



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting.council@po.state.ct.us](mailto:siting.council@po.state.ct.us)

Web Site: [www.state.ct.us/csc/index.htm](http://www.state.ct.us/csc/index.htm)

October 15, 2003

Kenneth C. Baldwin  
Robinson & Cole  
280 Trumbull Street  
Hartford, CT 06103-3597

RE: **EM-VER-143-031001-A** - Cellco Partnership d/b/a Verizon Wireless, notice of intent to modify an existing telecommunications facility located at 136 Wright Road, Torrington, Connecticut.

Dear Attorney Baldwin:

At a public meeting held on October 14, 2003, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated October 1, 2003. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

Pamela B. Katz, P.E.  
Chairman

PBK/laf

c: Honorable Owen J. Quinn, Jr., Mayor, City of Torrington  
Martin Connor, City Planner, City of Torrington  
Thomas J. Regan, Esq., Brown Rudnick Berlack Israels



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Web Site: [www.state.ct.us/csc/index.htm](http://www.state.ct.us/csc/index.htm)

October 3, 2003

Honorable Owen J. Quinn, Jr.  
Mayor  
City of Torrington  
Municipal Building  
140 Main Street  
Torrington, CT 06790-5245

RE: **EM-VER-143-031001-A** - Cellco Partnership d/b/a Verizon Wireless, notice of intent to modify an existing telecommunications facility located at 136 Wright Road, Torrington, Connecticut.

Dear Mr. Quinn:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for October 14, 2003, at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

Please call me or inform the Council if you have any questions or comments regarding this proposal.

Thank you for your cooperation and consideration.

Very truly yours,

*SDP/RKE*

S. Derek Phelps  
Executive Director

SDP/lid

Enclosure: Notice of Intent

c: Martin Connor, City Planner, City of Torrington

280 Trumbull Street  
Hartford, CT 06103-3597  
Main (860) 275-8200  
Fax (860) 275-8299  
kbaldwin@rc.com  
Direct (860) 275-8345

October 1, 2003

*Via Hand Delivery*

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

**RECEIVED**  
OCT - 1 2003

CONNECTICUT  
SITING COUNCIL

Re: **Notice of Exempt Modification**  
**136 Wright Road**  
**Torrington, Connecticut**

EM-VER-143-031001-A

Dear Mr. Phelps:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") intends to install antennas on an existing tower at 136 Wright Road in Torrington, Connecticut. Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the Torrington Mayor, Owen J. Quinn, Jr.

The facility consists of a 148-foot self-supporting monopole tower, capable of supporting multiple carriers within an approximately 50' x 50' fenced site compound. The tower is owned and operated by SprintSites, USA ("Sprint") and is currently used by Sprint PCS at the 148-foot level. Cellco proposes to install twelve (12) panel-type antennas at the 138-foot level on the tower and a 12' x 30' single-story equipment shelter near the base of the tower. (See Attachment 1 - Project Plans).

The planned modifications to the Torrington 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 overall height of the existing tower. Cellco's antennas will be mounted with their centerline at the 138-foot level on the 148-foot tower.

2. The proposed installation of twelve (12) panel-type antennas and a 12' x 30' equipment shelter will not require an extension of the site boundaries.



*Law Offices*

BOSTON

HARTFORD

NEW LONDON

STAMFORD

GREENWICH

NEW YORK

*www.rc.com*

HART1-1130863-1

# ROBINSON & COLE<sup>LLP</sup>

S. Derek Phelps  
October 1, 2003  
Page 2

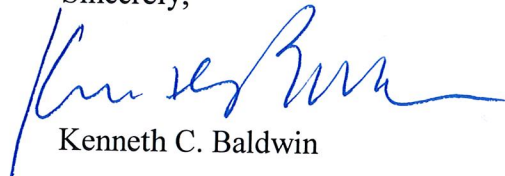
3. The proposed modification will not increase the noise levels at the facility by six decibels or more.

4. The operation of the antennas will not increase radio frequency (RF) power density levels at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard. The cumulative worst-case RF emissions levels for Sprint's antennas and Cellco's proposed PCS antennas would be 3.34% of the FCC Standard, as measured for mixed frequency sites (See Attachment 2).

Also attached (Attachment 3) is an engineer's certification verifying that the tower can structurally accommodate Sprint and Cellco antennas and related equipment.

For the foregoing reasons, Cellco respectfully submits that the proposed antenna installation at the Torrington facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,



Kenneth C. Baldwin

Attachments

cc: Owen J. Quinn, Jr., Mayor  
Sandy M. Carter



# Cellco Partnership

## d.b.a. **verizon** wireless

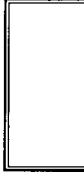
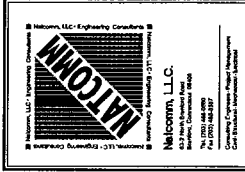
### WIRELESS COMMUNICATIONS FACILITY

#### TORRINGTON WEST

#### 136 WRIGHT ROAD

#### TORRINGTON, CT 06790

REVISIONS	
05	ISSUED
04	REVISED PER BOARD REVIEW
03	REVISED PER BOARD REVIEW
02	ISSUED
01	FINAL SETTING COUNCIL



**TORRINGTON WEST**  
136 WRIGHT ROAD  
TORRINGTON, CT 06790

PROJECT NO:	03958
DRAWN BY:	CMS
CHECKED BY:	AJJ
SCALE:	AS NOTED
DATE:	07/14/05

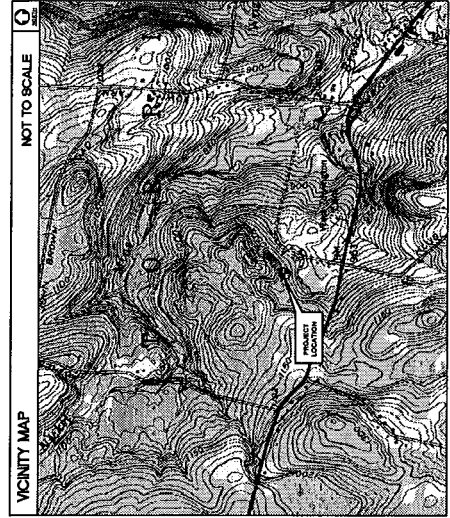
**TITLE SHEET**

**T-1**  
DWG. 1 OF 2

LEGEND	
SYMBOL	DESCRIPTION
(Symbol)	SEE SHEET 136 WRIGHT ROAD
(Symbol)	SEE SHEET 136 WRIGHT ROAD
(Symbol)	ELEVATION NUMBER
(Symbol)	SHEET BOUND ELEVATION SCOPE

SHEET INDEX		
SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	00
D-1	COMPOUND PLAN AND ELEVATION	00

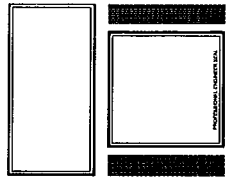
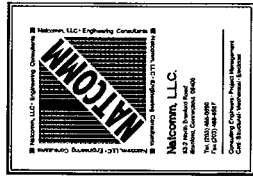
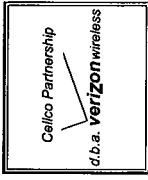


PROJECT SUMMARY	
SITE NAME:	TORRINGTON WEST
SITE ADDRESS:	136 WRIGHT ROAD, TORRINGTON, CT 06790
PROPERTY OWNER:	SPRINGFIELD, INC. 532 EAST SUISSANT STREET, RAMSEY, NJ 07446
LANDLORD:	532 EAST SUISSANT STREET, RAMSEY, NJ 07446
LESSEE:	CELCO PARTNERSHIP, 136 WRIGHT ROAD, TORRINGTON, CT 06790
APPLICANT:	CELCO PARTNERSHIP, 136 WRIGHT ROAD, TORRINGTON, CT 06790
CONTACT PERSON:	SANDY CARTER, (860) 255-0319
CENTER OF TOWER:	LATITUDE 41° 46' 30.3" N, LONGITUDE 73° 10' 13.8" W, GROUND ELEV. N/A
COORDINATES WERE TAKEN USING A HAND HELD GPS	

GENERAL NOTES	
1. PROPOSED AND EXISTING ANTENNA LOCATIONS AND HEIGHTS PROVIDED BY CELCO PARTNERSHIP.	
2. FROM 09-101 EAST RIVER DR. JUST HARTFORD, CT TO: WRIGHT ROAD, TORRINGTON, CT	
SITE DIRECTIONS: FROM 09-101 EAST RIVER DR. JUST HARTFORD, CT ON 09-101 EAST RIVER DR. TO WRIGHT ROAD, TORRINGTON, CT. FROM WRIGHT ROAD, TORRINGTON, CT ON WRIGHT ROAD TO 136 WRIGHT ROAD, TORRINGTON, CT. FROM 136 WRIGHT ROAD, TORRINGTON, CT ON WRIGHT ROAD TO 136 WRIGHT ROAD, TORRINGTON, CT. FROM 136 WRIGHT ROAD, TORRINGTON, CT ON WRIGHT ROAD TO 136 WRIGHT ROAD, TORRINGTON, CT.	

REVISIONS	
01	ISSUED FOR PERMITS
02	REVISED SETTING COUNCIL
03	REVISED SETTING COUNCIL
04	FINAL SETTING COUNCIL

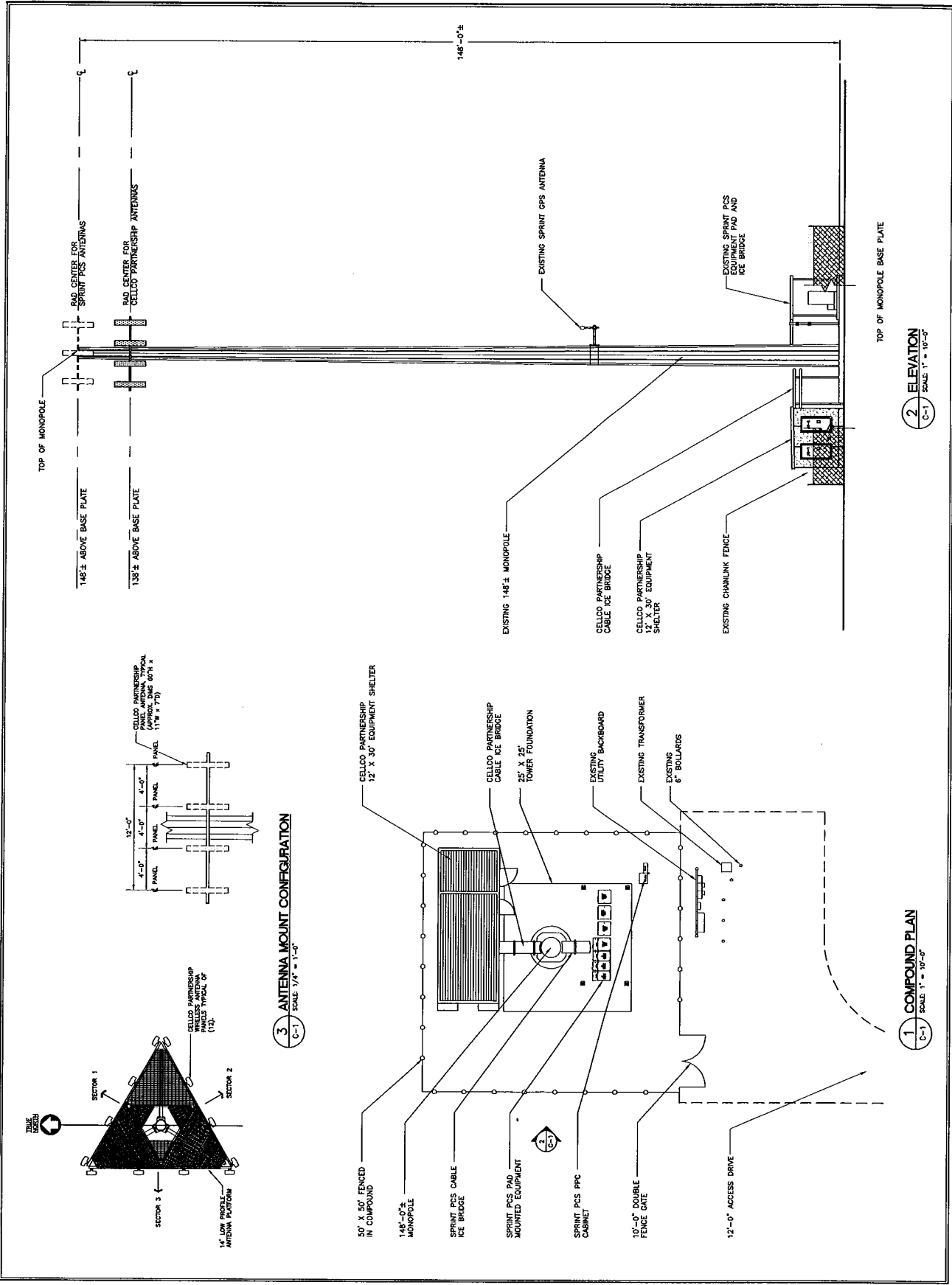


**TORRINGTON WEST**  
 136 WRIGHT ROAD  
 TORRINGTON, CT 06790

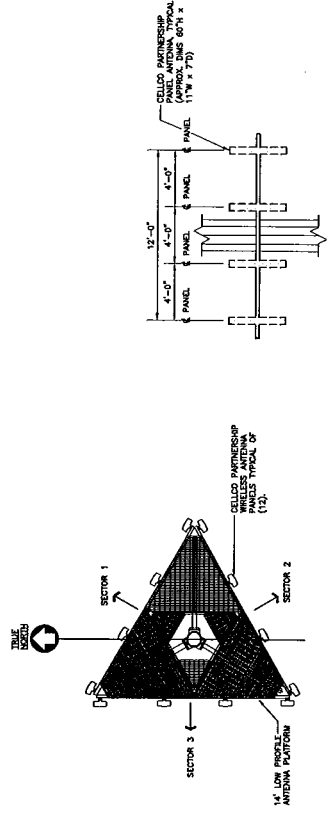
PROJECT NO:	03065
DRAWN BY:	CMS
CHECKED BY:	AAJ
SCALE:	AS NOTED
DATE:	07/14/03

**COMPOUND PLAN AND ELEVATION**

**C-1**  
 DWG. 2 OF 2



**2 ELEVATION**  
 C-1 SCALE: 1" = 10'-0"



**3 ANTENNA MOUNT CONFIGURATION**  
 SCALE: 1/4" = 1'-0"

**1 COMPOUND PLAN**  
 C-1 SCALE: 1" = 10'-0"

General Power Density\_WorstCase

Site Name: Torrington W, CT  
 Cumulative Power Density

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm <sup>2</sup> )	Maximum Permissible Exposure* (mW/cm <sup>2</sup> )	Fraction of MPE (%)
Sprint	1950	11	122	1342	148	0.0220	1	2.20%
Verizon	1970	3	200	600	138	0.0113	1	1.13%
<b>Total Percentage of Maximum Permissible Exposure</b>								<b>3.34%</b>

\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm<sup>2</sup> = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case scenario, maximum values used.



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

Torrington West

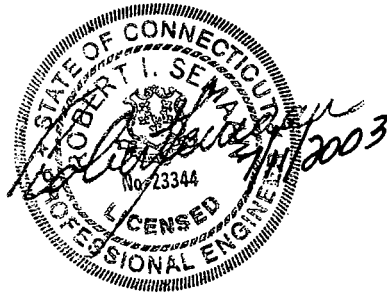
**SEMAAN ENGINEERING SOLUTIONS**

**148 ft SUMMIT Monopole  
Structural Analysis**

OK:  
P/O  
7/15/03

**Prepared for:  
Sprint Sites USA  
535 East Crescent Ave  
Ramsey, NJ 07446**

**Site: CT33XC078 - Verizon  
Torrington, CT**



**July 11, 2003**



Ms. Kim Cordes  
Sprint Sites USA  
535 East Crescent Ave  
Ramsey, NJ 07446

**Re: Site Number CT33XC078 – Torrington, CT.**

Dear Ms. Cordes:

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

**Description of Structure:**

The structure is a 148 ft SUMMIT Monopole.

Refer to SUMMIT job # 10186 dated June 26, 2000 for a detailed description of the structure.

**Method of analysis:**

The tower was analyzed using Semaan Engineering Solutions' software suite for communication structures. The structural analysis is performed using the SAPS finite element engine. The method is 3D, non-linear, which accounts for the second order geometric effects due to the displacements. The analysis was performed in conformance with **EIA/TIA-222-F for a basic wind speed of 80 mph and 1/2" radial ice with reduced wind speed**. Wind is applied to the structure, accessories and antennas.

**Structure loading:**

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

Elev. (ft)	Qty.	Antennas and Mounts	Coax	Owner
153.0	1	CEL 10B whip Mounted On a Standoff	(1) 7/8	Municipality
148.0	9	DB980H90 Mounted On a Low Profile Platform	(9) 1-5/8	Sprint
138.0	12	<b>DB950G85E-M Mounted On a Low Profile Platform</b>	<b>(12) 1-5/8</b>	<b>Verizon</b>

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

All transmission lines are assumed running inside of pole shaft.

**Results of Analysis:**

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

**Structure:**

The existing monopole is structurally capable of supporting the existing and proposed antennas. The maximum structure usage is: 53.4%.

**Foundation:**

Pole Reactions	Original Design Reactions	Current Analysis Reactions	% Of Design
Moment (ft-kips)	2,863.00	1,531.95	53.5
Shear (kips)	27.00	15.18	56.2

The structure base reactions resulting from this analysis do not exceed the ones shown on the original structure drawings.

**Review and Recommendations:**

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

**SEMAAN ENGINEERING SOLUTIONS**

1047 N.204<sup>th</sup> Avenue  
 Elkhorn, NE 68022  
 Phone: 402-289-1888  
 Fax: 402-289-1861

Copyright Semaan Engineering Solutions, Inc

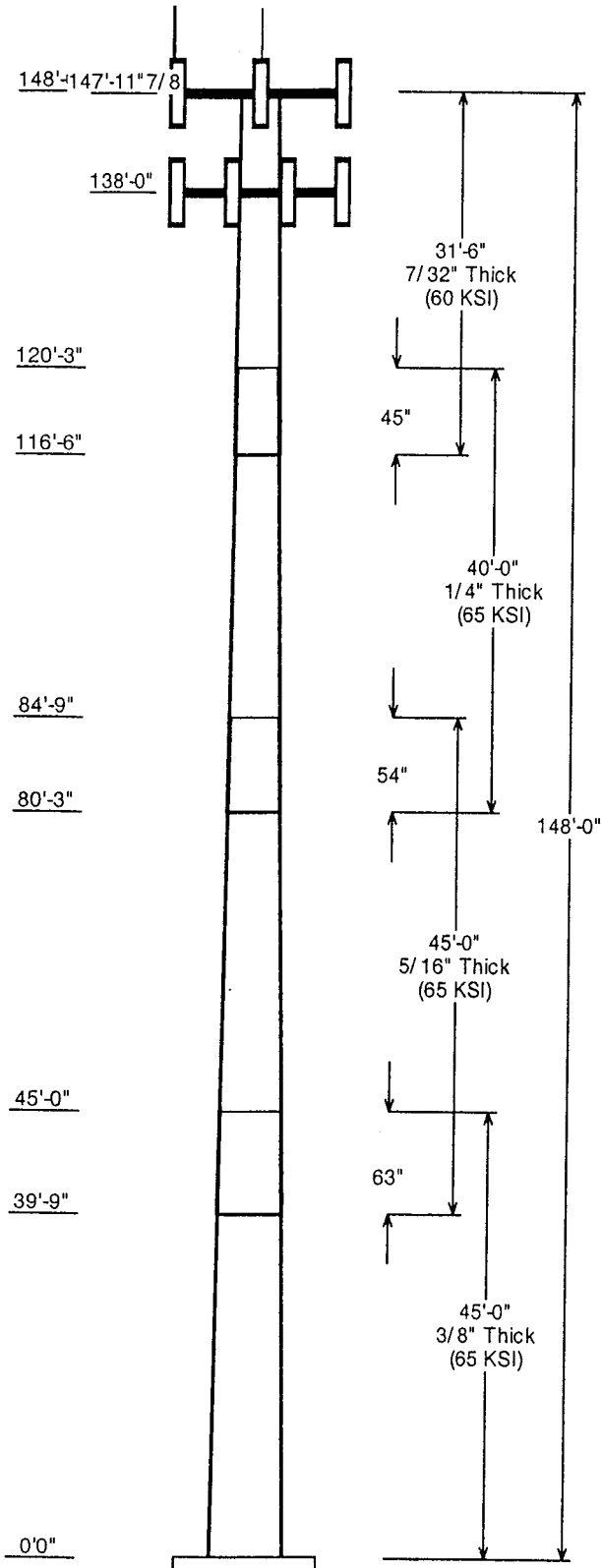
Job Information	
Pole :	CT33XC078
Description :	
Client :	Sprint Sites USA - NJ
Location :	Torrington, CT
Type :	18 Sides Base Elev (ft): 0.00
Height :(ft)	148.00 Taper: 0.174003 (in/ft)

Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
		Across Flats Top	Across Flats Bottom					
1	45.000	40.36	48.19	0.375		0.000	0.174003	65
2	45.000	34.06	41.89	0.313	Slip Joint	63.000	0.174003	65
3	40.000	28.39	35.35	0.250	Slip Joint	54.000	0.174003	65
4	31.500	24.00	29.48	0.219	Slip Joint	45.000	0.174003	60

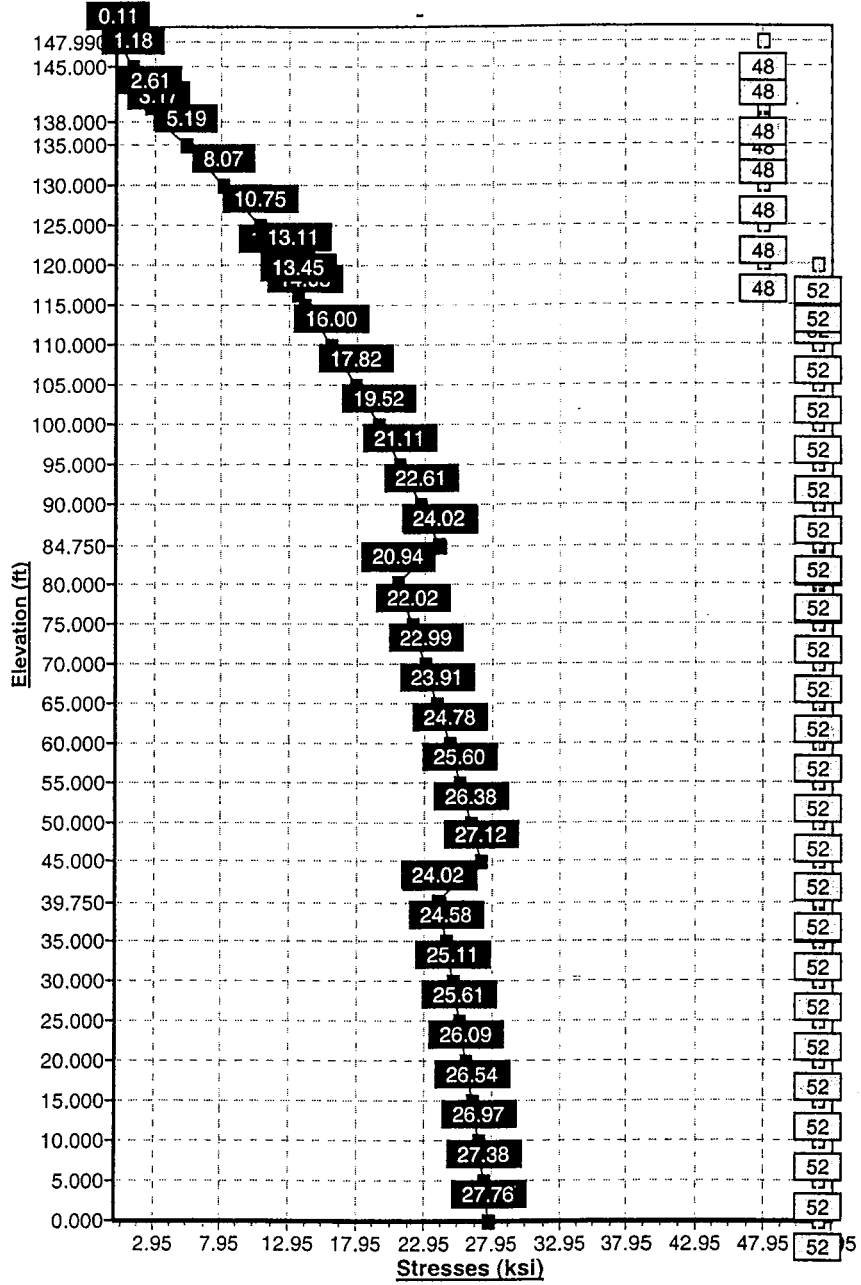
Discrete Appurtenance				
Attach Elev (ft)	Force Elev (ft)	Type	Qty	Description
148.000	153.000	Whip	1	CEL 10B whip
148.000	148.000	Straight	1	Standoff
148.000	152.000	Lightning	1	lightning rod
147.990	147.990	Platform	1	Low Profile Platform
147.990	147.990	Panel	9	DB980H90
138.000	138.000	Platform	1	Low Profile Platform
138.000	138.000	Panel	12	DB950G85E-M

Load Cases / Deflections			
Load Case	Attach Elev (ft)	Translation (in)	Rotation (deg)
<u>No Ice</u>	<u>No Ice Wind Speed = 80.00 mph w/ No Ice</u>		
	148.000	60.03	-3.444
	147.990	60.03	-3.444
<u>Ice</u>	<u>Ice Wind Speed = 69.28 mph w/ Ice 0.50 in Thick</u>		
	138.000	52.84	-3.416
	148.000	53.16	-3.090
	147.990	53.16	-3.090
	138.000	46.71	-3.061

Reactions			
Load Case	Moment (Kip-ft)	Shear (Kips)	Axial (Kips)
No Ice	1,531.950	15.183	-22.066
Ice	1,321.325	12.546	-27.496

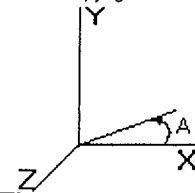


**Load Case : No Ice**



Pole : CT33XC078  
 Location: Torrington, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 48.19 (in)  
 Taper : 0.174003 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 24.00 (in)



**Shaft Section Properties**

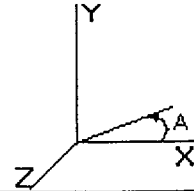
Sect Num	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom						Top							
							Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper (in/ft)	
1	45.000	0.3750	65		0.00	8,001	48.19	0.000	56.91	16438.5	21.25	128.5	40.36	45.00	47.59	9612.9	17.57	107.63	0.17400	
2	45.000	0.3125	65	Slip Joint	63.00	5,721	41.89	39.75	41.25	9012.1	22.23	134.0	34.06	84.75	33.48	4819.8	17.81	109.02	0.17400	
3	40.000	0.2500	65	Slip Joint	54.00	3,415	35.35	80.25	27.85	4335.6	23.52	141.4	28.39	120.2	22.33	2234.1	18.61	113.56	0.17400	
4	31.500	0.2188	60	Slip Joint	45.00	1,974	29.48	116.5	20.32	2197.9	22.35	134.7	24.00	148.0	16.51	1179.7	17.93	109.71	0.17400	
Shaft Weight						19,111														

**Discrete Appurtenance Properties**

Attach Elev (ft)	Description	Qty	Weight (lb)	No Ice CaAa (sf)	CaAa Factor	Weight (lb)	Ice CaAa (sf)	CaAa Factor	Distance From Face (ft)	X Angle (deg)	Vert Ecc (ft)
148.0	CEL 10B whip	1	25.00	3.000	1.00	50.00	4.000	1.00	0.000	0.00	5.000
148.0	Standoff	1	53.32	3.500	1.00	84.00	5.790	1.00	0.000	0.00	0.000
148.0	lightning rod	1	75.00	0.500	1.00	100.00	1.500	1.00	0.000	0.00	4.000
147.9	Low Profile Platform	1	1300.00	25.550	1.00	2100.00	27.320	1.00	0.000	0.00	0.000
147.9	DB980H90	9	9.00	3.280	0.67	28.00	3.850	1.00	0.000	0.00	0.000
138.0	Low Profile Platform	1	1300.00	25.550	1.00	2100.00	27.320	1.00	0.000	0.00	0.000
138.0	DB950G85E-M	12	11.50	4.236	1.00	33.93	4.815	1.00	0.000	0.00	0.000
Totals		26	2972.32			5093.16			Number of Loadings : 7		

Pole : CT33XC078  
 Location: Torrington, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 48.19 (in)  
 Taper : 0.174003 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 24.00 (in)

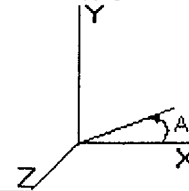


**Segment Properties** (Max Len : 5 ft)

Seg Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)
0.00		0.3750	48.190	56.910	16,438.5	21.25	128.51	65	52	0.0
5.00		0.3750	47.320	55.874	15,557.4	20.84	126.19	65	52	959.4
10.00		0.3750	46.450	54.839	14,708.4	20.43	123.87	65	52	941.8
15.00		0.3750	45.580	53.803	13,890.8	20.02	121.55	65	52	924.2
20.00		0.3750	44.710	52.768	13,104.1	19.61	119.23	65	52	906.6
25.00		0.3750	43.840	51.732	12,347.7	19.20	116.91	65	52	889.0
30.00		0.3750	42.970	50.697	11,621.0	18.79	114.59	65	52	871.4
35.00		0.3750	42.100	49.661	10,923.3	18.38	112.27	65	52	853.7
39.75	Bot - Section 2	0.3750	41.273	48.677	10,287.0	18.00	110.06	65	52	794.7
40.00		0.3750	41.230	48.626	10,254.2	17.98	109.95	65	52	76.5
45.00	Top - Section 1	0.3125	40.985	40.340	8,431.1	21.71	131.15	65	52	1,512.2
50.00		0.3125	40.115	39.477	7,901.6	21.22	128.37	65	52	679.0
55.00		0.3125	39.245	38.614	7,394.7	20.73	125.58	65	52	664.3
60.00		0.3125	38.375	37.752	6,909.9	20.24	122.80	65	52	649.6
65.00		0.3125	37.505	36.889	6,446.8	19.75	120.01	65	52	635.0
70.00		0.3125	36.635	36.026	6,004.9	19.26	117.23	65	52	620.3
75.00		0.3125	35.765	35.163	5,583.7	18.77	114.45	65	52	605.6
80.00		0.3125	34.895	34.300	5,182.6	18.28	111.66	65	52	590.9
80.25	Bot - Section 3	0.3125	34.851	34.257	5,163.1	18.25	111.52	65	52	29.2
84.75	Top - Section 2	0.2500	34.568	27.230	4,051.8	22.97	138.27	65	52	940.3
85.00		0.2500	34.525	27.196	4,036.4	22.94	138.10	65	52	23.2
90.00		0.2500	33.655	26.506	3,736.8	22.33	134.62	65	52	456.8
95.00		0.2500	32.785	25.815	3,452.4	21.71	131.14	65	52	445.1
100.00		0.2500	31.914	25.125	3,182.7	21.10	127.66	65	52	433.3
105.00		0.2500	31.044	24.435	2,927.5	20.49	124.18	65	52	421.6
110.00		0.2500	30.174	23.744	2,686.4	19.87	120.70	65	52	409.9
115.00		0.2500	29.304	23.054	2,458.8	19.26	117.22	65	52	398.1
116.50	Bot - Section 4	0.2500	29.043	22.847	2,393.1	19.07	116.17	65	52	117.1
120.00		0.2500	28.434	22.364	2,244.5	18.64	113.74	65	52	508.7
120.25	Top - Section 3	0.2188	28.828	19.863	2,054.1	21.83	131.79	60	48	35.9
125.00		0.2188	28.002	19.290	1,881.2	21.16	128.01	60	48	316.4
130.00		0.2188	27.132	18.685	1,710.0	20.46	124.03	60	48	323.1
135.00		0.2188	26.262	18.081	1,549.4	19.76	120.05	60	48	312.8
138.00		0.2188	25.740	17.719	1,458.1	19.34	117.67	60	48	182.7
140.00		0.2188	25.392	17.477	1,399.3	19.06	116.08	60	48	119.8
145.00		0.2188	24.522	16.873	1,259.2	18.36	112.10	60	48	292.2
147.99		0.2188	24.002	16.512	1,180.0	17.94	109.72	60	48	169.8
148.00		0.2188	24.000	16.511	1,179.7	17.93	109.71	60	48	0.6
										19,110.8

Pole : CT33XC078  
 Location: Torrington, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 48.19 (in)  
 Taper : 0.174003 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 24.00 (in)



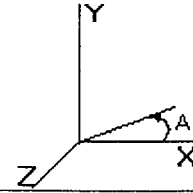
<b>Load Case:</b> No Ice	80 mph - No Ice	25 Iterations
Gust Response Factor : 1.69	Effective Wind Speed : 80.00 (mph)	
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

**Shaft Forces**

Seg Top	Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Wind Force Z (lb)	Weight (lb)
	0.00		1.00	16.38	27.68	321.27	0.650	0.00	0.000	0.000	0.00	0.00	0.0
	5.00		1.00	16.38	27.68	315.47	0.650	5.00	19.898	12.934	358.12	0.00	959.4
	10.00		1.00	16.38	27.68	309.67	0.650	5.00	19.535	12.698	351.59	0.00	941.8
	15.00		1.00	16.38	27.68	303.87	0.650	5.00	19.173	12.462	345.07	0.00	924.2
	20.00		1.00	16.38	27.68	298.06	0.650	5.00	18.810	12.227	338.54	0.00	906.6
	25.00		1.00	16.38	27.68	292.26	0.650	5.00	18.448	11.991	332.02	0.00	889.0
	30.00		1.00	16.38	27.68	286.46	0.650	5.00	18.085	11.755	325.50	0.00	871.4
	35.00		1.01	16.66	28.15	283.03	0.650	5.00	17.723	11.520	324.38	0.00	853.7
	39.75	Bot - Section 2	1.05	17.27	29.20	282.57	0.650	4.75	16.501	10.726	313.20	0.00	794.7
	40.00		1.05	17.31	29.25	282.52	0.650	0.25	0.872	0.567	16.59	0.00	76.5
	45.00	Top - Section 1	1.09	17.90	30.25	281.25	0.650	5.00	17.258	11.218	339.39	0.00	1,512.2
	50.00		1.12	18.44	31.17	283.79	0.650	5.00	16.896	10.982	342.42	0.00	679.0
	55.00		1.15	18.95	32.04	281.44	0.650	5.00	16.533	10.747	344.32	0.00	664.3
	60.00		1.18	19.43	32.84	278.64	0.650	5.00	16.171	10.511	345.25	0.00	649.6
	65.00		1.21	19.88	33.60	275.45	0.650	5.00	15.808	10.275	345.32	0.00	635.0
	70.00		1.24	20.31	34.32	271.93	0.650	5.00	15.446	10.040	344.62	0.00	620.3
	75.00		1.26	20.71	35.00	268.10	0.650	5.00	15.083	9.804	343.23	0.00	605.6
	80.00		1.28	21.10	35.66	264.00	0.650	5.00	14.721	9.568	341.21	0.00	590.9
	80.25	Bot - Section 3	1.28	21.12	35.69	263.79	0.650	0.25	0.727	0.472	16.86	0.00	29.2
	84.75	Top - Section 2	1.30	21.45	36.25	259.88	0.650	4.50	13.110	8.521	308.93	0.00	940.3
	85.00		1.31	21.46	36.28	263.47	0.650	0.25	0.720	0.468	16.97	0.00	23.2
	90.00		1.33	21.82	36.88	258.94	0.650	5.00	14.204	9.233	340.51	0.00	456.8
	95.00		1.35	22.16	37.45	254.20	0.650	5.00	13.841	8.997	336.98	0.00	445.1
	100.00		1.37	22.49	38.00	249.28	0.650	5.00	13.479	8.761	333.00	0.00	433.3
	105.00		1.39	22.80	38.54	244.18	0.650	5.00	13.116	8.526	328.59	0.00	421.6
	110.00		1.41	23.11	39.05	238.92	0.650	5.00	12.754	8.290	323.79	0.00	409.9
	115.00		1.42	23.40	39.55	233.51	0.650	5.00	12.391	8.054	318.60	0.00	398.1
	116.50	Bot - Section 4	1.43	23.49	39.70	231.85	0.650	1.50	3.647	2.370	94.11	0.00	117.1
	120.00		1.44	23.69	40.04	227.95	0.650	3.50	8.510	5.531	221.48	0.00	508.7
	120.25	Top - Section 3	1.44	23.70	40.06	227.67	0.650	0.25	0.601	0.391	15.65	0.00	35.9
	125.00		1.46	23.97	40.51	225.80	0.650	4.75	11.248	7.311	296.17	0.00	316.4
	130.00		1.48	24.24	40.96	220.01	0.650	5.00	11.486	7.466	305.86	0.00	323.1
	135.00		1.49	24.50	41.41	214.11	0.650	5.00	11.124	7.230	299.42	0.00	312.8
	138.00	Appertunance(s)	1.50	24.65	41.67	210.51	0.650	3.00	6.500	4.225	176.07	0.00	182.7
	140.00		1.51	24.75	41.84	208.10	0.650	2.00	4.261	2.770	115.89	0.00	119.8
	145.00		1.52	25.00	42.26	201.98	0.650	5.00	10.399	6.759	285.67	0.00	292.2
	147.99	Appertunance(s)	1.53	25.15	42.51	198.27	0.650	2.99	6.045	3.929	167.05	0.00	169.8
	148.00	Appertunance(s)	1.53	25.15	42.51	198.26	0.650	0.01	0.020	0.013	0.55	0.00	0.6
<b>Totals:</b>								148.00			9,752.90	0.00	19,110.8

Pole : CT33XC078  
 Location: Torrington, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 48.19 (in)  
 Taper : 0.174003 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 24.00 (in)



<b>Load Case:</b> No Ice	80 mph - No Ice	25 Iterations
Gust Response Factor : 1.69	Effective Wind Speed : 80.00 (mph)	
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

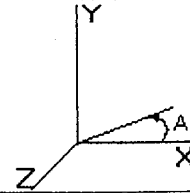
**Discrete Appurtenance Forces**

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Total CaAa (sf)	CaAa Factor	Horiz Ecc (ft)	Vert Ecc (ft)	X Angle (deg)	Wind Force X (lb)	Wind Force Z (lb)	Mom X (lb-ft)	Mom Y (lb-ft)	Mom Z (lb-ft)	Weight (lb)
138.00	Low Profile Platform	1	24.65	41.67	25.550	1.000	0.000	0.0	0.0	1064.70	0.00	0.00	0.00	0.00	1300.0
138.00	DB950G85E-M	12	24.65	41.67	50.832	1.000	0.000	0.0	0.0	2118.25	0.00	0.00	0.00	0.00	138.0
147.99	Low Profile Platform	1	25.15	42.51	25.550	1.000	0.000	0.0	0.0	1086.18	0.00	0.00	0.00	0.00	1300.0
147.99	DB980H90	9	25.15	42.51	19.690	0.667	0.000	0.0	0.0	837.06	0.00	0.00	0.00	0.00	81.0
148.00	CEL 10B whip	1	25.39	42.91	3.000	1.000	0.000	5.0	0.0	128.76	0.00	0.00	0.00	643.78	25.0
148.00	Standoff	1	25.15	42.51	3.500	1.000	0.000	0.0	0.0	148.79	0.00	0.00	0.00	0.00	53.3
148.00	lightning rod	1	25.34	42.83	0.500	1.000	0.000	4.0	0.0	21.42	0.00	0.00	0.00	85.68	75.0
										5,405.16	0.00				2,972.3



Pole : CT33XC078  
 Location: Torrington, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 48.19 (in)  
 Taper : 0.174003 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
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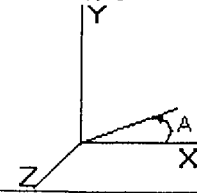
<b>Load Case:</b> No Ice	80 mph - No Ice	25 Iterations
Gust Response Factor : 1.69	Effective Wind Speed : 80.00 (mph)	
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

**Applied Forces Summary**

Seg Elev (ft)	X Coord (ft)	Z Coord (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Lateral FZ (lb)	Moment MX (lb-ft)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	0.00	0.00	358.12	959.44	0.00	0.00	0.00	0.00
10.00	0.00	0.00	351.59	941.83	0.00	0.00	0.00	0.00
15.00	0.00	0.00	345.07	924.21	0.00	0.00	0.00	0.00
20.00	0.00	0.00	338.54	906.59	0.00	0.00	0.00	0.00
25.00	0.00	0.00	332.02	888.97	0.00	0.00	0.00	0.00
30.00	0.00	0.00	325.50	871.35	0.00	0.00	0.00	0.00
35.00	0.00	0.00	324.38	853.74	0.00	0.00	0.00	0.00
39.75	0.00	0.00	313.20	794.73	0.00	0.00	0.00	0.00
40.00	0.00	0.00	16.59	76.46	0.00	0.00	0.00	0.00
45.00	0.00	0.00	339.39	1,512.19	0.00	0.00	0.00	0.00
50.00	0.00	0.00	342.42	679.00	0.00	0.00	0.00	0.00
55.00	0.00	0.00	344.32	664.32	0.00	0.00	0.00	0.00
60.00	0.00	0.00	345.25	649.64	0.00	0.00	0.00	0.00
65.00	0.00	0.00	345.32	634.96	0.00	0.00	0.00	0.00
70.00	0.00	0.00	344.62	620.28	0.00	0.00	0.00	0.00
75.00	0.00	0.00	343.23	605.60	0.00	0.00	0.00	0.00
80.00	0.00	0.00	341.21	590.91	0.00	0.00	0.00	0.00
80.25	0.00	0.00	16.86	29.16	0.00	0.00	0.00	0.00
84.75	0.00	0.00	308.93	940.33	0.00	0.00	0.00	0.00
85.00	0.00	0.00	16.97	23.15	0.00	0.00	0.00	0.00
90.00	0.00	0.00	340.51	456.83	0.00	0.00	0.00	0.00
95.00	0.00	0.00	336.98	445.09	0.00	0.00	0.00	0.00
100.00	0.00	0.00	333.00	433.34	0.00	0.00	0.00	0.00
105.00	0.00	0.00	328.59	421.60	0.00	0.00	0.00	0.00
110.00	0.00	0.00	323.79	409.85	0.00	0.00	0.00	0.00
115.00	0.00	0.00	318.60	398.11	0.00	0.00	0.00	0.00
116.50	0.00	0.00	94.11	117.14	0.00	0.00	0.00	0.00
120.00	0.00	0.00	221.48	508.67	0.00	0.00	0.00	0.00
120.25	0.00	0.00	15.65	35.92	0.00	0.00	0.00	0.00
125.00	0.00	0.00	296.17	316.42	0.00	0.00	0.00	0.00
130.00	0.00	0.00	305.86	323.05	0.00	0.00	0.00	0.00
135.00	0.00	0.00	299.42	312.77	0.00	0.00	0.00	0.00
138.00	0.00	0.00	3,359.02	1,620.73	0.00	0.00	0.00	0.00
140.00	0.00	0.00	115.89	119.77	0.00	0.00	0.00	0.00
145.00	0.00	0.00	285.67	292.22	0.00	0.00	0.00	0.00
147.99	0.00	0.00	2,090.28	1,550.84	0.00	0.00	0.00	0.00
148.00	0.00	0.00	299.52	153.88	0.00	0.00	0.00	729.45
<b>Totals:</b>			15,158.05	22,083.10	0.00	0.00	0.00	729.45

Pole : CT33XC078  
 Location: Torrington, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 48.19 (in)  
 Taper : 0.174003 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 24.00 (in)



**Load Case:** No Ice      80 mph - No Ice      25 Iterations

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

Dead Load Factor : 1.00

Wind Load Factor : 1.00

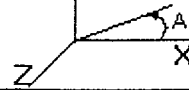
**Calculated Forces and Deflections**

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	15.183	22.066	0.000	0.000	0.000	1,531.950	0.000	0.000	0.000	0.000
5.00	14.871	21.073	0.000	0.000	0.000	1,456.037	-0.069	0.000	0.069	-0.129
10.00	14.562	20.099	0.000	0.000	0.000	1,381.681	-0.274	0.000	0.274	-0.259
15.00	14.255	19.145	0.000	0.000	0.000	1,308.872	-0.615	0.000	0.615	-0.389
20.00	13.951	18.209	0.000	0.000	0.000	1,237.596	-1.093	0.000	1.093	-0.520
25.00	13.649	17.293	0.000	0.000	0.000	1,167.841	-1.707	0.000	1.707	-0.650
30.00	13.351	16.395	0.000	0.000	0.000	1,099.594	-2.458	0.000	2.458	-0.781
35.00	13.048	15.517	0.000	0.000	0.000	1,032.843	-3.346	0.000	3.346	-0.911
39.75	12.738	14.714	0.000	0.000	0.000	970.865	-4.315	0.000	4.315	-1.035
40.00	12.738	14.622	0.000	0.000	0.000	967.681	-4.370	0.000	4.370	-1.042
45.00	12.399	13.089	0.000	0.000	0.000	903.994	-5.531	0.000	5.531	-1.172
50.00	12.072	12.388	0.000	0.000	0.000	842.001	-6.827	0.000	6.827	-1.301
55.00	11.741	11.703	0.000	0.000	0.000	781.644	-8.268	0.000	8.268	-1.447
60.00	11.406	11.034	0.000	0.000	0.000	722.939	-9.861	0.000	9.861	-1.592
65.00	11.069	10.382	0.000	0.000	0.000	665.907	-11.605	0.000	11.605	-1.735
70.00	10.728	9.747	0.000	0.000	0.000	610.565	-13.497	0.000	13.497	-1.876
75.00	10.387	9.128	0.000	0.000	0.000	556.924	-15.535	0.000	15.535	-2.014
80.00	10.035	8.538	0.000	0.000	0.000	504.991	-17.717	0.000	17.717	-2.149
80.25	10.026	8.498	0.000	0.000	0.000	502.482	-17.830	0.000	17.830	-2.156
84.75	9.689	7.560	0.000	0.000	0.000	457.365	-19.919	0.000	19.919	-2.275
85.00	9.682	7.524	0.000	0.000	0.000	454.943	-20.038	0.000	20.038	-2.282
90.00	9.341	7.057	0.000	0.000	0.000	406.533	-22.509	0.000	22.509	-2.434
95.00	9.002	6.605	0.000	0.000	0.000	359.827	-25.136	0.000	25.136	-2.579
100.00	8.664	6.167	0.000	0.000	0.000	314.819	-27.912	0.000	27.912	-2.718
105.00	8.328	5.744	0.000	0.000	0.000	271.501	-30.830	0.000	30.830	-2.849
110.00	7.994	5.334	0.000	0.000	0.000	229.863	-33.879	0.000	33.879	-2.971
115.00	7.661	4.944	0.000	0.000	0.000	189.892	-37.050	0.000	37.050	-3.082
116.50	7.565	4.826	0.000	0.000	0.000	178.400	-38.024	0.000	38.024	-3.114
120.00	7.319	4.325	0.000	0.000	0.000	151.922	-40.332	0.000	40.332	-3.183
120.25	7.305	4.285	0.000	0.000	0.000	150.092	-40.499	0.000	40.499	-3.188
125.00	6.996	3.976	0.000	0.000	0.000	115.396	-43.712	0.000	43.712	-3.268
130.00	6.677	3.664	0.000	0.000	0.000	80.414	-47.175	0.000	47.175	-3.342
135.00	6.361	3.365	0.000	0.000	0.000	47.031	-50.704	0.000	50.704	-3.395
138.00	2.913	1.946	0.000	0.000	0.000	27.947	-52.844	0.000	52.844	-3.416
140.00	2.790	1.833	0.000	0.000	0.000	22.122	-54.276	0.000	54.276	-3.426
145.00	2.488	1.558	0.000	0.000	0.000	8.171	-57.871	0.000	57.871	-3.441
147.99	0.308	0.136	0.000	0.000	0.000	0.733	-60.026	0.000	60.026	-3.444
148.00	0.299	0.000	0.000	0.000	0.000	0.729	-60.034	0.000	60.034	-3.444

Pole : CT33XC078  
 Location: Torrington, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 48.19 (in)  
 Taper : 0.174003 (in/ft)

Sprint Sites USA - NJ

Base Elev : 0.000 (ft)  
 Top Dia : 24.00 (in)



**Load Case:** No Ice      80 mph - No Ice      25 Iterations

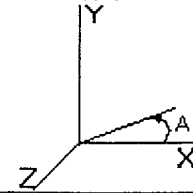
Gust Response Factor : 1.69      Effective Wind Speed : 80.00 (mph)  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

**Calculated Stresses**

Seg Elev (ft)	Applied Stresses						Combined (ksi)	Allowable Stress (Fb) (ksi)	Stress Ratio
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)			
0.00	0.388	0.538	0.000	0.000	0.000	27.361	27.765	52.0	0.534
5.00	0.377	0.536	0.000	0.000	0.000	26.982	27.375	52.0	0.527
10.00	0.367	0.535	0.000	0.000	0.000	26.584	26.967	52.0	0.519
15.00	0.356	0.534	0.000	0.000	0.000	26.166	26.538	52.0	0.511
20.00	0.345	0.533	0.000	0.000	0.000	25.726	26.087	52.0	0.502
25.00	0.334	0.532	0.000	0.000	0.000	25.262	25.613	52.0	0.493
30.00	0.323	0.531	0.000	0.000	0.000	24.771	25.112	52.0	0.483
35.00	0.312	0.530	0.000	0.000	0.000	24.253	24.582	52.0	0.473
39.75	0.302	0.527	0.000	0.000	0.000	23.732	24.052	52.0	0.463
40.00	0.301	0.528	0.000	0.000	0.000	23.705	24.023	52.0	0.462
45.00	0.324	0.619	0.000	0.000	0.000	26.773	27.119	52.0	0.522
50.00	0.314	0.616	0.000	0.000	0.000	26.044	26.379	52.0	0.508
55.00	0.303	0.613	0.000	0.000	0.000	25.274	25.599	52.0	0.493
60.00	0.292	0.609	0.000	0.000	0.000	24.461	24.776	52.0	0.477
65.00	0.281	0.605	0.000	0.000	0.000	23.602	23.907	52.0	0.460
70.00	0.271	0.600	0.000	0.000	0.000	22.694	22.988	52.0	0.442
75.00	0.260	0.595	0.000	0.000	0.000	21.733	22.017	52.0	0.424
80.00	0.249	0.590	0.000	0.000	0.000	20.715	20.989	52.0	0.404
80.25	0.248	0.590	0.000	0.000	0.000	20.665	20.938	52.0	0.403
84.75	0.278	0.717	0.000	0.000	0.000	23.773	24.083	52.0	0.463
85.00	0.277	0.718	0.000	0.000	0.000	23.707	24.016	52.0	0.462
90.00	0.266	0.710	0.000	0.000	0.000	22.307	22.607	52.0	0.435
95.00	0.256	0.703	0.000	0.000	0.000	20.818	21.109	52.0	0.406
100.00	0.245	0.695	0.000	0.000	0.000	19.233	19.516	52.0	0.375
105.00	0.235	0.687	0.000	0.000	0.000	17.541	17.816	52.0	0.343
110.00	0.225	0.679	0.000	0.000	0.000	15.731	15.998	52.0	0.308
115.00	0.214	0.670	0.000	0.000	0.000	13.789	14.051	52.0	0.270
116.50	0.211	0.667	0.000	0.000	0.000	13.191	13.452	52.0	0.259
120.00	0.193	0.660	0.000	0.000	0.000	11.726	11.974	52.0	0.230
120.25	0.216	0.741	0.000	0.000	0.000	12.834	13.112	48.0	0.273
125.00	0.206	0.731	0.000	0.000	0.000	10.465	10.746	48.0	0.224
130.00	0.196	0.720	0.000	0.000	0.000	7.774	8.067	48.0	0.168
135.00	0.186	0.709	0.000	0.000	0.000	4.857	5.190	48.0	0.108
138.00	0.110	0.331	0.000	0.000	0.000	3.006	3.168	48.0	0.066
140.00	0.105	0.322	0.000	0.000	0.000	2.446	2.611	48.0	0.054
145.00	0.092	0.297	0.000	0.000	0.000	0.970	1.180	48.0	0.025
147.99	0.008	0.038	0.000	0.000	0.000	0.091	0.119	48.0	0.002
148.00	0.000	0.037	0.000	0.000	0.000	0.090	0.110	48.0	0.002

Pole : CT33XC078  
 Location: Torrington, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 48.19 (in)  
 Taper : 0.174003 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 24.00 (in)



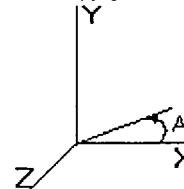
<b>Load Case:</b> Ice	80 mph - With Ice - Ice Thickness = 0.5 in	25 Iterations
Gust Response Factor : 1.69	Effective Wind Speed : 69.28 (mph)	
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

**Shaft Forces**

Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Wind Force Z (lb)	Weight (lb)
0.00		1.00	12.28	20.76	278.22	0.650	0.00	0.000	0.000	0.00	0.00	0.0
5.00		1.00	12.28	20.76	273.19	0.650	5.00	20.314	13.204	274.20	0.00	1,107.0
10.00		1.00	12.28	20.76	268.17	0.650	5.00	19.952	12.969	269.30	0.00	1,086.7
15.00		1.00	12.28	20.76	263.15	0.650	5.00	19.589	12.733	264.41	0.00	1,066.4
20.00		1.00	12.28	20.76	258.12	0.650	5.00	19.227	12.498	259.52	0.00	1,046.1
25.00		1.00	12.28	20.76	253.10	0.650	5.00	18.864	12.262	254.62	0.00	1,025.8
30.00		1.00	12.28	20.76	248.08	0.650	5.00	18.502	12.026	249.73	0.00	1,005.5
35.00		1.01	12.49	21.11	245.11	0.650	5.00	18.139	11.791	248.99	0.00	985.2
39.75	Bot - Section 2	1.05	12.95	21.90	244.70	0.650	4.75	16.897	10.983	240.52	0.00	917.2
40.00		1.05	12.98	21.93	244.66	0.650	0.25	0.893	0.581	12.74	0.00	83.0
45.00	Top - Section 1	1.09	13.42	22.69	243.57	0.650	5.00	17.675	11.489	260.67	0.00	1,640.2
50.00		1.12	13.83	23.38	245.76	0.650	5.00	17.312	11.253	263.13	0.00	804.3
55.00		1.15	14.21	24.02	243.72	0.650	5.00	16.950	11.017	264.73	0.00	787.0
60.00		1.18	14.57	24.63	241.30	0.650	5.00	16.587	10.782	265.59	0.00	769.6
65.00		1.21	14.91	25.20	238.54	0.650	5.00	16.225	10.546	265.80	0.00	752.2
70.00		1.24	15.23	25.74	235.49	0.650	5.00	15.862	10.311	265.42	0.00	734.9
75.00		1.26	15.53	26.25	232.17	0.650	5.00	15.500	10.075	264.52	0.00	717.5
80.00		1.28	15.82	26.74	228.63	0.650	5.00	15.137	9.839	263.14	0.00	700.1
80.25	Bot - Section 3	1.28	15.83	26.76	228.44	0.650	0.25	0.747	0.486	13.00	0.00	34.6
84.75	Top - Section 2	1.30	16.08	27.18	225.06	0.650	4.50	13.485	8.765	238.31	0.00	1,037.7
85.00		1.31	16.10	27.21	228.17	0.650	0.25	0.741	0.481	13.10	0.00	28.6
90.00		1.33	16.36	27.65	224.24	0.650	5.00	14.621	9.503	262.85	0.00	562.2
95.00		1.35	16.62	28.09	220.14	0.650	5.00	14.258	9.268	260.33	0.00	547.8
100.00		1.37	16.86	28.50	215.87	0.650	5.00	13.896	9.032	257.46	0.00	533.4
105.00		1.39	17.10	28.90	211.46	0.650	5.00	13.533	8.797	254.26	0.00	518.9
110.00		1.41	17.33	29.29	206.90	0.650	5.00	13.171	8.561	250.76	0.00	504.5
115.00		1.42	17.55	29.66	202.22	0.650	5.00	12.808	8.325	246.97	0.00	490.1
116.50	Bot - Section 4	1.43	17.61	29.77	200.79	0.650	1.50	3.772	2.452	73.00	0.00	144.5
120.00		1.44	17.76	30.02	197.41	0.650	3.50	8.801	5.721	171.79	0.00	572.1
120.25	Top - Section 3	1.44	17.77	30.04	197.17	0.650	0.25	0.622	0.404	12.15	0.00	40.4
125.00		1.46	17.97	30.38	195.54	0.650	4.75	11.644	7.568	229.93	0.00	400.0
130.00		1.48	18.17	30.72	190.53	0.650	5.00	11.903	7.737	237.70	0.00	408.3
135.00		1.49	18.37	31.05	185.42	0.650	5.00	11.540	7.501	232.96	0.00	395.4
138.00	Appertunance(s)	1.50	18.49	31.25	182.31	0.650	3.00	6.750	4.388	137.12	0.00	231.3
140.00		1.51	18.56	31.38	180.21	0.650	2.00	4.428	2.878	90.31	0.00	151.7
145.00		1.52	18.75	31.69	174.91	0.650	5.00	10.815	7.030	222.83	0.00	369.4
147.99	Appertunance(s)	1.53	18.86	31.88	171.70	0.650	2.99	6.294	4.091	130.44	0.00	215.0
148.00	Appertunance(s)	1.53	18.86	31.88	171.69	0.650	0.01	0.021	0.014	0.43	0.00	0.7
				<b>Totals:</b>			148.00			7,522.73	0.00	22,415.4

Pole : CT33XC078  
 Location: Torrington, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 48.19 (in)  
 Taper : 0.174003 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 24.00 (in)



**Load Case:** Ice 80 mph - With Ice - Ice Thickness = 0.5 in 25 Iterations

Gust Response Factor : 1.69 Effective Wind Speed : 69.28 (mph)  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

**Discrete Appurtenance Forces**

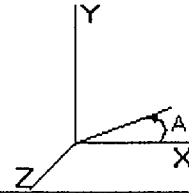
Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Total CaAa (sf)	CaAa Factor	Horiz Ecc (ft)	Vert Ecc (ft)	X Angle (deg)	Wind Force X (lb)	Wind Force Z (lb)	Mom X (lb-ft)	Mom Y (lb-ft)	Mom Z (lb-ft)	Weight (lb)
138.00	Low Profile Platform	1	18.49	31.25	27.320	1.000	0.000	0.0	0.0	853.80	0.00	0.00	0.00	0.00	2100.0
138.00	DB950G85E-M	12	18.49	31.25	57.780	1.000	0.000	0.0	0.0	1805.73	0.00	0.00	0.00	0.00	407.2
147.99	Low Profile Platform	1	18.86	31.88	27.320	1.000	0.000	0.0	0.0	871.02	0.00	0.00	0.00	0.00	2100.0
147.99	DB980H90	9	18.86	31.88	34.650	1.000	0.000	0.0	0.0	1104.72	0.00	0.00	0.00	0.00	252.0
148.00	CEL 10B whip	1	19.04	32.18	4.000	1.000	0.000	5.0	0.0	128.75	0.00	0.00	0.00	643.74	50.0
148.00	Standoff	1	18.86	31.88	5.790	1.000	0.000	0.0	0.0	184.60	0.00	0.00	0.00	0.00	84.0
148.00	lightning rod	1	19.01	32.12	1.500	1.000	0.000	4.0	0.0	48.19	0.00	0.00	0.00	192.76	100.0
										4,996.80	0.00				5,093.2

Pole : CT33XC078  
 Location: Torrington, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 48.19 (in)  
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Sprint Sites USA - NJ

Base Elev : 0.000 (ft)

Top Dia : 24.00 (in)



**Load Case:** Ice                      80 mph - With Ice - Ice Thickness = 0.5 in                      25 Iterations

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

Dead Load Factor : 1.00

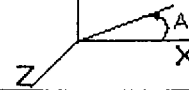
Wind Load Factor : 1.00

**Applied Forces Summary**

Seg Elev (ft)	X Coord (ft)	Z Coord (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Lateral FZ (lb)	Moment MX (lb-ft)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	0.00	0.00	274.20	1,107.00	0.00	0.00	0.00	0.00
10.00	0.00	0.00	269.30	1,086.70	0.00	0.00	0.00	0.00
15.00	0.00	0.00	264.41	1,066.40	0.00	0.00	0.00	0.00
20.00	0.00	0.00	259.52	1,046.09	0.00	0.00	0.00	0.00
25.00	0.00	0.00	254.62	1,025.79	0.00	0.00	0.00	0.00
30.00	0.00	0.00	249.73	1,005.49	0.00	0.00	0.00	0.00
35.00	0.00	0.00	248.99	985.19	0.00	0.00	0.00	0.00
39.75	0.00	0.00	240.52	917.19	0.00	0.00	0.00	0.00
40.00	0.00	0.00	12.74	82.99	0.00	0.00	0.00	0.00
45.00	0.00	0.00	260.67	1,640.20	0.00	0.00	0.00	0.00
50.00	0.00	0.00	263.13	804.33	0.00	0.00	0.00	0.00
55.00	0.00	0.00	264.73	786.96	0.00	0.00	0.00	0.00
60.00	0.00	0.00	265.59	769.60	0.00	0.00	0.00	0.00
65.00	0.00	0.00	265.80	752.23	0.00	0.00	0.00	0.00
70.00	0.00	0.00	265.42	734.86	0.00	0.00	0.00	0.00
75.00	0.00	0.00	264.52	717.50	0.00	0.00	0.00	0.00
80.00	0.00	0.00	263.14	700.13	0.00	0.00	0.00	0.00
80.25	0.00	0.00	13.00	34.61	0.00	0.00	0.00	0.00
84.75	0.00	0.00	238.31	1,037.72	0.00	0.00	0.00	0.00
85.00	0.00	0.00	13.10	28.55	0.00	0.00	0.00	0.00
90.00	0.00	0.00	262.85	562.23	0.00	0.00	0.00	0.00
95.00	0.00	0.00	260.33	547.80	0.00	0.00	0.00	0.00
100.00	0.00	0.00	257.46	533.37	0.00	0.00	0.00	0.00
105.00	0.00	0.00	254.26	518.94	0.00	0.00	0.00	0.00
110.00	0.00	0.00	250.76	504.51	0.00	0.00	0.00	0.00
115.00	0.00	0.00	246.97	490.08	0.00	0.00	0.00	0.00
116.50	0.00	0.00	73.00	144.49	0.00	0.00	0.00	0.00
120.00	0.00	0.00	171.79	572.11	0.00	0.00	0.00	0.00
120.25	0.00	0.00	12.15	40.45	0.00	0.00	0.00	0.00
125.00	0.00	0.00	229.93	399.97	0.00	0.00	0.00	0.00
130.00	0.00	0.00	237.70	408.32	0.00	0.00	0.00	0.00
135.00	0.00	0.00	232.96	395.35	0.00	0.00	0.00	0.00
138.00	0.00	0.00	2,796.65	2,738.47	0.00	0.00	0.00	0.00
140.00	0.00	0.00	90.31	151.72	0.00	0.00	0.00	0.00
145.00	0.00	0.00	222.83	369.43	0.00	0.00	0.00	0.00
147.99	0.00	0.00	2,106.18	2,567.05	0.00	0.00	0.00	0.00
148.00	0.00	0.00	361.97	234.71	0.00	0.00	0.00	836.50
<b>Totals:</b>			<b>12,519.53</b>	<b>27,508.52</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>836.50</b>

Pole : CT33XC078  
 Location: Torrington, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 48.19 (in)  
 Taper : 0.174003 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 24.00 (in)



**Load Case:** Ice                      80 mph - With Ice - Ice Thickness = 0.5 in                      25 Iterations

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

Dead Load Factor : 1.00

Wind Load Factor : 1.00

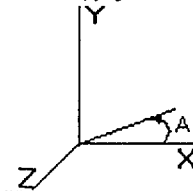
**Calculated Forces and Deflections**

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	12.546	27.496	0.000	0.000	0.000	1,321.325	0.000	0.000	0.000	0.000
5.00	12.323	26.365	0.000	0.000	0.000	1,258.595	-0.060	0.000	0.060	-0.112
10.00	12.100	25.256	0.000	0.000	0.000	1,196.984	-0.237	0.000	0.237	-0.224
15.00	11.878	24.167	0.000	0.000	0.000	1,136.486	-0.532	0.000	0.532	-0.337
20.00	11.657	23.100	0.000	0.000	0.000	1,077.099	-0.945	0.000	0.945	-0.450
25.00	11.437	22.054	0.000	0.000	0.000	1,018.815	-1.478	0.000	1.478	-0.564
30.00	11.218	21.029	0.000	0.000	0.000	961.631	-2.129	0.000	2.129	-0.678
35.00	10.996	20.025	0.000	0.000	0.000	905.541	-2.900	0.000	2.900	-0.792
39.75	10.761	19.101	0.000	0.000	0.000	853.312	-3.744	0.000	3.744	-0.901
40.00	10.767	19.007	0.000	0.000	0.000	850.622	-3.791	0.000	3.791	-0.907
45.00	10.513	17.350	0.000	0.000	0.000	796.790	-4.802	0.000	4.802	-1.021
50.00	10.270	16.529	0.000	0.000	0.000	744.226	-5.933	0.000	5.933	-1.135
55.00	10.024	15.726	0.000	0.000	0.000	692.877	-7.191	0.000	7.191	-1.265
60.00	9.774	14.941	0.000	0.000	0.000	642.756	-8.585	0.000	8.585	-1.393
65.00	9.521	14.174	0.000	0.000	0.000	593.886	-10.112	0.000	10.112	-1.520
70.00	9.264	13.427	0.000	0.000	0.000	546.284	-11.771	0.000	11.771	-1.646
75.00	9.006	12.698	0.000	0.000	0.000	499.963	-13.562	0.000	13.562	-1.770
80.00	8.734	11.998	0.000	0.000	0.000	454.934	-15.481	0.000	15.481	-1.892
80.25	8.731	11.955	0.000	0.000	0.000	452.751	-15.580	0.000	15.580	-1.898
84.75	8.469	10.917	0.000	0.000	0.000	413.460	-17.421	0.000	17.421	-2.005
85.00	8.468	10.878	0.000	0.000	0.000	411.343	-17.526	0.000	17.526	-2.011
90.00	8.210	10.307	0.000	0.000	0.000	369.001	-19.706	0.000	19.706	-2.149
95.00	7.951	9.752	0.000	0.000	0.000	327.953	-22.028	0.000	22.028	-2.282
100.00	7.691	9.213	0.000	0.000	0.000	288.201	-24.486	0.000	24.486	-2.408
105.00	7.433	8.690	0.000	0.000	0.000	249.745	-27.073	0.000	27.073	-2.529
110.00	7.175	8.184	0.000	0.000	0.000	212.583	-29.781	0.000	29.781	-2.641
115.00	6.914	7.698	0.000	0.000	0.000	176.709	-32.603	0.000	32.603	-2.744
116.50	6.840	7.552	0.000	0.000	0.000	166.339	-33.470	0.000	33.470	-2.774
120.00	6.645	6.985	0.000	0.000	0.000	142.398	-35.527	0.000	35.527	-2.838
120.25	6.636	6.940	0.000	0.000	0.000	140.737	-35.676	0.000	35.676	-2.843
125.00	6.394	6.544	0.000	0.000	0.000	109.218	-38.543	0.000	38.543	-2.918
130.00	6.143	6.142	0.000	0.000	0.000	77.247	-41.638	0.000	41.638	-2.989
135.00	5.893	5.756	0.000	0.000	0.000	46.535	-44.796	0.000	44.796	-3.040
138.00	2.955	3.169	0.000	0.000	0.000	28.857	-46.713	0.000	46.713	-3.061
140.00	2.857	3.022	0.000	0.000	0.000	22.947	-47.997	0.000	47.997	-3.071
145.00	2.615	2.665	0.000	0.000	0.000	8.660	-51.222	0.000	51.222	-3.087
147.99	0.374	0.215	0.000	0.000	0.000	0.840	-53.156	0.000	53.156	-3.090
148.00	0.362	0.000	0.000	0.000	0.000	0.836	-53.163	0.000	53.163	-3.090

Pole : CT33XC078  
 Location: Torrington, CT  
 Height : 148.0 (ft)  
 Shape : 18 Sides  
 Base Dia : 48.19 (in)  
 Taper : 0.174003 (in/ft)

Sprint Sites USA - NJ

Base Elev : 0.000 (ft)  
 Top Dia : 24.00 (in)



<b>Load Case:</b> Ice	80 mph - With Ice - Ice Thickness = 0.5 in	25 Iterations
Gust Response Factor : 1.69	Effective Wind Speed : 69.28 (mph)	
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

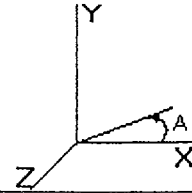
**Calculated Stresses**

Seg Elev (ft)	Applied Stresses							Allowable Stress (Fb) (ksi)	Stress Ratio
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)		
0.00	0.483	0.444	0.000	0.000	0.000	23.599	24.095	52.0	0.464
5.00	0.472	0.444	0.000	0.000	0.000	23.323	23.808	52.0	0.458
10.00	0.461	0.445	0.000	0.000	0.000	23.031	23.504	52.0	0.452
15.00	0.449	0.445	0.000	0.000	0.000	22.720	23.182	52.0	0.446
20.00	0.438	0.445	0.000	0.000	0.000	22.390	22.841	52.0	0.439
25.00	0.426	0.446	0.000	0.000	0.000	22.038	22.478	52.0	0.432
30.00	0.415	0.446	0.000	0.000	0.000	21.663	22.092	52.0	0.425
35.00	0.403	0.446	0.000	0.000	0.000	21.263	21.680	52.0	0.417
39.75	0.392	0.446	0.000	0.000	0.000	20.859	21.265	52.0	0.409
40.00	0.391	0.446	0.000	0.000	0.000	20.837	21.242	52.0	0.409
45.00	0.430	0.525	0.000	0.000	0.000	23.598	24.046	52.0	0.463
50.00	0.419	0.524	0.000	0.000	0.000	23.019	23.456	52.0	0.451
55.00	0.407	0.523	0.000	0.000	0.000	22.404	22.829	52.0	0.439
60.00	0.396	0.522	0.000	0.000	0.000	21.748	22.162	52.0	0.426
65.00	0.384	0.520	0.000	0.000	0.000	21.049	21.453	52.0	0.413
70.00	0.373	0.518	0.000	0.000	0.000	20.305	20.697	52.0	0.398
75.00	0.361	0.516	0.000	0.000	0.000	19.511	19.892	52.0	0.383
80.00	0.350	0.513	0.000	0.000	0.000	18.662	19.033	52.0	0.366
80.25	0.349	0.514	0.000	0.000	0.000	18.620	18.989	52.0	0.365
84.75	0.401	0.627	0.000	0.000	0.000	21.491	21.919	52.0	0.422
85.00	0.400	0.628	0.000	0.000	0.000	21.435	21.862	52.0	0.421
90.00	0.389	0.624	0.000	0.000	0.000	20.247	20.665	52.0	0.398
95.00	0.378	0.621	0.000	0.000	0.000	18.974	19.382	52.0	0.373
100.00	0.367	0.617	0.000	0.000	0.000	17.607	18.005	52.0	0.346
105.00	0.356	0.613	0.000	0.000	0.000	16.135	16.525	52.0	0.318
110.00	0.345	0.609	0.000	0.000	0.000	14.548	14.930	52.0	0.287
115.00	0.334	0.604	0.000	0.000	0.000	12.831	13.207	52.0	0.254
116.50	0.331	0.603	0.000	0.000	0.000	12.299	12.673	52.0	0.244
120.00	0.312	0.599	0.000	0.000	0.000	10.991	11.351	52.0	0.218
120.25	0.349	0.673	0.000	0.000	0.000	12.034	12.438	48.0	0.259
125.00	0.339	0.668	0.000	0.000	0.000	9.905	10.309	48.0	0.215
130.00	0.329	0.663	0.000	0.000	0.000	7.467	7.880	48.0	0.164
135.00	0.318	0.657	0.000	0.000	0.000	4.805	5.249	48.0	0.109
138.00	0.179	0.336	0.000	0.000	0.000	3.104	3.334	48.0	0.069
140.00	0.173	0.330	0.000	0.000	0.000	2.537	2.769	48.0	0.058
145.00	0.158	0.312	0.000	0.000	0.000	1.028	1.303	48.0	0.027
147.99	0.013	0.046	0.000	0.000	0.000	0.104	0.141	48.0	0.003
148.00	0.000	0.044	0.000	0.000	0.000	0.104	0.129	48.0	0.003



Pole : CT33XC078  
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Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 24.00 (in)



<b>Load Case:</b> No Ice	80 mph - No Ice	25 Iterations
Gust Response Factor : 1.69	Effective Wind Speed : 80.00 (mph)	
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Analysis Summary

Load Case	Reactions						Max Stresses			
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Combined Stress (ksi)	Allowable Stress (ksi)	Elev (ft)	Stress Ratio
No Ice	15.183	0.000	22.066	0.000	0.000	1,531.950	27.765	52.0	0.000	0.534
Ice	12.546	0.000	27.496	0.000	0.000	1,321.325	24.095	52.0	0.000	0.464