COHEN and WOLF P.C. ATTORNEYS AT LAW

**JULIE D. KOHLER**

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

July 10, 2014

Attorney Melanie Bachman
Acting Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

**Re: Notice of Exempt Modification**
**American Tower Corporation/ MetroPCS co-location**
**Site ID CTHA342A**
**605 Willard Avenue, Newington CT**

Dear Attorney Bachman:

This office represents MetroPCS Massachusetts, LLC ("MetroPCS") and has been retained to file exempt modification filings with the Connecticut Siting Council on its behalf.

In this case, American Tower Corporation owns the existing monopole telecommunications tower and related facility at 605 Willard Avenue, Newington, Connecticut (Latitude: 41.698372, Longitude: -72.7371474). MetroPCS intends to replace three existing antennas with six new antennas and related equipment at this existing telecommunications facility in Newington ("Newington Facility"). Please accept this letter as notification, pursuant to R.C.S.A. § 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Mayor Stephen Woods. The Town of Newington is also the property owner.

The existing Newington Facility consists of a 180 foot monopole tower.[1] MetroPCS plans to:

- Remove three existing antennas and mounting pipe at a centerline of 170 feet. MetroPCS will replace that equipment with six new antennas and three TMA (tower mounted amplifiers) on a low profile mount at the 170 foot centerline;
- Install a 6' x 6' concrete pad within the existing lease area;

[1] While the online docket for the Connecticut Siting Council does not provide a docket or petition number for the approval of this structure, it does reference this structure in connection with recent notices of intent captioned EM-VER-094-130114, EM-SPRINT-094-130108, and EM-METROPCS-094-121228B-MA.

1115 Broad Street
P.O. Box 1821
Bridgeport, CT 06601-1821
Tel: (203) 368-0211
Fax: (203) 394-9901

158 Deer Hill Avenue
Danbury, CT 06810
Tel: (203) 792-2771
Fax: (203) 791-8149

320 Post Road West
Westport, CT 06880
Tel: (203) 222-1034
Fax: (203) 227-1373

657 Orange Center Road
Orange, CT 06477
Tel: (203) 298-4066
Fax: (203) 298-4068

- Relocate a GPS unit;
- Remove 2 cable bridge posts;
- Install a RAC 35 cabinet, on a proposed H-frame;
- Install a replacement PPC/telco cabinet on a proposed H-Frame;
- Reuse an existing MetroPCS cable bridge;
- Install an 3106 equipment cabinet and remove existing equipment; and
- Install coax and hybrid cable and reuse existing coax cables. (See the plans revised to June 26, 2014 attached hereto as Exhibit A).

The existing Newington Facility is structurally capable of supporting MetroPCS' proposed modifications, as indicated in the structural analysis dated June 11, 2014 and attached hereto as Exhibit B.

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

1 . The proposed modification will not increase the height of the tower. MetroPCS' replacement antennas will be installed at a centerline of 170 feet, merely replacing existing antennas located at the same 170 foot elevation. The enclosed tower drawing confirms that the proposed modification will not increase the height of the tower.

2 . The proposed modifications will not require an extension of the site boundaries or lease area, as depicted on Sheet L-1 of Exhibit A. MetroPCS' equipment will be located entirely within the existing fenced compound area.

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

4 . The operation of the replacement antennas will not increase the total radio frequency (RF) power density, measured at the base of the tower, to a level at or above the applicable standard. According to a Radio Frequency Emissions Analysis Report prepared by EBI dated July 10, 2014 MetroPCS' operations would add 0.388% of the FCC Standard. Therefore, the calculated "worst case" power density for the planned combined operation at the site including all of the proposed antennas would be 57.708% of the FCC Standard as calculated for a mixed frequency site as evidenced by the engineering exhibit attached hereto

as Exhibit C.

For the foregoing reasons, MetroPCS respectfully submit that the proposed replacement antennas and equipment at the Newington Facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Upon acknowledgement by the Council of this proposed exempt modification, MetroPCS shall commence construction approximately sixty days from the date of the Council's notice of acknowledgement.

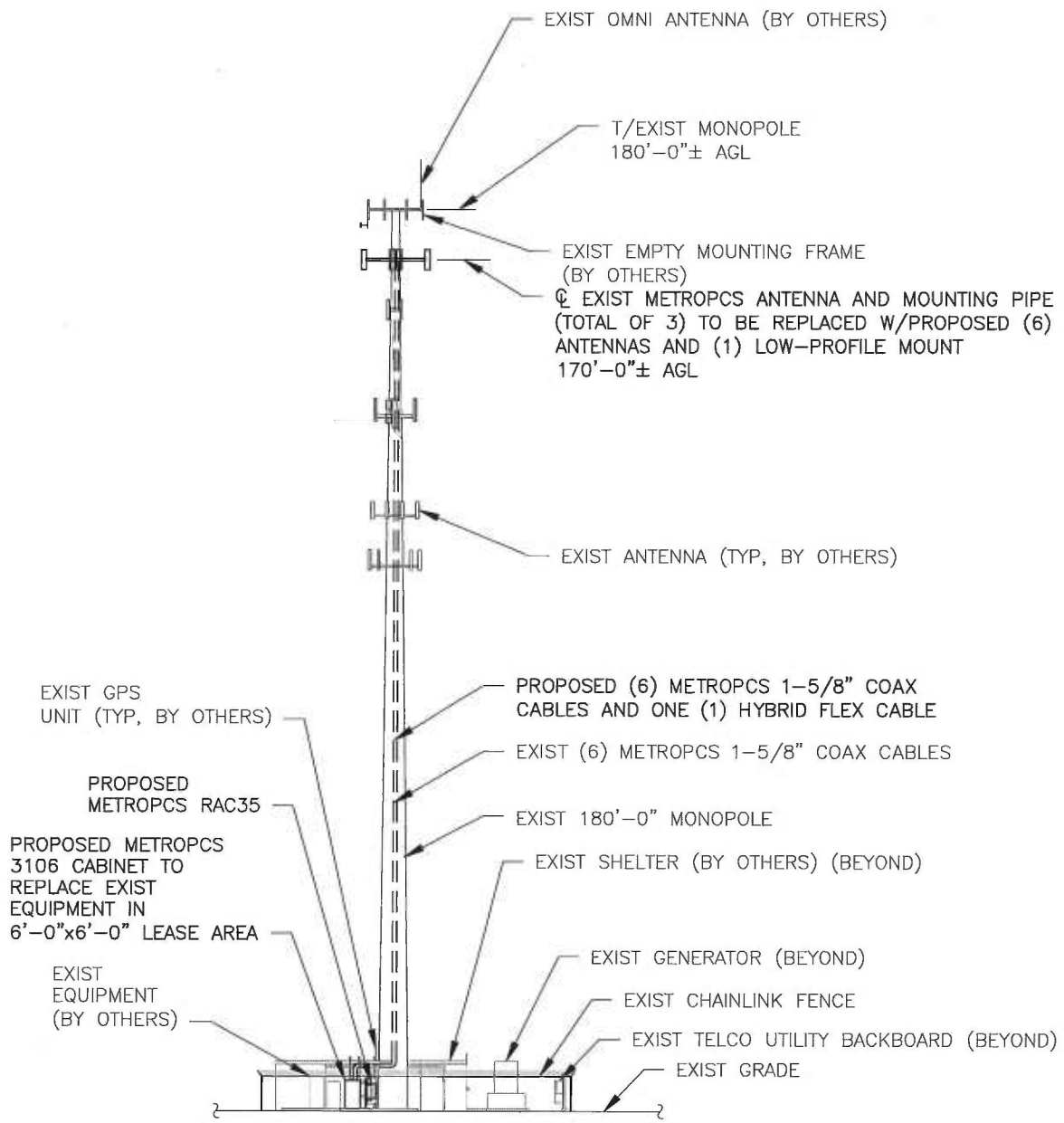
Sincerely,

Julie D. Kohler, Esq.

cc: Town of Newington, Mayor Stephen Woods
American Tower Corporation
Halene Fujimoto, HPC Wireless

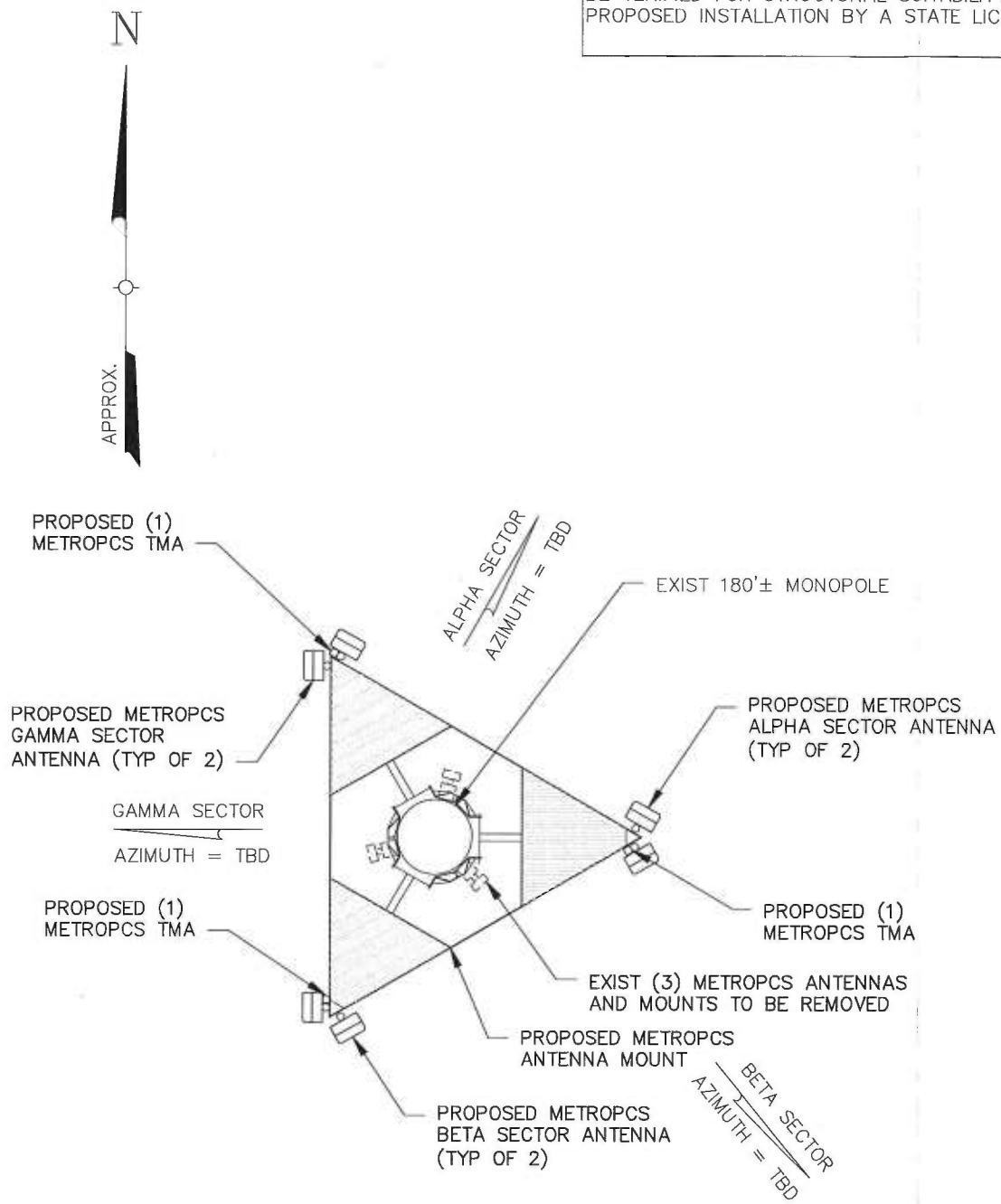
# EXHIBIT A

STRUCTURAL NOTE:
PROPOSED INSTALLATION AND EXIST MONOPOLE TO BE VERIFIED FOR STRUCTURAL SUITABILITY OF PROPOSED INSTALLATION BY A STATE LICENSED P.E.




1 / L-2 ELEVATION

SCALE: 1/32" = 1'-0"




2 / L-2 PROPOSED ANTENNA PLAN

SCALE: 3/16" = 1'-0"

CONFIGURATION
2C

0 1 2 3
ORIGINAL SIZE IN INCHES


TECTONIC
• PLANNING • ENGINEERING • SURVEYING • CONSTRUCTION MANAGEMENT
TECTONIC Engineering & Surveying Consultants P.C.
1279 Route 300
Newburgh, NY 12550
Phone: (845) 567-6656
Fax: (845) 567-8703


metroPCS
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

APPROVALS
T-MOBILE
LANDLORD
RF
CONSTRUCTION

| PROJECT NUMBER | DESIGNED BY |
|---|---|
| 7010.CT1138B | JQ |

| REV | DATE | REVISION | DRAWN BY |
|---|---|---|---|
| 0 | 12/27/13 | FOR COMMENT | DC |
| 1 | 06/26/14 | PER COMMENTS | JT |

ISSUED BY | DATE

SITE INFORMATION
CTHA342A
605 WILLARD AVE
NEWINGTON, CT 06111

SHEET TITLE
ELEVATION &
ANTENNA PLAN

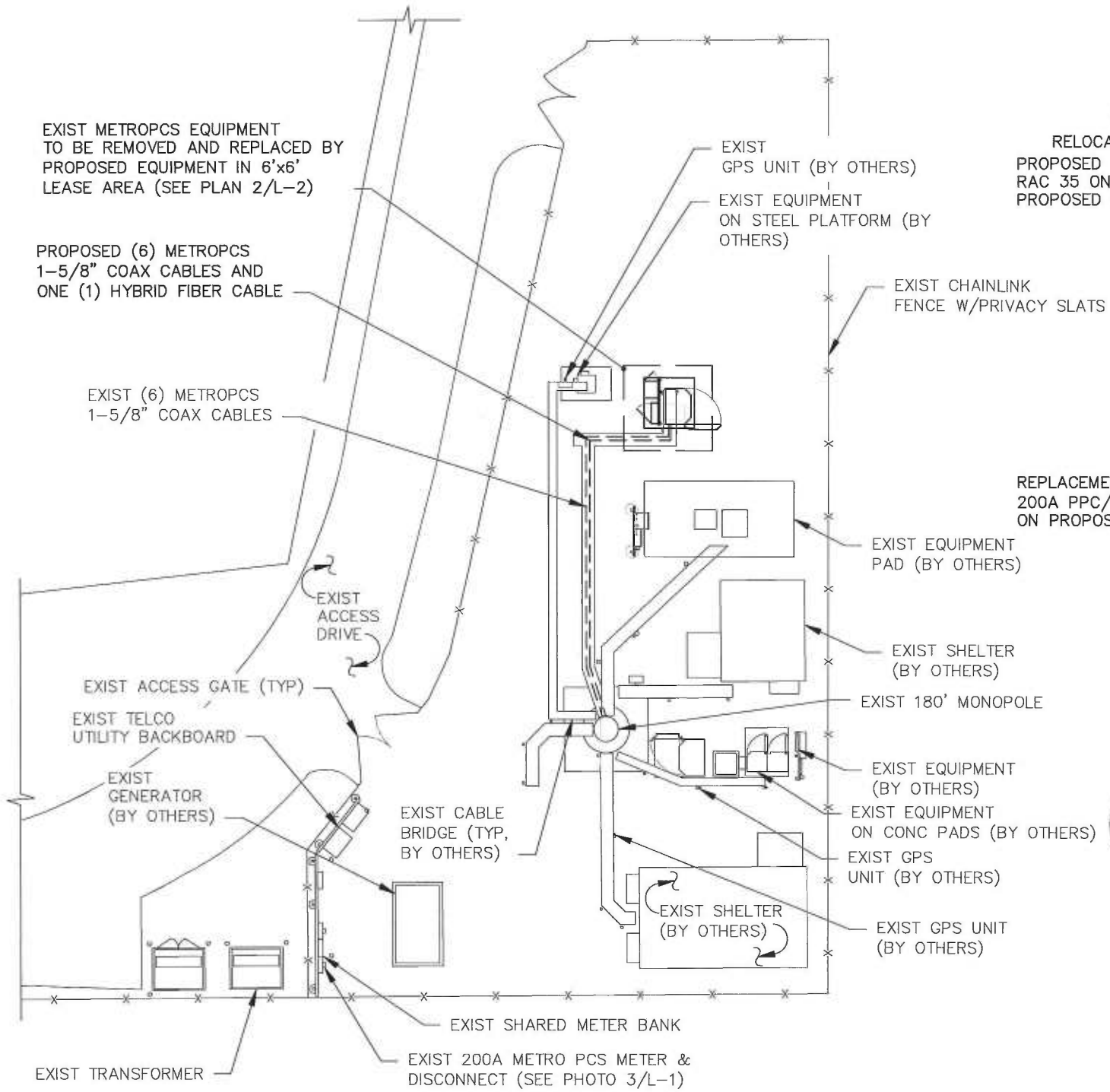
SHEET NUMBER
L-2

N

APPROX.

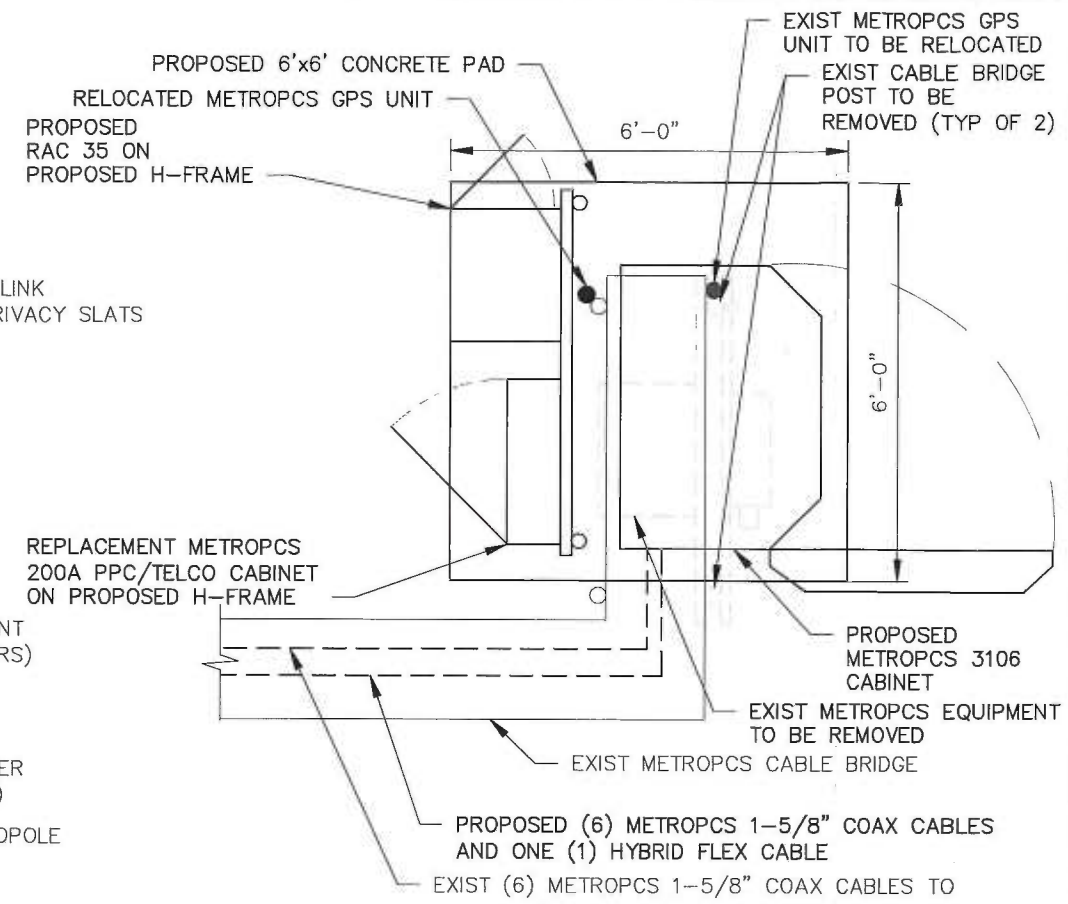
NORTH NOTE:

NORTH SHOWN HAS BEEN ESTABLISHED USING THE USGS QUADRANGLE 7.5 MINUTE MAPS AND IS APPROXIMATE. VERIFY TRUE NORTH PRIOR TO INSTALLATION OF ANTENNAS.




1/L-1 SITE PLAN

SCALE: 3/32" = 1'-0"




2/L-1 PROPOSED EQUIPMENT PLAN

SCALE: 1/4" = 1'-0"


3/L-1 PHOTO

SCALE: N.T.S

0 1 2 3

ORIGINAL SIZE IN INCHES


TECTONIC

• PLANNING • ENGINEERING • SURVEYING • CONSTRUCTION MANAGEMENT

TECTONIC Engineering & Surveying Consultants P.C.

1279 Route 300
Newburgh, NY 12550
Phone: (845) 567-6656
Fax: (845) 567-8703


metroPCS

35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

APPROVALS

T-MOBILE
LANDLORD
RF
CONSTRUCTION

| PROJECT NUMBER | DESIGNED BY |
|---|---|
| 7010.CT1138B | JQ |

| REV | DATE | REVISION | DRAWN BY |
|---|---|---|---|
| 0 | 12/27/13 | FOR COMMENT | DC |
| 1 | 06/26/14 | PER COMMENTS | JT |

ISSUED BY | DATE

SITE INFORMATION

CTHA342A
605 WILLARD AVE
NEWINGTON, CT 06111

SHEET TITLE

SITE PLAN & PROPOSED EQUIPMENT PLAN

CONFIGURATION

2C

SHEET NUMBER

L-1

# EXHIBIT B

AMERICAN TOWER®
CORPORATION

# Structural Analysis Report

| | | |
|---|---|---|
| **Structure** | : | **179 ft Monopole** |
| **ATC Site Name** | : | **Newington CT, CT** |
| **ATC Site Number** | : | **370627** |
| **Engineering Number** | : | **58752721** |
| **Proposed Carrier** | : | **Metro PCS** |
| **Carrier Site Name** | : | **N/A** |
| **Carrier Site Number** | : | **CTHA342A** |
| **Site Location** | : | **605 Willard Ave.**<br>**Newington, CT 06111-0000**<br>**41.698372,-72.737147** |
| **County** | : | **Hartford** |
| **Date** | : | **June 10, 2014** |
| **Max Usage** | : | **89%** |
| **Result** | : | **Pass** |

Joseph R. King, E.I.

STATE OF CONNECTICUT
WILLIAM GARRETT
No. 23235
LICENSED
PROFESSIONAL ENGINEER

Jun 11 2014 2:57 PM

Eng. Number 58752721
June 10, 2014

**Table of Contents**

## Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 179 ft monopole to reflect the change in loading by Metro PCS.

## Supporting Documents

| | |
|---|---|
| **Tower Drawings** | PiRod Engineering File #A-118092, dated August 10, 2001 |
| **Foundation Drawing** | PiRod Engineering File #A-118092, dated August 10, 2001 |
| **Geotechnical Report** | Clarence Welti Association, dated August 1, 2001 |

## Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/EIA-222.

| | |
|---|---|
| **Basic Wind Speed:** | 85 mph (Fastest Mile) |
| **Basic Wind Speed w/ Ice:** | 74 mph (Fastest Mile)w/ 1/2" radial ice concurrent |
| **Code:** | ANSI/TIA/EIA-222-F / 2003 IBC , Sec. 1609.1.1, Exception (5) & Sec. 3108.4 w/ 2005 CT Supplement & 2009 CT Amendment |

## Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

## Existing and Reserved Equipment

| Elevation[1] (ft) | | Qty | Antenna | Mount Type | Lines | Carrier |
|---|---|---|---|---|---|---|
| Mount | RAD | | | | | |
| 180.0 | 190.0 | 1 | 20' Dipole | Low Profile Platform | (3) 7/8" Coax | Town Of Newington |
| | 180.0 | 1 | 8' Yagi | | | |
| 170.0 | - | - | - | - | (6) 1 5/8" Coax | Metro PCS |
| 160.0 | 160.0 | 3 | RCU | Side Arms | (3) 5/8" Coax<br>(3) 0.28" Fiber<br>(2) 2" Conduit<br>(3) 1/2" Coax<br>(1) 0.32" Cable | Clearwire |
| | | 3 | DragonWave Horizon Compact | | | |
| | | 3 | Samsung U-RAS Premium-F FRH | | | |
| | | 3 | Argus LLPX310R | | | |
| 154.0 | 154.0 | 6 | Powerwave LGP21401 | T-Arms | (6) 1 5/8" Coax<br>(2) 0.78" 8 AWG 6<br>(1) 0.39" Fiber Trunk<br>(1) 1/2" Coax<br>(1) 3" Conduit | AT&T Mobility |
| | | 1 | Raycap DC6-48-60-18-8F | | | |
| | | 6 | Ericsson RRUS 11 (Band 12) | | | |
| | | 3 | Powerwave 7770.00 | | | |
| | | 1 | KMW AM-X-CD-16-65-00T-RET | | | |
| | | 1 | Andrew SBNH-1D6565C | | | |
| | | 1 | Powerwave P65-17-XLH-RR | | | |
| 140.0 | 140.0 | 3 | Alcatel-Lucent 2X50W RRH w/ Finger Guard | Low Profile Platform | (3) 1 1/4" Hybriflex | Sprint Nextel |
| | | 3 | Alcatel-Lucent 1900MHz RRH | | | |
| | | 1 | RFS APXV9ERR18-C-A20 | | | |
| | | 2 | RFS APXVSPP18-C-A20 | | | |
| 108.0 | 110.0 | 6 | RFS FD9R6004/2C-3L | Low Profile Platform | (12) 1 5/8" Coax<br>(1) 1 5/8" Hybriflex | Verizon |
| | | 3 | Alcatel-Lucent RRH2x40-AWS | | | |
| | | 3 | Antel BXA-171063/8CF | | | |
| | | 3 | Antel BXA-171063/12CF | | | |
| | | 3 | Antel BXA-80063/4CF ___5° | | | |
| | | 1 | RFS DB-T1-6Z-8AB-0Z | | | |
| | | 3 | Antel BXA-70063-6CF-EDIN-X | | | |

## Equipment to be Removed

| Elevation[1] (ft) | | Qty | Antenna | Mount Type | Lines | Carrier |
|---|---|---|---|---|---|---|
| Mount | RAD | | | | | |
| 170.0 | 170.0 | 3 | RFS APXV18-206517LS-C | - | - | Metro PCS |

## Proposed Equipment

| Elevation[1] (ft) | | Qty | Antenna | Mount Type | Lines | Carrier |
|---|---|---|---|---|---|---|
| Mount | RAD | | | | | |
| 170.0 | 170.0 | 3 | Ericsson KRY 112 144/1 | Low Profile Platform | (6) 1 5/8" Coax<br>(1) 1" Hybrid | Metro PCS |
| | | 3 | Ericsson AIR 21, 1.3M, B2A B4P | | | |
| | | 3 | Ericsson AIR 21, 1.3M, B4A B2P | | | |

**[1]Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).**

Install proposed coax inside the pole shaft.

**Structure Usages**

| Structural Component | Controlling Usage | Pass/Fail |
|---|---|---|
| Anchor Bolts | 81% | Pass |
| Shaft | 89% | Pass |
| Base Plate | 20% | Pass |

**Foundations**

| Reaction Component | Original Design Reactions | Analysis Reactions | % of Design |
|---|---|---|---|
| Moment (Kips-Ft) | 4,601.2 | 4,125.7 | 90% |
| Shear (Kips) | 37.2 | 33.5 | 90% |

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

**Deflection and Sway***

| Antenna Elevation (ft) | Deflection (ft) | Sway (Rotation) (°) |
|---|---|---|
| 170.0 | 2.915 | 1.793 |

***Deflection and Sway was evaluated considering a design wind speed of 50 mph (Fastest Mile) per ANSI/TIA/EIA-222-F.**

AMERICAN TOWER®
CORPORATION

**Standard Conditions**

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

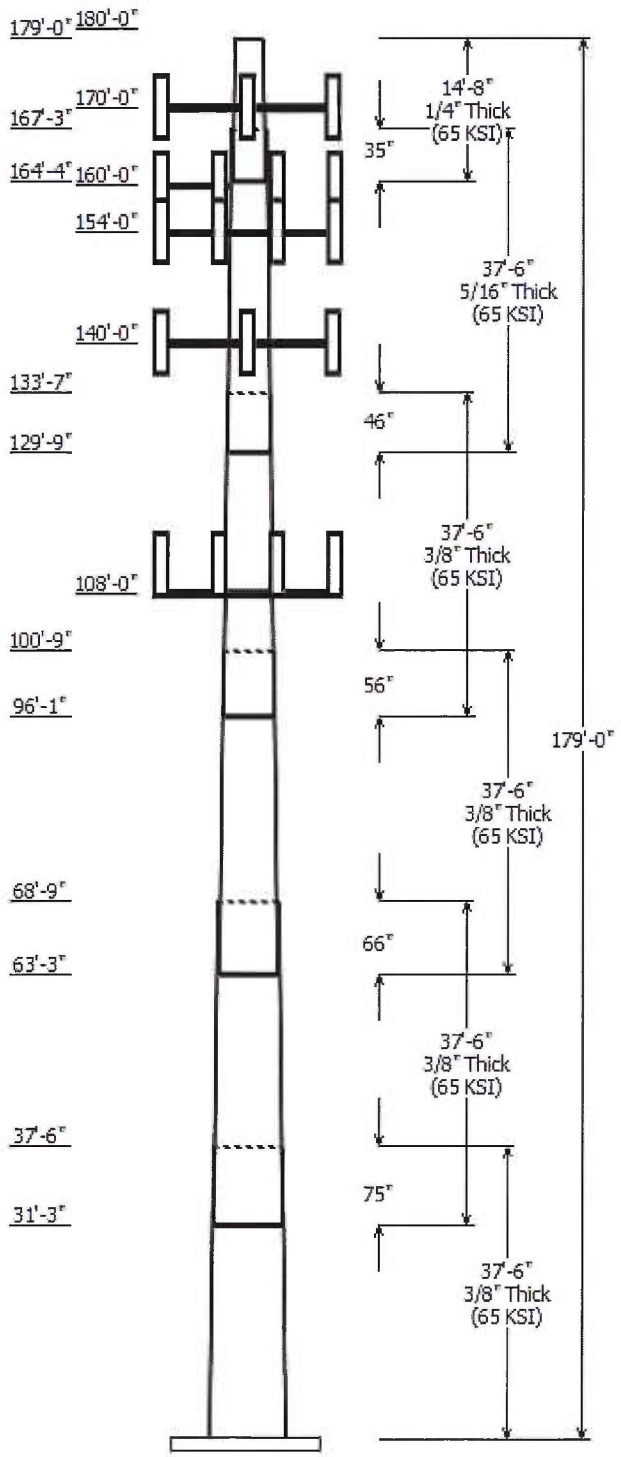
-- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

-- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Tower Services, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Tower Services, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.




## Job Information

| | |
|---|---|
| Pole : | 370627 |
| Description : | |
| Client : | Metro PCS |
| Location : | Newington CT |
| Shape : | 18 Sides |
| Height : | 179.00 (ft) |
| Base Elev (ft): | 0.00 |
| Taper: | 0.24581(in/ft) |

Code: TIA/EIA-222 Rev F

## Sections Properties

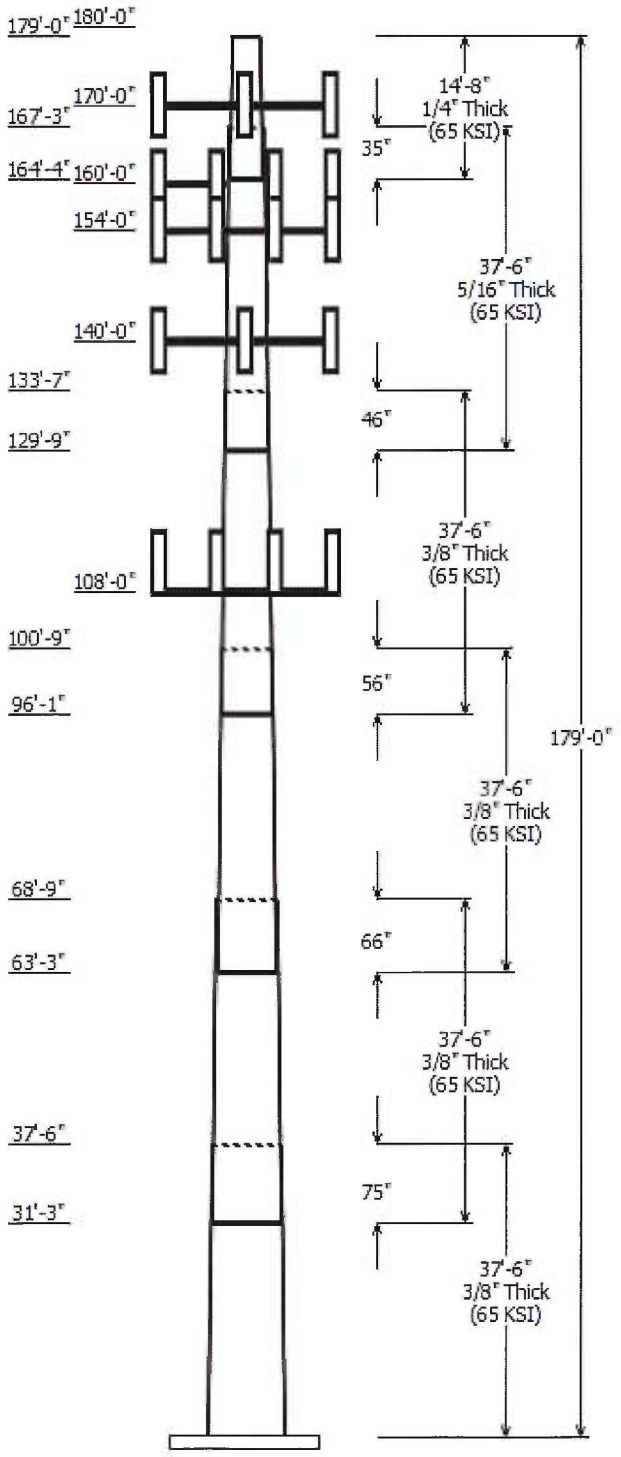
| Shaft Section | Length (ft) | Diameter (in) Across Flats Top | Bottom | Thick (in) | Joint Type | Overlap Length (in) | Taper (in/ft) | Steel Grade (ksi) |
|---|---|---|---|---|---|---|---|---|
| 1 | 37.500 | 53.72 | 62.93 | 0.375 | | 0.000 | 0.245810 | 65 |
| 2 | 37.500 | 46.78 | 56.00 | 0.375 | Slip Joint | 75.000 | 0.245810 | 65 |
| 3 | 37.500 | 39.67 | 48.89 | 0.375 | Slip Joint | 66.000 | 0.245810 | 65 |
| 4 | 37.500 | 32.35 | 41.56 | 0.375 | Slip Joint | 56.000 | 0.245810 | 65 |
| 5 | 37.500 | 24.70 | 33.91 | 0.313 | Slip Joint | 46.000 | 0.245810 | 65 |
| 6 | 14.667 | 22.31 | 25.91 | 0.250 | Slip Joint | 35.000 | 0.245810 | 65 |

## Discrete Appurtenance

| Attach Elev (ft) | Force Elev (ft) | Qty | Description |
|---|---|---|---|
| 180.000 | 190.000 | 1 | 20' Dipole |
| 180.000 | 180.000 | 1 | 8' Yagi |
| 180.000 | 180.000 | 1 | Round Low Profile Platform |
| 170.000 | 170.000 | 3 | Ericsson AIR 21, 1.3M, B4A B2P |
| 170.000 | 170.000 | 3 | Ericsson AIR 21, 1.3M, B2A B4P |
| 170.000 | 170.000 | 3 | Ericsson KRY 112 144/1 |
| 170.000 | 170.000 | 1 | Flat Low Profile Platform |
| 160.000 | 160.000 | 3 | Argus LLPX310R |
| 160.000 | 160.000 | 3 | Samsung U-RAS Premium-F |
| 160.000 | 160.000 | 3 | DragonWave A-ANT-18G-2-C |
| 160.000 | 160.000 | 3 | DragonWave Horizon Compact |
| 160.000 | 160.000 | 3 | RCU |
| 160.000 | 160.000 | 1 | Side Arms |
| 154.000 | 154.000 | 1 | Powerwave P65-17-XLH-RR |
| 154.000 | 154.000 | 1 | Andrew SBNH-1D6565C |
| 154.000 | 154.000 | 1 | KMW AM-X-CD-16-65-00T-RET |
| 154.000 | 154.000 | 3 | Powerwave 7770.00 |
| 154.000 | 154.000 | 6 | Ericsson RRUS 11 (Band 12) |
| 154.000 | 154.000 | 1 | Raycap DC6-48-60-18-8F |
| 154.000 | 154.000 | 6 | Powerwave LGP21401 |
| 154.000 | 154.000 | 3 | Round T-Arm |
| 140.000 | 140.000 | 2 | RFS APXVSPP18-C-A20 |
| 140.000 | 140.000 | 1 | RFS APXV9ERR18-C-A20 |
| 140.000 | 140.000 | 3 | Alcatel-Lucent 1900MHz RRH |
| 140.000 | 140.000 | 3 | Alcatel-Lucent 2X50W RRH w/ F |
| 140.000 | 140.000 | 1 | Round Low Profile Platform |
| 108.000 | 110.000 | 3 | Antel BXA-70063-6CF-EDIN-X |
| 108.000 | 110.000 | 3 | Antel BXA-80063/4CF ___ 5° |
| 108.000 | 110.000 | 3 | Antel BXA-171063/12CF |
| 108.000 | 110.000 | 3 | Antel BXA-171063/8CF |
| 108.000 | 110.000 | 1 | RFS DB-T1-6Z-8AB-0Z |
| 108.000 | 110.000 | 3 | Alcatel-Lucent RRH2x40-AWS |
| 108.000 | 110.000 | 6 | RFS FD9R6004/2C-3L |
| 108.000 | 108.000 | 1 | Flat Low Profile Platform |

## Linear Appurtenance

| Elev (ft) From | To | Description | Exposed To Wind |
|---|---|---|---|
| 0.000 | 108.0 | 1 5/8" Coax | No |
| 0.000 | 108.0 | 1 5/8" Hybriflex | No |




| | | | |
|---|---|---|---|
| 0.000 | 140.0 | 1 1/4" Hybriflex | No |
| 0.000 | 154.0 | 0.39" Fiber Trunk | No |
| 0.000 | 154.0 | 0.78" 8 AWG 6 | No |
| 0.000 | 154.0 | 1 5/8" Coax | No |
| 0.000 | 154.0 | 1/2" Coax | No |
| 0.000 | 154.0 | 3" Conduit | No |
| 0.000 | 160.0 | 0.28" Fiber | No |
| 0.000 | 160.0 | 0.32" Cable | No |
| 0.000 | 160.0 | 1/2" Coax | No |
| 0.000 | 160.0 | 2" Conduit | No |
| 0.000 | 160.0 | 5/8" Coax | No |
| 0.000 | 170.0 | 1 5/8" Coax | No |
| 0.000 | 170.0 | 1 5/8" Coax | No |
| 0.000 | 170.0 | 1" Hybrid | No |
| 0.000 | 180.0 | 7/8" Coax | No |

**Load Cases**

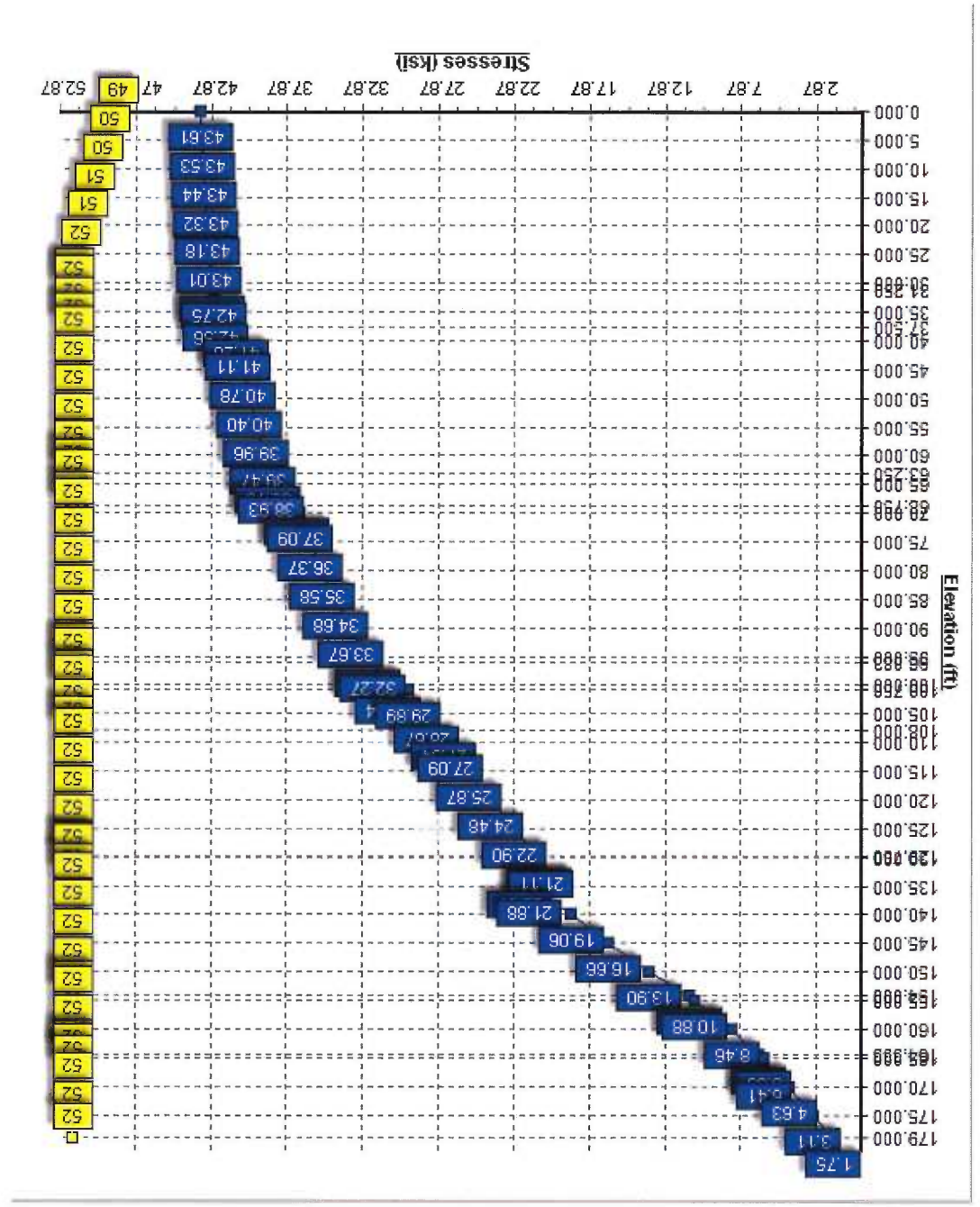
| | |
|---|---|
| No Ice | 85.00 mph Wind with No Ice |
| Ice | 73.61 mph Wind with Ice |
| Twist/Sway | 50.00 mph Wind with No Ice |

**Reactions**

| Load Case | Moment (kip-ft) | Shear (kip) | Axial (kip) |
|---|---|---|---|
| No Ice | 4125.69 | 33.50 | 46.09 |
| Ice | 3421.35 | 27.20 | 53.72 |
| Twist/Sway | 1428.95 | 11.59 | 46.13 |

**Dish Deflections**

| Load Case | Attach Elev (ft) | Deflection (in) | Rotation (deg) |
|---|---|---|---|
| | 0.00 | 0.000 | 0.000 |


Stresses (ksi)
2.87
7.87
12.87
17.87
22.87
27.87
32.87
37.87
42.87
47
52.87
Elevation (ft)
0.000
5.000
10.000
15.000
20.000
25.000
30.000
35.000
40.000
45.000
50.000
55.000
60.000
65.000
70.000
75.000
80.000
85.000
90.000
95.000
100.000
105.000
110.000
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120.000
125.000
130.000
135.000
140.000
145.000
150.000
155.000
160.000
165.000
170.000
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179.000
49
50
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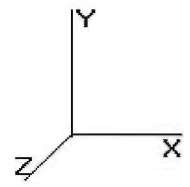
51
51
52
43.61
43.53
43.44
43.32
43.18
43.01
42.75
41.11
40.78
40.40
39.96
38.93
37.09
36.37
35.58
34.68
33.67
32.27
29.89
27.09
25.87
24.48
22.90
21.11
21.88
19.06
16.66
13.90
10.88
8.46
6.41
4.63
3.11
1.75

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)




6/10/2014 5:35:11 PM
Page: 1



## Shaft Section Properties

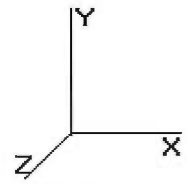
| Sect Info | Length (ft) | Thick (in) | Fy (ksi) | Slip Joint Type | Slip Joint Len (in) | Weight (lb) | Bottom Dia (in) | Bottom Elev (ft) | Bottom Area (sqin) | Bottom Ix (in^4) | Bottom W/t Ratio | Bottom D/t Ratio | Top Dia (in) | Top Elev (ft) | Top Area (sqin) | Top Ix (in^4) | Top W/t Ratio | Top D/t Ratio | Taper (in/ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-18 | 37.500 | 0.3750 | 65 | | 0.00 | 8,802 | 62.93 | 0.00 | 74.46 | 36822.9 | 28.18 | 167.83 | 53.72 | 37.50 | 63.49 | 22826.9 | 23.85 | 143.25 | 0.245810 |
| 2-18 | 37.500 | 0.3750 | 65 | Slip | 75.00 | 7,749 | 56.00 | 31.25 | 66.21 | 25889.5 | 24.92 | 149.35 | 46.78 | 68.75 | 55.24 | 15034.7 | 20.59 | 124.77 | 0.245810 |
| 3-18 | 37.500 | 0.3750 | 65 | Slip | 66.00 | 6,668 | 48.89 | 63.25 | 57.74 | 17171.3 | 21.58 | 130.37 | 39.67 | 100.75 | 46.77 | 9125.5 | 17.24 | 105.79 | 0.245810 |
| 4-18 | 37.500 | 0.3750 | 65 | Slip | 56.00 | 5,556 | 41.56 | 96.08 | 49.03 | 10512.0 | 18.14 | 110.85 | 32.35 | 133.58 | 38.06 | 4916.6 | 13.80 | 86.27 | 0.245810 |
| 5-18 | 37.500 | 0.3125 | 65 | Slip | 46.00 | 3,670 | 33.91 | 129.75 | 33.33 | 4756.1 | 17.73 | 108.54 | 24.70 | 167.25 | 24.19 | 1817.8 | 12.53 | 79.04 | 0.245810 |
| 6-18 | 14.667 | 0.2500 | 65 | Slip | 35.00 | 945 | 25.91 | 164.33 | 20.37 | 1695.3 | 16.87 | 103.67 | 22.31 | 179.00 | 17.51 | 1076.6 | 14.33 | 89.25 | 0.245810 |
| | | | | Shaft Weight | | 33,390 | | | | | | | | | | | | | |

## Discrete Appurtenance Properties

| Attach Elev (ft) | Description | Qty | No Ice Weight (lb) | No Ice EPAa (sf) | Orientation Factor | Ice Weight (lb) | Ice EPAa (sf) | Orientation Factor | Distance From Face (ft) | Vert Ecc (ft) |
|---|---|---|---|---|---|---|---|---|---|---|
| 180.00 | 20' Dipole | 1 | 60.00 | 20.000 | 1.00 | 147.40 | 11.630 | 1.00 | 0.000 | 10.000 |
| 180.00 | 8' Yagi | 1 | 30.00 | 12.000 | 1.00 | 127.20 | 21.590 | 1.00 | 0.000 | 0.000 |
| 180.00 | Round Low Profile Platform | 1 | 1500.00 | 21.700 | 1.00 | 1,700.00 | 27.200 | 1.00 | 0.000 | 0.000 |
| 170.00 | Ericsson AIR 21, 1.3M, B2A | 3 | 83.00 | 6.530 | 0.83 | 132.60 | 7.200 | 0.83 | 0.000 | 0.000 |
| 170.00 | Ericsson AIR 21, 1.3M, B4A | 3 | 81.50 | 6.590 | 0.83 | 132.60 | 7.200 | 0.83 | 0.000 | 0.000 |
| 170.00 | Ericsson KRY 112 144/1 | 3 | 11.00 | 0.410 | 0.50 | 14.10 | 0.550 | 0.50 | 0.000 | 0.000 |
| 170.00 | Flat Low Profile Platform | 1 | 1500.00 | 26.100 | 1.00 | 1,700.00 | 31.600 | 1.00 | 0.000 | 0.000 |
| 160.00 | Argus LLPX310R | 3 | 28.70 | 4.830 | 0.70 | 54.60 | 5.360 | 0.70 | 0.000 | 0.000 |
| 160.00 | DragonWave A-ANT-18G-2-C | 3 | 27.10 | 4.690 | 0.67 | 55.10 | 5.050 | 0.67 | 0.000 | 0.000 |
| 160.00 | DragonWave Horizon | 3 | 11.50 | 0.840 | 0.50 | 17.90 | 1.030 | 0.50 | 0.000 | 0.000 |
| 160.00 | RCU | 3 | 1.00 | 0.160 | 0.50 | 2.50 | 0.260 | 0.50 | 0.000 | 0.000 |
| 160.00 | Samsung U-RAS Premium-F | 3 | 33.00 | 1.820 | 0.50 | 45.00 | 2.100 | 0.50 | 0.000 | 0.000 |
| 160.00 | Side Arms | 1 | 560.00 | 8.500 | 1.00 | 680.00 | 10.500 | 1.00 | 0.000 | 0.000 |
| 154.00 | Andrew SBNH-1D6565C | 1 | 60.80 | 11.450 | 0.81 | 126.70 | 12.370 | 0.81 | 0.000 | 0.000 |
| 154.00 | Ericsson RRUS 11 (Band 12) | 6 | 55.00 | 2.940 | 0.67 | 74.30 | 3.290 | 0.67 | 0.000 | 0.000 |
| 154.00 | KMW AM-X-CD-16-65-00T- | 1 | 48.50 | 8.260 | 0.78 | 95.00 | 9.080 | 0.78 | 0.000 | 0.000 |
| 154.00 | Powerwave 7770.00 | 3 | 35.00 | 5.880 | 0.75 | 67.63 | 6.530 | 0.75 | 0.000 | 0.000 |
| 154.00 | Powerwave LGP21401 | 6 | 14.10 | 1.290 | 0.50 | 7.70 | 0.340 | 0.50 | 0.000 | 0.000 |
| 154.00 | Powerwave P65-17-XLH-RR | 1 | 59.00 | 11.470 | 0.80 | 121.00 | 12.390 | 0.80 | 0.000 | 0.000 |
| 154.00 | Raycap DC6-48-60-18-8F | 1 | 31.80 | 1.470 | 1.00 | 49.50 | 1.670 | 1.00 | 0.000 | 0.000 |
| 154.00 | Round T-Arm | 3 | 250.00 | 9.700 | 0.67 | 314.00 | 12.100 | 0.67 | 0.000 | 0.000 |
| 140.00 | Alcatel-Lucent 1900MHz RRH | 3 | 44.00 | 3.800 | 0.67 | 75.20 | 4.200 | 0.67 | 0.000 | 0.000 |
| 140.00 | Alcatel-Lucent 2X50W RRH | 3 | 64.00 | 2.400 | 0.67 | 71.30 | 2.720 | 0.67 | 0.000 | 0.000 |
| 140.00 | RFS APXV9ERR18-C-A20 | 1 | 62.00 | 8.260 | 0.85 | 113.90 | 9.080 | 0.85 | 0.000 | 0.000 |
| 140.00 | RFS APXVSPP18-C-A20 | 2 | 57.00 | 8.260 | 0.82 | 106.50 | 9.080 | 0.82 | 0.000 | 0.000 |
| 140.00 | Round Low Profile Platform | 1 | 1500.00 | 21.700 | 1.00 | 1,700.00 | 27.200 | 1.00 | 0.000 | 0.000 |
| 108.00 | Alcatel-Lucent RRH2x40-AWS | 3 | 44.00 | 2.510 | 0.67 | 61.40 | 2.870 | 0.67 | 0.000 | 2.000 |
| 108.00 | Antel BXA-171063/12CF | 3 | 15.00 | 4.790 | 0.88 | 42.40 | 5.460 | 0.88 | 0.000 | 2.000 |
| 108.00 | Antel BXA-171063/8CF | 3 | 10.50 | 2.900 | 0.90 | 29.80 | 3.370 | 0.90 | 0.000 | 2.000 |
| 108.00 | Antel BXA-70063-6CF-EDIN-X | 3 | 17.00 | 7.730 | 0.77 | 58.00 | 8.540 | 0.77 | 0.000 | 2.000 |
| 108.00 | Antel BXA-80063/4CF ___ 5° | 3 | 9.90 | 5.161 | 0.72 | 37.73 | 5.741 | 0.72 | 0.000 | 2.000 |
| 108.00 | Flat Low Profile Platform | 1 | 1500.00 | 26.100 | 1.00 | 1,700.00 | 31.600 | 1.00 | 0.000 | 0.000 |
| 108.00 | RFS DB-T1-6Z-8AB-0Z | 1 | 110.00 | 5.600 | 0.67 | 144.50 | 6.080 | 0.67 | 0.000 | 2.000 |
| 108.00 | RFS FD9R6004/2C-3L | 6 | 3.10 | 0.370 | 0.50 | 5.40 | 0.500 | 0.50 | 0.000 | 2.000 |
| | Totals | 84 | 9867.90 | | | 12,778.17 | | | Number of Loadings : | 34 |

| | | | |
|---|---|---|---|
| Pole : | 370627 | Code: TIA/EIA-222 Rev F | 6/10/2014 5:35:11 PM |
| Location : | Newington CT | | Page: 2 |
| Height : | 179.0 (ft) | | |
| Base Dia : | 62.93 (in) | | |
| Top Dia : | 22.31 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 18 Sides | | |
| Taper : | 0.245810 (in/ft) | | |





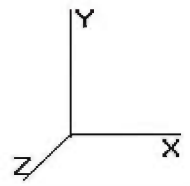

## Linear Appurtenance Properties

| Elev From (ft) | Elev To (ft) | Description | No Ice Weight (lb/ft) | No Ice CaAa (sf/ft) | Ice Weight (lb/ft) | Ice CaAa (sf/ft) | Exposed To Wind |
|---|---|---|---|---|---|---|---|
| 0.00 | 180.00 | (3) 7/8" Coax | 0.33 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 170.00 | (6) 1 5/8" Coax | 0.82 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 170.00 | (6) 1 5/8" Coax | 0.82 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 170.00 | (1) 1" Hybrid | 0.65 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 160.00 | (3) 0.28" Fiber | 0.03 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 160.00 | (1) 0.32" Cable | 0.06 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 160.00 | (3) 1/2" Coax | 0.15 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 160.00 | (2) 2" Conduit | 3.65 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 160.00 | (3) 5/8" Coax | 0.15 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 154.00 | (1) 0.39" Fiber Trunk | 0.07 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 154.00 | (2) 0.78" 8 AWG 6 | 0.59 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 154.00 | (6) 1 5/8" Coax | 0.82 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 154.00 | (1) 1/2" Coax | 0.15 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 154.00 | (1) 3" Conduit | 7.58 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 140.00 | (3) 1 1/4" Hybriflex | 1.00 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 108.00 | (12) 1 5/8" Coax | 0.82 | 0.00 | 0.00 | 0.00 | N |
| 0.00 | 108.00 | (1) 1 5/8" Hybriflex | 1.30 | 0.00 | 0.00 | 0.00 | N |
| | | Total Weight | 2,882.40 (lb) | | 0.00 (lb) | | |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)








## Segment Properties

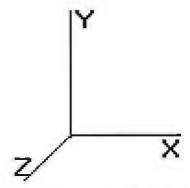
(Max Len : 5 ft)

| Seg Top Elev (ft) | Description | Thick (in) | Flat Dia (in) | Area (in^2) | Ix (in^4) | W/t Ratio | D/t Ratio | Fy (ksi) | Fb (ksi) | Weight (lb) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | | 0.3750 | 62.938 | 74.462 | 36,822.9 | 28.18 | 167.83 | 65 | 49 | 0.0 |
| 5.00 | | 0.3750 | 61.708 | 73.000 | 34,695.1 | 27.61 | 164.56 | 65 | 50 | 1,254.4 |
| 10.00 | | 0.3750 | 60.479 | 71.537 | 32,650.8 | 27.03 | 161.28 | 65 | 50 | 1,229.6 |
| 15.00 | | 0.3750 | 59.250 | 70.074 | 30,688.5 | 26.45 | 158.00 | 65 | 51 | 1,204.7 |
| 20.00 | | 0.3750 | 58.021 | 68.611 | 28,806.5 | 25.87 | 154.72 | 65 | 51 | 1,179.8 |
| 25.00 | | 0.3750 | 56.792 | 67.148 | 27,003.0 | 25.29 | 151.45 | 65 | 52 | 1,154.9 |
| 30.00 | | 0.3750 | 55.563 | 65.685 | 25,276.3 | 24.72 | 148.17 | 65 | 52 | 1,130.0 |
| 31.25 | Bot - Section 2 | 0.3750 | 55.256 | 65.320 | 24,856.5 | 24.57 | 147.35 | 65 | 52 | 278.6 |
| 35.00 | | 0.3750 | 54.334 | 64.223 | 23,624.9 | 24.14 | 144.89 | 65 | 52 | 1,664.4 |
| 37.50 | Top - Section 1 | 0.3750 | 54.470 | 64.384 | 23,803.3 | 24.20 | 145.25 | 65 | 52 | 1,094.0 |
| 40.00 | | 0.3750 | 53.855 | 63.652 | 23,001.3 | 23.91 | 143.61 | 65 | 52 | 544.6 |
| 45.00 | | 0.3750 | 52.626 | 62.190 | 21,451.6 | 23.33 | 140.34 | 65 | 52 | 1,070.5 |
| 50.00 | | 0.3750 | 51.397 | 60.727 | 19,973.2 | 22.76 | 137.06 | 65 | 52 | 1,045.6 |
| 55.00 | | 0.3750 | 50.168 | 59.264 | 18,564.3 | 22.18 | 133.78 | 65 | 52 | 1,020.8 |
| 60.00 | | 0.3750 | 48.939 | 57.801 | 17,223.3 | 21.60 | 130.50 | 65 | 52 | 995.9 |
| 63.25 | Bot - Section 3 | 0.3750 | 48.140 | 56.850 | 16,387.2 | 21.23 | 128.37 | 65 | 52 | 634.0 |
| 65.00 | | 0.3750 | 47.710 | 56.338 | 15,948.4 | 21.02 | 127.23 | 65 | 52 | 679.3 |
| 68.75 | Top - Section 2 | 0.3750 | 47.538 | 56.134 | 15,775.4 | 20.94 | 126.77 | 65 | 52 | 1,435.2 |
| 70.00 | | 0.3750 | 47.231 | 55.768 | 15,469.1 | 20.80 | 125.95 | 65 | 52 | 238.0 |
| 75.00 | | 0.3750 | 46.002 | 54.305 | 14,283.5 | 20.22 | 122.67 | 65 | 52 | 936.4 |
| 80.00 | | 0.3750 | 44.773 | 52.842 | 13,160.0 | 19.64 | 119.39 | 65 | 52 | 911.5 |
| 85.00 | | 0.3750 | 43.544 | 51.380 | 12,097.1 | 19.06 | 116.12 | 65 | 52 | 886.6 |
| 90.00 | | 0.3750 | 42.315 | 49.917 | 11,093.0 | 18.49 | 112.84 | 65 | 52 | 861.7 |
| 95.00 | | 0.3750 | 41.086 | 48.454 | 10,146.0 | 17.91 | 109.56 | 65 | 52 | 836.8 |
| 96.08 | Bot - Section 4 | 0.3750 | 40.819 | 48.137 | 9,948.2 | 17.78 | 108.85 | 65 | 52 | 178.0 |
| 100.0 | | 0.3750 | 39.856 | 46.991 | 9,254.6 | 17.33 | 106.28 | 65 | 52 | 1,279.7 |
| 100.7 | Top - Section 3 | 0.3750 | 40.422 | 47.664 | 9,658.1 | 17.60 | 107.79 | 65 | 52 | 241.6 |
| 105.0 | | 0.3750 | 39.377 | 46.421 | 8,921.8 | 17.10 | 105.01 | 65 | 52 | 680.3 |
| 108.0 | | 0.3750 | 38.640 | 45.543 | 8,425.2 | 16.76 | 103.04 | 65 | 52 | 469.4 |
| 110.0 | | 0.3750 | 38.148 | 44.958 | 8,104.6 | 16.53 | 101.73 | 65 | 52 | 308.0 |
| 115.0 | | 0.3750 | 36.919 | 43.495 | 7,339.0 | 15.95 | 98.45 | 65 | 52 | 752.5 |
| 120.0 | | 0.3750 | 35.690 | 42.032 | 6,623.1 | 15.37 | 95.17 | 65 | 52 | 727.6 |
| 125.0 | | 0.3750 | 34.461 | 40.570 | 5,955.4 | 14.79 | 91.90 | 65 | 52 | 702.7 |
| 129.7 | Bot - Section 5 | 0.3750 | 33.294 | 39.180 | 5,364.2 | 14.24 | 88.78 | 65 | 52 | 644.5 |
| 130.0 | | 0.3750 | 33.232 | 39.107 | 5,334.2 | 14.22 | 88.62 | 65 | 52 | 61.6 |
| 133.5 | Top - Section 4 | 0.3125 | 32.976 | 32.397 | 4,367.1 | 17.20 | 105.52 | 65 | 52 | 870.8 |
| 135.0 | | 0.3125 | 32.628 | 32.052 | 4,228.9 | 17.00 | 104.41 | 65 | 52 | 155.3 |
| 140.0 | | 0.3125 | 31.399 | 30.833 | 3,764.6 | 16.31 | 100.48 | 65 | 52 | 535.0 |
| 145.0 | | 0.3125 | 30.170 | 29.614 | 3,335.5 | 15.61 | 96.54 | 65 | 52 | 514.2 |
| 150.0 | | 0.3125 | 28.941 | 28.395 | 2,940.3 | 14.92 | 92.61 | 65 | 52 | 493.5 |
| 154.0 | | 0.3125 | 27.958 | 27.420 | 2,647.6 | 14.36 | 89.46 | 65 | 52 | 379.8 |
| 155.0 | | 0.3125 | 27.712 | 27.176 | 2,577.6 | 14.23 | 88.68 | 65 | 52 | 92.9 |
| 160.0 | | 0.3125 | 26.483 | 25.957 | 2,246.1 | 13.53 | 84.75 | 65 | 52 | 452.0 |
| 164.3 | Bot - Section 6 | 0.3125 | 25.418 | 24.900 | 1,982.8 | 12.93 | 81.34 | 65 | 52 | 375.0 |
| 165.0 | | 0.3125 | 25.254 | 24.738 | 1,944.3 | 12.84 | 80.81 | 65 | 52 | 102.4 |
| 167.2 | Top - Section 5 | 0.2500 | 25.201 | 19.798 | 1,557.2 | 16.36 | 100.80 | 65 | 52 | 340.6 |
| 170.0 | | 0.2500 | 24.525 | 19.261 | 1,434.0 | 15.89 | 98.10 | 65 | 52 | 182.8 |
| 175.0 | | 0.2500 | 23.296 | 18.286 | 1,227.0 | 15.02 | 93.18 | 65 | 52 | 319.4 |
| 179.0 | | 0.2500 | 22.312 | 17.506 | 1,076.6 | 14.33 | 89.25 | 65 | 52 | 243.6 |
| | | | | | | | | | | 33,390.4 |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)








**Load Case:** No Ice — 85.00 mph Wind with No Ice — 25 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

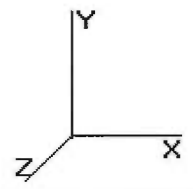
## Shaft Segment Forces

| Seg Top Elev (ft) | Description | Kz | qz (psf) | qzGh (psf) | C (mph-ft) | Cf | Ice Thick (in) | Tributary (ft) | Ap (sf) | EPAs (sf) | Wind Force X (lb) | Dead Load Ice (lb) | Tot Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | | 0.00 1.00 | 18.496 | 31.25 | 445.80 | 0.650 | 0.000 | 0.00 | 0.000 | 0.00 | 0.0 | 0.0 | 0.0 |
| 5.00 | | 0.00 1.00 | 18.496 | 31.25 | 437.10 | 0.650 | 0.000 | 5.00 | 25.968 | 16.88 | 527.6 | 0.0 | 1,254.4 |
| 10.00 | | 0.00 1.00 | 18.496 | 31.25 | 428.39 | 0.650 | 0.000 | 5.00 | 25.456 | 16.55 | 517.2 | 0.0 | 1,229.6 |
| 15.00 | | 0.00 1.00 | 18.496 | 31.25 | 419.69 | 0.650 | 0.000 | 5.00 | 24.944 | 16.21 | 506.8 | 0.0 | 1,204.7 |
| 20.00 | | 0.00 1.00 | 18.496 | 31.25 | 410.98 | 0.650 | 0.000 | 5.00 | 24.432 | 15.88 | 496.4 | 0.0 | 1,179.8 |
| 25.00 | | 0.00 1.00 | 18.496 | 31.25 | 402.27 | 0.650 | 0.000 | 5.00 | 23.919 | 15.55 | 486.0 | 0.0 | 1,154.9 |
| 30.00 | | 0.00 1.00 | 18.496 | 31.25 | 393.57 | 0.650 | 0.000 | 5.00 | 23.407 | 15.21 | 475.6 | 0.0 | 1,130.0 |
| 31.25 | Bot - Section 2 | 0.00 1.00 | 18.496 | 31.25 | 391.39 | 0.650 | 0.000 | 1.25 | 5.772 | 3.75 | 117.3 | 0.0 | 278.6 |
| 35.00 | | 0.00 1.01 | 18.810 | 31.78 | 388.11 | 0.650 | 0.000 | 3.75 | 17.358 | 11.28 | 358.7 | 0.0 | 1,664.4 |
| 37.50 | Top - Section 1 | 0.00 1.03 | 19.184 | 32.42 | 387.52 | 0.650 | 0.000 | 2.50 | 11.412 | 7.42 | 240.5 | 0.0 | 1,094.0 |
| 40.00 | | 0.00 1.05 | 19.541 | 33.02 | 392.10 | 0.650 | 0.000 | 2.50 | 11.284 | 7.33 | 242.2 | 0.0 | 544.6 |
| 45.00 | | 0.00 1.09 | 20.210 | 34.15 | 389.65 | 0.650 | 0.000 | 5.00 | 22.184 | 14.42 | 492.5 | 0.0 | 1,070.5 |
| 50.00 | | 0.00 1.12 | 20.827 | 35.19 | 386.32 | 0.650 | 0.000 | 5.00 | 21.671 | 14.09 | 495.8 | 0.0 | 1,045.6 |
| 55.00 | | 0.00 1.15 | 21.402 | 36.17 | 382.25 | 0.650 | 0.000 | 5.00 | 21.159 | 13.75 | 497.5 | 0.0 | 1,020.8 |
| 60.00 | | 0.00 1.18 | 21.941 | 37.08 | 377.55 | 0.650 | 0.000 | 5.00 | 20.647 | 13.42 | 497.6 | 0.0 | 995.9 |
| 63.25 | Bot - Section 3 | 0.00 1.20 | 22.274 | 37.64 | 374.20 | 0.650 | 0.000 | 3.25 | 13.146 | 8.54 | 321.7 | 0.0 | 634.0 |
| 65.00 | | 0.00 1.21 | 22.449 | 37.93 | 372.30 | 0.650 | 0.000 | 1.75 | 7.098 | 4.61 | 175.0 | 0.0 | 679.3 |
| 68.75 | Top - Section 2 | 0.00 1.23 | 22.811 | 38.55 | 368.05 | 0.650 | 0.000 | 3.75 | 15.000 | 9.75 | 375.9 | 0.0 | 1,435.2 |
| 70.00 | | 0.00 1.24 | 22.929 | 38.75 | 372.49 | 0.650 | 0.000 | 1.25 | 4.936 | 3.21 | 124.3 | 0.0 | 238.0 |
| 75.00 | | 0.00 1.26 | 23.386 | 39.52 | 366.39 | 0.650 | 0.000 | 5.00 | 19.423 | 12.63 | 499.0 | 0.0 | 936.4 |
| 80.00 | | 0.00 1.28 | 23.821 | 40.25 | 359.90 | 0.650 | 0.000 | 5.00 | 18.911 | 12.29 | 494.9 | 0.0 | 911.5 |
| 85.00 | | 0.00 1.31 | 24.237 | 40.96 | 353.07 | 0.650 | 0.000 | 5.00 | 18.399 | 11.96 | 489.9 | 0.0 | 886.6 |
| 90.00 | | 0.00 1.33 | 24.636 | 41.63 | 345.91 | 0.650 | 0.000 | 5.00 | 17.887 | 11.63 | 484.1 | 0.0 | 861.7 |
| 95.00 | | 0.00 1.35 | 25.020 | 42.28 | 338.47 | 0.650 | 0.000 | 5.00 | 17.375 | 11.29 | 477.5 | 0.0 | 836.8 |
| 96.08 | Bot - Section 4 | 0.00 1.35 | 25.101 | 42.42 | 336.82 | 0.650 | 0.000 | 1.08 | 3.697 | 2.40 | 101.9 | 0.0 | 178.0 |
| 100.0 | | 0.00 1.37 | 25.389 | 42.90 | 330.76 | 0.650 | 0.000 | 3.92 | 13.411 | 8.72 | 374.0 | 0.0 | 1,279.7 |
| 100.7 | Top - Section 3 | 0.00 1.37 | 25.443 | 42.99 | 329.58 | 0.650 | 0.000 | 0.75 | 2.532 | 1.65 | 70.8 | 0.0 | 241.6 |
| 105.0 | | 0.00 1.39 | 25.745 | 43.51 | 329.07 | 0.650 | 0.000 | 4.25 | 14.131 | 9.19 | 399.6 | 0.0 | 680.3 |
| 108.0 | Appertunance(s) | 0.00 1.40 | 25.953 | 43.86 | 324.21 | 0.650 | 0.000 | 3.00 | 9.752 | 6.34 | 278.0 | 0.0 | 469.4 |
| 110.0 | | 0.00 1.41 | 26.090 | 44.09 | 320.93 | 0.650 | 0.000 | 2.00 | 6.399 | 4.16 | 183.4 | 0.0 | 308.0 |
| 115.0 | | 0.00 1.42 | 26.423 | 44.65 | 312.56 | 0.650 | 0.000 | 5.00 | 15.639 | 10.17 | 453.9 | 0.0 | 752.5 |
| 120.0 | | 0.00 1.44 | 26.747 | 45.20 | 304.00 | 0.650 | 0.000 | 5.00 | 15.127 | 9.83 | 444.4 | 0.0 | 727.6 |
| 125.0 | | 0.00 1.46 | 27.060 | 45.73 | 295.25 | 0.650 | 0.000 | 5.00 | 14.615 | 9.50 | 434.4 | 0.0 | 702.7 |
| 129.7 | Bot - Section 5 | 0.00 1.47 | 27.350 | 46.22 | 286.77 | 0.650 | 0.000 | 4.75 | 13.410 | 8.72 | 402.9 | 0.0 | 644.5 |
| 130.0 | | 0.00 1.48 | 27.365 | 46.24 | 286.32 | 0.650 | 0.000 | 0.25 | 0.706 | 0.46 | 21.2 | 0.0 | 61.6 |
| 133.5 | Top - Section 4 | 0.00 1.49 | 27.579 | 46.60 | 279.82 | 0.650 | 0.000 | 3.58 | 9.979 | 6.49 | 302.3 | 0.0 | 870.8 |
| 135.0 | | 0.00 1.49 | 27.662 | 46.74 | 282.63 | 0.650 | 0.000 | 1.42 | 3.873 | 2.52 | 117.7 | 0.0 | 155.3 |
| 140.0 | Appertunance(s) | 0.00 1.51 | 27.951 | 47.23 | 273.41 | 0.650 | 0.000 | 5.00 | 13.339 | 8.67 | 409.6 | 0.0 | 535.0 |
| 145.0 | | 0.00 1.52 | 28.233 | 47.71 | 264.02 | 0.650 | 0.000 | 5.00 | 12.827 | 8.34 | 397.8 | 0.0 | 514.2 |
| 150.0 | | 0.00 1.54 | 28.507 | 48.17 | 254.50 | 0.650 | 0.000 | 5.00 | 12.315 | 8.00 | 385.6 | 0.0 | 493.5 |
| 154.0 | Appertunance(s) | 0.00 1.55 | 28.723 | 48.54 | 246.78 | 0.650 | 0.000 | 4.00 | 9.483 | 6.16 | 299.2 | 0.0 | 379.8 |
| 155.0 | | 0.00 1.55 | 28.776 | 48.63 | 244.83 | 0.650 | 0.000 | 1.00 | 2.320 | 1.51 | 73.3 | 0.0 | 92.9 |
| 160.0 | Appertunance(s) | 0.00 1.57 | 29.038 | 49.07 | 235.04 | 0.650 | 0.000 | 5.00 | 11.291 | 7.34 | 360.1 | 0.0 | 452.0 |
| 164.3 | Bot - Section 6 | 0.00 1.58 | 29.260 | 49.45 | 226.45 | 0.650 | 0.000 | 4.33 | 9.371 | 6.09 | 301.2 | 0.0 | 375.0 |
| 165.0 | | 0.00 1.58 | 29.294 | 49.50 | 225.12 | 0.650 | 0.000 | 0.67 | 1.435 | 0.93 | 46.2 | 0.0 | 102.4 |
| 167.2 | Top - Section 5 | 0.00 1.59 | 29.408 | 49.69 | 220.61 | 0.650 | 0.000 | 2.25 | 4.777 | 3.11 | 154.3 | 0.0 | 340.6 |
| 170.0 | Appertunance(s) | 0.00 1.59 | 29.545 | 49.93 | 219.55 | 0.650 | 0.000 | 2.75 | 5.698 | 3.70 | 184.9 | 0.0 | 182.8 |
| 175.0 | | 0.00 1.61 | 29.791 | 50.34 | 209.42 | 0.650 | 0.000 | 5.00 | 9.963 | 6.48 | 326.0 | 0.0 | 319.4 |
| 179.0 | Appertunance(s) | 0.00 1.62 | 29.984 | 50.67 | 201.22 | 0.650 | 0.000 | 4.00 | 7.601 | 4.94 | 250.4 | 0.0 | 243.6 |
| | | | | | Totals: | | | 179.00 | | | 16,167.3 | 0.0 | 33,390.4 |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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**Load Case:** No Ice — 85.00 mph Wind with No Ice — 25 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

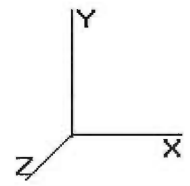
## Discrete Appurtenance Segment Forces

| Elev (ft) | Description | Qty | qz (psf) | qzGh (psf) | Orientation Factor | Total EPAa (sf) | Horiz Ecc (ft) | Vert Ecc (ft) | Wind FX (lb) | Mom Y (lb-ft) | Mom Z (lb-ft) | Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 108.0 | Flat Low Profile Pla | 1 | 25.953 | 43.861 | 1.00 | 26.10 | 0.000 | 0.000 | 1,144.78 | 0.00 | 0.00 | 1,500.00 |
| 108.0 | RFS FD9R6004/2C-3L | 6 | 26.090 | 44.092 | 0.50 | 1.11 | 0.000 | 2.000 | 48.94 | 0.00 | 97.88 | 18.60 |
| 108.0 | Alcatel-Lucent RRH2x | 3 | 26.090 | 44.092 | 0.67 | 5.05 | 0.000 | 2.000 | 222.45 | 0.00 | 444.90 | 132.00 |
| 108.0 | RFS DB-T1-6Z-8AB-0Z | 1 | 26.090 | 44.092 | 0.67 | 3.75 | 0.000 | 2.000 | 165.43 | 0.00 | 330.87 | 110.00 |
| 108.0 | Antel BXA-171063/8CF | 3 | 26.090 | 44.092 | 0.90 | 7.83 | 0.000 | 2.000 | 345.24 | 0.00 | 690.48 | 31.50 |
| 108.0 | Antel BXA-171063/12C | 3 | 26.090 | 44.092 | 0.88 | 12.65 | 0.000 | 2.000 | 557.57 | 0.00 | 1,115.14 | 45.00 |
| 108.0 | Antel BXA-80063/4CF | 3 | 26.090 | 44.092 | 0.72 | 11.15 | 0.000 | 2.000 | 491.53 | 0.00 | 983.05 | 29.70 |
| 108.0 | Antel BXA-70063-6CF- | 3 | 26.090 | 44.092 | 0.77 | 17.86 | 0.000 | 2.000 | 787.32 | 0.00 | 1,574.64 | 51.00 |
| 140.0 | Round Low Profile Pl | 1 | 27.951 | 47.237 | 1.00 | 21.70 | 0.000 | 0.000 | 1,025.04 | 0.00 | 0.00 | 1,500.00 |
| 140.0 | Alcatel-Lucent 2X50W | 3 | 27.951 | 47.237 | 0.67 | 4.82 | 0.000 | 0.000 | 227.87 | 0.00 | 0.00 | 192.00 |
| 140.0 | Alcatel-Lucent 1900M | 3 | 27.951 | 47.237 | 0.67 | 7.64 | 0.000 | 0.000 | 360.80 | 0.00 | 0.00 | 132.00 |
| 140.0 | RFS APXV9ERR18-C- | 1 | 27.951 | 47.237 | 0.85 | 7.02 | 0.000 | 0.000 | 331.65 | 0.00 | 0.00 | 62.00 |
| 140.0 | RFS APXVSPP18-C- | 2 | 27.951 | 47.237 | 0.82 | 13.55 | 0.000 | 0.000 | 639.89 | 0.00 | 0.00 | 114.00 |
| 154.0 | Round T-Arm | 3 | 28.723 | 48.541 | 0.67 | 19.50 | 0.000 | 0.000 | 946.40 | 0.00 | 0.00 | 750.00 |
| 154.0 | Powerwave LGP21401 | 6 | 28.723 | 48.541 | 0.50 | 3.87 | 0.000 | 0.000 | 187.85 | 0.00 | 0.00 | 84.60 |
| 154.0 | Raycap DC6-48-60-18- | 1 | 28.723 | 48.541 | 1.00 | 1.47 | 0.000 | 0.000 | 71.36 | 0.00 | 0.00 | 31.80 |
| 154.0 | Ericsson RRUS 11 (Ba | 6 | 28.723 | 48.541 | 0.67 | 11.82 | 0.000 | 0.000 | 573.70 | 0.00 | 0.00 | 330.00 |
| 154.0 | Powerwave 7770.00 | 3 | 28.723 | 48.541 | 0.75 | 13.23 | 0.000 | 0.000 | 642.20 | 0.00 | 0.00 | 105.00 |
| 154.0 | KMW AM-X-CD-16-65- | 1 | 28.723 | 48.541 | 0.78 | 6.44 | 0.000 | 0.000 | 312.74 | 0.00 | 0.00 | 48.50 |
| 154.0 | Andrew SBNH- | 1 | 28.723 | 48.541 | 0.81 | 9.27 | 0.000 | 0.000 | 450.19 | 0.00 | 0.00 | 60.80 |
| 154.0 | Powerwave P65-17- | 1 | 28.723 | 48.541 | 0.80 | 9.18 | 0.000 | 0.000 | 445.41 | 0.00 | 0.00 | 59.00 |
| 160.0 | Side Arms | 1 | 29.038 | 49.074 | 1.00 | 8.50 | 0.000 | 0.000 | 417.13 | 0.00 | 0.00 | 560.00 |
| 160.0 | RCU | 3 | 29.038 | 49.074 | 0.50 | 0.24 | 0.000 | 0.000 | 11.78 | 0.00 | 0.00 | 3.00 |
| 160.0 | DragonWave Horizon | 3 | 29.038 | 49.074 | 0.50 | 1.26 | 0.000 | 0.000 | 61.83 | 0.00 | 0.00 | 34.50 |
| 160.0 | DragonWave A-ANT- | 3 | 29.038 | 49.074 | 0.67 | 9.43 | 0.000 | 0.000 | 462.62 | 0.00 | 0.00 | 81.30 |
| 160.0 | Samsung U-RAS | 3 | 29.038 | 49.074 | 0.50 | 2.73 | 0.000 | 0.000 | 133.97 | 0.00 | 0.00 | 99.00 |
| 160.0 | Argus LLPX310R | 3 | 29.038 | 49.074 | 0.70 | 10.14 | 0.000 | 0.000 | 497.76 | 0.00 | 0.00 | 86.10 |
| 170.0 | Flat Low Profile Pla | 1 | 29.545 | 49.931 | 1.00 | 26.10 | 0.000 | 0.000 | 1,303.21 | 0.00 | 0.00 | 1,500.00 |
| 170.0 | Ericsson KRY 112 144 | 3 | 29.545 | 49.931 | 0.50 | 0.62 | 0.000 | 0.000 | 30.71 | 0.00 | 0.00 | 33.00 |
| 170.0 | Ericsson AIR 21, 1.3 | 3 | 29.545 | 49.931 | 0.83 | 16.26 | 0.000 | 0.000 | 811.87 | 0.00 | 0.00 | 249.00 |
| 170.0 | Ericsson AIR 21, 1.3 | 3 | 29.545 | 49.931 | 0.83 | 16.41 | 0.000 | 0.000 | 819.33 | 0.00 | 0.00 | 244.50 |
| 180.0 | Round Low Profile Pl | 1 | 30.032 | 50.754 | 1.00 | 21.70 | 0.000 | 0.000 | 1,101.35 | 0.00 | 1,101.35 | 1,500.00 |
| 180.0 | 8' Yagi | 1 | 30.032 | 50.754 | 1.00 | 12.00 | 0.000 | 0.000 | 609.04 | 0.00 | 609.04 | 30.00 |
| 180.0 | 20' Dipole | 1 | 30.499 | 51.544 | 1.00 | 20.00 | 0.000 | 10.000 | 1,030.87 | 0.00 | 11,339.6 | 60.00 |
| | | | | | | | | | 17,269.83 | | | 9,867.90 |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)








**Load Case:** No Ice — 85.00 mph Wind with No Ice — 25 Iterations

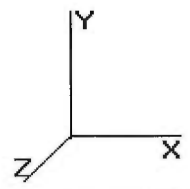
Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

## Applied Segment Forces Summary

| Seg Elev (ft) | Lateral FX (-) (lb) | Axial FY (-) (lb) | Torsion MY (lb-ft) | Moment MZ (lb-ft) |
|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | 527.61 | 1,349.40 | 0.00 | 0.00 |
| 10.00 | 517.21 | 1,324.51 | 0.00 | 0.00 |
| 15.00 | 506.80 | 1,299.62 | 0.00 | 0.00 |
| 20.00 | 496.40 | 1,274.73 | 0.00 | 0.00 |
| 25.00 | 485.99 | 1,249.85 | 0.00 | 0.00 |
| 30.00 | 475.59 | 1,224.96 | 0.00 | 0.00 |
| 31.25 | 117.27 | 302.35 | 0.00 | 0.00 |
| 35.00 | 358.65 | 1,735.62 | 0.00 | 0.00 |
| 37.50 | 240.49 | 1,141.52 | 0.00 | 0.00 |
| 40.00 | 242.22 | 592.07 | 0.00 | 0.00 |
| 45.00 | 492.49 | 1,165.48 | 0.00 | 0.00 |
| 50.00 | 495.82 | 1,140.59 | 0.00 | 0.00 |
| 55.00 | 497.47 | 1,115.70 | 0.00 | 0.00 |
| 60.00 | 497.65 | 1,090.82 | 0.00 | 0.00 |
| 63.25 | 321.66 | 695.68 | 0.00 | 0.00 |
| 65.00 | 175.05 | 712.57 | 0.00 | 0.00 |
| 68.75 | 375.87 | 1,506.40 | 0.00 | 0.00 |
| 70.00 | 124.32 | 261.72 | 0.00 | 0.00 |
| 75.00 | 498.97 | 1,031.34 | 0.00 | 0.00 |
| 80.00 | 494.86 | 1,006.45 | 0.00 | 0.00 |
| 85.00 | 489.87 | 981.56 | 0.00 | 0.00 |
| 90.00 | 484.07 | 956.67 | 0.00 | 0.00 |
| 95.00 | 477.54 | 931.78 | 0.00 | 0.00 |
| 96.08 | 101.94 | 198.61 | 0.00 | 0.00 |
| 100.0 | 374.02 | 1,354.10 | 0.00 | 0.00 |
| 100.7 | 70.77 | 255.81 | 0.00 | 0.00 |
| 105.0 | 399.65 | 761.03 | 0.00 | 0.00 |
| 108.0 | 4,041.29 | 2,444.17 | 0.00 | 5,236.95 |
| 110.0 | 183.39 | 341.70 | 0.00 | 0.00 |
| 115.0 | 453.94 | 836.82 | 0.00 | 0.00 |
| 120.0 | 444.45 | 811.93 | 0.00 | 0.00 |
| 125.0 | 434.44 | 787.04 | 0.00 | 0.00 |
| 129.7 | 402.89 | 724.64 | 0.00 | 0.00 |
| 130.0 | 21.22 | 65.85 | 0.00 | 0.00 |
| 133.5 | 302.30 | 931.25 | 0.00 | 0.00 |
| 135.0 | 117.67 | 179.24 | 0.00 | 0.00 |
| 140.0 | 2,994.81 | 2,619.31 | 0.00 | 0.00 |
| 145.0 | 397.81 | 593.57 | 0.00 | 0.00 |
| 150.0 | 385.64 | 572.83 | 0.00 | 0.00 |
| 154.0 | 3,929.06 | 1,913.03 | 0.00 | 0.00 |
| 155.0 | 73.32 | 99.55 | 0.00 | 0.00 |
| 160.0 | 1,945.24 | 1,349.20 | 0.00 | 0.00 |
| 164.3 | 301.21 | 386.31 | 0.00 | 0.00 |
| 165.0 | 46.19 | 104.10 | 0.00 | 0.00 |
| 167.2 | 154.32 | 346.45 | 0.00 | 0.00 |
| 170.0 | 3,150.04 | 2,216.46 | 0.00 | 0.00 |
| 175.0 | 326.03 | 321.06 | 0.00 | 0.00 |
| 179.0 | 2,991.64 | 1,834.90 | 0.00 | 13,050.01 |

| | | | |
|---|---|---|---|
| Pole : | 370627 | Code: TIA/EIA-222 Rev F | 6/10/2014 5:35:11 PM |
| Location : | Newington CT | | Page: 7 |
| Height : | 179.0 (ft) | | |
| Base Dia : | 62.93 (in) | | |
| Top Dia : | 22.31 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 18 Sides | | |
| Taper : | 0.245810 (in/ft) | | |






**Load Case:** No Ice — 85.00 mph Wind with No Ice — 25 Iterations

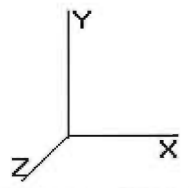
Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

| | | | | |
|---|---|---|---|---|
| Totals: | 33,437.14 | 46,140.36 | 0.00 | 18,286.96 |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)








**Load Case:** No Ice — 85.00 mph Wind with No Ice — 25 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

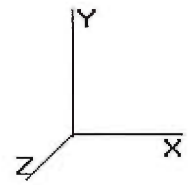
## Calculated Shaft Forces and Deflections

| 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 | -33.500 | -46.093 | 0.000 | 0.000 | 0.000 | -4,125.694 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5.00 | -33.094 | -44.654 | 0.000 | 0.000 | 0.000 | -3,958.196 | -0.084 | 0.000 | 0.084 | -0.156 |
| 10.00 | -32.692 | -43.240 | 0.000 | 0.000 | 0.000 | -3,792.731 | -0.333 | 0.000 | 0.333 | -0.315 |
| 15.00 | -32.296 | -41.852 | 0.000 | 0.000 | 0.000 | -3,629.274 | -0.750 | 0.000 | 0.750 | -0.477 |
| 20.00 | -31.904 | -40.490 | 0.000 | 0.000 | 0.000 | -3,467.800 | -1.338 | 0.000 | 1.338 | -0.641 |
| 25.00 | -31.518 | -39.154 | 0.000 | 0.000 | 0.000 | -3,308.283 | -2.100 | 0.000 | 2.100 | -0.809 |
| 30.00 | -31.094 | -37.879 | 0.000 | 0.000 | 0.000 | -3,150.697 | -3.038 | 0.000 | 3.038 | -0.979 |
| 31.25 | -31.029 | -37.531 | 0.000 | 0.000 | 0.000 | -3,111.831 | -3.301 | 0.000 | 3.301 | -1.023 |
| 35.00 | -30.706 | -35.744 | 0.000 | 0.000 | 0.000 | -2,995.476 | -4.157 | 0.000 | 4.157 | -1.154 |
| 37.50 | -30.495 | -34.560 | 0.000 | 0.000 | 0.000 | -2,918.714 | -4.786 | 0.000 | 4.786 | -1.243 |
| 40.00 | -30.317 | -33.904 | 0.000 | 0.000 | 0.000 | -2,842.477 | -5.461 | 0.000 | 5.461 | -1.333 |
| 45.00 | -29.895 | -32.662 | 0.000 | 0.000 | 0.000 | -2,690.893 | -6.949 | 0.000 | 6.949 | -1.504 |
| 50.00 | -29.463 | -31.446 | 0.000 | 0.000 | 0.000 | -2,541.424 | -8.617 | 0.000 | 8.617 | -1.677 |
| 55.00 | -29.025 | -30.256 | 0.000 | 0.000 | 0.000 | -2,394.111 | -10.468 | 0.000 | 10.468 | -1.853 |
| 60.00 | -28.566 | -29.110 | 0.000 | 0.000 | 0.000 | -2,248.988 | -12.504 | 0.000 | 12.504 | -2.031 |
| 63.25 | -28.264 | -28.381 | 0.000 | 0.000 | 0.000 | -2,156.151 | -13.927 | 0.000 | 13.927 | -2.149 |
| 65.00 | -28.111 | -27.626 | 0.000 | 0.000 | 0.000 | -2,106.690 | -14.728 | 0.000 | 14.728 | -2.214 |
| 68.75 | -27.717 | -26.092 | 0.000 | 0.000 | 0.000 | -2,001.275 | -16.522 | 0.000 | 16.522 | -2.351 |
| 70.00 | -27.633 | -25.781 | 0.000 | 0.000 | 0.000 | -1,966.629 | -17.144 | 0.000 | 17.144 | -2.398 |
| 75.00 | -27.165 | -24.690 | 0.000 | 0.000 | 0.000 | -1,828.469 | -19.749 | 0.000 | 19.749 | -2.573 |
| 80.00 | -26.696 | -23.626 | 0.000 | 0.000 | 0.000 | -1,692.647 | -22.537 | 0.000 | 22.537 | -2.748 |
| 85.00 | -26.228 | -22.589 | 0.000 | 0.000 | 0.000 | -1,559.168 | -25.509 | 0.000 | 25.509 | -2.924 |
| 90.00 | -25.760 | -21.581 | 0.000 | 0.000 | 0.000 | -1,428.031 | -28.664 | 0.000 | 28.664 | -3.099 |
| 95.00 | -25.270 | -20.630 | 0.000 | 0.000 | 0.000 | -1,299.231 | -32.003 | 0.000 | 32.003 | -3.274 |
| 96.08 | -25.188 | -20.399 | 0.000 | 0.000 | 0.000 | -1,271.856 | -32.751 | 0.000 | 32.751 | -3.313 |
| 100.0 | -24.762 | -19.034 | 0.000 | 0.000 | 0.000 | -1,173.204 | -35.525 | 0.000 | 35.525 | -3.450 |
| 100.7 | -24.705 | -18.745 | 0.000 | 0.000 | 0.000 | -1,154.632 | -36.069 | 0.000 | 36.069 | -3.477 |
| 105.0 | -24.296 | -17.959 | 0.000 | 0.000 | 0.000 | -1,049.640 | -39.230 | 0.000 | 39.230 | -3.623 |
| 108.0 | -20.129 | -15.751 | 0.000 | 0.000 | 0.000 | -971.514 | -41.537 | 0.000 | 41.537 | -3.720 |
| 110.0 | -19.953 | -15.384 | 0.000 | 0.000 | 0.000 | -931.257 | -43.109 | 0.000 | 43.109 | -3.784 |
| 115.0 | -19.483 | -14.527 | 0.000 | 0.000 | 0.000 | -831.492 | -47.153 | 0.000 | 47.153 | -3.939 |
| 120.0 | -19.019 | -13.699 | 0.000 | 0.000 | 0.000 | -734.078 | -51.357 | 0.000 | 51.357 | -4.091 |
| 125.0 | -18.560 | -12.900 | 0.000 | 0.000 | 0.000 | -638.986 | -55.718 | 0.000 | 55.718 | -4.238 |
| 129.7 | -18.119 | -12.185 | 0.000 | 0.000 | 0.000 | -550.827 | -60.000 | 0.000 | 60.000 | -4.373 |
| 130.0 | -18.104 | -12.104 | 0.000 | 0.000 | 0.000 | -546.298 | -60.229 | 0.000 | 60.229 | -4.380 |
| 133.5 | -17.744 | -11.178 | 0.000 | 0.000 | 0.000 | -481.426 | -63.553 | 0.000 | 63.553 | -4.479 |
| 135.0 | -17.630 | -10.981 | 0.000 | 0.000 | 0.000 | -456.290 | -64.886 | 0.000 | 64.886 | -4.517 |
| 140.0 | -14.455 | -8.577 | 0.000 | 0.000 | 0.000 | -368.141 | -69.689 | 0.000 | 69.689 | -4.656 |
| 145.0 | -14.026 | -7.989 | 0.000 | 0.000 | 0.000 | -295.867 | -74.629 | 0.000 | 74.629 | -4.781 |
| 150.0 | -13.606 | -7.428 | 0.000 | 0.000 | 0.000 | -225.737 | -79.692 | 0.000 | 79.692 | -4.892 |
| 154.0 | -9.531 | -5.853 | 0.000 | 0.000 | 0.000 | -171.315 | -83.821 | 0.000 | 83.821 | -4.969 |
| 155.0 | -9.455 | -5.752 | 0.000 | 0.000 | 0.000 | -161.784 | -84.862 | 0.000 | 84.862 | -4.987 |
| 160.0 | -7.404 | -4.570 | 0.000 | 0.000 | 0.000 | -114.511 | -90.122 | 0.000 | 90.122 | -5.063 |
| 164.3 | -7.072 | -4.208 | 0.000 | 0.000 | 0.000 | -82.427 | -94.738 | 0.000 | 94.738 | -5.117 |
| 165.0 | -7.018 | -4.107 | 0.000 | 0.000 | 0.000 | -77.713 | -95.452 | 0.000 | 95.452 | -5.125 |
| 167.2 | -6.835 | -3.773 | 0.000 | 0.000 | 0.000 | -61.923 | -97.870 | 0.000 | 97.870 | -5.148 |
| 170.0 | -3.499 | -1.847 | 0.000 | 0.000 | 0.000 | -43.128 | -100.839 | 0.000 | 100.839 | -5.171 |
| 175.0 | -3.146 | -1.555 | 0.000 | 0.000 | 0.000 | -25.634 | -106.266 | 0.000 | 106.266 | -5.205 |
| 179.0 | -2.992 | 0.000 | 0.000 | 0.000 | 0.000 | -13.050 | -110.629 | 0.000 | 110.629 | -5.223 |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)








**Load Case:** No Ice — 85.00 mph Wind with No Ice — 25 Iterations

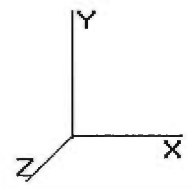
Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

## Calculated Stresses

| Seg Elev (ft) | Applied Stresses Axial (Y) (ksi) | Shear (X) (ksi) | Shear (Z) (ksi) | Torsion (ksi) | Bending (X) (ksi) | Bending (Z) (ksi) | Combined (ksi) | Allowable Stress (Fb) (ksi) | | Stress Ratio |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.62 | 0.91 | 0.00 | 0.00 | 0.00 | 42.96 | 43.61 | 49.1 | 0.0 | 0.888 |
| 5.00 | 0.61 | 0.91 | 0.00 | 0.00 | 0.00 | 42.89 | 43.53 | 49.6 | 0.0 | 0.878 |
| 10.00 | 0.60 | 0.92 | 0.00 | 0.00 | 0.00 | 42.80 | 43.44 | 50.1 | 0.0 | 0.867 |
| 15.00 | 0.60 | 0.93 | 0.00 | 0.00 | 0.00 | 42.69 | 43.32 | 50.6 | 0.0 | 0.856 |
| 20.00 | 0.59 | 0.94 | 0.00 | 0.00 | 0.00 | 42.56 | 43.18 | 51.1 | 0.0 | 0.845 |
| 25.00 | 0.58 | 0.95 | 0.00 | 0.00 | 0.00 | 42.39 | 43.01 | 51.6 | 0.0 | 0.834 |
| 30.00 | 0.58 | 0.95 | 0.00 | 0.00 | 0.00 | 42.20 | 42.81 | 52.0 | 0.0 | 0.823 |
| 31.25 | 0.57 | 0.96 | 0.00 | 0.00 | 0.00 | 42.15 | 42.75 | 52.0 | 0.0 | 0.822 |
| 35.00 | 0.56 | 0.96 | 0.00 | 0.00 | 0.00 | 41.97 | 42.56 | 52.0 | 0.0 | 0.819 |
| 37.50 | 0.54 | 0.95 | 0.00 | 0.00 | 0.00 | 40.69 | 41.26 | 52.0 | 0.0 | 0.794 |
| 40.00 | 0.53 | 0.96 | 0.00 | 0.00 | 0.00 | 40.55 | 41.11 | 52.0 | 0.0 | 0.791 |
| 45.00 | 0.53 | 0.97 | 0.00 | 0.00 | 0.00 | 40.22 | 40.78 | 52.0 | 0.0 | 0.785 |
| 50.00 | 0.52 | 0.98 | 0.00 | 0.00 | 0.00 | 39.84 | 40.40 | 52.0 | 0.0 | 0.777 |
| 55.00 | 0.51 | 0.99 | 0.00 | 0.00 | 0.00 | 39.42 | 39.96 | 52.0 | 0.0 | 0.769 |
| 60.00 | 0.50 | 1.00 | 0.00 | 0.00 | 0.00 | 38.93 | 39.47 | 52.0 | 0.0 | 0.759 |
| 63.25 | 0.50 | 1.00 | 0.00 | 0.00 | 0.00 | 38.59 | 39.13 | 52.0 | 0.0 | 0.753 |
| 65.00 | 0.49 | 1.01 | 0.00 | 0.00 | 0.00 | 38.40 | 38.93 | 52.0 | 0.0 | 0.749 |
| 68.75 | 0.46 | 1.00 | 0.00 | 0.00 | 0.00 | 36.74 | 37.25 | 52.0 | 0.0 | 0.717 |
| 70.00 | 0.46 | 1.00 | 0.00 | 0.00 | 0.00 | 36.58 | 37.09 | 52.0 | 0.0 | 0.713 |
| 75.00 | 0.45 | 1.01 | 0.00 | 0.00 | 0.00 | 35.88 | 36.37 | 52.0 | 0.0 | 0.700 |
| 80.00 | 0.45 | 1.02 | 0.00 | 0.00 | 0.00 | 35.09 | 35.58 | 52.0 | 0.0 | 0.684 |
| 85.00 | 0.44 | 1.03 | 0.00 | 0.00 | 0.00 | 34.19 | 34.68 | 52.0 | 0.0 | 0.667 |
| 90.00 | 0.43 | 1.04 | 0.00 | 0.00 | 0.00 | 33.19 | 33.67 | 52.0 | 0.0 | 0.648 |
| 95.00 | 0.43 | 1.05 | 0.00 | 0.00 | 0.00 | 32.05 | 32.53 | 52.0 | 0.0 | 0.626 |
| 96.08 | 0.42 | 1.05 | 0.00 | 0.00 | 0.00 | 31.79 | 32.27 | 52.0 | 0.0 | 0.621 |
| 100.00 | 0.41 | 1.06 | 0.00 | 0.00 | 0.00 | 30.78 | 31.24 | 52.0 | 0.0 | 0.601 |
| 100.75 | 0.39 | 1.04 | 0.00 | 0.00 | 0.00 | 29.44 | 29.89 | 52.0 | 0.0 | 0.575 |
| 105.00 | 0.39 | 1.05 | 0.00 | 0.00 | 0.00 | 28.23 | 28.67 | 52.0 | 0.0 | 0.552 |
| 108.00 | 0.35 | 0.89 | 0.00 | 0.00 | 0.00 | 27.15 | 27.54 | 52.0 | 0.0 | 0.530 |
| 110.00 | 0.34 | 0.89 | 0.00 | 0.00 | 0.00 | 26.71 | 27.09 | 52.0 | 0.0 | 0.521 |
| 115.00 | 0.33 | 0.90 | 0.00 | 0.00 | 0.00 | 25.48 | 25.87 | 52.0 | 0.0 | 0.498 |
| 120.00 | 0.33 | 0.91 | 0.00 | 0.00 | 0.00 | 24.10 | 24.48 | 52.0 | 0.0 | 0.471 |
| 125.00 | 0.32 | 0.92 | 0.00 | 0.00 | 0.00 | 22.53 | 22.90 | 52.0 | 0.0 | 0.441 |
| 129.75 | 0.31 | 0.93 | 0.00 | 0.00 | 0.00 | 20.83 | 21.20 | 52.0 | 0.0 | 0.408 |
| 130.00 | 0.31 | 0.93 | 0.00 | 0.00 | 0.00 | 20.74 | 21.11 | 52.0 | 0.0 | 0.406 |
| 133.58 | 0.35 | 1.10 | 0.00 | 0.00 | 0.00 | 22.15 | 22.57 | 52.0 | 0.0 | 0.434 |
| 135.00 | 0.34 | 1.11 | 0.00 | 0.00 | 0.00 | 21.45 | 21.88 | 52.0 | 0.0 | 0.421 |
| 140.00 | 0.28 | 0.94 | 0.00 | 0.00 | 0.00 | 18.71 | 19.06 | 52.0 | 0.0 | 0.367 |
| 145.00 | 0.27 | 0.95 | 0.00 | 0.00 | 0.00 | 16.30 | 16.66 | 52.0 | 0.0 | 0.320 |
| 150.00 | 0.26 | 0.97 | 0.00 | 0.00 | 0.00 | 13.54 | 13.90 | 52.0 | 0.0 | 0.267 |
| 154.00 | 0.21 | 0.70 | 0.00 | 0.00 | 0.00 | 11.02 | 11.30 | 52.0 | 0.0 | 0.217 |
| 155.00 | 0.21 | 0.70 | 0.00 | 0.00 | 0.00 | 10.60 | 10.88 | 52.0 | 0.0 | 0.209 |
| 160.00 | 0.18 | 0.57 | 0.00 | 0.00 | 0.00 | 8.23 | 8.46 | 52.0 | 0.0 | 0.163 |
| 164.33 | 0.17 | 0.57 | 0.00 | 0.00 | 0.00 | 6.44 | 6.68 | 52.0 | 0.0 | 0.129 |
| 165.00 | 0.17 | 0.57 | 0.00 | 0.00 | 0.00 | 6.15 | 6.39 | 52.0 | 0.0 | 0.123 |
| 167.25 | 0.19 | 0.70 | 0.00 | 0.00 | 0.00 | 6.11 | 6.41 | 52.0 | 0.0 | 0.123 |
| 170.00 | 0.10 | 0.37 | 0.00 | 0.00 | 0.00 | 4.49 | 4.63 | 52.0 | 0.0 | 0.089 |
| 175.00 | 0.09 | 0.35 | 0.00 | 0.00 | 0.00 | 2.97 | 3.11 | 52.0 | 0.0 | 0.060 |
| 179.00 | 0.00 | 0.34 | 0.00 | 0.00 | 0.00 | 1.65 | 1.75 | 52.0 | 0.0 | 0.034 |

| | | | |
|---|---|---|---|
| Pole : | 370627 | Code: TIA/EIA-222 Rev F | 6/10/2014 5:35:11 PM |
| Location : | Newington CT | | Page: 10 |
| Height : | 179.0 (ft) | | |
| Base Dia : | 62.93 (in) | | |
| Top Dia : | 22.31 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 18 Sides | | |
| Taper : | 0.245810 (in/ft) | | |






**Load Case:** Ice — 73.61 mph Wind with Ice — 25 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

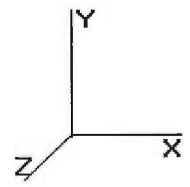
## Shaft Segment Forces

| Seg Top Elev (ft) | Description | Kz | qz (psf) | qzGh (psf) | C (mph-ft) | Cf | Ice Thick (in) | Tributary (ft) | Ap (sf) | EPAs (sf) | Wind Force X (lb) | Dead Load Ice (lb) | Tot Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | | 0.00 1.00 | 13.871 | 23.44 | 386.06 | 0.650 | 0.500 | 0.00 | 0.000 | 0.00 | 0.0 | 0.0 | 0.0 |
| 5.00 | | 0.00 1.00 | 13.871 | 23.44 | 378.53 | 0.650 | 0.500 | 5.00 | 26.385 | 17.15 | 402.0 | 192.0 | 1,446.4 |
| 10.00 | | 0.00 1.00 | 13.871 | 23.44 | 370.99 | 0.650 | 0.500 | 5.00 | 25.872 | 16.82 | 394.2 | 188.2 | 1,417.7 |
| 15.00 | | 0.00 1.00 | 13.871 | 23.44 | 363.45 | 0.650 | 0.500 | 5.00 | 25.360 | 16.48 | 386.4 | 184.4 | 1,389.0 |
| 20.00 | | 0.00 1.00 | 13.871 | 23.44 | 355.91 | 0.650 | 0.500 | 5.00 | 24.848 | 16.15 | 378.6 | 180.6 | 1,360.4 |
| 25.00 | | 0.00 1.00 | 13.871 | 23.44 | 348.37 | 0.650 | 0.500 | 5.00 | 24.336 | 15.82 | 370.8 | 176.8 | 1,331.7 |
| 30.00 | | 0.00 1.00 | 13.871 | 23.44 | 340.83 | 0.650 | 0.500 | 5.00 | 23.824 | 15.49 | 363.0 | 173.0 | 1,303.0 |
| 31.25 | Bot - Section 2 | 0.00 1.00 | 13.871 | 23.44 | 338.94 | 0.650 | 0.500 | 1.25 | 5.876 | 3.82 | 89.5 | 43.0 | 321.6 |
| 35.00 | | 0.00 1.01 | 14.106 | 23.84 | 336.10 | 0.650 | 0.500 | 3.75 | 17.670 | 11.49 | 273.8 | 128.6 | 1,793.0 |
| 37.50 | Top - Section 1 | 0.00 1.03 | 14.387 | 24.31 | 335.59 | 0.650 | 0.500 | 2.50 | 11.620 | 7.55 | 183.6 | 84.8 | 1,178.9 |
| 40.00 | | 0.00 1.05 | 14.655 | 24.76 | 339.56 | 0.650 | 0.500 | 2.50 | 11.492 | 7.47 | 185.0 | 83.9 | 628.5 |
| 45.00 | | 0.00 1.09 | 15.156 | 25.61 | 337.44 | 0.650 | 0.500 | 5.00 | 22.600 | 14.69 | 376.3 | 163.9 | 1,234.5 |
| 50.00 | | 0.00 1.12 | 15.620 | 26.39 | 334.55 | 0.650 | 0.500 | 5.00 | 22.088 | 14.36 | 379.0 | 160.1 | 1,205.8 |
| 55.00 | | 0.00 1.15 | 16.051 | 27.12 | 331.03 | 0.650 | 0.500 | 5.00 | 21.576 | 14.02 | 380.4 | 156.3 | 1,177.1 |
| 60.00 | | 0.00 1.18 | 16.455 | 27.80 | 326.96 | 0.650 | 0.500 | 5.00 | 21.064 | 13.69 | 380.7 | 152.6 | 1,148.4 |
| 63.25 | Bot - Section 3 | 0.00 1.20 | 16.705 | 28.23 | 324.06 | 0.650 | 0.500 | 3.25 | 13.417 | 8.72 | 246.2 | 97.6 | 731.5 |
| 65.00 | | 0.00 1.21 | 16.836 | 28.45 | 322.41 | 0.650 | 0.500 | 1.75 | 7.244 | 4.71 | 134.0 | 52.9 | 732.2 |
| 68.75 | Top - Section 2 | 0.00 1.23 | 17.108 | 28.91 | 318.73 | 0.650 | 0.500 | 3.75 | 15.312 | 9.95 | 287.8 | 111.2 | 1,546.4 |
| 70.00 | | 0.00 1.24 | 17.196 | 29.06 | 322.57 | 0.650 | 0.500 | 1.25 | 5.040 | 3.28 | 95.2 | 36.8 | 274.8 |
| 75.00 | | 0.00 1.26 | 17.538 | 29.64 | 317.29 | 0.650 | 0.500 | 5.00 | 19.840 | 12.90 | 382.2 | 143.5 | 1,079.9 |
| 80.00 | | 0.00 1.28 | 17.865 | 30.19 | 311.67 | 0.650 | 0.500 | 5.00 | 19.328 | 12.56 | 379.3 | 139.7 | 1,051.2 |
| 85.00 | | 0.00 1.31 | 18.177 | 30.71 | 305.76 | 0.650 | 0.500 | 5.00 | 18.816 | 12.23 | 375.7 | 135.9 | 1,022.5 |
| 90.00 | | 0.00 1.33 | 18.476 | 31.22 | 299.56 | 0.650 | 0.500 | 5.00 | 18.304 | 11.90 | 371.5 | 132.1 | 993.8 |
| 95.00 | | 0.00 1.35 | 18.764 | 31.71 | 293.12 | 0.650 | 0.500 | 5.00 | 17.792 | 11.56 | 366.7 | 128.3 | 965.2 |
| 96.08 | Bot - Section 4 | 0.00 1.35 | 18.824 | 31.81 | 291.69 | 0.650 | 0.500 | 1.08 | 3.787 | 2.46 | 78.3 | 27.6 | 205.7 |
| 100.0 | | 0.00 1.37 | 19.041 | 32.17 | 286.44 | 0.650 | 0.500 | 3.92 | 13.737 | 8.93 | 287.3 | 99.4 | 1,379.1 |
| 100.7 | Top - Section 3 | 0.00 1.37 | 19.081 | 32.24 | 285.42 | 0.650 | 0.500 | 0.75 | 2.595 | 1.69 | 54.4 | 18.9 | 260.5 |
| 105.0 | | 0.00 1.39 | 19.308 | 32.63 | 284.98 | 0.650 | 0.500 | 4.25 | 14.485 | 9.42 | 307.2 | 104.6 | 784.9 |
| 108.0 | Appertunance(s) | 0.00 1.40 | 19.464 | 32.89 | 280.77 | 0.650 | 0.500 | 3.00 | 10.002 | 6.50 | 213.9 | 72.5 | 541.9 |
| 110.0 | | 0.00 1.41 | 19.566 | 33.06 | 277.92 | 0.650 | 0.500 | 2.00 | 6.566 | 4.27 | 141.1 | 47.7 | 355.7 |
| 115.0 | | 0.00 1.42 | 19.816 | 33.49 | 270.68 | 0.650 | 0.500 | 5.00 | 16.056 | 10.44 | 349.5 | 115.5 | 867.9 |
| 120.0 | | 0.00 1.44 | 20.059 | 33.89 | 263.27 | 0.650 | 0.500 | 5.00 | 15.544 | 10.10 | 342.5 | 111.7 | 839.3 |
| 125.0 | | 0.00 1.46 | 20.294 | 34.29 | 255.69 | 0.650 | 0.500 | 5.00 | 15.032 | 9.77 | 335.1 | 107.9 | 810.6 |
| 129.7 | Bot - Section 5 | 0.00 1.47 | 20.512 | 34.66 | 248.34 | 0.650 | 0.500 | 4.75 | 13.806 | 8.97 | 311.1 | 99.1 | 743.6 |
| 130.0 | | 0.00 1.48 | 20.523 | 34.68 | 247.95 | 0.650 | 0.500 | 0.25 | 0.727 | 0.47 | 16.4 | 5.3 | 66.9 |
| 133.5 | Top - Section 4 | 0.00 1.49 | 20.683 | 34.95 | 242.32 | 0.650 | 0.500 | 3.58 | 10.277 | 6.68 | 233.5 | 74.0 | 944.8 |
| 135.0 | | 0.00 1.49 | 20.745 | 35.06 | 244.76 | 0.650 | 0.500 | 1.42 | 3.991 | 2.59 | 90.9 | 29.0 | 184.3 |
| 140.0 | Appertunance(s) | 0.00 1.51 | 20.962 | 35.42 | 236.77 | 0.650 | 0.500 | 5.00 | 13.756 | 8.94 | 316.7 | 98.4 | 633.4 |
| 145.0 | | 0.00 1.52 | 21.173 | 35.78 | 228.64 | 0.650 | 0.500 | 5.00 | 13.244 | 8.61 | 308.0 | 94.6 | 608.9 |
| 150.0 | | 0.00 1.54 | 21.379 | 36.13 | 220.39 | 0.650 | 0.500 | 5.00 | 12.731 | 8.28 | 299.0 | 90.8 | 584.3 |
| 154.0 | Appertunance(s) | 0.00 1.55 | 21.541 | 36.40 | 213.71 | 0.650 | 0.500 | 4.00 | 9.816 | 6.38 | 232.3 | 70.3 | 450.1 |
| 155.0 | | 0.00 1.55 | 21.581 | 36.47 | 212.02 | 0.650 | 0.500 | 1.00 | 2.403 | 1.56 | 57.0 | 17.4 | 110.3 |
| 160.0 | Appertunance(s) | 0.00 1.57 | 21.777 | 36.80 | 203.54 | 0.650 | 0.500 | 5.00 | 11.707 | 7.61 | 280.1 | 83.3 | 535.3 |
| 164.3 | Bot - Section 6 | 0.00 1.58 | 21.944 | 37.08 | 196.10 | 0.650 | 0.500 | 4.33 | 9.732 | 6.33 | 234.6 | 69.3 | 444.3 |
| 165.0 | | 0.00 1.58 | 21.969 | 37.12 | 194.95 | 0.650 | 0.500 | 0.67 | 1.491 | 0.97 | 36.0 | 10.8 | 113.2 |
| 167.2 | Top - Section 5 | 0.00 1.59 | 22.055 | 37.27 | 191.05 | 0.650 | 0.500 | 2.25 | 4.964 | 3.23 | 120.3 | 35.7 | 376.2 |
| 170.0 | Appertunance(s) | 0.00 1.59 | 22.158 | 37.44 | 190.13 | 0.650 | 0.500 | 2.75 | 5.927 | 3.85 | 144.3 | 42.5 | 225.2 |
| 175.0 | | 0.00 1.61 | 22.342 | 37.75 | 181.35 | 0.650 | 0.500 | 5.00 | 10.379 | 6.75 | 254.7 | 73.4 | 392.8 |
| 179.0 | Appertunance(s) | 0.00 1.62 | 22.487 | 38.00 | 174.26 | 0.650 | 0.500 | 4.00 | 7.935 | 5.16 | 196.0 | 56.3 | 299.9 |
| | | | | | Totals: | | | 179.00 | | | 12,422.4 | 4,702.0 | 38,092.4 |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)








**Load Case:** Ice — 73.61 mph Wind with Ice — 25 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

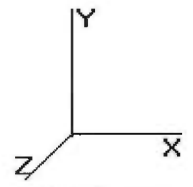
## Discrete Appurtenance Segment Forces

| Elev (ft) | Description | Qty | qz (psf) | qzGh (psf) | Orientation Factor | Total EPAa (sf) | Horiz Ecc (ft) | Vert Ecc (ft) | Wind FX (lb) | Mom Y (lb-ft) | Mom Z (lb-ft) | Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 108.0 | Flat Low Profile Pla | 1 | 19.464 | 32.894 | 1.00 | 31.60 | 0.000 | 0.000 | 1,039.45 | 0.00 | 0.00 | 1,700.00 |
| 108.0 | RFS FD9R6004/2C-3L | 6 | 19.566 | 33.067 | 0.50 | 1.50 | 0.000 | 2.000 | 49.60 | 0.00 | 99.20 | 32.40 |
| 108.0 | Alcatel-Lucent RRH2x | 3 | 19.566 | 33.067 | 0.67 | 5.77 | 0.000 | 2.000 | 190.75 | 0.00 | 381.51 | 184.20 |
| 108.0 | RFS DB-T1-6Z-8AB-0Z | 1 | 19.566 | 33.067 | 0.67 | 4.07 | 0.000 | 2.000 | 134.70 | 0.00 | 269.40 | 144.50 |
| 108.0 | Antel BXA-171063/8CF | 3 | 19.566 | 33.067 | 0.90 | 9.10 | 0.000 | 2.000 | 300.88 | 0.00 | 601.75 | 89.40 |
| 108.0 | Antel BXA-171063/12C | 3 | 19.566 | 33.067 | 0.88 | 14.41 | 0.000 | 2.000 | 476.64 | 0.00 | 953.28 | 127.20 |
| 108.0 | Antel BXA-80063/4CF | 3 | 19.566 | 33.067 | 0.72 | 12.40 | 0.000 | 2.000 | 410.05 | 0.00 | 820.10 | 113.18 |
| 108.0 | Antel BXA-70063-6CF- | 3 | 19.566 | 33.067 | 0.77 | 19.73 | 0.000 | 2.000 | 652.32 | 0.00 | 1,304.63 | 174.00 |
| 140.0 | Round Low Profile Pl | 1 | 20.962 | 35.426 | 1.00 | 27.20 | 0.000 | 0.000 | 963.58 | 0.00 | 0.00 | 1,700.00 |
| 140.0 | Alcatel-Lucent 2X50W | 3 | 20.962 | 35.426 | 0.67 | 5.47 | 0.000 | 0.000 | 193.68 | 0.00 | 0.00 | 213.90 |
| 140.0 | Alcatel-Lucent 1900M | 3 | 20.962 | 35.426 | 0.67 | 8.44 | 0.000 | 0.000 | 299.06 | 0.00 | 0.00 | 225.60 |
| 140.0 | RFS APXV9ERR18-C- | 1 | 20.962 | 35.426 | 0.85 | 7.72 | 0.000 | 0.000 | 273.42 | 0.00 | 0.00 | 113.90 |
| 140.0 | RFS APXVSPP18-C- | 2 | 20.962 | 35.426 | 0.82 | 14.89 | 0.000 | 0.000 | 527.53 | 0.00 | 0.00 | 213.00 |
| 154.0 | Round T-Arm | 3 | 21.541 | 36.404 | 0.67 | 24.32 | 0.000 | 0.000 | 885.37 | 0.00 | 0.00 | 942.00 |
| 154.0 | Powerwave LGP21401 | 6 | 21.541 | 36.404 | 0.50 | 1.02 | 0.000 | 0.000 | 37.13 | 0.00 | 0.00 | 46.20 |
| 154.0 | Raycap DC6-48-60-18- | 1 | 21.541 | 36.404 | 1.00 | 1.67 | 0.000 | 0.000 | 60.79 | 0.00 | 0.00 | 49.50 |
| 154.0 | Ericsson RRUS 11 (Ba | 6 | 21.541 | 36.404 | 0.67 | 13.23 | 0.000 | 0.000 | 481.47 | 0.00 | 0.00 | 445.80 |
| 154.0 | Powerwave 7770.00 | 3 | 21.541 | 36.404 | 0.75 | 14.69 | 0.000 | 0.000 | 534.86 | 0.00 | 0.00 | 202.89 |
| 154.0 | KMW AM-X-CD-16-65- | 1 | 21.541 | 36.404 | 0.78 | 7.08 | 0.000 | 0.000 | 257.83 | 0.00 | 0.00 | 95.00 |
| 154.0 | Andrew SBNH- | 1 | 21.541 | 36.404 | 0.81 | 10.02 | 0.000 | 0.000 | 364.75 | 0.00 | 0.00 | 126.70 |
| 154.0 | Powerwave P65-17- | 1 | 21.541 | 36.404 | 0.80 | 9.91 | 0.000 | 0.000 | 360.83 | 0.00 | 0.00 | 121.00 |
| 160.0 | Side Arms | 1 | 21.777 | 36.803 | 1.00 | 10.50 | 0.000 | 0.000 | 386.44 | 0.00 | 0.00 | 680.00 |
| 160.0 | RCU | 3 | 21.777 | 36.803 | 0.50 | 0.39 | 0.000 | 0.000 | 14.35 | 0.00 | 0.00 | 7.50 |
| 160.0 | DragonWave Horizon | 3 | 21.777 | 36.803 | 0.50 | 1.54 | 0.000 | 0.000 | 56.86 | 0.00 | 0.00 | 53.70 |
| 160.0 | DragonWave A-ANT- | 3 | 21.777 | 36.803 | 0.67 | 10.15 | 0.000 | 0.000 | 373.57 | 0.00 | 0.00 | 165.30 |
| 160.0 | Samsung U-RAS | 3 | 21.777 | 36.803 | 0.50 | 3.15 | 0.000 | 0.000 | 115.93 | 0.00 | 0.00 | 135.00 |
| 160.0 | Argus LLPX310R | 3 | 21.777 | 36.803 | 0.70 | 11.26 | 0.000 | 0.000 | 414.26 | 0.00 | 0.00 | 163.80 |
| 170.0 | Flat Low Profile Pla | 1 | 22.158 | 37.446 | 1.00 | 31.60 | 0.000 | 0.000 | 1,183.31 | 0.00 | 0.00 | 1,700.00 |
| 170.0 | Ericsson KRY 112 144 | 3 | 22.158 | 37.446 | 0.50 | 0.83 | 0.000 | 0.000 | 30.89 | 0.00 | 0.00 | 42.30 |
| 170.0 | Ericsson AIR 21, 1.3 | 3 | 22.158 | 37.446 | 0.83 | 17.93 | 0.000 | 0.000 | 671.34 | 0.00 | 0.00 | 397.80 |
| 170.0 | Ericsson AIR 21, 1.3 | 3 | 22.158 | 37.446 | 0.83 | 17.93 | 0.000 | 0.000 | 671.34 | 0.00 | 0.00 | 397.80 |
| 180.0 | Round Low Profile Pl | 1 | 22.522 | 38.063 | 1.00 | 27.20 | 0.000 | 0.000 | 1,035.31 | 0.00 | 1,035.31 | 1,700.00 |
| 180.0 | 8' Yagi | 1 | 22.522 | 38.063 | 1.00 | 21.59 | 0.000 | 0.000 | 821.78 | 0.00 | 821.78 | 127.20 |
| 180.0 | 20' Dipole | 1 | 22.873 | 38.656 | 1.00 | 11.63 | 0.000 | 10.000 | 449.56 | 0.00 | 4,945.20 | 147.40 |
| | | | | | | | | | 14,719.64 | | | 12,778.17 |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)








**Load Case:** Ice — 73.61 mph Wind with Ice — 25 Iterations

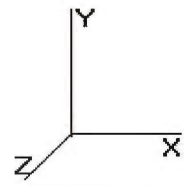
Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

## Applied Segment Forces Summary

| Seg Elev (ft) | Lateral FX (-) (lb) | Axial FY (-) (lb) | Torsion MY (lb-ft) | Moment MZ (lb-ft) |
|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | 402.03 | 1,541.36 | 0.00 | 0.00 |
| 10.00 | 394.23 | 1,512.68 | 0.00 | 0.00 |
| 15.00 | 386.43 | 1,484.00 | 0.00 | 0.00 |
| 20.00 | 378.63 | 1,455.32 | 0.00 | 0.00 |
| 25.00 | 370.82 | 1,426.63 | 0.00 | 0.00 |
| 30.00 | 363.02 | 1,397.95 | 0.00 | 0.00 |
| 31.25 | 89.54 | 345.36 | 0.00 | 0.00 |
| 35.00 | 273.82 | 1,864.25 | 0.00 | 0.00 |
| 37.50 | 183.65 | 1,226.33 | 0.00 | 0.00 |
| 40.00 | 185.01 | 675.94 | 0.00 | 0.00 |
| 45.00 | 376.28 | 1,329.41 | 0.00 | 0.00 |
| 50.00 | 378.99 | 1,300.73 | 0.00 | 0.00 |
| 55.00 | 380.43 | 1,272.05 | 0.00 | 0.00 |
| 60.00 | 380.75 | 1,243.37 | 0.00 | 0.00 |
| 63.25 | 246.20 | 793.24 | 0.00 | 0.00 |
| 65.00 | 133.97 | 765.45 | 0.00 | 0.00 |
| 68.75 | 287.76 | 1,617.58 | 0.00 | 0.00 |
| 70.00 | 95.20 | 298.54 | 0.00 | 0.00 |
| 75.00 | 382.23 | 1,174.83 | 0.00 | 0.00 |
| 80.00 | 379.30 | 1,146.15 | 0.00 | 0.00 |
| 85.00 | 375.70 | 1,117.47 | 0.00 | 0.00 |
| 90.00 | 371.49 | 1,088.79 | 0.00 | 0.00 |
| 95.00 | 366.72 | 1,060.11 | 0.00 | 0.00 |
| 96.08 | 78.32 | 226.23 | 0.00 | 0.00 |
| 100.0 | 287.33 | 1,453.46 | 0.00 | 0.00 |
| 100.7 | 54.39 | 274.75 | 0.00 | 0.00 |
| 105.0 | 307.23 | 865.62 | 0.00 | 0.00 |
| 108.0 | 3,468.25 | 3,163.72 | 0.00 | 4,429.88 |
| 110.0 | 141.12 | 389.40 | 0.00 | 0.00 |
| 115.0 | 349.51 | 952.28 | 0.00 | 0.00 |
| 120.0 | 342.50 | 923.60 | 0.00 | 0.00 |
| 125.0 | 335.10 | 894.92 | 0.00 | 0.00 |
| 129.7 | 311.07 | 823.70 | 0.00 | 0.00 |
| 130.0 | 16.39 | 71.15 | 0.00 | 0.00 |
| 133.5 | 233.50 | 1,005.29 | 0.00 | 0.00 |
| 135.0 | 90.94 | 208.21 | 0.00 | 0.00 |
| 140.0 | 2,574.01 | 3,184.14 | 0.00 | 0.00 |
| 145.0 | 308.03 | 688.21 | 0.00 | 0.00 |
| 150.0 | 299.00 | 663.67 | 0.00 | 0.00 |
| 154.0 | 3,215.32 | 2,542.67 | 0.00 | 0.00 |
| 155.0 | 56.96 | 116.96 | 0.00 | 0.00 |
| 160.0 | 1,641.48 | 1,773.86 | 0.00 | 0.00 |
| 164.3 | 234.60 | 455.62 | 0.00 | 0.00 |
| 165.0 | 35.98 | 114.90 | 0.00 | 0.00 |
| 167.2 | 120.27 | 382.14 | 0.00 | 0.00 |
| 170.0 | 2,701.14 | 2,770.33 | 0.00 | 0.00 |
| 175.0 | 254.73 | 394.49 | 0.00 | 0.00 |
| 179.0 | 2,502.65 | 2,275.82 | 0.00 | 6,802.29 |

| | | | |
|---|---|---|---|
| Pole : | 370627 | Code: TIA/EIA-222 Rev F | 6/10/2014 5:35:11 PM |
| Location : | Newington CT | | Page: 13 |
| Height : | 179.0 (ft) | | |
| Base Dia : | 62.93 (in) | | |
| Top Dia : | 22.31 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 18 Sides | | |
| Taper : | 0.245810 (in/ft) | | |






**Load Case:** Ice — 73.61 mph Wind with Ice — 25 Iterations

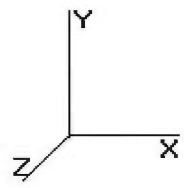
Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

| | | | | |
|---|---|---|---|---|
| Totals: | 27,142.00 | 53,752.67 | 0.00 | 11,232.17 |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)








**Load Case:** Ice — 73.61 mph Wind with Ice — 25 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

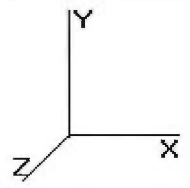
## Calculated Shaft Forces and Deflections

| 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 | -27.203 | -53.721 | 0.000 | 0.000 | 0.000 | -3,421.346 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5.00 | -26.918 | -52.119 | 0.000 | 0.000 | 0.000 | -3,285.334 | -0.070 | 0.000 | 0.070 | -0.130 |
| 10.00 | -26.636 | -50.546 | 0.000 | 0.000 | 0.000 | -3,150.745 | -0.277 | 0.000 | 0.277 | -0.261 |
| 15.00 | -26.358 | -49.002 | 0.000 | 0.000 | 0.000 | -3,017.566 | -0.623 | 0.000 | 0.623 | -0.396 |
| 20.00 | -26.082 | -47.487 | 0.000 | 0.000 | 0.000 | -2,885.782 | -1.111 | 0.000 | 1.111 | -0.533 |
| 25.00 | -25.809 | -46.001 | 0.000 | 0.000 | 0.000 | -2,755.376 | -1.744 | 0.000 | 1.744 | -0.672 |
| 30.00 | -25.497 | -44.568 | 0.000 | 0.000 | 0.000 | -2,626.336 | -2.524 | 0.000 | 2.524 | -0.814 |
| 31.25 | -25.459 | -44.192 | 0.000 | 0.000 | 0.000 | -2,594.466 | -2.742 | 0.000 | 2.742 | -0.850 |
| 35.00 | -25.223 | -42.292 | 0.000 | 0.000 | 0.000 | -2,498.998 | -3.454 | 0.000 | 3.454 | -0.960 |
| 37.50 | -25.072 | -41.036 | 0.000 | 0.000 | 0.000 | -2,435.942 | -3.977 | 0.000 | 3.977 | -1.034 |
| 40.00 | -24.951 | -40.316 | 0.000 | 0.000 | 0.000 | -2,373.265 | -4.539 | 0.000 | 4.539 | -1.109 |
| 45.00 | -24.645 | -38.933 | 0.000 | 0.000 | 0.000 | -2,248.513 | -5.777 | 0.000 | 5.777 | -1.252 |
| 50.00 | -24.332 | -37.580 | 0.000 | 0.000 | 0.000 | -2,125.290 | -7.167 | 0.000 | 7.167 | -1.397 |
| 55.00 | -24.013 | -36.256 | 0.000 | 0.000 | 0.000 | -2,003.632 | -8.709 | 0.000 | 8.709 | -1.544 |
| 60.00 | -23.673 | -34.973 | 0.000 | 0.000 | 0.000 | -1,883.571 | -10.406 | 0.000 | 10.406 | -1.693 |
| 63.25 | -23.448 | -34.156 | 0.000 | 0.000 | 0.000 | -1,806.636 | -11.593 | 0.000 | 11.593 | -1.792 |
| 65.00 | -23.339 | -33.361 | 0.000 | 0.000 | 0.000 | -1,765.603 | -12.260 | 0.000 | 12.260 | -1.846 |
| 68.75 | -23.041 | -31.723 | 0.000 | 0.000 | 0.000 | -1,678.082 | -13.757 | 0.000 | 13.757 | -1.961 |
| 70.00 | -22.986 | -31.390 | 0.000 | 0.000 | 0.000 | -1,649.283 | -14.276 | 0.000 | 14.276 | -2.001 |
| 75.00 | -22.639 | -30.172 | 0.000 | 0.000 | 0.000 | -1,534.353 | -16.449 | 0.000 | 16.449 | -2.147 |
| 80.00 | -22.291 | -28.984 | 0.000 | 0.000 | 0.000 | -1,421.159 | -18.777 | 0.000 | 18.777 | -2.294 |
| 85.00 | -21.941 | -27.827 | 0.000 | 0.000 | 0.000 | -1,309.708 | -21.259 | 0.000 | 21.259 | -2.442 |
| 90.00 | -21.591 | -26.700 | 0.000 | 0.000 | 0.000 | -1,200.007 | -23.895 | 0.000 | 23.895 | -2.589 |
| 95.00 | -21.215 | -25.625 | 0.000 | 0.000 | 0.000 | -1,092.057 | -26.686 | 0.000 | 26.686 | -2.736 |
| 96.08 | -21.159 | -25.375 | 0.000 | 0.000 | 0.000 | -1,069.075 | -27.311 | 0.000 | 27.311 | -2.769 |
| 100.0 | -20.828 | -23.913 | 0.000 | 0.000 | 0.000 | -986.205 | -29.630 | 0.000 | 29.630 | -2.884 |
| 100.7 | -20.791 | -23.615 | 0.000 | 0.000 | 0.000 | -970.584 | -30.085 | 0.000 | 30.085 | -2.907 |
| 105.0 | -20.479 | -22.730 | 0.000 | 0.000 | 0.000 | -882.226 | -32.729 | 0.000 | 32.729 | -3.030 |
| 108.0 | -16.870 | -19.737 | 0.000 | 0.000 | 0.000 | -816.359 | -34.658 | 0.000 | 34.658 | -3.111 |
| 110.0 | -16.739 | -19.329 | 0.000 | 0.000 | 0.000 | -782.620 | -35.973 | 0.000 | 35.973 | -3.165 |
| 115.0 | -16.378 | -18.361 | 0.000 | 0.000 | 0.000 | -698.928 | -39.356 | 0.000 | 39.356 | -3.295 |
| 120.0 | -16.020 | -17.424 | 0.000 | 0.000 | 0.000 | -617.042 | -42.875 | 0.000 | 42.875 | -3.423 |
| 125.0 | -15.665 | -16.519 | 0.000 | 0.000 | 0.000 | -536.944 | -46.524 | 0.000 | 46.524 | -3.547 |
| 129.7 | -15.319 | -15.700 | 0.000 | 0.000 | 0.000 | -462.536 | -50.110 | 0.000 | 50.110 | -3.660 |
| 130.0 | -15.310 | -15.618 | 0.000 | 0.000 | 0.000 | -458.706 | -50.301 | 0.000 | 50.301 | -3.666 |
| 133.5 | -15.027 | -14.616 | 0.000 | 0.000 | 0.000 | -403.845 | -53.083 | 0.000 | 53.083 | -3.749 |
| 135.0 | -14.942 | -14.394 | 0.000 | 0.000 | 0.000 | -382.557 | -54.200 | 0.000 | 54.200 | -3.781 |
| 140.0 | -12.182 | -11.366 | 0.000 | 0.000 | 0.000 | -307.850 | -58.221 | 0.000 | 58.221 | -3.897 |
| 145.0 | -11.846 | -10.680 | 0.000 | 0.000 | 0.000 | -246.941 | -62.357 | 0.000 | 62.357 | -4.002 |
| 150.0 | -11.514 | -10.024 | 0.000 | 0.000 | 0.000 | -187.713 | -66.596 | 0.000 | 66.596 | -4.094 |
| 154.0 | -8.129 | -7.714 | 0.000 | 0.000 | 0.000 | -141.657 | -70.053 | 0.000 | 70.053 | -4.158 |
| 155.0 | -8.069 | -7.596 | 0.000 | 0.000 | 0.000 | -133.528 | -70.925 | 0.000 | 70.925 | -4.173 |
| 160.0 | -6.308 | -5.941 | 0.000 | 0.000 | 0.000 | -93.182 | -75.326 | 0.000 | 75.326 | -4.235 |
| 164.3 | -6.042 | -5.502 | 0.000 | 0.000 | 0.000 | -65.849 | -79.189 | 0.000 | 79.189 | -4.279 |
| 165.0 | -5.999 | -5.389 | 0.000 | 0.000 | 0.000 | -61.821 | -79.786 | 0.000 | 79.786 | -4.285 |
| 167.2 | -5.852 | -5.015 | 0.000 | 0.000 | 0.000 | -48.323 | -81.808 | 0.000 | 81.808 | -4.303 |
| 170.0 | -2.951 | -2.454 | 0.000 | 0.000 | 0.000 | -32.230 | -84.290 | 0.000 | 84.290 | -4.321 |
| 175.0 | -2.668 | -2.079 | 0.000 | 0.000 | 0.000 | -17.475 | -88.826 | 0.000 | 88.826 | -4.345 |
| 179.0 | -2.503 | 0.000 | 0.000 | 0.000 | 0.000 | -6.802 | -92.468 | 0.000 | 92.468 | -4.357 |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)








**Load Case:** Ice — 73.61 mph Wind with Ice — 25 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

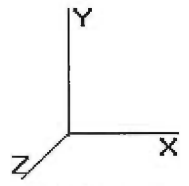
## Calculated Stresses

| Seg Elev (ft) | Applied Stresses: Axial (Y) (ksi) | Shear (X) (ksi) | Shear (Z) (ksi) | Torsion (ksi) | Bending (X) (ksi) | Bending (Z) (ksi) | Combined (ksi) | Allowable Stress (Fb) (ksi) | | Stress Ratio |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.72 | 0.74 | 0.00 | 0.00 | 0.00 | 35.63 | 36.37 | 49.1 | 0.0 | 0.740 |
| 5.00 | 0.71 | 0.74 | 0.00 | 0.00 | 0.00 | 35.60 | 36.34 | 49.6 | 0.0 | 0.732 |
| 10.00 | 0.71 | 0.75 | 0.00 | 0.00 | 0.00 | 35.56 | 36.29 | 50.1 | 0.0 | 0.724 |
| 15.00 | 0.70 | 0.76 | 0.00 | 0.00 | 0.00 | 35.50 | 36.22 | 50.6 | 0.0 | 0.716 |
| 20.00 | 0.69 | 0.77 | 0.00 | 0.00 | 0.00 | 35.41 | 36.13 | 51.1 | 0.0 | 0.707 |
| 25.00 | 0.69 | 0.77 | 0.00 | 0.00 | 0.00 | 35.31 | 36.02 | 51.6 | 0.0 | 0.698 |
| 30.00 | 0.68 | 0.78 | 0.00 | 0.00 | 0.00 | 35.17 | 35.88 | 52.0 | 0.0 | 0.690 |
| 31.25 | 0.68 | 0.79 | 0.00 | 0.00 | 0.00 | 35.14 | 35.84 | 52.0 | 0.0 | 0.690 |
| 35.00 | 0.66 | 0.79 | 0.00 | 0.00 | 0.00 | 35.02 | 35.70 | 52.0 | 0.0 | 0.687 |
| 37.50 | 0.64 | 0.78 | 0.00 | 0.00 | 0.00 | 33.96 | 34.63 | 52.0 | 0.0 | 0.666 |
| 40.00 | 0.63 | 0.79 | 0.00 | 0.00 | 0.00 | 33.85 | 34.52 | 52.0 | 0.0 | 0.664 |
| 45.00 | 0.63 | 0.80 | 0.00 | 0.00 | 0.00 | 33.61 | 34.26 | 52.0 | 0.0 | 0.659 |
| 50.00 | 0.62 | 0.81 | 0.00 | 0.00 | 0.00 | 33.32 | 33.97 | 52.0 | 0.0 | 0.653 |
| 55.00 | 0.61 | 0.82 | 0.00 | 0.00 | 0.00 | 32.99 | 33.63 | 52.0 | 0.0 | 0.647 |
| 60.00 | 0.61 | 0.83 | 0.00 | 0.00 | 0.00 | 32.61 | 33.24 | 52.0 | 0.0 | 0.640 |
| 63.25 | 0.60 | 0.83 | 0.00 | 0.00 | 0.00 | 32.33 | 32.97 | 52.0 | 0.0 | 0.634 |
| 65.00 | 0.59 | 0.83 | 0.00 | 0.00 | 0.00 | 32.18 | 32.80 | 52.0 | 0.0 | 0.631 |
| 68.75 | 0.57 | 0.83 | 0.00 | 0.00 | 0.00 | 30.81 | 31.41 | 52.0 | 0.0 | 0.604 |
| 70.00 | 0.56 | 0.83 | 0.00 | 0.00 | 0.00 | 30.68 | 31.28 | 52.0 | 0.0 | 0.602 |
| 75.00 | 0.56 | 0.84 | 0.00 | 0.00 | 0.00 | 30.11 | 30.70 | 52.0 | 0.0 | 0.591 |
| 80.00 | 0.55 | 0.85 | 0.00 | 0.00 | 0.00 | 29.46 | 30.04 | 52.0 | 0.0 | 0.578 |
| 85.00 | 0.54 | 0.86 | 0.00 | 0.00 | 0.00 | 28.72 | 29.30 | 52.0 | 0.0 | 0.564 |
| 90.00 | 0.53 | 0.87 | 0.00 | 0.00 | 0.00 | 27.89 | 28.46 | 52.0 | 0.0 | 0.548 |
| 95.00 | 0.53 | 0.88 | 0.00 | 0.00 | 0.00 | 26.94 | 27.51 | 52.0 | 0.0 | 0.529 |
| 96.08 | 0.53 | 0.89 | 0.00 | 0.00 | 0.00 | 26.73 | 27.30 | 52.0 | 0.0 | 0.525 |
| 100.00 | 0.51 | 0.89 | 0.00 | 0.00 | 0.00 | 25.88 | 26.43 | 52.0 | 0.0 | 0.508 |
| 100.75 | 0.50 | 0.88 | 0.00 | 0.00 | 0.00 | 24.75 | 25.29 | 52.0 | 0.0 | 0.487 |
| 105.00 | 0.49 | 0.89 | 0.00 | 0.00 | 0.00 | 23.72 | 24.26 | 52.0 | 0.0 | 0.467 |
| 108.00 | 0.43 | 0.75 | 0.00 | 0.00 | 0.00 | 22.81 | 23.28 | 52.0 | 0.0 | 0.448 |
| 110.00 | 0.43 | 0.75 | 0.00 | 0.00 | 0.00 | 22.44 | 22.91 | 52.0 | 0.0 | 0.441 |
| 115.00 | 0.42 | 0.76 | 0.00 | 0.00 | 0.00 | 21.42 | 21.88 | 52.0 | 0.0 | 0.421 |
| 120.00 | 0.41 | 0.77 | 0.00 | 0.00 | 0.00 | 20.26 | 20.72 | 52.0 | 0.0 | 0.399 |
| 125.00 | 0.41 | 0.78 | 0.00 | 0.00 | 0.00 | 18.93 | 19.38 | 52.0 | 0.0 | 0.373 |
| 129.75 | 0.40 | 0.79 | 0.00 | 0.00 | 0.00 | 17.49 | 17.94 | 52.0 | 0.0 | 0.345 |
| 130.00 | 0.40 | 0.79 | 0.00 | 0.00 | 0.00 | 17.41 | 17.86 | 52.0 | 0.0 | 0.344 |
| 133.58 | 0.45 | 0.93 | 0.00 | 0.00 | 0.00 | 18.58 | 19.10 | 52.0 | 0.0 | 0.367 |
| 135.00 | 0.45 | 0.94 | 0.00 | 0.00 | 0.00 | 17.98 | 18.50 | 52.0 | 0.0 | 0.356 |
| 140.00 | 0.37 | 0.80 | 0.00 | 0.00 | 0.00 | 15.64 | 16.07 | 52.0 | 0.0 | 0.309 |
| 145.00 | 0.36 | 0.81 | 0.00 | 0.00 | 0.00 | 13.61 | 14.04 | 52.0 | 0.0 | 0.270 |
| 150.00 | 0.35 | 0.82 | 0.00 | 0.00 | 0.00 | 11.26 | 11.70 | 52.0 | 0.0 | 0.225 |
| 154.00 | 0.28 | 0.60 | 0.00 | 0.00 | 0.00 | 9.11 | 9.45 | 52.0 | 0.0 | 0.182 |
| 155.00 | 0.28 | 0.60 | 0.00 | 0.00 | 0.00 | 8.75 | 9.09 | 52.0 | 0.0 | 0.175 |
| 160.00 | 0.23 | 0.49 | 0.00 | 0.00 | 0.00 | 6.69 | 6.97 | 52.0 | 0.0 | 0.134 |
| 164.33 | 0.22 | 0.49 | 0.00 | 0.00 | 0.00 | 5.14 | 5.43 | 52.0 | 0.0 | 0.104 |
| 165.00 | 0.22 | 0.49 | 0.00 | 0.00 | 0.00 | 4.89 | 5.18 | 52.0 | 0.0 | 0.100 |
| 167.25 | 0.25 | 0.60 | 0.00 | 0.00 | 0.00 | 4.76 | 5.12 | 52.0 | 0.0 | 0.099 |
| 170.00 | 0.13 | 0.31 | 0.00 | 0.00 | 0.00 | 3.36 | 3.53 | 52.0 | 0.0 | 0.068 |
| 175.00 | 0.11 | 0.29 | 0.00 | 0.00 | 0.00 | 2.02 | 2.19 | 52.0 | 0.0 | 0.042 |
| 179.00 | 0.00 | 0.29 | 0.00 | 0.00 | 0.00 | 0.86 | 0.99 | 52.0 | 0.0 | 0.019 |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)








**Load Case:** Twist/Sway — 50.00 mph Wind with No Ice — 24 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

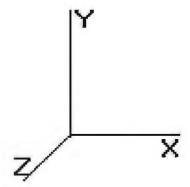
## Shaft Segment Forces

| Seg Top Elev (ft) | Description | Kz | qz (psf) | qzGh (psf) | C (mph-ft) | Cf | Ice Thick (in) | Tributary (ft) | Ap (sf) | EPAs (sf) | Wind Force X (lb) | Dead Load Ice (lb) | Tot Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | | 0.00 1.00 | 6.400 | 10.81 | 262.24 | 0.650 | 0.000 | 0.00 | 0.000 | 0.00 | 0.0 | 0.0 | 0.0 |
| 5.00 | | 0.00 1.00 | 6.400 | 10.81 | 257.11 | 0.650 | 0.000 | 5.00 | 25.968 | 16.88 | 182.6 | 0.0 | 1,254.4 |
| 10.00 | | 0.00 1.00 | 6.400 | 10.81 | 251.99 | 0.650 | 0.000 | 5.00 | 25.456 | 16.55 | 179.0 | 0.0 | 1,229.6 |
| 15.00 | | 0.00 1.00 | 6.400 | 10.81 | 246.87 | 0.650 | 0.000 | 5.00 | 24.944 | 16.21 | 175.4 | 0.0 | 1,204.7 |
| 20.00 | | 0.00 1.00 | 6.400 | 10.81 | 241.75 | 0.650 | 0.000 | 5.00 | 24.432 | 15.88 | 171.8 | 0.0 | 1,179.8 |
| 25.00 | | 0.00 1.00 | 6.400 | 10.81 | 236.63 | 0.650 | 0.000 | 5.00 | 23.919 | 15.55 | 168.2 | 0.0 | 1,154.9 |
| 30.00 | | 0.00 1.00 | 6.400 | 10.81 | 231.51 | 0.650 | 0.000 | 5.00 | 23.407 | 15.21 | 164.6 | 0.0 | 1,130.0 |
| 31.25 | Bot - Section 2 | 0.00 1.00 | 6.400 | 10.81 | 230.23 | 0.650 | 0.000 | 1.25 | 5.772 | 3.75 | 40.6 | 0.0 | 278.6 |
| 35.00 | | 0.00 1.01 | 6.509 | 10.99 | 228.30 | 0.650 | 0.000 | 3.75 | 17.358 | 11.28 | 124.1 | 0.0 | 1,664.4 |
| 37.50 | Top - Section 1 | 0.00 1.03 | 6.638 | 11.21 | 227.95 | 0.650 | 0.000 | 2.50 | 11.412 | 7.42 | 83.2 | 0.0 | 1,094.0 |
| 40.00 | | 0.00 1.05 | 6.762 | 11.42 | 230.64 | 0.650 | 0.000 | 2.50 | 11.284 | 7.33 | 83.8 | 0.0 | 544.6 |
| 45.00 | | 0.00 1.09 | 6.993 | 11.81 | 229.20 | 0.650 | 0.000 | 5.00 | 22.184 | 14.42 | 170.4 | 0.0 | 1,070.5 |
| 50.00 | | 0.00 1.12 | 7.207 | 12.17 | 227.25 | 0.650 | 0.000 | 5.00 | 21.671 | 14.09 | 171.6 | 0.0 | 1,045.6 |
| 55.00 | | 0.00 1.15 | 7.406 | 12.51 | 224.85 | 0.650 | 0.000 | 5.00 | 21.159 | 13.75 | 172.1 | 0.0 | 1,020.8 |
| 60.00 | | 0.00 1.18 | 7.592 | 12.83 | 222.09 | 0.650 | 0.000 | 5.00 | 20.647 | 13.42 | 172.2 | 0.0 | 995.9 |
| 63.25 | Bot - Section 3 | 0.00 1.20 | 7.707 | 13.02 | 220.12 | 0.650 | 0.000 | 3.25 | 13.146 | 8.54 | 111.3 | 0.0 | 634.0 |
| 65.00 | | 0.00 1.21 | 7.768 | 13.12 | 219.00 | 0.650 | 0.000 | 1.75 | 7.098 | 4.61 | 60.6 | 0.0 | 679.3 |
| 68.75 | Top - Section 2 | 0.00 1.23 | 7.893 | 13.34 | 216.50 | 0.650 | 0.000 | 3.75 | 15.000 | 9.75 | 130.1 | 0.0 | 1,435.2 |
| 70.00 | | 0.00 1.24 | 7.934 | 13.40 | 219.11 | 0.650 | 0.000 | 1.25 | 4.936 | 3.21 | 43.0 | 0.0 | 238.0 |
| 75.00 | | 0.00 1.26 | 8.092 | 13.67 | 215.52 | 0.650 | 0.000 | 5.00 | 19.423 | 12.63 | 172.7 | 0.0 | 936.4 |
| 80.00 | | 0.00 1.28 | 8.242 | 13.93 | 211.71 | 0.650 | 0.000 | 5.00 | 18.911 | 12.29 | 171.2 | 0.0 | 911.5 |
| 85.00 | | 0.00 1.31 | 8.387 | 14.17 | 207.68 | 0.650 | 0.000 | 5.00 | 18.399 | 11.96 | 169.5 | 0.0 | 886.6 |
| 90.00 | | 0.00 1.33 | 8.525 | 14.40 | 203.48 | 0.650 | 0.000 | 5.00 | 17.887 | 11.63 | 167.5 | 0.0 | 861.7 |
| 95.00 | | 0.00 1.35 | 8.657 | 14.63 | 199.10 | 0.650 | 0.000 | 5.00 | 17.375 | 11.29 | 165.2 | 0.0 | 836.8 |
| 96.08 | Bot - Section 4 | 0.00 1.35 | 8.685 | 14.67 | 198.13 | 0.650 | 0.000 | 1.08 | 3.697 | 2.40 | 35.3 | 0.0 | 178.0 |
| 100.0 | | 0.00 1.37 | 8.785 | 14.84 | 194.56 | 0.650 | 0.000 | 3.92 | 13.411 | 8.72 | 129.4 | 0.0 | 1,279.7 |
| 100.7 | Top - Section 3 | 0.00 1.37 | 8.804 | 14.87 | 193.87 | 0.650 | 0.000 | 0.75 | 2.532 | 1.65 | 24.5 | 0.0 | 241.6 |
| 105.0 | | 0.00 1.39 | 8.908 | 15.05 | 193.57 | 0.650 | 0.000 | 4.25 | 14.131 | 9.19 | 138.3 | 0.0 | 680.3 |
| 108.0 | Appertunance(s) | 0.00 1.40 | 8.980 | 15.17 | 190.71 | 0.650 | 0.000 | 3.00 | 9.752 | 6.34 | 96.2 | 0.0 | 469.4 |
| 110.0 | | 0.00 1.41 | 9.028 | 15.25 | 188.78 | 0.650 | 0.000 | 2.00 | 6.399 | 4.16 | 63.5 | 0.0 | 308.0 |
| 115.0 | | 0.00 1.42 | 9.143 | 15.45 | 183.86 | 0.650 | 0.000 | 5.00 | 15.639 | 10.17 | 157.1 | 0.0 | 752.5 |
| 120.0 | | 0.00 1.44 | 9.255 | 15.64 | 178.82 | 0.650 | 0.000 | 5.00 | 15.127 | 9.83 | 153.8 | 0.0 | 727.6 |
| 125.0 | | 0.00 1.46 | 9.363 | 15.82 | 173.67 | 0.650 | 0.000 | 5.00 | 14.615 | 9.50 | 150.3 | 0.0 | 702.7 |
| 129.7 | Bot - Section 5 | 0.00 1.47 | 9.464 | 15.99 | 168.69 | 0.650 | 0.000 | 4.75 | 13.410 | 8.72 | 139.4 | 0.0 | 644.5 |
| 130.0 | | 0.00 1.48 | 9.469 | 16.00 | 168.42 | 0.650 | 0.000 | 0.25 | 0.706 | 0.46 | 7.3 | 0.0 | 61.6 |
| 133.5 | Top - Section 4 | 0.00 1.49 | 9.543 | 16.12 | 164.60 | 0.650 | 0.000 | 3.58 | 9.979 | 6.49 | 104.6 | 0.0 | 870.8 |
| 135.0 | | 0.00 1.49 | 9.572 | 16.17 | 166.25 | 0.650 | 0.000 | 1.42 | 3.873 | 2.52 | 40.7 | 0.0 | 155.3 |
| 140.0 | Appertunance(s) | 0.00 1.51 | 9.672 | 16.34 | 160.82 | 0.650 | 0.000 | 5.00 | 13.339 | 8.67 | 141.7 | 0.0 | 535.0 |
| 145.0 | | 0.00 1.52 | 9.769 | 16.51 | 155.31 | 0.650 | 0.000 | 5.00 | 12.827 | 8.34 | 137.6 | 0.0 | 514.2 |
| 150.0 | | 0.00 1.54 | 9.864 | 16.67 | 149.70 | 0.650 | 0.000 | 5.00 | 12.315 | 8.00 | 133.4 | 0.0 | 493.5 |
| 154.0 | Appertunance(s) | 0.00 1.55 | 9.939 | 16.79 | 145.16 | 0.650 | 0.000 | 4.00 | 9.483 | 6.16 | 103.5 | 0.0 | 379.8 |
| 155.0 | | 0.00 1.55 | 9.957 | 16.82 | 144.02 | 0.650 | 0.000 | 1.00 | 2.320 | 1.51 | 25.4 | 0.0 | 92.9 |
| 160.0 | Appertunance(s) | 0.00 1.57 | 10.048 | 16.98 | 138.26 | 0.650 | 0.000 | 5.00 | 11.291 | 7.34 | 124.6 | 0.0 | 452.0 |
| 164.3 | Bot - Section 6 | 0.00 1.58 | 10.125 | 17.11 | 133.20 | 0.650 | 0.000 | 4.33 | 9.371 | 6.09 | 104.2 | 0.0 | 375.0 |
| 165.0 | | 0.00 1.58 | 10.136 | 17.13 | 132.42 | 0.650 | 0.000 | 0.67 | 1.435 | 0.93 | 16.0 | 0.0 | 102.4 |
| 167.2 | Top - Section 5 | 0.00 1.59 | 10.176 | 17.19 | 129.77 | 0.650 | 0.000 | 2.25 | 4.777 | 3.11 | 53.4 | 0.0 | 340.6 |
| 170.0 | Appertunance(s) | 0.00 1.59 | 10.223 | 17.27 | 129.15 | 0.650 | 0.000 | 2.75 | 5.698 | 3.70 | 64.0 | 0.0 | 182.8 |
| 175.0 | | 0.00 1.61 | 10.308 | 17.42 | 123.18 | 0.650 | 0.000 | 5.00 | 9.963 | 6.48 | 112.8 | 0.0 | 319.4 |
| 179.0 | Appertunance(s) | 0.00 1.62 | 10.375 | 17.53 | 118.37 | 0.650 | 0.000 | 4.00 | 7.601 | 4.94 | 86.6 | 0.0 | 243.6 |
| | | | | | Totals: | | | 179.00 | | | 5,594.2 | 0.0 | 33,390.4 |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)








**Load Case:** Twist/Sway — 50.00 mph Wind with No Ice — 24 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

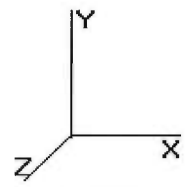
## Discrete Appurtenance Segment Forces

| Elev (ft) | Description | Qty | qz (psf) | qzGh (psf) | Orientation Factor | Total EPAa (sf) | Horiz Ecc (ft) | Vert Ecc (ft) | Wind FX (lb) | Mom Y (lb-ft) | Mom Z (lb-ft) | Dead Load (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 108.0 | Flat Low Profile Pla | 1 | 8.980 | 15.177 | 1.00 | 26.10 | 0.000 | 0.000 | 396.12 | 0.00 | 0.00 | 1,500.00 |
| 108.0 | RFS FD9R6004/2C-3L | 6 | 9.028 | 15.257 | 0.50 | 1.11 | 0.000 | 2.000 | 16.93 | 0.00 | 33.87 | 18.60 |
| 108.0 | Alcatel-Lucent RRH2x | 3 | 9.028 | 15.257 | 0.67 | 5.05 | 0.000 | 2.000 | 76.97 | 0.00 | 153.94 | 132.00 |
| 108.0 | RFS DB-T1-6Z-8AB-0Z | 1 | 9.028 | 15.257 | 0.67 | 3.75 | 0.000 | 2.000 | 57.24 | 0.00 | 114.49 | 110.00 |
| 108.0 | Antel BXA-171063/8CF | 3 | 9.028 | 15.257 | 0.90 | 7.83 | 0.000 | 2.000 | 119.46 | 0.00 | 238.92 | 31.50 |
| 108.0 | Antel BXA-171063/12C | 3 | 9.028 | 15.257 | 0.88 | 12.65 | 0.000 | 2.000 | 192.93 | 0.00 | 385.86 | 45.00 |
| 108.0 | Antel BXA-80063/4CF | 3 | 9.028 | 15.257 | 0.72 | 11.15 | 0.000 | 2.000 | 170.08 | 0.00 | 340.16 | 29.70 |
| 108.0 | Antel BXA-70063-6CF- | 3 | 9.028 | 15.257 | 0.77 | 17.86 | 0.000 | 2.000 | 272.43 | 0.00 | 544.86 | 51.00 |
| 140.0 | Round Low Profile Pl | 1 | 9.672 | 16.345 | 1.00 | 21.70 | 0.000 | 0.000 | 354.68 | 0.00 | 0.00 | 1,500.00 |
| 140.0 | Alcatel-Lucent 2X50W | 3 | 9.672 | 16.345 | 0.67 | 4.82 | 0.000 | 0.000 | 78.85 | 0.00 | 0.00 | 192.00 |
| 140.0 | Alcatel-Lucent 1900M | 3 | 9.672 | 16.345 | 0.67 | 7.64 | 0.000 | 0.000 | 124.84 | 0.00 | 0.00 | 132.00 |
| 140.0 | RFS APXV9ERR18-C- | 1 | 9.672 | 16.345 | 0.85 | 7.02 | 0.000 | 0.000 | 114.76 | 0.00 | 0.00 | 62.00 |
| 140.0 | RFS APXVSPP18-C- | 2 | 9.672 | 16.345 | 0.82 | 13.55 | 0.000 | 0.000 | 221.42 | 0.00 | 0.00 | 114.00 |
| 154.0 | Round T-Arm | 3 | 9.939 | 16.796 | 0.67 | 19.50 | 0.000 | 0.000 | 327.47 | 0.00 | 0.00 | 750.00 |
| 154.0 | Powerwave LGP21401 | 6 | 9.939 | 16.796 | 0.50 | 3.87 | 0.000 | 0.000 | 65.00 | 0.00 | 0.00 | 84.60 |
| 154.0 | Raycap DC6-48-60-18- | 1 | 9.939 | 16.796 | 1.00 | 1.47 | 0.000 | 0.000 | 24.69 | 0.00 | 0.00 | 31.80 |
| 154.0 | Ericsson RRUS 11 (Ba | 6 | 9.939 | 16.796 | 0.67 | 11.82 | 0.000 | 0.000 | 198.51 | 0.00 | 0.00 | 330.00 |
| 154.0 | Powerwave 7770.00 | 3 | 9.939 | 16.796 | 0.75 | 13.23 | 0.000 | 0.000 | 222.21 | 0.00 | 0.00 | 105.00 |
| 154.0 | KMW AM-X-CD-16-65- | 1 | 9.939 | 16.796 | 0.78 | 6.44 | 0.000 | 0.000 | 108.21 | 0.00 | 0.00 | 48.50 |
| 154.0 | Andrew SBNH- | 1 | 9.939 | 16.796 | 0.81 | 9.27 | 0.000 | 0.000 | 155.78 | 0.00 | 0.00 | 60.80 |
| 154.0 | Powerwave P65-17- | 1 | 9.939 | 16.796 | 0.80 | 9.18 | 0.000 | 0.000 | 154.12 | 0.00 | 0.00 | 59.00 |
| 160.0 | Side Arms | 1 | 10.048 | 16.981 | 1.00 | 8.50 | 0.000 | 0.000 | 144.34 | 0.00 | 0.00 | 560.00 |
| 160.0 | RCU | 3 | 10.048 | 16.981 | 0.50 | 0.24 | 0.000 | 0.000 | 4.08 | 0.00 | 0.00 | 3.00 |
| 160.0 | DragonWave Horizon | 3 | 10.048 | 16.981 | 0.50 | 1.26 | 0.000 | 0.000 | 21.40 | 0.00 | 0.00 | 34.50 |
| 160.0 | DragonWave A-ANT- | 3 | 10.048 | 16.981 | 0.67 | 9.43 | 0.000 | 0.000 | 160.07 | 0.00 | 0.00 | 81.30 |
| 160.0 | Samsung U-RAS | 3 | 10.048 | 16.981 | 0.50 | 2.73 | 0.000 | 0.000 | 46.36 | 0.00 | 0.00 | 99.00 |
| 160.0 | Argus LLPX310R | 3 | 10.048 | 16.981 | 0.70 | 10.14 | 0.000 | 0.000 | 172.23 | 0.00 | 0.00 | 86.10 |
| 170.0 | Flat Low Profile Pla | 1 | 10.223 | 17.277 | 1.00 | 26.10 | 0.000 | 0.000 | 450.94 | 0.00 | 0.00 | 1,500.00 |
| 170.0 | Ericsson KRY 112 144 | 3 | 10.223 | 17.277 | 0.50 | 0.62 | 0.000 | 0.000 | 10.63 | 0.00 | 0.00 | 33.00 |
| 170.0 | Ericsson AIR 21, 1.3 | 3 | 10.223 | 17.277 | 0.83 | 16.26 | 0.000 | 0.000 | 280.92 | 0.00 | 0.00 | 249.00 |
| 170.0 | Ericsson AIR 21, 1.3 | 3 | 10.223 | 17.277 | 0.83 | 16.41 | 0.000 | 0.000 | 283.51 | 0.00 | 0.00 | 244.50 |
| 180.0 | Round Low Profile Pl | 1 | 10.392 | 17.562 | 1.00 | 21.70 | 0.000 | 0.000 | 381.09 | 0.00 | 381.09 | 1,500.00 |
| 180.0 | 8' Yagi | 1 | 10.392 | 17.562 | 1.00 | 12.00 | 0.000 | 0.000 | 210.74 | 0.00 | 210.74 | 30.00 |
| 180.0 | 20' Dipole | 1 | 10.553 | 17.835 | 1.00 | 20.00 | 0.000 | 10.000 | 356.70 | 0.00 | 3,923.74 | 60.00 |
| | | | | | | | | | 5,975.72 | | | 9,867.90 |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)








**Load Case:** Twist/Sway — 50.00 mph Wind with No Ice — 24 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

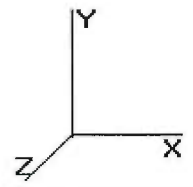
## Applied Segment Forces Summary

| Seg Elev (ft) | Lateral FX (-) (lb) | Axial FY (-) (lb) | Torsion MY (lb-ft) | Moment MZ (lb-ft) |
|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5.00 | 182.56 | 1,349.40 | 0.00 | 0.00 |
| 10.00 | 178.96 | 1,324.51 | 0.00 | 0.00 |
| 15.00 | 175.36 | 1,299.62 | 0.00 | 0.00 |
| 20.00 | 171.76 | 1,274.73 | 0.00 | 0.00 |
| 25.00 | 168.16 | 1,249.85 | 0.00 | 0.00 |
| 30.00 | 164.56 | 1,224.96 | 0.00 | 0.00 |
| 31.25 | 40.58 | 302.35 | 0.00 | 0.00 |
| 35.00 | 124.10 | 1,735.62 | 0.00 | 0.00 |
| 37.50 | 83.21 | 1,141.52 | 0.00 | 0.00 |
| 40.00 | 83.81 | 592.07 | 0.00 | 0.00 |
| 45.00 | 170.41 | 1,165.48 | 0.00 | 0.00 |
| 50.00 | 171.56 | 1,140.59 | 0.00 | 0.00 |
| 55.00 | 172.13 | 1,115.70 | 0.00 | 0.00 |
| 60.00 | 172.20 | 1,090.82 | 0.00 | 0.00 |
| 63.25 | 111.30 | 695.68 | 0.00 | 0.00 |
| 65.00 | 60.57 | 712.57 | 0.00 | 0.00 |
| 68.75 | 130.06 | 1,506.40 | 0.00 | 0.00 |
| 70.00 | 43.02 | 261.72 | 0.00 | 0.00 |
| 75.00 | 172.65 | 1,031.34 | 0.00 | 0.00 |
| 80.00 | 171.23 | 1,006.45 | 0.00 | 0.00 |
| 85.00 | 169.50 | 981.56 | 0.00 | 0.00 |
| 90.00 | 167.50 | 956.67 | 0.00 | 0.00 |
| 95.00 | 165.24 | 931.78 | 0.00 | 0.00 |
| 96.08 | 35.27 | 198.61 | 0.00 | 0.00 |
| 100.0 | 129.42 | 1,354.10 | 0.00 | 0.00 |
| 100.7 | 24.49 | 255.81 | 0.00 | 0.00 |
| 105.0 | 138.29 | 761.03 | 0.00 | 0.00 |
| 108.0 | 1,398.37 | 2,444.17 | 0.00 | 1,812.09 |
| 110.0 | 63.46 | 341.70 | 0.00 | 0.00 |
| 115.0 | 157.07 | 836.82 | 0.00 | 0.00 |
| 120.0 | 153.79 | 811.93 | 0.00 | 0.00 |
| 125.0 | 150.33 | 787.04 | 0.00 | 0.00 |
| 129.7 | 139.41 | 724.64 | 0.00 | 0.00 |
| 130.0 | 7.34 | 65.85 | 0.00 | 0.00 |
| 133.5 | 104.60 | 931.25 | 0.00 | 0.00 |
| 135.0 | 40.72 | 179.24 | 0.00 | 0.00 |
| 140.0 | 1,036.27 | 2,619.31 | 0.00 | 0.00 |
| 145.0 | 137.65 | 593.57 | 0.00 | 0.00 |
| 150.0 | 133.44 | 572.83 | 0.00 | 0.00 |
| 154.0 | 1,359.53 | 1,913.03 | 0.00 | 0.00 |
| 155.0 | 25.37 | 99.55 | 0.00 | 0.00 |
| 160.0 | 673.09 | 1,349.20 | 0.00 | 0.00 |
| 164.3 | 104.22 | 386.31 | 0.00 | 0.00 |
| 165.0 | 15.98 | 104.10 | 0.00 | 0.00 |
| 167.2 | 53.40 | 346.45 | 0.00 | 0.00 |
| 170.0 | 1,089.98 | 2,216.46 | 0.00 | 0.00 |
| 175.0 | 112.81 | 321.06 | 0.00 | 0.00 |
| 179.0 | 1,035.17 | 1,834.90 | 0.00 | 4,515.58 |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)








**Load Case:** Twist/Sway — 50.00 mph Wind with No Ice — 24 Iterations

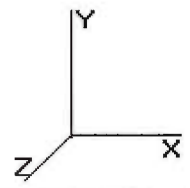
Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

| | | | | |
|---|---|---|---|---|
| Totals: | 11,569.94 | 46,140.36 | 0.00 | 6,327.67 |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)








**Load Case:** Twist/Sway — 50.00 mph Wind with No Ice — 24 Iterations

Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

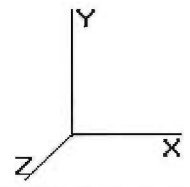
## Calculated Shaft Forces and Deflections

| 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 | -11.591 | -46.135 | 0.000 | 0.000 | 0.000 | -1,428.949 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5.00 | -11.450 | -44.774 | 0.000 | 0.000 | 0.000 | -1,370.997 | -0.029 | 0.000 | 0.029 | -0.054 |
| 10.00 | -11.311 | -43.439 | 0.000 | 0.000 | 0.000 | -1,313.749 | -0.115 | 0.000 | 0.115 | -0.109 |
| 15.00 | -11.174 | -42.129 | 0.000 | 0.000 | 0.000 | -1,257.193 | -0.260 | 0.000 | 0.260 | -0.165 |
| 20.00 | -11.039 | -40.844 | 0.000 | 0.000 | 0.000 | -1,201.323 | -0.464 | 0.000 | 0.464 | -0.222 |
| 25.00 | -10.906 | -39.584 | 0.000 | 0.000 | 0.000 | -1,146.128 | -0.727 | 0.000 | 0.727 | -0.280 |
| 30.00 | -10.760 | -38.353 | 0.000 | 0.000 | 0.000 | -1,091.599 | -1.052 | 0.000 | 1.052 | -0.339 |
| 31.25 | -10.737 | -38.045 | 0.000 | 0.000 | 0.000 | -1,078.150 | -1.143 | 0.000 | 1.143 | -0.354 |
| 35.00 | -10.626 | -36.303 | 0.000 | 0.000 | 0.000 | -1,037.886 | -1.440 | 0.000 | 1.440 | -0.400 |
| 37.50 | -10.553 | -35.157 | 0.000 | 0.000 | 0.000 | -1,011.322 | -1.658 | 0.000 | 1.658 | -0.431 |
| 40.00 | -10.492 | -34.557 | 0.000 | 0.000 | 0.000 | -984.939 | -1.892 | 0.000 | 1.892 | -0.462 |
| 45.00 | -10.347 | -33.382 | 0.000 | 0.000 | 0.000 | -932.478 | -2.407 | 0.000 | 2.407 | -0.521 |
| 50.00 | -10.198 | -32.232 | 0.000 | 0.000 | 0.000 | -880.745 | -2.985 | 0.000 | 2.985 | -0.581 |
| 55.00 | -10.048 | -31.108 | 0.000 | 0.000 | 0.000 | -829.754 | -3.626 | 0.000 | 3.626 | -0.642 |
| 60.00 | -9.889 | -30.010 | 0.000 | 0.000 | 0.000 | -779.517 | -4.332 | 0.000 | 4.332 | -0.704 |
| 63.25 | -9.786 | -29.311 | 0.000 | 0.000 | 0.000 | -747.378 | -4.825 | 0.000 | 4.825 | -0.745 |
| 65.00 | -9.733 | -28.593 | 0.000 | 0.000 | 0.000 | -730.253 | -5.103 | 0.000 | 5.103 | -0.767 |
| 68.75 | -9.597 | -27.083 | 0.000 | 0.000 | 0.000 | -693.755 | -5.724 | 0.000 | 5.724 | -0.815 |
| 70.00 | -9.569 | -26.816 | 0.000 | 0.000 | 0.000 | -681.759 | -5.940 | 0.000 | 5.940 | -0.831 |
| 75.00 | -9.408 | -25.777 | 0.000 | 0.000 | 0.000 | -633.917 | -6.843 | 0.000 | 6.843 | -0.891 |
| 80.00 | -9.247 | -24.764 | 0.000 | 0.000 | 0.000 | -586.879 | -7.809 | 0.000 | 7.809 | -0.952 |
| 85.00 | -9.086 | -23.776 | 0.000 | 0.000 | 0.000 | -540.646 | -8.840 | 0.000 | 8.840 | -1.013 |
| 90.00 | -8.925 | -22.813 | 0.000 | 0.000 | 0.000 | -495.219 | -9.934 | 0.000 | 9.934 | -1.074 |
| 95.00 | -8.756 | -21.879 | 0.000 | 0.000 | 0.000 | -450.594 | -11.091 | 0.000 | 11.091 | -1.135 |
| 96.08 | -8.728 | -21.676 | 0.000 | 0.000 | 0.000 | -441.109 | -11.350 | 0.000 | 11.350 | -1.148 |
| 100.0 | -8.581 | -20.321 | 0.000 | 0.000 | 0.000 | -406.923 | -12.313 | 0.000 | 12.313 | -1.196 |
| 100.7 | -8.562 | -20.061 | 0.000 | 0.000 | 0.000 | -400.488 | -12.501 | 0.000 | 12.501 | -1.205 |
| 105.0 | -8.422 | -19.297 | 0.000 | 0.000 | 0.000 | -364.100 | -13.597 | 0.000 | 13.597 | -1.256 |
| 108.0 | -6.977 | -16.881 | 0.000 | 0.000 | 0.000 | -337.023 | -14.397 | 0.000 | 14.397 | -1.289 |
| 110.0 | -6.917 | -16.536 | 0.000 | 0.000 | 0.000 | -323.069 | -14.942 | 0.000 | 14.942 | -1.312 |
| 115.0 | -6.755 | -15.697 | 0.000 | 0.000 | 0.000 | -288.483 | -16.345 | 0.000 | 16.345 | -1.365 |
| 120.0 | -6.595 | -14.883 | 0.000 | 0.000 | 0.000 | -254.706 | -17.803 | 0.000 | 17.803 | -1.418 |
| 125.0 | -6.437 | -14.095 | 0.000 | 0.000 | 0.000 | -221.729 | -19.316 | 0.000 | 19.316 | -1.469 |
| 129.7 | -6.285 | -13.371 | 0.000 | 0.000 | 0.000 | -191.152 | -20.802 | 0.000 | 20.802 | -1.516 |
| 130.0 | -6.280 | -13.304 | 0.000 | 0.000 | 0.000 | -189.581 | -20.881 | 0.000 | 20.881 | -1.518 |
| 133.5 | -6.156 | -12.373 | 0.000 | 0.000 | 0.000 | -167.077 | -22.034 | 0.000 | 22.034 | -1.553 |
| 135.0 | -6.117 | -12.192 | 0.000 | 0.000 | 0.000 | -158.357 | -22.497 | 0.000 | 22.497 | -1.566 |
| 140.0 | -5.016 | -9.598 | 0.000 | 0.000 | 0.000 | -127.773 | -24.164 | 0.000 | 24.164 | -1.614 |
| 145.0 | -4.868 | -9.005 | 0.000 | 0.000 | 0.000 | -102.693 | -25.878 | 0.000 | 25.878 | -1.658 |
| 150.0 | -4.723 | -8.434 | 0.000 | 0.000 | 0.000 | -78.353 | -27.635 | 0.000 | 27.635 | -1.696 |
| 154.0 | -3.309 | -6.561 | 0.000 | 0.000 | 0.000 | -59.463 | -29.068 | 0.000 | 29.068 | -1.723 |
| 155.0 | -3.282 | -6.462 | 0.000 | 0.000 | 0.000 | -56.154 | -29.430 | 0.000 | 29.430 | -1.729 |
| 160.0 | -2.570 | -5.132 | 0.000 | 0.000 | 0.000 | -39.743 | -31.255 | 0.000 | 31.255 | -1.756 |
| 164.3 | -2.455 | -4.749 | 0.000 | 0.000 | 0.000 | -28.605 | -32.857 | 0.000 | 32.857 | -1.774 |
| 165.0 | -2.437 | -4.645 | 0.000 | 0.000 | 0.000 | -26.968 | -33.105 | 0.000 | 33.105 | -1.777 |
| 167.2 | -2.373 | -4.300 | 0.000 | 0.000 | 0.000 | -21.486 | -33.945 | 0.000 | 33.945 | -1.785 |
| 170.0 | -1.215 | -2.119 | 0.000 | 0.000 | 0.000 | -14.960 | -34.975 | 0.000 | 34.975 | -1.793 |
| 175.0 | -1.092 | -1.801 | 0.000 | 0.000 | 0.000 | -8.885 | -36.859 | 0.000 | 36.859 | -1.805 |
| 179.0 | -1.035 | 0.000 | 0.000 | 0.000 | 0.000 | -4.516 | -38.374 | 0.000 | 38.374 | -1.811 |

Pole : 370627
Location : Newington CT
Height : 179.0 (ft)
Base Dia : 62.93 (in)
Top Dia : 22.31 (in)
Shape : 18 Sides
Taper : 0.245810 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)








**Load Case:** Twist/Sway — 50.00 mph Wind with No Ice — 24 Iterations

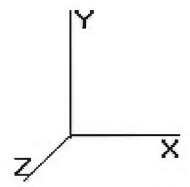
Gust Response Factor : 1.69
Dead Load Factor : 1.00
Wind Load Factor : 1.00

## Calculated Stresses

| Seg Elev (ft) | Applied Stresses: Axial (Y) (ksi) | Shear (X) (ksi) | Shear (Z) (ksi) | Torsion (ksi) | Bending (X) (ksi) | Bending (Z) (ksi) | Combined (ksi) | Allowable Stress (Fb) (ksi) | | Stress Ratio |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.62 | 0.31 | 0.00 | 0.00 | 0.00 | 14.88 | 15.51 | 49.1 | 0.0 | 0.316 |
| 5.00 | 0.61 | 0.32 | 0.00 | 0.00 | 0.00 | 14.86 | 15.48 | 49.6 | 0.0 | 0.312 |
| 10.00 | 0.61 | 0.32 | 0.00 | 0.00 | 0.00 | 14.83 | 15.44 | 50.1 | 0.0 | 0.308 |
| 15.00 | 0.60 | 0.32 | 0.00 | 0.00 | 0.00 | 14.79 | 15.40 | 50.6 | 0.0 | 0.304 |
| 20.00 | 0.60 | 0.32 | 0.00 | 0.00 | 0.00 | 14.74 | 15.35 | 51.1 | 0.0 | 0.300 |
| 25.00 | 0.59 | 0.33 | 0.00 | 0.00 | 0.00 | 14.69 | 15.29 | 51.6 | 0.0 | 0.296 |
| 30.00 | 0.58 | 0.33 | 0.00 | 0.00 | 0.00 | 14.62 | 15.21 | 52.0 | 0.0 | 0.293 |
| 31.25 | 0.58 | 0.33 | 0.00 | 0.00 | 0.00 | 14.60 | 15.20 | 52.0 | 0.0 | 0.292 |
| 35.00 | 0.57 | 0.33 | 0.00 | 0.00 | 0.00 | 14.54 | 15.12 | 52.0 | 0.0 | 0.291 |
| 37.50 | 0.55 | 0.33 | 0.00 | 0.00 | 0.00 | 14.10 | 14.66 | 52.0 | 0.0 | 0.282 |
| 40.00 | 0.54 | 0.33 | 0.00 | 0.00 | 0.00 | 14.05 | 14.60 | 52.0 | 0.0 | 0.281 |
| 45.00 | 0.54 | 0.34 | 0.00 | 0.00 | 0.00 | 13.94 | 14.49 | 52.0 | 0.0 | 0.279 |
| 50.00 | 0.53 | 0.34 | 0.00 | 0.00 | 0.00 | 13.81 | 14.35 | 52.0 | 0.0 | 0.276 |
| 55.00 | 0.52 | 0.34 | 0.00 | 0.00 | 0.00 | 13.66 | 14.20 | 52.0 | 0.0 | 0.273 |
| 60.00 | 0.52 | 0.34 | 0.00 | 0.00 | 0.00 | 13.49 | 14.03 | 52.0 | 0.0 | 0.270 |
| 63.25 | 0.52 | 0.35 | 0.00 | 0.00 | 0.00 | 13.38 | 13.91 | 52.0 | 0.0 | 0.268 |
| 65.00 | 0.51 | 0.35 | 0.00 | 0.00 | 0.00 | 13.31 | 13.83 | 52.0 | 0.0 | 0.266 |
| 68.75 | 0.48 | 0.34 | 0.00 | 0.00 | 0.00 | 12.74 | 13.23 | 52.0 | 0.0 | 0.255 |
| 70.00 | 0.48 | 0.35 | 0.00 | 0.00 | 0.00 | 12.68 | 13.18 | 52.0 | 0.0 | 0.253 |
| 75.00 | 0.47 | 0.35 | 0.00 | 0.00 | 0.00 | 12.44 | 12.93 | 52.0 | 0.0 | 0.249 |
| 80.00 | 0.47 | 0.35 | 0.00 | 0.00 | 0.00 | 12.16 | 12.65 | 52.0 | 0.0 | 0.243 |
| 85.00 | 0.46 | 0.36 | 0.00 | 0.00 | 0.00 | 11.86 | 12.33 | 52.0 | 0.0 | 0.237 |
| 90.00 | 0.46 | 0.36 | 0.00 | 0.00 | 0.00 | 11.51 | 11.98 | 52.0 | 0.0 | 0.231 |
| 95.00 | 0.45 | 0.36 | 0.00 | 0.00 | 0.00 | 11.12 | 11.59 | 52.0 | 0.0 | 0.223 |
| 96.08 | 0.45 | 0.37 | 0.00 | 0.00 | 0.00 | 11.03 | 11.49 | 52.0 | 0.0 | 0.221 |
| 100.00 | 0.43 | 0.37 | 0.00 | 0.00 | 0.00 | 10.68 | 11.13 | 52.0 | 0.0 | 0.214 |
| 100.75 | 0.42 | 0.36 | 0.00 | 0.00 | 0.00 | 10.21 | 10.65 | 52.0 | 0.0 | 0.205 |
| 105.00 | 0.42 | 0.37 | 0.00 | 0.00 | 0.00 | 9.79 | 10.23 | 52.0 | 0.0 | 0.197 |
| 108.00 | 0.37 | 0.31 | 0.00 | 0.00 | 0.00 | 9.42 | 9.80 | 52.0 | 0.0 | 0.189 |
| 110.00 | 0.37 | 0.31 | 0.00 | 0.00 | 0.00 | 9.26 | 9.65 | 52.0 | 0.0 | 0.186 |
| 115.00 | 0.36 | 0.31 | 0.00 | 0.00 | 0.00 | 8.84 | 9.22 | 52.0 | 0.0 | 0.177 |
| 120.00 | 0.35 | 0.32 | 0.00 | 0.00 | 0.00 | 8.36 | 8.73 | 52.0 | 0.0 | 0.168 |
| 125.00 | 0.35 | 0.32 | 0.00 | 0.00 | 0.00 | 7.82 | 8.18 | 52.0 | 0.0 | 0.157 |
| 129.75 | 0.34 | 0.32 | 0.00 | 0.00 | 0.00 | 7.23 | 7.59 | 52.0 | 0.0 | 0.146 |
| 130.00 | 0.34 | 0.32 | 0.00 | 0.00 | 0.00 | 7.20 | 7.56 | 52.0 | 0.0 | 0.145 |
| 133.58 | 0.38 | 0.38 | 0.00 | 0.00 | 0.00 | 7.69 | 8.10 | 52.0 | 0.0 | 0.156 |
| 135.00 | 0.38 | 0.38 | 0.00 | 0.00 | 0.00 | 7.44 | 7.85 | 52.0 | 0.0 | 0.151 |
| 140.00 | 0.31 | 0.33 | 0.00 | 0.00 | 0.00 | 6.49 | 6.83 | 52.0 | 0.0 | 0.131 |
| 145.00 | 0.30 | 0.33 | 0.00 | 0.00 | 0.00 | 5.66 | 5.99 | 52.0 | 0.0 | 0.115 |
| 150.00 | 0.30 | 0.34 | 0.00 | 0.00 | 0.00 | 4.70 | 5.03 | 52.0 | 0.0 | 0.097 |
| 154.00 | 0.24 | 0.24 | 0.00 | 0.00 | 0.00 | 3.83 | 4.09 | 52.0 | 0.0 | 0.079 |
| 155.00 | 0.24 | 0.24 | 0.00 | 0.00 | 0.00 | 3.68 | 3.94 | 52.0 | 0.0 | 0.076 |
| 160.00 | 0.20 | 0.20 | 0.00 | 0.00 | 0.00 | 2.85 | 3.07 | 52.0 | 0.0 | 0.059 |
| 164.33 | 0.19 | 0.20 | 0.00 | 0.00 | 0.00 | 2.23 | 2.45 | 52.0 | 0.0 | 0.047 |
| 165.00 | 0.19 | 0.20 | 0.00 | 0.00 | 0.00 | 2.13 | 2.35 | 52.0 | 0.0 | 0.045 |
| 167.25 | 0.22 | 0.24 | 0.00 | 0.00 | 0.00 | 2.12 | 2.37 | 52.0 | 0.0 | 0.046 |
| 170.00 | 0.11 | 0.13 | 0.00 | 0.00 | 0.00 | 1.56 | 1.68 | 52.0 | 0.0 | 0.032 |
| 175.00 | 0.10 | 0.12 | 0.00 | 0.00 | 0.00 | 1.03 | 1.15 | 52.0 | 0.0 | 0.022 |
| 179.00 | 0.00 | 0.12 | 0.00 | 0.00 | 0.00 | 0.57 | 0.61 | 52.0 | 0.0 | 0.012 |

| | | | |
|---|---|---|---|
| Pole : | 370627 | Code: TIA/EIA-222 Rev F | 6/10/2014 5:35:12 PM |
| Location : | Newington CT | | Page: 22 |
| Height : | 179.0 (ft) | | |
| Base Dia : | 62.93 (in) | | |
| Top Dia : | 22.31 (in) | Base Elev : 0.000 (ft) | |
| Shape : | 18 Sides | | |
| Taper : | 0.245810 (in/ft) | | |






## Analysis Summary

| | Reactions | | | | | | Max Stresses | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Load Case | 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 | 33.5 | 0.00 | 46.09 | 0.00 | 0.00 | 4125.69 | 43.61 | 49.1 | 0.00 | 0.888 |
| Ice | 27.2 | 0.00 | 53.72 | 0.00 | 0.00 | 3421.35 | 36.37 | 49.1 | 0.00 | 0.740 |
| Twist/Sway | 11.6 | 0.00 | 46.13 | 0.00 | 0.00 | 1428.95 | 15.51 | 49.1 | 0.00 | 0.316 |

| | | | |
|---|---|---|---|
| Base/Flange Plate | Plate Type | ***Baseplate*** | |
| | Pole Diameter | 62.94 | in |
| | Pole Thickness | 0.375 | in |
| | Plate Diameter | 73 | in |
| | Plate Thickness | 1.5 | in |
| | Plate Fy | 50 | ksi |
| | Weld Length | 0.3125 | in |
| | Allowable | 514.39 | k-in |
| | Applied | 100.57 | k-in |
| Stiffeners | # | ***45*** | ***Show*** |
| | Thickness | 0.375 | in |
| | Length | 5 | in |
| | Height | 10 | in |
| | Chamfer | 0 | in |
| | Offset Angle | 0 | ° |
| | Fy | 36 | ksi |

| | | | |
|---|---|---|---|
| Bolts | # | ***45*** | |
| | Bolt Circle | 68 | in |
| | (R)adial / (S)quare | R | |
| | Diameter | 1.25 | in |
| | Hole Diameter | 1.375 | in |
| | Type | A687 | |
| | Fy | 105 | ksi |
| | Fu | 150 | ksi |
| | Allowable | 81.41 | k |
| | Applied | 65.73 | k |
| Reinforcement ● | # | ***0*** | |
| Extra Bolts O | # | ***0*** | |

| | | | |
|---|---|---|---|
| Code Rev. | ***F*** | **Date** | 6/10/2014 |
| A.S.I. | 1.33 | **Engineer** | J. King |
| | | **Site #** | 370627 |
| Moment | 4125.7 k-ft | **Carrier** | Metro PCS |
| Axial | 46.1 k | | |

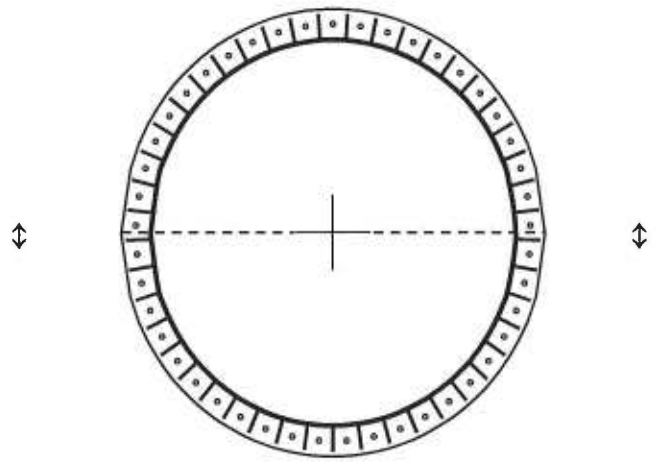


Plate Stress Ratio:
0.20 (Pass)

Bolt Stress Ratio:
0.81 (Pass)

# EXHIBIT C

EBI Consulting
environmental | engineering | due diligence

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

Metro MobilePCS Existing Facility

Site ID: CTHA342A

Newington CT
605 Willard Avenue
Newington, CT 06111

**July 10, 2014**

**EBI Project Number: 62143498**

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

July 10, 2014

Metro MobilePCS USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Re: Emissions Values for Site: **CTHA342A - Newington CT**

EBI Consulting was directed to analyze the proposed Metro MobilePCS facility located at 605 Willard Avenue, Newington, CT, for the purpose of determining whether the emissions from the Proposed Metro MobilePCS Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

Additional details can be found in FCC OET 65.

## CALCULATIONS

Calculations were done for the proposed Metro MobilePCS Wireless antenna facility located at 605 Willard Avenue, Newington, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since Metro MobilePCS is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, the actual antenna pattern gain value in the direction of the sample area was used. For this report the sample point is a 6 foot person standing at the base of the tower

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

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

7) The antenna mounting height centerline of the proposed antennas is **170 feet** above ground level (AGL).
8) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

| Site ID | CTHA342A - Newington CT |
|---|---|
| Site Addresss | 605 Willard Avenue, Newington, CT 06111 |
| Site Type | Monopole |

**Sector 1**

| Antenna Number | Antenna Make | Antenna Model | Status | Frequency Band | Technology | Power Out Per Channel (Watts) | Number of Channels | Composite Power | Antenna Gain in direction of sample point (dBd) | Antenna Height (ft) | analysis height | Cable Size | Cable Loss (dB) | Additional Loss | ERP | Power Density Value | Power Density Percentage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1a | Ericsson | AIR21 B4A/B2P | Active | AWS - 2100 MHz | LTE | 60 | 2 | 120 | -3.95 | 170 | 164 | None | 0 | 0 | 48.326044 | 0.645951 | 0.06460% |
| 1b | Ericsson | AIR21 B4A/B2P | Not Used | - | - | | | 0 | -3.95 | 170 | 164 | None | 0 | 0 | 0 | 0 | 0.00000% |
| 2a | Ericsson | AIR21 B2A / B4P | Active | PCS - 1950 MHz | GSM / UMTS | 30 | 2 | 60 | -3.95 | 170 | 164 | 1-5/8" | 0 | 0 | 24.163022 | 0.322975 | 0.03230% |
| 2B | Ericsson | AIR21 B2A / B4P | Passive | AWS - 2100 MHz | UMTS | 30 | 2 | 60 | -3.95 | 170 | 164 | 1-5/8" | 0 | 0 | 24.163022 | 0.322975 | 0.03230% |
| | | | | | | | | | | | | | | Sector total Power Density Value: | | 0.129% | |

**Sector 2**

| Antenna Number | Antenna Make | Antenna Model | Status | Frequency Band | Technology | Power Out Per Channel (Watts) | Number of Channels | Composite Power | Antenna Gain in direction of sample point (dBd) | Antenna Height (ft) | analysis height | Cable Size | Cable Loss (dB) | Additional Loss | ERP | Power Density Value | Power Density Percentage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1a | Ericsson | AIR21 B4A/B2P | Active | AWS - 2100 MHz | LTE | 60 | 2 | 120 | -3.95 | 170 | 164 | None | 0 | 0 | 48.326044 | 0.645951 | 0.06460% |
| 1b | Ericsson | AIR21 B4A/B2P | Not Used | - | - | | | 0 | -3.95 | 170 | 164 | None | 0 | 0 | 0 | 0 | 0.00000% |
| 2a | Ericsson | AIR21 B2A / B4P | Active | PCS - 1950 MHz | GSM / UMTS | 30 | 2 | 60 | -3.95 | 170 | 164 | 1-5/8" | 0 | 0 | 24.163022 | 0.322975 | 0.03230% |
| 2b | Ericsson | AIR21 B2A / B4P | Passive | AWS - 2100 MHz | UMTS | 30 | 2 | 60 | -3.95 | 170 | 164 | 1-5/8" | 0 | 0 | 24.163022 | 0.322975 | 0.03230% |
| | | | | | | | | | | | | | | Sector total Power Density Value: | | 0.129% | |

**Sector 3**

| Antenna Number | Antenna Make | Antenna Model | Status | Frequency Band | Technology | Power Out Per Channel (Watts) | Number of Channels | Composite Power | Antenna Gain in direction of sample point (dBd) | Antenna Height (ft) | analysis height | Cable Size | Cable Loss (dB) | Additional Loss | ERP | Power Density Value | Power Density Percentage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1a | Ericsson | AIR21 B4A/B2P | Active | AWS - 2100 MHz | LTE | 60 | 2 | 120 | -3.95 | 170 | 164 | None | 0 | 0 | 48.326044 | 0.645951 | 0.06460% |
| 1b | Ericsson | AIR21 B4A/B2P | Not Used | - | - | | | 0 | -3.95 | 170 | 164 | None | 0 | 0 | 0 | 0 | 0.00000% |
| 2a | Ericsson | AIR21 B2A / B4P | Active | PCS - 1950 MHz | GSM / UMTS | 30 | 2 | 60 | -3.95 | 170 | 164 | 1-5/8" | 0 | 0 | 24.163022 | 0.322975 | 0.03230% |
| 2b | Ericsson | AIR21 B2A / B4P | Passive | AWS - 2100 MHz | UMTS | 30 | 2 | 60 | -3.95 | 170 | 164 | 1-5/8" | 0 | 0 | 24.163022 | 0.322975 | 0.03230% |
| | | | | | | | | | | | | | | Sector total Power Density Value: | | 0.129% | |

| Site Composite MPE % | |
|---|---|
| Carrier | MPE % |
| Metro MobilePCS | 0.388% |
| Nextel | 3.960% |
| Town of Newington | 0.270% |
| Verizon Wireless | 31.920% |
| Clearwire | 0.730% |
| AT&T | 15.360% |
| Sprint | 5.080% |
| **Total Site MPE %** | **57.708%** |

EBI Consulting
environmental | engineering | due diligence

## Summary

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

The anticipated Maximum Composite contributions from the Metro MobilePCS facility are **0.388% (0.129% from each sector)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **57.708%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

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