STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

August 18, 2009

Thomas F. Flynn III
UMTS Project Manager
T-Mobile USA, Inc.
35 Griffin Road S.
Bloomfield, CT 06002

RE: **EM-T-MOBILE-025-090713** – Omnipoint Communications, as subsidiary of T-Mobile USA, Inc. notice of intent to modify an existing telecommunications facility located at 751 Higgins Road, Cheshire, Connecticut.

Dear Mr. Flynn:

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:

- The installation of antennas and transmission lines shall be performed in accordance with Communications Structures Engineering, Inc.'s installation drawing; and

- Not more than 45 days after completion of construction, the Council shall be notified in writing that the installation was performed as specified.

The proposed modifications are to be implemented as specified here and in your notice dated July 2, 2009, including the placement of all necessary equipment and shelters within the tower compound. 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. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/MP/laf

c: The Honorable Matt Hall, Council Chairman, Town of Cheshire
Michael A. Milone, Town Manager, Town of Cheshire
William S. Voelker, AICP, Town Planner, Town of Cheshire
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

Internet: ct.gov/csc

Daniel F. Caruso
Chairman

July 14, 2009

The Honorable Matt Hall
Council Chairman
Town of Cheshire
Town Hall
84 South Main Street
Cheshire, CT 06410

RE: **EM-T-MOBILE-025-090713** – Omnipoint Communications, as subsidiary of T-Mobile USA, Inc. notice of intent to modify an existing telecommunications facility located at 751 Higgins Road, Cheshire, Connecticut.

Dear Mr. Hall:

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 28, 2009.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/jb

Enclosure: Notice of Intent

c: William S. Voelker, AICP, Town Planner, Town of Cheshire
Michael A. Milone, Town Manager, Town of Cheshire

T-Mobile®

EM-T-MOBILE-025-090713

July 2, 2009

ORIGINAL

Via Federal Express

S. Derek Phelps, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RECEIVED
JUL 13 2009
CONNECTICUT
SITING COUNCIL

Re: Notice of Exempt Modification
AT&T Co. Telecommunications Facility
751 Higgins Road, Cheshire, Connecticut
T-Mobile Site CT11220A

Dear Mr. Phelps:

Omnipoint Communications, a subsidiary of T-Mobile USA, Inc. ("T-Mobile"), intends to replace existing antennas with new antennas, add additional antennas and supplement existing ground equipment at a 260-foot self-supporting "J" Tower facility owned by **AT&T Co.**. and located at **751 Higgins Road, Cheshire** Connecticut, ("Facility"). T-Mobile is licensed by the Federal Communications Commission ("FCC") to provide PCS wireless telecommunications service in the State of Connecticut, which includes the area to be served by the proposed installation. This installation constitutes an exempt modification pursuant to the Public Utility Environmental Standards Act, Connecticut General Statutes Section 16-50g *et. seq.* ("PUESA"), and Section 16-50j-72(b)(2) of the Regulations of the Connecticut State Agencies adopted pursuant to PUESA. In accordance with R.C.S.A. Section 16-50j-73, a copy of this notice has been sent to Michael A. Milone, Town Manager, Town of Cheshire.

The existing Facility consists of a 260-foot self-supporting "J" Tower capable of supporting multiple carriers within a fenced compound. The coordinates for the Facility are **Lat: 41°-29'-15" and Long: 72°–55'-45".** The Facility is located in the central portion of Cheshire. The tower is approximately 250 feet south of Higgins Road, roughly 1 mile east of Route 10, and roughly 6 miles eat of Wilbur Cross Highway (I-15) (see Site Map, attached as Exhibit A). The tower currently supports Nextel antennas at the two hundred twelve foot (212') and two hundred (200') level centerline AGL (above ground level), Sprint antennas at the two hundred twenty-five foot (225') level centerline AGL (above ground level), Cingular antennas at the two hundred forty foot (240') level centerline AGL (above ground level), Verizon antennas at the two hundred fifty-two foot (252') level centerline AGL (above ground level), and AT&T antennas at the two hundred fifty-seven foot (257') level centerline AGL. T-Mobile currently has antennas on the tower at the two hundred twelve foot (212') level centerline AGL. The current T-Mobile antenna configuration is two antenna per sector, for a total of four antennas. T-Mobile proposes to add two new APX16DWW antennas at the same elevation. T-Mobile also intends to add a UMTS 3518 equipment to its current configuration of one existing S8000 equipment cabinet. The two cabinets will be mounted on the railing of the platform at the thirty-seven foot (37') level centerline AGL. T-Mobile's equipment will be contained within it's existing lease area. T-Mobile intends to run new coaxial cable on its existing ice bridges from its current equipment to

T-Mobile USA, Inc.
Office: (860) 692-7100
Fax: (860) 692-7159
35 Griffin Rd S
Bloomfield, CT 06002

the existing tower. Utilities will be run from existing utility sources at the Facility (See Design Drawings and Equipment Specifications, attached as Exhibits B and C respectively).

For the following reasons, the proposed modifications to the Higgins Road Facility meet the exempt modification criteria set forth in R.C.S.A. Section 16-50j-72(b)(2):

1. The proposed modification will not increase the height of the tower as T-Mobile seeks to add to its existing antenna configuration and install additional antennas at a center line height of approximately 212 feet.

2. The installation and replacement of T-Mobile's antennas and ground equipment will not require an extension of the site boundaries.

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

4. The operation of the additional antennas will not increase the total radio frequency (RF) power density, measured at the site boundary, to a level at or above the standard adopted by the Connecticut Department of Environmental Protection as set forth in Section 22a-162 of the Connecticut General Statutes and MPE limits established by the Federal Communications Commission. The worst-case RF power density calculations for the proposed T-Mobile antennas would be 11.925% of the FCC standard (see general power density calculations table, attached as Exhibit D).

   Also attached, Exhibit E, is a structural analysis confirming that the tower can support the existing and proposed antennas and associated equipment.

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

Respectfully Submitted,

Thomas F. Flynn III
UMTS Project Manager
Agent for T-Mobile

cc: Michael A. Milone, Town Manager, Town of Cheshire
AT&T Co., underlying property owners

Hartford/72800.32/CLARSON/377756v1

Exhibit A

Site Map

T-Mobile Site CT11220A

751 Higgins Road

Cheshire, Connecticut

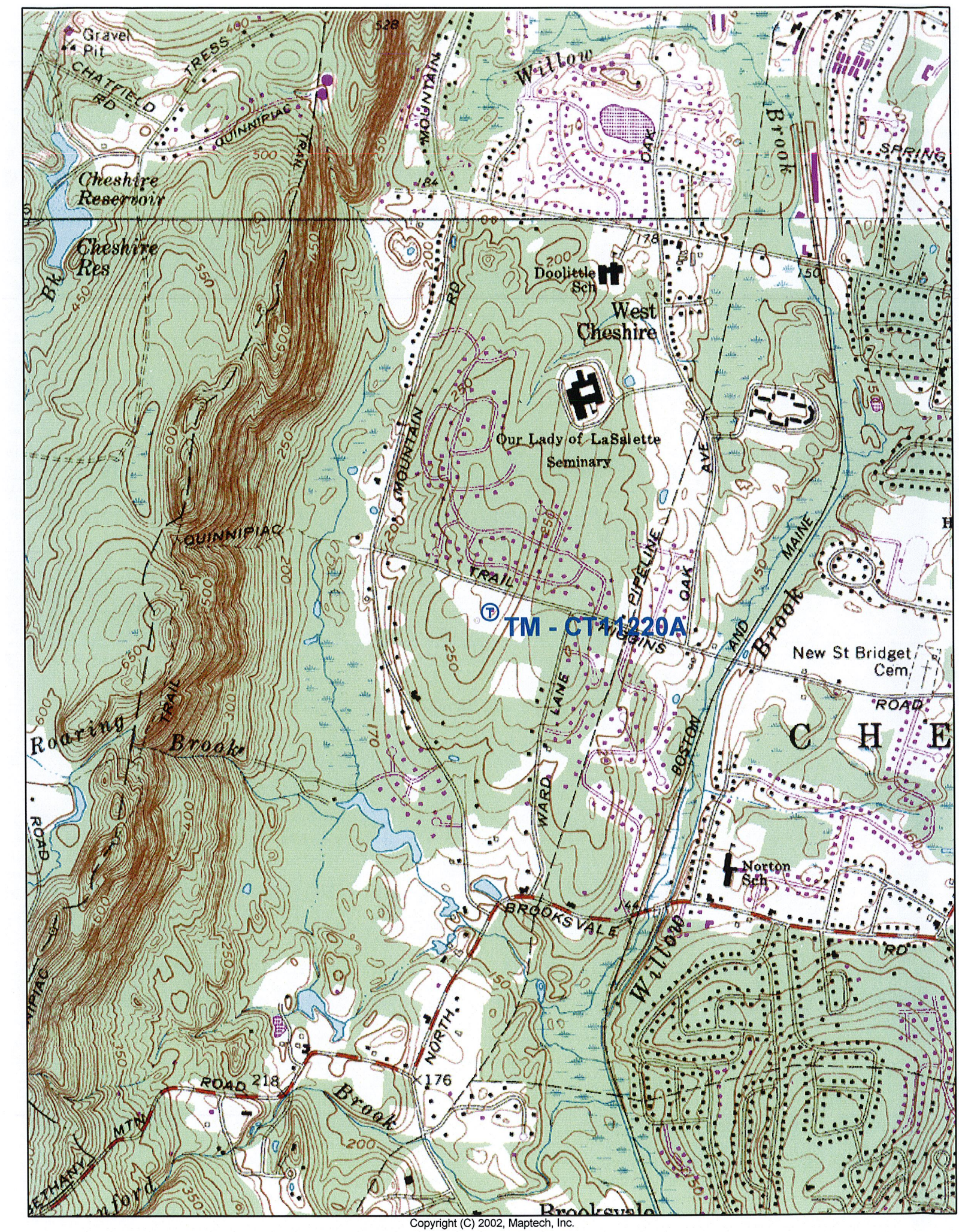


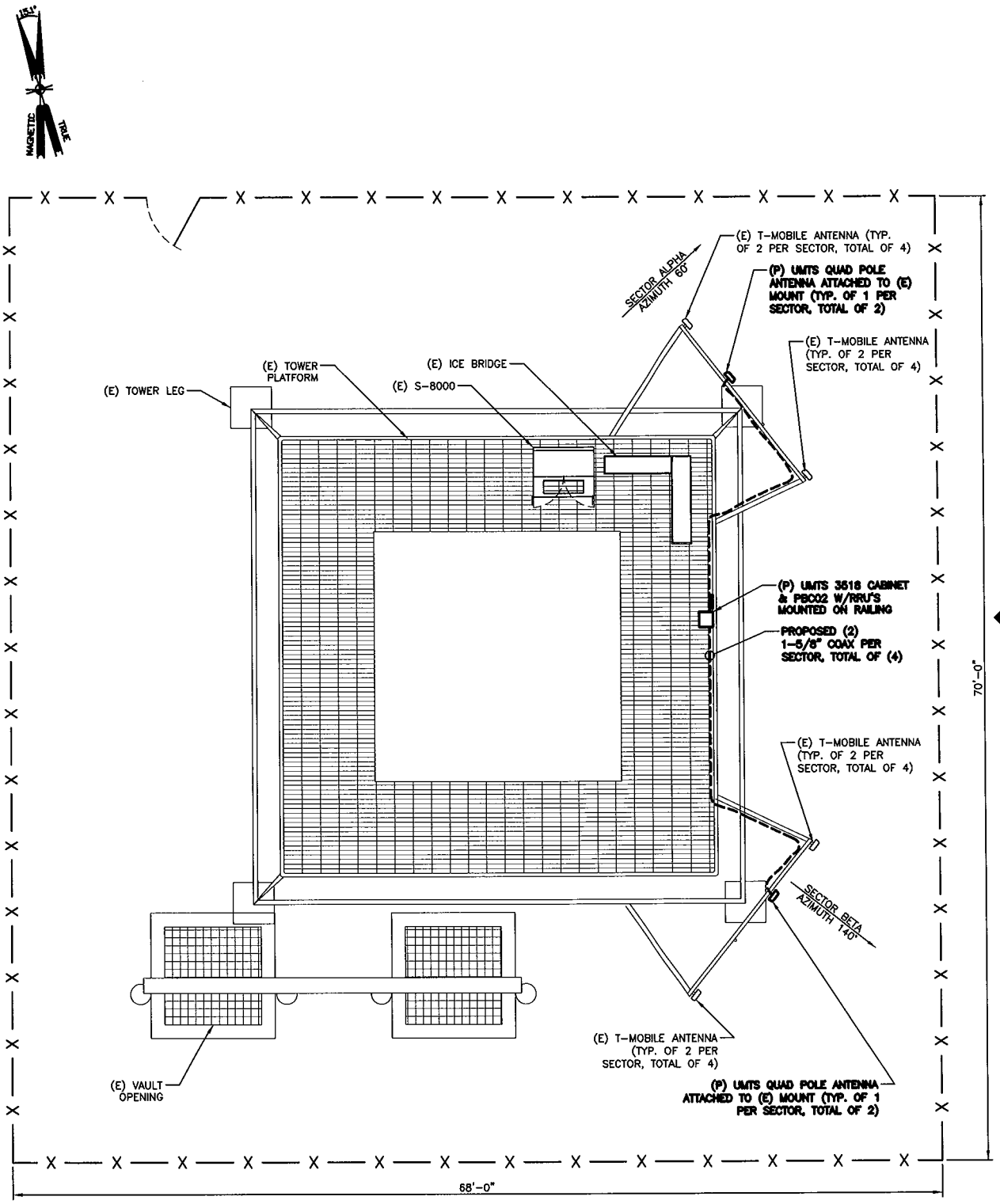
Exhibit B

Design Drawings

T-Mobile Site CT11220A

751 Higgins Road

Cheshire, Connecticut



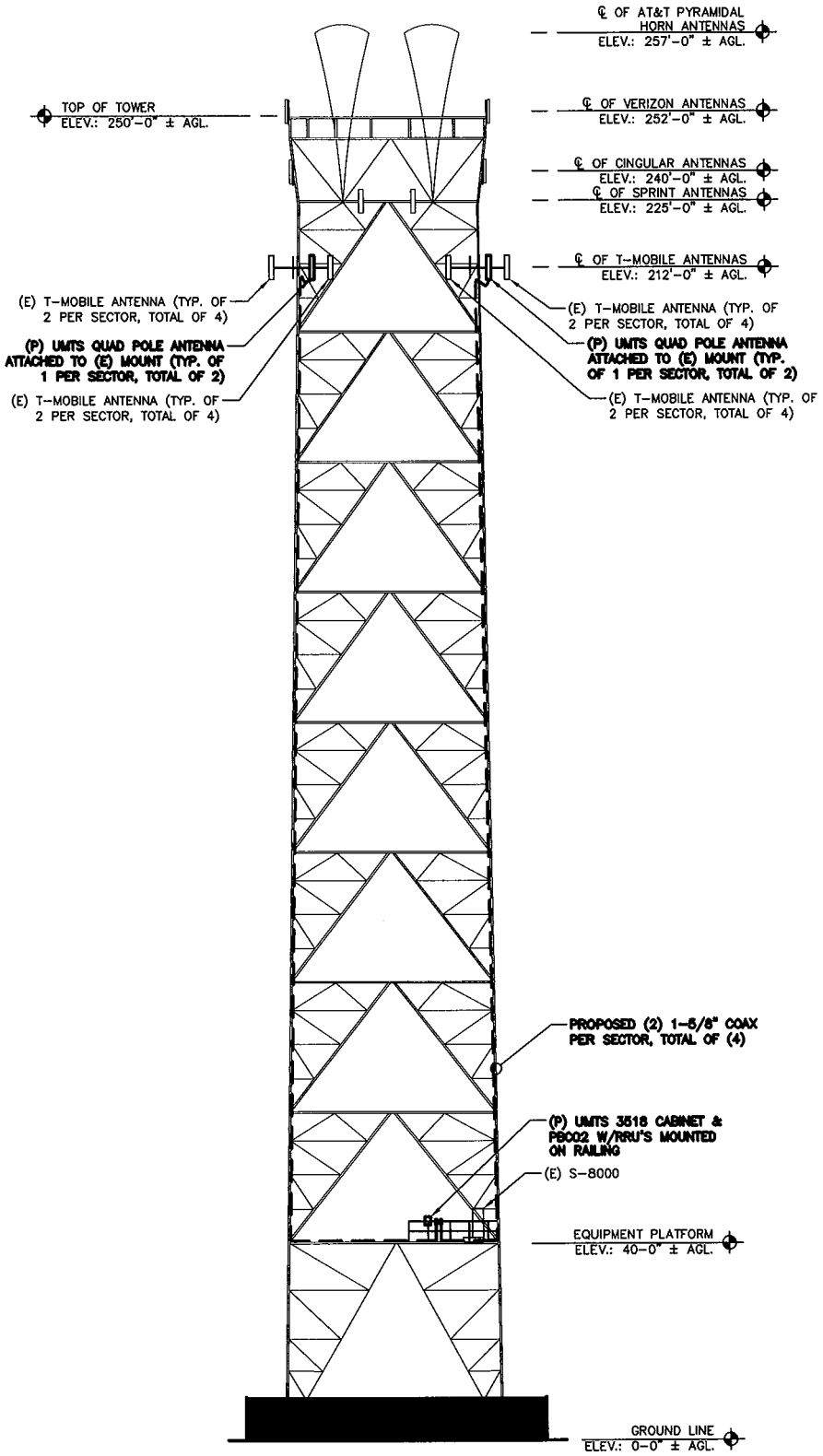
COMPOUND LAYOUT PLAN (1)

SCALE: NTS

T-Mobile
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

MAXTON
50 Eastman St.
South Easton, MA 02375
Phone: (508) 936-6303
Fax: (508) 936-6305

PROJECT LOCATION: HIGGINS ROAD CT11220A 751 HIGGINS ROAD CHESHIRE, CT	PROJECT MANAGER: KB	DRAWN BY: DM	BSDA PROJ. #: 2898.256
			SHEET: L1
APPROVED BY:	06/29/09 02/10/09 02/03/09 01/19/09	COMPOUND LAYOUT PLAN	



ELEVATION 1

SCALE: N.T.S.

T··Mobile·
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

MAXTON
50 Eastman St.
South Easton, MA 02375
Phone: (508) 936-6393
Fax: (508) 936-6395

PROJECT LOCATION: HIGGINS ROAD **CT11220A** 751 HIGGINS ROAD CHESHIRE, CT	PROJECT MANAGER: KB	DRAWN BY: DM	BSDA PROJ. #: 2898.256
	06/29/09	ELEVATION	SHEET: L2
APPROVED BY:	02/10/09		
	02/03/09		
	01/19/09		

Exhibit C

Equipment Specifications

T-Mobile Site CT11220A

751 Higgins Road

Cheshire, Connecticut

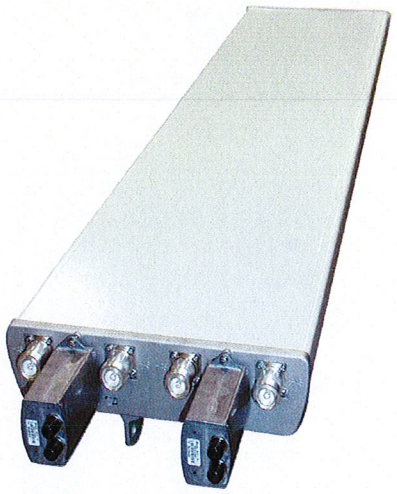
Technical Data Sheet APX16DWV-16DWV-S-E-ACU

Optimizer® Panel Dual Polarized Antenna equipped with (2) ACU motors

Product Description

Gathering two X-Polarized antennas in a single radome this pair of variable tilt antenna provides exceptional suppression of all upper sidelobes at all downtilt angles. It also features a wide downtilt range with optional remote tilt.

This antenna is optimized for performance across the entire AWS frequency band (1710-2170 MHz). The antenna comes pre-connected with the antenna control unit (ACU).



Features/Benefits

- **Variable electrical downtilt - provides enhanced precision in controlling intercell interference. The tilt is infield adjustable 0-10 deg.**
- **High Suppression of all Upper Sidelobes (Typically <-20dB).**
- **Gain difference between UL and DL <1dB.**
- **Two X-Polarised panels in a single radome.**
- **Azimuth horizontal beamwidth difference <7deg between UL and DL (1710-1755 & 2110-2155).**
- **Low profile for low visual impact.**
- **Dual polarization; Broadband design.**

Technical Features

Frequency Band	3G/UMTS
Horizontal Pattern	Directional
Antenna Type	Panel Dual Polarized
Electrical Down Tilt Option	Variable
Gain, dBi (dBd)	18.0 (16.0) Avg. across band
Frequency Range, MHz	1710-2170

Optimizer® Panel Dual Polarized Antenna equipped with (2) ACU motors

Connector Type	(4) 7-16 DIN Female
Connector Location	Bottom
Mount Type	Downtilt Kit w/Scissor Kit
Electrical Downtilt, deg	0-10 , 0-10
Horizontal Beamwidth, deg	65 ±5 (65.9 average across band)
Mounting Hardware	APM40-2 + APM40-E2
Rated Wind Speed, km/h (mph)	160 (100)
VSWR	< 1.4:1
Vertical Beamwidth, deg	5.8 to 7.8 across band
1st Upper Sidelobe Suppression, dB	> 18 (typically > 20)
Upper Sidelobe Suppression, dB	> 18 all (typically > 20)
Polarization	Dual pol +/-45°
Front-To-Back Ratio, dB	>28
Maximum Power Input, W	300
Isolation between Ports, dB	> 30
Lightning protection	Direct Ground
3rd Order IMP @ 2 x 43 dBm, dBc	> 150 (155 Typical)
Overall Length, m (ft)	1.35 (4.42)
Dimensions - HxWxD, mm (in)	1349 x 330 x 80 (53 x 13 x 3.15)
Radiating Element Material	Brass
Radome Material	Fiberglass
Reflector Material	Aluminum
Max Wind Loading Area, m² (ft²)	0.64 (6.6)
Survival Wind Speed, km/h (mph)	200 (125)
Maximum Thrust @ Rated Wind, N (lbf)	787 (177)
Front Thrust @ Rated Wind, N (lbf)	787 (177)
Shipping Weight, kg (lb)	24.1 (52.7)
Packing Dimensions, HxWxD, mm (in)	1550 x 420 x 210 (61 x 16.5 x 8.3)
Weight w/o Mtg Hardware, kg (lb)	18.0 (39.6)

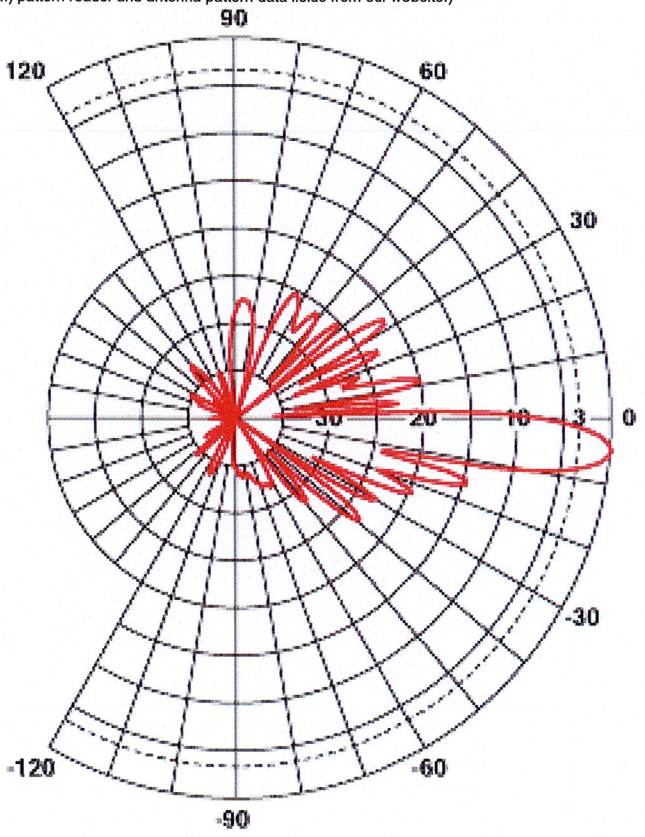
Note

This data is provisional and subject to change.

Optimizer® Panel Dual Polarized Antenna equipped with (2) ACU motors

Vertical Pattern

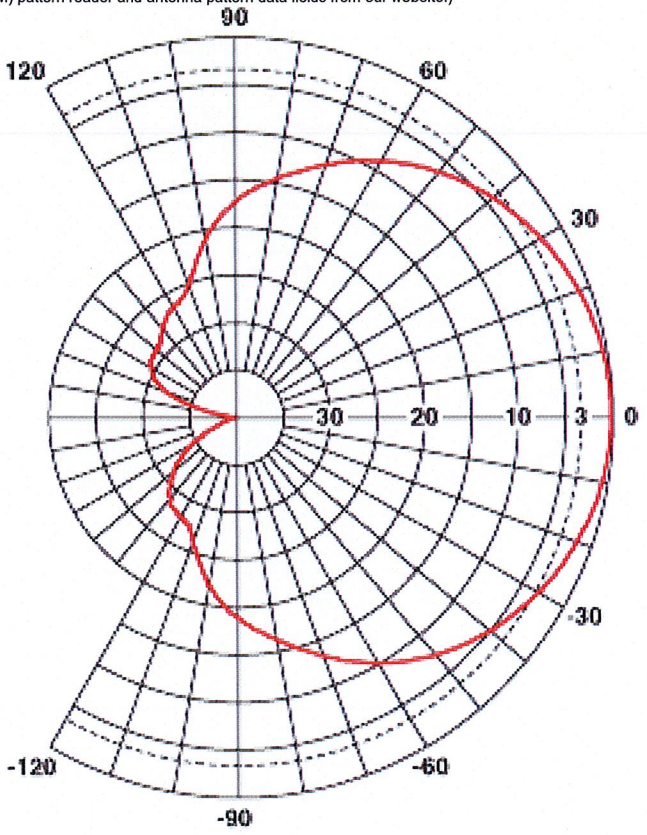
(This is a general representation of the antenna family pattern. For the latest detailed pattern contact Applications Engineering. You may also download the CELplot(TM) pattern reader and antenna pattern data fields from our website.)



Optimizer® Panel Dual Polarized Antenna equipped with (2) ACU motors

Horizontal Pattern

(This is a general representation of the antenna family pattern. For the latest detailed pattern contact Applications Engineering. You may also download the CELplot(TM) pattern reader and antenna pattern data fields from our website.)



3 Dimensions

This section describes the size, weight and color of the RBS 3518.

The RBS 3518 cabinet dimensions are shown in Table 1 on page 4and Figure 2 on page 4.

Table 1 Cabinet Dimensions of RBS 3518

Overall Dimension	**Main Unit**
Height	477 mm
Width	342 mm (out of which the external fan is 51 mm)
Depth	312 mm

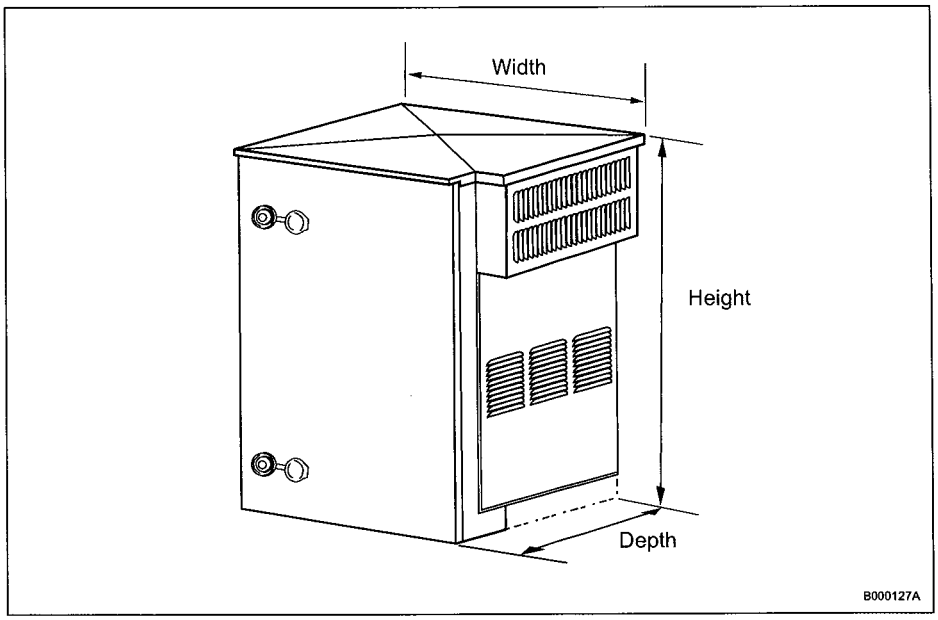


Figure 2 RBS 3518 Dimensions

When the RBS 3518 is installed on a pole, the overall dimensions should imply the dimensions together with the pole-mounting brackets, as shown in Figure 3 on page 5. Refer to Table 1 on page 4 for the width and height of the RBS 3518.

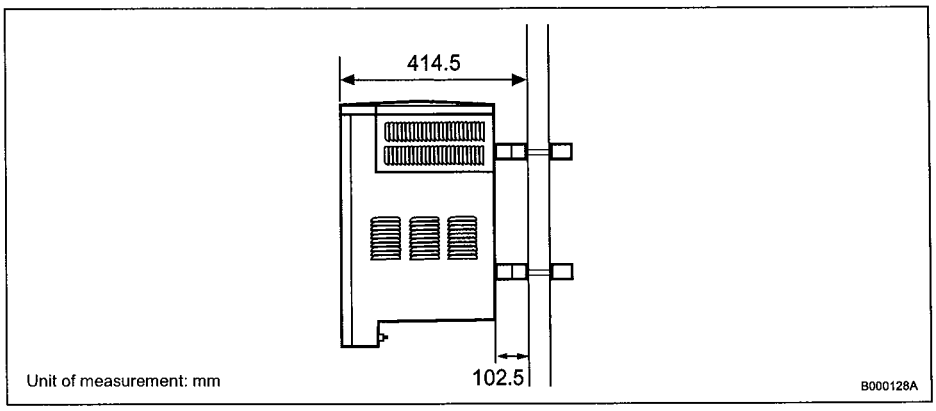


Figure 3 RBS 3518 with the Pole-Mounting Bracket

When the RBS 3518 is installed on a wall, the overall dimension values should imply the dimensions together with the wall-mounting brackets, as shown in Figure 4 on page 5. Refer to Table 1 on page 4 for the width and height of the RBS 3518.

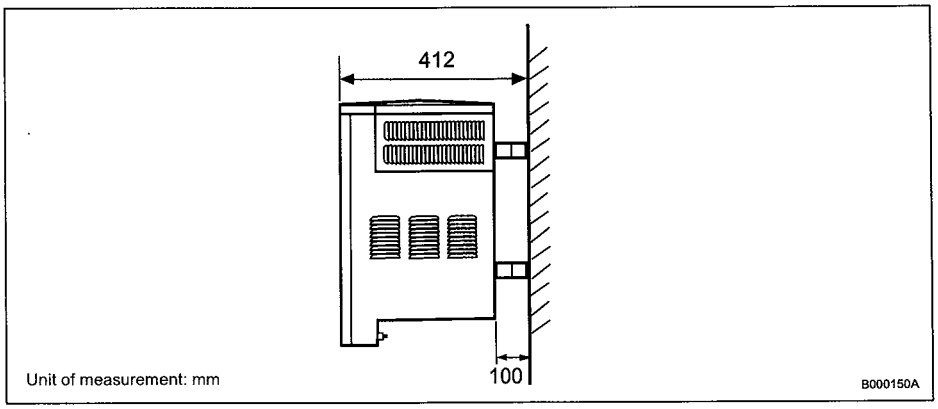


Figure 4 RBS 3518 with the Wall-Mounting Bracket

When the RBS 3518 is installed on the floor, the overall dimension values should imply the dimensions of the stand as well. See Table 2 on page 5 and Figure 5 on page 6 for more detail.

Table 2 Overall Dimensions of RBS 3518 with the Stand

Overall Dimension	**Main Unit with the Stand**
Height	817 mm
Width	430 mm
Depth	452.5 mm

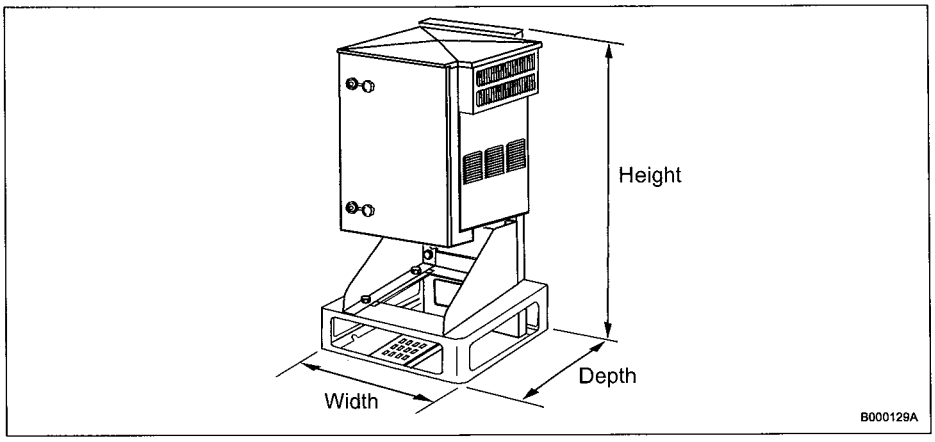


Figure 5 Overall Dimensions of RBS 3518 with the Stand

The RBS 3518 weight is shown in Table 3 on page 6.

Table 3 RBS 3518 Weight

Unit	Weight
Fully equipped	33 kg

The RBS 3518 color is shown in Table 4 on page 6.

Table 4 RBS 3518 Color

Color	Reference Number
Grey	LMY 904 8153/38320

Surface quality is according to Ericsson standard class A3.

4 Space Requirements

This section describes the space requirements for the various ways of installing the RBS 3518, as follows:

- On the floor
- On a wall
- On a pole

Exhibit D

Power Density Calculations

T-Mobile Site CT11220A

751 Higgins Road

Cheshire, Connecticut

Connecticut Market

T-Mobile

Worst Case Power Density

Site:	**CT11220A**
Site Address:	**751 Higgins Road**
Town:	**Cheshire**
Tower Height:	**260 ft.**
Tower Style:	**Self Support Tower**

GSM Data		UMTS Data	
Base Station TX output	20 W	Base Station TX output	40 W
Number of channels	8	Number of channels	2
Antenna Model	RR90-17-02DP	Antenna Model	APX16DWV-16DWV
Cable Size	1 5/8 in.	Cable Size	1 5/8 in.
Cable Length	220 ft.	Cable Length	220 ft.
Antenna Height	212.0 ft.	Antenna Height	212.0 ft.
Ground Reflection	1.6	Ground Reflection	1.6
Frequency	1945.0 MHz	Frequency	2.1 GHz
Jumper & Connector loss	4.50 dB	Jumper & Connector loss	1.50 dB
Antenna Gain	16.5 dBi	Antenna Gain	18.0 dBi
Cable Loss per foot	0.0116 dB	Cable Loss per foot	0.0116 dB
Total Cable Loss	2.5520 dB	Total Cable Loss	2.5520 dB
Total Attenuation	7.0520 dB	Total Attenuation	4.0520 dB
Total EIRP per Channel	52.46 dBm	Total EIRP per Channel	59.97 dBm
(In Watts)	176.13 W	(In Watts)	992.80 W
Total EIRP per Sector	61.49 dBm	Total EIRP per Sector	62.98 dBm
(In Watts)	1409.03 W	(In Watts)	1985.59 W
nsg	9.4480	nsg	13.9480
Power Density (S) =	0.007285 mW/cm^2	Power Density (S) =	0.010265 mW/cm^2
T-Mobile Worst Case % MPE =		1.7550%	

Equation Used :

$$S = \frac{(1000)(grf)^2 (Power) * 10^{(nsg/10)}}{4\pi (R)^2}$$

Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997

Co-Location Total

Carrier	% of Standard
Verizon	2.2100 %
Cingular	5.2300 %
Sprint	1.4200 %
AT&T Wireless	
Nextel	1.2300 %
MetroPCS	
Other Antenna Systems	0.0800 %
Total Excluding T-Mobile	**10.1700 %**
T-Mobile	1.7550
Total % MPE for Site	**11.9250%**

T-Mobile USA Inc.
35 Griffin Rd South, Bloomfield, CT 06002-1853
Phone: (860) 692-7100
Fax: (860) 692-7159

Technical Memo

To: Maxton
From: Farid Marbouh - Radio Frequency Engineer
cc: Jason Overbey
Subject: Power Density Report for CT11220A
Date: June 18, 2009

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the T-Mobile antenna installation on a Self Support Tower at 751 Higgins Road, Cheshire, CT. This study incorporates the most conservative consideration for determining the practical combined worst case power density levels that would be theoretically encountered from locations surrounding the transmitting location.

2. Discussion:

The following assumptions were used in the calculations:

1) The emissions from T-Mobile transmitters are in the (1935-1944.8), (1980.2-1984.8), (2140-2145), (2110-2120)MHz frequency Band.
2) The antenna array consists of two sectors, with 3 antennas per sector.
3) The model number for GSM antenna is RR90-17-02DP.
3) The model number for UMTS antenna is APX16DWV-16DWV.
4) GSM antenna center line height is 212 ft.
4) UMTS antenna center line height is 212 ft.
5) The maximum transmit power from any GSM sector is 1409.03 Watts Effective Radiated Power (EiRP) assuming 8 channels per sector.
5) The maximum transmit power from any UMTS sector is 1985.59 Watts Effective Radiated Power (EiRP) assuming 2 channels per sector.
6) All the antennas are simultaneously transmitting and receiving, 24 hours a day.
7) Power levels emitting from the antennas 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.
8) The average ground level of the studied area does not change significantly with respect to the transmitting location.

Equations given in "FCC OET Bulletin 65, Edition 97-01" were then used with the above information to perform the calculations.

3. Conclusion:

Based on the above worst case assumptions, the power density calculation from the T-Mobile antenna installation on a Self Support Tower at 751 Higgins Road, Cheshire, CT, is 0.01755 mW/cm^2. This value represents 1.755% of the Maximum Permissible Exposure (MPE) standard of 1 milliwatt per square centimeter (mW/cm^2) set forth in the FCC/ANSI/IEEE C95.1-1991. Furthermore, the proposed antenna location for T-Mobile will not interfere with existing public safety communications, AM or FM radio broadcasts, TV, Police Communications, HAM Radio communications or any other signals in the area.
The combined Power Density from other carriers is 10.17%. The combined Power Density for the site is 11.925% of the M.P.E. standard.

Exhibit E

Structural Analysis

T-Mobile Site CT11220A

751 Higgins Road

Cheshire, Connecticut

Communication Structures Engineering, Inc.

Mr. Larry Montee
AT&T Corporation National Tower Engineering
1200 Peachtree Street; Atlanta, GA 30309

June 15, 2009

Re: Structural Review of the AT&T Corporation Existing 250-ft Modified Type 'J ' Tower
AT&T Corporation Site I.D: **Cheshire CT Tower (AT&T CILI Code I.D. CHSHCTOT)**
Omnipoint Communications Site: Higgins Road; Site No. CT11220A
Location: 751 Higgins Road, Cheshire, CT, 06410; Lat. N 41° 29' 15", Long W 72° 55' 45"

Dear Mr. Montee,

Communication Structures Engineering, Inc. has completed a structural review of the existing AT&T 250-ft Modified Type 'J ' Tower located at this AT&T Corporation site known as **Cheshire, CT.** In accordance with your request, we have performed a structural analysis of this tower to check its capability to support the existing loads as well as the new loads from the proposed **T-Mobile (d.b.a. Omnipoint Communications)** antennas & transmission line additions. Per AT&T's requirements, the specific loading criteria that we utilized were those prescribed by the "*2003 International Building Code*" and "*ANSI/TIA/EIA-222-F", "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures."* In accordance with the above codes the wind speed that we utilized for the analysis of this structure was the "3 second gust wind speed" of 105-mph (equivalent to a "fastest-mile wind speed" of 85-mph) as specified for New Haven County, CT area. A description of the existing tower, the applicable design criteria, the structural analysis procedure, and a description of the results of CSEI's structural analysis follow:

EXISTING TOWER INFORMATION & DATA
The original tower at this site was built in 1967 for AT&T Long Lines as a 250-ft Type 'J ' Tower to support up to eight Western Electric KS15676 Horn Antennas on the 42-Ft X 42-Ft top antenna platform. This tower has since been modified several times when additional antennas were added. Currently only two of the KS15676 Horn Antennas are mounted at the top of the tower.

CSEI utilized the original 1967 tower design and fabrication drawings, as well as the later tower modification drawings to conduct our structural analysis of this tower. A CSEI engineer previously visited this site in 2001. At that time, CSEI climbed, photographed & reviewed the condition of the existing tower structure and confirmed equipment locations. The most current antenna information, which AT&T Corporation provided to us, was used to determine the existing tower & equipment loads for this analysis. AT&T's Tenant Specification Document, which was submitted by T-Mobile Communications, was utilized to determine the now proposed T-Mobile Communications antenna and cable replacements for this tower.

DESIGN CRITERIA
See the attached page for the applicable Design Criteria and Antenna Configuration that were used for this structural analysis.

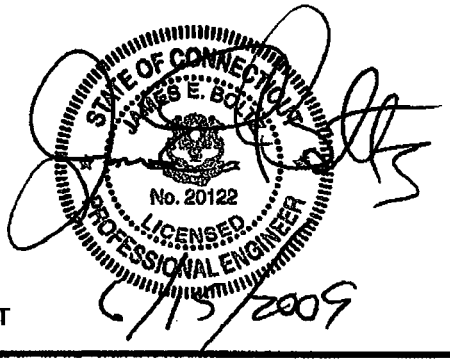
STRUCTURAL ANALYSIS PROCEDURE
The referenced design criteria combined with wind tunnel test data from tests conducted on AT&T towers, antennas and antenna platforms were utilized to determine the applicable loads for this structure. A frame analysis was performed utilizing the stated wind loads and a computer model of the tower framing modeled on Power Line Systems' "*Tower Program*". The load carrying frame members of this structure were then checked for compliance with the AISC ASD "Specification for Structural Steel Buildings" and the "*2003 International Building Code*"

RESULTS OF STRUCTURAL ANALYSIS
Our analysis determined that all of the existing tower members would have maximum stress levels that are less than the allowable stresses permitted by the AISC Specification and the "*2003 International Building Code*". The tower foundation was also found to be adequate for the proposed loads. We have therefore concluded that this existing tower is capable of supporting the existing loads as well as the proposed T-Mobile Communications additions in compliance with the "*2003 International Building Code*" & "*ANSI/TIA/EIA-222-F*" design criteria. This tower will not require any structural modifications or changes to support the listed equipment provided the T-Mobile Communications antennas and transmission lines are installed in accordance with CSEI's Installation Drawing that will be prepared for this project.

If T-Mobile Communications or any other carriers add any future additional equipment to this tower, this structure should be re-analyzed at that time.
CSEI would be happy to respond to any questions regarding this structural analysis.

Sincerely,

James E. Boltz, P.E. (CT P.E. #20122)



Attachments: 1.) Design Criteria for the AT&T Corp. 250-ft Type 'J ' Tower at Cheshire CT
2.) Structural Calculations for AT&T Corp. 250-ft Type 'J ' Tower at Cheshire CT

June 15, 2009

DESIGN CRITERIA

AT&T Tower Site: Cheshire, CT

LOCATION: 751 Higgins Road, Cheshire, CT,06410
Latitude N 41° 29' 15", Longitude W 72° 55' 45"
New Haven County, CT

DESIGN STANDARDS

2003 INTERNATIONAL BUILDING CODE
105 MPH (3 Second Gust Wind Speed)
&
ANSI/TIA/EIA-222-F
85 MPH (Fastest Mile Wind Speed)

In addition to the loads from the existing tower framing and platforms the loads from the following antennas and their associated transmission lines were considered in the analysis.

ANTENNA CONFIGURATION (Used for Structural Analysis)

Existing Antennas - *To Remain on Tower*

1.) (AT&T Corporation) Two KS15676 Pyramidal Horn Antennas at centerline of 257-ft above tower base plate and two associated WC281 (3-inch O.D.) waveguide runs.
2.) (Verizon Wireless) Six Decibel 948F85T2E-M Panel Antennas at 252-ft above tower base plate and six associated runs of 1.625 inch diameter coaxial cable.
3.) (Verizon Wireless) Six Antel LPA-80063/6CF Panel Antennas at 252-ft above tower base plate and six associated runs of 1.625 inch diameter coaxial cable.
4.) (SNET) Three Panel Antennas at 252-ft above tower base plate and three associated runs of 1.625 inch diameter coaxial cable.
5.) (SNET) Six Panel Antennas at 240-ft above tower base plate and six associated runs of 1.625 inch diameter coaxial cable.
6.) (Sprint PCS) Six Decibel DB980H65 Panel Antennas at 225-ft above tower base plate and six associated runs of 1.625 inch diameter coaxial cable.
7.) (SGI) Three PGI-NOF Panel Antennas at 199-ft above tower base plate and three associated runs of 0.875 inch diameter coaxial cable.
8.) (T-Mobile) Four EMS RR90-17-02 Dual Pole Panel Antennas at approximately 212-ft above tower base plate and (8) eight associated runs of 1.625 inch diameter coaxial cable.
9.) (Nextel Communications) Nine Decibel DB844H90 Panel Antennas (six at 212-ft & three @ 200-ft) above tower base plate and nine associated runs of 1.625 inch diameter coaxial cable.
10.) (AT&T Mobility) Six Allgon 7250.03 Panel Antennas at 170-ft above tower base plate and twelve associated runs of 1.625 inch diameter coaxial cable.
11.) (T-Mobile) One 6-ft x 6ft X 8-ft (Model S-8000) Equipment Cabinet supported on the tower platform at 37-ft AGL. Includes Power & Telco Lines up to this T-Mobile equipment.

New (Proposed) T-Mobile Antennas - *To Be Added on Tower*

1.) (T-Mobile) Two RFS APX16DWV-16DWVS Quad Pole Panel Antennas at 212-ft above tower base plate and four new runs of 1.625 inch diameter coaxial cable and two R.E.T. cables (.375 inch or smaller).
2.) (T-Mobile) One UMTS 3518 Equipment Cabinet & PBC02 W/RRU's supported on the platform at 37-ft AGL Includes Power & Telco Lines from grade up to this T-Mobile equipment.

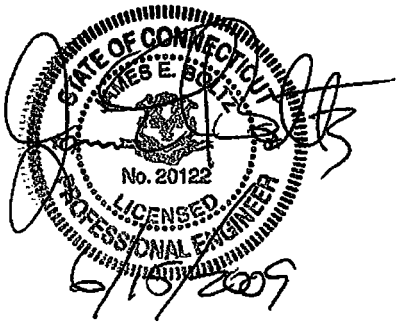
Cable Locations:

Our load calculations for this structural analysis assumes that all cable runs for customers listed in items numbered 2.) through 7.) (a total of 30 cable runs) are stacked in 3 rows on the existing 30-inch wide waveguide ladder in the middle of the south face of the tower. This assumption agrees with the latest information that we were provided.

COMMUNICATION STRUCTURES ENGINEERING, INC.
5579-B Chamblee Dunwoody Rd. /Suite 517
Dunwoody, GA 30338 (770) 951-8080

STRUCTURAL CALCULATIONS
FOR
AT&T Owned 250-ft Type 'J' Tower
Cheshire, CT

T-Mobile Installation



New Haven County, CT

Issue Date: June 15, 2009

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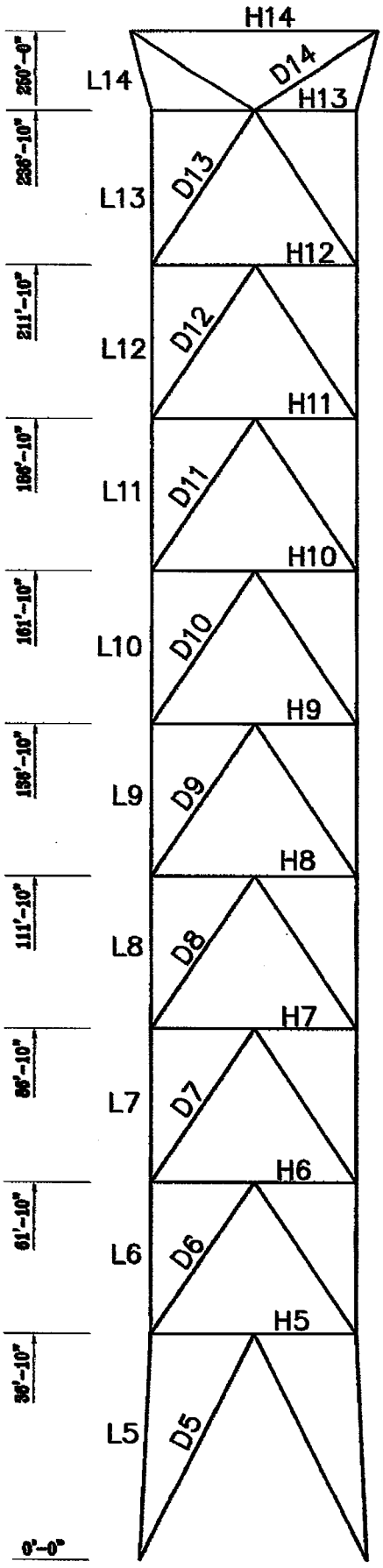
250'-0" TYPE 'J' TOWER ANALYSIS MODEL FOR CHESHIRE, CT



Communication Structures Engineering, Inc.
5579-B Chamblee Dunwoody Rd. / Suite 517
Dunwoody, Georgia 30338
(770) 951-8080

Project : Cheshire CT T-Mobile Installation on 250-ft Type J Tower

```
*****************************************************************************
*                                                                           *
* TOWER - Analysis and Design -  Copyright Power Line Systems, Inc. 1986-2006 *
*                                                                           *
*****************************************************************************

Project Name : Cheshire CT T-Mobile
Project Notes:
Project File : c:\pls\tower\examples\cheshire.tow
by           : Tower Version 9.23
Licensed to  : Communication Structures Engineering Inc.

Successfully performed linear analysis

The model has 0 warnings.

Member check option: TIA/EIA 222-F
Connection rupture check: Not Checked
Crossing diagonal check: Fixed
Loads from file: c:\pls\tower\examples\cheshire.eia

Maximum element usage is 98.71% for Angle "g1X" in load case "WIND 45"
```

EIA Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Count	Member Count	Top Width (ft)	Bottom Width (ft)	Gross Area (ft^2)	Face Af Adjust Factor	Face Ar Adjust Factor	Dead Load Factor
1	250.000	236.833	12	31	40.50	33.50	487.18	1.2900	1.0000	5.280
2	236.833	211.833	16	25	33.50	33.50	837.50	2.2200	1.0000	2.560
3	211.833	186.833	16	25	33.50	33.50	837.50	1.8600	1.0000	2.470
4	186.833	161.833	16	25	33.50	33.50	837.50	2.0600	1.0000	2.130
5	161.833	136.833	16	25	33.50	33.50	837.50	1.8900	1.0000	2.020
6	136.833	111.833	16	25	33.50	33.50	837.50	1.8400	1.0000	2.040
7	111.833	86.833	16	25	33.50	33.50	837.50	1.7200	1.0000	1.840
8	86.833	61.833	16	25	33.50	33.50	837.50	1.7500	1.0000	1.850
9	61.833	36.833	16	25	33.50	33.50	837.50	1.7000	1.0000	1.850
10	36.833	0.000	12	12	33.50	37.00	1298.36	1.5300	1.0000	2.000

Equipment Library:

Equipment Property Label	Stock Number	Weight (lbs)	Wind Area (ft^2)	Ice Area (ft^2)	Shape or EIA Antenna Type	Drag Coef.	Diameter (ft)	Height (ft)
DA 250		1500.0	77.50	0.00		1.00	0.00	0.00
DA 236		400.0	26.25	0.00		1.00	0.00	0.00
DA 211		600.0	56.00	0.00		1.00	0.00	0.00
DA 186		150.0	8.75	0.00		1.00	0.00	0.00
DA 161		150.0	8.75	0.00		1.00	0.00	0.00
DA 36		300.0	48.00	0.00		1.00	0.00	0.00

Equipment Connectivity:

Equipment Label	Attach Label	Equipment Property Set	EIA Antenna Orientation Angle (deg)
P1	42P	DA 250	0.00
P2	42X	DA 250	0.00
P3	42XY	DA 250	0.00
P4	42Y	DA 250	0.00
P5	39P	DA 236	0.00
P6	39X	DA 236	0.00
P7	39XY	DA 236	0.00
P8	39Y	DA 236	0.00
P9	36P	DA 211	0.00
P10	36X	DA 211	0.00
P11	36XY	DA 211	0.00
P12	36Y	DA 211	0.00
P13	33P	DA 186	0.00
P14	33X	DA 186	0.00
P15	33XY	DA 186	0.00
P16	33Y	DA 186	0.00
P17	30P	DA 161	0.00
P18	30X	DA 161	0.00
P19	30XY	DA 161	0.00
P20	30Y	DA 161	0.00
P21	15P	DA 36	0.00
P22	15X	DA 36	0.00
P23	15XY	DA 36	0.00
P24	15Y	DA 36	0.00

Linear Appurtenances:

Description	From (ft)	To (ft)	Quantity	Shape	Width or Diameter (in)	Perimeter (in)	Unit Weight (lbs/ft)	In Face Zone	Include in Wind Load
CLIMBING LADDER	0	250	1	Flat	6	0	10	No	Yes
CIRCULAR WG	10	240	2	Round	3	0	11.4	No	Yes
COAXIAL CABLES	10	250	1	Flat	20	0	30	Yes	Yes

*** Loads Data

Loads from file: c:\pls\tower\examples\cheshire.eia

Structure Height Summary (used for calculating wind/ice adjust with height):
  Structure height above ground 250.00 (ft)
  Elevation of structure bottom for wind height adjustment: 0.00 (ft)
  Structure height for structure gust response factor: 250.00 (ft)
  Structure gust response factor, Gh: 1.0993
  Guy installation temperature: 60.00 (deg F)
  Tower Type: Rectangular Latticed

EIA Rev. F Load Cases:

Load Case Description	Dead Load Factor	Wind Load Factor	Ice Load Factor	Strength Factor	Allowable Stress Increase Factor	Basic Wind Speed (mph)	Wind Dir. (Deg)	Ice Thick. (in)	Ice Density (lbs/ft^3)	Temperature (deg F)	Point Loads	Joint Displ.
WIND 0	1.0000	1.0000	1.0000	1.0000	1.3300	85.000	0	0.0000	0.0000	60.0		
WIND 45	1.0000	1.0000	1.0000	1.0000	1.3300	85.000	45	0.0000	0.0000	60.0		
WIND 0+ICE	1.0000	1.0000	1.0000	1.0000	1.3300	73.950	0	0.5000	57.0000	30.0		
WIND 45+ICE	1.0000	1.0000	1.0000	1.0000	1.3300	73.950	45	0.5000	57.0000	30.0		

Equipment Load Case Information for "WIND 0":

Equipment Label	Equipment Property Set	Elevation Above Ground (ft)	qzGh (psf)	Ice Thick. (in)	Total Wind Area (ft^2)	Wind Incidence Angle (deg)	222-G CA	222-G CS	222-G CM	Antenna Axial Load FAM (lbs)	Antenna Side Load FSM (lbs)	Antenna Moment MM (ft-lbs)	Long. Load (lbs)	Trans. Load (lbs)	Vert. Load (lbs)
P1	DA 250	250.00	36.24	0.00	77.50	0.00							2808.73	0.00	1500.00
P2	DA 250	250.00	36.24	0.00	77.50	0.00							2808.73	0.00	1500.00
P3	DA 250	250.00	36.24	0.00	77.50	0.00							2808.73	0.00	1500.00
P4	DA 250	250.00	36.24	0.00	77.50	0.00							2808.73	0.00	1500.00
P5	DA 236	236.83	35.69	0.00	26.25	0.00							936.75	0.00	400.00
P6	DA 236	236.83	35.69	0.00	26.25	0.00							936.75	0.00	400.00
P7	DA 236	236.83	35.69	0.00	26.25	0.00							936.75	0.00	400.00
P8	DA 236	236.83	35.69	0.00	26.25	0.00							936.75	0.00	400.00
P9	DA 211	211.83	34.57	0.00	55.00	0.00							1901.14	0.00	600.00
P10	DA 211	211.83	34.57	0.00	55.00	0.00							1901.14	0.00	600.00
P11	DA 211	211.83	34.57	0.00	55.00	0.00							1901.14	0.00	600.00
P12	DA 211	211.83	34.57	0.00	55.00	0.00							1901.14	0.00	600.00
P13	DA 186	186.83	33.35	0.00	8.75	0.00							291.79	0.00	150.00
P14	DA 186	186.83	33.35	0.00	8.75	0.00							291.79	0.00	150.00
P15	DA 186	186.83	33.35	0.00	8.75	0.00							291.79	0.00	150.00
P16	DA 186	186.83	33.35	0.00	8.75	0.00							291.79	0.00	150.00
P17	DA 161	161.83	32.01	0.00	8.75	0.00							280.06	0.00	150.00
P18	DA 161	161.83	32.01	0.00	8.75	0.00							280.06	0.00	150.00
P19	DA 161	161.83	32.01	0.00	8.75	0.00							280.06	0.00	150.00
P20	DA 161	161.83	32.01	0.00	8.75	0.00							280.06	0.00	150.00

2	236.83	211.83	224.33	26.60	0.50	208.66	14.06	8.52	837.5	0.27	1.00	1.00	0.61	2.71	217.2	15675	12.50	2.00	18.75	1.20	22.50	1263	16939	21810
3	211.83	186.83	199.33	25.71	0.50	176.37	14.06	8.38	837.5	0.23	1.00	1.00	0.60	2.87	184.8	13612	12.50	2.00	18.75	1.20	22.50	1221	14833	22304
4	186.83	161.83	174.33	24.75	0.50	196.88	14.06	8.47	837.5	0.25	1.00	1.00	0.60	2.77	205.4	14065	12.50	2.00	18.75	1.20	22.50	1175	15240	23096
5	161.83	136.83	149.33	23.68	0.50	193.39	14.06	8.45	837.5	0.25	1.00	1.00	0.60	2.78	201.8	13304	12.50	2.00	18.75	1.20	22.50	1125	14429	24131
6	136.83	111.83	124.33	22.47	0.50	194.81	14.06	8.46	837.5	0.25	1.00	1.00	0.60	2.78	203.3	12685	12.50	2.00	18.75	1.20	22.50	1067	13752	25436
7	111.83	86.83	99.33	21.07	0.50	194.65	14.06	8.46	837.5	0.25	1.00	1.00	0.60	2.78	203.1	11890	12.50	2.00	18.75	1.20	22.50	1001	12891	26860
8	86.83	61.83	74.33	19.40	0.50	199.64	14.06	8.48	837.5	0.26	1.00	1.00	0.60	2.75	208.1	11122	12.50	2.00	18.75	1.20	22.50	921	12043	31250
9	61.83	36.83	49.33	17.25	0.50	199.00	14.06	8.48	837.5	0.25	1.00	1.00	0.60	2.76	207.5	9873	12.50	2.00	18.75	1.20	22.50	820	10692	33796
10	36.83	0.00	18.42	15.38	0.50	227.04	15.26	8.97	1298.4	0.19	1.00	1.00	0.59	3.04	236.0	11029	18.42	2.00	20.96	1.20	25.15	953	11983	45297

Equipment Load Case Information for "WIND 45+ICE":

Equipment Label	Equipment Property Set	Elevation Above Ground (ft)	qzGh (psf)	Ice Thick. (in)	Total Wind Area (ft^2)	Wind Incidence Angle (deg)	222-G CA	222-G CS	222-G CM	Antenna Axial Load FAM (lbs)	Antenna Side Load FSM (lbs)	Antenna Moment MM (ft-lbs)	Long. Load (lbs)	Trans. Load (lbs)	Vert. Load (lbs)
P1	DA 250	250.00	27.43	0.50	77.50	315.00							1503.26	1503.26	1500.00
P2	DA 250	250.00	27.43	0.50	77.50	315.00							1503.26	1503.26	1500.00
P3	DA 250	250.00	27.43	0.50	77.50	315.00							1503.26	1503.26	1500.00
P4	DA 250	250.00	27.43	0.50	77.50	315.00							1503.26	1503.26	1500.00
P5	DA 236	236.83	27.01	0.50	26.25	315.00							501.36	501.36	400.00
P6	DA 236	236.83	27.01	0.50	26.25	315.00							501.36	501.36	400.00
P7	DA 236	236.83	27.01	0.50	26.25	315.00							501.36	501.36	400.00
P8	DA 236	236.83	27.01	0.50	26.25	315.00							501.36	501.36	400.00
P9	DA 211	211.83	26.16	0.50	55.00	315.00							1017.51	1017.51	600.00
P10	DA 211	211.83	26.16	0.50	55.00	315.00							1017.51	1017.51	600.00
P11	DA 211	211.83	26.16	0.50	55.00	315.00							1017.51	1017.51	600.00
P12	DA 211	211.83	26.16	0.50	55.00	315.00							1017.51	1017.51	600.00
P13	DA 186	186.83	25.24	0.50	8.75	315.00							156.17	156.17	150.00
P14	DA 186	186.83	25.24	0.50	8.75	315.00							156.17	156.17	150.00
P15	DA 186	186.83	25.24	0.50	8.75	315.00							156.17	156.17	150.00
P16	DA 186	186.83	25.24	0.50	8.75	315.00							156.17	156.17	150.00
P17	DA 161	161.83	24.23	0.50	8.75	315.00							149.89	149.89	150.00
P18	DA 161	161.83	24.23	0.50	8.75	315.00							149.89	149.89	150.00
P19	DA 161	161.83	24.23	0.50	8.75	315.00							149.89	149.89	150.00
P20	DA 161	161.83	24.23	0.50	8.75	315.00							149.89	149.89	150.00
P21	DA 36	36.83	15.87	0.50	48.00	315.00							538.70	538.70	300.00
P22	DA 36	36.83	15.87	0.50	48.00	315.00							538.70	538.70	300.00
P23	DA 36	36.83	15.87	0.50	48.00	315.00							538.70	538.70	300.00
P24	DA 36	36.83	15.87	0.50	48.00	315.00							538.70	538.70	300.00

EIA Section Load Case Information for "WIND 45+ICE":

Section Label	Z of Top (ft)	Z of Bottom (ft)	Ave. Elev. Above Gnd. (ft)	qzGh (psf)	Ice Thick. (in)	Face AF (ft^2)	Face AR (ft^2)	Face RR*AR (ft^2)	Face AG (ft^2)	Face e	Face DF	Face DR	Face RR	Face CF	Face AE (ft^2)	Face WF (lbs)	NotF AAF (ft^2)	NotF CAF	NotF AAR (ft^2)	NotF CAR	NotF AAR*CAR (ft^2)	NotF WA (lbs)	Total Wind (lbs)	Total Weight (lbs)
1	250.00	236.83	243.42	27.22	0.50	155.68	16.18	10.25	487.2	0.35	1.20	1.20	0.63	2.42	199.1	13098	6.58	2.00	3.21	1.20	3.85	463	13561	64364
2	236.83	211.83	224.33	26.60	0.50	208.66	14.06	8.52	837.5	0.27	1.20	1.20	0.61	2.71	260.5	18802	12.50	2.00	18.75	1.20	22.50	1263	20065	21810
3	211.83	186.83	199.33	25.71	0.50	176.37	14.06	8.38	837.5	0.23	1.17	1.17	0.60	2.87	216.3	15933	12.50	2.00	18.75	1.20	22.50	1221	17154	22304
4	186.83	161.83	174.33	24.75	0.50	196.88	14.06	8.47	837.5	0.25	1.19	1.19	0.60	2.77	244.1	16722	12.50	2.00	18.75	1.20	22.50	1175	17897	23096
5	161.83	136.83	149.33	23.68	0.50	193.39	14.06	8.45	837.5	0.25	1.19	1.19	0.60	2.78	239.3	15776	12.50	2.00	18.75	1.20	22.50	1125	16901	24131
6	136.83	111.83	124.33	22.47	0.50	194.81	14.06	8.46	837.5	0.25	1.19	1.19	0.60	2.78	241.3	15057	12.50	2.00	18.75	1.20	22.50	1067	16124	25436
7	111.83	86.83	99.33	21.07	0.50	194.65	14.06	8.46	837.5	0.25	1.19	1.19	0.60	2.78	241.1	14112	12.50	2.00	18.75	1.20	22.50	1001	15113	26860

8	86.83	61.83	74.33	19.40	0.50	199.64	14.06	8.48	837.5	0.26	1.19	1.19	0.60	2.75	248.0	13250	12.50	2.00	18.75	1.20	22.50	921	14172	31250
9	61.83	36.83	49.33	17.25	0.50	199.00	14.06	8.48	837.5	0.25	1.19	1.19	0.60	2.76	247.1	11756	12.50	2.00	18.75	1.20	22.50	820	12576	33796
10	36.83	0.00	18.42	15.38	0.50	227.04	15.26	8.97	1298.4	0.19	1.14	1.14	0.59	3.04	269.1	12573	18.42	2.00	20.96	1.20	25.15	953	13526	45297

*** Analysis Results:

Summary of Joint Support Reactions For All Load Cases:

Load Case	Joint Label	Long. Force (kips)	Tran. Force (kips)	Vert. Force (kips)	Shear Force (kips)	Tran. Moment (ft-k)	Long. Moment (ft-k)	Vert. Moment (ft-k)	Bending Moment (ft-k)	Found. Usage %
WIND 0	14P	-54.91	-24.09	484.49	59.96	-0.00	-0.00	-0.00	0.00	0.00
WIND 0	14X	-54.91	24.09	484.49	59.96	-0.00	-0.00	-0.00	0.00	0.00
WIND 0	14XY	-45.60	-14.77	-333.38	47.93	-0.00	-0.00	-0.00	0.00	0.00
WIND 0	14Y	-45.60	14.77	-333.38	47.93	-0.00	-0.00	-0.00	0.00	0.00
WIND 45	14P	-60.71	-60.71	731.66	85.86	-0.00	-0.00	-0.00	0.00	0.00
WIND 45	14X	-29.54	-20.22	75.56	35.80	-0.00	-0.00	-0.00	0.00	0.00
WIND 45	14XY	-51.40	-51.40	-580.55	72.68	-0.00	-0.00	-0.00	0.00	0.00
WIND 45	14Y	-20.22	-29.54	75.56	35.80	-0.00	-0.00	-0.00	0.00	0.00
WIND 0+ICE	14P	-44.10	-20.14	399.59	48.48	-0.00	-0.00	-0.00	0.00	0.00
WIND 0+ICE	14X	-44.10	20.14	399.59	48.48	-0.00	-0.00	-0.00	0.00	0.00
WIND 0+ICE	14XY	-33.93	-9.97	-234.22	35.36	-0.00	-0.00	-0.00	0.00	0.00
WIND 0+ICE	14Y	-33.93	9.97	-234.22	35.36	-0.00	-0.00	-0.00	0.00	0.00
WIND 45+ICE	14P	-48.88	-48.88	594.46	69.13	-0.00	-0.00	-0.00	0.00	0.00
WIND 45+ICE	14X	-24.57	-14.39	82.69	28.47	-0.00	-0.00	-0.00	0.00	0.00
WIND 45+ICE	14XY	-38.71	-38.71	-429.09	54.74	-0.00	-0.00	-0.00	0.00	0.00
WIND 45+ICE	14Y	-14.39	-24.57	82.69	28.47	-0.00	-0.00	-0.00	0.00	0.00

*** Overall summary for all load cases - Usage = Maximum Stress / Allowable Stress
Printed capacities do not include EIA allowable stress increase for wind load cases.
Printed capacities do not include the strength factor entered for each loadcase.

Group Summary (Compression Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Max Use In Comp. %	Comp. Control Member	Comp. Force (kips)	Comp. Control Load Case	L/R Capacity (kips)	Comp. Conn. Shear Capacity (kips)	Comp. Conn. Bearing Capacity (kips)	RLX	RLY	RLZ	L/R	Length Comp. Member (ft)	Curve No.	No. Of Bolts Comp.
L5	LEG	WF	W12 X 79	36.0	98.71	98.71	g1X	-619.161	WIND 45	471.631	0.000	0.000	0.167	0.167	0.167	24.29	36.916	1	0
L6	LEG	WF	W10 X 72	36.0	89.13	89.13	g7X	-502.975	WIND 45	424.307	0.000	0.000	0.250	0.250	0.250	28.96	25.000	1	0
L7	LEG	WF	W10 X 60	36.0	85.36	85.36	g15X	-399.619	WIND 45	351.978	0.000	0.000	0.250	0.250	0.250	29.18	25.000	1	0
L8	LEG	WF	W10 X 49	36.0	65.63	65.63	g22X	-306.873	WIND 45	351.554	0.000	0.000	0.250	0.250	0.250	29.53	25.000	1	0
L9	LEG	WF	W8 X 40	36.0	74.41	74.41	g29X	-225.113	WIND 45	227.479	0.000	0.000	0.250	0.250	0.250	36.76	25.000	1	0
L10	LEG	WF	W8 X 31	36.0	65.63	65.63	g36X	-154.714	WIND 45	177.256	0.000	0.000	0.250	0.250	0.250	37.13	25.000	1	0
L11	LEG	WF	W6 X 25	36.0	53.79	53.79	g43X	-96.668	WIND 45	135.117	0.000	0.000	0.250	0.250	0.250	49.34	25.000	1	0
L12	LEG	WF	W6 X 20	36.0	35.71	35.71	g50X	-51.156	WIND 45	107.718	0.000	0.000	0.250	0.250	0.250	50.00	25.000	1	0
L13	LEG	WF	W6 X 15.5	36.0	16.24	16.24	g57X	-17.954	WIND 45	83.125	0.000	0.000	0.250	0.250	0.250	51.37	25.000	1	0
L14	LEG	SAE	6X6X0.5	36.0	6.07	6.07	g64X	-9.068	WIND 45	112.235	0.000	0.000	0.250	0.250	0.250	35.76	14.067	1	0
D5	DIA	DAE	4X4X0.5	36.0	53.58	53.58	g14X	-75.810	WIND 0	106.387	0.000	0.000	0.167	0.333	0.167	90.17	41.255	1	0

D6	DIA	DAS	4X3X0.5	36.0	75.30	75.30	g9X	-80.731	WIND 0	80.611	0.000	0.000	0.250	0.333	0.250	104.49	30.093	1	0
D7	DIA	DAS	4X3X0.4375	36.0	77.40	77.40	g17X	-73.921	WIND 0	71.811	0.000	0.000	0.250	0.333	0.250	103.65	30.093	1	0
D8	DIA	DAS	4X3X0.4375	36.0	69.65	69.65	g24X	-66.525	WIND 0	71.811	0.000	0.000	0.250	0.333	0.250	103.65	30.093	1	0
D9	DIA	DAS	4X3X0.375	36.0	70.37	70.37	g31X	-58.762	WIND 0	62.783	0.000	0.000	0.250	0.333	0.250	102.71	30.093	1	0
D10	DIA	DAS	3.5X2.5X0.5	36.0	73.86	73.86	g38X	-50.568	WIND 0	51.476	0.000	0.000	0.250	0.333	0.250	128.24	30.093	5	0
D11	DIA	DAS	3.5X2.5X0.4375	36.0	67.36	67.36	g45X	-41.458	WIND 0	46.275	0.000	0.000	0.250	0.333	0.250	126.97	30.093	5	0
D12	DIA	DAS	3.5X2.5X0.375	36.0	59.46	59.46	g52P	-32.244	WIND 0	40.770	0.000	0.000	0.250	0.333	0.250	125.56	30.093	5	0
D13	DIA	DAS	3.5X2.5X0.375	36.0	40.53	40.53	g59P	-21.976	WIND 0	40.770	0.000	0.000	0.250	0.333	0.250	125.56	30.093	5	0
D14	DIA	DAS	3.5X2.5X0.375	36.0	14.70	14.70	g66X	-5.199	WIND 0	26.586	0.000	0.000	0.250	0.500	0.250	164.51	39.429	5	0
H5	HOR	DAL	4X3X0.4375	36.0	33.93	33.93	g4Y	-39.659	WIND 45	87.883	0.000	0.000	0.500	0.500	0.500	80.40	16.750	1	0
H6	HOR	DAL	3.5X2.5X0.375	36.0	51.74	51.74	g11XY	-40.778	WIND 0	59.257	0.000	0.000	0.500	0.500	0.500	91.36	16.750	1	0
H7	HOR	DAL	3.5X2.5X0.375	36.0	47.04	47.04	g19XY	-37.074	WIND 0	59.257	0.000	0.000	0.500	0.500	0.500	91.36	16.750	1	0
H8	HOR	DAL	3.5X2.5X0.3125	36.0	49.76	49.76	g26XY	-32.990	WIND 0	49.849	0.000	0.000	0.500	0.500	0.500	91.36	16.750	1	0
H9	HOR	DAL	3.5X2.5X0.3125	36.0	43.20	43.20	g33XY	-28.641	WIND 0	49.849	0.000	0.000	0.500	0.500	0.500	91.36	16.750	1	0
H10	HOR	DAL	3.5X2.5X0.25	36.0	45.02	45.02	g40Y	-24.040	WIND 0	40.151	0.000	0.000	0.500	0.500	0.500	92.20	16.750	1	0
H11	HOR	DAL	3.5X2.5X0.25	36.0	35.58	35.58	g47XY	-19.001	WIND 0	40.151	0.000	0.000	0.500	0.500	0.500	92.20	16.750	1	0
H12	HOR	DAL	3.5X2.5X0.25	36.0	23.38	23.38	g54XY	-12.483	WIND 0	40.151	0.000	0.000	0.500	0.500	0.500	92.20	16.750	1	0
H13	HOR	CHN	C10 X 15.3	36.0	13.98	13.98	g61XY	-8.825	WIND 0	47.469	0.000	0.000	0.500	0.500	0.500	140.95	16.750	5	0
H14	HOR	CHN	C10 X 15.3	36.0	1.22	0.00	g68X	0.000		34.974	0.000	0.000	0.250	0.250	0.250	170.41	40.500	5	0
R1	RUD	SAE	3X3X0.25	36.0	15.54	15.54	g62Y	-3.057	WIND 45	14.792	0.000	0.000	0.250	0.250	0.250	120.04	23.688	5	0

Group Summary (Tension Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Max Use In Tens. %	Tension Control Member	Tension Force (kips)	Tension Control Load Case	Net Tens. Section Capacity (kips)	Conn. Shear Capacity (kips)	Conn. Bearing Capacity (kips)	Conn. Rupture Capacity (kips)	Length Tens. Member (ft)	No. Of Bolts Tens.	No. Of Holes	Hole Diameter (in)
L5	LEG	WF	W12 X 79	36.0	98.71	72.86	g1Y	485.603	WIND 45	501.119	0.000	0.000	0.000	36.916	0	0.000	0
L6	LEG	WF	W10 X 72	36.0	89.13	63.80	g7Y	388.564	WIND 45	457.919	0.000	0.000	0.000	25.000	0	0.000	0
L7	LEG	WF	W10 X 60	36.0	85.36	59.16	g15Y	299.143	WIND 45	380.159	0.000	0.000	0.000	25.000	0	0.000	0
L8	LEG	WF	W10 X 49	36.0	65.63	43.27	g22Y	218.772	WIND 45	380.159	0.000	0.000	0.000	25.000	0	0.000	0
L9	LEG	WF	W8 X 40	36.0	74.41	44.14	g29Y	148.375	WIND 45	252.720	0.000	0.000	0.000	25.000	0	0.000	0
L10	LEG	WF	W8 X 31	36.0	65.63	33.85	g36Y	88.774	WIND 45	197.208	0.000	0.000	0.000	25.000	0	0.000	0
L11	LEG	WF	W6 X 25	36.0	53.79	19.61	g43Y	41.352	WIND 45	158.544	0.000	0.000	0.000	25.000	0	0.000	0
L12	LEG	WF	W6 X 20	36.0	35.71	3.62	g50Y	6.104	WIND 45	126.792	0.000	0.000	0.000	25.000	0	0.000	0
L13	LEG	WF	W6 X 15.5	36.0	16.24	0.00	g57Y	0.000		98.496	0.000	0.000	0.000	25.000	0	0.000	0
L14	LEG	SAE	6X6X0.5	36.0	6.07	0.00	g64Y	0.000		124.200	0.000	0.000	0.000	14.067	0	0.000	0
D5	DIA	DAE	4X4X0.5	36.0	53.58	32.36	g14XY	69.732	WIND 0	162.000	0.000	0.000	0.000	41.255	0	0.000	0
D6	DIA	DAS	4X3X0.5	36.0	75.30	40.85	g9XY	76.281	WIND 0	140.400	0.000	0.000	0.000	30.093	0	0.000	0
D7	DIA	DAS	4X3X0.4375	36.0	77.40	42.44	g17XY	69.985	WIND 0	123.984	0.000	0.000	0.000	30.093	0	0.000	0
D8	DIA	DAS	4X3X0.4375	36.0	69.65	38.21	g24XY	63.014	WIND 0	123.984	0.000	0.000	0.000	30.093	0	0.000	0
D9	DIA	DAS	4X3X0.375	36.0	70.37	38.82	g31XY	55.433	WIND 0	107.352	0.000	0.000	0.000	30.093	0	0.000	0
D10	DIA	DAS	3.5X2.5X0.5	36.0	73.86	30.00	g38XY	47.398	WIND 0	118.800	0.000	0.000	0.000	30.093	0	0.000	0
D11	DIA	DAS	3.5X2.5X0.4375	36.0	67.36	27.46	g45XY	38.414	WIND 0	105.192	0.000	0.000	0.000	30.093	0	0.000	0
D12	DIA	DAS	3.5X2.5X0.375	36.0	59.46	24.16	g52Y	29.291	WIND 0	91.152	0.000	0.000	0.000	30.093	0	0.000	0
D13	DIA	DAS	3.5X2.5X0.375	36.0	40.53	11.91	g59Y	14.439	WIND 0	91.152	0.000	0.000	0.000	30.093	0	0.000	0
D14	DIA	DAS	3.5X2.5X0.375	36.0	14.70	3.54	g66XY	4.290	WIND 0	91.152	0.000	0.000	0.000	39.429	0	0.000	0
H5	HOR	DAL	4X3X0.4375	36.0	33.93	21.71	g3XY	35.805	WIND 45	123.984	0.000	0.000	0.000	16.750	0	0.000	0
H6	HOR	DAL	3.5X2.5X0.375	36.0	51.74	35.44	g11X	42.970	WIND 0	91.152	0.000	0.000	0.000	16.750	0	0.000	0
H7	HOR	DAL	3.5X2.5X0.375	36.0	47.04	32.19	g19X	39.028	WIND 0	91.152	0.000	0.000	0.000	16.750	0	0.000	0
H8	HOR	DAL	3.5X2.5X0.3125	36.0	49.76	34.16	g26X	34.843	WIND 0	76.680	0.000	0.000	0.000	16.750	0	0.000	0
H9	HOR	DAL	3.5X2.5X0.3125	36.0	43.20	29.81	g33X	30.405	WIND 0	76.680	0.000	0.000	0.000	16.750	0	0.000	0
H10	HOR	DAL	3.5X2.5X0.25	36.0	45.02	31.10	g40X	25.734	WIND 0	62.208	0.000	0.000	0.000	16.750	0	0.000	0

H11	HOR	DAL	3.5X2.5X0.25	36.0	35.58	24.95	g47X	20.645	WIND 0	62.208	0.000	0.000	0.000	16.750	0	0.000	0
H12	HOR	DAL	3.5X2.5X0.25	36.0	23.38	20.16	g54P	16.678	WIND 0	62.208	0.000	0.000	0.000	16.750	0	0.000	0
H13	HOR	CHN	C10 X 15.3	36.0	13.98	3.72	g61P	6.277	WIND 0	127.008	0.000	0.000	0.000	16.750	0	0.000	0
H14	HOR	CHN	C10 X 15.3	36.0	1.22	1.22	g67P	2.069	WIND 0+ICE	127.008	0.000	0.000	0.000	40.500	0	0.000	0
R1	RUD	SAE	3X3X0.25	36.0	15.54	7.39	g62X	3.057	WIND 45	31.104	0.000	0.000	0.000	23.688	0	0.000	0

*** End of Report