagonal Direction:

ecc2 = (0.707M1)/P1 =	3.56	ft
Diagonal qu=	3.16	ksf
qu/ϕ*qn Ratio=	**52.68%**	**Pass**

Run <-- Press Upon Completing All Input

Overturning Stability Check

0.9D+1.6W Load Combination, Bearing Results:

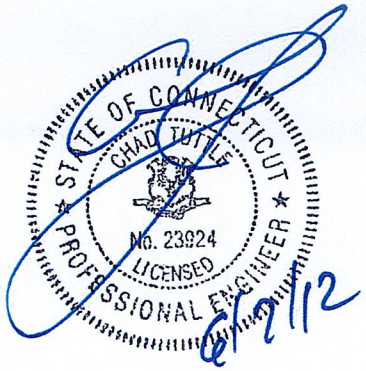
(**w/ Soil Wedges**) [Reaction+Conc+Soil]	433.86	P2="0.9D+1.6W" (Kips)
Factored "1.6W" Overturning Moment (MW-Msoil) - 0.9(M of Wedge + M of Cohesion), M2	2382.16	ft-kips

Orthogonal ecc3 = M2/P2 =	5.49	ft
Ortho Non Bearing Length,NBL=	10.98	ft
Orthogonal qu=	2.41	ksf
Diagonal qu=	2.90	ksf

Max Reaction Moment (ft-kips) so that qu=φ*qn = 100% Capacity Rating			
Actual M:	1766.00		
M Orthogonal:	2649.52	**66.65%**	**Pass**
M Diagonal:	2622.30	**67.35%**	**Pass**

at&t

Letter of Explanation (LOE)
MUST be attached to any Structural Analysis



Site Name **Meriden West Central**
Site Number **25975**
PE of Record **Chad E. Tuttle, P.E.**

ALL STRUCTURES	Statement in COL A is Correct	VARIANCE from Col A	N/A	Alternate Value / Concept Used	Explanation	Yes	No	N/A	Comments / Reference
Structure Analyzed to F Code	X								
Note: ALL G analyses MUST be justified. A simple notation of jurisdiction requirement will suffice. F BUILT TOWERS in G Code jurisdictions MUST Have the new "5% Grace" Test Applied.G to be applied ONLY where this is exceeded. This 5% test applies to "like for like" only									
Guy Tensions Adjusted Within Code to Find Optimum tension / Minimum Reinforcement (Applies to Guyed Tower Failures Only). Note : AT&T requires a pulse chart for altered Tensions			X						
Antenna Azimuths Inputted Per AT&T Information. NOTE that new antennas should be calculated at 0 degrees to allow flexibility.	X								
All Yield Stresses > = 50 ksi (legs)			X		Monopole; Shaft = 65 ksi				
All Yield Stresses > = 36 ksi (Diagonals and Horizontals))			X		Monopole				
Structures Designated Class II (G Only)			X						
Exposure B Rating Used (Topography)			X						
K value for Slenderness ratio < 1.0			X		Monopole				
Shielding of All Appurtenances Used when Appropriate PER 2.6.9.4 (G Code Only)			X						
0.75 Reduction "Shape" Factor (Figure 2.6) for platform mounts, 0.8 for T-Boom Mounts Used (G Only)			X						
Pipes and round Members have 1.0 Drag Factors. Note if Pipe is attached to flat antenna, these must be considered separately if differing Drag factors are Used		X			In compliance with the TIA-222-F Table 3				
Are Tower Diagonals Designed as "Tension Only"			X		Monopole				

	Correct								
Guyed									
Guyed Only: Reinforcement Recommendation accompanies Optimum Guy Tensioning Scenario.									
Compression Failing Legs / Diagonals / Horizontals: Effective Length Reduced by U-Bolted Member									
NOTE: Welded Solution Must be Explained and will only be considered in cases where other reinforcing methods will not work.									
Self Supporting									
Compression Failing Legs / Diagonals / Horizontals: Effective Length Reduced by U-Bolted Member									
NOTE: Welded Solution Must be Explained and will only be considered in cases where other reinforcing methods will not work.									
Monopole									
Compression Collars									
NOTE: Welded Solution Must be Explained and will only be considered in cases where other reinforcing methods will not work.									
Foundation									
Guyed Anchor Failure: Berm Solution									
SS Foundation Pad and Pier Failure Berm									
SS Foundation Caisson / Concrete Cap									
Monopole: Cap									

EXHIBIT C

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

T-Mobile Existing Facility

Site ID: CT11733B

AT&T Hunter Ambulance
462 West Main Street
Meriden, CT 06451

June 19, 2012

EBI CONSULTING
www.ebiconsulting.com

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

June 19, 2012

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Re: Emissions Values for Site CT11733B –AT&T Hunter Ambulance

EBI Consulting was directed to analyze the proposed T-Mobile facility located at 462 West Main Street, Meriden, CT, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter (μW/cm2). The general population exposure limit for the cellular band is 567 μW/cm2, and the general population exposure limit for the PCS band is 1000 μW/cm2. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 462 West Main Street, Meriden, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, the actual antenna pattern gain value in the direction of the sample area was used. For this report the sample point is a 6 foot person standing at the base of the tower

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

1) 2 GSM channels (1935.000 MHz—to 1945.000 MHz / 1980.000 MHz—to 1985.000 MHz) were considered for each sector of the proposed installation.
2) 2 UMTS channels (2110.000 MHz to 2120.000 MHz / 2140.000 MHz to 2145.000 MHz) were considered for each sector of the proposed installation
3) 2 LTE channels (2110.000 MHz to 2120.000 MHz / 2140.000 MHz to 2145.000 MHz) were considered for each sector of the proposed installation
4) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
5) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The actual gain in this direction was used per the manufactures supplied specifications.
6) The antenna used in this modeling is the Ericsson AIR21 for LTE, UMTS and GSM. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 15.6 dBd gain value at its main lobe. Actual antenna gain values were used for all calculations as per the manufacturers specifications

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7) The antenna mounting height centerline of the proposed antennas is 90 feet above ground level (AGL)
8) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

Site ID	CT11733B - AT&T Hunter Ambulance
Site Addresss	462 West Main Street, Meriden, CT 06451
Site Type	Monopole

Sector 1																	
Antenna Number	Antenna Make	Antenna Model	Status	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	90	84	None	0	0	48.326044	2.46223	0.24622%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-			0	-3.95	90	84	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	90	84	None	0	0	24.163022	1.231115	0.12311%
2B	Ericsson	AIR21 B2A / B4P	Passive	AWS - 2100 MHz	UMTS	30	2	60	-3.95	90	84	1-5/8"	0	0	24.163022	1.231115	0.12311%
														Sector total Power Density Value:			0.49245%

Sector 2																	
Antenna Number	Antenna Make	Antenna Model	Status	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	90	84	None	0	0	48.326044	2.46223	0.24622%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-			0	-3.95	90	84	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	90	84	None	0	0	24.163022	1.231115	0.12311%
28	Ericsson	AIR21 B2A / B4P	Passive	AWS - 2100 MHz	UMTS	30	2	60	-3.95	90	84	1-5/8"	0	0	24.163022	1.231115	0.12311%
														Sector total Power Density Value:			0.49245%

Sector 3																	
Antenna Number	Antenna Make	Antenna Model	Status	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	90	84	None	0	0	48.326044	2.46223	0.24622%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-			0	-3.95	90	84	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	90	84	None	0	0	24.163022	1.231115	0.12311%
28	Ericsson	AIR21 B2A / B4P	Passive	AWS - 2100 MHz	UMTS	30	2	60	-3.95	90	84	1-5/8"	0	0	24.163022	1.231115	0.12311%
														Sector total Power Density Value:			0.49245%

Site Composite MPE %	
Carrier	MPE %
T-Mobile	1.4773%
Hunter Yagi 1	7.4300%
Hunter Yagi 2	7.4300%
Hunter Yagi 3	22.2800%
Hunter Whip	7.4300%
AT&T	11.0000%
Sprint Nextel	29.0000%
Total Site MPE %	**86.047%**

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Summary

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

The anticipated Maximum Composite contributions from the T-Mobile facility are **1.477% (0.492% from each sector)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **86.047%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions

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