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 28, 2009

Mark R. Richard
UMTS Project Manager
T-Mobile USA, Inc.
35 Griffin Road South
Bloomfield, CT 06002

RE: **EM-T-MOBILE-126-090630** – Omnipoint Communications, as subsidiary of T-Mobile USA, Inc. notice of intent to modify an existing telecommunications facility located at 219 Nells Rock Road, Shelton, Connecticut.

Dear Mr. Richard:

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:

- That eighteen vertical runs of coaxial cable associated with the T-Mobile panel antennas shall be stacked in two rows with one row of nine cables located directly in front of the second row of nine cables;

- T-Mobile's antennas and transmission lines shall be installed in accordance with the appropriate drawing prepared by Communication Structures Engineering, Inc.; and

- Not more than 45 days after completion of construction, the Council shall be notified in writing that such installation has been completed as specified.

The proposed modifications are to be implemented as specified here and in your notice dated June 25, 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 Mark A. Lauretti, Mayor, City of Shelton
Richard Schultz, Planning Administrator, City of Shelton
SBA Network Services, Inc.
Carrie L. Larson, Esq., Pullman & Comley, LLC

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 8, 2009

The Honorable Mark A. Lauretti
Mayor
City of Shelton
54 Hill Street
P. O. Box 364
Shelton, CT 06484

RE: **EM-T-MOBILE-126-090630** – Omnipoint Communications, as subsidiary of T-Mobile USA, Inc. notice of intent to modify an existing telecommunications facility located at 219 Nells Rock Road, Shelton, Connecticut.

Dear Mayor Lauretti:

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 22, 2009.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/jb

Enclosure: Notice of Intent

c: Richard Schultz, Planning Administrator, City of Shelton

T-Mobile

EM-T-MOBILE-126-090630

June 25, 2009

Via Federal Express

ORIGINAL

RECEIVED
JUN 30 2009
CONNECTICUT
SITING COUNCIL

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

Re: Notice of Exempt Modification
AT&T Mobility Telecommunications Facility
219 Nells Rock Road, Shelton, Connecticut
T-Mobile Site CT11199A

Dear Mr. Phelps:

Omnipoint Communications, a subsidiary of T-Mobile USA, Inc. ("T-Mobile"), intends to replace existing antennas with new model antennas and supplement existing ground equipment at a 165-foot self-supporting lattice tower facility owned by **AT&T Corp.** and located at **219 Nells Rock Road, Shelton**, 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 Mark A. Lauretti, Mayor, Town of Shelton.

The existing Facility consists of a 165-foot self-supporting lattice tower capable of supporting multiple carriers within a fenced compound. The coordinates for the Facility are **Lat: 41°-18'-15" and Long: 73°–07'-06".** The tower is located in the eastern portion of Shelton. The tower is approximately 350 feet east of Nells Rock Road and roughly 4000 feet east of Shelton Road (Route 8) (see Site Map, attached as Exhibit A). The tower currently supports Sprint antennas at the one hundred forty-nine foot (149') level centerline AGL (above ground level), and AT&T antennas at the one hundred sixty-five foot (165') level centerline AGL. The tower also currently supports multiple municipal, radio and public safety whip and dish style antennas at various levels. The current T-Mobile antenna configuration is six antennas at the one hundred thirty-five foot (135') level centerline AGL. T-Mobile proposes to replace the six existing antennas. The antenna configuration will remain the same; one antenna per sector for a total of three. T-Mobile proposes to install six new APXV16-DWV antennas on existing mounts (one per sector) to replace the six existing antennas at the same elevation (135') level centerline AGL. T-Mobile also intends to add a UMTS 3206 BTS equipment cabinet to its current configuration of one existing S8000 equipment cabinet. The cabinet will be mounted on an existing concrete pad, located within the compound. T-Mobile's equipment will be contained within its existing lease area. T-Mobile intends to run new coaxial cable on its existing ice

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

bridges from its current equipment pad to 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). **There is a pending installation for Verizon antennas to be located at one hundred twenty-five foot (125') level centerline that is included in the structural report attached (Exhibit E).

For the following reasons, the proposed modifications to the Nells Rock 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 replace six existing ones, at a center line height of approximately 135 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 15.4656% 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,

Mark Richard
UMTS Project Manager
Agent for T-Mobile

cc: Mark A. Lauretti, Mayor, Town of Shelton.
AT&T Mobility, underlying property owners
Shelton R & B Dev LLC, underlying property owners

35 Griffin Rd S
Bloomfield, CT 06002

Exhibit A

Site Map

T-Mobile Site CT11199A

219 Nells Rock Road

Shelton, Connecticut

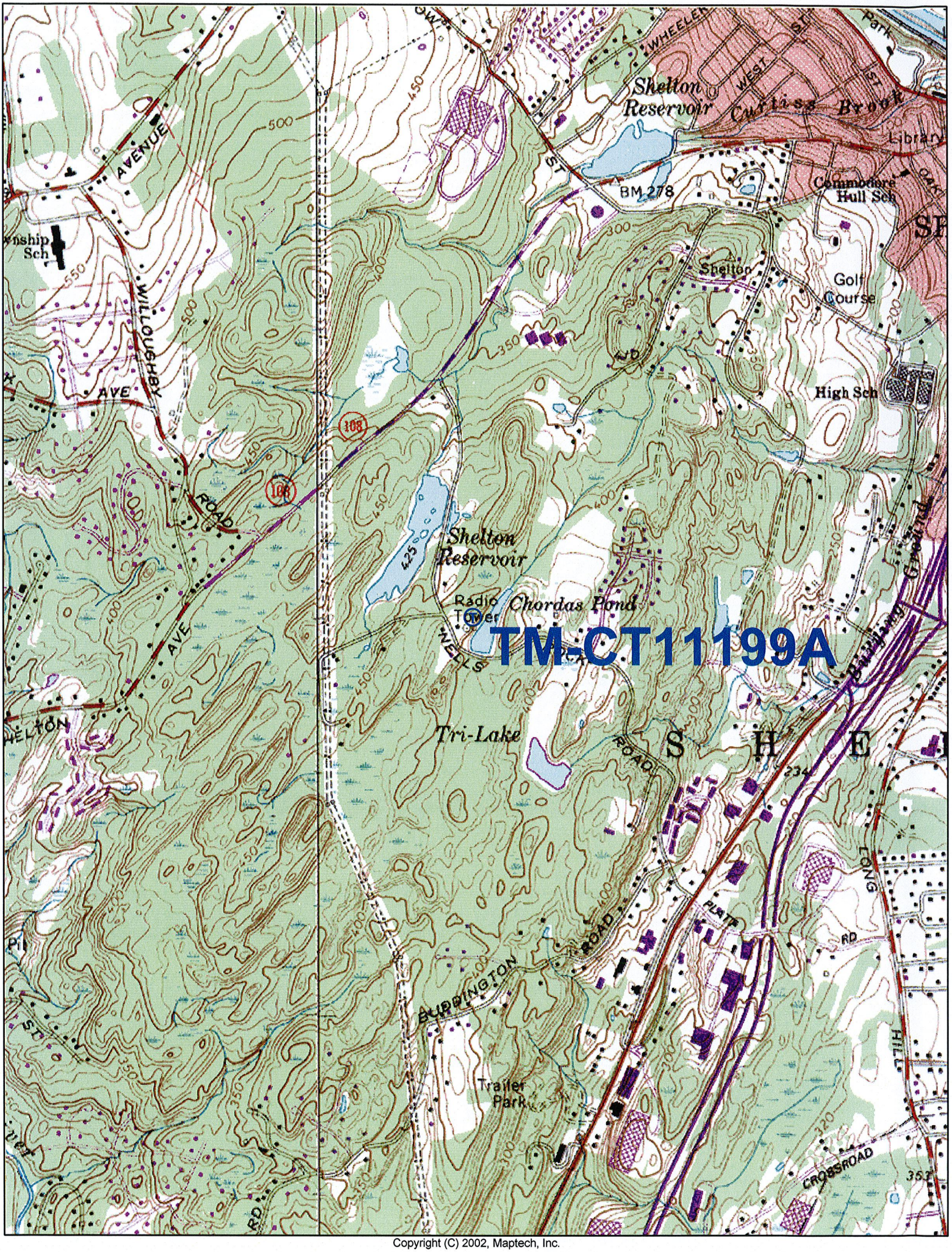


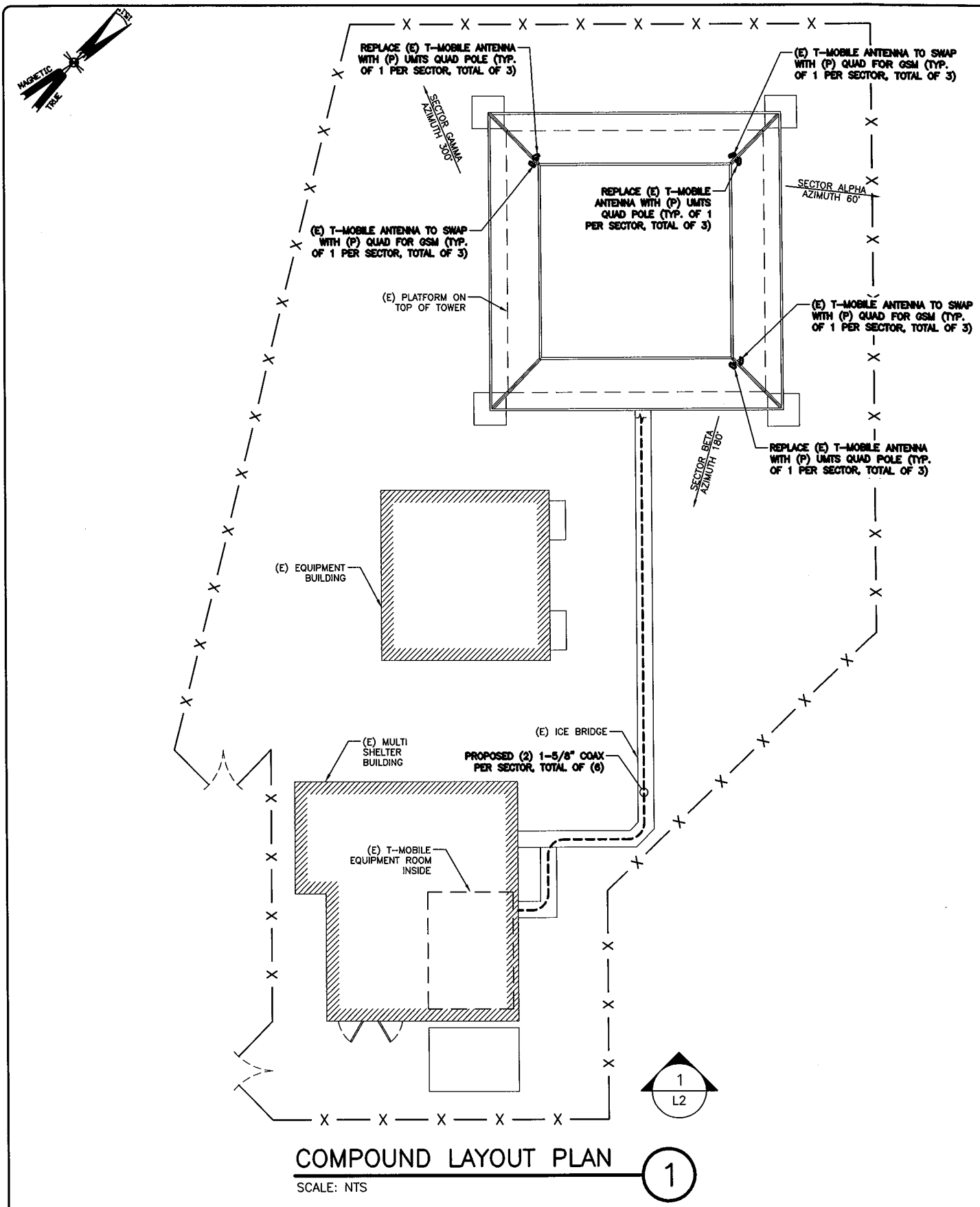
Exhibit B

Design Drawings

T-Mobile Site CT11199A

219 Nells Rock Road

Shelton, Connecticut



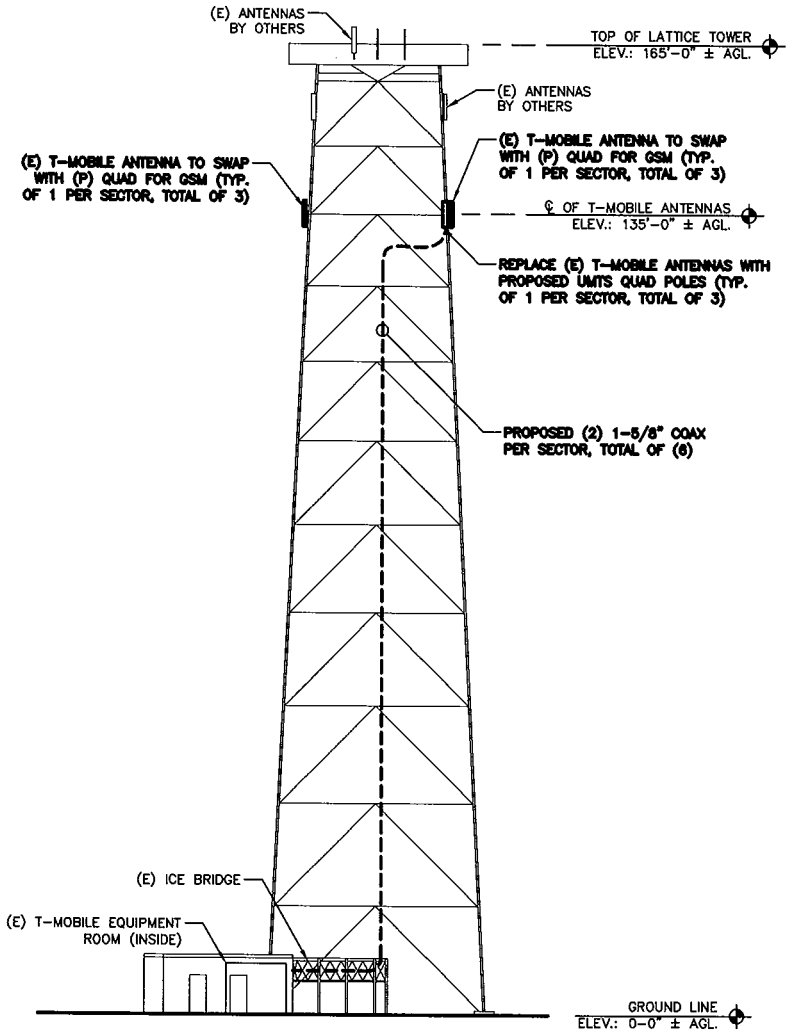
COMPOUND LAYOUT PLAN 1

SCALE: NTS

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

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

PROJECT LOCATION: SHELTON/BUDDINGTON RD_1 **CT11199A** 219 NELLS ROCK ROAD SHELTON, CT	PROJECT MANAGER: KB	DRAWN BY: JRK	BSDA PROJ. #: 2898.246
			SHEET: L1
	REV. 2	COMPOUND LAYOUT PLAN	
APPROVED BY:	REV. 1 01/14/09		



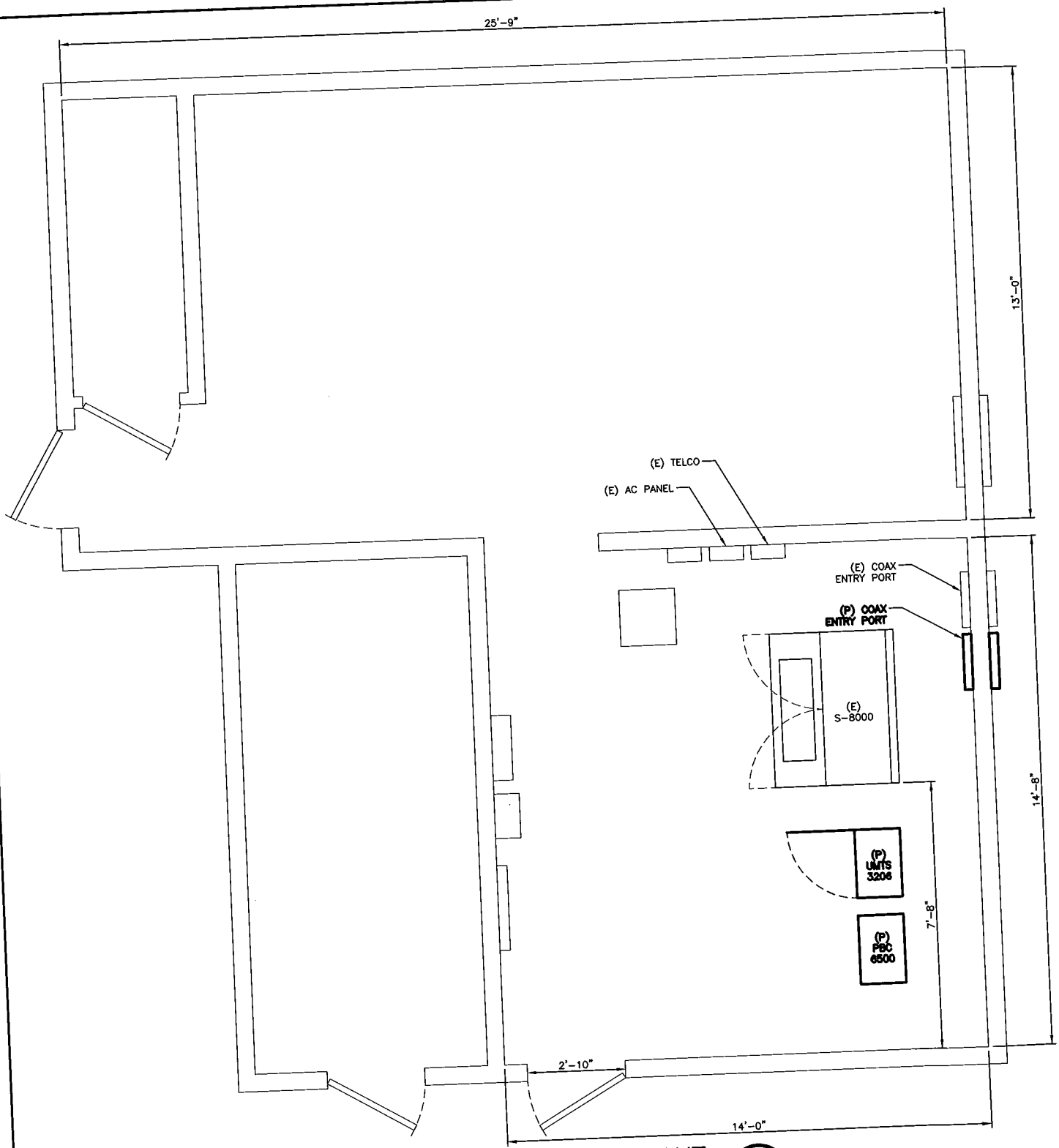
ELEVATION 1

SCALE: N.T.S.

T-Mobile
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

MAXTON
50 Eastman St.
South Easton, MA 02375
Phone: (508) 936-8393
Fax: (508) 936-8395

PROJECT LOCATION: SHELTON/BUDDINGTON RD_1 **CT11199A** 219 NELLS ROCK ROAD SHELTON, CT	PROJECT MANAGER: KB	DRAWN BY: JRK	BSDA PROJ. #: 2898.246
APPROVED BY:	REV. 2 REV. 1 01/14/09	ELEVATION	SHEET: L2



EQUIPMENT ROOM LAYOUT 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:
SHELTON/BUDDINGTON RD_1
CT11199A
219 NELLS ROCK ROAD
SHELTON, CT

APPROVED BY:

PROJECT MANAGER: KB
DRAWN BY: JRK
BSDA PROJ. #: 2898.246

REV. 2
REV. 1
01/14/09

EQUIPMENT ROOM LAYOUT

SHEET: L3

Exhibit C

Equipment Specifications

T-Mobile Site CT11199A

219 Nells Rock Road

Shelton, Connecticut

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

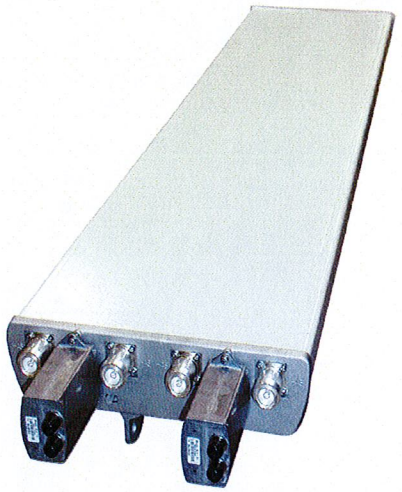
Optimizer® Panel Dual Polarized Antenna equipped with (2) ACU motors

RFS

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)

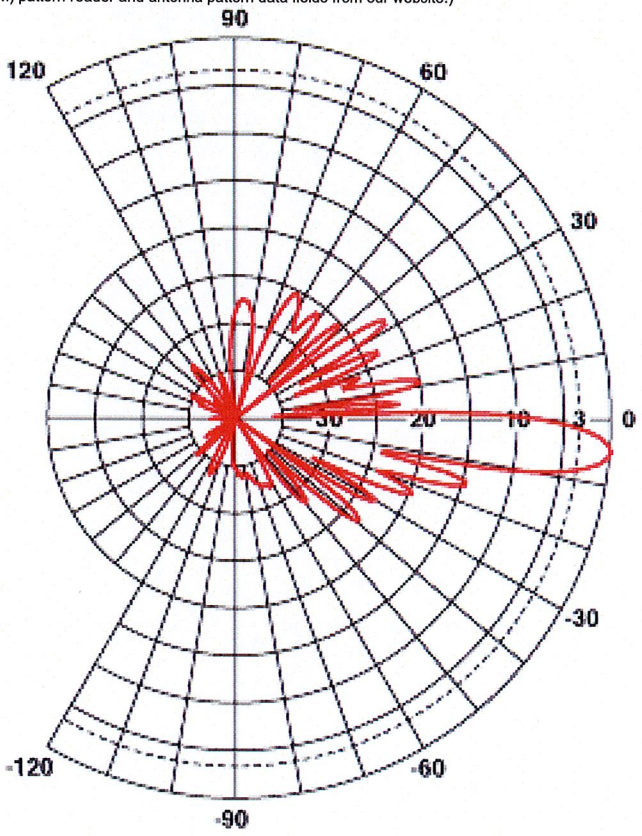
Note

This data is provisional and subject to change.

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

Vertical Pattern

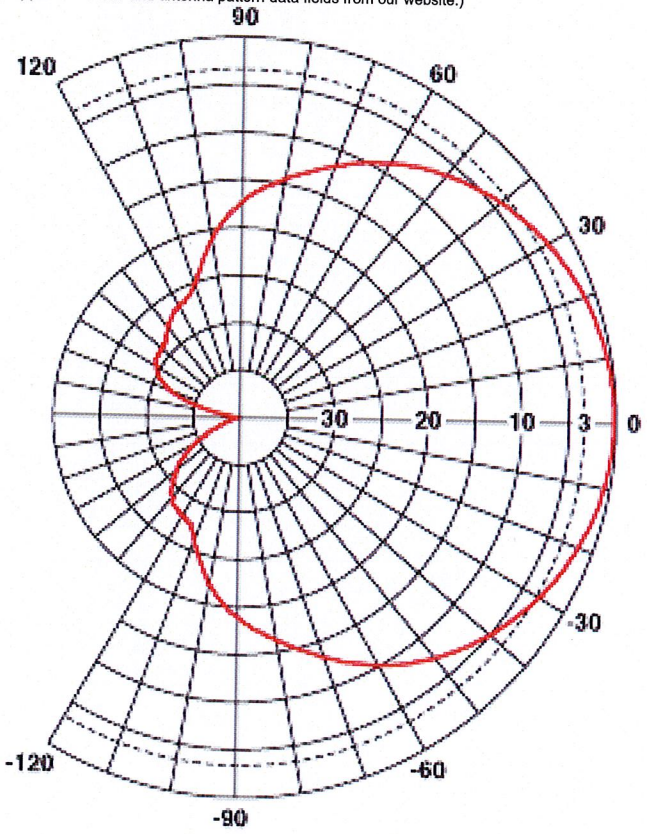
(This is a general representation of the antenna family pattern. For the latest detailed pattern contact Applications Engineering. You may also download the CELplot(TM) pattern reader and antenna pattern data fields from our website.)



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 physical characteristics of the RBS, that is, dimensions, weight, and color.

Table 1 RBS 3206 Dimensions

	Dimensions (mm)		
Unit	**RBS 3206M**	**RBS 3206F**	**RBS 3206E**
Height (including base frame)	1,850	1,850	1,950
Width	600	600	600
Depth	450	[(1)]Type 1: 400 Type 2: 450	400
Depth including door	470	470	470

(1) The depth of the two cabinet types differs, see also Figure 3 on page 8.

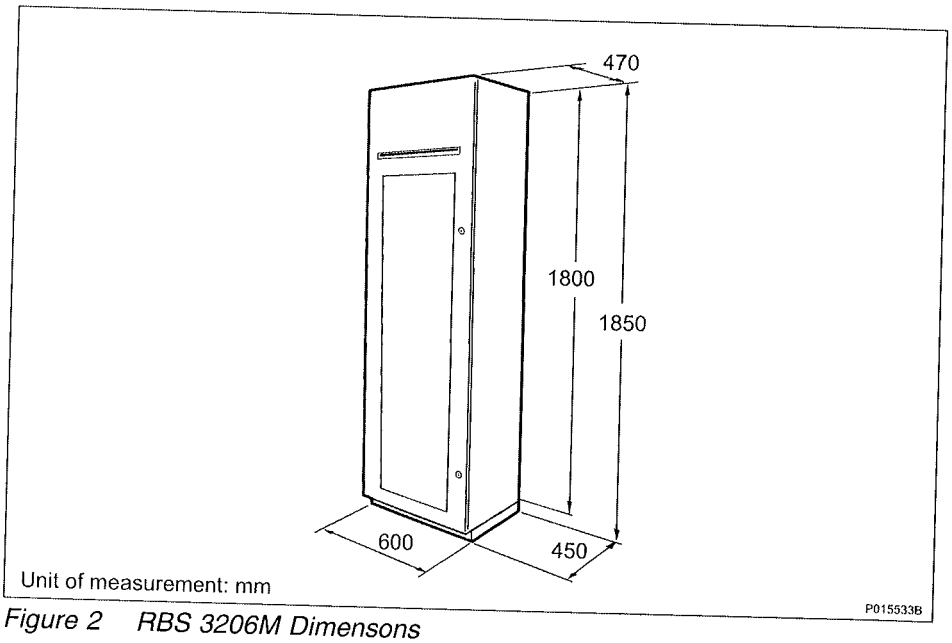


Figure 2 RBS 3206M Dimensons

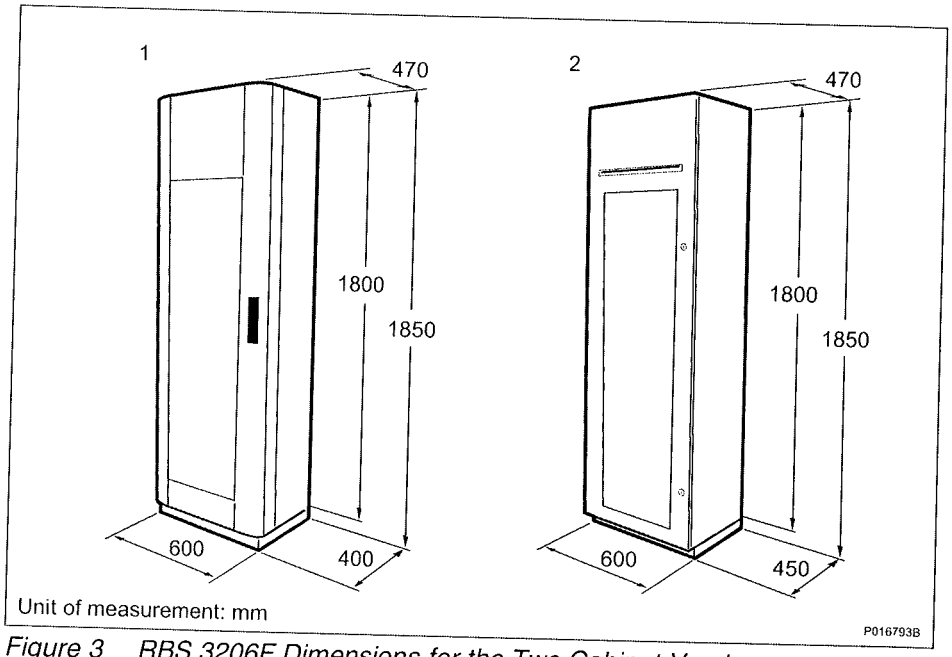


Figure 3 RBS 3206F Dimensions for the Two Cabinet Versions

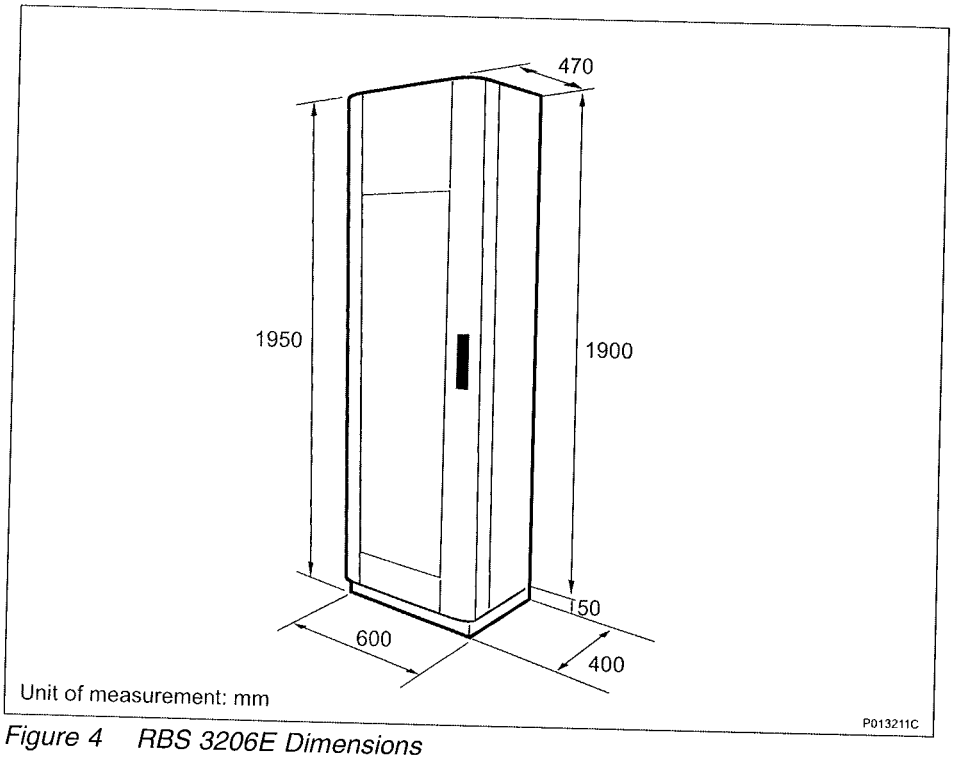


Figure 4 RBS 3206E Dimensions

The various weights of the RBS 3206 are shown in the table below.

Table 2 RBS 3206 Weights

Unit	Weight (kg) RBS 3206M	Weight (kg) RBS 3206F	Weight (kg) RBS 3206E
RBS fully equipped	125	220	255
Base frame	12	12	12

The color of the RBS 3206 is shown in the table below.

Table 3 RBS 3206 Color

Color	Reference Number
White	NCS 1002–R

Exhibit D

Power Density Calculations

T-Mobile Site CT11199A

219 Nells Rock Road

Shelton, Connecticut

Connecticut Market

T-Mobile

Worst Case Power Density

Site:	**CT11199A**	
Site Address:	**219 Nells Rock Road**	**(S.N.E.T)**
Town:	**Shelton**	
Tower Height:	**165 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	APX16DWV-16DWV	Antenna Model	APX16DWV-16DWV
Cable Size	1 5/8 in.	Cable Size	1 5/8 in.
Cable Length	280 ft.	Cable Length	280 ft.
Antenna Height	135.0 ft.	Antenna Height	135.0 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	18.0 dBi	Antenna Gain	18.0 dBi
Cable Loss per foot	0.0116 dB	Cable Loss per foot	0.0116 dB
Total Cable Loss	3.2480 dB	Total Cable Loss	3.2480 dB
Total Attenuation	7.7480 dB	Total Attenuation	4.7480 dB
Total EIRP per Channel	53.26 dBm	Total EIRP per Channel	59.27 dBm
(In Watts)	211.95 W	(In Watts)	845.79 W
Total EIRP per Sector	62.29 dBm	Total EIRP per Sector	62.28 dBm
(In Watts)	1695.59 W	(In Watts)	1691.57 W
nsg	10.2520	nsg	13.2520
Power Density (S) =	0.022354 mW/cm^2	Power Density (S) =	0.022301 mW/cm^2

T-Mobile Worst Case % MPE = 4.4656%

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	
Cingular	2.5500 %
Sprint	2.0100 %
AT&T Wireless	
Nextel	
MetroPCS	
Other Antenna Systems	6.4400 %
Total Excluding T-Mobile	**11.0000 %**
T-Mobile	4.4656
Total % MPE for Site	**15.4656%**

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 CT11199A
Date: June 22, 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 219 Nells Rock Road (S.N.E.T), Shelton, 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 (1940-1949.8), (2140-2145), (2110-2120)MHz frequency Band.
2) The antenna array consists of three sectors, with 3 antennas per sector.
3) The model number for GSM antenna is APX16DWV-16DWV.
3) The model number for UMTS antenna is APX16DWV-16DWV.
4) GSM antenna center line height is 135 ft.
4) UMTS antenna center line height is 135 ft.
5) The maximum transmit power from any GSM sector is 1695.59 Watts Effective Radiated Power (EiRP) assuming 8 channels per sector.
5) The maximum transmit power from any UMTS sector is 1691.57 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 219 Nells Rock Road (S.N.E.T), Shelton, CT, is 0.04466 mW/cm^2. This value represents 4.466% 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 11%. The combined Power Density for the site is 15.466% of the M.P.E. standard.

Exhibit E

Structural Analysis

T-Mobile Site CT11199A

219 Nells Rock Road

Shelton, Connecticut

Communication Structures Engineering, Inc. CT11199A

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

June 01, 2009

Re: Structural Review of AT&T's Existing 162'-6" Lattice Steel Tower at Shelton, CT
AT&T Corporate Site I.D: **Shelton, CT**
Location: 219 Nells Rock Road, Shelton, CT 06484
Latitude N 41° 18' 15", Longitude W 73° 07' 06"; Fairfield County, CT

Dear Mr. Montee,

Communication Structures Engineering, Inc. has completed a structural review of the existing 162'-6 Type 'A' tower located at this AT&T Corporation site known as Shelton, 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. In accordance with AT&T's Requirements the specific loading criteria that we utilized were those prescribed by "*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 Standards 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 Fairfield County, CT. A description of the existing tower, our structural analysis procedure, and the results of CSEI's structural analysis follow:

EXISTING TOWER INFORMATION & DATA

The 162'-6" Type 'A' tower at this site was originally built in 1966 for Southern New England Telephone (SNET) to support four KS15676 Horn Antennas. The tower was later modified several times. All of the original Horn Antennas have now been removed from this tower.

CSEI utilized the original 1966 tower design, & tower foundation drawings, to conduct our structural review of this tower. The available modification drawings were also used for our analysis. The existing antenna information that was provided to us by AT&T Corporation was used to determine the existing tower & equipment loads for this analysis. AT&T's Tenant Specification Document, which was submitted by T-Mobile was utilized to determine the new T-Mobile antenna and cable requirements 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", which is a reference specification accepted by *ANSI/TIA/EIA-222-F* as well as by the *2003 International Building Code*.

RESULTS OF STRUCTURAL ANALYSIS

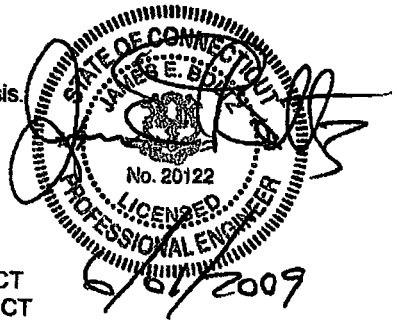
CSEI's analysis found that all of the existing tower members had maximum stress levels that were less than the 100% allowable stresses permitted by the AISC Specification. The tower foundation was also found to be in compliance with "ANSI/TIA/EIA-222-F" design criteria. We have therefore concluded that this existing tower is capable of supporting the existing loads as well as the proposed T-Mobile 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 that the following conditions are satisfied. However, if the conditions that follow are not upheld, the results of our structural analysis will be invalid:

1.) The Eighteen (18) vertical runs of 1.625 inch dia. coaxial cable associated with the T-Mobile panel antennas must be stacked in two rows with one row of nine cables located directly in front of the second row of nine cables.
2.) The proposed T-Mobile antennas & transmission lines shall be installed in accordance with the CSEI drawing that will be prepared for this project.

If T-Mobile 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 Existing 162'-6" AT&T Tower at Shelton, CT
2.) Structural Calculations for Existing AT&T Tower at Shelton, CT

5579-B Chamblee Dunwoody Road / Suite 517 / Dunwoody, Georgia 30338 / (770) 951-8080 / Fax (770) 396-0056

June 1, 2009

DESIGN CRITERIA

AT&T Tower Site: Shelton, CT

LOCATION: 219 Nells Rock Road, Shelton, CT 06484
Latitude N 41° 18' 15", Longitude W 73° 07' 06"
Fairfield 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.) Six miscellaneous omni & directional antennas located on the antenna platform at 162'-6" above tower base plate and six associated transmission lines.
2.) (SNET) Six Panel Antennas at 165-ft above tower base plate and twelve associated runs of 1.625 inch diameter coaxial cable.
3.) (Sprint/Nextel) Two Allgon ALL7182.07 and four Allgon ALL7184.05 Panel antennas at 149-ft above tower base plate and six associated runs of 1.625 inch diameter coaxial cable.
4.) (Sprint/Nextel) One GPS Antenna at 75-ft above tower base plate and one associated run of 0.50 inch diameter coaxial cable.

Verizon Antennas (Pending Installation)

1.) Fifteen (15) Panel Antennas to be located at a centerline of approx. 125-ft above tower base plate: {These Panel Antenna to be: Six (6) DB846F65ZAXY Panel Antennas; Six (6) LPA185080/12CF Panel Antennas and Three (3) BXA 70063/6CF Panel Antennas}
2.) Eighteen (18) runs of 2.25 inch diameter coaxial cable associated with the above panel antennas. *The vertical runs of these cables must be stacked in two rows .*

T-Mobile Proposed Antenna Removals

1.) Remove six (6) existing EMS RV90-17-04DP panel antennas

New T-Mobile Proposed New Configuration on Tower

1.) Six (6) RFS APX16DWV-16DWVS-A2 panel antennas located at a centerline of 135-ft above tower base plate and Eighteen (18) associated runs of 1.625 inch dia. coaxial cable.

The vertical runs of these cables to be stacked in two rows with one row of nine cables located directly in front of the second row of nine cables

2.) One run of .375 inch diameter cable (R.E.T. Control Cable).

csa

5579-B Chamblee Dunwoody Road / Suite 517 / Dunwoody, Georgia 30338 / (770) 951-8080 / Fax (770) 396-0056

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

STRUCTURAL CALCULATIONS
FOR
AT&T Owned 162'-6" Self Supported Tower
Shelton, CT
T-Mobile Installation

Fairfield County, CT

Issue Date: June 1, 2009

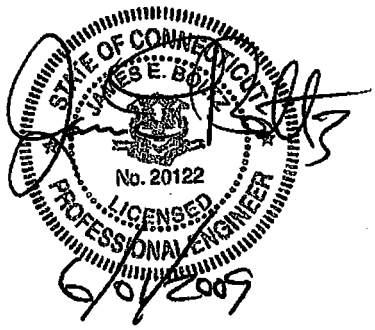


TABLE OF CONTENTS

DESIGN CRITERIA

AT&T Tower Site: Shelton, CT

LOCATION: 219 Nells Rock Road, Shelton, CT 06484
Latitude N 41° 18' 15", Longitude W 73° 07' 06"
Fairfield 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.) Six miscellaneous omni & directional antennas located on the antenna platform at 162'-6" above tower base plate and six associated transmission lines.
2.) (SNET) Six Panel Antennas at 165-ft above tower base plate and twelve associated runs of 1.625 inch diameter coaxial cable.
3.) (Sprint/Nextel) Two Allgon ALL7182.07 and four Allgon ALL7184.05 Panel antennas at 149-ft above tower base plate and six associated runs of 1.625 inch diameter coaxial cable.
4.) (Sprint/Nextel) One GPS Antenna at 75-ft above tower base plate and one associated run of 0.50 inch diameter coaxial cable.

Verizon Antennas (Pending Installation)

1.) Fifteen (15) Panel Antennas to be located at a centerline of approx. 125-ft above tower base plate: {These Panel Antenna to be: Six (6) DB846F65ZAXY Panel Antennas; Six (6) LPA185080/12CF Panel Antennas and Three (3) BXA 70063/6CF Panel Antennas}
2.) Eighteen (18) runs of 2.25 inch diameter coaxial cable associated with the above panel antennas. *The vertical runs of these cables must be stacked in two rows .*

T-Mobile Proposed Antenna Removals

1.) Remove six (6) existing EMS RV90-17-04DP panel antennas

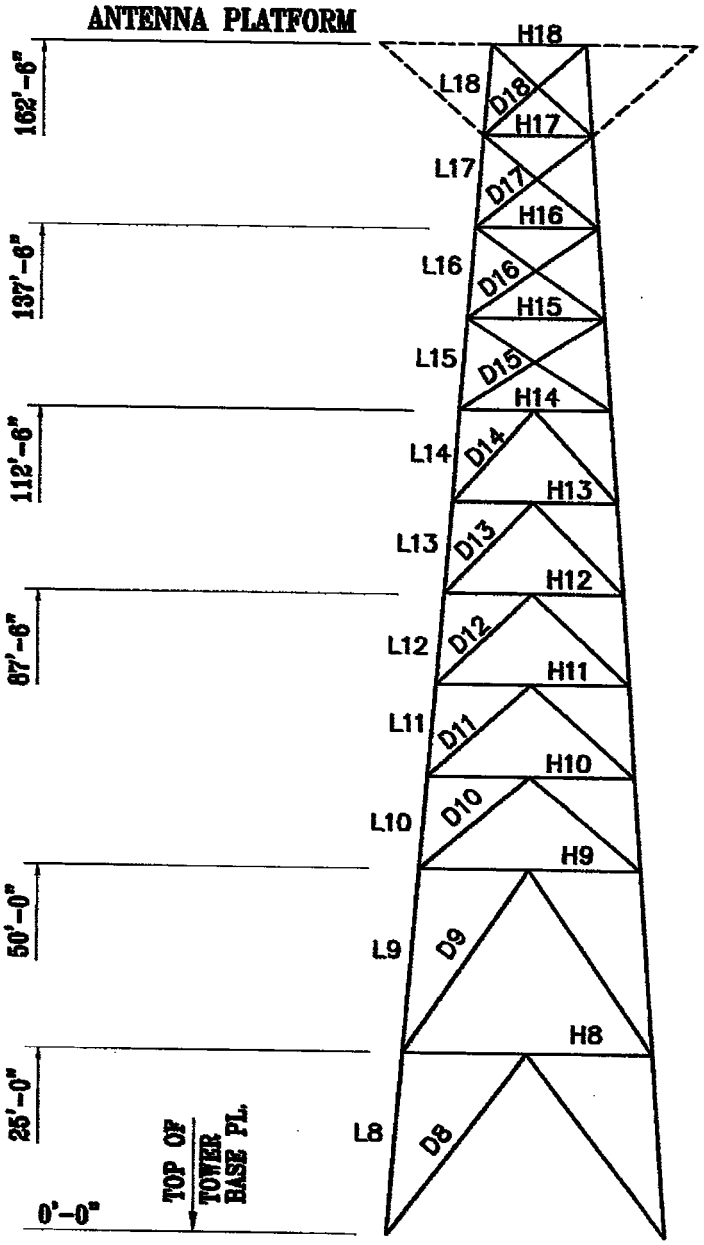
New T-Mobile Proposed New Configuration on Tower

1.) Six (6) RFS APX16DWV-16DWVS-A2 panel antennas located at a centerline of 135-ft above tower base plate and Eighteen (18) associated runs of 1.625 inch dia. coaxial cable.

The vertical runs of these cables to be stacked in two rows with one row of nine cables located directly in front of the second row of nine cables

2.) One run of .375 inch diameter cable (R.E.T. Control Cable).

162'-6" SELF SUPPORTED TOWER
ANALYSIS MODEL FOR
SHELTON, CT



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

Project: Shelton, CT 162'-6" Self Supported Tower, T-Mobile Installation

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

Project Name : Shelton, CT
Project Notes: 162'-6" Self Supported Tower
Project File : c:\analysis\2009\shelton ct 051009\shelton ct.tow
Date run     : 5:39:47 PM Sunday, May 10, 2009
by           : Tower Version 9.23
Licensed to  : Communication Structures Engineering Inc.

Successfully performed linear analysis

The model has 0 warnings.

Maximum element usage is 92.28% for Angle "g62P" in load case "WIND 0"
```

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	162.500	137.500	12	42	12.50	16.25	359.38	1.2000	1.0000	1.300
2	137.500	112.500	16	48	16.25	20.00	453.12	1.2000	1.0000	1.300
3	112.500	87.500	24	60	20.00	23.75	546.88	1.2000	1.0000	1.300
4	87.500	62.500	24	60	23.75	27.50	640.62	1.2400	1.0000	1.500
5	62.500	50.000	16	25	27.50	29.38	355.48	1.2400	1.0000	1.500
6	50.000	25.000	16	25	29.38	33.13	781.28	1.2400	1.0000	1.500
7	25.000	0.000	12	12	33.13	36.88	875.02	1.2400	1.0000	1.500

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)
ANTENNA PLATFORM		8000.0	30.00	0.00		1.00	0.00	0.00
MILK STOOL		1500.0	10.00	0.00		1.00	0.00	0.00
OMNI ANTENNAS		200.0	15.00	0.00		1.00	0.00	0.00
SNET INSTALLATION		350.0	15.00	0.00		1.00	0.00	0.00
SPRINT INSTALLATION		400.0	25.00	0.00		1.00	0.00	0.00
TMOBILE INSTALLATION		200.0	10.00	0.00		1.00	0.00	0.00
VERIZON INSTALLATION		600.0	40.00	0.00		1.00	0.00	0.00

Equipment Connectivity:

Equipment Label	Attach Label	Equipment Property Set	EIA Antenna Orientation Angle (deg)
AP-1	67P	ANTENNA PLATFORM	0.00
AP-2	67X	ANTENNA PLATFORM	0.00
AP-3	67XY	ANTENNA PLATFORM	0.00
AP-4	67Y	ANTENNA PLATFORM	0.00
MS-1	66P	MILK STOOL	0.00
MS-2	66X	MILK STOOL	0.00
MS-3	66XY	MILK STOOL	0.00
MS-4	66Y	MILK STOOL	0.00
MS-5	65P	MILK STOOL	0.00
MS-6	65X	MILK STOOL	0.00
MS-7	65XY	MILK STOOL	0.00
MS-8	65Y	MILK STOOL	0.00
OMNI-1	67P	OMNI ANTENNAS	0.00
OMNI-2	67X	OMNI ANTENNAS	0.00
OMNI-3	67XY	OMNI ANTENNAS	0.00
OMNI-4	67Y	OMNI ANTENNAS	0.00
SNET-1	67P	SNET INSTALLATION	0.00
SNET-2	67X	SNET INSTALLATION	0.00
SNET-3	67XY	SNET INSTALLATION	0.00
SNET-4	67Y	SNET INSTALLATION	0.00
SPRINT-1	66P	SPRINT INSTALLATION	0.00
SPRINT-2	66X	SPRINT INSTALLATION	0.00
SPRINT-3	66XY	SPRINT INSTALLATION	0.00
SPRINT-4	66Y	SPRINT INSTALLATION	0.00
TMOBILE-1	65P	TMOBILE INSTALLATION	0.00
TMOBILE-2	65X	TMOBILE INSTALLATION	0.00
TMOBILE-3	65XY	TMOBILE INSTALLATION	0.00
TMOBILE-4	65Y	TMOBILE INSTALLATION	0.00
VERIZON-1	64P	VERIZON INSTALLATION	0.00
VERIZON-2	64X	VERIZON INSTALLATION	0.00
VERIZON-3	64XY	VERIZON INSTALLATION	0.00
VERIZON-4	64Y	VERIZON INSTALLATION	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	162.5	1	Flat	6	20	10	No	Yes
OMNI ANT COAX	5	162.5	5	Round	2	0	1	No	Yes
SNET COAX BUNDLED	5	162.5	6	Round	2	0	2	No	Yes
SPRINT COAX 1 BUNDLED	5	150	6	Round	2	0	2	No	Yes
SPRINT COAX 2	5	75	1	Round	0.63	0	0.15	No	Yes
TMOBILE COAX BUNDLED	5	135	9	Round	2	0	1	No	Yes
VERIZON COAX BUNDLED	5	125	9	Round	2.35	0	2.44	No	Yes
SNET COAX LADDER	5	162.5	1	Flat	4	0	6	No	Yes

SPRINT COAX LADDER	5	150	1	Flat	3	0	6	No	Yes	
TMOBILE COAX LADDER	5	135	1	Flat	3	0	6	No	Yes	

*** Loads Data

Loads from file: c:\analysis\2009\shelton ct 051009\shelton ct.eia

Structure Height Summary (used for calculating wind/ice adjust with height):
Structure height above ground 162.50 (ft)
Elevation of structure bottom for wind height adjustment: 0.00 (ft)
Structure height for structure gust response factor: 162.50 (ft)
Structure gust response factor, Gh: 1.1278
Guy installation temperature: 32.00 (deg F)
Tower Type: Rectangular Latticed

EIA Rev. F Load Cases:

Load Case Description	Dead Load Factor	Wind Load Factor	Ice Load Factor	Strength 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 W ICE	1.0000	1.0000	1.0000	1.0000	1.3300	74.000	0	0.5000	56.0000	30.0	
WIND 45 W ICE	1.0000	1.0000	1.0000	1.0000	1.3300	74.000	45	0.5000	56.0000	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)
AP-1	ANTENNA PLATFORM	162.50	32.88	0.00	30.00	0.00							986.28	0.00	8000.00
AP-2	ANTENNA PLATFORM	162.50	32.88	0.00	30.00	0.00							986.28	0.00	8000.00
AP-3	ANTENNA PLATFORM	162.50	32.88	0.00	30.00	0.00							986.28	0.00	8000.00
AP-4	ANTENNA PLATFORM	162.50	32.88	0.00	30.00	0.00							986.28	0.00	8000.00
MS-1	MILK STOOL	150.00	32.13	0.00	10.00	0.00							321.33	0.00	1500.00
MS-2	MILK STOOL	150.00	32.13	0.00	10.00	0.00							321.33	0.00	1500.00
MS-3	MILK STOOL	150.00	32.13	0.00	10.00	0.00							321.33	0.00	1500.00
MS-4	MILK STOOL	150.00	32.13	0.00	10.00	0.00							321.33	0.00	1500.00
MS-5	MILK STOOL	137.50	31.34	0.00	10.00	0.00							313.44	0.00	1500.00
MS-6	MILK STOOL	137.50	31.34	0.00	10.00	0.00							313.44	0.00	1500.00
MS-7	MILK STOOL	137.50	31.34	0.00	10.00	0.00							313.44	0.00	1500.00
MS-8	MILK STOOL	137.50	31.34	0.00	10.00	0.00							313.44	0.00	1500.00
OMNI-1	OMNI ANTENNAS	162.50	32.88	0.00	15.00	0.00							493.14	0.00	200.00
OMNI-2	OMNI ANTENNAS	162.50	32.88	0.00	15.00	0.00							493.14	0.00	200.00
OMNI-3	OMNI ANTENNAS	162.50	32.88	0.00	15.00	0.00							493.14	0.00	200.00
OMNI-4	OMNI ANTENNAS	162.50	32.88	0.00	15.00	0.00							493.14	0.00	200.00
SNET-1	SNET INSTALLATION	162.50	32.88	0.00	15.00	0.00							493.14	0.00	350.00

SNET-2	SNET INSTALLATION	162.50	32.88	0.00	15.00	0.00							493.14	0.00	350.00
SNET-3	SNET INSTALLATION	162.50	32.88	0.00	15.00	0.00							493.14	0.00	350.00
SNET-4	SNET INSTALLATION	162.50	32.88	0.00	15.00	0.00							493.14	0.00	350.00
SPRINT-1	SPRINT INSTALLATION	150.00	32.13	0.00	25.00	0.00							803.31	0.00	400.00
SPRINT-2	SPRINT INSTALLATION	150.00	32.13	0.00	25.00	0.00							803.31	0.00	400.00
SPRINT-3	SPRINT INSTALLATION	150.00	32.13	0.00	25.00	0.00							803.31	0.00	400.00
SPRINT-4	SPRINT INSTALLATION	150.00	32.13	0.00	25.00	0.00							803.31	0.00	400.00
TMOBILE-1	TMOBILE INSTALLATION	137.50	31.34	0.00	10.00	0.00							313.44	0.00	200.00
TMOBILE-2	TMOBILE INSTALLATION	137.50	31.34	0.00	10.00	0.00							313.44	0.00	200.00
TMOBILE-3	TMOBILE INSTALLATION	137.50	31.34	0.00	10.00	0.00							313.44	0.00	200.00
TMOBILE-4	TMOBILE INSTALLATION	137.50	31.34	0.00	10.00	0.00							313.44	0.00	200.00
VERIZON-1	VERIZON INSTALLATION	125.00	30.50	0.00	40.00	0.00							1220.06	0.00	600.00
VERIZON-2	VERIZON INSTALLATION	125.00	30.50	0.00	40.00	0.00							1220.06	0.00	600.00
VERIZON-3	VERIZON INSTALLATION	125.00	30.50	0.00	40.00	0.00							1220.06	0.00	600.00
VERIZON-4	VERIZON INSTALLATION	125.00	30.50	0.00	40.00	0.00							1220.06	0.00	600.00

EIA Section Load Case Information for "WIND 0":

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	162.50	137.50	150.00	32.13	0.00	83.56	0.00	0.00	359.4	0.23	1.00	1.00	0.60	2.84	83.6	7637	23.96	2.00	58.33	1.20	70.00	3789	11426	10560
2	137.50	112.50	125.00	30.50	0.00	68.06	0.00	0.00	453.1	0.15	1.00	1.00	0.58	3.20	68.1	6651	32.71	2.00	126.61	1.20	151.94	6630	13281	10309
3	112.50	87.50	100.00	28.62	0.00	58.53	0.00	0.00	546.9	0.11	1.00	1.00	0.58	3.41	58.5	5719	33.33	2.00	152.40	1.20	182.88	7141	12860	11900
4	87.50	62.50	75.00	26.36	0.00	65.19	0.00	0.00	640.6	0.10	1.00	1.00	0.58	3.44	65.2	5913	33.33	2.00	153.05	1.20	183.66	6599	12512	15029
5	62.50	50.00	56.25	24.28	0.00	39.87	0.00	0.00	355.5	0.11	1.00	1.00	0.58	3.39	39.9	3280	16.67	2.00	76.85	1.20	92.23	3048	6328	8348
6	50.00	25.00	37.50	21.62	0.00	73.57	0.00	0.00	781.3	0.09	1.00	1.00	0.57	3.48	73.6	5536	33.33	2.00	153.71	1.20	184.45	5430	10966	16318
7	25.00	0.00	12.50	20.85	0.00	64.08	0.00	0.00	875.0	0.07	1.00	1.00	0.57	3.59	64.1	4795	29.17	2.00	122.97	1.20	147.56	4292	9087	15406

Equipment Load Case Information for "WIND 45":

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)
AP-1	ANTENNA PLATFORM	162.50	32.88	0.00	30.00	315.00							697.40	697.40	8000.00
AP-2	ANTENNA PLATFORM	162.50	32.88	0.00	30.00	315.00							697.40	697.40	8000.00
AP-3	ANTENNA PLATFORM	162.50	32.88	0.00	30.00	315.00							697.40	697.40	8000.00
AP-4	ANTENNA PLATFORM	162.50	32.88	0.00	30.00	315.00							697.40	697.40	8000.00
MS-1	MILK STOOL	150.00	32.13	0.00	10.00	315.00							227.21	227.21	1500.00
MS-2	MILK STOOL	150.00	32.13	0.00	10.00	315.00							227.21	227.21	1500.00
MS-3	MILK STOOL	150.00	32.13	0.00	10.00	315.00							227.21	227.21	1500.00
MS-4	MILK STOOL	150.00	32.13	0.00	10.00	315.00							227.21	227.21	1500.00
MS-5	MILK STOOL	137.50	31.34	0.00	10.00	315.00							221.63	221.63	1500.00
MS-6	MILK STOOL	137.50	31.34	0.00	10.00	315.00							221.63	221.63	1500.00
MS-7	MILK STOOL	137.50	31.34	0.00	10.00	315.00							221.63	221.63	1500.00
MS-8	MILK STOOL	137.50	31.34	0.00	10.00	315.00							221.63	221.63	1500.00
OMNI-1	OMNI ANTENNAS	162.50	32.88	0.00	15.00	315.00							348.70	348.70	200.00
OMNI-2	OMNI ANTENNAS	162.50	32.88	0.00	15.00	315.00							348.70	348.70	200.00
OMNI-3	OMNI ANTENNAS	162.50	32.88	0.00	15.00	315.00							348.70	348.70	200.00
OMNI-4	OMNI ANTENNAS	162.50	32.88	0.00	15.00	315.00							348.70	348.70	200.00
SNET-1	SNET INSTALLATION	162.50	32.88	0.00	15.00	315.00							348.70	348.70	350.00

SNET-2	SNET INSTALLATION	162.50	32.88	0.00	15.00	315.00																348.70	348.70	350.00
SNET-3	SNET INSTALLATION	162.50	32.88	0.00	15.00	315.00																348.70	348.70	350.00
SNET-4	SNET INSTALLATION	162.50	32.88	0.00	15.00	315.00																348.70	348.70	350.00
SPRINT-1	SPRINT INSTALLATION	150.00	32.13	0.00	25.00	315.00																568.03	568.03	400.00
SPRINT-2	SPRINT INSTALLATION	150.00	32.13	0.00	25.00	315.00																568.03	568.03	400.00
SPRINT-3	SPRINT INSTALLATION	150.00	32.13	0.00	25.00	315.00																568.03	568.03	400.00
SPRINT-4	SPRINT INSTALLATION	150.00	32.13	0.00	25.00	315.00																568.03	568.03	400.00
TMOBILE-1	TMOBILE INSTALLATION	137.50	31.34	0.00	10.00	315.00																221.63	221.63	200.00
TMOBILE-2	TMOBILE INSTALLATION	137.50	31.34	0.00	10.00	315.00																221.63	221.63	200.00
TMOBILE-3	TMOBILE INSTALLATION	137.50	31.34	0.00	10.00	315.00																221.63	221.63	200.00
TMOBILE-4	TMOBILE INSTALLATION	137.50	31.34	0.00	10.00	315.00																221.63	221.63	200.00
VERIZON-1	VERIZON INSTALLATION	125.00	30.50	0.00	40.00	315.00																862.72	862.72	600.00
VERIZON-2	VERIZON INSTALLATION	125.00	30.50	0.00	40.00	315.00																862.72	862.72	600.00
VERIZON-3	VERIZON INSTALLATION	125.00	30.50	0.00	40.00	315.00																862.72	862.72	600.00
VERIZON-4	VERIZON INSTALLATION	125.00	30.50	0.00	40.00	315.00																862.72	862.72	600.00

EIA Section Load Case Information for "WIND 45":

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	162.50	137.50	150.00	32.13	0.00	83.56	0.00	0.00	359.4	0.23	1.17	1.17	0.60	2.84	98.1	8969	23.96	2.00	58.33	1.20	70.00	3789	12758	10560
2	137.50	112.50	125.00	30.50	0.00	68.06	0.00	0.00	453.1	0.15	1.11	1.11	0.58	3.20	75.7	7401	32.71	2.00	126.61	1.20	151.94	6630	14030	10309
3	112.50	87.50	100.00	28.62	0.00	58.53	0.00	0.00	546.9	0.11	1.08	1.08	0.58	3.41	63.2	6178	33.33	2.00	152.40	1.20	182.88	7141	13319	11900
4	87.50	62.50	75.00	26.36	0.00	65.19	0.00	0.00	640.6	0.10	1.08	1.08	0.58	3.44	70.2	6365	33.33	2.00	153.05	1.20	183.66	6599	12963	15029
5	62.50	50.00	56.25	24.28	0.00	39.87	0.00	0.00	355.5	0.11	1.08	1.08	0.58	3.39	43.2	3556	16.67	2.00	76.85	1.20	92.23	3048	6604	8348
6	50.00	25.00	37.50	21.62	0.00	73.57	0.00	0.00	781.3	0.09	1.07	1.07	0.57	3.48	78.8	5927	33.33	2.00	153.71	1.20	184.45	5430	11357	16318
7	25.00	0.00	12.50	20.85	0.00	64.08	0.00	0.00	875.0	0.07	1.05	1.05	0.57	3.59	67.6	5058	29.17	2.00	122.97	1.20	147.56	4292	9351	15406

Equipment Load Case Information for "WIND 0 W 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)
AP-1	ANTENNA PLATFORM	162.50	24.92	0.50	30.00	0.00							747.52	0.00	8000.00
AP-2	ANTENNA PLATFORM	162.50	24.92	0.50	30.00	0.00							747.52	0.00	8000.00
AP-3	ANTENNA PLATFORM	162.50	24.92	0.50	30.00	0.00							747.52	0.00	8000.00
AP-4	ANTENNA PLATFORM	162.50	24.92	0.50	30.00	0.00							747.52	0.00	8000.00
MS-1	MILK STOOL	150.00	24.35	0.50	10.00	0.00							243.54	0.00	1500.00
MS-2	MILK STOOL	150.00	24.35	0.50	10.00	0.00							243.54	0.00	1500.00
MS-3	MILK STOOL	150.00	24.35	0.50	10.00	0.00							243.54	0.00	1500.00
MS-4	MILK STOOL	150.00	24.35	0.50	10.00	0.00							243.54	0.00	1500.00
MS-5	MILK STOOL	137.50	23.76	0.50	10.00	0.00							237.56	0.00	1500.00
MS-6	MILK STOOL	137.50	23.76	0.50	10.00	0.00							237.56	0.00	1500.00
MS-7	MILK STOOL	137.50	23.76	0.50	10.00	0.00							237.56	0.00	1500.00
MS-8	MILK STOOL	137.50	23.76	0.50	10.00	0.00							237.56	0.00	1500.00
OMNI-1	OMNI ANTENNAS	162.50	24.92	0.50	15.00	0.00							373.76	0.00	200.00
OMNI-2	OMNI ANTENNAS	162.50	24.92	0.50	15.00	0.00							373.76	0.00	200.00
OMNI-3	OMNI ANTENNAS	162.50	24.92	0.50	15.00	0.00							373.76	0.00	200.00
OMNI-4	OMNI ANTENNAS	162.50	24.92	0.50	15.00	0.00							373.76	0.00	200.00
SNET-1	SNET INSTALLATION	162.50	24.92	0.50	15.00	0.00							373.76	0.00	350.00

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)
SNET-2	SNET INSTALLATION	162.50	24.92	0.50	15.00	0.00							373.76	0.00	350.00
SNET-3	SNET INSTALLATION	162.50	24.92	0.50	15.00	0.00							373.76	0.00	350.00
SNET-4	SNET INSTALLATION	162.50	24.92	0.50	15.00	0.00							373.76	0.00	350.00
SPRINT-1	SPRINT INSTALLATION	150.00	24.35	0.50	25.00	0.00							608.85	0.00	400.00
SPRINT-2	SPRINT INSTALLATION	150.00	24.35	0.50	25.00	0.00							608.85	0.00	400.00
SPRINT-3	SPRINT INSTALLATION	150.00	24.35	0.50	25.00	0.00							608.85	0.00	400.00
SPRINT-4	SPRINT INSTALLATION	150.00	24.35	0.50	25.00	0.00							608.85	0.00	400.00
TMOBILE-1	TMOBILE INSTALLATION	137.50	23.76	0.50	10.00	0.00							237.56	0.00	200.00
TMOBILE-2	TMOBILE INSTALLATION	137.50	23.76	0.50	10.00	0.00							237.56	0.00	200.00
TMOBILE-3	TMOBILE INSTALLATION	137.50	23.76	0.50	10.00	0.00							237.56	0.00	200.00
TMOBILE-4	TMOBILE INSTALLATION	137.50	23.76	0.50	10.00	0.00							237.56	0.00	200.00
VERIZON-1	VERIZON INSTALLATION	125.00	23.12	0.50	40.00	0.00							924.72	0.00	600.00
VERIZON-2	VERIZON INSTALLATION	125.00	23.12	0.50	40.00	0.00							924.72	0.00	600.00
VERIZON-3	VERIZON INSTALLATION	125.00	23.12	0.50	40.00	0.00							924.72	0.00	600.00
VERIZON-4	VERIZON INSTALLATION	125.00	23.12	0.50	40.00	0.00							924.72	0.00	600.00

EIA Section Load Case Information for "WIND 0 W 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	162.50	137.50	150.00	24.35	0.50	83.56	14.14	8.60	359.4	0.27	1.00	1.00	0.61	2.69	92.2	6041	23.96	2.00	92.71	1.20	111.25	3876	9917	13763
2	137.50	112.50	125.00	23.12	0.50	68.06	14.72	8.64	453.1	0.18	1.00	1.00	0.59	3.06	76.7	5418	32.71	2.00	196.41	1.20	235.69	6961	12379	14031
3	112.50	87.50	100.00	21.69	0.50	58.53	13.64	7.90	546.9	0.13	1.00	1.00	0.58	3.29	66.4	4742	33.33	2.00	233.65	1.20	280.38	7527	12269	15835
4	87.50	62.50	75.00	19.98	0.50	65.19	14.71	8.50	640.6	0.12	1.00	1.00	0.58	3.33	73.7	4897	33.33	2.00	235.34	1.20	282.41	6974	11871	19245
5	62.50	50.00	56.25	18.40	0.50	39.87	7.76	4.50	355.5	0.13	1.00	1.00	0.58	3.28	44.4	2679	16.67	2.00	118.52	1.20	142.23	3231	5909	10649
6	50.00	25.00	37.50	16.39	0.50	73.57	11.96	6.89	781.3	0.11	1.00	1.00	0.58	3.40	80.5	4486	33.33	2.00	237.04	1.20	284.45	5754	10241	20258
7	25.00	0.00	12.50	15.80	0.50	64.08	9.38	5.38	875.0	0.08	1.00	1.00	0.57	3.53	69.5	3877	29.17	2.00	190.05	1.20	228.06	4525	8403	18326

Equipment Load Case Information for "WIND 45 W 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)
AP-1	ANTENNA PLATFORM	162.50	24.92	0.50	30.00	315.00							528.58	528.58	8000.00
AP-2	ANTENNA PLATFORM	162.50	24.92	0.50	30.00	315.00							528.58	528.58	8000.00
AP-3	ANTENNA PLATFORM	162.50	24.92	0.50	30.00	315.00							528.58	528.58	8000.00
AP-4	ANTENNA PLATFORM	162.50	24.92	0.50	30.00	315.00							528.58	528.58	8000.00
MS-1	MILK STOOL	150.00	24.35	0.50	10.00	315.00							172.21	172.21	1500.00
MS-2	MILK STOOL	150.00	24.35	0.50	10.00	315.00							172.21	172.21	1500.00
MS-3	MILK STOOL	150.00	24.35	0.50	10.00	315.00							172.21	172.21	1500.00
MS-4	MILK STOOL	150.00	24.35	0.50	10.00	315.00							172.21	172.21	1500.00
MS-5	MILK STOOL	137.50	23.76	0.50	10.00	315.00							167.98	167.98	1500.00
MS-6	MILK STOOL	137.50	23.76	0.50	10.00	315.00							167.98	167.98	1500.00
MS-7	MILK STOOL	137.50	23.76	0.50	10.00	315.00							167.98	167.98	1500.00
MS-8	MILK STOOL	137.50	23.76	0.50	10.00	315.00							167.98	167.98	1500.00
OMNI-1	OMNI ANTENNAS	162.50	24.92	0.50	15.00	315.00							264.29	264.29	200.00
OMNI-2	OMNI ANTENNAS	162.50	24.92	0.50	15.00	315.00							264.29	264.29	200.00
OMNI-3	OMNI ANTENNAS	162.50	24.92	0.50	15.00	315.00							264.29	264.29	200.00
OMNI-4	OMNI ANTENNAS	162.50	24.92	0.50	15.00	315.00							264.29	264.29	200.00
SNET-1	SNET INSTALLATION	162.50	24.92	0.50	15.00	315.00							264.29	264.29	350.00

SNET-2	SNET	INSTALLATION	162.50	24.92	0.50	15.00	315.00														264.29	264.29	350.00	
SNET-3	SNET	INSTALLATION	162.50	24.92	0.50	15.00	315.00														264.29	264.29	350.00	
SNET-4	SNET	INSTALLATION	162.50	24.92	0.50	15.00	315.00														264.29	264.29	350.00	
SPRINT-1	SPRINT	INSTALLATION	150.00	24.35	0.50	25.00	315.00														430.52	430.52	400.00	
SPRINT-2	SPRINT	INSTALLATION	150.00	24.35	0.50	25.00	315.00														430.52	430.52	400.00	
SPRINT-3	SPRINT	INSTALLATION	150.00	24.35	0.50	25.00	315.00														430.52	430.52	400.00	
SPRINT-4	SPRINT	INSTALLATION	150.00	24.35	0.50	25.00	315.00														430.52	430.52	400.00	
TMOBILE-1	TMOBILE	INSTALLATION	137.50	23.76	0.50	10.00	315.00														167.98	167.98	200.00	
TMOBILE-2	TMOBILE	INSTALLATION	137.50	23.76	0.50	10.00	315.00														167.98	167.98	200.00	
TMOBILE-3	TMOBILE	INSTALLATION	137.50	23.76	0.50	10.00	315.00														167.98	167.98	200.00	
TMOBILE-4	TMOBILE	INSTALLATION	137.50	23.76	0.50	10.00	315.00														167.98	167.98	200.00	
VERIZON-1	VERIZON	INSTALLATION	125.00	23.12	0.50	40.00	315.00														653.87	653.87	600.00	
VERIZON-2	VERIZON	INSTALLATION	125.00	23.12	0.50	40.00	315.00														653.87	653.87	600.00	
VERIZON-3	VERIZON	INSTALLATION	125.00	23.12	0.50	40.00	315.00														653.87	653.87	600.00	
VERIZON-4	VERIZON	INSTALLATION	125.00	23.12	0.50	40.00	315.00														653.87	653.87	600.00	

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

Section Label	% of Top (ft)	% 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	162.50	137.50	150.00	24.35	0.50	83.56	14.14	8.60	359.4	0.27	1.20	1.20	0.61	2.69	110.6	7249	23.96	2.00	92.71	1.20	111.25	3876	11126	13763
2	137.50	112.50	125.00	23.12	0.50	68.06	14.72	8.64	453.1	0.18	1.14	1.14	0.59	3.06	87.2	6160	32.71	2.00	196.41	1.20	235.69	6961	13121	14031
3	112.50	87.50	100.00	21.69	0.50	58.53	13.64	7.90	546.9	0.13	1.10	1.10	0.58	3.29	73.0	5211	33.33	2.00	233.65	1.20	280.38	7527	12738	15835
4	87.50	62.50	75.00	19.98	0.50	65.19	14.71	8.50	640.6	0.12	1.09	1.09	0.58	3.33	80.6	5355	33.33	2.00	235.34	1.20	282.41	6974	12329	19245
5	62.50	50.00	56.25	18.40	0.50	39.87	7.76	4.50	355.5	0.13	1.10	1.10	0.58	3.28	48.8	2948	16.67	2.00	118.52	1.20	142.23	3231	6178	10649
6	50.00	25.00	37.50	16.39	0.50	73.57	11.96	6.89	781.3	0.11	1.08	1.08	0.58	3.40	87.1	4854	33.33	2.00	237.04	1.20	284.45	5754	10609	20258
7	25.00	0.00	12.50	15.80	0.50	64.08	9.38	5.38	875.0	0.08	1.06	1.06	0.57	3.53	73.8	4121	29.17	2.00	190.05	1.20	228.06	4525	8647	18326

D10	DIA	DAE	2.5X2.5X0.25	36.0	87.91	87.91	g59P	-17.527	WIND 0	14.990	0.000	0.000	0.500	0.900	0.500	175.25	19.310	6	0
D11	DIA	DAE	2.5X2.5X0.25	36.0	77.11	77.11	g248P	-16.188	WIND 0	15.785	0.000	0.000	0.500	0.900	0.500	168.86	18.606	6	0
D12	DIA	DAE	2.5X2.5X0.25	36.0	75.87	75.87	g273P	-16.768	WIND 0	16.617	0.000	0.000	0.500	0.900	0.500	162.68	17.925	6	0
D13	DIA	DAE	2.5X2.5X0.25	36.0	74.65	74.65	g298P	-15.019	WIND 0	15.126	0.000	0.000	0.500	1.000	0.500	174.12	17.267	6	0
D14	DIA	DAE	2.5X2.5X0.25	36.0	74.43	74.43	g323P	-15.768	WIND 0	15.929	0.000	0.000	0.500	1.000	0.500	167.76	16.636	6	0
D15	DIA	SAS	4X3X0.25	36.0	37.00	23.27	g345P	-2.191	WIND 0	7.078	0.000	0.000	0.500	0.750	0.500	210.27	22.815	5	0
D16	DIA	SAS	4X3X0.25	36.0	90.94	90.94	g366P	-9.634	WIND 0	7.965	0.000	0.000	0.500	0.750	0.500	196.06	21.273	5	0
D17	DIA	SAS	3.5X3X0.25	36.0	61.55	61.55	g384P	-6.447	WIND 0	7.876	0.000	0.000	0.500	0.750	0.500	188.17	19.789	5	0
D18	DIA	SAE	3.5X3.5X0.25	36.0	31.68	31.68	g402P	-4.747	WIND 0	11.267	0.000	0.000	0.500	0.750	0.500	158.87	18.376	5	0
H8	HOR	DAE	3X3X0.375	36.0	52.58	52.58	g71Y	-13.590	WIND 0	19.432	0.000	0.000	1.000	1.000	1.000	217.70	16.563	6	0
H9	HOR	DAL	3X2.5X0.25	36.0	61.54	61.54	g64Y	-12.416	WIND 0	15.169	0.000	0.000	1.000	1.000	1.000	186.51	14.688	6	0
H10	HOR	DAL	3X2.5X0.25	36.0	51.96	51.96	g231Y	-11.507	WIND 0	16.651	0.000	0.000	1.000	1.000	1.000	174.60	13.750	6	0
H11	HOR	DAE	2.5X2.5X0.25	36.0	64.24	64.24	g257Y	-10.611	WIND 0	12.420	0.000	0.000	1.000	1.000	1.000	199.93	12.813	6	0
H12	HOR	DAE	2.5X2.5X0.25	36.0	55.47	55.47	g281Y	-10.221	WIND 0	13.855	0.000	0.000	1.000	1.000	1.000	185.31	11.875	6	0
H13	HOR	DAE	2.5X2.5X0.25	36.0	44.18	44.18	g306Y	-9.139	WIND 0	15.553	0.000	0.000	1.000	1.000	1.000	170.68	10.938	6	0
H14	HOR	DAL	3X2.5X0.25	36.0	46.54	46.54	g331Y	-15.723	WIND 0	25.402	0.000	0.000	1.000	1.000	1.000	126.98	10.000	6	0
H15	HOR	DAL	3X2.5X0.25	36.0	29.58	29.58	g357P	-5.705	WIND 0	14.501	0.000	0.000	0.500	1.000	0.500	192.48	18.125	6	0
H16	HOR	DAL	3X2.5X0.25	36.0	2.83	1.20	g370Y	-0.528	WIND 0	33.064	0.000	0.000	0.500	0.500	0.500	103.17	16.250	1	0
H17	HOR	DAL	3.5X3X0.3125	36.0	1.54	0.00	g392X	0.000		37.100	0.000	0.000	0.500	1.000	0.500	127.78	14.375	6	0
H18	HOR	CHN	C15 x 33.9	36.0	0.09	0.06	g406Y	-0.126	WIND 0	149.620	0.000	0.000	0.500	0.500	0.500	82.96	12.500	1	0
R1	RUD	SAE	3X3X0.25	36.0	13.90	13.90	g235Y	-1.024	WIND 45	5.536	0.000	0.000	0.500	0.500	0.500	197.08	19.445	4	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)	Tens. Conn. Bearing Capacity (kips)	Tens. Conn. Rupture Capacity (kips)	Length Tens. Member (ft)	No. Of Bolts Tens.	No. Of Holes	Hole Diameter (in)
L8	LEG	SAE	8X8X1	36.0	55.83	29.45	g67Y	126.915	WIND 45	323.999	0.000	0.000	0.000	25.140	0	0.000	0
L9	LEG	SAE	8X8X0.875	36.0	51.40	26.17	g60Y	99.475	WIND 45	285.768	0.000	0.000	0.000	25.140	0	0.000	0
L10	LEG	SAE	8X8X0.75	36.0	47.99	26.24	g57Y	86.246	WIND 45	247.104	0.000	0.000	0.000	12.570	0	0.000	0
L11	LEG	SAE	6X6X0.875	36.0	53.63	25.91	g244Y	72.415	WIND 45	210.168	0.000	0.000	0.000	12.570	0	0.000	0
L12	LEG	SAE	6X6X0.875	36.0	45.29	20.65	g269Y	57.725	WIND 45	210.168	0.000	0.000	0.000	12.570	0	0.000	0
L13	LEG	SAE	6X6X0.75	36.0	43.05	18.00	g294Y	43.641	WIND 45	182.304	0.000	0.000	0.000	12.570	0	0.000	0
L14	LEG	SAE	6X6X0.75	36.0	33.41	11.75	g319Y	28.494	WIND 45	182.304	0.000	0.000	0.000	12.570	0	0.000	0
L15	LEG	SAE	6X6X0.625	36.0	38.82	7.01	g344Y	14.318	WIND 45	153.576	0.000	0.000	0.000	12.570	0	0.000	0
L16	LEG	SAE	6X6X0.625	36.0	23.60	4.89	g362Y	9.980	WIND 45	153.576	0.000	0.000	0.000	12.570	0	0.000	0
L17	LEG	SAE	6X6X0.5	36.0	18.13	0.48	g380Y	0.796	WIND 45	124.200	0.000	0.000	0.000	12.570	0	0.000	0
L18	LEG	SAE	6X6X0.5	36.0	8.98	0.00	g398Y	0.000		124.200	0.000	0.000	0.000	12.570	0	0.000	0
D8	DIA	DAS	3.5X3X0.375	36.0	56.82	18.51	g69Y	24.412	WIND 0	99.144	0.000	0.000	0.000	31.120	0	0.000	0
D9	DIA	DAS	3.5X2.5X0.25	36.0	92.28	29.61	g62Y	24.497	WIND 0	62.208	0.000	0.000	0.000	30.047	0	0.000	0
D10	DIA	DAE	2.5X2.5X0.25	36.0	87.91	23.04	g59Y	15.753	WIND 0	51.408	0.000	0.000	0.000	19.310	0	0.000	0
D11	DIA	DAE	2.5X2.5X0.25	36.0	77.11	22.31	g248Y	15.256	WIND 0	51.408	0.000	0.000	0.000	18.606	0	0.000	0
D12	DIA	DAE	2.5X2.5X0.25	36.0	75.87	22.17	g273Y	15.159	WIND 0	51.408	0.000	0.000	0.000	17.925	0	0.000	0
D13	DIA	DAE	2.5X2.5X0.25	36.0	74.65	20.96	g298Y	14.334	WIND 0	51.408	0.000	0.000	0.000	17.267	0	0.000	0
D14	DIA	DAE	2.5X2.5X0.25	36.0	74.43	20.84	g323Y	14.250	WIND 0	51.408	0.000	0.000	0.000	16.636	0	0.000	0
D15	DIA	SAS	4X3X0.25	36.0	37.00	37.00	g348Y	17.965	WIND 0	36.504	0.000	0.000	0.000	22.815	0	0.000	0
D16	DIA	SAS	4X3X0.25	36.0	90.94	11.57	g366Y	5.615	WIND 0	36.504	0.000	0.000	0.000	21.273	0	0.000	0
D17	DIA	SAS	3.5X3X0.25	36.0	61.55	10.72	g384Y	4.806	WIND 0	33.696	0.000	0.000	0.000	19.789	0	0.000	0
D18	DIA	SAE	3.5X3.5X0.25	36.0	31.68	5.62	g402Y	2.731	WIND 0	36.504	0.000	0.000	0.000	18.376	0	0.000	0
H8	HOR	DAE	3X3X0.375	36.0	52.58	11.67	g71P	14.150	WIND 0	91.152	0.000	0.000	0.000	16.563	0	0.000	0
H9	HOR	DAL	3X2.5X0.25	36.0	61.54	17.80	g64P	13.450	WIND 0	56.808	0.000	0.000	0.000	14.688	0	0.000	0

H10	HOR	DAL	3X2.5X0.25	36.0	51.96	15.85	g231P	11.974	WIND	0	56.808	0.000	0.000	0.000	13.750	0	0.000	0
H11	HOR	DAE	2.5X2.5X0.25	36.0	64.24	16.94	g257P	11.583	WIND	0	51.408	0.000	0.000	0.000	12.813	0	0.000	0
H12	HOR	DAE	2.5X2.5X0.25	36.0	55.47	15.34	g281P	10.487	WIND	0	51.408	0.000	0.000	0.000	11.875	0	0.000	0
H13	HOR	DAE	2.5X2.5X0.25	36.0	44.18	14.59	g306P	9.977	WIND	0	51.408	0.000	0.000	0.000	10.938	0	0.000	0
H14	HOR	DAL	3X2.5X0.25	36.0	46.54	2.19	g327P	1.655	WIND	0	56.808	0.000	0.000	0.000	10.000	0	0.000	0
H15	HOR	DAL	3X2.5X0.25	36.0	29.58	4.80	g356P	3.624	WIND	0	56.808	0.000	0.000	0.000	18.125	0	0.000	0
H16	HOR	DAL	3X2.5X0.25	36.0	2.83	2.83	g374P	2.142	WIND	45	56.808	0.000	0.000	0.000	16.250	0	0.000	0
H17	HOR	DAL	3.5X3X0.3125	36.0	1.54	1.54	g388P	1.708	WIND	0	83.592	0.000	0.000	0.000	14.375	0	0.000	0
H18	HOR	CHN	C15 x 33.9	36.0	0.09	0.09	g406P	0.252	WIND	0	215.136	0.000	0.000	0.000	12.500	0	0.000	0
R1	RUD	SAE	3X3X0.25	36.0	13.90	4.15	g339X	1.715	WIND	45	31.104	0.000	0.000	0.000	14.142	0	0.000	0

*** End of Report

MAXIMUM DOWNWARD LOAD = 222.42K

MAXIMUM UPLIFT LOAD = 153.14K

WT. OF SLAB = $16^2(2.5')(0.15) = 96^K$

WT. OF PIER = $\left(3.5^2 + (3.5' \times 7.0') + 7^2\right)\left(\frac{7'}{3}\right) = 200.08\ FT^3$

$200.08\ (0.15) = 30.01^K$

$\frac{1}{4}$ CONCRETE WT. = $96^K + 30^K = \boxed{126^K}$

WT. OF SOIL

$\left(23.51^2 + (23.51 \times 16) + 16^2\right)\left(\frac{6.5'}{3}\right) = 2567.24\ FT^3$

$(2567.24 - 200.08)\ (0.12) = \boxed{284^K}$

CASE 1

$\frac{126^K}{1.25} + \frac{284^K}{2.0} = 242.8^K > 153.14^K$ O.K

CASE 2

$\frac{126^K + 284^K}{1.5} = 273.33^K > 153.14^K$ O.K

PIER STEEL

$1.7\ (187.78^K) - 0.9\ (34.64^K) = 288.05^K$

$\frac{288.05^K}{0.85 \times 40} = 8.47\ in^2$, 16 #9 BARS = $15.90\ in^2$ O.K

ANCHOR BOLTS

$4 - 2\frac{1}{4}"\phi = 15.90\ in^2\ (19\ KSI) = 302.1^K > 153.14^K$ O.K