



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@po.state.ct.us

www.ct.gov/csc

May 26, 2004

Stephen J. Humes, Esq.
LeBoeuf, Lamb, Greene & MacRae, LLP
Goodwin Square
225 Asylum Street, 13th Floor
Hartford, CT 06103

RE: **EM-T-MOBILE-132-040510** – Omnipoint Communications Inc. notice of intent to modify an existing telecommunications facility located at 300 Governor's Highway, South Windsor, Connecticut.

Dear Attorney Humes:

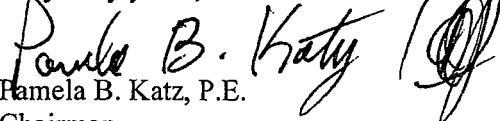
At a public meeting held on May 19, 2004, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the condition that a corrected design drawing (Exhibit B) depicting the existing carriers and the associated heights is sent to the Council.

The proposed modifications are to be implemented as specified here and in your notice dated May 10, 2004. 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. 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,



Pamela B. Katz, P.E.

Chairman

PBK/laf

c: Honorable Edward F. Havens, Mayor, Town of South Windsor
Marcia Banach, Director of Planning, Town of South Windsor
Sandy M. Carter, Verizon Wireless
Michele G. Briggs, Southwestern Bell Mobile Systems, LLC
Thomas J. Regan, Esq., Brown Rudnick Berlack Israels LLP
Christopher B. Fisher, Esq., Cuddy & Feder LLP
Thomas F. Flynn III, Nextel Communications, Inc.

LEBOEUF, LAMB, GREENE & M
L.L.P.

A LIMITED LIABILITY PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

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GOODWIN SQUARE
225 ASYLUM STREET, 13TH FLOOR
HARTFORD, CT 06103

(860) 293-3500

FACSIMILE: (860) 293-3555

E-MAIL ADDRESS: STEPHEN.HUMES@LLGM.COM

WRITER'S DIRECT DIAL: (860) 293-3744

WRITER'S DIRECT FACSIMILE: (860) 241-1344

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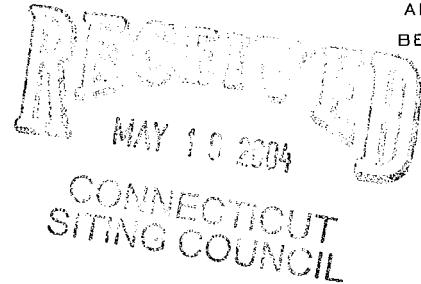
TASHKENT

BISHKEK

ALMATY

BEIJING

May 10, 2004



Pamela Katz, Chairman
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Notice of Exempt Modification
300 Governor's Highway, South Windsor, Connecticut

Dear Chairman Katz and Members of the Council:

Please be advised that LeBoeuf, Lamb, Greene & MacRae, L.L.P. represents Omnipoint Communications, Inc., a subsidiary of T-Mobile USA, Inc. (hereinafter T-Mobile) in the above-referenced matter. T-Mobile intends to add six (6) RR90-17-XXDP antennas to the existing three (3) antennas for a total of nine (9) RR90-17-XXDP antennas mounted on an existing platform on the existing monopole tower facility at 300 Governor's Highway in South Windsor. Also, one (1) S-8000 cabinet will be replaced with three (3) S-12000 Equipment cabinets. Please accept this letter as notification, pursuant to R.C.S.A. § 16-50j-73, of construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the Town Manager of South Windsor, Matthew B. Galligan.

Background

T-Mobile holds the "A block" "Wideband PCS" license for the 2-GHz PCS frequencies for the greater New York City area, including the entire State of Connecticut. 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.

Discussion

The existing facility consists of a one hundred sixty-nine foot (169') monopole tower (see drawing attached as Exhibit B) and surrounding compound. The coordinates for the site are **Lat: 41°-49-48** and **Long: 72°-36-0**. The tower is in the southwest corner of South Windsor. The tower is approximately five hundred eleven feet (511') east of Nutmeg Road and roughly nine hundred thirty-six feet (936') west of Connecticut Way. The Tower owner is Voicestream Wireless.

T-Mobile's proposal calls for the addition of six (6) antennas to its existing three (3) antennas, creating a total of nine (9) antennas. The proposed configuration is a cluster of (9) nine antennas at the one hundred seventy-two foot (172') centerline above ground level ("AGL"). The model number for the new antennas are RR90-17-XXDP. A new structural analysis of the tower has been completed and is attached as Exhibit D. As stated in the structural analysis, the existing tower structure is capable of supporting the proposed T-Mobile installation. Three (3) new S12000 cabinets will be added to replace the existing S8000 equipment cabinet. Utilities will be run via underground conduit from those currently in place.

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

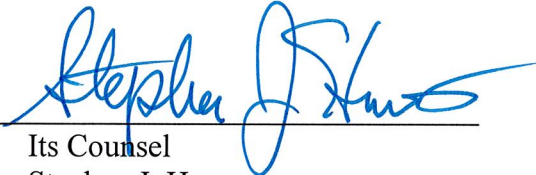
1. The proposed modification will not increase the height of T-Mobile's approved antennas on the tower and will not extend the boundaries of the existing compound area. The enclosed tower drawings confirm that the planned changes will not increase the overall height of the tower.
2. The installation of T-Mobile equipment, as reflected on the attached site plan, will not require an extension of the site boundaries.
3. The proposed modification to the facility will not increase the noise levels at the existing facility by six decibels or more. T-Mobile's equipment is self-contained and requires no additional heating, ventilation or cooling equipment.
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 applicable standard. The "worst-case" RF power density calculations, for a point at the site boundary, are attached hereto as Exhibit E.

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

Thank you for your consideration of this matter.

Respectfully submitted,

OMNIPOINT COMMUNICATIONS, INC.

By: 
Its Counsel
Stephen J. Humes

cc: South Windsor Town Manager, Matthew B. Galligan

Exhibit A
Site Map

300 Governor's Hwy
South Windsor, Connecticut

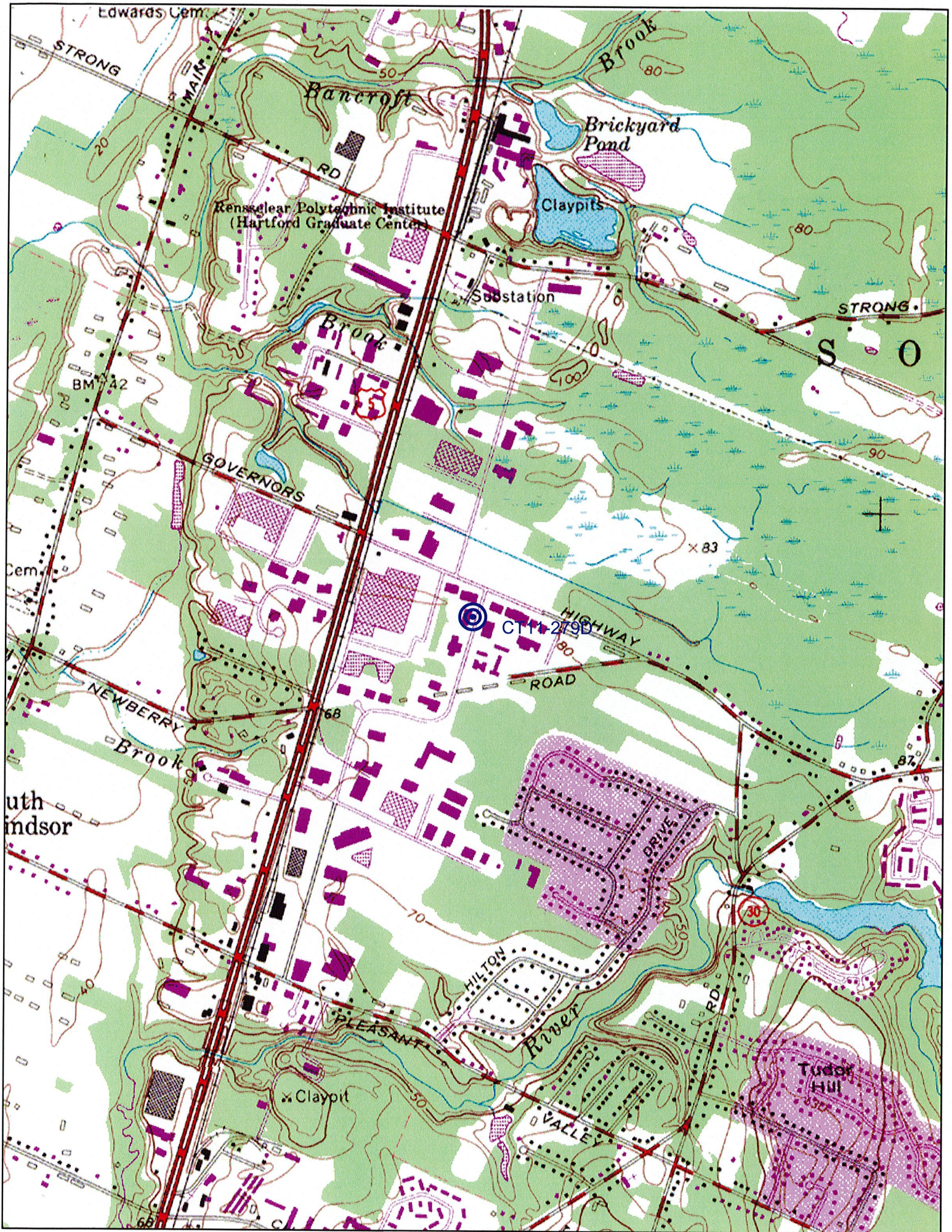
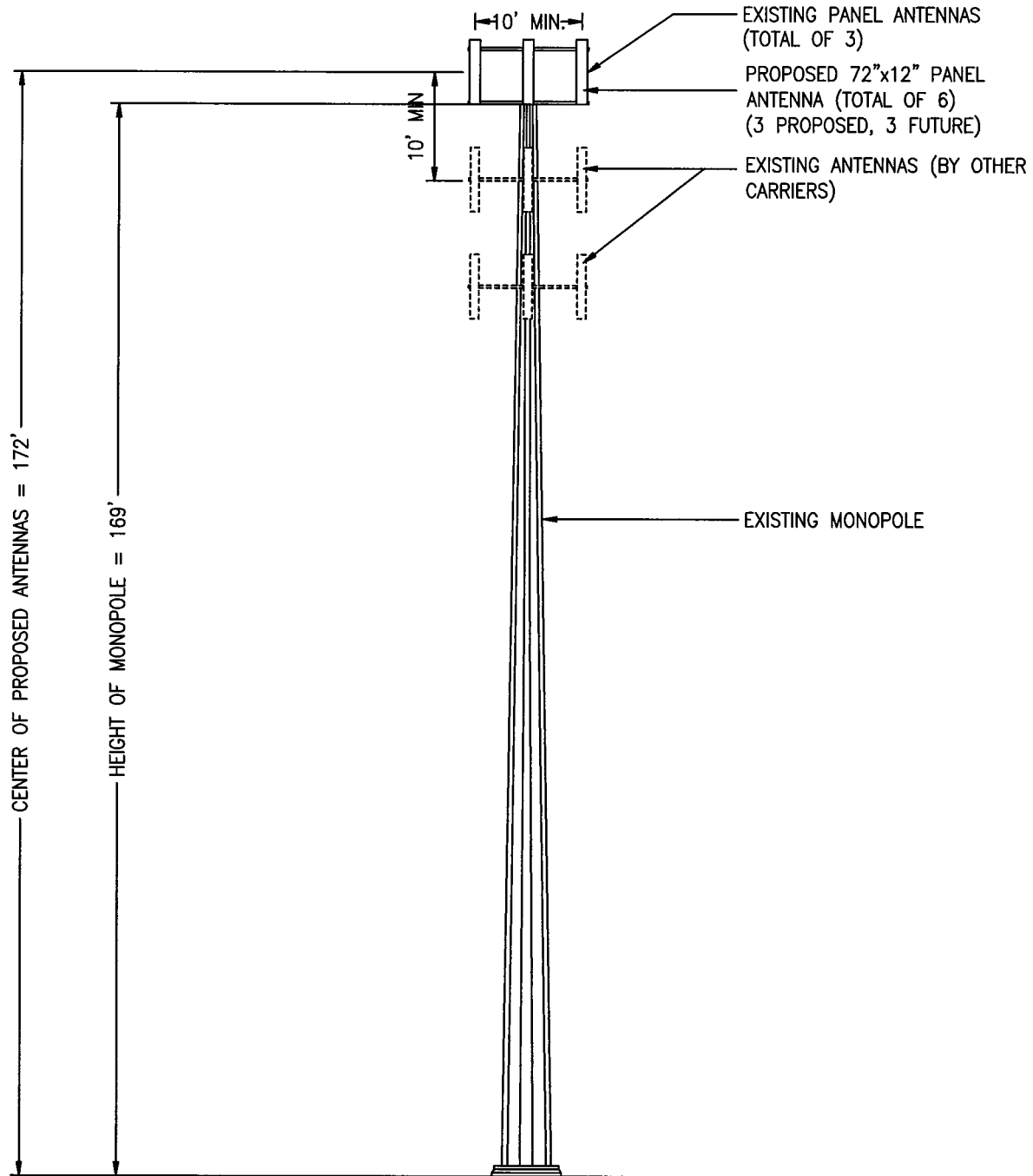


Exhibit B
Design Drawings

300 Governor's Hwy
South Windsor, Connecticut

NOTE:
 PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE IS REQUIRED TO MEET NATIONWIDE STANDARDS FOR WIRELESS COMMUNICATIONS SYSTEMS. OMNIPOINT COMMUNICATIONS, INC. IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT AND ANTENNAS GENERALLY DEPICTED ON THIS PLAN, ATTACHED TO OR MOUNTED IN CLOSE PROXIMITY TO THE BTS RADIO CABINETS. OMNIPOINT COMMUNICATIONS, INC. RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO E911 EQUIPMENT AND LOCATION AS TECHNOLOGY EVOLVES TO MEET REQUIRED SPECIFICATIONS.



RF APPROVED: _____

ALL EQUIPMENT LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO APPROVAL BY OMNIPOINT COMMUNICATIONS, INC. STRUCTURAL & RF ENGINEERS. LOCATIONS OF POWER & TELEPHONE FACILITIES ARE SUBJECT TO APPROVAL BY UTILITY COMPANIES.

ELEVATION

REV. 4: 9/15/03

SITE NO: CT-11-279D
 SITE NAME: SOUTH WINDSOR /RT 5
 ADDRESS: 300 GOVERNERS HWY
 SOUTH WINDSOR, CT

OMNIPOINT COMMUNICATIONS, INC.

100 FILLEY STREET
 BLOOMFIELD, CT 06002

SITE MODIFICATION PLAN
 SMP

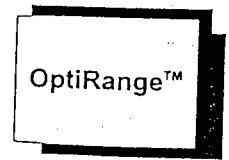
DRAWN BY: M. GRANESE

DATE:
 2/5/04

SCALE: NTS

Exhibit C
Equipment Specifications

300 Governor's Hwy
South Windsor, Connecticut



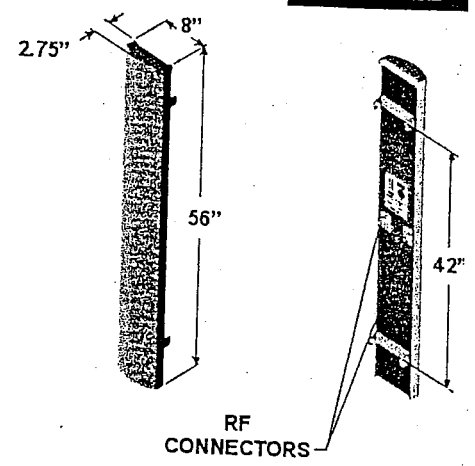
RR90-17-XXDP

DualPol® Polarization
1850 MHz - 1990 MHz

Electrical Specifications

- Azimuth Beamwidth
- Elevation Beamwidth
- Gain
- Polarization
- Port-to-Port Isolation
- Front-to-Back Ratio
- Electrical Downtilt Options
- VSWR
- Connectors
- Power Handling
- Passive Intermodulation
- Lightning Protection

- 90°
- 6°
- 16.5 dBi (14.4 dBd)
- Dual Linear Slant ($\pm 45^\circ$)
- ≥ 30 dB
- ≥ 28 dB (≥ 30 dB Typ.)
- 0°, 2°, 4°, 6°
- 1.35:1 Max
- 2; 7-16 DIN (female)
- 250 Watts CW
- ≤ -150 dBc
- [2 x 20 W (+ 43 dBm)]
- Chassis Ground

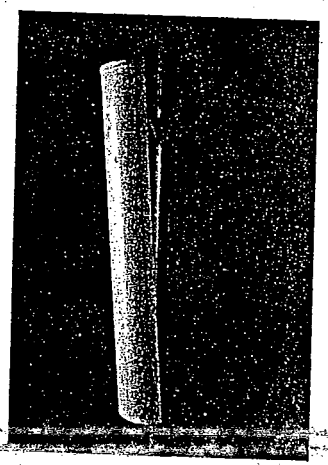


Mechanical Specifications

Dimensions (L x W x D)

- Rated Wind Velocity
- Equivalent Flat Plate Area
- Front Wind Load @ 100 mph (161 kph)
- Side Wind Load @ 100 mph (161 kph)
- Weight

- 56 in x 8 in x 2.75 in
(142 cm x 20.3 cm x 7.0 cm)
- 150 mph (241 km/hr)
- 3.1ft² (.29 m²)
- 90 lbs (400 N)
- 31lbs (139 N)
- 18 lbs (8.2 kg)

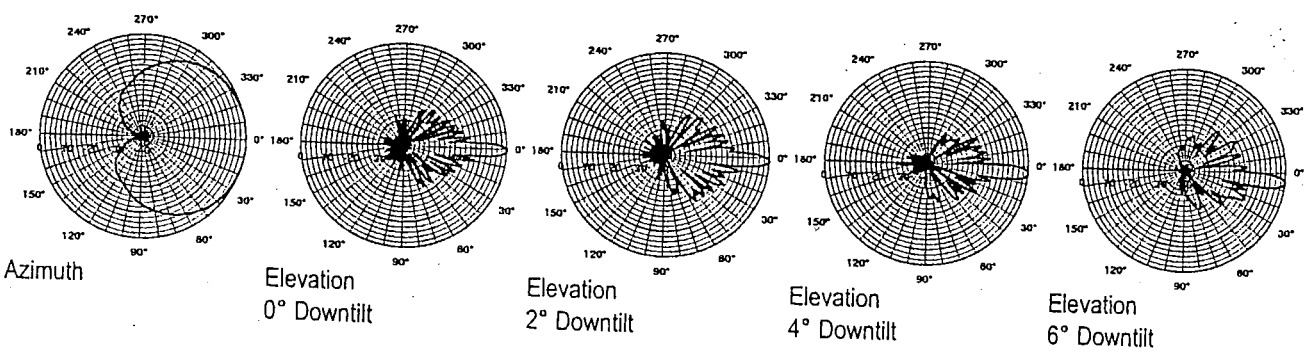


Mounting Options

MTG-PULL-10, MTC-S02-10, MTC-CXX-20*, MTC-CXX-10*, MTC-C02-10, MTG-1XX-10*

Note: *Model number shown represents a series of products. See Mounting Options section for specific model number.

Patterns



Revised 04/05/02

Mobile Wireless Introduction

Drawing from more than 30 years in the development of highly reliable systems, EMS Wireless has applied that knowledge and experience to the needs of commercial wireless communication service providers.

EMS Wireless offers a broad selection of innovative base station antennas offering superior performance for all wireless protocols including PCS, cellular, GSM, CDMA, TDMA and IDEN among others.

Mobile Wireless Products

Frequency Bands:

- PCS (1850-1990 MHz)
- Cellular (806-960 MHz)
- Dualband (806-896 and 1850-1900 MHz)
- CDMA 450 (450-470 MHz)
- GSM 900 (890-960 MHz)
- GSM 1800 (1710-1880 MHz)
- MMDS (2305-2360 MHz)

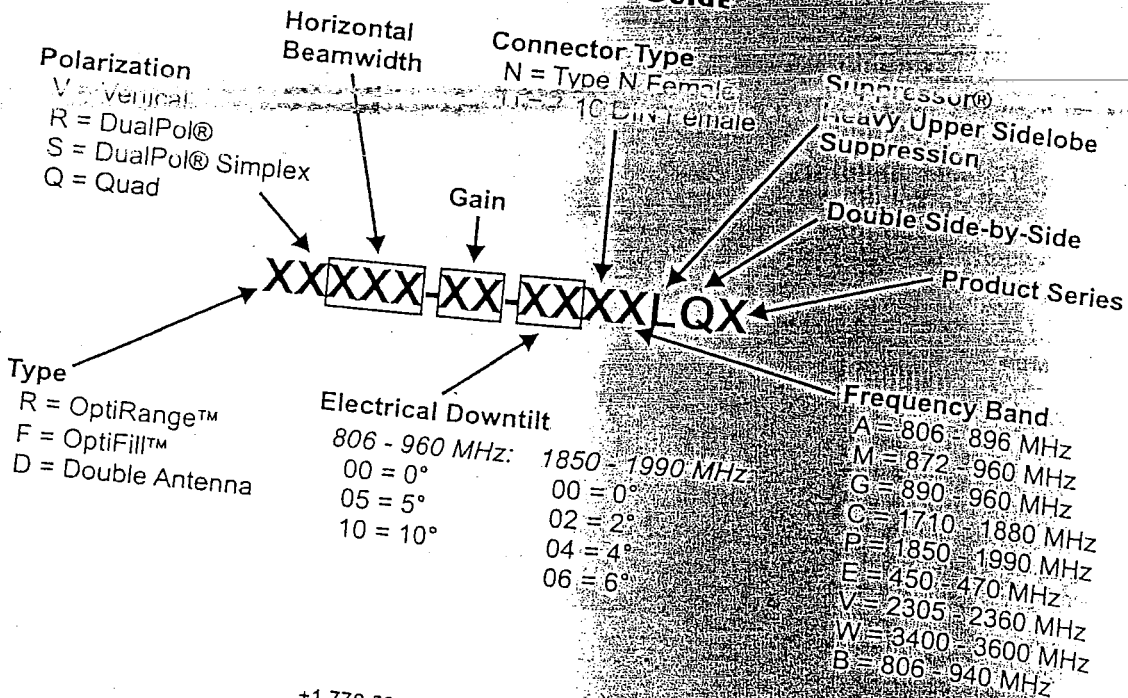
Micro AcCELLerator™ Series:

- MTRR75-17-XXXDPL (PCS)
- MTFR90-11-XXXDAL2-CMX (Cellular)

AcCELLerator™ Series:

- 16" AcCELLerator™
- 19" AcCELLerator™
- 30" AcCELLerator™
- 36" AcCELLerator™

Mobile Wireless Standard Model Number Guide



3.2.12 S12000 Outdoor BTS

3.2.12.1 Hardware description

The base cabinet and the extension cabinet have the same physical structure.

The cabinets are a compact metallic structure. Equipment is accessed from the front of the cabinets and all the cables enter through the base of the cabinet (cabinets can be installed on a plinth for ease of cabling).

The cabinet is divided into separate compartments (see *Figure 3-49*):

- The top compartment contains the Direct Ambient Cooling System (DACS) and the batteries.
- The main compartment accommodates the plug-in radio, digital processing and power supply units. The number of units varies according to the configuration.
- In a fully loaded configuration the left compartment contains the following elements:
 - two DRX interconnection (DRX-ICOA and DRX-ICOB) modules
 - two DRX shelves that contain up to 12 DRXs
 - two RX splitter shelves that contain four RX splitters
 - RF combiner shelf that contains four RF combiner
- In a fully loaded configuration the right compartment contains the following elements:
 - The user rack and its interconnection module
 - The RECAL board
 - two F-type converters
 - The CBCF module
 - the rectifier rack that contains up to eight rectifiers
 - The PA interconnection (PA-ICO) module
 - The PA shelf that contains up to 12 PAs
 - The RF combiner shelf that contains eight RF combiners
 - The combiners interconnection (COM-ICO) module
 - The ac box

3.2.12.2 Physical characteristics

Base cabinet dimensions

- height: 191 cm (75.2 in.)
- width: 135 cm (53.1 in.)
- depth: 65 cm (25.6 in.)

Plinth dimensions

- height: 191 cm (75.2 in.)
- width: 80 cm (31.5 in.)
- depth: 65 cm (25.6 in.)


Weight

A fully equipped cabinet can weigh up to 180 kg (396 lb).

3.3 Power supplies

The two following tables give the BTSs input voltages.

| | GSM 850 | GSM 900 | GSM 1800 | GSM 1900 | GSM -R 900 |
|-------------------------|----------|-----------------------------|----------------|--------------------------------|--------------|
| S2000 | | 220 – 240 V ac | | 120 V ac | |
| S2000E Indoor | | | | | |
| S2000E Outdoor | | | | 120 V ac | |
| S2000H "FP" and "EP" | | 220–240 V ac | | 216–254 V ac | |
| S2000L "FP" and "EP" | | 220–240 V ac or 120 V ac | | 216–254 V ac or 120 V ac | |
| e-cell | | –48 V dc (*) | | | |
| S4000 Indoor | | –48 V dc (*) | | | |
| S4000C Indoor | | –48 V dc (*) | | | |
| S4000 Outdoor | | 220–240 V ac | | 240 V ac | |
| S4000 Smart | | | | 240 V ac | |
| S8000 Indoor | –48 V dc | –48 V dc | | –48 V dc | –48 V dc |
| S8000 Outdoor | 120 V ac | 220–240 V ac | | 240 V ac | 220–240 V ac |
| S8002 Outdoor | | | | | 220–240 V ac |
| S8006 | | | 230 V ac ± 10% | | |
| S12000 Indoor | | | | –48 V dc | |
| S12000 Outdoor | | | | 220–240 V ac | |

 Product unavailable

(*) rated voltage: –48 V dc
minimum voltage: –40.5 V dc
maximum voltage: –57 V dc

■ Table 3–3 BTS input voltages

Exhibit D

Structural Analysis

300 Governor's Hwy

South Windsor, Connecticut

GH-279D

1047 N. 204th Avenue
Elkhorn, NE 68022
Ph:402-289-1888
Fax:402-289-1861

SEMAAN ENGINEERING SOLUTIONS

**175 ft EEI Monopole
Structural Analysis**

**Prepared for:
VoiceStream Wireless
1500 N.E. Irving, Suite 530
Portland, OR 97232**

**Site: CT11279D/ South Windsor / AT&T
South Windsor, CT**

April 26, 2002

Ms. Jennifer Jones
VoiceStream Wireless
1500 N.E. Irving, Suite 530
Portland, OR 97232

Re: Site Number CT11279D – South Windsor - AT&T South Windsor, CT.

Dear Ms. Jones:

We have completed the structural analysis for the existing monopole, located at the above referenced site. The purpose of this analysis is to determine that the existing monopole design is in conformance with the EIA/TIA-222-F standard for the proposed antennae loads installation. Refer to the Review and Recommendations section at the end of this report for the analysis results.

Description of Structure:

The structure is a 169 ft EEI Monopole mounted on a 4 ft steel frame.

Refer to EEI job #99-1371 Rev. 1 dated January 31, 2000 for a detailed description of the structure.

Method of analysis:

The tower was analyzed using Semaan Engineering Solutions' software suite for communication structures. The structural analysis is performed using the SAPS finite element engine. The method is 3D, non-linear, which accounts for the second order geometric effects due to the displacements. It also treats guys as exact cable elements and therefore is ideal for guyed towers. The analysis was performed in conformance with **EIA/TIA-222-F for 80 mph with 1/2" radial ice.** Wind is applied to the structure, accessories and antennas.

Structure loading:

Per the loading sheet supplied, the analysis was performed using the following loading: (Proposed loading in bold)

| Elev. (ft) | Qty. | Antennas and Mounts | Coax | Owner |
|-------------------|-------------|--|-------------------|-----------------|
| 175.0 | 12 | RR65-19-00XP w/Airtech LNA's Mounted On a EEI Low Profile platform | (24) 1-5/8 | Voicestream |
| 160.0 | 12 | ALP 9011 Mounted On a EEI Low Profile platform | (12) 1-5/8 | Verizon |
| 152.0 | 12 | Allgon 7250.03 Mounted On a Low Profile platform | (12) 1-1/4 | AT&T |
| 132.0 | 1 | HP MW Dish, 4' Dia. | (1) 1-5/8 | Voicestream |

All new access holes shall be reinforced with welded rims that are compatible with the pole and to be sized and supplied by pole manufacturer.

All VoiceStream transmission lines are assumed running inside of pole shaft with all other lines strapped tightly to the outside of the pole shaft.

Results of Analysis:

Refer to the attached Computer Summary sheets for detailed analysis results.

Structure:

The existing monopole is structurally capable of supporting the existing and proposed antennas. The maximum structure usage is: 99.0%.

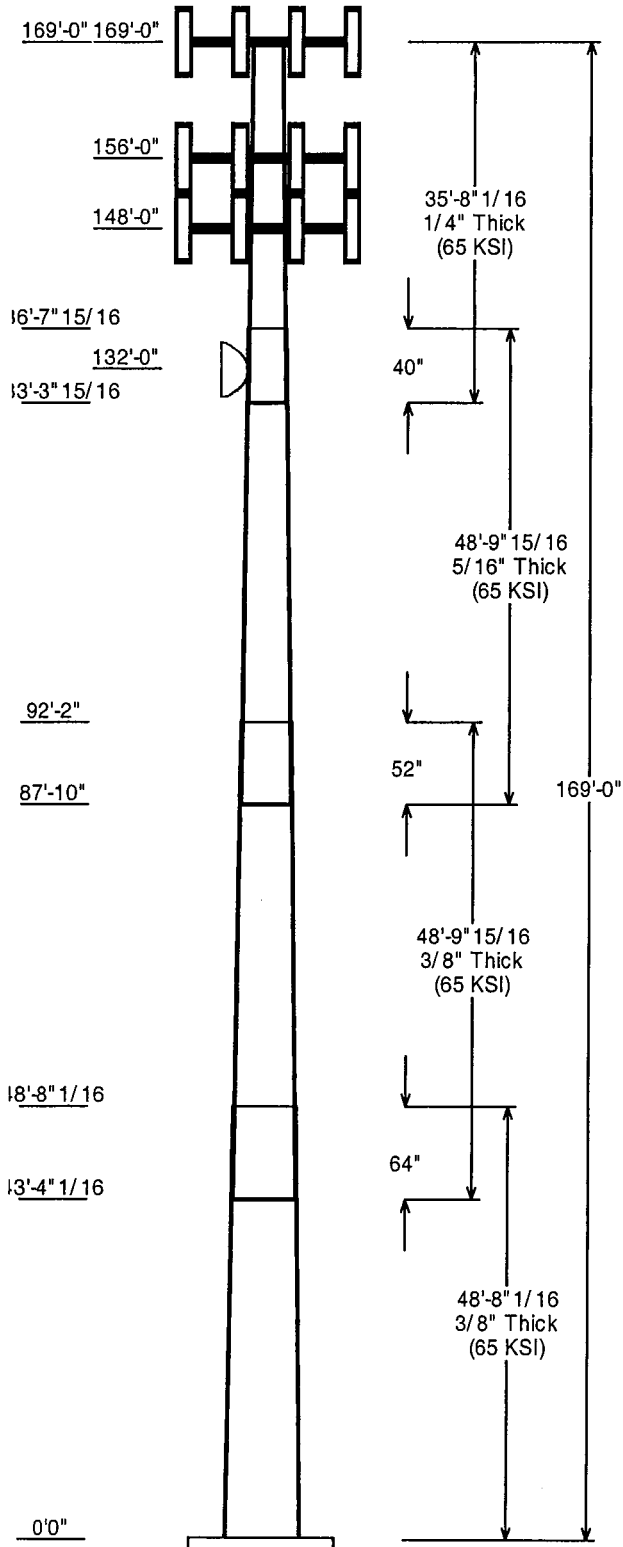
Foundation:

| Pole Reactions | Original Design Reactions | Current Analysis Reactions | % Of Design |
|-----------------------|----------------------------------|-----------------------------------|--------------------|
| Moment (ft-kips) | 2,577.60 | 2,537.49 | 98.4 |

The reactions calculated from the analysis do not exceed the ones indicated on the original structural design.

Review and Recommendations:

Based on the analysis results, the existing structure meets the requirements per the EIA/TIA-222-F standards for a basic wind speed of 80 mph with 1/2" radial ice.



| Job Information | | | |
|-----------------|--|-----------------------|--|
| Pole : | CT11279D | | |
| Description : | Client : VoiceStream Wireless-OR | | |
| Location : | South Windsor - AT&T South Windsor, CT | | |
| Type : | 18 Sides | Slip Joints | |
| Height :(ft) | 169.000 | Taper: 0.1886 (in/ft) | |

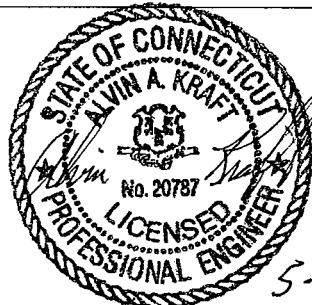
| Sections Properties | | | | | | | |
|---------------------|---------------------|--------------------------------|----------------------|------------|------------|---------------------|-------------------|
| Shaft Section | Section Length (ft) | Diameter (in) Across Flats Top | Diameter (in) Bottom | Thick (in) | Joint Type | Overlap Length (in) | Steel Grade (ksi) |
| 1 | 48.670 | 36.32 | 45.50 | 0.375 | | 0.000 | 65 |
| 2 | 48.830 | 28.86 | 38.07 | 0.375 | Slip Joint | 64.000 | 65 |
| 3 | 48.830 | 21.09 | 30.30 | 0.313 | Slip Joint | 52.000 | 65 |
| 4 | 35.670 | 15.50 | 22.22 | 0.250 | Slip Joint | 40.000 | 65 |

| Discrete Appurtenance | | | | | |
|-----------------------|-----------------|----------|-----|------------------------------|--|
| Attach Elev (ft) | Force Elev (ft) | Type | Qty | Description | |
| 169.000 | 169.000 | Panel | 12 | RR65-19-00XP w/Airtech LNA's | |
| 169.000 | 169.000 | Platform | 1 | EEI Low Profile platform | |
| 156.000 | 156.000 | Panel | 12 | ALP 9011 | |
| 156.000 | 156.000 | Platform | 1 | EEI Low Profile platform | |
| 148.000 | 148.000 | Platform | 1 | Low Profile platform | |
| 148.000 | 148.000 | Panel | 12 | Allgon 7250.03 | |
| 132.000 | 132.000 | Dish | 1 | HP MW Dish, 4' Dia. | |

| Linear Appurtenance | | | | |
|---------------------|-------|------------------|-----------------|--|
| Elev (ft) From | To | Description | Exposed To Wind | |
| 0.000 | 148.0 | (12) 11/4" Coax | No | |
| 0.000 | 156.0 | (12) 1 5/8" Coax | Yes | |

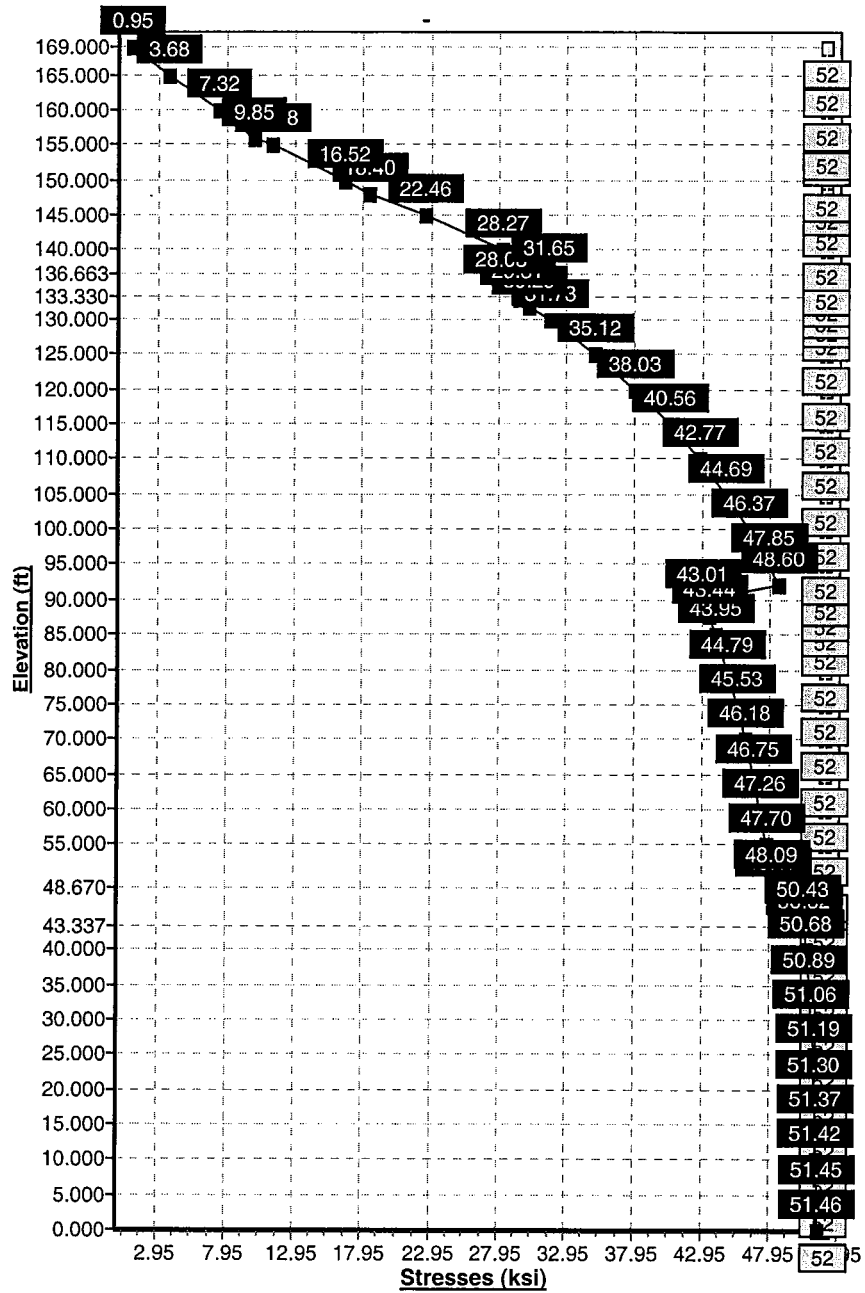
| Load Cases / Deflections | | | |
|---|------------------|------------------|----------------|
| Load Case | Attach Elev (ft) | Translation (in) | Rotation (deg) |
| <u>No Ice</u> <u>No Ice Wind Speed = 80.00 mph w/ No Ice</u> | | | |
| | 169.000 | 177.38 | -9.506 |
| | 156.000 | 151.78 | -9.333 |
| | 148.000 | 136.41 | -9.067 |
| | 132.000 | 107.49 | -8.204 |
| <u>Ice</u> <u>Ice Wind Speed = 69.28 mph w/ Ice 0.50 in Thick</u> | | | |
| | 169.000 | 160.00 | -8.625 |
| | 156.000 | 136.75 | -8.464 |
| | 148.000 | 122.80 | -8.218 |
| | 132.000 | 96.60 | -7.421 |

| Reactions | | | |
|-----------|-----------------|--------------|--------------|
| Load Case | Moment (Kip-ft) | Shear (Kips) | Axial (Kips) |
| No Ice | 2,537.485 | 21.074 | -28.687 |
| Ice | 2,246.083 | 17.933 | -38.897 |



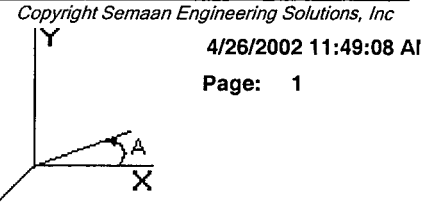
5-2-02

Load Case : No Ice



Pole : CT11279D
 Location: South Windsor - AT&T South Windsor, CT
 Height : 169.0 (ft)
 Shape : 18 Sides
 Base Dia : 45.50 (in)
 Taper : 0.188 (in/ft)

VoiceStream Wireless-OR
 Base Elev : 4.000 (ft)
 Top Dia : 15.50 (in)



Shaft Section Properties

| Sect Num | Length (ft) | Thick (in) | Fy (ksi) | Joint Type | Slip Joint Len (in) | Weight (lb) | Bottom | | | | Top | | | | | | | | |
|--------------|-------------|------------|----------|------------|---------------------|-------------|----------|-----------|-------------|-----------|-----------|-----------|----------|-----------|-------------|-----------|-----------|-----------|---------------|
| | | | | | | | Dia (in) | Elev (ft) | Area (sqin) | Ix (in^4) | W/t Ratio | D/t Ratio | Dia (in) | Elev (ft) | Area (sqin) | Ix (in^4) | W/t Ratio | D/t Ratio | Taper (in/ft) |
| 1 | 48.670 | 0.3750 | 65 | | 0.00 | 7,990 | 45.50 | 0.000 | 53.71 | 13817.4 | 19.98 | 121.3 | 36.32 | 48.67 | 42.78 | 6984.0 | 15.67 | 96.85 | 0.188 |
| 2 | 48.830 | 0.3750 | 65 | Slip Joint | 64.00 | 6,545 | 38.07 | 43.33 | 44.87 | 8058.3 | 16.49 | 101.5 | 28.86 | 92.16 | 33.91 | 3477.9 | 12.16 | 76.98 | 0.188 |
| 3 | 48.830 | 0.3125 | 65 | Slip Joint | 52.00 | 4,185 | 30.30 | 87.83 | 29.75 | 3382.2 | 15.69 | 96.99 | 21.09 | 136.6 | 20.62 | 1125.5 | 10.49 | 67.52 | 0.188 |
| 4 | 35.670 | 0.2500 | 65 | Slip Joint | 40.00 | 1,793 | 22.22 | 133.3 | 17.44 | 1064.2 | 14.27 | 88.91 | 15.50 | 169.0 | 12.10 | 355.5 | 9.52 | 62.00 | 0.188 |
| Shaft Weight | | | | | | 20,512 | | | | | | | | | | | | | |

Discrete Appurtenance Properties

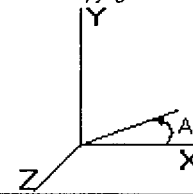
| Attach Elev (ft) | Description | Qty | Weight (lb) | No Ice CaAa (sf) | CaAa Factor | Weight (lb) | Ice CaAa (sf) | CaAa Factor | Distance From Face (ft) | X Angle (deg) | Vert Ecc (ft) |
|------------------|--------------------------|-----|-------------|------------------|-------------|-------------|---------------|-------------|-------------------------|---------------|---------------|
| 169.0 | RR65-19-00XP w/Airtech | 12 | 23.00 | 6.000 | 0.67 | 52.00 | 6.850 | 0.67 | 0.000 | 0.00 | 0.000 |
| 169.0 | EEI Low Profile platform | 1 | 1500.00 | 22.500 | 1.00 | 2250.00 | 28.200 | 1.00 | 0.000 | 0.00 | 0.000 |
| 156.0 | ALP 9011 | 12 | 20.00 | 3.430 | 1.00 | 42.00 | 3.840 | 1.00 | 0.000 | 0.00 | 0.000 |
| 156.0 | EEI Low Profile platform | 1 | 1500.00 | 22.500 | 1.00 | 2250.00 | 28.200 | 1.00 | 0.000 | 0.00 | 0.000 |
| 148.0 | Low Profile platform | 1 | 1300.00 | 25.550 | 1.00 | 2100.00 | 27.320 | 1.00 | 0.000 | 0.00 | 0.000 |
| 148.0 | Allgon 7250.03 | 12 | 16.00 | 4.300 | 0.67 | 36.00 | 5.000 | 0.67 | 0.000 | 0.00 | 0.000 |
| 132.0 | HP MW Dish, 4' Dia. | 1 | 170.00 | 15.860 | 1.00 | 280.00 | 16.520 | 1.00 | 0.000 | 0.00 | 0.000 |
| Totals | | 40 | 5178.00 | | | 8440.00 | | | Number of Loadings : 7 | | |

Linear Appurtenance Properties

| Elev From (ft) | Elev To (ft) | Description | No Ice Weight (lb/ft) | CaAa (sf/ft) | Ice Weight (lb/ft) | CaAa (sf/ft) | Exposed To Wind |
|----------------|--------------|------------------|-----------------------|--------------|--------------------|--------------|-----------------|
| 0.00 | 148.00 | (12) 11/4" Coax | 7.92 | 0.30 | 15.00 | 0.52 | N |
| 0.00 | 156.00 | (12) 1 5/8" Coax | 12.00 | 0.40 | 36.00 | 0.60 | Y |
| Total Weight | | | weight | | weight | | |

Pole : CT11279D
Location: South Windsor - AT&T South Windsor, CT
Height : 169.0 (ft)
Shape : 18 Sides
Base Dia : 45.50 (in)
Taper : 0.188 (in/ft)

VoiceStream Wireless-OR
Base Elev : 4.000 (ft)
Top Dia : 15.50 (in)



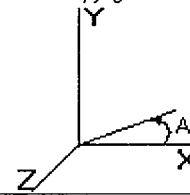
Segment Properties (Max Len : 5 ft)

| Seg Elev (ft) | Description | Thick (in) | Dia (in) | Area (in^2) | Ix (in^4) | W/t Ratio | D/t Ratio | Fy (ksi) | Fb (ksi) | Weight (lb) |
|---------------|-----------------|------------|----------|-------------|-----------|-----------|-----------|----------|----------|-------------|
| 0.00 | | 0.3750 | 45.500 | 53.708 | 13,817.4 | 19.98 | 121.33 | 65 | 52 | 0.0 |
| 5.00 | | 0.3750 | 44.557 | 52.586 | 12,969.1 | 19.54 | 118.82 | 65 | 52 | 904.2 |
| 10.00 | | 0.3750 | 43.614 | 51.463 | 12,156.2 | 19.10 | 116.30 | 65 | 52 | 885.1 |
| 15.00 | | 0.3750 | 42.671 | 50.341 | 11,378.1 | 18.65 | 113.79 | 65 | 52 | 866.0 |
| 20.00 | | 0.3750 | 41.728 | 49.218 | 10,633.8 | 18.21 | 111.27 | 65 | 52 | 846.9 |
| 25.00 | | 0.3750 | 40.785 | 48.096 | 9,922.8 | 17.77 | 108.76 | 65 | 52 | 827.8 |
| 30.00 | | 0.3750 | 39.842 | 46.974 | 9,244.2 | 17.32 | 106.24 | 65 | 52 | 808.8 |
| 35.00 | | 0.3750 | 38.899 | 45.851 | 8,597.2 | 16.88 | 103.73 | 65 | 52 | 789.7 |
| 40.00 | | 0.3750 | 37.956 | 44.729 | 7,981.2 | 16.44 | 101.21 | 65 | 52 | 770.6 |
| 43.34 | Bot - Section 2 | 0.3750 | 37.326 | 43.980 | 7,586.9 | 16.14 | 99.54 | 65 | 52 | 503.6 |
| 45.00 | | 0.3750 | 37.013 | 43.606 | 7,395.3 | 15.99 | 98.70 | 65 | 52 | 500.8 |
| 48.67 | Top - Section 1 | 0.3750 | 37.070 | 43.675 | 7,430.3 | 16.02 | 98.85 | 65 | 52 | 1,090.0 |
| 50.00 | | 0.3750 | 36.819 | 43.377 | 7,279.0 | 15.90 | 98.19 | 65 | 52 | 197.0 |
| 55.00 | | 0.3750 | 35.876 | 42.254 | 6,728.4 | 15.46 | 95.67 | 65 | 52 | 728.5 |
| 60.00 | | 0.3750 | 34.933 | 41.132 | 6,206.4 | 15.02 | 93.16 | 65 | 52 | 709.4 |
| 65.00 | | 0.3750 | 33.990 | 40.009 | 5,712.0 | 14.57 | 90.64 | 65 | 52 | 690.3 |
| 70.00 | | 0.3750 | 33.047 | 38.887 | 5,244.6 | 14.13 | 88.13 | 65 | 52 | 671.2 |
| 75.00 | | 0.3750 | 32.104 | 37.764 | 4,803.5 | 13.68 | 85.61 | 65 | 52 | 652.1 |
| 80.00 | | 0.3750 | 31.161 | 36.642 | 4,387.8 | 13.24 | 83.10 | 65 | 52 | 633.0 |
| 85.00 | | 0.3750 | 30.218 | 35.520 | 3,996.8 | 12.80 | 80.58 | 65 | 52 | 613.9 |
| 87.00 | Bot - Section 3 | 0.3750 | 29.684 | 34.884 | 3,785.9 | 12.55 | 79.16 | 65 | 52 | 339.4 |
| 90.00 | | 0.3750 | 29.275 | 34.397 | 3,629.7 | 12.35 | 78.07 | 65 | 52 | 473.3 |
| 92.17 | Top - Section 2 | 0.3125 | 29.491 | 28.941 | 3,113.2 | 15.23 | 94.37 | 65 | 52 | 466.7 |
| 95.00 | | 0.3125 | 28.957 | 28.411 | 2,945.2 | 14.93 | 92.66 | 65 | 52 | 276.5 |
| 100.00 | | 0.3125 | 28.014 | 27.475 | 2,663.8 | 14.40 | 89.64 | 65 | 52 | 475.4 |
| 105.00 | | 0.3125 | 27.071 | 26.540 | 2,400.9 | 13.86 | 86.63 | 65 | 52 | 459.5 |
| 110.00 | | 0.3125 | 26.128 | 25.605 | 2,155.9 | 13.33 | 83.61 | 65 | 52 | 443.6 |
| 115.00 | | 0.3125 | 25.185 | 24.669 | 1,928.2 | 12.80 | 80.59 | 65 | 52 | 427.7 |
| 120.00 | | 0.3125 | 24.242 | 23.734 | 1,717.1 | 12.27 | 77.57 | 65 | 52 | 411.8 |
| 125.00 | | 0.3125 | 23.299 | 22.799 | 1,521.9 | 11.74 | 74.56 | 65 | 52 | 395.9 |
| 130.00 | | 0.3125 | 22.356 | 21.863 | 1,342.2 | 11.20 | 71.54 | 65 | 52 | 379.9 |
| 132.00 | | 0.3125 | 21.978 | 21.489 | 1,274.5 | 10.99 | 70.33 | 65 | 52 | 147.5 |
| 133.33 | Bot - Section 4 | 0.3125 | 21.728 | 21.240 | 1,230.7 | 10.85 | 69.53 | 65 | 52 | 96.7 |
| 135.00 | | 0.3125 | 21.413 | 20.928 | 1,177.2 | 10.67 | 68.52 | 65 | 52 | 218.2 |
| 136.66 | Top - Section 3 | 0.2500 | 21.599 | 16.940 | 975.5 | 13.82 | 86.40 | 65 | 52 | 214.1 |
| 140.00 | | 0.2500 | 20.970 | 16.440 | 891.7 | 13.38 | 83.88 | 65 | 52 | 189.5 |
| 145.00 | | 0.2500 | 20.027 | 15.692 | 775.4 | 12.71 | 80.11 | 65 | 52 | 273.3 |
| 148.00 | | 0.2500 | 19.461 | 15.243 | 710.7 | 12.32 | 77.84 | 65 | 52 | 157.9 |
| 150.00 | | 0.2500 | 19.084 | 14.944 | 669.7 | 12.05 | 76.33 | 65 | 52 | 102.7 |
| 155.00 | | 0.2500 | 18.140 | 14.196 | 574.0 | 11.38 | 72.56 | 65 | 52 | 247.9 |
| 156.00 | | 0.2500 | 17.952 | 14.046 | 556.1 | 11.25 | 71.81 | 65 | 52 | 48.0 |
| 160.00 | | 0.2500 | 17.197 | 13.447 | 488.0 | 10.72 | 68.79 | 65 | 52 | 187.1 |
| 165.00 | | 0.2500 | 16.254 | 12.699 | 411.0 | 10.05 | 65.02 | 65 | 52 | 222.4 |
| 169.00 | | 0.2500 | 15.500 | 12.100 | 355.5 | 9.52 | 62.00 | 65 | 52 | 168.8 |

20,512.5

Pole : CT11279D
Location: South Windsor - AT&T South Windsor, CT
Height : 169.0 (ft)
Shape : 18 Sides
Base Dia : 45.50 (in)
Taper : 0.188 (in/ft)

VoiceStream Wireless-OR
Base Elev : 4.000 (ft)
Top Dia : 15.50 (in)

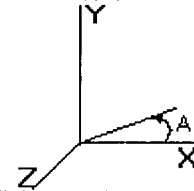


| | | |
|-----------------------------|--|---------------|
| Load Case: No Ice | 80 mph - No Ice | 30 Iterations |
| Gust Response Factor : 1.69 | Effective Wind Speed : 80.00 (mph) | |
| Dead Load Factor : 1.00 | Note : Pole Base Elevation is Added for Kz Calculation | |
| Wind Load Factor : 1.00 | | |

Shaft Forces

| Seg Top Elev (ft) | Description | Kz | qz (psf) | qzGh (psf) | C (mph-ft) | Cf | Tributary (ft) | Aa (sf) | CfAa (sf) | Wind Force X (lb) | Wind Force Z (lb) | Weight (lb) |
|-------------------|-----------------|------|----------|------------|------------|-------|----------------|---------|-----------|-------------------|-------------------|-------------|
| 0.00 | | 1.00 | 16.38 | 27.68 | 303.33 | 0.650 | 0.00 | 0.000 | 0.000 | 0.00 | 0.00 | 0.0 |
| 5.00 | | 1.00 | 16.38 | 27.68 | 297.05 | 0.650 | 5.00 | 18.762 | 12.195 | 337.67 | 0.00 | 904.2 |
| 10.00 | | 1.00 | 16.38 | 27.68 | 290.76 | 0.650 | 5.00 | 18.369 | 11.940 | 330.60 | 0.00 | 885.1 |
| 15.00 | | 1.00 | 16.38 | 27.68 | 284.47 | 0.650 | 5.00 | 17.976 | 11.684 | 323.53 | 0.00 | 866.0 |
| 20.00 | | 1.00 | 16.38 | 27.68 | 278.19 | 0.650 | 5.00 | 17.583 | 11.429 | 316.46 | 0.00 | 846.9 |
| 25.00 | | 1.00 | 16.38 | 27.68 | 271.90 | 0.650 | 5.00 | 17.190 | 11.174 | 309.38 | 0.00 | 827.8 |
| 30.00 | | 1.00 | 16.52 | 27.92 | 266.75 | 0.650 | 5.00 | 16.797 | 10.918 | 304.90 | 0.00 | 808.8 |
| 35.00 | | 1.04 | 17.18 | 29.04 | 265.59 | 0.650 | 5.00 | 16.404 | 10.663 | 309.67 | 0.00 | 789.7 |
| 40.00 | | 1.08 | 17.78 | 30.06 | 263.65 | 0.650 | 5.00 | 16.011 | 10.407 | 312.86 | 0.00 | 770.6 |
| 43.34 | Bot - Section 2 | 1.10 | 18.16 | 30.69 | 262.00 | 0.650 | 3.34 | 10.466 | 6.803 | 208.82 | 0.00 | 503.6 |
| 45.00 | | 1.12 | 18.34 | 31.00 | 261.09 | 0.650 | 1.66 | 5.256 | 3.416 | 105.91 | 0.00 | 500.8 |
| 48.67 | Top - Section 1 | 1.14 | 18.72 | 31.64 | 258.86 | 0.650 | 3.67 | 11.443 | 7.438 | 235.39 | 0.00 | 1,090.0 |
| 50.00 | | 1.15 | 18.85 | 31.87 | 263.35 | 0.650 | 1.33 | 4.095 | 2.662 | 84.83 | 0.00 | 197.0 |
| 55.00 | | 1.18 | 19.34 | 32.68 | 259.88 | 0.650 | 5.00 | 15.145 | 9.844 | 321.80 | 0.00 | 728.5 |
| 60.00 | | 1.20 | 19.79 | 33.45 | 256.00 | 0.650 | 5.00 | 14.752 | 9.589 | 320.82 | 0.00 | 709.4 |
| 65.00 | | 1.23 | 20.22 | 34.18 | 251.78 | 0.650 | 5.00 | 14.359 | 9.333 | 319.06 | 0.00 | 690.3 |
| 70.00 | | 1.26 | 20.63 | 34.87 | 247.26 | 0.650 | 5.00 | 13.966 | 9.078 | 316.59 | 0.00 | 671.2 |
| 75.00 | | 1.28 | 21.02 | 35.53 | 242.45 | 0.650 | 5.00 | 13.573 | 8.823 | 313.49 | 0.00 | 652.1 |
| 80.00 | | 1.30 | 21.39 | 36.16 | 237.40 | 0.650 | 5.00 | 13.180 | 8.567 | 309.80 | 0.00 | 633.0 |
| 85.00 | | 1.32 | 21.75 | 36.76 | 232.13 | 0.650 | 5.00 | 12.787 | 8.312 | 305.57 | 0.00 | 613.9 |
| 87.83 | Bot - Section 3 | 1.34 | 21.94 | 37.09 | 229.05 | 0.650 | 2.83 | 7.072 | 4.596 | 170.50 | 0.00 | 339.4 |
| 90.00 | | 1.34 | 22.09 | 37.34 | 226.65 | 0.650 | 2.17 | 5.436 | 3.533 | 131.94 | 0.00 | 473.3 |
| 92.17 | Top - Section 2 | 1.35 | 22.24 | 37.58 | 224.21 | 0.650 | 2.17 | 5.361 | 3.485 | 130.99 | 0.00 | 466.7 |
| 95.00 | | 1.36 | 22.42 | 37.89 | 225.85 | 0.650 | 2.83 | 6.900 | 4.485 | 169.99 | 0.00 | 276.5 |
| 100.00 | | 1.38 | 22.74 | 38.43 | 220.04 | 0.650 | 5.00 | 11.869 | 7.715 | 296.53 | 0.00 | 475.4 |
| 105.00 | | 1.40 | 23.05 | 38.95 | 214.06 | 0.650 | 5.00 | 11.476 | 7.459 | 290.58 | 0.00 | 459.5 |
| 110.00 | | 1.42 | 23.34 | 39.45 | 207.93 | 0.650 | 5.00 | 11.083 | 7.204 | 284.25 | 0.00 | 443.6 |
| 115.00 | | 1.44 | 23.63 | 39.94 | 201.66 | 0.650 | 5.00 | 10.690 | 6.949 | 277.56 | 0.00 | 427.7 |
| 120.00 | | 1.46 | 23.91 | 40.41 | 195.26 | 0.650 | 5.00 | 10.297 | 6.693 | 270.52 | 0.00 | 411.8 |
| 125.00 | | 1.47 | 24.18 | 40.87 | 188.72 | 0.650 | 5.00 | 9.904 | 6.438 | 263.15 | 0.00 | 395.9 |
| 130.00 | | 1.49 | 24.45 | 41.32 | 182.07 | 0.650 | 5.00 | 9.511 | 6.182 | 255.47 | 0.00 | 379.9 |
| 132.00 | Appertunance(s) | 1.49 | 24.55 | 41.49 | 179.38 | 0.650 | 2.00 | 3.695 | 2.401 | 99.65 | 0.00 | 147.5 |
| 133.33 | Bot - Section 4 | 1.50 | 24.62 | 41.61 | 177.58 | 0.650 | 1.33 | 2.422 | 1.574 | 65.50 | 0.00 | 96.7 |
| 135.00 | | 1.50 | 24.70 | 41.75 | 175.30 | 0.650 | 1.67 | 3.072 | 1.997 | 83.38 | 0.00 | 218.2 |
| 136.66 | Top - Section 3 | 1.51 | 24.79 | 41.90 | 173.03 | 0.650 | 1.66 | 3.015 | 1.960 | 82.12 | 0.00 | 214.1 |
| 140.00 | | 1.52 | 24.95 | 42.18 | 172.55 | 0.650 | 3.34 | 5.919 | 3.847 | 162.27 | 0.00 | 189.5 |
| 145.00 | | 1.53 | 25.20 | 42.59 | 165.59 | 0.650 | 5.00 | 8.541 | 5.552 | 236.47 | 0.00 | 273.3 |
| 148.00 | Appertunance(s) | 1.54 | 25.34 | 42.83 | 161.37 | 0.650 | 3.00 | 4.936 | 3.208 | 137.44 | 0.00 | 157.9 |
| 150.00 | | 1.55 | 25.44 | 42.99 | 158.54 | 0.650 | 2.00 | 3.212 | 2.088 | 89.77 | 0.00 | 102.7 |
| 155.00 | | 1.56 | 25.67 | 43.39 | 151.40 | 0.650 | 5.00 | 7.755 | 5.041 | 218.73 | 0.00 | 247.9 |
| 156.00 | Appertunance(s) | 1.57 | 25.72 | 43.47 | 149.96 | 0.650 | 1.00 | 1.504 | 0.977 | 42.49 | 0.00 | 48.0 |
| 160.00 | | 1.58 | 25.90 | 43.77 | 144.16 | 0.650 | 4.00 | 5.858 | 3.808 | 166.70 | 0.00 | 187.1 |
| 165.00 | | 1.59 | 26.12 | 44.15 | 136.84 | 0.650 | 5.00 | 6.969 | 4.530 | 200.02 | 0.00 | 222.4 |
| 169.00 | Appertunance(s) | 1.60 | 26.30 | 44.45 | 130.93 | 0.650 | 4.00 | 5.292 | 3.440 | 152.92 | 0.00 | 168.8 |
| Totals: | | | | | | | 169.00 | | | 9,666.11 | 0.00 | 20,512.5 |

Pole : CT11279D **VoiceStream Wireless-OR**
Location: South Windsor - AT&T South Windsor, CT
Height : 169.0 (ft) **Base Elev :** 4.000 (ft)
Shape : 18 Sides
Base Dia : 45.50 (in) **Top Dia :** 15.50 (in)
Taper : 0.188 (in/ft)



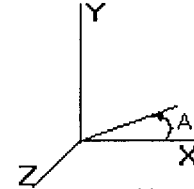
| | | |
|-----------------------------|--|---------------|
| Load Case: No Ice | 80 mph - No Ice | 30 Iterations |
| Gust Response Factor : 1.69 | Effective Wind Speed : 80.00 (mph) | |
| Dead Load Factor : 1.00 | Note : Pole Base Elevation is Added for Kz Calculation | |
| Wind Load Factor : 1.00 | | |

Discrete Appurtenance Forces

| Elev (ft) | Description | Qty | qz (psf) | qzGh (psf) | Total CaAa (sf) | CaAa Factor | Horiz Ecc (ft) | Vert Ecc (ft) | X Angle (deg) | Wind Force X (lb) | Wind Force Z (lb) | Mom X (lb-ft) | Mom Y (lb-ft) | Mom Z (lb-ft) | Weight (lb) |
|-----------|----------------------|-----|----------|------------|-----------------|-------------|----------------|---------------|---------------|-------------------|-------------------|---------------|---------------|---------------|-------------|
| 132.00 | HP MW Dish, 4' Dia. | 1 | 24.55 | 41.49 | 15.860 | 1.000 | 0.000 | 0.0 | 0.0 | 658.16 | 0.00 | 0.00 | 0.00 | 0.00 | 170.0 |
| 148.00 | Low Profile platform | 1 | 25.34 | 42.83 | 25.550 | 1.000 | 0.000 | 0.0 | 0.0 | 1094.51 | 0.00 | 0.00 | 0.00 | 0.00 | 1300.0 |
| 148.00 | Allgon 7250.03 | 12 | 25.34 | 42.83 | 34.417 | 0.667 | 0.000 | 0.0 | 0.0 | 1474.36 | 0.00 | 0.00 | 0.00 | 0.00 | 192.0 |
| 156.00 | ALP 9011 | 12 | 25.72 | 43.47 | 41.160 | 1.000 | 0.000 | 0.0 | 0.0 | 1789.24 | 0.00 | 0.00 | 0.00 | 0.00 | 240.0 |
| 156.00 | EEl Low Profile | 1 | 25.72 | 43.47 | 22.500 | 1.000 | 0.000 | 0.0 | 0.0 | 978.09 | 0.00 | 0.00 | 0.00 | 0.00 | 1500.0 |
| 169.00 | RR65-19-00XP | 12 | 26.30 | 44.45 | 48.024 | 0.667 | 0.000 | 0.0 | 0.0 | 2134.74 | 0.00 | 0.00 | 0.00 | 0.00 | 276.0 |
| 169.00 | EEl Low Profile | 1 | 26.30 | 44.45 | 22.500 | 1.000 | 0.000 | 0.0 | 0.0 | 1000.16 | 0.00 | 0.00 | 0.00 | 0.00 | 1500.0 |
| | | | | | | | | | | 9,129.26 | 0.00 | | | | 5,178.0 |

Pole : CT11279D
 Location: South Windsor - AT&T South Windsor, CT
 Height : 169.0 (ft)
 Shape : 18 Sides
 Base Dia : 45.50 (in)
 Taper : 0.188 (in/ft)

VoiceStream Wireless-OR
 Base Elev : 4.000 (ft)
 Top Dia : 15.50 (in)



Load Case: No Ice 80 mph - No Ice 30 Iterations

Gust Response Factor : 1.69 Effective Wind Speed : 80.00 (mph)

Dead Load Factor : 1.00 Note : Pole Base Elevation is Added for Kz Calculation

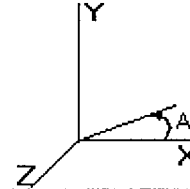
Wind Load Factor : 1.00

Linear Appurtenance Forces

| Seg Elev (ft) | Description | Exposed To Wind | Applied Length (ft) | Weight (lb/ft) | CaAa (sf/ft) | qz (psf) | Wind Force X (lb) | Wind Force Z (lb) | Weight (lb) |
|---------------|------------------|-----------------|---------------------|----------------|--------------|----------|-------------------|-------------------|-------------|
| 5.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 16.384 | 0.00 | 0.00 | 39.60 |
| 5.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 16.384 | 55.38 | 0.00 | 60.00 |
| 10.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 16.384 | 0.00 | 0.00 | 39.60 |
| 10.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 16.384 | 55.38 | 0.00 | 60.00 |
| 15.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 16.384 | 0.00 | 0.00 | 39.60 |
| 15.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 16.384 | 55.38 | 0.00 | 60.00 |
| 20.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 16.384 | 0.00 | 0.00 | 39.60 |
| 20.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 16.384 | 55.38 | 0.00 | 60.00 |
| 25.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 16.384 | 0.00 | 0.00 | 39.60 |
| 25.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 16.384 | 55.38 | 0.00 | 60.00 |
| 30.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 16.524 | 0.00 | 0.00 | 39.60 |
| 30.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 16.524 | 55.85 | 0.00 | 60.00 |
| 35.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 17.185 | 0.00 | 0.00 | 39.60 |
| 35.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 17.185 | 58.09 | 0.00 | 60.00 |
| 40.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 17.788 | 0.00 | 0.00 | 39.60 |
| 40.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 17.788 | 60.12 | 0.00 | 60.00 |
| 43.34 | (12) 1 1/4" Coax | No | 3.34 | 7.92 | 0.30 | 18.163 | 0.00 | 0.00 | 26.43 |
| 43.34 | (12) 1 5/8" Coax | Yes | 3.34 | 12.00 | 0.40 | 18.163 | 40.97 | 0.00 | 40.04 |
| 45.00 | (12) 1 1/4" Coax | No | 1.66 | 7.92 | 0.30 | 18.343 | 0.00 | 0.00 | 13.17 |
| 45.00 | (12) 1 5/8" Coax | Yes | 1.66 | 12.00 | 0.40 | 18.343 | 20.63 | 0.00 | 19.96 |
| 48.67 | (12) 1 1/4" Coax | No | 3.67 | 7.92 | 0.30 | 18.726 | 0.00 | 0.00 | 29.07 |
| 48.67 | (12) 1 5/8" Coax | Yes | 3.67 | 12.00 | 0.40 | 18.726 | 46.46 | 0.00 | 44.04 |
| 50.00 | (12) 1 1/4" Coax | No | 1.33 | 7.92 | 0.30 | 18.859 | 0.00 | 0.00 | 10.53 |
| 50.00 | (12) 1 5/8" Coax | Yes | 1.33 | 12.00 | 0.40 | 18.859 | 16.96 | 0.00 | 15.96 |
| 55.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 19.343 | 0.00 | 0.00 | 39.60 |
| 55.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 19.343 | 65.38 | 0.00 | 60.00 |
| 60.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 19.797 | 0.00 | 0.00 | 39.60 |
| 60.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 19.797 | 66.92 | 0.00 | 60.00 |
| 65.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 20.228 | 0.00 | 0.00 | 39.60 |
| 65.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 20.228 | 68.37 | 0.00 | 60.00 |
| 70.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 20.636 | 0.00 | 0.00 | 39.60 |
| 70.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 20.636 | 69.75 | 0.00 | 60.00 |
| 75.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 21.025 | 0.00 | 0.00 | 39.60 |
| 75.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 21.025 | 71.06 | 0.00 | 60.00 |
| 80.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 21.397 | 0.00 | 0.00 | 39.60 |
| 80.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 21.397 | 72.32 | 0.00 | 60.00 |
| 85.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 21.753 | 0.00 | 0.00 | 39.60 |
| 85.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 21.753 | 73.53 | 0.00 | 60.00 |
| 87.83 | (12) 1 1/4" Coax | No | 2.83 | 7.92 | 0.30 | 21.949 | 0.00 | 0.00 | 22.44 |
| 87.83 | (12) 1 5/8" Coax | Yes | 2.83 | 12.00 | 0.40 | 21.949 | 42.04 | 0.00 | 34.00 |
| 90.00 | (12) 1 1/4" Coax | No | 2.17 | 7.92 | 0.30 | 22.096 | 0.00 | 0.00 | 17.16 |
| 90.00 | (12) 1 5/8" Coax | Yes | 2.17 | 12.00 | 0.40 | 22.096 | 32.36 | 0.00 | 26.00 |
| 92.17 | (12) 1 1/4" Coax | No | 2.17 | 7.92 | 0.30 | 22.240 | 0.00 | 0.00 | 17.16 |
| 92.17 | (12) 1 5/8" Coax | Yes | 2.17 | 12.00 | 0.40 | 22.240 | 32.57 | 0.00 | 26.00 |
| 95.00 | (12) 1 1/4" Coax | No | 2.83 | 7.92 | 0.30 | 22.425 | 0.00 | 0.00 | 22.44 |
| 95.00 | (12) 1 5/8" Coax | Yes | 2.83 | 12.00 | 0.40 | 22.425 | 42.95 | 0.00 | 34.00 |
| 100.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 22.743 | 0.00 | 0.00 | 39.60 |
| 100.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 22.743 | 76.87 | 0.00 | 60.00 |
| 105.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 23.051 | 0.00 | 0.00 | 39.60 |
| 105.00 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 23.051 | 77.91 | 0.00 | 60.00 |
| 110.00 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 23.348 | 0.00 | 0.00 | 39.60 |

Pole : CT11279D
Location: South Windsor - AT&T South Windsor, CT
Height : 169.0 (ft)
Shape : 18 Sides
Base Dia : 45.50 (in)
Taper : 0.188 (in/ft)

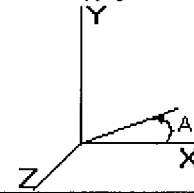
VoiceStream Wireless-OR
Base Elev : 4.000 (ft)
Top Dia : 15.50 (in)



Load Case: No Ice 80 mph - No Ice 30 Iterations
Gust Response Factor : 1.69 **Effective Wind Speed :** 80.00 (mph)
Dead Load Factor : 1.00 **Note :** Pole Base Elevation is Added for Kz Calculation
Wind Load Factor : 1.00

| | | | | | | | | | |
|----------------|------------------|-----|------|-------|------|--------|-----------------|-------------|----------------|
| 110.0 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 23.348 | 78.92 | 0.00 | 60.00 |
| 115.0 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 23.636 | 0.00 | 0.00 | 39.60 |
| 115.0 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 23.636 | 79.89 | 0.00 | 60.00 |
| 120.0 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 23.915 | 0.00 | 0.00 | 39.60 |
| 120.0 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 23.915 | 80.83 | 0.00 | 60.00 |
| 125.0 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 24.187 | 0.00 | 0.00 | 39.60 |
| 125.0 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 24.187 | 81.75 | 0.00 | 60.00 |
| 130.0 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 24.451 | 0.00 | 0.00 | 39.60 |
| 130.0 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 24.451 | 82.65 | 0.00 | 60.00 |
| 132.0 | (12) 1 1/4" Coax | No | 2.00 | 7.92 | 0.30 | 24.555 | 0.00 | 0.00 | 15.84 |
| 132.0 | (12) 1 5/8" Coax | Yes | 2.00 | 12.00 | 0.40 | 24.555 | 33.20 | 0.00 | 24.00 |
| 133.3 | (12) 1 1/4" Coax | No | 1.33 | 7.92 | 0.30 | 24.623 | 0.00 | 0.00 | 10.53 |
| 133.3 | (12) 1 5/8" Coax | Yes | 1.33 | 12.00 | 0.40 | 24.623 | 22.14 | 0.00 | 15.96 |
| 135.0 | (12) 1 1/4" Coax | No | 1.67 | 7.92 | 0.30 | 24.709 | 0.00 | 0.00 | 13.23 |
| 135.0 | (12) 1 5/8" Coax | Yes | 1.67 | 12.00 | 0.40 | 24.709 | 27.90 | 0.00 | 20.04 |
| 136.6 | (12) 1 1/4" Coax | No | 1.66 | 7.92 | 0.30 | 24.793 | 0.00 | 0.00 | 13.17 |
| 136.6 | (12) 1 5/8" Coax | Yes | 1.66 | 12.00 | 0.40 | 24.793 | 27.87 | 0.00 | 19.96 |
| 140.0 | (12) 1 1/4" Coax | No | 3.34 | 7.92 | 0.30 | 24.959 | 0.00 | 0.00 | 26.43 |
| 140.0 | (12) 1 5/8" Coax | Yes | 3.34 | 12.00 | 0.40 | 24.959 | 56.30 | 0.00 | 40.04 |
| 140.0 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 25.204 | 0.00 | 0.00 | 39.60 |
| 140.0 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 25.204 | 85.19 | 0.00 | 60.00 |
| 148.0 | (12) 1 1/4" Coax | No | 3.00 | 7.92 | 0.30 | 25.348 | 0.00 | 0.00 | 23.76 |
| 148.0 | (12) 1 5/8" Coax | Yes | 3.00 | 12.00 | 0.40 | 25.348 | 51.41 | 0.00 | 36.00 |
| 150.0 | (12) 1 5/8" Coax | Yes | 2.00 | 12.00 | 0.40 | 25.443 | 34.40 | 0.00 | 24.00 |
| 155.0 | (12) 1 5/8" Coax | Yes | 5.00 | 12.00 | 0.40 | 25.676 | 86.79 | 0.00 | 60.00 |
| 156.0 | (12) 1 5/8" Coax | Yes | 1.00 | 12.00 | 0.40 | 25.722 | 17.39 | 0.00 | 12.00 |
| Totals: | | | | | | | 2,214.60 | 0.00 | 3,044.2 |

Pole : CT11279D **VoiceStream Wireless-OR**
Location: South Windsor - AT&T South Windsor, CT
Height : 169.0 (ft) **Base Elev :** 4.000 (ft)
Shape : 18 Sides
Base Dia : 45.50 (in) **Top Dia :** 15.50 (in)
Taper : 0.188 (in/ft)

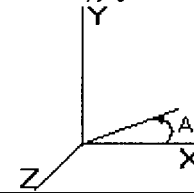


Load Case: No Ice 80 mph - No Ice 30 Iterations
Gust Response Factor : 1.69 **Effective Wind Speed :** 80.00 (mph)
Dead Load Factor : 1.00 **Note :** Pole Base Elevation is Added for Kz Calculation
Wind Load Factor : 1.00

Applied Forces Summary

| Seg Elev (ft) | X Coord (ft) | Z Coord (ft) | Lateral FX (-) (lb) | Axial FY (-) (lb) | Lateral FZ (lb) | Moment MX (lb-ft) | Torsion MY (lb-ft) | Moment MZ (lb-ft) |
|----------------|--------------|--------------|---------------------|-------------------|-----------------|-------------------|--------------------|-------------------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | 0.00 | 0.00 | 393.05 | 1,003.84 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10.00 | 0.00 | 0.00 | 385.98 | 984.74 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15.00 | 0.00 | 0.00 | 378.91 | 965.64 | 0.00 | 0.00 | 0.00 | 0.00 |
| 20.00 | 0.00 | 0.00 | 371.83 | 946.54 | 0.00 | 0.00 | 0.00 | 0.00 |
| 25.00 | 0.00 | 0.00 | 364.76 | 927.45 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30.00 | 0.00 | 0.00 | 360.75 | 908.35 | 0.00 | 0.00 | 0.00 | 0.00 |
| 35.00 | 0.00 | 0.00 | 367.76 | 889.25 | 0.00 | 0.00 | 0.00 | 0.00 |
| 40.00 | 0.00 | 0.00 | 372.98 | 870.16 | 0.00 | 0.00 | 0.00 | 0.00 |
| 43.34 | 0.00 | 0.00 | 249.79 | 570.06 | 0.00 | 0.00 | 0.00 | 0.00 |
| 45.00 | 0.00 | 0.00 | 126.53 | 533.92 | 0.00 | 0.00 | 0.00 | 0.00 |
| 48.67 | 0.00 | 0.00 | 281.84 | 1,163.09 | 0.00 | 0.00 | 0.00 | 0.00 |
| 50.00 | 0.00 | 0.00 | 101.79 | 223.48 | 0.00 | 0.00 | 0.00 | 0.00 |
| 55.00 | 0.00 | 0.00 | 387.18 | 828.05 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60.00 | 0.00 | 0.00 | 387.74 | 808.96 | 0.00 | 0.00 | 0.00 | 0.00 |
| 65.00 | 0.00 | 0.00 | 387.43 | 789.86 | 0.00 | 0.00 | 0.00 | 0.00 |
| 70.00 | 0.00 | 0.00 | 386.34 | 770.76 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75.00 | 0.00 | 0.00 | 384.55 | 751.67 | 0.00 | 0.00 | 0.00 | 0.00 |
| 80.00 | 0.00 | 0.00 | 382.12 | 732.57 | 0.00 | 0.00 | 0.00 | 0.00 |
| 85.00 | 0.00 | 0.00 | 379.09 | 713.47 | 0.00 | 0.00 | 0.00 | 0.00 |
| 87.83 | 0.00 | 0.00 | 212.54 | 395.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 90.00 | 0.00 | 0.00 | 164.30 | 516.43 | 0.00 | 0.00 | 0.00 | 0.00 |
| 92.17 | 0.00 | 0.00 | 163.56 | 509.81 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95.00 | 0.00 | 0.00 | 212.94 | 332.92 | 0.00 | 0.00 | 0.00 | 0.00 |
| 100.00 | 0.00 | 0.00 | 373.40 | 575.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 105.00 | 0.00 | 0.00 | 368.50 | 559.11 | 0.00 | 0.00 | 0.00 | 0.00 |
| 110.00 | 0.00 | 0.00 | 363.17 | 543.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| 115.00 | 0.00 | 0.00 | 357.45 | 527.28 | 0.00 | 0.00 | 0.00 | 0.00 |
| 120.00 | 0.00 | 0.00 | 351.35 | 511.37 | 0.00 | 0.00 | 0.00 | 0.00 |
| 125.00 | 0.00 | 0.00 | 344.91 | 495.45 | 0.00 | 0.00 | 0.00 | 0.00 |
| 130.00 | 0.00 | 0.00 | 338.12 | 479.54 | 0.00 | 0.00 | 0.00 | 0.00 |
| 132.00 | 0.00 | 0.00 | 791.01 | 357.36 | 0.00 | 0.00 | 0.00 | 0.00 |
| 133.33 | 0.00 | 0.00 | 87.64 | 123.17 | 0.00 | 0.00 | 0.00 | 0.00 |
| 135.00 | 0.00 | 0.00 | 111.27 | 251.50 | 0.00 | 0.00 | 0.00 | 0.00 |
| 136.66 | 0.00 | 0.00 | 109.99 | 247.26 | 0.00 | 0.00 | 0.00 | 0.00 |
| 140.00 | 0.00 | 0.00 | 218.58 | 255.98 | 0.00 | 0.00 | 0.00 | 0.00 |
| 145.00 | 0.00 | 0.00 | 321.66 | 372.95 | 0.00 | 0.00 | 0.00 | 0.00 |
| 148.00 | 0.00 | 0.00 | 2,757.72 | 1,709.66 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150.00 | 0.00 | 0.00 | 124.17 | 126.72 | 0.00 | 0.00 | 0.00 | 0.00 |
| 155.00 | 0.00 | 0.00 | 305.52 | 307.89 | 0.00 | 0.00 | 0.00 | 0.00 |
| 156.00 | 0.00 | 0.00 | 2,827.21 | 1,800.05 | 0.00 | 0.00 | 0.00 | 0.00 |
| 160.00 | 0.00 | 0.00 | 166.70 | 187.11 | 0.00 | 0.00 | 0.00 | 0.00 |
| 165.00 | 0.00 | 0.00 | 200.02 | 222.42 | 0.00 | 0.00 | 0.00 | 0.00 |
| 169.00 | 0.00 | 0.00 | 3,287.82 | 1,944.77 | 0.00 | 0.00 | 0.00 | 0.00 |
| Totals: | | | 21,009.97 | 28,734.62 | 0.00 | 0.00 | 0.00 | 0.00 |

Pole : CT11279D **VoiceStream Wireless-OR**
Location: South Windsor - AT&T South Windsor, CT
Height : 169.0 (ft) **Base Elev :** 4.000 (ft)
Shape : 18 Sides
Base Dia : 45.50 (in) **Top Dia :** 15.50 (in)
Taper : 0.188 (in/ft)



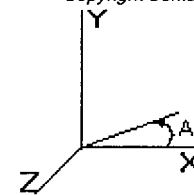
Load Case: No Ice 80 mph - No Ice 30 Iterations
Gust Response Factor : 1.69 **Effective Wind Speed :** 80.00 (mph)
Dead Load Factor : 1.00 **Note :** Pole Base Elevation is Added for Kz Calculation
Wind Load Factor : 1.00

Calculated Forces and Deflections

| Seg Elev (ft) | Lateral FX (-) (kips) | Axial FY (-) (kips) | Lateral FZ (kips) | Moment MX (ft-kips) | Torsion MY (ft-kips) | Moment MZ (ft-kips) | X Deflect (in) | Z Deflect (in) | Total Deflect (in) | Rotation (deg) |
|---------------|-----------------------|---------------------|-------------------|---------------------|----------------------|---------------------|----------------|----------------|--------------------|----------------|
| 0.00 | 21.074 | 28.687 | 0.000 | 0.000 | 0.000 | 2,537.485 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5.00 | 20.804 | 27.590 | 0.000 | 0.000 | 0.000 | 2,432.116 | -0.137 | 0.000 | 0.137 | -0.256 |
| 10.00 | 20.533 | 26.514 | 0.000 | 0.000 | 0.000 | 2,328.100 | -0.544 | 0.000 | 0.544 | -0.517 |
| 15.00 | 20.263 | 25.458 | 0.000 | 0.000 | 0.000 | 2,225.436 | -1.227 | 0.000 | 1.227 | -0.783 |
| 20.00 | 19.994 | 24.422 | 0.000 | 0.000 | 0.000 | 2,124.122 | -2.193 | 0.000 | 2.193 | -1.055 |
| 25.00 | 19.724 | 23.406 | 0.000 | 0.000 | 0.000 | 2,024.157 | -3.446 | 0.000 | 3.446 | -1.333 |
| 30.00 | 19.452 | 22.410 | 0.000 | 0.000 | 0.000 | 1,925.537 | -4.992 | 0.000 | 4.992 | -1.616 |
| 35.00 | 19.167 | 21.435 | 0.000 | 0.000 | 0.000 | 1,828.277 | -6.838 | 0.000 | 6.838 | -1.905 |
| 40.00 | 18.852 | 20.498 | 0.000 | 0.000 | 0.000 | 1,732.445 | -8.989 | 0.000 | 8.989 | -2.199 |
| 43.34 | 18.632 | 19.889 | 0.000 | 0.000 | 0.000 | 1,669.544 | -10.598 | 0.000 | 10.598 | -2.401 |
| 45.00 | 18.539 | 19.307 | 0.000 | 0.000 | 0.000 | 1,638.553 | -11.453 | 0.000 | 11.453 | -2.505 |
| 48.67 | 18.253 | 18.109 | 0.000 | 0.000 | 0.000 | 1,570.517 | -13.466 | 0.000 | 13.466 | -2.731 |
| 50.00 | 18.200 | 17.830 | 0.000 | 0.000 | 0.000 | 1,546.242 | -14.239 | 0.000 | 14.239 | -2.816 |
| 50 | 17.858 | 16.932 | 0.000 | 0.000 | 0.000 | 1,455.244 | -17.343 | 0.000 | 17.343 | -3.109 |
| 55.00 | 17.509 | 16.054 | 0.000 | 0.000 | 0.000 | 1,365.956 | -20.756 | 0.000 | 20.756 | -3.407 |
| 65.00 | 17.155 | 15.199 | 0.000 | 0.000 | 0.000 | 1,278.410 | -24.484 | 0.000 | 24.484 | -3.710 |
| 70.00 | 16.795 | 14.365 | 0.000 | 0.000 | 0.000 | 1,192.637 | -28.531 | 0.000 | 28.531 | -4.018 |
| 75.00 | 16.432 | 13.554 | 0.000 | 0.000 | 0.000 | 1,108.662 | -32.902 | 0.000 | 32.902 | -4.330 |
| 80.00 | 16.065 | 12.764 | 0.000 | 0.000 | 0.000 | 1,026.504 | -37.601 | 0.000 | 37.601 | -4.646 |
| 85.00 | 15.680 | 12.016 | 0.000 | 0.000 | 0.000 | 946.183 | -42.632 | 0.000 | 42.632 | -4.966 |
| 87.83 | 15.467 | 11.596 | 0.000 | 0.000 | 0.000 | 901.758 | -45.631 | 0.000 | 45.631 | -5.152 |
| 90.00 | 15.284 | 11.058 | 0.000 | 0.000 | 0.000 | 868.246 | -48.000 | 0.000 | 48.000 | -5.296 |
| 92.17 | 15.104 | 10.522 | 0.000 | 0.000 | 0.000 | 835.133 | -50.433 | 0.000 | 50.433 | -5.441 |
| 95.00 | 14.910 | 10.139 | 0.000 | 0.000 | 0.000 | 792.337 | -53.715 | 0.000 | 53.715 | -5.630 |
| 100.00 | 14.541 | 9.512 | 0.000 | 0.000 | 0.000 | 717.789 | -59.796 | 0.000 | 59.796 | -5.994 |
| 105.00 | 14.171 | 8.907 | 0.000 | 0.000 | 0.000 | 645.086 | -66.256 | 0.000 | 66.256 | -6.358 |
| 110.00 | 13.801 | 8.322 | 0.000 | 0.000 | 0.000 | 574.233 | -73.095 | 0.000 | 73.095 | -6.719 |
| 115.00 | 13.430 | 7.759 | 0.000 | 0.000 | 0.000 | 505.230 | -80.306 | 0.000 | 80.306 | -7.076 |
| 120.00 | 13.061 | 7.218 | 0.000 | 0.000 | 0.000 | 438.079 | -87.884 | 0.000 | 87.884 | -7.424 |
| 125.00 | 12.692 | 6.700 | 0.000 | 0.000 | 0.000 | 372.776 | -95.818 | 0.000 | 95.818 | -7.759 |
| 130.00 | 12.315 | 6.225 | 0.000 | 0.000 | 0.000 | 309.318 | -104.091 | 0.000 | 104.091 | -8.078 |
| 132.00 | 11.492 | 5.963 | 0.000 | 0.000 | 0.000 | 284.688 | -107.491 | 0.000 | 107.491 | -8.204 |
| 133.33 | 11.397 | 5.835 | 0.000 | 0.000 | 0.000 | 269.407 | -109.780 | 0.000 | 109.780 | -8.286 |
| 135.00 | 11.260 | 5.583 | 0.000 | 0.000 | 0.000 | 250.372 | -112.687 | 0.000 | 112.687 | -8.387 |
| 136.66 | 11.128 | 5.327 | 0.000 | 0.000 | 0.000 | 231.645 | -115.615 | 0.000 | 115.615 | -8.484 |
| 140.00 | 10.894 | 5.063 | 0.000 | 0.000 | 0.000 | 194.513 | -121.588 | 0.000 | 121.588 | -8.663 |
| 145.00 | 10.535 | 4.708 | 0.000 | 0.000 | 0.000 | 140.044 | -130.774 | 0.000 | 130.774 | -8.930 |
| 148.00 | 7.551 | 3.437 | 0.000 | 0.000 | 0.000 | 108.438 | -136.408 | 0.000 | 136.408 | -9.067 |
| 150.00 | 7.415 | 3.315 | 0.000 | 0.000 | 0.000 | 93.337 | -140.208 | 0.000 | 140.208 | -9.148 |
| 155.00 | 7.069 | 3.050 | 0.000 | 0.000 | 0.000 | 56.262 | -149.837 | 0.000 | 149.837 | -9.307 |
| 156.00 | 3.989 | 1.727 | 0.000 | 0.000 | 0.000 | 49.193 | -151.781 | 0.000 | 151.781 | -9.333 |
| 160.00 | 3.796 | 1.565 | 0.000 | 0.000 | 0.000 | 33.236 | -159.603 | 0.000 | 159.603 | -9.417 |
| 165.00 | 3.564 | 1.375 | 0.000 | 0.000 | 0.000 | 14.255 | -169.462 | 0.000 | 169.462 | -9.486 |
| 169.00 | 3.288 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | -177.384 | 0.000 | 177.384 | -9.506 |

Pole : CT11279D
 Location: South Windsor - AT&T South Windsor, CT
 Height : 169.0 (ft)
 Shape : 18 Sides
 Base Dia : 45.50 (in)
 Taper : 0.188 (in/ft)

VoiceStream Wireless-OR
 Base Elev : 4.000 (ft)
 Top Dia : 15.50 (in)



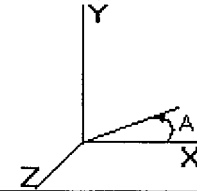
Load Case: No Ice 80 mph - No Ice 30 Iterations
 Gust Response Factor : 1.69 Effective Wind Speed : 80.00 (mph)
 Dead Load Factor : 1.00 Note : Pole Base Elevation is Added for Kz Calculation
 Wind Load Factor : 1.00

Calculated Stresses

| Seg Elev (ft) | Applied Stresses | | | | | | | Allowable Stress (Fb) (ksi) | Stress Ratio |
|---------------|------------------|-----------------|-----------------|---------------|-------------------|-------------------|----------------|-----------------------------|--------------|
| | Axial (Y) (ksi) | Shear (X) (ksi) | Shear (Z) (ksi) | Torsion (ksi) | Bending (X) (ksi) | Bending (Z) (ksi) | Combined (ksi) | | |
| 0.00 | 0.534 | 0.791 | 0.000 | 0.000 | 0.000 | 50.908 | 51.461 | 52.0 | 0.990 |
| 5.00 | 0.525 | 0.797 | 0.000 | 0.000 | 0.000 | 50.908 | 51.452 | 52.0 | 0.990 |
| 10.00 | 0.515 | 0.804 | 0.000 | 0.000 | 0.000 | 50.889 | 51.423 | 52.0 | 0.989 |
| 15.00 | 0.506 | 0.811 | 0.000 | 0.000 | 0.000 | 50.848 | 51.373 | 52.0 | 0.988 |
| 20.00 | 0.496 | 0.819 | 0.000 | 0.000 | 0.000 | 50.783 | 51.298 | 52.0 | 0.987 |
| 25.00 | 0.487 | 0.827 | 0.000 | 0.000 | 0.000 | 50.688 | 51.195 | 52.0 | 0.985 |
| 30.00 | 0.477 | 0.835 | 0.000 | 0.000 | 0.000 | 50.562 | 51.059 | 52.0 | 0.982 |
| 35.00 | 0.467 | 0.842 | 0.000 | 0.000 | 0.000 | 50.399 | 50.887 | 52.0 | 0.979 |
| 40.00 | 0.458 | 0.849 | 0.000 | 0.000 | 0.000 | 50.196 | 50.676 | 52.0 | 0.975 |
| 43.34 | 0.452 | 0.854 | 0.000 | 0.000 | 0.000 | 50.044 | 50.517 | 52.0 | 0.972 |
| 45.00 | 0.443 | 0.857 | 0.000 | 0.000 | 0.000 | 49.964 | 50.428 | 52.0 | 0.970 |
| 48.67 | 0.415 | 0.842 | 0.000 | 0.000 | 0.000 | 47.738 | 48.174 | 52.0 | 0.927 |
| 50.00 | 0.411 | 0.846 | 0.000 | 0.000 | 0.000 | 47.652 | 48.086 | 52.0 | 0.925 |
| 55.00 | 0.401 | 0.852 | 0.000 | 0.000 | 0.000 | 47.275 | 47.698 | 52.0 | 0.918 |
| 60.00 | 0.390 | 0.858 | 0.000 | 0.000 | 0.000 | 46.843 | 47.256 | 52.0 | 0.909 |
| 65.00 | 0.380 | 0.864 | 0.000 | 0.000 | 0.000 | 46.349 | 46.753 | 52.0 | 0.899 |
| 70.00 | 0.369 | 0.870 | 0.000 | 0.000 | 0.000 | 45.786 | 46.180 | 52.0 | 0.888 |
| 75.00 | 0.359 | 0.877 | 0.000 | 0.000 | 0.000 | 45.145 | 45.529 | 52.0 | 0.876 |
| 80.00 | 0.348 | 0.884 | 0.000 | 0.000 | 0.000 | 44.415 | 44.790 | 52.0 | 0.862 |
| 85.00 | 0.338 | 0.890 | 0.000 | 0.000 | 0.000 | 43.585 | 43.950 | 52.0 | 0.846 |
| 87.83 | 0.332 | 0.894 | 0.000 | 0.000 | 0.000 | 43.077 | 43.437 | 52.0 | 0.836 |
| 90.00 | 0.321 | 0.896 | 0.000 | 0.000 | 0.000 | 42.665 | 43.014 | 52.0 | 0.828 |
| 92.17 | 0.364 | 1.052 | 0.000 | 0.000 | 0.000 | 48.200 | 48.598 | 52.0 | 0.935 |
| 95.00 | 0.357 | 1.058 | 0.000 | 0.000 | 0.000 | 47.462 | 47.854 | 52.0 | 0.921 |
| 100.00 | 0.346 | 1.067 | 0.000 | 0.000 | 0.000 | 45.990 | 46.373 | 52.0 | 0.892 |
| 105.00 | 0.336 | 1.076 | 0.000 | 0.000 | 0.000 | 44.314 | 44.689 | 52.0 | 0.860 |
| 110.00 | 0.325 | 1.086 | 0.000 | 0.000 | 0.000 | 42.400 | 42.766 | 52.0 | 0.823 |
| 115.00 | 0.315 | 1.097 | 0.000 | 0.000 | 0.000 | 40.205 | 40.564 | 52.0 | 0.780 |
| 120.00 | 0.304 | 1.109 | 0.000 | 0.000 | 0.000 | 37.682 | 38.035 | 52.0 | 0.732 |
| 125.00 | 0.294 | 1.122 | 0.000 | 0.000 | 0.000 | 34.768 | 35.116 | 52.0 | 0.676 |
| 130.00 | 0.285 | 1.135 | 0.000 | 0.000 | 0.000 | 31.389 | 31.734 | 52.0 | 0.611 |
| 132.00 | 0.277 | 1.078 | 0.000 | 0.000 | 0.000 | 29.911 | 30.247 | 52.0 | 0.582 |
| 133.33 | 0.275 | 1.081 | 0.000 | 0.000 | 0.000 | 28.978 | 29.312 | 52.0 | 0.564 |
| 135.00 | 0.267 | 1.084 | 0.000 | 0.000 | 0.000 | 27.746 | 28.076 | 52.0 | 0.540 |
| 136.66 | 0.314 | 1.324 | 0.000 | 0.000 | 0.000 | 31.249 | 31.647 | 52.0 | 0.609 |
| 140.00 | 0.308 | 1.335 | 0.000 | 0.000 | 0.000 | 27.868 | 28.271 | 52.0 | 0.544 |
| 145.00 | 0.300 | 1.353 | 0.000 | 0.000 | 0.000 | 22.036 | 22.459 | 52.0 | 0.432 |
| 148.00 | 0.225 | 0.998 | 0.000 | 0.000 | 0.000 | 18.089 | 18.396 | 52.0 | 0.354 |
| 150.00 | 0.222 | 1.000 | 0.000 | 0.000 | 0.000 | 16.204 | 16.517 | 52.0 | 0.318 |
| 155.00 | 0.215 | 1.004 | 0.000 | 0.000 | 0.000 | 10.832 | 11.183 | 52.0 | 0.215 |
| 156.00 | 0.123 | 0.572 | 0.000 | 0.000 | 0.000 | 9.675 | 9.848 | 52.0 | 0.189 |
| 160.00 | 0.116 | 0.569 | 0.000 | 0.000 | 0.000 | 7.136 | 7.319 | 52.0 | 0.141 |
| 165.00 | 0.108 | 0.566 | 0.000 | 0.000 | 0.000 | 3.435 | 3.676 | 52.0 | 0.071 |
| 169.00 | 0.000 | 0.548 | 0.000 | 0.000 | 0.000 | 0.000 | 0.948 | 52.0 | 0.018 |

Pole : CT11279D
 Location: South Windsor - AT&T South Windsor, CT
 Height : 169.0 (ft)
 Shape : 18 Sides
 Base Dia : 45.50 (in)
 Taper : 0.188 (in/ft)

VoiceStream Wireless-OR
 Base Elev : 4.000 (ft)
 Top Dia : 15.50 (in)

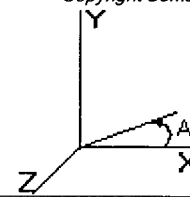


| | | |
|-----------------------------|--|---------------|
| Load Case: Ice | 80 mph - With Ice - Ice Thickness = 0.5 in | 30 Iterations |
| Gust Response Factor : 1.69 | Effective Wind Speed : 69.28 (mph) | |
| Dead Load Factor : 1.00 | Note : Pole Base Elevation is Added for Kz Calculation | |
| Wind Load Factor : 1.00 | | |

Shaft Forces

| Seg Top Elev (ft) | Description | Kz | qz (psf) | qzGh (psf) | C (mph-ft) | Cf | Tributary (ft) | Aa (sf) | CfAa (sf) | Wind Force X (lb) | Wind Force Z (lb) | Weight (lb) |
|-------------------|-----------------|------|----------|------------|------------|-------|----------------|---------|-----------|-------------------|-------------------|-------------|
| 0.00 | | 1.00 | 12.28 | 20.76 | 262.69 | 0.650 | 0.00 | 0.000 | 0.000 | 0.00 | 0.00 | 0.0 |
| 5.00 | | 1.00 | 12.28 | 20.76 | 257.24 | 0.650 | 5.00 | 19.179 | 12.466 | 258.86 | 0.00 | 1,043.3 |
| 10.00 | | 1.00 | 12.28 | 20.76 | 251.80 | 0.650 | 5.00 | 18.786 | 12.211 | 253.56 | 0.00 | 1,021.3 |
| 15.00 | | 1.00 | 12.28 | 20.76 | 246.35 | 0.650 | 5.00 | 18.393 | 11.955 | 248.26 | 0.00 | 999.3 |
| 20.00 | | 1.00 | 12.28 | 20.76 | 240.91 | 0.650 | 5.00 | 18.000 | 11.700 | 242.95 | 0.00 | 977.2 |
| 25.00 | | 1.00 | 12.28 | 20.76 | 235.46 | 0.650 | 5.00 | 17.607 | 11.444 | 237.65 | 0.00 | 955.2 |
| 30.00 | | 1.00 | 12.39 | 20.94 | 231.00 | 0.650 | 5.00 | 17.214 | 11.189 | 234.34 | 0.00 | 933.2 |
| 35.00 | | 1.04 | 12.88 | 21.78 | 230.00 | 0.650 | 5.00 | 16.821 | 10.934 | 238.14 | 0.00 | 911.2 |
| 40.00 | | 1.08 | 13.34 | 22.54 | 228.32 | 0.650 | 5.00 | 16.428 | 10.678 | 240.73 | 0.00 | 889.2 |
| 43.34 | Bot - Section 2 | 1.10 | 13.62 | 23.02 | 226.89 | 0.650 | 3.34 | 10.744 | 6.984 | 160.77 | 0.00 | 581.5 |
| 45.00 | | 1.12 | 13.75 | 23.24 | 226.10 | 0.650 | 1.66 | 5.395 | 3.507 | 81.52 | 0.00 | 540.1 |
| 48.67 | Top - Section 1 | 1.14 | 14.04 | 23.73 | 224.17 | 0.650 | 3.67 | 11.749 | 7.637 | 181.25 | 0.00 | 1,175.1 |
| 50.00 | | 1.15 | 14.14 | 23.90 | 228.07 | 0.650 | 1.33 | 4.206 | 2.734 | 65.34 | 0.00 | 227.6 |
| 55.00 | | 1.18 | 14.50 | 24.51 | 225.05 | 0.650 | 5.00 | 15.562 | 10.115 | 247.98 | 0.00 | 840.7 |
| 60.00 | | 1.20 | 14.84 | 25.09 | 221.70 | 0.650 | 5.00 | 15.169 | 9.860 | 247.40 | 0.00 | 818.7 |
| 65.00 | | 1.23 | 15.17 | 25.63 | 218.04 | 0.650 | 5.00 | 14.776 | 9.604 | 246.22 | 0.00 | 796.7 |
| 70.00 | | 1.26 | 15.47 | 26.15 | 214.12 | 0.650 | 5.00 | 14.383 | 9.349 | 244.52 | 0.00 | 774.7 |
| 75.00 | | 1.28 | 15.76 | 26.64 | 209.97 | 0.650 | 5.00 | 13.990 | 9.093 | 242.32 | 0.00 | 752.7 |
| 80.00 | | 1.30 | 16.04 | 27.11 | 205.59 | 0.650 | 5.00 | 13.597 | 8.838 | 239.68 | 0.00 | 730.7 |
| 85.00 | | 1.32 | 16.31 | 27.57 | 201.02 | 0.650 | 5.00 | 13.204 | 8.583 | 236.63 | 0.00 | 708.7 |
| 87.83 | Bot - Section 3 | 1.34 | 16.46 | 27.81 | 198.36 | 0.650 | 2.83 | 7.308 | 4.750 | 132.14 | 0.00 | 392.2 |
| 90.00 | | 1.34 | 16.57 | 28.00 | 196.28 | 0.650 | 2.17 | 5.616 | 3.651 | 102.23 | 0.00 | 513.9 |
| 92.17 | Top - Section 2 | 1.35 | 16.67 | 28.18 | 194.17 | 0.650 | 2.17 | 5.542 | 3.602 | 101.54 | 0.00 | 506.8 |
| 95.00 | | 1.36 | 16.81 | 28.42 | 195.59 | 0.650 | 2.83 | 7.137 | 4.639 | 131.85 | 0.00 | 328.0 |
| 100.00 | | 1.38 | 17.05 | 28.82 | 190.55 | 0.650 | 5.00 | 12.286 | 7.986 | 230.19 | 0.00 | 563.4 |
| 105.00 | | 1.40 | 17.28 | 29.21 | 185.38 | 0.650 | 5.00 | 11.893 | 7.730 | 225.84 | 0.00 | 544.6 |
| 110.00 | | 1.42 | 17.51 | 29.59 | 180.07 | 0.650 | 5.00 | 11.500 | 7.475 | 221.19 | 0.00 | 525.8 |
| 115.00 | | 1.44 | 17.72 | 29.95 | 174.64 | 0.650 | 5.00 | 11.107 | 7.219 | 216.27 | 0.00 | 506.9 |
| 120.00 | | 1.46 | 17.93 | 30.31 | 169.09 | 0.650 | 5.00 | 10.714 | 6.964 | 211.09 | 0.00 | 488.1 |
| 125.00 | | 1.47 | 18.13 | 30.65 | 163.43 | 0.650 | 5.00 | 10.321 | 6.709 | 205.66 | 0.00 | 469.3 |
| 130.00 | | 1.49 | 18.33 | 30.99 | 157.67 | 0.650 | 5.00 | 9.928 | 6.453 | 199.99 | 0.00 | 450.5 |
| 132.00 | Appertunance(s) | 1.49 | 18.41 | 31.12 | 155.34 | 0.650 | 2.00 | 3.861 | 2.510 | 78.11 | 0.00 | 175.3 |
| 133.33 | Bot - Section 4 | 1.50 | 18.46 | 31.20 | 153.78 | 0.650 | 1.33 | 2.533 | 1.646 | 51.37 | 0.00 | 114.9 |
| 135.00 | | 1.50 | 18.53 | 31.31 | 151.81 | 0.650 | 1.67 | 3.211 | 2.087 | 65.36 | 0.00 | 241.3 |
| 136.66 | Top - Section 3 | 1.51 | 18.59 | 31.42 | 149.84 | 0.650 | 1.66 | 3.154 | 2.050 | 64.42 | 0.00 | 236.8 |
| 140.00 | | 1.52 | 18.71 | 31.63 | 149.43 | 0.650 | 3.34 | 6.197 | 4.028 | 127.42 | 0.00 | 233.7 |
| 145.00 | | 1.53 | 18.90 | 31.94 | 143.40 | 0.650 | 5.00 | 8.958 | 5.822 | 185.99 | 0.00 | 336.7 |
| 148.00 | Appertunance(s) | 1.54 | 19.01 | 32.12 | 139.75 | 0.650 | 3.00 | 5.186 | 3.371 | 108.29 | 0.00 | 194.9 |
| 150.00 | | 1.55 | 19.08 | 32.24 | 137.30 | 0.650 | 2.00 | 3.379 | 2.196 | 70.82 | 0.00 | 126.9 |
| 155.00 | | 1.56 | 19.25 | 32.54 | 131.11 | 0.650 | 5.00 | 8.172 | 5.312 | 172.85 | 0.00 | 305.4 |
| 156.00 | Appertunance(s) | 1.57 | 19.29 | 32.60 | 129.86 | 0.650 | 1.00 | 1.587 | 1.032 | 33.63 | 0.00 | 59.4 |
| 160.00 | | 1.58 | 19.42 | 32.83 | 124.84 | 0.650 | 4.00 | 6.192 | 4.025 | 132.13 | 0.00 | 230.8 |
| 165.00 | | 1.59 | 19.59 | 33.11 | 118.50 | 0.650 | 5.00 | 7.386 | 4.801 | 158.98 | 0.00 | 274.1 |
| 169.00 | Appertunance(s) | 1.60 | 19.72 | 33.33 | 113.38 | 0.650 | 4.00 | 5.626 | 3.657 | 121.90 | 0.00 | 208.3 |
| Totals: | | | | | | | 169.00 | | | 7,497.37 | 0.00 | 23,704.8 |

Pole : CT11279D **VoiceStream Wireless-OR**
Location: South Windsor - AT&T South Windsor, CT
Height : 169.0 (ft) **Base Elev :** 4.000 (ft)
Shape : 18 Sides
Base Dia : 45.50 (in) **Top Dia :** 15.50 (in)
Taper : 0.188 (in/ft)



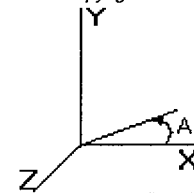
Load Case: Ice **80 mph - With Ice - Ice Thickness = 0.5 in** **30 Iterations**
Gust Response Factor : 1.69 **Effective Wind Speed :** 69.28 (mph)
Dead Load Factor : 1.00 **Note : Pole Base Elevation is Added for Kz Calculation**
Wind Load Factor : 1.00

Discrete Appurtenance Forces

| Elev (ft) | Description | Qty | qz (psf) | qzGh (psf) | Total CaAa (sf) | CaAa Factor | Horiz Ecc (ft) | Vert Ecc (ft) | X Angle (deg) | Wind Force X (lb) | Wind Force Z (lb) | Mom X (lb-ft) | Mom Y (lb-ft) | Mom Z (lb-ft) | Weight (lb) |
|-----------|----------------------|-----|----------|------------|-----------------|-------------|----------------|---------------|---------------|-------------------|-------------------|---------------|---------------|---------------|-------------|
| 132.00 | HP MW Dish, 4' Dia. | 1 | 18.41 | 31.12 | 16.520 | 1.000 | 0.000 | 0.0 | 0.0 | 514.13 | 0.00 | 0.00 | 0.00 | 0.00 | 280.0 |
| 148.00 | Low Profile platform | 1 | 19.01 | 32.12 | 27.320 | 1.000 | 0.000 | 0.0 | 0.0 | 877.70 | 0.00 | 0.00 | 0.00 | 0.00 | 2100.0 |
| 148.00 | Allgon 7250.03 | 12 | 19.01 | 32.12 | 40.020 | 0.667 | 0.000 | 0.0 | 0.0 | 1285.71 | 0.00 | 0.00 | 0.00 | 0.00 | 432.0 |
| 156.00 | ALP 9011 | 12 | 19.29 | 32.60 | 46.080 | 1.000 | 0.000 | 0.0 | 0.0 | 1502.25 | 0.00 | 0.00 | 0.00 | 0.00 | 504.0 |
| 156.00 | EEL Low Profile | 1 | 19.29 | 32.60 | 28.200 | 1.000 | 0.000 | 0.0 | 0.0 | 919.34 | 0.00 | 0.00 | 0.00 | 0.00 | 2250.0 |
| 169.00 | RR65-19-00XP | 12 | 19.72 | 33.33 | 54.827 | 0.667 | 0.000 | 0.0 | 0.0 | 1827.77 | 0.00 | 0.00 | 0.00 | 0.00 | 624.0 |
| 169.00 | EEL Low Profile | 1 | 19.72 | 33.33 | 28.200 | 1.000 | 0.000 | 0.0 | 0.0 | 940.09 | 0.00 | 0.00 | 0.00 | 0.00 | 2250.0 |
| | | | | | | | | | | 7,866.98 | 0.00 | | | | 8,440.0 |

Pole : CT11279D
 Location: South Windsor - AT&T South Windsor, CT
 Height : 169.0 (ft)
 Shape : 18 Sides
 Base Dia : 45.50 (in)
 Taper : 0.188 (in/ft)

VoiceStream Wireless-OR
 Base Elev : 4.000 (ft)
 Top Dia : 15.50 (in)



Load Case: Ice 80 mph - With Ice - Ice Thickness = 0.5 in 30 Iterations

Gust Response Factor : 1.69 Effective Wind Speed : 69.28 (mph)

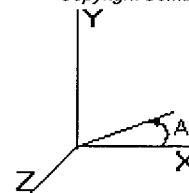
Dead Load Factor : 1.00 Note : Pole Base Elevation is Added for Kz Calculation

Wind Load Factor : 1.00

Linear Appurtenance Forces

| Seg Elev (ft) | Description | Exposed To Wind | Applied Length (ft) | Weight (lb/ft) | CaAa (sf/ft) | qz (psf) | Wind Force X (lb) | Wind Force Z (lb) | Weight (lb) |
|---------------|------------------|-----------------|---------------------|----------------|--------------|----------|-------------------|-------------------|-------------|
| 5.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 12.287 | 0.00 | 0.00 | 39.60 |
| 5.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 12.287 | 62.30 | 0.00 | 180.00 |
| 10.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 12.287 | 0.00 | 0.00 | 39.60 |
| 10.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 12.287 | 62.30 | 0.00 | 180.00 |
| 15.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 12.287 | 0.00 | 0.00 | 39.60 |
| 15.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 12.287 | 62.30 | 0.00 | 180.00 |
| 20.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 12.287 | 0.00 | 0.00 | 39.60 |
| 20.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 12.287 | 62.30 | 0.00 | 180.00 |
| 25.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 12.287 | 0.00 | 0.00 | 39.60 |
| 25.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 12.287 | 62.30 | 0.00 | 180.00 |
| 30.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 12.393 | 0.00 | 0.00 | 39.60 |
| 30.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 12.393 | 62.83 | 0.00 | 180.00 |
| 35.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 12.888 | 0.00 | 0.00 | 39.60 |
| 35.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 12.888 | 65.34 | 0.00 | 180.00 |
| 40.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 13.340 | 0.00 | 0.00 | 39.60 |
| 40.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 13.340 | 67.63 | 0.00 | 180.00 |
| 43.34 | (12) 11/4" Coax | No | 3.34 | 7.92 | 0.30 | 13.621 | 0.00 | 0.00 | 26.43 |
| 43.34 | (12) 1 5/8" Coax | Yes | 3.34 | 36.00 | 0.60 | 13.621 | 46.09 | 0.00 | 120.12 |
| 45.00 | (12) 11/4" Coax | No | 1.66 | 7.92 | 0.30 | 13.756 | 0.00 | 0.00 | 13.17 |
| 45.00 | (12) 1 5/8" Coax | Yes | 1.66 | 36.00 | 0.60 | 13.756 | 23.20 | 0.00 | 59.88 |
| 48.67 | (12) 11/4" Coax | No | 3.67 | 7.92 | 0.30 | 14.043 | 0.00 | 0.00 | 29.07 |
| 48.67 | (12) 1 5/8" Coax | Yes | 3.67 | 36.00 | 0.60 | 14.043 | 52.26 | 0.00 | 132.12 |
| 50.00 | (12) 11/4" Coax | No | 1.33 | 7.92 | 0.30 | 14.144 | 0.00 | 0.00 | 10.53 |
| 50.00 | (12) 1 5/8" Coax | Yes | 1.33 | 36.00 | 0.60 | 14.144 | 19.07 | 0.00 | 47.88 |
| 55.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 14.506 | 0.00 | 0.00 | 39.60 |
| 55.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 14.506 | 73.55 | 0.00 | 180.00 |
| 60.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 14.847 | 0.00 | 0.00 | 39.60 |
| 60.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 14.847 | 75.28 | 0.00 | 180.00 |
| 65.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 15.170 | 0.00 | 0.00 | 39.60 |
| 65.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 15.170 | 76.91 | 0.00 | 180.00 |
| 70.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 15.476 | 0.00 | 0.00 | 39.60 |
| 70.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 15.476 | 78.46 | 0.00 | 180.00 |
| 75.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 15.768 | 0.00 | 0.00 | 39.60 |
| 75.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 15.768 | 79.94 | 0.00 | 180.00 |
| 80.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 16.047 | 0.00 | 0.00 | 39.60 |
| 80.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 16.047 | 81.36 | 0.00 | 180.00 |
| 85.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 16.314 | 0.00 | 0.00 | 39.60 |
| 85.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 16.314 | 82.71 | 0.00 | 180.00 |
| 87.83 | (12) 11/4" Coax | No | 2.83 | 7.92 | 0.30 | 16.461 | 0.00 | 0.00 | 22.44 |
| 87.83 | (12) 1 5/8" Coax | Yes | 2.83 | 36.00 | 0.60 | 16.461 | 47.29 | 0.00 | 102.00 |
| 90.00 | (12) 11/4" Coax | No | 2.17 | 7.92 | 0.30 | 16.571 | 0.00 | 0.00 | 17.16 |
| 90.00 | (12) 1 5/8" Coax | Yes | 2.17 | 36.00 | 0.60 | 16.571 | 36.41 | 0.00 | 78.00 |
| 92.17 | (12) 11/4" Coax | No | 2.17 | 7.92 | 0.30 | 16.679 | 0.00 | 0.00 | 17.16 |
| 92.17 | (12) 1 5/8" Coax | Yes | 2.17 | 36.00 | 0.60 | 16.679 | 36.64 | 0.00 | 78.00 |
| 95.00 | (12) 11/4" Coax | No | 2.83 | 7.92 | 0.30 | 16.818 | 0.00 | 0.00 | 22.44 |
| 95.00 | (12) 1 5/8" Coax | Yes | 2.83 | 36.00 | 0.60 | 16.818 | 48.32 | 0.00 | 102.00 |
| 100.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 17.056 | 0.00 | 0.00 | 39.60 |
| 100.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 17.056 | 86.48 | 0.00 | 180.00 |
| 105.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 17.287 | 0.00 | 0.00 | 39.60 |
| 105.00 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 17.287 | 87.64 | 0.00 | 180.00 |
| 110.00 | (12) 11/4" Coax | No | 5.00 | 7.92 | 0.30 | 17.510 | 0.00 | 0.00 | 39.60 |

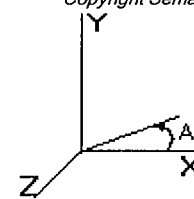
Pole : CT11279D **VoiceStream Wireless-OR**
Location: South Windsor - AT&T South Windsor, CT
Height : 169.0 (ft) **Base Elev :** 4.000 (ft)
Shape : 18 Sides
Base Dia : 45.50 (in) **Top Dia :** 15.50 (in)
Taper : 0.188 (in/ft)



Load Case: Ice **80 mph - With Ice - Ice Thickness = 0.5 in** **30 Iterations**
Gust Response Factor : 1.69 **Effective Wind Speed :** 69.28 (mph)
Dead Load Factor : 1.00 **Note : Pole Base Elevation is Added for Kz Calculation**
Wind Load Factor : 1.00

| | | | | | | | | | |
|----------------|------------------|-----|------|-------|------|--------|-----------------|-------------|----------------|
| 110.0 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 17.510 | 88.77 | 0.00 | 180.00 |
| 115.0 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 17.726 | 0.00 | 0.00 | 39.60 |
| 115.0 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 17.726 | 89.87 | 0.00 | 180.00 |
| 120.0 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 17.936 | 0.00 | 0.00 | 39.60 |
| 120.0 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 17.936 | 90.93 | 0.00 | 180.00 |
| 125.0 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 18.139 | 0.00 | 0.00 | 39.60 |
| 125.0 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 18.139 | 91.97 | 0.00 | 180.00 |
| 130.0 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 18.337 | 0.00 | 0.00 | 39.60 |
| 130.0 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 18.337 | 92.97 | 0.00 | 180.00 |
| 132.0 | (12) 1 1/4" Coax | No | 2.00 | 7.92 | 0.30 | 18.415 | 0.00 | 0.00 | 15.84 |
| 132.0 | (12) 1 5/8" Coax | Yes | 2.00 | 36.00 | 0.60 | 18.415 | 37.35 | 0.00 | 72.00 |
| 133.3 | (12) 1 1/4" Coax | No | 1.33 | 7.92 | 0.30 | 18.466 | 0.00 | 0.00 | 10.53 |
| 133.3 | (12) 1 5/8" Coax | Yes | 1.33 | 36.00 | 0.60 | 18.466 | 24.90 | 0.00 | 47.87 |
| 135.0 | (12) 1 1/4" Coax | No | 1.67 | 7.92 | 0.30 | 18.530 | 0.00 | 0.00 | 13.23 |
| 135.0 | (12) 1 5/8" Coax | Yes | 1.67 | 36.00 | 0.60 | 18.530 | 31.38 | 0.00 | 60.13 |
| 136.6 | (12) 1 1/4" Coax | No | 1.66 | 7.92 | 0.30 | 18.593 | 0.00 | 0.00 | 13.17 |
| 136.6 | (12) 1 5/8" Coax | Yes | 1.66 | 36.00 | 0.60 | 18.593 | 31.36 | 0.00 | 59.87 |
| 140.0 | (12) 1 1/4" Coax | No | 3.34 | 7.92 | 0.30 | 18.718 | 0.00 | 0.00 | 26.43 |
| 140.0 | (12) 1 5/8" Coax | Yes | 3.34 | 36.00 | 0.60 | 18.718 | 63.34 | 0.00 | 120.13 |
| 140.0 | (12) 1 1/4" Coax | No | 5.00 | 7.92 | 0.30 | 18.902 | 0.00 | 0.00 | 39.60 |
| 140.0 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 18.902 | 95.83 | 0.00 | 180.00 |
| 148.0 | (12) 1 1/4" Coax | No | 3.00 | 7.92 | 0.30 | 19.010 | 0.00 | 0.00 | 23.76 |
| 148.0 | (12) 1 5/8" Coax | Yes | 3.00 | 36.00 | 0.60 | 19.010 | 57.83 | 0.00 | 108.00 |
| 150.0 | (12) 1 5/8" Coax | Yes | 2.00 | 36.00 | 0.60 | 19.081 | 38.70 | 0.00 | 72.00 |
| 155.0 | (12) 1 5/8" Coax | Yes | 5.00 | 36.00 | 0.60 | 19.256 | 97.63 | 0.00 | 180.00 |
| 156.0 | (12) 1 5/8" Coax | Yes | 1.00 | 36.00 | 0.60 | 19.290 | 19.56 | 0.00 | 36.00 |
| Totals: | | | | | | | 2,491.28 | 0.00 | 6,788.2 |

Pole : CT11279D **VoiceStream Wireless-OR**
Location: South Windsor - AT&T South Windsor, CT
Height : 169.0 (ft) **Base Elev :** 4.000 (ft)
Shape : 18 Sides
Base Dia : 45.50 (in) **Top Dia :** 15.50 (in)
Taper : 0.188 (in/ft)



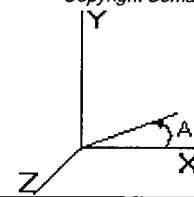
Load Case: Ice **80 mph - With Ice - Ice Thickness = 0.5 in** **30 Iterations**
Gust Response Factor : 1.69 **Effective Wind Speed :** 69.28 (mph)
Dead Load Factor : 1.00 **Note :** Pole Base Elevation is Added for Kz Calculation
Wind Load Factor : 1.00

Applied Forces Summary

| Seg Elev (ft) | X Coord (ft) | Z Coord (ft) | Lateral FX (-) (lb) | Axial FY (-) (lb) | Lateral FZ (lb) | Moment MX (lb-ft) | Torsion MY (lb-ft) | Moment MZ (lb-ft) |
|----------------|--------------|--------------|---------------------|-------------------|-----------------|-------------------|--------------------|-------------------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | 0.00 | 0.00 | 321.16 | 1,262.87 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10.00 | 0.00 | 0.00 | 315.86 | 1,240.86 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15.00 | 0.00 | 0.00 | 310.55 | 1,218.85 | 0.00 | 0.00 | 0.00 | 0.00 |
| 20.00 | 0.00 | 0.00 | 305.25 | 1,196.85 | 0.00 | 0.00 | 0.00 | 0.00 |
| 25.00 | 0.00 | 0.00 | 299.95 | 1,174.84 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30.00 | 0.00 | 0.00 | 297.17 | 1,152.83 | 0.00 | 0.00 | 0.00 | 0.00 |
| 35.00 | 0.00 | 0.00 | 303.48 | 1,130.83 | 0.00 | 0.00 | 0.00 | 0.00 |
| 40.00 | 0.00 | 0.00 | 308.37 | 1,108.82 | 0.00 | 0.00 | 0.00 | 0.00 |
| 43.34 | 0.00 | 0.00 | 206.86 | 728.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| 45.00 | 0.00 | 0.00 | 104.72 | 613.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 48.67 | 0.00 | 0.00 | 233.51 | 1,336.27 | 0.00 | 0.00 | 0.00 | 0.00 |
| 50.00 | 0.00 | 0.00 | 84.42 | 286.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| 55.00 | 0.00 | 0.00 | 321.52 | 1,060.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 60.00 | 0.00 | 0.00 | 322.67 | 1,038.30 | 0.00 | 0.00 | 0.00 | 0.00 |
| 65.00 | 0.00 | 0.00 | 323.14 | 1,016.29 | 0.00 | 0.00 | 0.00 | 0.00 |
| 70.00 | 0.00 | 0.00 | 322.98 | 994.28 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75.00 | 0.00 | 0.00 | 322.26 | 972.28 | 0.00 | 0.00 | 0.00 | 0.00 |
| 80.00 | 0.00 | 0.00 | 321.04 | 950.27 | 0.00 | 0.00 | 0.00 | 0.00 |
| 85.00 | 0.00 | 0.00 | 319.34 | 928.26 | 0.00 | 0.00 | 0.00 | 0.00 |
| 87.83 | 0.00 | 0.00 | 179.43 | 516.59 | 0.00 | 0.00 | 0.00 | 0.00 |
| 90.00 | 0.00 | 0.00 | 138.64 | 609.08 | 0.00 | 0.00 | 0.00 | 0.00 |
| 92.17 | 0.00 | 0.00 | 138.18 | 601.91 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95.00 | 0.00 | 0.00 | 180.17 | 452.43 | 0.00 | 0.00 | 0.00 | 0.00 |
| 100.00 | 0.00 | 0.00 | 316.67 | 783.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 105.00 | 0.00 | 0.00 | 313.48 | 764.18 | 0.00 | 0.00 | 0.00 | 0.00 |
| 110.00 | 0.00 | 0.00 | 309.97 | 745.36 | 0.00 | 0.00 | 0.00 | 0.00 |
| 115.00 | 0.00 | 0.00 | 306.14 | 726.54 | 0.00 | 0.00 | 0.00 | 0.00 |
| 120.00 | 0.00 | 0.00 | 302.02 | 707.71 | 0.00 | 0.00 | 0.00 | 0.00 |
| 125.00 | 0.00 | 0.00 | 297.62 | 688.89 | 0.00 | 0.00 | 0.00 | 0.00 |
| 130.00 | 0.00 | 0.00 | 292.96 | 670.06 | 0.00 | 0.00 | 0.00 | 0.00 |
| 132.00 | 0.00 | 0.00 | 629.59 | 543.10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 133.33 | 0.00 | 0.00 | 76.27 | 173.32 | 0.00 | 0.00 | 0.00 | 0.00 |
| 135.00 | 0.00 | 0.00 | 96.74 | 314.68 | 0.00 | 0.00 | 0.00 | 0.00 |
| 136.66 | 0.00 | 0.00 | 95.77 | 309.85 | 0.00 | 0.00 | 0.00 | 0.00 |
| 140.00 | 0.00 | 0.00 | 190.75 | 380.28 | 0.00 | 0.00 | 0.00 | 0.00 |
| 145.00 | 0.00 | 0.00 | 281.82 | 556.29 | 0.00 | 0.00 | 0.00 | 0.00 |
| 148.00 | 0.00 | 0.00 | 2,329.53 | 2,858.61 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150.00 | 0.00 | 0.00 | 109.51 | 198.89 | 0.00 | 0.00 | 0.00 | 0.00 |
| 155.00 | 0.00 | 0.00 | 270.48 | 485.41 | 0.00 | 0.00 | 0.00 | 0.00 |
| 156.00 | 0.00 | 0.00 | 2,474.78 | 2,849.44 | 0.00 | 0.00 | 0.00 | 0.00 |
| 160.00 | 0.00 | 0.00 | 132.13 | 230.79 | 0.00 | 0.00 | 0.00 | 0.00 |
| 165.00 | 0.00 | 0.00 | 158.98 | 274.12 | 0.00 | 0.00 | 0.00 | 0.00 |
| 169.00 | 0.00 | 0.00 | 2,889.76 | 3,082.27 | 0.00 | 0.00 | 0.00 | 0.00 |
| Totals: | | | 17,855.63 | 38,933.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Pole : CT11279D
 Location: South Windsor - AT&T South Windsor, CT
 Height : 169.0 (ft)
 Shape : 18 Sides
 Base Dia : 45.50 (in)
 Taper : 0.188 (in/ft)

VoiceStream Wireless-OR
 Base Elev : 4.000 (ft)
 Top Dia : 15.50 (in)



Load Case: Ice 80 mph - With Ice - Ice Thickness = 0.5 in 30 Iterations

Gust Response Factor : 1.69 Effective Wind Speed : 69.28 (mph)

Dead Load Factor : 1.00 Note : Pole Base Elevation is Added for Kz Calculation

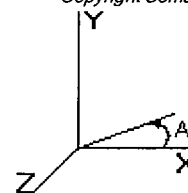
Wind Load Factor : 1.00

Calculated Forces and Deflections

| Seg Elev (ft) | Lateral FX (-) (kips) | Axial FY (-) (kips) | Lateral FZ (kips) | Moment MX (ft-kips) | Torsion MY (ft-kips) | Moment MZ (ft-kips) | X Deflect (in) | Z Deflect (in) | Total Deflect (in) | Rotation (deg) |
|---------------|-----------------------|---------------------|-------------------|---------------------|----------------------|---------------------|----------------|----------------|--------------------|----------------|
| 0.00 | 17.933 | 38.897 | 0.000 | 0.000 | 0.000 | 2,246.083 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5.00 | 17.759 | 37.564 | 0.000 | 0.000 | 0.000 | 2,156.421 | -0.121 | 0.000 | 0.121 | -0.227 |
| 10.00 | 17.585 | 36.253 | 0.000 | 0.000 | 0.000 | 2,067.626 | -0.482 | 0.000 | 0.482 | -0.458 |
| 15.00 | 17.408 | 34.965 | 0.000 | 0.000 | 0.000 | 1,979.705 | -1.088 | 0.000 | 1.088 | -0.695 |
| 20.00 | 17.230 | 33.700 | 0.000 | 0.000 | 0.000 | 1,892.667 | -1.945 | 0.000 | 1.945 | -0.937 |
| 25.00 | 17.050 | 32.456 | 0.000 | 0.000 | 0.000 | 1,806.520 | -3.058 | 0.000 | 3.058 | -1.185 |
| 30.00 | 16.866 | 31.236 | 0.000 | 0.000 | 0.000 | 1,721.272 | -4.433 | 0.000 | 4.433 | -1.437 |
| 35.00 | 16.669 | 30.038 | 0.000 | 0.000 | 0.000 | 1,636.943 | -6.076 | 0.000 | 6.076 | -1.696 |
| 40.00 | 16.437 | 28.876 | 0.000 | 0.000 | 0.000 | 1,553.600 | -7.993 | 0.000 | 7.993 | -1.960 |
| 43.34 | 16.272 | 28.117 | 0.000 | 0.000 | 0.000 | 1,498.755 | -9.427 | 0.000 | 9.427 | -2.141 |
| 45.00 | 16.215 | 27.466 | 0.000 | 0.000 | 0.000 | 1,471.690 | -10.189 | 0.000 | 10.189 | -2.234 |
| 48.67 | 15.991 | 26.102 | 0.000 | 0.000 | 0.000 | 1,412.183 | -11.986 | 0.000 | 11.986 | -2.438 |
| 50.00 | 15.971 | 25.772 | 0.000 | 0.000 | 0.000 | 1,390.916 | -12.676 | 0.000 | 12.676 | -2.513 |
| 50.00 | 15.716 | 24.655 | 0.000 | 0.000 | 0.000 | 1,311.062 | -15.448 | 0.000 | 15.448 | -2.777 |
| 55.00 | 15.452 | 23.562 | 0.000 | 0.000 | 0.000 | 1,232.486 | -18.499 | 0.000 | 18.499 | -3.046 |
| 65.00 | 15.182 | 22.492 | 0.000 | 0.000 | 0.000 | 1,155.225 | -21.833 | 0.000 | 21.833 | -3.320 |
| 70.00 | 14.905 | 21.446 | 0.000 | 0.000 | 0.000 | 1,079.317 | -25.457 | 0.000 | 25.457 | -3.598 |
| 75.00 | 14.621 | 20.425 | 0.000 | 0.000 | 0.000 | 1,004.796 | -29.373 | 0.000 | 29.373 | -3.881 |
| 80.00 | 14.332 | 19.427 | 0.000 | 0.000 | 0.000 | 931.690 | -33.587 | 0.000 | 33.587 | -4.168 |
| 85.00 | 14.018 | 18.470 | 0.000 | 0.000 | 0.000 | 860.030 | -38.103 | 0.000 | 38.103 | -4.458 |
| 87.83 | 13.845 | 17.933 | 0.000 | 0.000 | 0.000 | 820.314 | -40.797 | 0.000 | 40.797 | -4.628 |
| 90.00 | 13.697 | 17.306 | 0.000 | 0.000 | 0.000 | 790.315 | -42.925 | 0.000 | 42.925 | -4.759 |
| 92.17 | 13.553 | 16.682 | 0.000 | 0.000 | 0.000 | 760.641 | -45.113 | 0.000 | 45.113 | -4.890 |
| 95.00 | 13.406 | 16.188 | 0.000 | 0.000 | 0.000 | 722.240 | -48.064 | 0.000 | 48.064 | -5.062 |
| 100.00 | 13.109 | 15.361 | 0.000 | 0.000 | 0.000 | 655.210 | -53.536 | 0.000 | 53.536 | -5.395 |
| 105.00 | 12.807 | 14.557 | 0.000 | 0.000 | 0.000 | 589.667 | -59.355 | 0.000 | 59.355 | -5.727 |
| 110.00 | 12.502 | 13.776 | 0.000 | 0.000 | 0.000 | 525.631 | -65.520 | 0.000 | 65.520 | -6.058 |
| 115.00 | 12.192 | 13.018 | 0.000 | 0.000 | 0.000 | 463.124 | -72.027 | 0.000 | 72.027 | -6.384 |
| 120.00 | 11.879 | 12.284 | 0.000 | 0.000 | 0.000 | 402.165 | -78.870 | 0.000 | 78.870 | -6.703 |
| 125.00 | 11.562 | 11.575 | 0.000 | 0.000 | 0.000 | 342.771 | -86.040 | 0.000 | 86.040 | -7.012 |
| 130.00 | 11.226 | 10.908 | 0.000 | 0.000 | 0.000 | 284.961 | -93.523 | 0.000 | 93.523 | -7.305 |
| 132.00 | 10.550 | 10.432 | 0.000 | 0.000 | 0.000 | 262.508 | -96.600 | 0.000 | 96.600 | -7.421 |
| 133.33 | 10.467 | 10.255 | 0.000 | 0.000 | 0.000 | 248.480 | -98.672 | 0.000 | 98.672 | -7.497 |
| 135.00 | 10.346 | 9.939 | 0.000 | 0.000 | 0.000 | 230.998 | -101.304 | 0.000 | 101.304 | -7.589 |
| 136.66 | 10.231 | 9.622 | 0.000 | 0.000 | 0.000 | 213.793 | -103.956 | 0.000 | 103.956 | -7.679 |
| 140.00 | 10.025 | 9.234 | 0.000 | 0.000 | 0.000 | 179.653 | -109.367 | 0.000 | 109.367 | -7.845 |
| 145.00 | 9.696 | 8.691 | 0.000 | 0.000 | 0.000 | 129.529 | -117.694 | 0.000 | 117.694 | -8.091 |
| 148.00 | 6.995 | 6.180 | 0.000 | 0.000 | 0.000 | 100.441 | -122.803 | 0.000 | 122.803 | -8.218 |
| 150.00 | 6.871 | 5.985 | 0.000 | 0.000 | 0.000 | 86.450 | -126.250 | 0.000 | 126.250 | -8.293 |
| 155.00 | 6.540 | 5.535 | 0.000 | 0.000 | 0.000 | 52.097 | -134.988 | 0.000 | 134.988 | -8.440 |
| 156.00 | 3.676 | 3.077 | 0.000 | 0.000 | 0.000 | 45.557 | -136.753 | 0.000 | 136.753 | -8.464 |
| 160.00 | 3.515 | 2.864 | 0.000 | 0.000 | 0.000 | 30.852 | -143.853 | 0.000 | 143.853 | -8.542 |
| 165.00 | 3.319 | 2.614 | 0.000 | 0.000 | 0.000 | 13.276 | -152.804 | 0.000 | 152.804 | -8.607 |
| 169.00 | 2.890 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | -159.998 | 0.000 | 159.998 | -8.625 |

Pole : CT11279D
 Location: South Windsor - AT&T South Windsor, CT
 Height : 169.0 (ft)
 Shape : 18 Sides
 Base Dia : 45.50 (in)
 Taper : 0.188 (in/ft)

VoiceStream Wireless-OR
 Base Elev : 4.000 (ft)
 Top Dia : 15.50 (in)

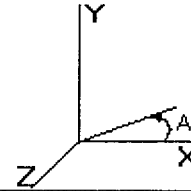


Load Case: Ice 80 mph - With Ice - Ice Thickness = 0.5 in 30 Iterations
 Gust Response Factor : 1.69 Effective Wind Speed : 69.28 (mph)
 Dead Load Factor : 1.00 Note : Pole Base Elevation is Added for Kz Calculation
 Wind Load Factor : 1.00

Calculated Stresses

| Seg Elev (ft) | Applied Stresses | | | | | | | Allowable Stress (Fb) (ksi) | Stress Ratio |
|---------------------|--------------------|--------------------|--------------------|------------------|----------------------|----------------------|-------------------|-----------------------------------|-----------------|
| | Axial (Y) (ksi) | Shear (X) (ksi) | Shear (Z) (ksi) | Torsion (ksi) | Bending (X) (ksi) | Bending (Z) (ksi) | Combined (ksi) | | |
| 0.00 | 0.724 | 0.673 | 0.000 | 0.000 | 0.000 | 45.062 | 45.801 | 52.0 | 0.881 |
| 5.00 | 0.714 | 0.681 | 0.000 | 0.000 | 0.000 | 45.138 | 45.867 | 52.0 | 0.882 |
| 10.00 | 0.704 | 0.689 | 0.000 | 0.000 | 0.000 | 45.196 | 45.916 | 52.0 | 0.883 |
| 15.00 | 0.695 | 0.697 | 0.000 | 0.000 | 0.000 | 45.234 | 45.944 | 52.0 | 0.884 |
| 20.00 | 0.685 | 0.706 | 0.000 | 0.000 | 0.000 | 45.249 | 45.950 | 52.0 | 0.884 |
| 25.00 | 0.675 | 0.714 | 0.000 | 0.000 | 0.000 | 45.238 | 45.930 | 52.0 | 0.884 |
| 30.00 | 0.665 | 0.724 | 0.000 | 0.000 | 0.000 | 45.198 | 45.880 | 52.0 | 0.883 |
| 35.00 | 0.655 | 0.733 | 0.000 | 0.000 | 0.000 | 45.124 | 45.797 | 52.0 | 0.881 |
| 40.00 | 0.646 | 0.741 | 0.000 | 0.000 | 0.000 | 45.014 | 45.678 | 52.0 | 0.879 |
| 43.34 | 0.639 | 0.746 | 0.000 | 0.000 | 0.000 | 44.924 | 45.582 | 52.0 | 0.877 |
| 45.00 | 0.630 | 0.749 | 0.000 | 0.000 | 0.000 | 44.876 | 45.524 | 52.0 | 0.876 |
| 48.67 | 0.598 | 0.738 | 0.000 | 0.000 | 0.000 | 42.925 | 43.541 | 52.0 | 0.838 |
| 50.00 | 0.594 | 0.742 | 0.000 | 0.000 | 0.000 | 42.865 | 43.479 | 52.0 | 0.837 |
| 50.00 | 0.583 | 0.750 | 0.000 | 0.000 | 0.000 | 42.591 | 43.194 | 52.0 | 0.831 |
| 55.00 | 0.573 | 0.757 | 0.000 | 0.000 | 0.000 | 42.265 | 42.858 | 52.0 | 0.825 |
| 65.00 | 0.562 | 0.765 | 0.000 | 0.000 | 0.000 | 41.883 | 42.465 | 52.0 | 0.817 |
| 70.00 | 0.552 | 0.772 | 0.000 | 0.000 | 0.000 | 41.435 | 42.008 | 52.0 | 0.808 |
| 75.00 | 0.541 | 0.780 | 0.000 | 0.000 | 0.000 | 40.915 | 41.478 | 52.0 | 0.798 |
| 80.00 | 0.530 | 0.788 | 0.000 | 0.000 | 0.000 | 40.313 | 40.866 | 52.0 | 0.786 |
| 85.00 | 0.520 | 0.795 | 0.000 | 0.000 | 0.000 | 39.616 | 40.160 | 52.0 | 0.773 |
| 87.83 | 0.514 | 0.800 | 0.000 | 0.000 | 0.000 | 39.186 | 39.724 | 52.0 | 0.764 |
| 90.00 | 0.503 | 0.803 | 0.000 | 0.000 | 0.000 | 38.835 | 39.363 | 52.0 | 0.757 |
| 92.17 | 0.576 | 0.944 | 0.000 | 0.000 | 0.000 | 43.901 | 44.507 | 52.0 | 0.856 |
| 95.00 | 0.570 | 0.951 | 0.000 | 0.000 | 0.000 | 43.263 | 43.864 | 52.0 | 0.844 |
| 100.00 | 0.559 | 0.962 | 0.000 | 0.000 | 0.000 | 41.981 | 42.573 | 52.0 | 0.819 |
| 105.00 | 0.548 | 0.973 | 0.000 | 0.000 | 0.000 | 40.507 | 41.090 | 52.0 | 0.791 |
| 110.00 | 0.538 | 0.984 | 0.000 | 0.000 | 0.000 | 38.811 | 39.386 | 52.0 | 0.758 |
| 115.00 | 0.528 | 0.996 | 0.000 | 0.000 | 0.000 | 36.855 | 37.422 | 52.0 | 0.720 |
| 120.00 | 0.518 | 1.009 | 0.000 | 0.000 | 0.000 | 34.593 | 35.154 | 52.0 | 0.676 |
| 125.00 | 0.508 | 1.022 | 0.000 | 0.000 | 0.000 | 31.970 | 32.526 | 52.0 | 0.626 |
| 130.00 | 0.499 | 1.035 | 0.000 | 0.000 | 0.000 | 28.917 | 29.471 | 52.0 | 0.567 |
| 132.00 | 0.485 | 0.989 | 0.000 | 0.000 | 0.000 | 27.581 | 28.119 | 52.0 | 0.541 |
| 133.33 | 0.483 | 0.993 | 0.000 | 0.000 | 0.000 | 26.727 | 27.264 | 52.0 | 0.525 |
| 135.00 | 0.475 | 0.996 | 0.000 | 0.000 | 0.000 | 25.599 | 26.131 | 52.0 | 0.503 |
| 136.66 | 0.568 | 1.217 | 0.000 | 0.000 | 0.000 | 28.841 | 29.484 | 52.0 | 0.567 |
| 140.00 | 0.562 | 1.229 | 0.000 | 0.000 | 0.000 | 25.739 | 26.387 | 52.0 | 0.508 |
| 145.00 | 0.554 | 1.245 | 0.000 | 0.000 | 0.000 | 20.382 | 21.046 | 52.0 | 0.405 |
| 148.00 | 0.405 | 0.925 | 0.000 | 0.000 | 0.000 | 16.755 | 17.235 | 52.0 | 0.332 |
| 150.00 | 0.401 | 0.927 | 0.000 | 0.000 | 0.000 | 15.009 | 15.493 | 52.0 | 0.298 |
| 155.00 | 0.390 | 0.929 | 0.000 | 0.000 | 0.000 | 10.030 | 10.544 | 52.0 | 0.203 |
| 156.00 | 0.219 | 0.528 | 0.000 | 0.000 | 0.000 | 8.960 | 9.225 | 52.0 | 0.177 |
| 160.00 | 0.213 | 0.527 | 0.000 | 0.000 | 0.000 | 6.624 | 6.898 | 52.0 | 0.133 |
| 165.00 | 0.206 | 0.527 | 0.000 | 0.000 | 0.000 | 3.199 | 3.525 | 52.0 | 0.068 |
| 169.00 | 0.000 | 0.481 | 0.000 | 0.000 | 0.000 | 0.000 | 0.834 | 52.0 | 0.016 |

Pole : CT11279D **VoiceStream Wireless-OR**
Location: South Windsor - AT&T South Windsor, CT
Height : 169.0 (ft) **Base Elev :** 4.000 (ft)
Shape : 18 Sides
Base Dia : 45.50 (in) **Top Dia :** 15.50 (in)
Taper : 0.188 (in/ft)



| | | |
|-----------------------------|--|---------------|
| Load Case: No Ice | 80 mph - No Ice | 30 Iterations |
| Gust Response Factor : 1.69 | Effective Wind Speed : 80.00 (mph) | |
| Dead Load Factor : 1.00 | Note : Pole Base Elevation is Added for Kz Calculation | |
| Wind Load Factor : 1.00 | | |

Analysis Summary

| Load Case | Reactions | | | | | | Max Stresses | | | |
|-----------|-----------------|-----------------|-----------------|---------------------|---------------------|---------------------|-----------------------|------------------------|-----------|--------------|
| | Shear FX (kips) | Shear FZ (kips) | Axial FY (kips) | Moment MX (ft-kips) | Moment MY (ft-kips) | Moment MZ (ft-kips) | Combined Stress (ksi) | Allowable Stress (ksi) | Elev (ft) | Stress Ratio |
| No Ice | 21.074 | 0.000 | 28.687 | 0.000 | 0.000 | 2,537.485 | 51.461 | 52.0 | 0.000 | 0.990 |
| Ice | 17.933 | 0.000 | 38.897 | 0.000 | 0.000 | 2,246.083 | 45.944 | 52.0 | 15.000 | 0.884 |

Exhibit E

Power Density Calculations

300 Governor's Hwy

South Windsor, Connecticut



T-Mobile USA Inc.
100 Filley St, Bloomfield, CT 06002-1853
Phone: (860) 692-7100
Fax: (860) 692-7159

Technical Memo

To: Marie Burbank
From: Hassan Syed - Radio Frequency Engineer
cc: Jason Overbey
Subject: Power Density Report for CT11279
Date: May 6, 2004

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the T-Mobile PCS antenna installation on a Monopole at 300 Governor Highway, South Windsor, 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 1935-1945 MHz frequency band.
- 2) The antenna array consists of three sectors, with 3 antennas per sector.
- 3) The model number for each antenna is EMS RR90-17-02DP.
- 4) The antenna center line height is 172 ft.
- 5) The maximum transmit power from any sector is 1526.58 Watts Effective Radiated Power (EIRP) assuming 8 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:

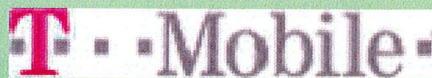
Based on the above worst case assumptions, the power density calculation from the T-Mobile PCS antenna installation on a Monopole at 300 Governor Highway, South Windsor, CT, is 0.01215 mW/cm^2 . This value represents 1.215% of the Maximum Permissible Emission (MPE) standard of 1 milliwatt per square 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 54.18%. The combined Power Density for the site is 55.395% of the M.P.E. standard.

New England Market

Connecticut

Worst Case Power Density



| | |
|---------------------------------------|-----------------------------------|
| Site: | CT11279 |
| Site Address: | 300 Governor Highway |
| Town: | South Windsor |
| Tower Height: | 169 ft. |
| Tower Style: | Monopole |
| Base Station TX output | 20 W |
| Number of channels | 8 |
| Antenna Model | EMS RR90-17-02DP |
| Cable Size | 1 5/8 in. |
| Cable Length | 190 ft. |
| Antenna Height | 172.0 ft. |
| Ground Reflection | 1.6 |
| Frequency | 1935.0 MHz |
| Jumper & Connector loss | 4.50 dB |
| Antenna Gain | 16.5 dBi |
| Cable Loss per foot | 0.0116 dB |
| Total Cable Loss | 2.2040 dB |
| Total Attenuation | 6.7040 dB |
| Total EIRP per Channel | 52.81 dBm |
| (In Watts) | 190.82 W |
| Total EIRP per Sector | 61.84 dBm |
| (In Watts) | 1526.58 W |
| nsg | 9.7960 |
| Power Density (S) = | 0.012154 mW/cm² |
| Voicestream Worst Case % MPE = | 1.2154% |

Equation Used :

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

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

| Co-Location Total | |
|------------------------------------|------------------|
| Carrier | % of Standard |
| Verizon | 35.1700 % |
| Cingular | 2.5500 % |
| Sprint PCS | 4.2100 % |
| AT&T Wireless | 6.3800 % |
| Nextel | 5.8700 % |
| Town | |
| Total Excluding Voicestream | 54.1800 % |
| Voicestream | 1.2154 |
| Total % MPE for Site | 55.3954% |

| Relative Gain Power Density | |
|--|-----------------------------------|
| Antenna Relative Gain Factor | -3.7 dBi |
| Total Attenuation | 6.7040 dB |
| Total EIRP per Channel | 49.11 dBm |
| (In Watts) | 81.40 W |
| Total EIRP per Sector | 58.14 dBm |
| (In Watts) | 651.21 W |
| nsg | 6.0960 |
| Power Density (S) = | 0.005185 mW/cm² |
| Voicestream Relative Gain % MPE = | 0.5185% |