

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

EM-CING-158-015-051212

Re: **Notice of Exempt Modifications to Various Facilities in the
Towns of Westport and Bridgeport, Connecticut**

Dear Mr. Phelps:

As part of its merger and integration efforts, New Cingular Wireless PCS, LLC (“Cingular” or “the Company”) intends to modify instrumentation and/or antenna configurations at three existing facilities located in the Towns of Westport and Bridgeport, Connecticut. Please accept this letter and attachments as notification, pursuant to R.C.S.A. § 16-50j-73, of construction that constitutes exempt modifications 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 and attachments is being sent to the chief elected official of each of the municipalities in which an affected cell is located.

The three sites which are the subject of this filing have been grouped based on their location and proximity and are discussed in more detail below. Additional exempt modification notifications will follow in the near future and will cover similarly grouped facilities within the balance of Fairfield County.

General

The current project involves changes at most of Cingular’s cell sites in Fairfield County including over 40 sites under Council jurisdiction. The modifications will allow Cingular to operate its wireless communications services in the 1900 MHz frequency band in addition to its 850 MHz operations. At a typical site, this will be accomplished through the removal of nine (9) existing 850 MHz only antennas and their replacement with six (6) 850/1900 MHz dual-band antennas. Since each of the new, dual-band antennas is fed by two transmission lines, the typical number of such transmission lines at each site will increase from nine to a total of 12. In addition, tower mounted amplifiers, diplexers and small miscellaneous electronics will also be installed on the antenna platforms. The new antennas, transmission lines and tower mounted equipment have been properly reflected in the structural analyses performed for the towers and attached to this filing. A more detailed analysis of each of the five sites follows.

Site 1

Site 1 is located at 2 Sunny Lane, Westport, CT and is owned by Verizon Wireless (Cingular Site #2094). On the property are a 130-foot monopole tower and a renovated house which serves as the equipment building for the various carriers located

on the site. In addition to Cingular, the tower currently supports antennas of wireless carriers AT&T Wireless, T-Mobile, Sprint, Nextel and Verizon.

Cingular proposes to remove their nine (9) existing single-band antennas and install six (6) Powerwave Model 7770.00 dual-band directional antennas. The new antennas are 55" in height and will be mounted on the same platform as the existing antennas with a center of radiation of 100' above ground level (AGL). Six (6) tower mounted amplifiers and six (6) diplexers along with miscellaneous electronics to provide remote downtilting capabilities will also be installed on the existing antenna platform. Technical specification sheets for the antennas, amplifiers and diplexers are included the General Information section of the attachments to this notice. Additional radio equipment will be located within the Company's existing 14' x 17' equipment room within the building near the base of the tower. Since each new antenna requires two feeds from the radio equipment, new transmission lines will be added to the tower bringing the total number of lines to 12. A structural analysis has been performed for the tower taking into account the new antennas, transmission lines and other equipment and is included in the site specific section of the attachments. Site plans, elevations and photographs of the site are also included.

Based on the most recent filing for this site, the "worst-case" predicted RF power density for a point at the base of the tower, *excluding the operations of Cingular and AT&T Wireless*, is calculated to be approximately 21.23% of the applicable standard for uncontrolled environments as calculated for a mixed frequency site. A similar "worst-case" calculation for a point at the base of the tower indicates that when fully implemented, New Cingular's dual-band operations would contribute approximately 8.80% of the standard. The calculated "worst-case" power density for the combined operations at the site would therefore be approximately 30.03% of the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

Site 2

Site 2 is located at 515 Post Road, Westport, CT and is owned by Westport (Cingular Site #2153). On the property are a 148-foot monopole tower and the Westport Fire Department building. In addition to Cingular, the tower currently supports antennas of wireless carriers T-Mobile, Sprint and Nextel as well as the Town of Westport.

Cingular proposes to remove their nine (9) existing single-band antennas and install six (6) Powerwave Model 7770.00 dual-band directional antennas. The new antennas are 55" in height and will be mounted on the same platform as the existing antennas with a center of radiation of 120' above ground level (AGL). Six (6) tower mounted amplifiers and six (6) diplexers along with miscellaneous electronics to provide remote downtilting capabilities will also be installed on the existing antenna platform. Technical specification sheets for the antennas, amplifiers and diplexers are included the General Information section of the attachments to this notice. Additional radio equipment will be located within the Company's existing 12' x 20' equipment room. Since each new antenna requires two feeds from the radio equipment, new transmission lines will be added to the tower bringing the total number of lines to 12. A structural

analysis has been performed for the tower taking into account the new antennas, transmission lines and other equipment and is included in the site specific section of the attachments. Site plans, elevations and photographs of the site are also included.

Based on the most recent filing for this site, the "worst-case" predicted RF power density for a point at the base of the tower, *excluding the operations of Cingular*, is calculated to be approximately 28.07% of the applicable standard for uncontrolled environments as calculated for a mixed frequency site. A similar "worst-case" calculation for a point at the base of the tower indicates that when fully implemented, New Cingular's dual-band operations would contribute approximately 6.89% of the standard. The calculated "worst-case" power density for the combined operations at the site would therefore be approximately 34.96% of the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

Site 3

Site 3 is located at 1000 Trumbull Avenue (1330 Chopsey Hill Road), Bridgeport, CT and is owned by Remo Tartaglia (Cingular Site #CT-093). On the property are a 240-foot self-supporting lattice tower and several equipment shelters. In addition to Cingular, the tower currently supports antennas of wireless carriers AT&T Wireless, Nextel, Verizon, Sprint and T-Mobile as well as Marcus, Red Star, Metrocall, Clinton Tower and ATT.

Cingular proposes to remove their nine (9) existing single-band antennas and install six (6) Powerwave Model 7770.00 dual-band directional antennas. The new antennas are 55" in height and will be mounted on the same platform as the existing antennas with a center of radiation of 165' above ground level (AGL). Six (6) tower mounted amplifiers and six (6) diplexers along with miscellaneous electronics to provide remote downtilting capabilities will also be installed on the existing antenna platform. Technical specification sheets for the antennas, amplifiers and diplexers are included the General Information section of the attachments to this notice. Additional radio equipment will be located within the Company's existing 12' x 20' equipment shelter at the base of the tower. Since each new antenna requires two feeds from the radio equipment, new transmission lines will be added to the tower bringing the total number of lines to 12. A structural analysis has been performed for the tower taking into account the new antennas, transmission lines and other equipment and is included in the site specific section of the attachments. Site plans, elevations and photographs of the site are also included.

Based on the most recent filing for this site, the "worst-case" predicted RF power density for a point at the base of the tower, *excluding the operations of Cingular and AT&T Wireless*, is calculated to be approximately 25.34% of the applicable standard for uncontrolled environments as calculated for a mixed frequency site. A similar "worst-case" calculation for a point at the base of the tower indicates that when fully implemented, New Cingular's dual-band operations would contribute approximately 11.39% of the standard. The calculated "worst-case" power density for the combined

operations at the site would therefore be approximately 36.73% of the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

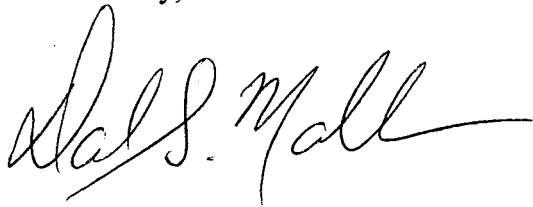
Summary

The proposed changes to the facilities do not constitute modifications as defined in Connecticut General Statutes ("C.G.S.") § 16-50i(d) because the general physical characteristics of the facilities will not be significantly changed or altered. Rather, the planned modifications to the facilities 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 heights of the towers. In all cases, the number of antennas will be reduced from nine to six and will result in a reduction in the towers' profiles. The enclosed tower drawings confirm that the planned modifications will not increase the heights or the profiles of the towers. Based on the attached structural analyses, the towers are capable of supporting the reconfigured loads discussed herein.
2. The installation of the proposed equipment, as reflected on the attached site plans, will not require an extension of the site boundaries.
3. The proposed modifications to the facility will not increase the noise levels at the existing facility by six decibels or more.
4. As discussed above, the operation of the reconfigured sites will not increase the total radio frequency (RF) power density to a level at or above the applicable standard.

For the foregoing reasons, New Cingular Wireless PCS, LLC respectfully submits that the proposed addition of antennas and equipment at the subject facilities constitute exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

A handwritten signature in black ink, appearing to read "David S. Malko". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

David S. Malko, P.E.
Consultant for New Cingular Wireless

Enclosures

cc: Honorable Diane Goss Farrell, First Selectwoman, Westport
Honorable John Fabrizi, Mayor, Bridgeport

General Information Attachments

1. Antenna Specifications
2. Tower Mounted Amplifier Specifications
3. Diplexer Specifications

Dual Broadband Antenna

90° 1.4 m MET Antenna

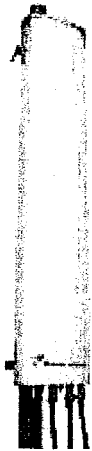
806-9901710-2170 MHz

Part Number:
7770.00

Horizontal Beamwidth: 90°
Gain: 13.5/16 dBi

Electrical Downtilt: Adjustable
Connector Type: 7/16 female

The Powerwave dual band dual polarized broadband antenna has individual adjustable electrical downtilt per band (upgradeable to Remote Electrical Tilt (RET)). Four connector ports allow separate tilts on each frequency band and ensure the use of diversity concepts. The phase shifter technology, based on a patented sliding dielectric, minimizes intermodulation distortion and maximizes efficiency. The slant +/- 45° dual polarization system provides the independent fading signals needed for achieving top-quality coverage via diversity concepts. The Powerwave Broadband antenna design is based on a patented stacked aperture-coupled patch technology, which provides high isolation performance and a wide VSWR bandwidth. The antennas have superior radiation patterns due to a unique reflector design which provides a very small variation of the -3dB horizontal beam width over the frequency band as well as a high front-to-back ratio.



Key Benefits

- Excellent broad- and multi-band capabilities
- Polarization purity makes good diversity gain
- Excellent pattern performance and high gain over frequency
- High passive intermodulation performance
- Light, slim and robust design

Preliminary

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806-960-1710-2170 MHz

Dual Broadband Antenna

Electrical Specifications (Preliminary)

Frequency band (MHz)	806-960	1710-2170
Gain, ± 0.5 dB (dBi)	13.5	16.0
Polarization	Dual linear $\pm 45^\circ$	
Nominal Impedance (Ohm)	50	
VSWR	1.5:1	
VSWR		1.5:1
Isolation between inputs (dB)	30	
Isolation between inputs (dB)		30
Inter band isolation (dB)	40	
Horizontal -3 dB beamwidth	$85 \pm 5^\circ$	$85 \pm 5^\circ$
Tracking, Horizontal plane, $\pm 60^\circ$ (dB)	< 2.0	
Tracking, Horizontal plane, $\pm 60^\circ$ (dB)		< 2.0
Electrical downtilt range (adjustable)	0° to 10°	0° to 8°
Vertical -3 dB beamwidth	$14.3 \pm 2.0^\circ$	$6.6 \pm 1^\circ$
Sidelobe suppression, Vertical 1 st upper (dB)	$> 17, 16, 15$ $x=0, 5, 10^\circ$ MET	$> 17, 16, 15$ $x=0, 4, 8^\circ$ MET
Vertical beam squint	$< 0.8^\circ$	$< 0.5^\circ$
First null-fill (dB)	< -25	< -25
Front-to-back ratio (dB)	> 25	> 27
Front-to-back ratio, total power (dB)	> 20	> 23
IM3, 2Tx@43dBm (dBc)	< -153	
IM3, 2Tx@43dBm (dBc)		< -153
IM7, 2Tx@43dBm (dBc)		< -160
Power Handling, Average per input (W)	400	250
Power Handling, Average total (W)	800	500

All specifications are subject to change without notice.
Contact your Powerwave representative for complete performance data.

Mechanical Specifications

Connector Type	4 x 7/16 DIN female
Connector Position	Bottom
Dimensions, HxWxD	1408mm x 280mm x 125mm (55"x11"x5")
Weight Including Brackets	15.8 kg (35 lbs)
Wind Load, Frontal, 42m/s Cd=1	435N (98 lbf)
Survival Wind Speed (m/s)	70 (156mph)
Lightning Protection	DC grounded
Radome Material	GRP
Radome Color	Light Gray
Mounting	Pre-mounted Standard Brackets
Packing Size	1550mm x 355mm x 255mm (61"x14"x10")

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Tower Mounted Amplifier

LGP21401 TMA-DD-1900 FB with 850 Bypass Tower Mounted Amplifier

800/1900 MHz

Frequency: 1850-1990 MHz Band | IMD Specification: <-118dBm
Gain: 12 dBd | Return Loss: 18 dB or better

Powerwave's 21401 Series of tower mounted amplifiers are designed for full band coverage of the PCS-1900 band with an 800 MHz cellular band bypass. It has dual duplex capability so you can use one line for RX/TX and transmit through the TMA while amplifying RX on the same line. Deployed in a network it will increase capacity and coverage as well as extend the battery life time for the handsets. The 800 MHz cellular band passes through the TMA without amplification.



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LGP21401 - Tower Mount Amplifier

800/1900 MHz

Gain	12 dB
Uplink frequency	1850-1910 MHz
Downlink frequency	1930 – 1990 MHz
Return loss	18 dB or better
Noise figure	1.5 dB typical
Intermodulation@2x43dBm carriers	<-118 dBm in receive band
Output 3 rd order Intercept Point (OIP3)	>+22 dBm
Rejection 1912 MHz (RX in Filter)	10 dB
Rejection in TX band	80 dB
Alarm functionality	Two levels, individually supervised LNA branches
Power consumption	1.5 W per LNA @12 VDC
Supply voltage	9 - 15 V

Mechanical Specifications

RF connectors	7/16 DIN female(s)
Dimensions	14"x7"x2.7" (365x176x68mm)
Weight	17.5 lbs (<8kg)
Mounting kit	Mounting kit is included for pole and wall. Other types may be available on request.

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+46 8 540 822 00
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THE POWER IN WIRELESS®



Powerwave Technologies, Inc. is an ISO9001 and TL9000 certified company, is a leading supplier of high performance RF infrastructure products for use in wireless communications networks. Powerwave products are utilized in both cellular and PCS base stations in both digital and analog networks. ©Copyright February 2003, Powerwave Technologies, Inc. All Rights reserved. Powerwave, Powerwave Technologies are and the Powerwave logo are registered trademarks of Powerwave Technologies, Inc.

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PN000000-00

824-896/1850-1990 MHz Diplexer

Diplexer for 824-896/1850-1990MHz with Configurable DC Transparency

Part Number: LGP13519	Frequency Range: 824-894/1850- 1990 MHz	Return Loss: >20 dB Insertion Loss: 0.2 dB / 0.3 dB
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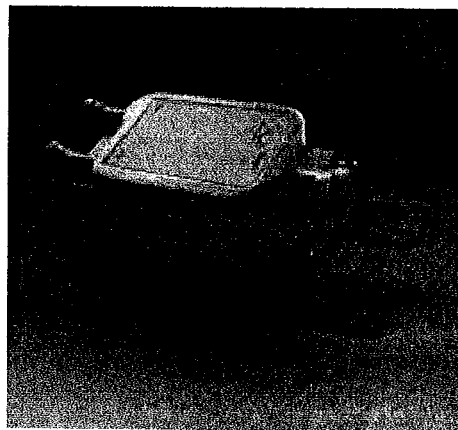
824-894/1850-1990

The Powerwave® Diplexer filter DCT is available both as single and double unit. Each diplexer has one port for 824-894 systems, one port for 1850-1990 GSM systems and a common port. It is designed for outdoor use and intended for co-location of base stations to enable sharing of feeder, TMA system and antenna. The unit can be used both at the BTS and for combining frequency bands to a common port and at the antenna end for splitting the frequency bands to separate antennas.

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824-894/1850-1990 MHz Diplexer

Key Benefits:

- Compact Design
- Inbuilt DC Transparency and Subcarrier Support
- Excellent Power Handling
- Negligible Transmit Band Loss
- Lightning Protected on All Ports

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 **Powerwave**
technologies

824-894/1850-1990 Diplexer

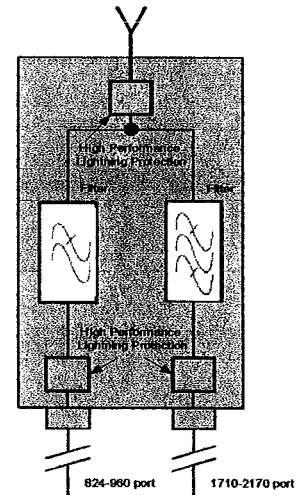
Electrical Specifications

800-900 Port	Frequency Range, Full Band (MHz)	824-894 MHz
	Insertion Loss (dB)	<0.2 dB
	Return Loss (dB)	>20 dB
	Rejection 1850-1990 MHz	>55 dB
	Rejection 2110-2170 MHz	>55 dB
	Average Power Handling	>500 W
	Peak Power	10 kW
	IM, 2Tx@43dBm (dBc)	<-153
1900 Port	Frequency Range, Full Band (MHz)	1850-1990 MHz
	Insertion Loss (dB)	<0.3 dB
	Return Loss (dB)	>20 dB
	Rejection 824-896 MHz	>54 dB
	Rejection 896-960 MHz	>54 dB
	Average Power Handling	>250 W
	Peak Power	5 kW
	IM, 2Tx@43dBm (dBc)	<-153

All specifications are subject to change without notice. Contact your Powerwave representative for complete performance data.

Mechanical Specifications

Size, WxHxD (without mounting plate)	4.4" x 6.3" x 3" (112x158x74mm)
Weight	2.4 kg (5.3 lbs)
Color	Off White (NCS 1502-R)
Housing	Aluminum, IP 65
RF-connectors	DIN 7/16 female
Mounting Kit	Hose Clamps in Stainless Steel
Temperature Range	-40 °C to +65 °C
MTBF	30 Million Hours
Safety	EN 60 950, UL 69 950, ETL
Ingress Protection IP 65	EN 60 529
Environmental	ETS 300 019



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Site Specific Attachments

Site 1

1. Site Plans
2. Tower Structural Analysis
3. Site Photographs

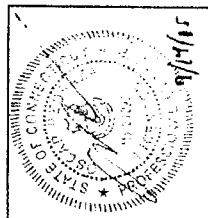


SITE NUMBER:
2094
SITE NAME:
WESTPORT - SUNNY LANE
SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

IT IS A POLICY OF THE PROFESSIONAL BOARD OF THE WIRELESS COMMUNICATIONS ENGINEERS TO ALLOW THE WIRELESS COMMUNICATIONS ENGINEER TO SIGN AND SEAL ANY PROJECT UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER.


DATE: _____
DRAWN BY: _____
CHECKED BY: _____
PROJECT NO.: _____

NO.	DATE	BY	REVISION
1			ISSUE FOR CONSTRUCTION



SHEET TITLE
TITLE SHEET

SHEET NUMBER
T1



SITE NUMBER: 2094
SITE NAME: WESTPORT - SUNNY LANE

BLDG. CODES AND STANDARDS
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION. THE LATEST EDITION OF THE ALL APPLICABLE CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:
INTERNATIONAL BUILDING CODE (IBC), 2003

ELECTRICAL CODE:
NATIONAL ELECTRICAL CODE (NEC), 2002 NATIONAL ELECTRICAL CODE

LIGHTNING PROTECTION CODE:
NFPA 780 - 2002, LIGHTNING PROTECTION CODE

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
FOR STRUCTURAL CONCRETE: AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
FOR STRUCTURAL STEEL: AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES: TIA 807, COMMERCIAL BUILDING FOUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM

IEEE 1001 (1998), RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

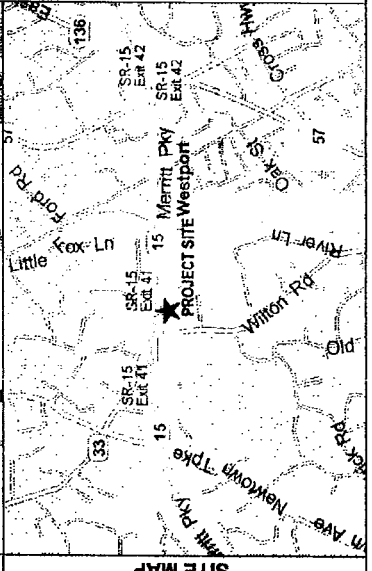
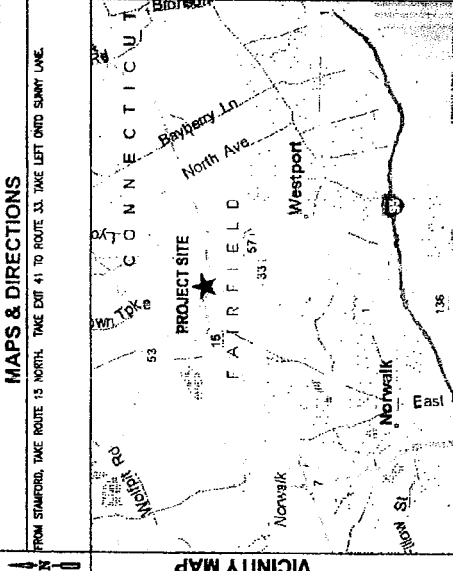
IEEE C92.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")

TELEPHONE GR-1273, GENERAL INSTALLATION REQUIREMENTS

TELEPHONE GR-1503, COAXIAL CABLE CONNECTIONS

ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM. ENVIRONMENTAL PROTECTION

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL METHODS OF CONSTRUCTION OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN, WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.



APPROVALS

NAME (PRINT)	SIGNATURE	DATE
_____	_____	_____
NAME (PRINT)	SIGNATURE	DATE
_____	_____	_____
NAME (PRINT)	SIGNATURE	DATE
_____	_____	_____
NAME (PRINT)	SIGNATURE	DATE
_____	_____	_____
NAME (PRINT)	SIGNATURE	DATE
_____	_____	_____
NAME (PRINT)	SIGNATURE	DATE
_____	_____	_____

DRAWING INDEX

REV	DESCRIPTION
1	TITLE SHEET
1	SITE PLAN
1	SITE ELEVATION & ANTENNA PLAN
1	ANTENNA PLUMBING DIAGRAM-ALPHA, BETA, GAMMA
1	RF DATA INFORMATION

PROJECT INFORMATION

UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS

SITE NUMBER:
2094
SITE NAME:
WESTPORT-SUNNY LANE
ADDRESS:
2 SUNNY LANE
CITY, STATE ZIP
41-162820
LATITUDE:
-73.372520
LONGITUDE:
FAIRFIELD COUNTY
CURRENT USE:
TELECOMMUNICATIONS FACILITY
PROPOSED USE:
TELECOMMUNICATIONS FACILITY
SITE CENTER:
100'-0"
RAD CENTER:
VERIZON
OWNER:



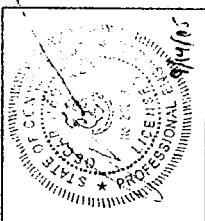
SITE NUMBER:
2084
SITE NAME:
WESTPORT - SUNNY LANE
SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

IT IS A VIOLATION OF THE PROVISIONS OF THE WIRELESS COMMUNICATIONS ACT TO ALTER THE LOCATION OF THE ANTENNA OR TO ALTER THE LOCATION OF THE ANTENNA WITHOUT THE APPROVAL OF THE PROFESSIONAL ENGINEER.

DATE: 08/14/05

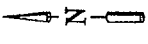
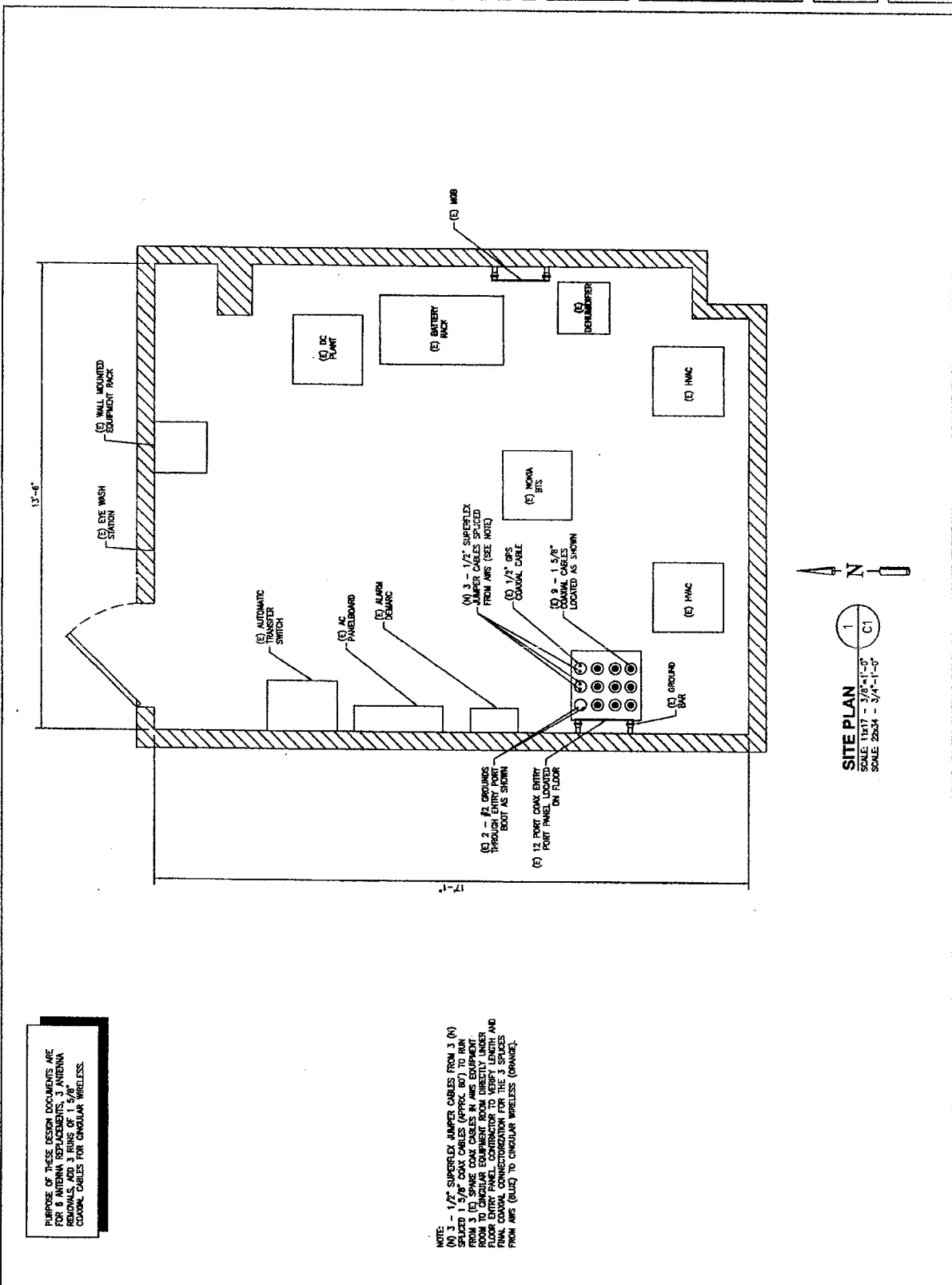
PROJECT NO. 080804-000000

SUBMITTALS	
NO.	DATE
1	08/14/05



SHEET TITLE
SITE PLAN

SHEET NUMBER
C1



1
C1

SITE PLAN
SCALE: 1/8" = 1'-0"
SCALE: 2/8" = 3/4'-1'-0"

PURPOSE OF THESE DESIGN DOCUMENTS ARE FOR 6 ANTENNA REPLACEMENTS, 3 ANTENNA REGIONALS, AND 3 RUNS OF 1 5/8" COAXIAL CABLES FOR CINGULAR WIRELESS.

NOTE:
(N) 1 - 1 1/2" SUPERFLEX JUMPER CABLES FROM 3 (N) SPACES 1 5/8" COAX CABLES (APPR. 80') TO MAIN ROOM TO CINGULAR EQUIPMENT ROOM DIRECTLY UNDER FLOOR ENTRY PANEL CONDUCTOR TO REPLY LENGTH AND FROM MAIN (BLUE) TO CINGULAR WIRELESS (ORANGE).



SITE NUMBER:
2084
SITE NAME:
WESTPORT - SUNNY LANE
SITE ADDRESS:
SUNNY LANE
WESTPORT, CT 06880

IT IS A VIOLATION OF THE PROFESSIONAL RIGHTS AND DUTY OF AN ENGINEER TO SEAL AND SIGN ANY DRAWING UNLESS THEY ARE PREPARED BY OR UNDER THE CLOSE PERSONAL SUPERVISION AND ACTING UNDER THE AUTHORITY OF A LICENSED PROFESSIONAL ENGINEER.

DRAWN BY: []
CHECKED BY: []
PROJECT NO.: 0604114-00010

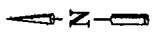
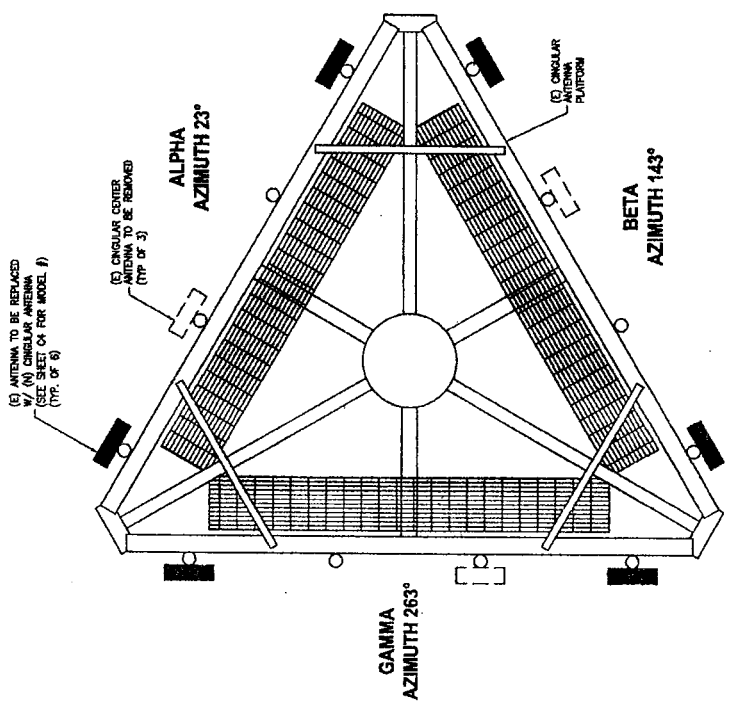
SUBMITTALS	
NO.	DESCRIPTION
1	FINAL CONSTRUCTION SET
2	INSTALLATION



SHEET TITLE
SITE ELEVATION & ANT PLAN

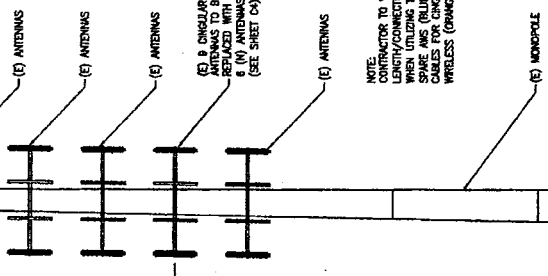
SHEET NUMBER
C2

PURPOSE OF THESE DESIGN DOCUMENTS ARE FOR 4 ANTENNA REPLACEMENTS, 3 ANTENNA REMOVALS, AND 3 RUNS OF 1 5/8" COAXIAL CABLES FOR CINGULAR WIRELESS.



ANTENNA PLAN VIEW
2
SCALE: 1:147 - NTS
SCALE: 22:54 - NTS

CONSTRUCTION SHALL NOT PROCEED UNTIL A STRUCTURAL ANALYSIS HAS BEEN PERFORMED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN CT TO DETERMINE IF THE TOWER IS STRUCTURALLY ADEQUATE TO SUPPORT PROPOSED.



NOTE:
CONTRACTOR TO VERIFY COAX LENGTH/CONNECTIONIZATION WHEN UTILIZING THE 3 (E) SHARE AMS (RELIEF) COAX CABLES FOR CINGULAR WIRELESS (CABLES).

SITE ELEVATION
1
SCALE: 1:147 - 1"=30'-0"
SCALE: 22:54 - 1"=10'-0"

DETAILED STRUCTURAL ANALYSIS AND EVALUATION OF 130' MONOPOLE FOR NEW ANTENNA ARRANGEMENT

Cingular Site # 2094
2 Sunny Lane
Westport, Connecticut

prepared for

Site Acquisitions, Inc.

184 Rockingham Road, Unit A
Londonderry, NH 03053



Cingular Wireless
500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06067

prepared by



URS CORPORATION
500 ENTERPRISE DR, SUITE 3B
ROCKY HILL, CT 06067
TEL. 860-529-8882

36915461.00008
SAI-001

November 22, 2005

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 - **ANCHOR BOLT AND BASE PLATE ANALYSIS**

1. EXECUTIVE SUMMARY

This report summarizes the structural analysis of the existing 130' steel monopole structure located at 2 Sunny Lane in Westport, Connecticut. The analysis was conducted in accordance with the TIA/EIA-222-F standard for wind velocity of 85 mph and 74 mph concurrent with 1/2" ice. The antenna loading considered in the analysis consists of all existing and proposed antennas, transmission lines, and ancillary items as outlined in the Introduction Section of this report. The proposed Cingular Wireless modification is as follows:

Proposed Antenna and Mount	Carrier	Antenna Center Elevation
Remove (9) existing 7120.16 antennas		
Install (6) Powerwave 7770.00 antennas, (6) LGP13519 diplexers, and (6) LGP21401 TMA's on the existing platform with (12) 1 5/8" coax cables inside monopole.	Cingular Wireless (Proposed)	@ 100'

The results of the analysis indicate that the tower structure is in compliance with the proposed loading conditions. **The tower and its foundation are considered structurally adequate with the TIA/EIA-222-F wind load classification specified above and all the existing and proposed antenna loading.**

This analysis is based on:


- 1) The tower structure's theoretical capacity, not including any assessment of the condition of the tower.
- 2) Tower geometry and structural member sizes taken from original construction drawings (EEI Job #: 10847) prepared by Engineered Endeavors, Inc., signed and sealed April 10, 2002.
- 3) Antenna and mount configuration as specified on the following page of this report.

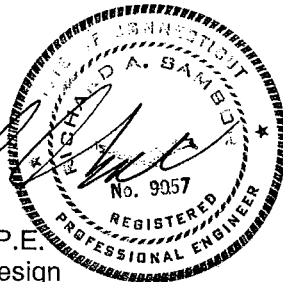
This report is only valid as per the assumptions and data utilized in this report for antenna inventory, mounts and associated cables. The user of this report shall field verify the assumption of the antenna and mount configuration. Notify the engineer in writing immediately if any of the information in this report is found to be other than specified.

If you should have any questions, please call.

Sincerely,

URS Corporation


 Richard A. Sambor, P.E.
 Manager Facilities Design



RAS/jek

cc: AA, DR, IA – URS
CF/Book

2. INTRODUCTION

The subject tower is located at 2 Sunny Lane in Westport, Connecticut. The structure is a 130' (growable to 160') steel monopole designed by EEI, Inc.

The tower geometry and structure member sizes were taken from the original construction drawings (EEI Job #: 10847) prepared by Engineered Endeavors, Inc., signed and sealed April 10, 2002.

The inventory is summarized in the table below:

<i>Antenna Type</i>	<i>Carrier</i>	<i>Mount</i>	<i>Antenna Centerline Elevation</i>	<i>Cable</i>
(3) 14' Omni antennas	Nextel (existing)	Low-Profile Platform	137'	(3) 1 5/8" coax cables (within monopole)
(6) 48"x6.5"x3" Panel antennas and (6) LPA-185080/8CFx2 antennas	Verizon (existing)	Low-Profile Platform (listed above)	130'	(12) 1 5/8" coax cables (within monopole)
(9) 60"x6.1"x2.8" Panel antennas	Sprint (existing and future)	Low-Profile Platform	120'	(12) 1 5/8" coax cables (within monopole)
(12) 56"x8"x2.75" Panel antennas	T-Mobile (existing)	Low-Profile Platform	110'	(12) 1 5/8" coax cables (within monopole)
(6) Powerwave 7770.00 antennas, (6) LGP13519 diplexers, and (6) LGP21401 TMA's	Cingular (proposed)	Low-Profile Platform	100'	(12) 1 5/8" coax cables (within monopole)
(1) GPS antenna	Cingular (existing)	Low-Profile Platform (listed above)	100'	(1) 1/2" coax cable (within monopole)
(12) 7250.03 antennas	AT&T (existing and future))	Low-Profile Platform	90'	(12) 1 5/8" coax cables (within monopole)
(4) GPS antennas	(existing)	(4) Side Arm Mounts	70'	(4) 1/2" coax cables (within monopole)

This structural analysis of the communications tower was performed by URS Corporation (URS) for Site Acquisitions, Inc./Cingular Wireless. The purpose of this analysis was to investigate the structural integrity of the existing tower with its existing and proposed antenna loads. This analysis was conducted to evaluate stress on the tower and the effect of forces to the foundation of the tower resulting from existing and proposed antenna arrangements.

3. ANALYSIS METHODOLOGY AND LOADING CONDITIONS

The structural analysis was done in accordance with TIA/EIA-222-F, Structural Standard for Steel Antenna Towers and Antenna Supporting Structures, and the American Institute of Steel Construction (AISC) Manual of Steel Construction, Allowable Stress Design (ASD).

The analysis was conducted using ERI Tower 3.0. Two load conditions were evaluated as shown below which were compared to allowable stresses according to AISC and TIA/EIA.

Load Condition 1 = 85 mph Wind Load (without ice) + Tower Dead Load
Load Condition 2 = 74 mph Wind Load (with ice) + Ice Load + Tower Dead Load

Please note that wind pressure is a function of velocity squared. Under Load Condition 2, a 25 percent reduction in wind pressure is allowed by code to account for the unlikelihood of the full wind pressure and ice load occurring at the same time. The same results may be achieved by utilizing a lower wind pressure without taking the 25 percent reduction, as shown above.

The TIA/EIA standard permits a one-third increase in allowable stresses for towers and monopoles less than 700 feet tall. For the purposes of this analysis, in computing the load capacity the allowable stresses of the tower members were increased by one-third.

4. FINDINGS AND EVALUATION

Combined axial and bending stresses on the monopole structure were evaluated to compare with allowable stresses in accordance with AISC. The calculated stresses under the proposed loading were below the allowable stresses. Detailed analysis and calculations for the proposed load condition are provided in section 6 of this report. The anchor bolts and base plate were found to be structurally adequate. No further analysis was performed on the foundation since the calculated loads at the top of the foundation were below the original design.

5. CONCLUSIONS

The results of the analysis indicate that the tower structure is in compliance with the proposed loading conditions. **The tower and its foundation are structurally adequate under the TIA/EIA-222-F wind load classification specified above and the proposed antenna loadings.**

Limitations/Assumptions:

This report is based on the following:

1. Tower inventory as listed in this report.
2. Tower is properly installed and maintained.
3. All members are as specified in the original design documents and are in good condition.
4. All required members are in place.
5. All bolts are in place and are properly tightened.
6. Tower is in plumb condition.
7. All member protective coatings are in good condition.
8. All tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
9. Foundations were properly constructed to support original design loads as specified in the original design documents.
10. All coaxial cable is installed within the monopole unless specified otherwise.

URS is not responsible for any modifications completed prior to or hereafter in which URS is not or was not directly involved. Modifications include but are not limited to:

- A. Adding antennas
- B. Removing/replacing antennas
- C. Adding coaxial cables

URS hereby states that this document represents the entire report and that it assumes no liability for any factual changes that may occur after the date of this report. All representations, recommendations, and conclusions are based upon information contained and set forth herein. If you are aware of any information which conflicts with that which is contained herein, or you are aware of any defects arising from original design, material, fabrication, or erection deficiencies, you should disregard this report and immediately contact URS. URS disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

Ongoing and Periodic Inspection and Maintenance:

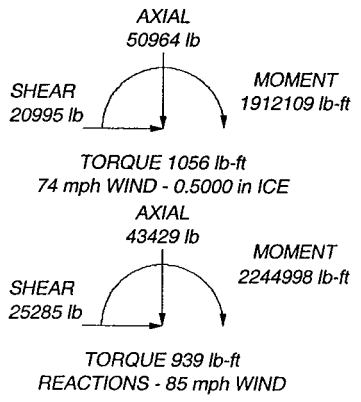
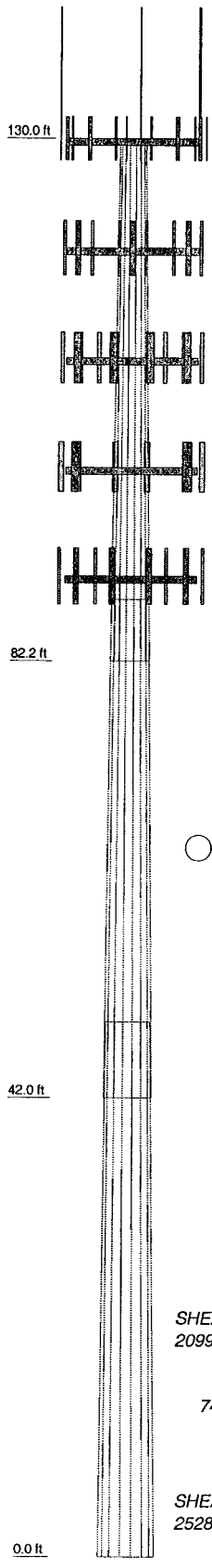
After the Contractor has successfully completed the installation and the work has been accepted, the owner will be responsible for the ongoing and periodic inspection and maintenance of the tower.

The owner shall refer to TIA/EIA-222-F for recommendations for maintenance and inspection. The frequency of the inspection and maintenance intervals is to be determined by the owner based upon actual site and environmental conditions. It is recommended that a complete and thorough inspection of the entire tower structural system be performed at least yearly and more frequently as conditions warrant. According to TIA/EIA-222-F section 14.1, Note 1: It is recommended that the structure be inspected after severe wind and/or ice storms or other extreme loading conditions.

6. DRAWINGS AND DATA

ERI TOWER INPUT/OUTPUT SUMMARY

Section	1	2	3
Length (ft)	47.83	45.83	49.00
Number of Sides	18	18	18
Thickness (in)	0.3125	0.3750	0.4375
Lap Splice (ft)	5.67	7.00	
Top Dia (in)	28.1800	38.0501	48.7808
Bot Dia (in)	41.2200	51.4200	62.0000
Grade		A572-65	
Weight (lb)	5551.6	8327.6	12723.5
			26602.7



APPURTENANCES

TYPE	ELEVATION	TYPE	ELEVATION
14' Omni (Nextel)	137	(4) 56"x8"x2.75" Panel (T-Mobile)	110
14' Omni (Nextel)	137	(4) 56"x8"x2.75" Panel (T-Mobile)	110
14' Omni (Nextel)	137	(4) 56"x8"x2.75" Panel (T-Mobile)	110
Low Profile Platform (Verizon)	130	Low Profile Platform (Cingular)	100
48"x6.5"x3" Panel (Verizon)	130	(2) 7770.00 (Cingular)	100
48"x6.5"x3" Panel (Verizon)	130	(2) 7770.00 (Cingular)	100
LPA-185080/BCFx2 (Verizon)	130	(2) 7770.00 (Cingular)	100
LPA-185080/BCFx2 (Verizon)	130	(2) LPG13519 Diplexer (Cingular)	100
48"x6.5"x3" Panel (Verizon)	130	(2) LPG13519 Diplexer (Cingular)	100
48"x6.5"x3" Panel (Verizon)	130	(2) LPG13519 Diplexer (Cingular)	100
LPA-185080/BCFx2 (Verizon)	130	(2) LPG21401 TMA (Cingular)	100
LPA-185080/BCFx2 (Verizon)	130	(2) LPG21401 TMA (Cingular)	100
48"x6.5"x3" Panel (Verizon)	130	(2) LPG21401 TMA (Cingular)	100
48"x6.5"x3" Panel (Verizon)	130	GPS (Cingular)	100
LPA-185080/BCFx2 (Verizon)	130	(4) 7250.03 (ATT)	90
LPA-185080/BCFx2 (Verizon)	130	(4) 7250.03 (ATT)	90
Low Profile Platform (Sprint)	120	(4) 7250.03 (ATT)	90
(3) 60"x6.1"x2.8" Panel (Sprint)	120	Low Profile Platform (ATT)	90
(3) 60"x6.1"x2.8" Panel (Sprint)	120	(4) GPS	70
(3) 60"x6.1"x2.8" Panel (Sprint)	120	(4) Side Mount	70
Low Profile Platform (T-Mobile)	110		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 41.4%

URS Corporation		Job: 130' EEI Monopole	
500 Enterprise Drive, Suite 3B		Project: Cingular Site #2094--Westport, CT	
Rocky Hill, CT 06067		Client: Site Acquisitions, Inc.	Drawn by: Jed Kiernan
Phone: (860) 529-8882		Code: TIA/EIA-222-F	Date: 11/22/05
FAX: (860) 529-3991		Path: Y:\Personnel\SAI-001\Structure\ERI Filed\Sunny Lane.eri	App'd: NTS
		Scale: NTS	
		Dwg No. E-1	

ERI TOWER DETAILED OUTPUT

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job 130' EEI Monopole	Page 1 of 19
	Project Cingular Site #2094--Westport, CT	Date 16:15:33 11/22/05
	Client Site Acquisitions, Inc.	Designed by Jed Kiernan

Tower Input Data

There is a pole section.

This tower is designed using the TIA/EIA-222-F standard.

The following design criteria apply:

Tower is located in Fairfield County, Connecticut.

Basic wind speed of 85 mph.

Nominal ice thickness of 0.5000 in.

Ice density of 56 pcf.

A wind speed of 74 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 50 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.333.

Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Options

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) Add IBC .6D+W Combination | <ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension Bypass Mast Stability Checks Use Azimuth Dish Coefficients Project Wind Area of Appurt. Autocalc Torque Arm Areas SR Members Have Cut Ends √ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing | <ul style="list-style-type: none"> Treat Feedline Bundles As Cylinder Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation Consider Feedline Torque Include Angle Block Shear Check <li style="text-align: center;">Poles Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets |
|--|--|---|

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	130.00-82.17	47.83	5.67	18	28.1800	41.2200	0.3125	1.2500	A572-65 (65 ksi)
L2	82.17-42.00	45.83	7.00	18	39.0501	51.4200	0.3750	1.5000	A572-65 (65 ksi)
L3	42.00-0.00	49.00		18	48.7808	62.0000	0.4375	1.7500	A572-65 (65 ksi)

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job 130' EEI Monopole	Page 2 of 19
	Project Cingular Site #2094--Westport, CT	Date 16:15:33 11/22/05
	Client Site Acquisitions, Inc.	Designed by Jed Kiernan

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L1	28.6147	27.6411	2711.9921	9.8930	14.3154	189.4453	5427.5528	13.8232	4.4097	14.111
	41.8559	40.5751	8578.3391	14.5222	20.9398	409.6675	17167.9659	20.2914	6.7047	21.455
L2	41.2055	46.0330	8699.0062	13.7297	19.8374	438.5144	17409.4587	23.0209	6.2128	16.568
	52.2132	60.7563	20000.2427	18.1210	26.1214	765.6662	40026.8021	30.3839	8.3899	22.373
L3	51.4509	67.1307	19821.2684	17.1619	24.7806	799.8688	39668.6182	33.5717	7.8154	17.864
	62.9564	85.4872	40932.7736	21.8547	31.4960	1299.6182	81919.4076	42.7517	10.1420	23.182

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals
ft	ft ²	in					in	in
L1 130.00-82.17				1	1	1		
L2 82.17-42.00				1	1	1		
L3 42.00-0.00				1	1	1		

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement	Total Number	C _A A _A	Weight	
				ft		ft ² /ft	plf	
1 5/8 (Nextel)	C	No	Inside Pole	130.00 - 0.00	3	No Ice 1/2" Ice	0.00 0.00	1.04 1.04
1 5/8 (Verizon)	C	No	Inside Pole	130.00 - 0.00	12	No Ice 1/2" Ice	0.00 0.00	1.04 1.04
1 5/8 (Sprint)	C	No	Inside Pole	120.00 - 0.00	12	No Ice 1/2" Ice	0.00 0.00	1.04 1.04
1 5/8 (T-Mobile)	C	No	Inside Pole	110.00 - 0.00	12	No Ice 1/2" Ice	0.00 0.00	1.04 1.04
1 5/8 (Cingular)	C	No	Inside Pole	100.00 - 0.00	12	No Ice 1/2" Ice	0.00 0.00	1.04 1.04
1/2 (Cingular)	C	No	Inside Pole	100.00 - 0.00	1	No Ice 1/2" Ice	0.00 0.00	0.25 0.25
1 5/8 (ATT)	C	No	Inside Pole	90.00 - 0.00	12	No Ice 1/2" Ice	0.00 0.00	1.04 1.04
1/2	C	No	Inside Pole	70.00 - 0.00	4	No Ice 1/2" Ice	0.00 0.00	0.25 0.25

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation	Face	A _R	A _F	C _A A _A In Face	C _A A _A Out Face	Weight
	ft		ft ²	ft ²	ft ²	ft ²	lb
L1	130.00-82.17	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	1890.48
L2	82.17-42.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	2669.78
L3	42.00-0.00	A	0.000	0.000	0.000	0.000	0.00

ERITower

URS Corporation
 500 Enterprise Drive, Suite 3B
 Rocky Hill, CT 06067
 Phone: (860) 529-8882
 FAX: (860) 529-3991

Job	130' EEI Monopole	Page	3 of 19
Project	Cingular Site #2094--Westport, CT	Date	16:15:33 11/22/05
Client	Site Acquisitions, Inc.	Designed by	Jed Kiernan

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight lb
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	2804.34

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight lb
L1	130.00-82.17	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	1890.48
L2	82.17-42.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	2669.78
L3	42.00-0.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	2804.34

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight lb
Low Profile Platform (Verizon)	C	None		0.0000	130.00	No Ice 15.00	15.00	1500.00
14' Omni (Nextel)	A	From Face	3.00 -6.00 0.00	0.0000	137.00	1/2" Ice 4.00 6.00	20.00 4.00 6.00	2000.00 55.00 100.00
14' Omni (Nextel)	B	From Face	3.00 -6.00 0.00	0.0000	137.00	No Ice 4.00 6.00	4.00 6.00	55.00 100.00
14' Omni (Nextel)	C	From Face	3.00 -6.00 0.00	0.0000	137.00	No Ice 4.00 6.00	4.00 6.00	55.00 100.00
48"x6.5"x3" Panel (Verizon)	A	From Face	3.00 -6.00 0.00	0.0000	130.00	No Ice 1.70 1.99	3.06 3.39	35.00 52.31
48"x6.5"x3" Panel (Verizon)	A	From Face	3.00 6.00 0.00	0.0000	130.00	No Ice 1.70 1.99	3.06 3.39	35.00 52.31
LPA-185080/8CFx2 (Verizon)	A	From Face	3.00 -4.00 0.00	0.0000	130.00	No Ice 2.09 2.39	2.79 3.09	7.00 25.04
LPA-185080/8CFx2 (Verizon)	A	From Face	3.00 4.00 0.00	0.0000	130.00	No Ice 2.09 2.39	2.79 3.09	7.00 25.04
48"x6.5"x3" Panel (Verizon)	B	From Face	3.00 -6.00 0.00	0.0000	130.00	No Ice 1.70 1.99	3.06 3.39	35.00 52.31
48"x6.5"x3" Panel	B	From Face	3.00	0.0000	130.00	No Ice 1.70	3.06	35.00

ERITower

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Job	130' EEI Monopole	Page	4 of 19
Project	Cingular Site #2094--Westport, CT	Date	16:15:33 11/22/05
Client	Site Acquisitions, Inc.	Designed by	Jed Kiernan

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement	C _{AA} A Front	C _{AA} A Side	Weight	
			ft	°	ft	ft ²	ft ²	lb	
(Verizon)			6.00 0.00		1/2" Ice	1.99	3.39	52.31	
LPA-185080/8CFx2 (Verizon)	B	From Face	3.00 -4.00 0.00	0.0000	130.00 1/2" Ice	2.09 2.39	2.79 3.09	7.00 25.04	
LPA-185080/8CFx2 (Verizon)	B	From Face	3.00 4.00 0.00	0.0000	130.00 1/2" Ice	2.09 2.39	2.79 3.09	7.00 25.04	
48"x6.5"x3" Panel (Verizon)	C	From Face	3.00 -6.00 0.00	0.0000	130.00 1/2" Ice	1.70 1.99	3.06 3.39	35.00 52.31	
48"x6.5"x3" Panel (Verizon)	C	From Face	3.00 6.00 0.00	0.0000	130.00 1/2" Ice	1.70 1.99	3.06 3.39	35.00 52.31	
LPA-185080/8CFx2 (Verizon)	C	From Face	3.00 -4.00 0.00	0.0000	130.00 1/2" Ice	2.09 2.39	2.79 3.09	7.00 25.04	
LPA-185080/8CFx2 (Verizon)	C	From Face	3.00 4.00 0.00	0.0000	130.00 1/2" Ice	2.09 2.39	2.79 3.09	7.00 25.04	
Low Profile Platform (Sprint)	C	None		0.0000	120.00	15.00	15.00	1500.00	
(3) 60"x6.1"x2.8" Panel (Sprint)	A	From Face	3.00 0.00 0.00	0.0000	120.00 1/2" Ice	20.00 3.80 4.18	20.00 2.19 2.56	2000.00 35.00 55.12	
(3) 60"x6.1"x2.8" Panel (Sprint)	B	From Face	3.00 0.00 0.00	0.0000	120.00 1/2" Ice	3.80 4.18	2.19 2.56	35.00 55.12	
(3) 60"x6.1"x2.8" Panel (Sprint)	C	From Face	3.00 0.00 0.00	0.0000	120.00 1/2" Ice	3.80 4.18	2.19 2.56	35.00 55.12	
Low Profile Platform (T-Mobile)	C	None		0.0000	110.00	15.00	15.00	1500.00	
(4) 56"x8"x2.75" Panel (T-Mobile)	A	From Face	3.00 0.00 0.00	0.0000	110.00 1/2" Ice	20.00 4.36 4.77	20.00 1.97 2.31	2000.00 35.00 57.42	
(4) 56"x8"x2.75" Panel (T-Mobile)	B	From Face	3.00 0.00 0.00	0.0000	110.00 1/2" Ice	4.36 4.77	1.97 2.31	35.00 57.42	
(4) 56"x8"x2.75" Panel (T-Mobile)	C	From Face	3.00 0.00 0.00	0.0000	110.00 1/2" Ice	4.36 4.77	1.97 2.31	35.00 57.42	
Low Profile Platform (Cingular)	C	None		0.0000	100.00	15.00	15.00	1500.00	
(2) 7770.00 (Cingular)	A	From Face	3.00 0.00 0.00	0.0000	100.00 1/2" Ice	20.00 5.88 6.31	20.00 2.93 3.27	2000.00 35.00 67.63	
(2) 7770.00 (Cingular)	B	From Face	3.00 0.00 0.00	0.0000	100.00 1/2" Ice	5.88 6.31	2.93 3.27	35.00 67.63	
(2) 7770.00 (Cingular)	C	From Face	3.00 0.00 0.00	0.0000	100.00 1/2" Ice	5.88 6.31	2.93 3.27	35.00 67.63	
(2) LPG13519 Diplexer (Cingular)	A	From Face	3.00 0.00 0.00	0.0000	100.00 1/2" Ice	0.27 0.34	0.18 0.25	5.30 7.71	
(2) LPG13519 Diplexer	B	From Face	3.00	0.0000	100.00	No Ice	0.27	0.18	5.30

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job 130' EEI Monopole	Page 5 of 19
	Project Cingular Site #2094--Westport, CT	Date 16:15:33 11/22/05
	Client Site Acquisitions, Inc.	Designed by Jed Kiernan

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight lb
(Cingular)			0.00 0.00			1/2" Ice 0.34	0.25	7.71
(2) LPG13519 Diplexer (Cingular)	C	From Face	3.00 0.00 0.00	0.0000	100.00	No Ice 0.27 1/2" Ice 0.34	0.18 0.25	5.30 7.71
(2) LPG21401 TMA (Cingular)	A	From Face	3.00 0.00 0.00	0.0000	100.00	No Ice 0.95 1/2" Ice 1.09	0.37 0.48	17.50 23.31
(2) LPG21401 TMA (Cingular)	B	From Face	3.00 0.00 0.00	0.0000	100.00	No Ice 0.95 1/2" Ice 1.09	0.37 0.48	17.50 23.31
(2) LPG21401 TMA (Cingular)	C	From Face	3.00 0.00 0.00	0.0000	100.00	No Ice 0.95 1/2" Ice 1.09	0.37 0.48	17.50 23.31
Low Profile Platform (ATT)	C	None		0.0000	90.00	No Ice 15.00 1/2" Ice 20.00	15.00 20.00	1500.00 2000.00
(4) 7250.03 (ATT)	A	From Face	3.00 0.00 0.00	0.0000	90.00	No Ice 4.00 1/2" Ice 4.39	1.87 2.33	15.40 35.03
(4) 7250.03 (ATT)	B	From Face	3.00 0.00 0.00	0.0000	90.00	No Ice 4.00 1/2" Ice 4.39	1.87 2.33	15.40 35.03
(4) 7250.03 (ATT)	C	From Face	3.00 0.00 0.00	0.0000	90.00	No Ice 4.00 1/2" Ice 4.39	1.87 2.33	15.40 35.03
GPS (Cingular)	C	From Face	3.00 0.00 0.00	0.0000	100.00	No Ice 1.00 1/2" Ice 1.50	1.00 1.50	10.00 15.00
(4) GPS	C	From Face	3.00 0.00 0.00	0.0000	70.00	No Ice 1.00 1/2" Ice 1.50	1.00 1.50	10.00 15.00
(4) Side Mount	C	None		0.0000	70.00	No Ice 1.88 1/2" Ice 2.21	1.88 2.21	57.00 73.81

Tower Pressures - No Ice

$G_H = 1.690$

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _{AA} In Face ft ²	C _{AA} Out Face ft ²
L1 130.00-82.17	104.97	1.392	26	138.317	A	0.000	138.317	138.317	100.00	0.000	0.000
					B	0.000	138.317	100.00	0.000	0.000	
					C	0.000	138.317	100.00	0.000	0.000	
L2 82.17-42.00	61.76	1.196	22	153.973	A	0.000	153.973	153.973	100.00	0.000	0.000
					B	0.000	153.973	100.00	0.000	0.000	
					C	0.000	153.973	100.00	0.000	0.000	
L3 42.00-0.00	20.30	1	18	197.171	A	0.000	197.171	197.171	100.00	0.000	0.000
					B	0.000	197.171	100.00	0.000	0.000	
					C	0.000	197.171	100.00	0.000	0.000	

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job 130' EEI Monopole	Page 6 of 19
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Section Elevation	z	K _Z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		psf	ft ²	e	ft ²	ft ²	ft ²		ft ²	ft ²
					C	0.000	197.171		100.00		

Tower Pressure - With Ice

$G_H = 1.690$

Section Elevation	z	K _Z	q _z	t _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		psf	in	ft ²	e	ft ²	ft ²	ft ²		ft ²	ft ²
L1 130.00-82.17	104.97	1.392	19	0.5000	142.303	A	0.000	142.303	142.303	100.00	0.000	0.000
						B	0.000	142.303		100.00		
						C	0.000	142.303		100.00		
L2 82.17-42.00	61.76	1.196	17	0.5000	157.320	A	0.000	157.320	157.320	100.00	0.000	0.000
						B	0.000	157.320		100.00		
						C	0.000	157.320		100.00		
L3 42.00-0.00	20.30	1	14	0.5000	200.671	A	0.000	200.671	200.671	100.00	0.000	0.000
						B	0.000	200.671		100.00		
						C	0.000	200.671		100.00		

Tower Pressure - Service

$G_H = 1.690$

Section Elevation	z	K _Z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		psf	ft ²	e	ft ²	ft ²	ft ²		ft ²	ft ²
L1 130.00-82.17	104.97	1.392	9	138.317	A	0.000	138.317	138.317	100.00	0.000	0.000
					B	0.000	138.317		100.00		
					C	0.000	138.317		100.00		
L2 82.17-42.00	61.76	1.196	8	153.973	A	0.000	153.973	153.973	100.00	0.000	0.000
					B	0.000	153.973		100.00		
					C	0.000	153.973		100.00		
L3 42.00-0.00	20.30	1	6	197.171	A	0.000	197.171	197.171	100.00	0.000	0.000
					B	0.000	197.171		100.00		
					C	0.000	197.171		100.00		

Tower Forces - No Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb	e						ft ²	lb	plf	
L1 130.00-82.17	1890.48	5551.61	A	1	0.65	1	1	1	138.317	3902.27	81.58	C
			B	1	0.65	1	1	1	138.317			
			C	1	0.65	1	1	1	138.317			
L2 82.17-42.00	2669.78	8327.59	A	1	0.65	1	1	1	153.973	3723.65	92.70	C
			B	1	0.65	1	1	1	153.973			

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Job	130' EEI Monopole	Page	7 of 19
Project	Cingular Site #2094--Westport, CT	Date	16:15:33 11/22/05
Client	Site Acquisitions, Inc.	Designed by	Jed Kiernan

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L3 42.00-0.00	2804.34	12723.46	C	1	0.65	1	1	1	153.973	4006.10	95.38	C
			A	1	0.65	1	1	1	197.171			
			B	1	0.65	1	1	1	197.171			
			C	1	0.65	1	1	1	197.171			
Sum Weight:	7364.60	26602.66						OTM 720908.10	11632.02			

Tower Forces - No Ice - Wind 45 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1 130.00-82.17	1890.48	5551.61	A	1	0.65	1	1	1	138.317	3902.27	81.58	C
			B	1	0.65	1	1	1	138.317			
			C	1	0.65	1	1	1	138.317			
L2 82.17-42.00	2669.78	8327.59	A	1	0.65	1	1	1	153.973	3723.65	92.70	C
			B	1	0.65	1	1	1	153.973			
			C	1	0.65	1	1	1	153.973			
L3 42.00-0.00	2804.34	12723.46	A	1	0.65	1	1	1	197.171	4006.10	95.38	C
			B	1	0.65	1	1	1	197.171			
			C	1	0.65	1	1	1	197.171			
Sum Weight:	7364.60	26602.66						OTM 720908.10	11632.02			

Tower Forces - No Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1 130.00-82.17	1890.48	5551.61	A	1	0.65	1	1	1	138.317	3902.27	81.58	C
			B	1	0.65	1	1	1	138.317			
			C	1	0.65	1	1	1	138.317			
L2 82.17-42.00	2669.78	8327.59	A	1	0.65	1	1	1	153.973	3723.65	92.70	C
			B	1	0.65	1	1	1	153.973			
			C	1	0.65	1	1	1	153.973			
L3 42.00-0.00	2804.34	12723.46	A	1	0.65	1	1	1	197.171	4006.10	95.38	C
			B	1	0.65	1	1	1	197.171			
			C	1	0.65	1	1	1	197.171			
Sum Weight:	7364.60	26602.66						OTM 720908.10	11632.02			

Tower Forces - No Ice - Wind 90 To Face

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Job	130' EEI Monopole	Page	8 of 19
Project	Cingular Site #2094--Westport, CT	Date	16:15:33 11/22/05
Client	Site Acquisitions, Inc.	Designed by	Jed Kiernan

Section Elevation	Add Weight	Self Weight	Face	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1 130.00-82.17	1890.48	5551.61	A	1	0.65	1	1	1	138.317	3902.27	81.58	C
			B	1	0.65	1	1	138.317				
			C	1	0.65	1	1	138.317				
L2 82.17-42.00	2669.78	8327.59	A	1	0.65	1	1	1	153.973	3723.65	92.70	C
			B	1	0.65	1	1	153.973				
			C	1	0.65	1	1	153.973				
L3 42.00-0.00	2804.34	12723.46	A	1	0.65	1	1	1	197.171	4006.10	95.38	C
			B	1	0.65	1	1	197.171				
			C	1	0.65	1	1	197.171				
Sum Weight:	7364.60	26602.66						OTM	720908.10 lb-ft	11632.02		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	Face	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1 130.00-82.17	1890.48	6590.74	A	1	0.65	1	1	1	142.303	3011.05	62.95	C
			B	1	0.65	1	1	142.303				
			C	1	0.65	1	1	142.303				
L2 82.17-42.00	2669.78	9480.31	A	1	0.65	1	1	1	157.320	2853.46	71.04	C
			B	1	0.65	1	1	157.320				
			C	1	0.65	1	1	157.320				
L3 42.00-0.00	2804.34	14196.67	A	1	0.65	1	1	1	200.671	3057.91	72.81	C
			B	1	0.65	1	1	200.671				
			C	1	0.65	1	1	200.671				
Sum Weight:	7364.60	30267.72						OTM	554367.31 lb-ft	8922.42		

Tower Forces - With Ice - Wind 45 To Face

Section Elevation	Add Weight	Self Weight	Face	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1 130.00-82.17	1890.48	6590.74	A	1	0.65	1	1	1	142.303	3011.05	62.95	C
			B	1	0.65	1	1	142.303				
			C	1	0.65	1	1	142.303				
L2 82.17-42.00	2669.78	9480.31	A	1	0.65	1	1	1	157.320	2853.46	71.04	C
			B	1	0.65	1	1	157.320				
			C	1	0.65	1	1	157.320				
L3 42.00-0.00	2804.34	14196.67	A	1	0.65	1	1	1	200.671	3057.91	72.81	C
			B	1	0.65	1	1	200.671				
			C	1	0.65	1	1	200.671				
Sum Weight:	7364.60	30267.72						OTM	554367.31 lb-ft	8922.42		

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Tower Forces - With Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1 130.00-82.17	1890.48	6590.74	A	1	0.65	1	1	1	142.303	3011.05	62.95	C
			B	1	0.65	1	1	1	142.303			
			C	1	0.65	1	1	1	142.303			
L2 82.17-42.00	2669.78	9480.31	A	1	0.65	1	1	1	157.320	2853.46	71.04	C
			B	1	0.65	1	1	1	157.320			
			C	1	0.65	1	1	1	157.320			
L3 42.00-0.00	2804.34	14196.67	A	1	0.65	1	1	1	200.671	3057.91	72.81	C
			B	1	0.65	1	1	1	200.671			
			C	1	0.65	1	1	1	200.671			
Sum Weight:	7364.60	30267.72						OTM	554367.31 lb-ft	8922.42		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1 130.00-82.17	1890.48	6590.74	A	1	0.65	1	1	1	142.303	3011.05	62.95	C
			B	1	0.65	1	1	1	142.303			
			C	1	0.65	1	1	1	142.303			
L2 82.17-42.00	2669.78	9480.31	A	1	0.65	1	1	1	157.320	2853.46	71.04	C
			B	1	0.65	1	1	1	157.320			
			C	1	0.65	1	1	1	157.320			
L3 42.00-0.00	2804.34	14196.67	A	1	0.65	1	1	1	200.671	3057.91	72.81	C
			B	1	0.65	1	1	1	200.671			
			C	1	0.65	1	1	1	200.671			
Sum Weight:	7364.60	30267.72						OTM	554367.31 lb-ft	8922.42		

Tower Forces - Service - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1 130.00-82.17	1890.48	5551.61	A	1	0.65	1	1	1	138.317	1350.27	28.23	C
			B	1	0.65	1	1	1	138.317			
			C	1	0.65	1	1	1	138.317			
L2 82.17-42.00	2669.78	8327.59	A	1	0.65	1	1	1	153.973	1288.46	32.08	C
			B	1	0.65	1	1	1	153.973			
			C	1	0.65	1	1	1	153.973			
L3 42.00-0.00	2804.34	12723.46	A	1	0.65	1	1	1	197.171	1386.19	33.00	C
			B	1	0.65	1	1	1	197.171			
			C	1	0.65	1	1	1	197.171			
Sum Weight:	7364.60	26602.66						OTM	249449.17 lb-ft	4024.92		

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Project	Cingular Site #2094--Westport, CT	Date	16:15:33 11/22/05
Client	Site Acquisitions, Inc.	Designed by	Jed Kiernan

Tower Forces - Service - Wind 45 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1 130.00-82.17	1890.48	5551.61	A	1	0.65	1	1	1	138.317	1350.27	28.23	C
			B	1	0.65	1	1	138.317				
			C	1	0.65	1	1	138.317				
L2 82.17-42.00	2669.78	8327.59	A	1	0.65	1	1	1	153.973	1288.46	32.08	C
			B	1	0.65	1	1	153.973				
			C	1	0.65	1	1	153.973				
L3 42.00-0.00	2804.34	12723.46	A	1	0.65	1	1	1	197.171	1386.19	33.00	C
			B	1	0.65	1	1	197.171				
			C	1	0.65	1	1	197.171				
Sum Weight:	7364.60	26602.66						OTM	249449.17 lb-ft	4024.92		

Tower Forces - Service - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1 130.00-82.17	1890.48	5551.61	A	1	0.65	1	1	1	138.317	1350.27	28.23	C
			B	1	0.65	1	1	138.317				
			C	1	0.65	1	1	138.317				
L2 82.17-42.00	2669.78	8327.59	A	1	0.65	1	1	1	153.973	1288.46	32.08	C
			B	1	0.65	1	1	153.973				
			C	1	0.65	1	1	153.973				
L3 42.00-0.00	2804.34	12723.46	A	1	0.65	1	1	1	197.171	1386.19	33.00	C
			B	1	0.65	1	1	197.171				
			C	1	0.65	1	1	197.171				
Sum Weight:	7364.60	26602.66						OTM	249449.17 lb-ft	4024.92		

Tower Forces - Service - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1 130.00-82.17	1890.48	5551.61	A	1	0.65	1	1	1	138.317	1350.27	28.23	C
			B	1	0.65	1	1	138.317				
			C	1	0.65	1	1	138.317				
L2 82.17-42.00	2669.78	8327.59	A	1	0.65	1	1	1	153.973	1288.46	32.08	C
			B	1	0.65	1	1	153.973				
			C	1	0.65	1	1	153.973				
L3 42.00-0.00	2804.34	12723.46	A	1	0.65	1	1	1	197.171	1386.19	33.00	C
			B	1	0.65	1	1	197.171				
			C	1	0.65	1	1	197.171				
Sum Weight:	7364.60	26602.66						OTM	249449.17	4024.92		

ERITower

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Job	130' EEI Monopole	Page	11 of 19
Project	Cingular Site #2094--Westport, CT	Date	16:15:33 11/22/05
Client	Site Acquisitions, Inc.	Designed by	Jed Kiernan

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb	e						ft ²	lb	plf	
									lb-ft			

Force Totals

Load Case	Vertical Forces	Sum of Forces X	Sum of Forces Z	Sum of Overturning Moments, M _x	Sum of Overturning Moments, M _z	Sum of Torques
	lb	lb	lb	lb-ft	lb-ft	lb-ft
Leg Weight	26602.66					
Bracing Weight	0.00					
Total Member Self-Weight	26602.66			238.25	0.00	
Total Weight	43428.86			238.25	0.00	
Wind 0 deg - No Ice		0.00	-25285.20	-2210820.75	0.00	0.00
Wind 30 deg - No Ice		12642.60	-21897.62	-1914595.01	-1105529.50	471.01
Wind 45 deg - No Ice		17879.33	-17879.33	-1563216.56	-1563454.82	666.10
Wind 60 deg - No Ice		21897.62	-12642.60	-1105291.25	-1914833.27	815.81
Wind 90 deg - No Ice		25285.20	0.00	238.25	-2211059.01	942.01
Wind 120 deg - No Ice		21897.62	12642.60	1105767.76	-1914833.27	815.81
Wind 135 deg - No Ice		17879.33	17879.33	1563693.07	-1563454.82	666.10
Wind 150 deg - No Ice		12642.60	21897.62	1915071.52	-1105529.50	471.01
Wind 180 deg - No Ice		0.00	25285.20	2211297.26	0.00	0.00
Wind 210 deg - No Ice		-12642.60	21897.62	1915071.52	1105529.50	-471.01
Wind 225 deg - No Ice		-17879.33	17879.33	1563693.07	1563454.82	-666.10
Wind 240 deg - No Ice		-21897.62	12642.60	1105767.76	1914833.27	-815.81
Wind 270 deg - No Ice		-25285.20	0.00	238.25	2211059.01	-942.01
Wind 300 deg - No Ice		-21897.62	-12642.60	-1105291.25	1914833.27	-815.81
Wind 315 deg - No Ice		-17879.33	-17879.33	-1563216.56	1563454.82	-666.10
Wind 330 deg - No Ice		-12642.60	-21897.62	-1914595.01	1105529.50	-471.01
Member Ice	3665.06					
Total Weight Ice	50964.07			357.38	0.00	
Wind 0 deg - Ice		0.00	-20995.47	-1875056.37	0.00	0.00
Wind 30 deg - Ice		10497.74	-18182.61	-1623798.57	-937706.88	529.88
Wind 45 deg - Ice		14846.04	-14846.04	-1325760.40	-1326117.78	749.37
Wind 60 deg - Ice		18182.61	-10497.74	-937349.49	-1624155.95	917.78
Wind 90 deg - Ice		20995.47	0.00	357.38	-1875413.75	1059.76
Wind 120 deg - Ice		18182.61	10497.74	938064.26	-1624155.95	917.78
Wind 135 deg - Ice		14846.04	14846.04	1326475.16	-1326117.78	749.37
Wind 150 deg - Ice		10497.74	18182.61	1624513.33	-937706.88	529.88
Wind 180 deg - Ice		0.00	20995.47	1875771.13	0.00	0.00
Wind 210 deg - Ice		-10497.74	18182.61	1624513.33	937706.88	-529.88
Wind 225 deg - Ice		-14846.04	14846.04	1326475.16	1326117.78	-749.37
Wind 240 deg - Ice		-18182.61	10497.74	938064.26	1624155.95	-917.78
Wind 270 deg - Ice		-20995.47	0.00	357.38	1875413.75	-1059.76
Wind 300 deg - Ice		-18182.61	-10497.74	-937349.49	1624155.95	-917.78
Wind 315 deg - Ice		-14846.04	-14846.04	-1325760.40	1326117.78	-749.37
Wind 330 deg - Ice		-10497.74	-18182.61	-1623798.57	937706.88	-529.88
Total Weight	43428.86			238.25	0.00	
Wind 0 deg - Service		0.00	-8749.20	-764834.07	0.00	0.00
Wind 30 deg - Service		4374.60	-7577.03	-662333.81	-382536.16	162.98
Wind 45 deg - Service		6186.62	-6186.62	-540749.57	-540987.83	230.49
Wind 60 deg - Service		7577.03	-4374.60	-382297.91	-662572.07	282.29
Wind 90 deg - Service		8749.20	0.00	238.25	-765072.32	325.96
Wind 120 deg - Service		7577.03	4374.60	382774.41	-662572.07	282.29
Wind 135 deg - Service		6186.62	6186.62	541226.08	-540987.83	230.49
Wind 150 deg - Service		4374.60	7577.03	662810.32	-382536.16	162.98
Wind 180 deg - Service		0.00	8749.20	765310.58	0.00	0.00

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Job	130' EEI Monopole	Page	12 of 19
Project	Cingular Site #2094--Westport, CT	Date	16:15:33 11/22/05
Client	Site Acquisitions, Inc.	Designed by	Jed Kiernan

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M _x lb-ft	Sum of Overturning Moments, M _z lb-ft	Sum of Torques lb-ft
Wind 210 deg - Service		-4374.60	7577.03	662810.32	382536.16	-162.98
Wind 225 deg - Service		-6186.62	6186.62	541226.08	540987.83	-230.49
Wind 240 deg - Service		-7577.03	4374.60	382774.41	662572.07	-282.29
Wind 270 deg - Service		-8749.20	0.00	238.25	765072.32	-325.96
Wind 300 deg - Service		-7577.03	-4374.60	-382297.91	662572.07	-282.29
Wind 315 deg - Service		-6186.62	-6186.62	-540749.57	540987.83	-230.49
Wind 330 deg - Service		-4374.60	-7577.03	-662333.81	382536.16	-162.98

Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice
3	Dead+Wind 30 deg - No Ice
4	Dead+Wind 45 deg - No Ice
5	Dead+Wind 60 deg - No Ice
6	Dead+Wind 90 deg - No Ice
7	Dead+Wind 120 deg - No Ice
8	Dead+Wind 135 deg - No Ice
9	Dead+Wind 150 deg - No Ice
10	Dead+Wind 180 deg - No Ice
11	Dead+Wind 210 deg - No Ice
12	Dead+Wind 225 deg - No Ice
13	Dead+Wind 240 deg - No Ice
14	Dead+Wind 270 deg - No Ice
15	Dead+Wind 300 deg - No Ice
16	Dead+Wind 315 deg - No Ice
17	Dead+Wind 330 deg - No Ice
18	Dead+Ice+Temp
19	Dead+Wind 0 deg+Ice+Temp
20	Dead+Wind 30 deg+Ice+Temp
21	Dead+Wind 45 deg+Ice+Temp
22	Dead+Wind 60 deg+Ice+Temp
23	Dead+Wind 90 deg+Ice+Temp
24	Dead+Wind 120 deg+Ice+Temp
25	Dead+Wind 135 deg+Ice+Temp
26	Dead+Wind 150 deg+Ice+Temp
27	Dead+Wind 180 deg+Ice+Temp
28	Dead+Wind 210 deg+Ice+Temp
29	Dead+Wind 225 deg+Ice+Temp
30	Dead+Wind 240 deg+Ice+Temp
31	Dead+Wind 270 deg+Ice+Temp
32	Dead+Wind 300 deg+Ice+Temp
33	Dead+Wind 315 deg+Ice+Temp
34	Dead+Wind 330 deg+Ice+Temp
35	Dead+Wind 0 deg - Service
36	Dead+Wind 30 deg - Service
37	Dead+Wind 45 deg - Service
38	Dead+Wind 60 deg - Service
39	Dead+Wind 90 deg - Service
40	Dead+Wind 120 deg - Service
41	Dead+Wind 135 deg - Service
42	Dead+Wind 150 deg - Service
43	Dead+Wind 180 deg - Service
44	Dead+Wind 210 deg - Service

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Job	130' EEI Monopole	Page	13 of 19
Project	Cingular Site #2094--Westport, CT	Date	16:15:33 11/22/05
Client	Site Acquisitions, Inc.	Designed by	Jed Kiernan

Comb. No.	Description
45	Dead+Wind 225 deg - Service
46	Dead+Wind 240 deg - Service
47	Dead+Wind 270 deg - Service
48	Dead+Wind 300 deg - Service
49	Dead+Wind 315 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L1	130 - 82.167	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	18	-20322.90	0.00	-67.72
			Max. Mx	6	-15255.98	-375764.09	-49.36
			Max. My	10	-15255.91	0.00	-375810.61
			Max. Vy	6	16947.13	-375764.09	-49.36
			Max. Vx	10	16947.19	0.00	-375810.61
			Max. Torque	23			-217.11
L2	82.167 - 42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	18	-31857.16	0.00	-357.38
			Max. Mx	6	-25743.99	-	-240.22
			Max. My	10	-25743.95	112456.21	-
			Max. Vy	6	20942.60	0.00	112698.28
			Max. Vx	10	20942.65	112456.21	-240.22
			Max. Torque	23			112698.28
L3	42 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	18	-50964.07	0.00	-357.38
			Max. Mx	6	-43421.20	-	-242.98
			Max. My	10	-43421.20	2244754.27	-
			Max. Vy	6	25298.35	0.00	2244997.75
			Max. Vx	10	25298.35	2244754.27	-242.98
			Max. Torque	23			2244997.75
					-1056.48		

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Pole	Max. Vert	27	50964.07	0.00	-20995.49
	Max. H _x	14	43428.86	25285.20	-0.00
	Max. H _z	2	43428.86	0.00	25285.20
	Max. M _x	2	2244510.79	0.00	25285.20
	Max. M _z	6	2244754.27	-25285.20	-0.00
	Max. Torsion	31	1056.36	20995.49	0.00
	Min. Vert	1	43428.86	0.00	0.00
	Min. H _x	6	43428.86	-25285.20	-0.00

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Project	Cingular Site #2094--Westport, CT	Date	16:15:33 11/22/05
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Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
	Min. H _z	10	43428.86	0.00	-25285.20
	Min. M _x	10	-2244997.75	0.00	-25285.20
	Min. M _z	14	-2244754.27	25285.20	-0.00
	Min. Torsion	23	-1056.36	-20995.49	0.00

Tower Mast Reaction Summary

Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
Dead Only	43428.86	0.00	0.00	238.25	0.00	0.00
Dead+Wind 0 deg - No Ice	43428.86	0.00	-25285.20	-2244510.79	0.00	0.00
Dead+Wind 30 deg - No Ice	43428.86	12642.60	-21897.62	-1943770.90	-1122376.89	469.58
Dead+Wind 45 deg - No Ice	43428.86	17879.33	-17879.33	-1587037.79	-1587280.68	664.09
Dead+Wind 60 deg - No Ice	43428.86	21897.62	-12642.60	-1122134.10	-1944013.97	813.34
Dead+Wind 90 deg - No Ice	43428.86	25285.20	0.00	242.89	-2244754.27	939.16
Dead+Wind 120 deg - No Ice	43428.86	21897.62	12642.60	1122620.18	-1944014.48	813.34
Dead+Wind 135 deg - No Ice	43428.86	17879.33	17879.33	1587524.16	-1587281.27	664.09
Dead+Wind 150 deg - No Ice	43428.86	12642.60	21897.62	1944257.56	-1122377.40	469.58
Dead+Wind 180 deg - No Ice	43428.86	0.00	25285.20	2244997.75	0.00	0.00
Dead+Wind 210 deg - No Ice	43428.86	-12642.60	21897.62	1944257.56	1122377.40	-469.58
Dead+Wind 225 deg - No Ice	43428.86	-17879.33	17879.33	1587524.16	1587281.27	-664.09
Dead+Wind 240 deg - No Ice	43428.86	-21897.62	12642.60	1122620.18	1944014.48	-813.34
Dead+Wind 270 deg - No Ice	43428.86	-25285.20	0.00	242.89	2244754.27	-939.16
Dead+Wind 300 deg - No Ice	43428.86	-21897.62	-12642.60	-1122134.10	1944013.97	-813.34
Dead+Wind 315 deg - No Ice	43428.86	-17879.33	-17879.33	-1587037.79	1587280.68	-664.09
Dead+Wind 330 deg - No Ice	43428.86	-12642.60	-21897.62	-1943770.90	1122376.89	-469.58
Dead+Ice+Temp	50964.07	0.00	0.00	357.38	0.00	0.00
Dead+Wind 0 deg+Ice+Temp	50964.07	0.00	-20995.49	-1911373.99	0.00	0.00
Dead+Wind 30 deg+Ice+Temp	50964.07	10497.75	-18182.63	-1655249.40	-955870.37	528.18
Dead+Wind 45 deg+Ice+Temp	50964.07	14846.05	-14846.05	-1351438.28	-1351804.93	746.96
Dead+Wind 60 deg+Ice+Temp	50964.07	18182.63	-10497.75	-955503.87	-1655616.28	914.84
Dead+Wind 90 deg+Ice+Temp	50964.07	20995.49	-0.00	366.64	-1911741.38	1056.36
Dead+Wind 120 deg+Ice+Temp	50964.07	18182.63	10497.75	956237.52	-1655616.92	914.84
Dead+Wind 135 deg+Ice+Temp	50964.07	14846.05	14846.05	1352172.31	-1351804.93	746.96
Dead+Wind 150 deg+Ice+Temp	50964.07	10497.75	18182.63	1655983.80	-955871.01	528.18
Dead+Wind 180 deg+Ice+Temp	50964.07	0.00	20995.49	1912108.76	0.00	0.00
Dead+Wind 210 deg+Ice+Temp	50964.07	-10497.75	18182.63	1655983.80	955871.01	-528.18
Dead+Wind 225 deg+Ice+Temp	50964.07	-14846.05	14846.05	1352172.31	1351804.93	-746.96
Dead+Wind 240 deg+Ice+Temp	50964.07	-18182.63	10497.75	956237.52	1655616.92	-914.84
Dead+Wind 270 deg+Ice+Temp	50964.07	-20995.49	-0.00	366.64	1911741.38	-1056.36
Dead+Wind 300 deg+Ice+Temp	50964.07	-18182.63	-10497.75	-955503.87	1655616.28	-914.84
Dead+Wind 315 deg+Ice+Temp	50964.07	-14846.05	-14846.05	-1351438.28	1351804.93	-746.96
Dead+Wind 330 deg+Ice+Temp	50964.07	-10497.75	-18182.63	-1655249.40	955870.37	-528.18
Dead+Wind 0 deg - Service	43428.86	0.00	-8749.20	-776574.06	0.00	0.00
Dead+Wind 30 deg - Service	43428.86	4374.60	-7577.03	-672500.24	-388408.81	162.58
Dead+Wind 45 deg - Service	43428.86	6186.62	-6186.62	-549049.46	-549293.02	229.93
Dead+Wind 60 deg - Service	43428.86	7577.03	-4374.60	-388165.27	-672743.82	281.60
Dead+Wind 90 deg - Service	43428.86	8749.20	0.00	243.56	-776817.69	325.17
Dead+Wind 120 deg - Service	43428.86	7577.03	4374.60	388652.42	-672743.88	281.60
Dead+Wind 135 deg - Service	43428.86	6186.62	6186.62	549536.65	-549293.09	229.93
Dead+Wind 150 deg - Service	43428.86	4374.60	7577.03	672987.46	-388408.87	162.58
Dead+Wind 180 deg - Service	43428.86	0.00	8749.20	777061.32	0.00	0.00
Dead+Wind 210 deg - Service	43428.86	-4374.60	7577.03	672987.46	388408.87	-162.58
Dead+Wind 225 deg - Service	43428.86	-6186.62	6186.62	549536.65	549293.09	-229.93
Dead+Wind 240 deg - Service	43428.86	-7577.03	4374.60	388652.42	672743.88	-281.60
Dead+Wind 270 deg - Service	43428.86	-8749.20	0.00	243.56	776817.69	-325.17

Job	130' EEI Monopole	Page	15 of 19
Project	Cingular Site #2094--Westport, CT	Date	16:15:33 11/22/05
Client	Site Acquisitions, Inc.	Designed by	Jed Kiernan

Load Combination	Vertical lb	Shear _x lb	Shear _y lb	Overtuning Moment, M _x lb-ft	Overtuning Moment, M _y lb-ft	Torque lb-ft
Dead+Wind 300 deg - Service	43428.86	-7577.03	-4374.60	-388165.27	672743.82	-281.60
Dead+Wind 315 deg - Service	43428.86	-6186.62	-6186.62	-549049.46	549293.02	-229.93
Dead+Wind 330 deg - Service	43428.86	-4374.60	-7577.03	-672500.24	388408.81	-162.58

Solution Summary

Load Comb.	Sum of Applied Forces				Sum of Reactions		% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
1	0.00	-43428.86	0.00	0.00	43428.86	0.00	0.000%
2	0.00	-43428.86	-25285.20	0.00	43428.86	25285.20	0.000%
3	12642.60	-43428.86	-21897.62	-12642.60	43428.86	21897.62	0.000%
4	17879.33	-43428.86	-17879.33	-17879.33	43428.86	17879.33	0.000%
5	21897.62	-43428.86	-12642.60	-21897.62	43428.86	12642.60	0.000%
6	25285.20	-43428.86	0.00	-25285.20	43428.86	-0.00	0.000%
7	21897.62	-43428.86	12642.60	-21897.62	43428.86	-12642.60	0.000%
8	17879.33	-43428.86	17879.33	-17879.33	43428.86	-17879.33	0.000%
9	12642.60	-43428.86	21897.62	-12642.60	43428.86	-21897.62	0.000%
10	0.00	-43428.86	25285.20	0.00	43428.86	-25285.20	0.000%
11	-12642.60	-43428.86	21897.62	12642.60	43428.86	-21897.62	0.000%
12	-17879.33	-43428.86	17879.33	17879.33	43428.86	-17879.33	0.000%
13	-21897.62	-43428.86	12642.60	21897.62	43428.86	-12642.60	0.000%
14	-25285.20	-43428.86	0.00	25285.20	43428.86	-0.00	0.000%
15	-21897.62	-43428.86	-12642.60	21897.62	43428.86	12642.60	0.000%
16	-17879.33	-43428.86	-17879.33	17879.33	43428.86	17879.33	0.000%
17	-12642.60	-43428.86	-21897.62	12642.60	43428.86	21897.62	0.000%
18	0.00	-50964.07	0.00	0.00	50964.07	0.00	0.000%
19	0.00	-50964.07	-20995.47	0.00	50964.07	20995.49	0.000%
20	10497.74	-50964.07	-18182.61	-10497.75	50964.07	18182.63	0.000%
21	14846.04	-50964.07	-14846.04	-14846.05	50964.07	14846.05	0.000%
22	18182.61	-50964.07	-10497.74	-18182.63	50964.07	10497.75	0.000%
23	20995.47	-50964.07	0.00	-20995.49	50964.07	0.00	0.000%
24	18182.61	-50964.07	10497.74	-18182.63	50964.07	-10497.75	0.000%
25	14846.04	-50964.07	14846.04	-14846.05	50964.07	-14846.05	0.000%
26	10497.74	-50964.07	18182.61	-10497.75	50964.07	-18182.63	0.000%
27	0.00	-50964.07	20995.47	0.00	50964.07	-20995.49	0.000%
28	-10497.74	-50964.07	18182.61	10497.75	50964.07	-18182.63	0.000%
29	-14846.04	-50964.07	14846.04	14846.05	50964.07	-14846.05	0.000%
30	-18182.61	-50964.07	10497.74	18182.63	50964.07	-10497.75	0.000%
31	-20995.47	-50964.07	0.00	20995.49	50964.07	0.00	0.000%
32	-18182.61	-50964.07	-10497.74	18182.63	50964.07	10497.75	0.000%
33	-14846.04	-50964.07	-14846.04	14846.05	50964.07	14846.05	0.000%
34	-10497.74	-50964.07	-18182.61	10497.75	50964.07	18182.63	0.000%
35	0.00	-43428.86	-8749.20	0.00	43428.86	8749.20	0.000%
36	4374.60	-43428.86	-7577.03	-4374.60	43428.86	7577.03	0.000%
37	6186.62	-43428.86	-6186.62	-6186.62	43428.86	6186.62	0.000%
38	7577.03	-43428.86	-4374.60	-7577.03	43428.86	4374.60	0.000%
39	8749.20	-43428.86	0.00	-8749.20	43428.86	-0.00	0.000%
40	7577.03	-43428.86	4374.60	-7577.03	43428.86	-4374.60	0.000%
41	6186.62	-43428.86	6186.62	-6186.62	43428.86	-6186.62	0.000%
42	4374.60	-43428.86	7577.03	-4374.60	43428.86	-7577.03	0.000%
43	0.00	-43428.86	8749.20	0.00	43428.86	-8749.20	0.000%
44	-4374.60	-43428.86	7577.03	4374.60	43428.86	-7577.03	0.000%
45	-6186.62	-43428.86	6186.62	6186.62	43428.86	-6186.62	0.000%
46	-7577.03	-43428.86	4374.60	7577.03	43428.86	-4374.60	0.000%
47	-8749.20	-43428.86	0.00	8749.20	43428.86	-0.00	0.000%
48	-7577.03	-43428.86	-4374.60	7577.03	43428.86	4374.60	0.000%
49	-6186.62	-43428.86	-6186.62	6186.62	43428.86	6186.62	0.000%

ERITower

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Phone: (860) 529-8882
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Job	130' EEI Monopole	Page	16 of 19
Project	Cingular Site #2094--Westport, CT	Date	16:15:33 11/22/05
Client	Site Acquisitions, Inc.	Designed by	Jed Kiernan

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
50	-4374.60	-43428.86	-7577.03	4374.60	43428.86	7577.03	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00001424
3	Yes	4	0.00000001	0.00021194
4	Yes	4	0.00000001	0.00023862
5	Yes	4	0.00000001	0.00019979
6	Yes	4	0.00000001	0.00002416
7	Yes	4	0.00000001	0.00021580
8	Yes	4	0.00000001	0.00023878
9	Yes	4	0.00000001	0.00020291
10	Yes	4	0.00000001	0.00001424
11	Yes	4	0.00000001	0.00020291
12	Yes	4	0.00000001	0.00023878
13	Yes	4	0.00000001	0.00021580
14	Yes	4	0.00000001	0.00002416
15	Yes	4	0.00000001	0.00019979
16	Yes	4	0.00000001	0.00023862
17	Yes	4	0.00000001	0.00021194
18	Yes	4	0.00000001	0.00000001
19	Yes	4	0.00000001	0.00052147
20	Yes	4	0.00000001	0.00066941
21	Yes	4	0.00000001	0.00070969
22	Yes	4	0.00000001	0.00066493
23	Yes	4	0.00000001	0.00052232
24	Yes	4	0.00000001	0.00067137
25	Yes	4	0.00000001	0.00071013
26	Yes	4	0.00000001	0.00066634
27	Yes	4	0.00000001	0.00052176
28	Yes	4	0.00000001	0.00066634
29	Yes	4	0.00000001	0.00071013
30	Yes	4	0.00000001	0.00067137
31	Yes	4	0.00000001	0.00052232
32	Yes	4	0.00000001	0.00066493
33	Yes	4	0.00000001	0.00070969
34	Yes	4	0.00000001	0.00066941
35	Yes	4	0.00000001	0.00000602
36	Yes	4	0.00000001	0.00001532
37	Yes	4	0.00000001	0.00001683
38	Yes	4	0.00000001	0.00001415
39	Yes	4	0.00000001	0.00000667
40	Yes	4	0.00000001	0.00001581
41	Yes	4	0.00000001	0.00001686
42	Yes	4	0.00000001	0.00001440
43	Yes	4	0.00000001	0.00000603
44	Yes	4	0.00000001	0.00001440
45	Yes	4	0.00000001	0.00001686
46	Yes	4	0.00000001	0.00001581
47	Yes	4	0.00000001	0.00000667
48	Yes	4	0.00000001	0.00001415
49	Yes	4	0.00000001	0.00001683
50	Yes	4	0.00000001	0.00001532

Job	130' EEI Monopole	Page	17 of 19
Project	Cingular Site #2094--Westport, CT	Date	16:15:33 11/22/05
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Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	130 - 82.167	8.945	43	0.5547	0.0004
L2	87.834 - 42	4.341	43	0.4538	0.0004
L3	49 - 0	1.376	43	0.2535	0.0002

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
137.00	14' Omni	43	8.945	0.5547	0.0004	116915
130.00	Low Profile Platform	43	8.945	0.5547	0.0004	116915
120.00	Low Profile Platform	43	7.796	0.5409	0.0004	58457
110.00	Low Profile Platform	43	6.667	0.5235	0.0004	29228
100.00	Low Profile Platform	43	5.580	0.4988	0.0004	19485
90.00	Low Profile Platform	43	4.553	0.4633	0.0004	14628
70.00	(4) GPS	43	2.763	0.3574	0.0003	10548

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	130 - 82.167	25.837	10	1.6024	0.0014
L2	87.834 - 42	12.540	10	1.3108	0.0013
L3	49 - 0	3.974	10	0.7322	0.0006

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
137.00	14' Omni	10	25.837	1.6024	0.0014	40528
130.00	Low Profile Platform	10	25.837	1.6024	0.0014	40528
120.00	Low Profile Platform	10	22.517	1.5569	0.0014	20264
110.00	Low Profile Platform	10	19.258	1.5029	0.0014	10131
100.00	Low Profile Platform	10	16.116	1.4321	0.0014	6754
90.00	Low Profile Platform	10	13.153	1.3358	0.0013	5069
70.00	(4) GPS	10	7.982	1.0563	0.0010	3654

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Job	130' EEI Monopole	Page	18 of 19
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Client	Site Acquisitions, Inc.	Designed by	Jed Kiernan

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _n ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P/P _a
L1	130 - 82.167 (1)	TP41.22x28.18x0.3125	47.83	130.00	111.6	11.982	39.0428	-15255.90	467807.00	0.033
L2	82.167 - 42 (2)	TP51.42x39.0501x0.375	45.83	130.00	89.4	18.534	58.5077	-25744.00	1084360.00	0.024
L3	42 - 0 (3)	TP62x48.7808x0.4375	49.00	130.00	71.4	24.354	85.4872	-43421.20	2081950.00	0.021

Pole Bending Design Data

Section No.	Elevation ft	Size	Actual M _x lb-ft	Actual f _{bx} ksi	Allow. F _{bx} ksi	Ratio f _{bx} /F _{bx}	Actual M _y lb-ft	Actual f _{by} ksi	Allow. F _{by} ksi	Ratio f _{by} /F _{by}
L1	130 - 82.167 (1)	TP41.22x28.18x0.3125	375810.83	-11.893	39.000	0.305	0.00	0.000	39.000	0.000
L2	82.167 - 42 (2)	TP51.42x39.0501x0.375	1112700.00	-18.810	39.000	0.482	0.00	0.000	39.000	0.000
L3	42 - 0 (3)	TP62x48.7808x0.4375	2245000.00	-20.729	39.000	0.532	0.00	0.000	39.000	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Size	Ratio P P _a	Ratio f _{bx} F _{bx}	Ratio f _{by} F _{by}	Comb. Stress Ratio	Allow. Stress	Criteria
L1	130 - 82.167 (1)	TP41.22x28.18x0.3125	0.033	0.305	0.000	0.338 ✓	1.333	H1-3 ✓
L2	82.167 - 42 (2)	TP51.42x39.0501x0.375	0.024	0.482	0.000	0.506 ✓	1.333	H1-3 ✓
L3	42 - 0 (3)	TP62x48.7808x0.4375	0.021	0.532	0.000	0.552 ✓	1.333	H1-3 ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P _{allow} lb	% Capacity	Pass Fail	
L1	130 - 82.167	Pole	TP41.22x28.18x0.3125	1	-15255.90	623586.71	25.3	Pass	
L2	82.167 - 42	Pole	TP51.42x39.0501x0.375	2	-25744.00	1445451.82	38.0	Pass	
L3	42 - 0	Pole	TP62x48.7808x0.4375	3	-43421.20	2775239.23	41.4	Pass	
							Summary		
							Pole (L3)	41.4	Pass
							RATING =	41.4	Pass

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job 130' EEI Monopole	Page 19 of 19
	Project Cingular Site #2094--Westport, CT	Date 16:15:33 11/22/05
	Client Site Acquisitions, Inc.	Designed by Jed Kiernan

Program Version 3.0.0.17 - 7/15/2004 File: Y:/Personal/SAI-001/Structural/ERI Files/Sunny Lane.eri

ANCHOR BOLT AND BASE PLATE ANALYSIS

Job 130' Monopole - Westport, CT
 Description Anchor Bolt and Base Plate Analysis

Project No. SAI-001
 Computed by JEK
 Checked by

Sheet 1 of 6
 Date 11/22/05
 Date

ANCHOR BOLT AND BASE PLATE ANALYSIS

Input Data

Tower Reactions:

Overturning Moment: OM := 2260·ft·kips *user input*
 Shear Force: Shear := 26·kips *user input*
 Axial Force: Axial := 45·kips *user input*

Anchor Bolt Data:

Use ASTM 615 Grade 75
 Number of Anchor Bolts = N $N := 20$ *user input*
 Diameter of Bolt Circle: $D_{bc} := 71\text{in}$ *user input*
 Bolt "Column" Distance: $l := 4.25\text{in}$ *user input*
 Bolt Ultimate Strength: $F_u := 100\text{·ksi}$ *user input*
 Bolt Yield Strength: $F_y := 75\text{·ksi}$ *user input*
 Bolt Modulus: $E := 29000\text{·ksi}$ *user input*
 Thickness Of Anchor Bolts $D := 2.25\text{in}$ *user input*
 Threads per Inch: $n := 4.5$ *user input*

Base Plate Data:

Plate Yield Strength: $F_{y_{bp}} := 60\text{·ksi}$ *user input*
 Base Plate Thickness: PlateThickness := 2.5·in *user input*
 Base Plate Diameter: $D_{bp} := 77\text{·in}$ *user input*
 Outer Pole Diameter: $D_{pole} := 62\text{in}$ *user input*

Geometric Layout Data:

Distance from the center of gravity of the group to bolt in question = $d(i)$

Radius of Bolt Circle: $R_{bc} := \frac{D_{bc}}{2}$

Distance to Bolts: $i := 1..N$

$$d_i := \begin{cases} \theta \leftarrow 2 \cdot \pi \cdot \left(\frac{i}{N}\right) & d_1 = 10.97 \text{ in} & d_7 = 28.72 \text{ in} \\ d \leftarrow R_{bc} \cdot \sin(\theta) & d_2 = 20.87 \text{ in} & d_8 = 20.87 \text{ in} \\ & d_3 = 28.72 \text{ in} & d_9 = 10.97 \text{ in} \\ & d_4 = 33.76 \text{ in} & d_{10} = 0.00 \text{ in} \\ & d_5 = 35.50 \text{ in} & d_{11} = -10.97 \text{ in} \\ & d_6 = 33.76 \text{ in} & \text{etc.} \end{cases}$$

Critical Distances For Bending in Plate:

Outer Pole Radius: $R_{pole} := \frac{D_{pole}}{2} \quad R_{pole} = 31.00 \text{ in}$

Moment Arms of Bolts about Neutral Axis: $MA_i := \text{if}(d_i \geq R_{pole}, d_i - R_{pole}, 0 \text{ in})$

$MA_1 = 0.00 \text{ in}$	$MA_7 = 0.00 \text{ in}$
$MA_2 = 0.00 \text{ in}$	$MA_8 = 0.00 \text{ in}$
$MA_3 = 0.00 \text{ in}$	$MA_9 = 0.00 \text{ in}$
$MA_4 = 2.76 \text{ in}$	$MA_{10} = 0.00 \text{ in}$
$MA_5 = 4.50 \text{ in}$	$MA_{11} = 0.00 \text{ in}$
$MA_6 = 2.76 \text{ in}$	etc.

Effective Width of Baseplate for Bending: $\text{EffectiveWidth} := 2 \cdot \sqrt{\left(\frac{D_{bp}}{2}\right)^2 - \left(\frac{D_{pole}}{2}\right)^2} \quad \text{EffectiveWidth} = 45.66 \text{ in}$

Job 130' Monopole - Westport, CT

 Project No. SAI-001

 Sheet 3 of 6

 Description Anchor Bolt and Base Plate Analysis

 Computed by JEK

 Date 11/22/05

 Checked by

 Date

Anchor Bolt Analysis:

 Polar Moment of Inertia I_p :

$$I_p := \sum_i (d_i)^2 \quad I_p = 1.260 \times 10^4 \text{ in}^2$$

Gross Area of Bolt:

$$A_g := \frac{\pi}{4} \cdot D^2 \quad A_g = 3.976 \text{ in}^2$$

Net Area of Bolt:

$$A_n := \frac{\pi}{4} \cdot \left(D - \frac{0.9743 \cdot \text{in}}{n} \right)^2 \quad A_n = 3.248 \text{ in}^2$$

Net Diameter:

$$D_n := \frac{2 \cdot \sqrt{A_n}}{\sqrt{\pi}} \quad D_n = 2.03 \text{ in}$$

Radius of Gyration of Bolt:

$$r := \frac{D_n}{4} \quad r = 0.51 \text{ in}$$

Section Modulus of Bolt:

$$S_x := \frac{\pi \cdot D_n^3}{32} \quad S_x = 0.826 \text{ in}^3$$

Anchor Bolt Bending Stress:

Maximum Applied Bending:

$$M_x := \left(\frac{\text{Shear}}{N} \right) \cdot l \quad M_x = 0.460 \text{ ft} \cdot \text{kips}$$

$$f_{bx} := \frac{M_x}{S_x} \quad f_{bx} = 6.7 \text{ ksi}$$

Allowable Bending

$$F_{bx} := 1.33 \cdot 0.60 \cdot F_y \quad F_{bx} = 59.8 \text{ ksi}$$

Note: 1.33 increase allowed per TIA/EIA

Job 130' Monopole - Westport, CTProject No. SAI-001Sheet 4 of 6Description Anchor Bolt and Base Plate AnalysisComputed by JEKDate 11/22/05Checked by Date **Check Tensile Forces:**

Allowable Tensile Force:

$$\text{AllowableTension} := 1.33 \cdot (0.33 \cdot A_g \cdot F_u)$$

$$\text{AllowableTension} = 174.5 \text{ kips}$$

Note: 1.33 increase allowed per TIA/EIA

Applied Tension:

$$\text{MaxTension} := \frac{\text{OM} \cdot R_{bc}}{I_p} - \frac{\text{Axial}}{N}$$

$$\text{MaxTension} = 74.1 \text{ kips}$$

Check Stresses:

$$\frac{\text{MaxTension}}{\text{AllowableTension}} = 0.42$$

$$\text{Condition} := \text{if} \left(\frac{\text{MaxTension}}{\text{AllowableTension}} \leq 1.00, \text{"OK"}, \text{"Overstressed"} \right)$$

Condition = "OK"

Check Compression & Combined Stresses (if required):

Check to see if a complete combined stress analysis is required:

Per ASCE Manual 72: "If the clearance between the base plate and concrete does not exceed two times the bolt diameter a bending stress analysis of the bolts is NOT normally required."

Set the clear space between the plate and bolt to zero and remove bending stresses if a combined stress analysis is not required:

$$l_w := \begin{cases} 1 & \text{if } l > 2 \cdot D_n \\ 0.00 \text{in} & \text{otherwise} \end{cases} \quad l = 4.25 \text{ in}$$

$$f_{bxw} := \begin{cases} f_{bx} & \text{if } l > 2 \cdot D_n \\ 0.0 \text{ksi} & \text{otherwise} \end{cases} \quad f_{bx} = 6.7 \text{ ksi}$$

Allowable Compressive Force:

$$K_w := 0.65$$

$$C_c := \sqrt{\frac{2 \cdot \pi^2 \cdot E}{F_y}} \quad C_c = 87.36$$

$$F_a := \begin{cases} \frac{\left[1 - \frac{\left(\frac{K \cdot l}{r} \right)^2}{2 \cdot C_c^2} \right] \cdot F_y}{\frac{5}{3} + \frac{3 \cdot \left(\frac{K \cdot l}{r} \right)}{8 \cdot C_c} - \frac{\left(\frac{K \cdot l}{r} \right)^3}{8 \cdot C_c^3}} & \text{if } \frac{K \cdot l}{r} \leq C_c \\ \frac{12 \cdot \pi^2 \cdot E}{23 \cdot \left(\frac{K \cdot l}{r} \right)^2} & \text{if } \frac{K \cdot l}{r} > C_c \end{cases} \quad F_a = 44.3 \text{ ksi}$$

$$F_{aw} := 1.33 \cdot F_a \quad \text{Note: 1.33 increase allowed per TIA/EIA} \quad F_a = 58.9 \text{ ksi}$$

Applied Compressive Force:

$$\text{MaxCompression} := \frac{OM \cdot R_{bc}}{I_p} + \frac{\text{Axial}}{N} \quad \text{MaxCompression} = 78.6 \text{ kips}$$

$$f_a := \frac{\text{MaxCompression}}{A_n} \quad f_a = 24.2 \text{ ksi}$$

Check Combined Stresses:

$$\frac{f_a}{F_a} + \frac{f_{bx}}{F_{bx}} = 0.52$$

$$\text{Condition} := \text{if} \left(\frac{f_a}{F_a} + \frac{f_{bx}}{F_{bx}} \leq 1.00, \text{"OK"}, \text{"Overstressed"} \right) \quad \text{Condition} = \text{"OK"}$$

Job 130' Monopole - Westport, CT
 Description Anchor Bolt and Base Plate Analysis

 Project No. SAI-001
 Computed by JEK
 Checked by
 Sheet 6 of 6
 Date 11/22/05
 Date

Base Plate Analysis:

Force from Bolt(s):

$$C_{iM} := \frac{OM \cdot d_i}{I_p} + \frac{Axial}{N}$$

- | | |
|-------------------|-----------------------|
| $C_1 = 25.9$ kips | $C_7 = 64.1$ kips |
| $C_2 = 47.2$ kips | $C_8 = 47.2$ kips |
| $C_3 = 64.1$ kips | $C_9 = 25.9$ kips |
| $C_4 = 74.9$ kips | $C_{10} = 2.3$ kips |
| $C_5 = 78.6$ kips | $C_{11} = -21.4$ kips |
| $C_6 = 74.9$ kips | etc. |

Bending Stress in Plate:

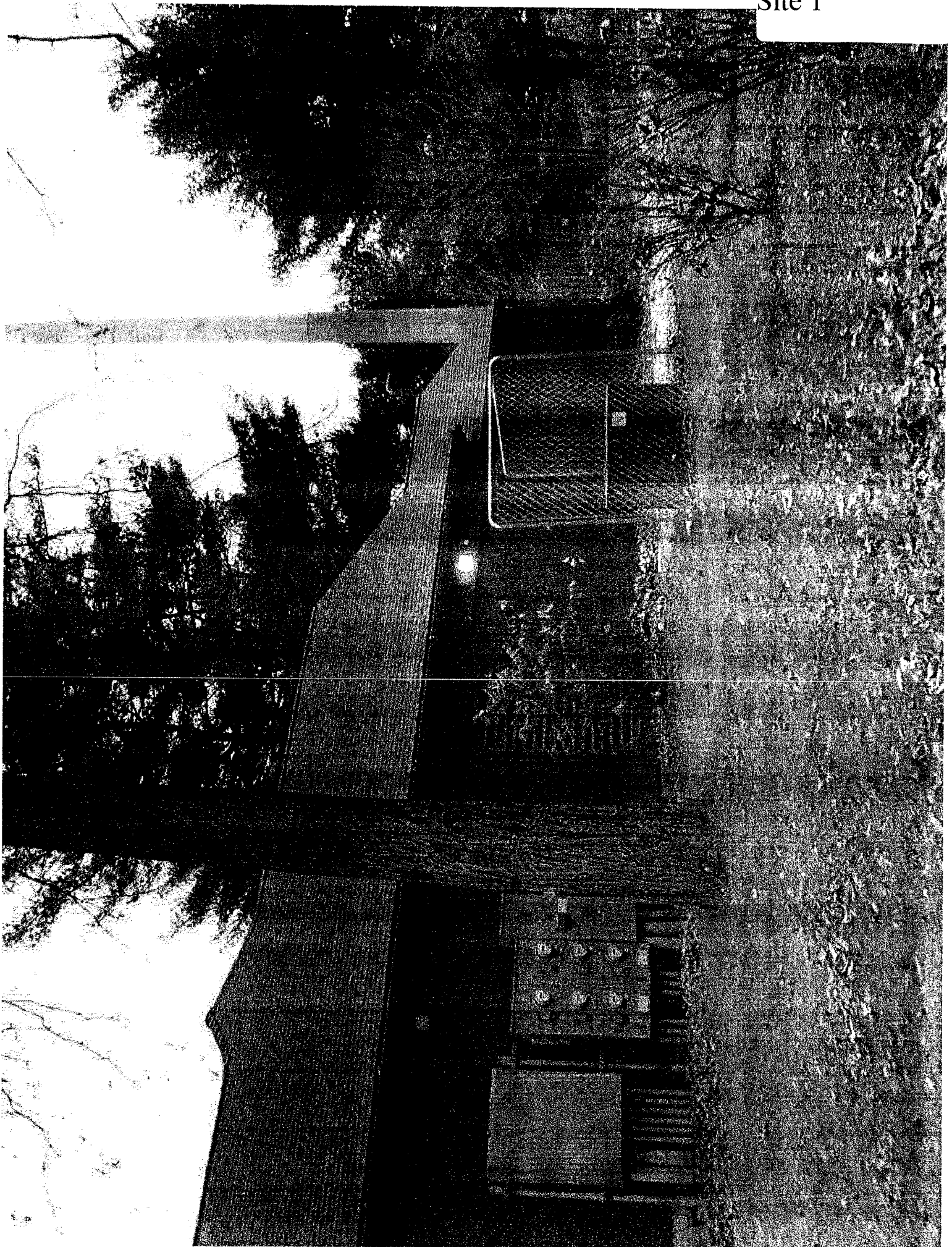
$$f_{bp} := \sum_i \frac{6 \cdot C_i \cdot MA_i}{EffectiveWidth \cdot PlateThickness^2} \quad f_{bp} = 16.1 \text{ ksi}$$

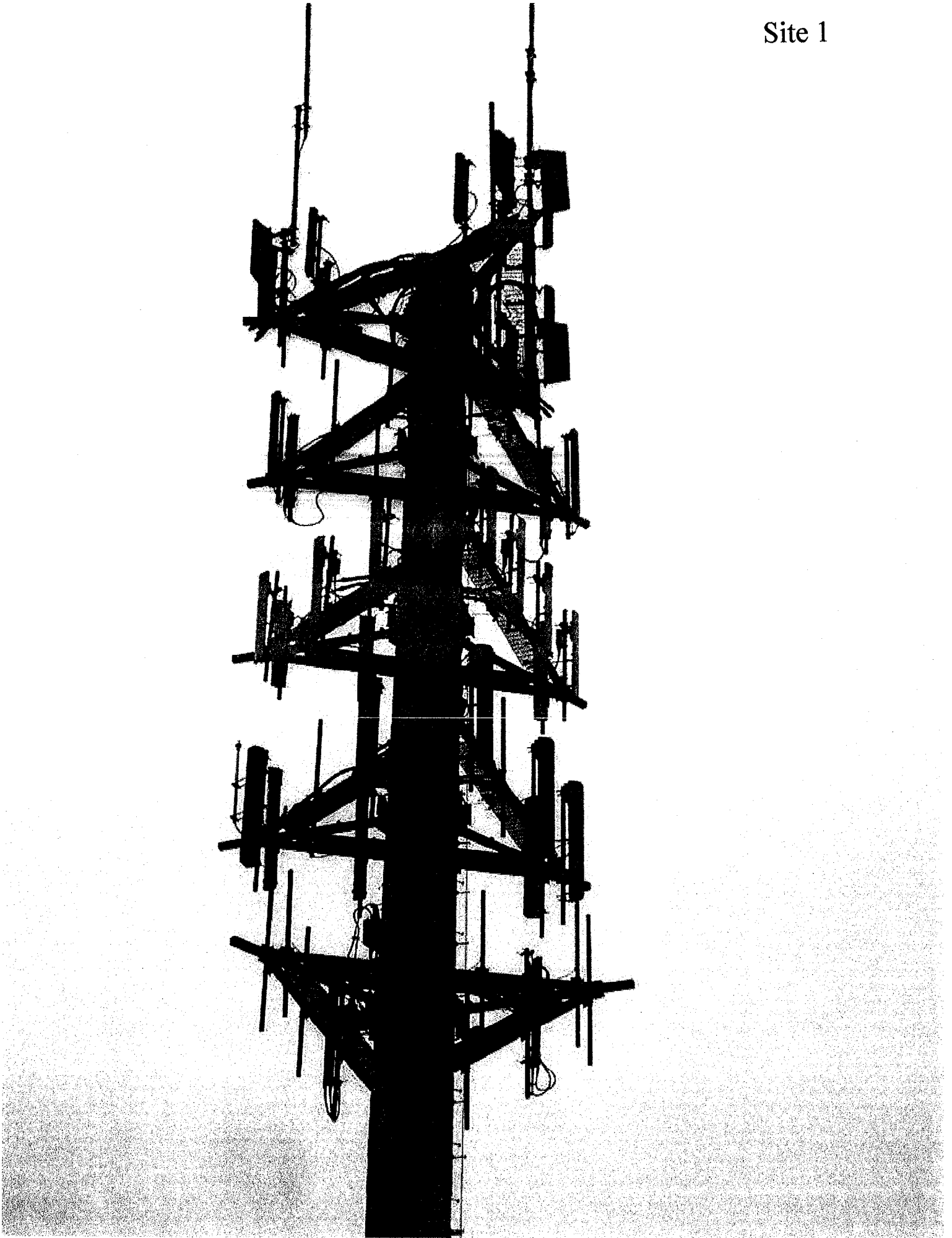
Check Stresses:

$$\frac{f_{bp}}{1.33 \cdot 0.75 F_{y_{bp}}} = 0.27$$

$$Condition := \text{if} \left(\frac{f_{bp}}{1.33 \cdot 0.75 F_{y_{bp}}} < 1.00, "OK", "Overstressed" \right)$$

Condition = "OK"

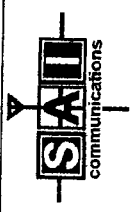




Site Specific Attachments

Site 2

1. Site Plans
2. Tower Structural Analysis
3. Site Photographs

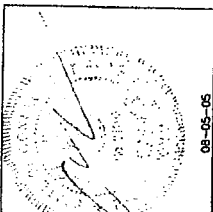


SITE NUMBER:
2153
SITE NAME:
WESTPORT FD
SITE ADDRESS:
515 POST RD.
WESTPORT, CT 06880

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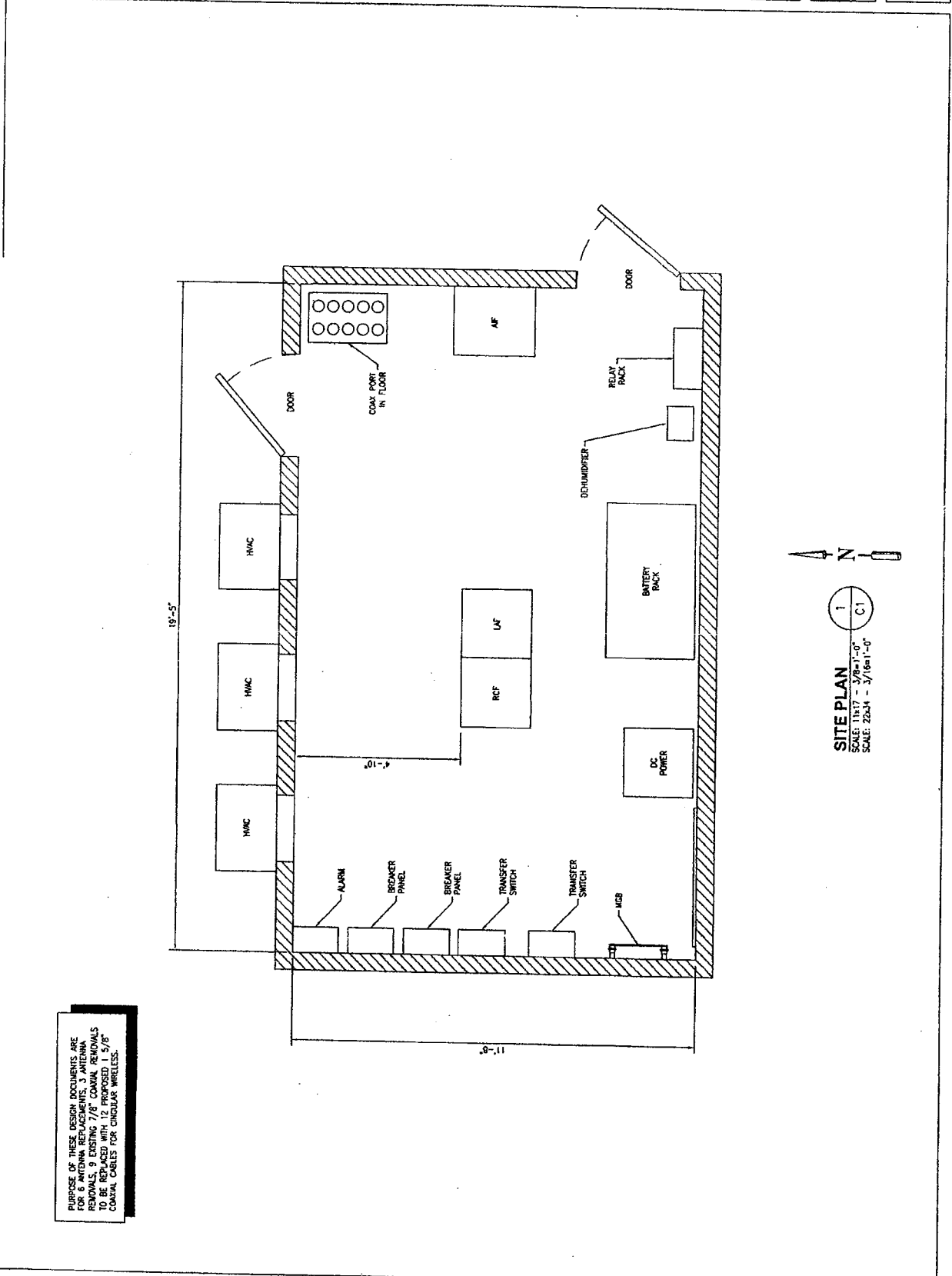
DESIGN BY: JH
CHECKED BY: SP
PROJECT NO: 0804112-000120

SUBMITTALS	
NO.	DESCRIPTION
1	ISSUE COMMENTS
2	ISSUE COMMENTS
3	ISSUE COMMENTS
4	ISSUE COMMENTS
5	ISSUE COMMENTS
6	ISSUE COMMENTS
7	ISSUE COMMENTS
8	ISSUE COMMENTS
9	ISSUE COMMENTS
10	ISSUE COMMENTS
11	ISSUE COMMENTS
12	ISSUE COMMENTS



08-05-05
SHEET TITLE
SITE PLAN

SHEET NUMBER
C1



PURPOSE OF THESE DESIGN DOCUMENTS ARE FOR 6 ANTENNA REPLACEMENTS, 3 ANTENNA REMOVALS, 9 EXISTING 7/8" COAXIAL REMOVALS TO BE REPLACED WITH 12 PROPOSED 1 5/8" COAXIAL CABLES FOR CINGULAR WIRELESS.

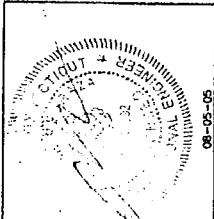


SITE NUMBER:
2163
SITE NAME:
WESTPORT FD
SITE ADDRESS:
515 POST RD
WESTPORT, CT 06880

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DESIGNED BY: JH
CHECKED BY: DP
PROJECT NO: 07041112-00001308

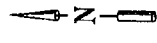
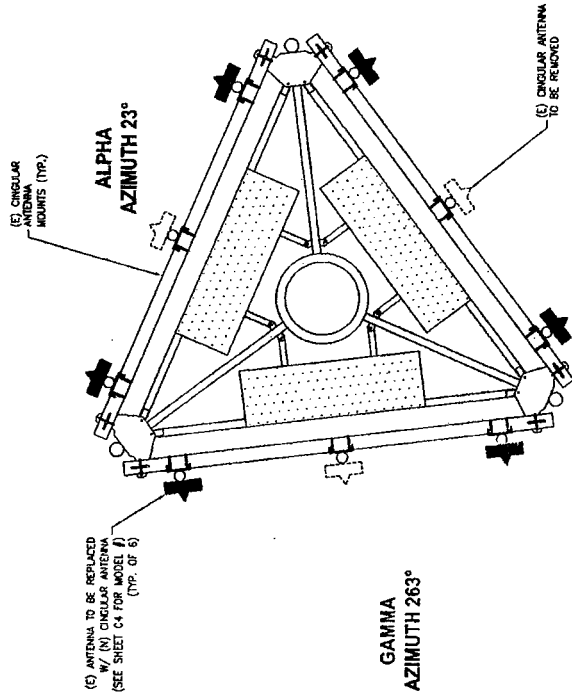
SUBMITTALS	
NO.	DESCRIPTION
1	PROJ. COMMITTEE COS.
2	DATE
3	DATE



SHEET TITLE
SITE ELEVATION & ANT PLAN
08-05-05

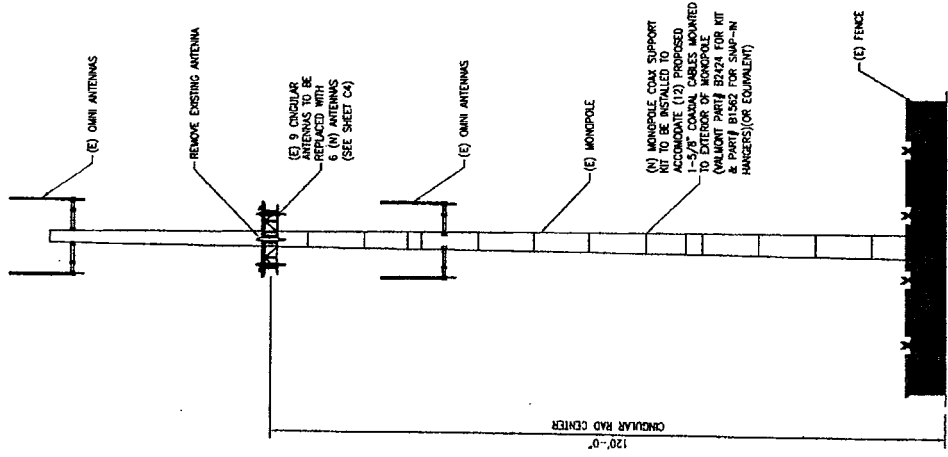
SHEET NUMBER
C2

PURPOSE OF THESE DESIGN DOCUMENTS ARE FOR 6 BETA REPLACEMENTS, 3 ANTENNA REPLACEMENTS, 12 COAXIAL CABLES TO BE REPLACED WITH 12 PROPOSED 1/2" DIA. COAXIAL CABLES FOR CINGULAR WIRELESS.



ANTENNA PLAN VIEW
2
C2
SCALE: 1/4" = 1'-0"
SCALE: 2/32" = 1'-0"

CONSTRUCTION SHALL NOT PROCEED UNTIL A STRUCTURAL ANALYSIS HAS BEEN PERFORMED BY A LICENSED PROFESSIONAL ENGINEER. THE ENGINEER SHALL DETERMINE IF THE CURRENT STRUCTURE IS STRUCTURALLY ADEQUATE TO SUPPORT THE PROPOSED ANTENNAS.



SITE ELEVATION
1
C2
SCALE: 1/4" = 1'-0"
SCALE: 2/32" = 1'-0"

1079 N. 204th Avenue
Elkhorn, NE 68022
Ph: 402-289-1888
Fax: 402-289-1861

SEMAAN ENGINEERING SOLUTIONS

**148 ft SUMMIT Monopole
Structural Analysis**

**Prepared for:
Global Signal
301 North Cattlemen Road, Suite 300
Sarasota, FL 34232**

**Site: 3017673 / CT03XC355
For Cingular
Westport, CT**

December 5, 2005

Ms. Laura Rectenwal
Global Signal
301 North Cattlemen Road, Suite 300
Sarasota, FL 34232

Re: Site 3017673 / CT03XC355 – Westport, CT.

Dear Ms. Rectenwal:

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 and local building codes 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 drawing PJF # A29297-62 dated February 24, 1997 for a detailed description of the structure.

Method of analysis:

The tower was analyzed using Semaan Engineering Solutions' software suite for communication structures. The structural analysis is performed using the SAPS finite element engine. The method is 3D, non-linear, which accounts for the second order geometric effects due to the displacements. It also treats guys as exact cable elements and therefore is ideal for guyed towers. The analysis was performed in conformance with **EIA/TIA-222-F and local building codes for a basic wind speed of 85 mph and 1/2" radial ice with reduced wind speed (fastest mile)**. This is in conformance with the IBC 2003: Section 1609.1.1, Exception (5) and Section 3108.4. 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
148.0	9	DB980H90 on a low profile platform	(9) 1-5/8	Sprint
148.0	2	DB420 on a low profile platform	(2) 7/8	Municipality
138.0	12	APL866513-42T4 on a low profile platform	(12) 1-5/8	Nextel
120.0	6	Powerwave 7770.00 on a low profile platform	(12) 1-5/8	Cingular
	6	LGP 2140 TMAs on same platform		
100.0	1	PD1110 on a low profile platform	(1) 7/8	Municipality
	1	DB806 on same platform	(1) 7/8	
	1	PD220 on same platform	(1) 1/2	
	1	DB224 on same platform	(1) 7/8	
	1	DB205 on same platform	(1) 1/2	
	3	PD83 on same platform	(3) 1/2	
	1	DB230 on same platform	(1) 1/2	
	2	PD201 on same platform	(2) 7/8	
	1	SC421 on same platform	(2) 7/8	
85.0	12	RR90-17 on a low profile platform	(24) 1-5/8	VoiceStream
50.0	1	MON 64 Omni antenna on standoff	(2) RG8	Municipality

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: 82.9%.

Foundation:

Pole Reactions	Original Design Reactions	Current Analysis Reactions	% Of Design
Moment (ft-kips)	3,300.00	3,146.40	95.3

The analysis reactions are less than the design reactions therefore no foundation modifications are required.

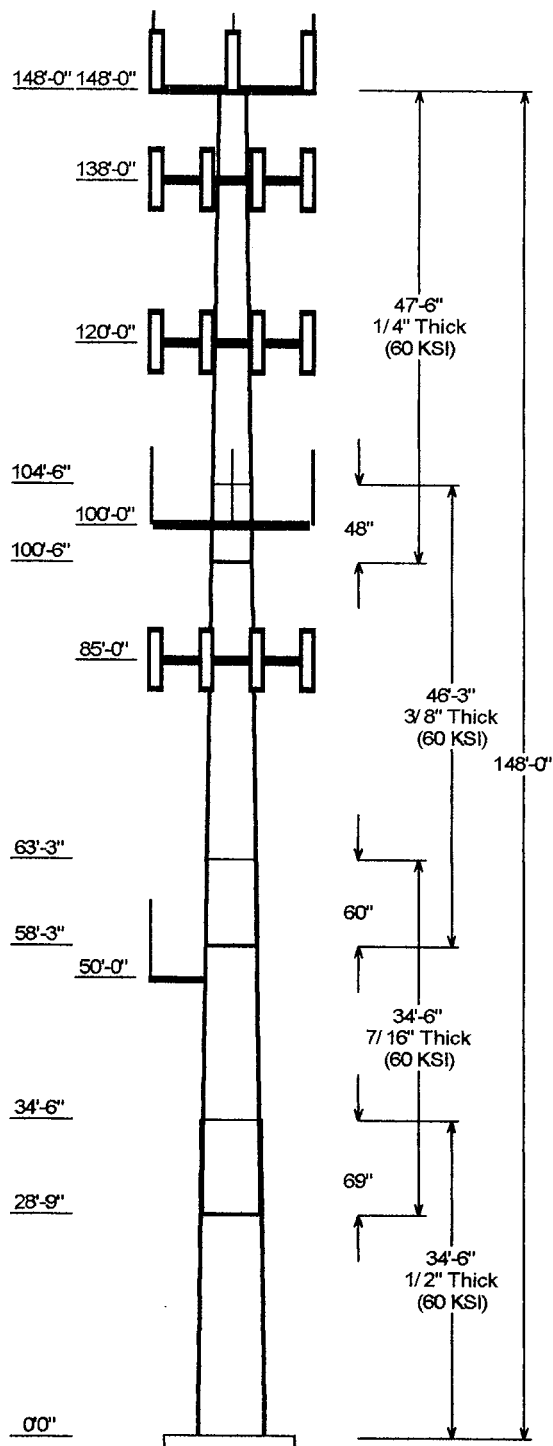
Review and Recommendations:

Based on the analysis results, the existing structure meets the requirements per the EIA/TIA-222-F standards for a basic wind speed of 85 mph and 1/2" radial ice with reduced wind speed. This wind speed is equivalent to 105 mph 3-second gust.

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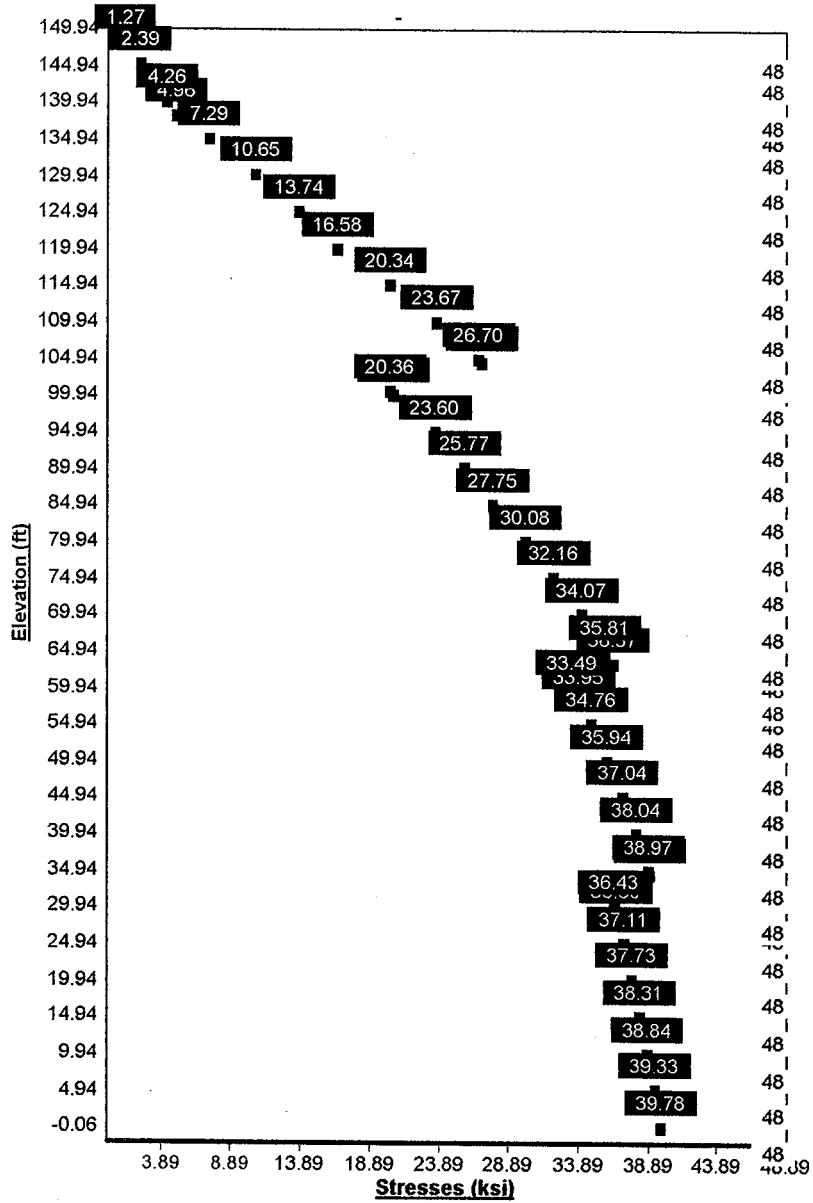
Job Information			
Pole : CT03XC355			
Description :			
Client : Global Signal			
Location : 3017673 - Westport, CT			
Type : 12 Sides		Base Elev (ft): 0.00	
Height (ft) 148.00		Taper: 0.203000 (in/ft)	

Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)	
		Across Top	Flats Bottom					
1	34.500	42.91	49.92	0.500	0.000	0.203000	60	
2	34.500	37.95	44.95	0.438 Slip Joint	69.000	0.203000	60	
3	46.250	30.33	39.72	0.375 Slip Joint	60.000	0.203000	60	
4	47.500	22.00	31.64	0.250 Slip Joint	48.000	0.203000	60	

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
148.000	159.040	2	DB420
148.000	151.500	1	Lightning Rod, 7'
148.000	148.000	1	low profile platform
148.000	150.000	9	DB980H90
138.000	138.000	1	low profile platform
138.000	138.000	12	APL866513-42T4
120.000	120.000	6	LGP 2140 TMA
120.000	120.000	1	low profile platform
120.000	120.000	6	Powerwave 7770
100.000	105.335	1	SC421
100.000	103.875	2	PD201
100.000	100.000	1	low profile platform
100.000	100.000	1	DB230
100.000	108.050	3	PD83
100.000	109.040	1	DB205
100.000	110.625	1	DB224
100.000	111.000	1	PD220
100.000	107.760	1	DB806
100.000	106.585	1	PD1110
85.000	85.000	1	low profile platform
85.000	85.000	12	RR90-17
50.000	50.000	1	standoff
50.000	51.000	1	MON 64 Omni Antenna

Reactions			
Load Case	Moment (Kip-ft)	Shear (Kips)	Axial (Kips)
85.00 mph Wind w/ No Ice	3,146.397	32.526	-33.318
73.61 mph Wind w/ 0.50 in Ice	2,666.319	26.932	-42.317

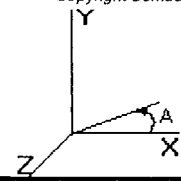
Load Case : No Ice



Pole : CT03XC355
 Location: 3017673 - Westport, CT
 Height: 148.0 (ft)
 Shape: 12 Sides
 Base Dia: 49.92 (in)
 Taper: 0.203000 (in/ft)

Global Signal
 Base Elev: 0.000 (ft)
 Top Dia: 22.00 (in)

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Shaft Section Properties

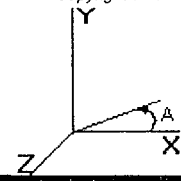
Sect Num	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom				Top				Taper (in/ft)				
							Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)		Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio
1	34.500	0.5000	60		0.00	8,679	49.92	0.000	79.57	24803.5	24.61	99.84	42.91	34.50	68.29	15682.2	20.86	85.83	0.20300
2	34.500	0.4375	60	Slip Joint	69.00	6,784	44.95	28.75	62.72	15867.7	25.39	102.7	37.95	63.25	52.85	9495.5	21.10	86.75	0.20300
3	46.250	0.3750	60	Slip Joint	60.00	6,585	39.72	58.25	47.51	9387.3	26.24	105.9	30.33	104.5	36.17	4143.2	19.53	80.88	0.20300
4	47.500	0.2500	60	Slip Joint	48.00	3,457	31.64	100.5	25.27	3179.0	31.77	126.5	22.00	148.0	17.51	1057.3	21.44	88.00	0.20300
Shaft Weight						25,605													

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	DB420	2	34.00	6.000	1.00	77.00	7.810	1.00	0.000	0.00	11.040
148.0	Lightning Rod, 7'	1	35.00	1.050	1.00	44.00	1.730	1.00	0.000	0.00	3.500
148.0	low profile platform	1	1300.00	25.550	1.00	2100.00	27.320	1.00	0.000	0.00	0.000
148.0	DB980H90	9	9.00	3.280	0.67	28.00	3.850	0.67	0.000	0.00	2.000
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	APL866513-42T4	12	20.00	4.300	0.94	52.00	4.900	0.94	0.000	0.00	0.000
120.0	LGP 2140 TMA	6	19.00	1.260	1.00	26.13	1.500	1.00	0.000	0.00	0.000
120.0	low profile platform	1	1300.00	25.550	1.00	2100.00	27.320	1.00	0.000	0.00	0.000
120.0	Powerwave 7770	6	35.00	5.880	0.73	68.00	6.540	0.73	0.000	0.00	0.000
100.0	SC421	1	46.50	4.270	1.00	76.46	5.380	1.00	0.000	0.00	5.335
100.0	PD201	2	4.00	1.020	1.00	12.70	1.810	1.00	0.000	0.00	3.875
100.0	low profile platform	1	1300.00	25.550	1.00	2100.00	27.320	1.00	0.000	0.00	0.000
100.0	DB230	1	57.00	7.380	1.00	103.00	12.390	1.00	0.000	0.00	0.000
100.0	PD83	3	40.00	5.640	1.00	80.00	7.280	1.00	0.000	0.00	8.050
100.0	DB205	1	38.00	1.950	1.00	55.00	3.770	1.00	0.000	0.00	9.040
100.0	DB224	1	32.00	4.920	1.00	74.00	9.080	1.00	0.000	0.00	10.625
100.0	PD220	1	23.00	3.560	1.00	83.00	6.860	1.00	0.000	0.00	11.000
100.0	DB806	1	38.00	4.450	1.00	71.00	6.010	1.00	0.000	0.00	7.760
100.0	PD1110	1	20.00	2.660	1.00	48.00	4.000	1.00	0.000	0.00	6.585
85.00	low profile platform	1	1300.00	25.550	1.00	2100.00	27.320	1.00	0.000	0.00	0.000
85.00	RR90-17	12	12.00	5.230	0.67	35.00	5.800	0.67	0.000	0.00	0.000
50.00	standoff	1	40.00	2.830	1.00	63.00	4.340	1.00	0.000	0.00	0.000
50.00	MON 64 Omni Antenna	1	50.00	1.000	1.00	93.00	8.030	1.00	0.000	0.00	1.000
Totals		67	7864.50			13488.64			Number of Loadings :		23

Pole : CT03XC355
 Location: 3017673 - Westport, CT
 Height: 148.0 (ft)
 Shape: 12 Sides
 Base Dia: 49.92 (in)
 Taper: 0.203000 (in/ft)

Global Signal
 Base Elev: 0.000 (ft)
 Top Dia: 22.00 (in)



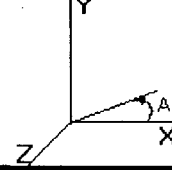
Segment Properties (Max Len : 5 ft)

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		0.5000	49.920	79.566	24,803.5	24.61	99.84	60	48	0.0
5.00		0.5000	48.906	77.932	23,306.4	24.06	97.81	60	48	1,339.8
10.00		0.5000	47.890	76.297	21,870.8	23.52	95.78	60	48	1,312.0
15.00		0.5000	46.875	74.663	20,495.3	22.98	93.75	60	48	1,284.2
20.00		0.5000	45.860	73.029	19,178.8	22.43	91.72	60	48	1,256.4
25.00		0.5000	44.845	71.395	17,920.0	21.89	89.69	60	48	1,228.6
28.75	Bot - Section 2	0.5000	44.083	70.169	17,012.8	21.48	88.17	60	48	903.2
30.00		0.5000	43.830	69.761	16,717.4	21.34	87.66	60	48	563.6
34.50	Top - Section 1	0.4375	43.791	61.076	14,652.1	24.68	100.09	60	48	2,002.0
35.00		0.4375	43.690	60.932	14,549.4	24.61	99.86	60	48	103.8
40.00		0.4375	42.675	59.502	13,548.9	23.99	97.54	60	48	1,024.5
45.00		0.4375	41.660	58.072	12,595.4	23.37	95.22	60	48	1,000.2
50.00		0.4375	40.645	56.642	11,687.8	22.75	92.90	60	48	975.9
55.00		0.4375	39.630	55.212	10,824.8	22.13	90.58	60	48	951.5
58.25	Bot - Section 3	0.4375	38.970	54.283	10,287.3	21.72	89.07	60	48	605.5
60.00		0.4375	38.615	53.782	10,006.3	21.51	88.26	60	48	603.4
63.25	Top - Section 2	0.3750	38.705	46.283	8,679.4	25.51	103.21	60	48	1,105.9
65.00		0.3750	38.350	45.854	8,440.3	25.26	102.27	60	48	274.3
70.00		0.3750	37.335	44.629	7,781.4	24.53	99.56	60	48	769.7
75.00		0.3750	36.320	43.403	7,157.8	23.81	96.85	60	48	748.9
80.00		0.3750	35.305	42.178	6,568.4	23.08	94.15	60	48	728.0
85.00		0.3750	34.290	40.952	6,012.3	22.36	91.44	60	48	707.2
90.00		0.3750	33.275	39.726	5,488.4	21.63	88.73	60	48	686.3
95.00		0.3750	32.260	38.501	4,996.0	20.91	86.03	60	48	665.5
100.00		0.3750	31.245	37.275	4,533.9	20.18	83.32	60	48	644.6
100.50	Bot - Section 4	0.3750	31.143	37.153	4,489.3	20.11	83.05	60	48	63.3
104.50	Top - Section 3	0.2500	30.831	24.618	2,938.6	30.90	123.32	60	48	838.5
105.00		0.2500	30.730	24.536	2,909.5	30.79	122.92	60	48	41.8
110.00		0.2500	29.715	23.719	2,628.4	29.70	118.86	60	48	410.5
115.00		0.2500	28.700	22.902	2,366.0	28.62	114.80	60	48	396.6
120.00		0.2500	27.685	22.085	2,121.7	27.53	110.74	60	48	382.7
125.00		0.2500	26.670	21.268	1,894.8	26.44	106.68	60	48	368.8
130.00		0.2500	25.655	20.451	1,684.7	25.35	102.62	60	48	354.9
135.00		0.2500	24.640	19.634	1,490.7	24.27	98.56	60	48	341.0
138.00		0.2500	24.031	19.143	1,381.8	23.61	96.12	60	48	197.9
140.00		0.2500	23.625	18.817	1,312.3	23.18	94.50	60	48	129.2
145.00		0.2500	22.610	18.000	1,148.6	22.09	90.44	60	48	313.2
148.00		0.2500	22.001	17.509	1,057.3	21.44	88.00	60	48	181.2
										25,504.8

Pole : CT03XC366
 Location: 3017673 - Westport, CT
 Height : 148.0 (ft)
 Shape : 12 Sides
 Base Dia : 49.92 (in)
 Taper : 0.203000 (in/ft)

Global Signal
 Base Elev : 0.000 (ft)
 Top Dia : 22.00 (in)

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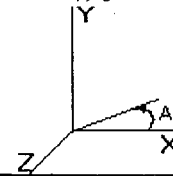
Load Case: No Ice 86 mph - No Ice 23 Iterations
 Gust Response Factor : 1.69 Effective Wind Speed : 85.00 (mph)
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

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	18.49	31.26	363.60	1.030	0.00	0.000	0.000	0.00	0.00	0.0
5.00		1.00	18.49	31.26	346.41	1.030	5.00	20.688	21.206	662.86	0.00	1,339.8
10.00		1.00	18.49	31.26	339.22	1.030	5.00	20.166	20.770	649.25	0.00	1,312.0
15.00		1.00	18.49	31.26	332.03	1.030	5.00	19.743	20.335	636.63	0.00	1,284.2
20.00		1.00	18.49	31.26	324.84	1.030	5.00	19.320	19.899	622.02	0.00	1,256.4
25.00		1.00	18.49	31.26	317.66	1.030	5.00	18.897	19.464	608.40	0.00	1,228.6
28.75	Bot - Section 2	1.00	18.49	31.26	312.26	1.030	3.75	13.896	14.312	447.36	0.00	903.2
30.00		1.00	18.49	31.26	310.48	1.030	1.25	4.670	4.810	150.36	0.00	563.6
34.50	Top - Section 1	1.01	18.73	31.66	306.93	1.030	4.60	16.693	17.091	541.06	0.00	2,002.0
35.00		1.01	18.81	31.78	312.08	1.030	0.60	1.823	1.877	59.67	0.00	103.8
40.00		1.06	19.64	33.02	310.70	1.030	5.00	17.993	18.532	612.02	0.00	1,024.6
45.00		1.09	20.21	34.16	308.48	1.030	5.00	17.670	18.097	618.09	0.00	1,000.2
50.00	Appertunance(s)	1.12	20.82	35.19	306.61	1.030	5.00	17.147	17.661	621.66	0.00	976.9
55.00		1.15	21.40	36.17	301.96	1.030	5.00	16.724	17.226	623.06	0.00	951.6
58.25	Bot - Section 3	1.17	21.76	36.76	299.38	1.030	3.25	10.644	10.963	403.09	0.00	606.6
60.00		1.18	21.94	37.08	297.91	1.030	1.75	5.767	5.940	220.24	0.00	603.4
63.25	Top - Section 2	1.20	22.27	37.64	296.03	1.030	3.25	10.672	10.889	409.91	0.00	1,106.9
65.00		1.21	22.44	37.93	299.27	1.030	1.75	5.619	5.787	219.56	0.00	274.3
70.00		1.24	22.92	38.76	294.46	1.030	5.00	16.768	16.241	629.33	0.00	769.7
75.00		1.26	23.38	39.52	289.28	1.030	5.00	16.346	15.806	624.64	0.00	748.9
80.00		1.28	23.82	40.26	283.80	1.030	5.00	14.922	15.369	618.73	0.00	728.0
85.00	Appertunance(s)	1.31	24.23	40.96	278.04	1.030	5.00	14.499	14.934	611.70	0.00	707.2
90.00		1.33	24.63	41.63	272.02	1.030	5.00	14.076	14.498	603.63	0.00	686.3
95.00		1.35	25.02	42.28	266.77	1.030	5.00	13.653	14.063	594.61	0.00	666.6
100.00	Appertunance(s)	1.37	25.38	42.90	269.30	1.030	5.00	13.230	13.627	584.70	0.00	644.6
100.50	Bot - Section 4	1.37	25.42	42.96	268.64	1.030	0.60	1.300	1.339	57.62	0.00	63.3
104.50	Top - Section 3	1.39	25.71	43.46	263.30	1.030	4.00	10.412	10.726	466.00	0.00	838.6
105.00		1.39	25.74	43.61	266.81	1.030	0.60	1.283	1.321	57.48	0.00	41.8
110.00		1.41	26.09	44.09	249.98	1.030	5.00	12.693	12.970	571.89	0.00	410.6
115.00		1.42	26.42	44.66	242.98	1.030	5.00	12.170	12.536	569.74	0.00	396.6
120.00	Appertunance(s)	1.44	26.74	45.20	236.82	1.030	5.00	11.747	12.099	546.90	0.00	382.7
125.00		1.46	27.06	45.73	228.60	1.030	5.00	11.324	11.664	533.40	0.00	368.8
130.00		1.48	27.36	46.24	221.04	1.030	5.00	10.901	11.228	519.26	0.00	354.9
135.00		1.49	27.66	46.74	213.44	1.030	5.00	10.478	10.792	504.53	0.00	341.0
138.00	Appertunance(s)	1.50	27.83	47.04	208.82	1.030	3.00	6.084	6.266	294.79	0.00	197.9
140.00		1.51	27.96	47.23	206.71	1.030	2.00	3.971	4.090	193.22	0.00	129.2
145.00		1.52	28.23	47.71	197.86	1.030	5.00	9.632	9.921	473.37	0.00	313.2
148.00	Appertunance(s)	1.53	28.39	47.99	193.10	1.030	3.00	5.676	5.744	276.66	0.00	181.2
Totals:							148.00			17,426.29	0.00	26,604.8

Pole : CT03XC355
 Location: 3017673 - Westport, CT
 Height: 148.0 (ft)
 Shape: 12 Sides
 Base Dia: 49.92 (in)
 Taper: 0.203000 (in/ft)

Global Signal
 Base Elev: 0.000 (ft)
 Top Dia: 22.00 (in)



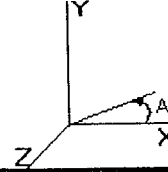
Load Case: No Ice	85 mph - No Ice	23 Iterations
Gust Response Factor : 1.69	Effective Wind Speed : 85.00 (mph)	
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

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)
50.00	standoff	1	20.82	35.19	2.630	1.000	0.000	0.0	0.0	92.57	0.00	0.00	0.00	0.00	40.0
50.00	MON 64 Omni Antenna	1	20.94	35.39	1.000	1.000	0.000	1.0	0.0	35.40	0.00	0.00	0.00	35.40	50.0
85.00	low profile platform	1	24.23	40.96	25.550	1.000	0.000	0.0	0.0	1046.54	0.00	0.00	0.00	0.00	1300.0
85.00	RR90-17	12	24.23	40.96	41.861	0.667	0.000	0.0	0.0	1714.65	0.00	0.00	0.00	0.00	144.0
100.00	SC421	1	25.76	43.54	4.270	1.000	0.000	5.3	0.0	185.96	0.00	0.00	0.00	992.07	46.5
100.00	PD201	2	25.66	43.37	2.040	1.000	0.000	3.9	0.0	88.49	0.00	0.00	0.00	342.89	8.0
100.00	low profile platform	1	25.38	42.90	25.550	1.000	0.000	0.0	0.0	1096.28	0.00	0.00	0.00	0.00	1300.0
100.00	DB230	1	25.38	42.90	7.380	1.000	0.000	0.0	0.0	316.66	0.00	0.00	0.00	0.00	57.0
100.00	PD83	3	25.95	43.86	16.920	1.000	0.000	8.1	0.0	742.23	0.00	0.00	0.00	6974.96	120.0
100.00	DB205	1	26.02	43.98	1.950	1.000	0.000	9.0	0.0	85.76	0.00	0.00	0.00	775.30	38.0
100.00	DB224	1	26.13	44.16	4.920	1.000	0.000	10.6	0.0	217.28	0.00	0.00	0.00	2308.64	32.0
100.00	PD220	1	26.15	44.20	3.560	1.000	0.000	11.0	0.0	157.37	0.00	0.00	0.00	1731.11	23.0
100.00	DB806	1	25.93	43.83	4.450	1.000	0.000	7.8	0.0	195.06	0.00	0.00	0.00	1513.66	38.0
100.00	PD1110	1	25.85	43.69	2.660	1.000	0.000	6.6	0.0	116.23	0.00	0.00	0.00	765.39	20.0
120.00	LGP 2140 TMA	6	26.74	45.20	7.560	1.000	0.000	0.0	0.0	341.73	0.00	0.00	0.00	0.00	114.0
120.00	low profile platform	1	26.74	45.20	25.550	1.000	0.000	0.0	0.0	1154.90	0.00	0.00	0.00	0.00	1300.0
120.00	Powerwave 7770	6	26.74	45.20	25.754	0.730	0.000	0.0	0.0	1164.14	0.00	0.00	0.00	0.00	210.0
138.00	low profile platform	1	27.83	47.04	25.550	1.000	0.000	0.0	0.0	1201.95	0.00	0.00	0.00	0.00	1300.0
138.00	APL866513-42T4	12	27.83	47.04	48.504	0.940	0.000	0.0	0.0	2281.79	0.00	0.00	0.00	0.00	240.0
148.00	DB420	2	28.98	48.99	12.000	1.000	0.000	11.0	0.0	587.88	0.00	0.00	0.00	6490.10	68.0
148.00	Lightning Rod, 7'	1	28.58	48.31	1.050	1.000	0.000	3.5	0.0	50.73	0.00	0.00	0.00	177.56	35.0
148.00	low profile platform	1	28.39	47.99	25.550	1.000	0.000	0.0	0.0	1228.22	0.00	0.00	0.00	0.00	1300.0
148.00	DB980H90	9	28.50	48.17	19.690	0.667	0.000	2.0	0.0	948.61	0.00	0.00	0.00	1897.21	81.0
										15,048.4	0.00				7,864.5

Pole : CT03XC355
 Location: 3017673 - Westport, CT
 Height: 148.0 (ft)
 Shape: 12 Sides
 Base Dia: 49.92 (in)
 Taper: 0.203000 (in/ft)

Global Signal
 Base Elev: 0.000 (ft)
 Top Dia: 22.00 (in)



Load Case: No Ice 85 mph - No Ice 23 Iterations
 Gust Response Factor : 1.69 Effective Wind Speed : 85.00 (mph)
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

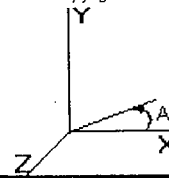
Applied Forces Summary

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	662.86	1,339.82	0.00	0.00	0.00	0.00
10.00	0.00	0.00	649.25	1,312.02	0.00	0.00	0.00	0.00
15.00	0.00	0.00	635.63	1,284.21	0.00	0.00	0.00	0.00
20.00	0.00	0.00	622.02	1,256.41	0.00	0.00	0.00	0.00
25.00	0.00	0.00	608.40	1,228.61	0.00	0.00	0.00	0.00
28.75	0.00	0.00	447.36	903.21	0.00	0.00	0.00	0.00
30.00	0.00	0.00	160.35	563.61	0.00	0.00	0.00	0.00
34.50	0.00	0.00	541.06	2,002.01	0.00	0.00	0.00	0.00
35.00	0.00	0.00	59.67	103.79	0.00	0.00	0.00	0.00
40.00	0.00	0.00	612.02	1,024.52	0.00	0.00	0.00	0.00
45.00	0.00	0.00	618.09	1,000.19	0.00	0.00	0.00	0.00
50.00	0.00	0.00	749.62	1,065.86	0.00	0.00	0.00	35.40
55.00	0.00	0.00	623.05	951.54	0.00	0.00	0.00	0.00
58.25	0.00	0.00	403.09	605.45	0.00	0.00	0.00	0.00
60.00	0.00	0.00	220.24	603.39	0.00	0.00	0.00	0.00
63.25	0.00	0.00	409.91	1,105.89	0.00	0.00	0.00	0.00
65.00	0.00	0.00	219.55	274.33	0.00	0.00	0.00	0.00
70.00	0.00	0.00	629.33	769.74	0.00	0.00	0.00	0.00
75.00	0.00	0.00	624.64	748.88	0.00	0.00	0.00	0.00
80.00	0.00	0.00	618.73	728.03	0.00	0.00	0.00	0.00
85.00	0.00	0.00	3,372.88	2,151.18	0.00	0.00	0.00	0.00
90.00	0.00	0.00	603.63	686.33	0.00	0.00	0.00	0.00
95.00	0.00	0.00	594.61	665.47	0.00	0.00	0.00	0.00
100.00	0.00	0.00	3,786.02	2,327.12	0.00	0.00	0.00	14,404.01
100.50	0.00	0.00	57.52	63.32	0.00	0.00	0.00	0.00
104.50	0.00	0.00	466.00	838.54	0.00	0.00	0.00	0.00
105.00	0.00	0.00	57.48	41.82	0.00	0.00	0.00	0.00
110.00	0.00	0.00	571.89	410.50	0.00	0.00	0.00	0.00
115.00	0.00	0.00	559.74	396.60	0.00	0.00	0.00	0.00
120.00	0.00	0.00	3,207.67	2,006.70	0.00	0.00	0.00	0.00
125.00	0.00	0.00	533.40	368.80	0.00	0.00	0.00	0.00
130.00	0.00	0.00	519.26	354.90	0.00	0.00	0.00	0.00
135.00	0.00	0.00	504.53	341.00	0.00	0.00	0.00	0.00
138.00	0.00	0.00	3,778.52	1,737.93	0.00	0.00	0.00	0.00
140.00	0.00	0.00	193.22	129.17	0.00	0.00	0.00	0.00
145.00	0.00	0.00	473.37	313.19	0.00	0.00	0.00	0.00
148.00	0.00	0.00	3,089.09	1,665.24	0.00	0.00	0.00	8,564.87
Totals:			32,473.71	33,369.32	0.00	0.00	0.00	23,004.28

Pole : CT03XC355
 Location: 3017673 - Westport, CT
 Height: 148.0 (ft)
 Shape: 12 Sides
 Base Dia: 49.92 (in)
 Taper: 0.203000 (in/ft)

Global Signal
 Base Elev: 0.000 (ft)
 Top Dia: 22.00 (in)

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Load Case: No Ice 85 mph - No Ice 23 Iterations

Gust Response Factor : 1.69 Effective Wind Speed : 85.00 (mph)

Dead Load Factor : 1.00

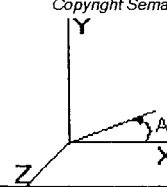
Wind Load Factor : 1.00

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	32.526	33.318	0.000	0.000	0.000	3,146.397	0.000	0.000	0.000	0.000
5.00	31.969	31.881	0.000	0.000	0.000	2,983.771	-0.096	0.000	0.096	-0.176
10.00	31.398	30.475	0.000	0.000	0.000	2,823.978	-0.374	0.000	0.374	-0.353
15.00	30.844	29.099	0.000	0.000	0.000	2,666.988	-0.840	0.000	0.840	-0.532
20.00	30.296	27.754	0.000	0.000	0.000	2,512.770	-1.493	0.000	1.493	-0.711
25.00	29.744	26.462	0.000	0.000	0.000	2,361.293	-2.336	0.000	2.336	-0.892
28.75	29.322	25.510	0.000	0.000	0.000	2,249.755	-3.092	0.000	3.092	-1.029
30.00	29.207	24.896	0.000	0.000	0.000	2,213.103	-3.368	0.000	3.368	-1.076
34.50	28.662	22.859	0.000	0.000	0.000	2,081.671	-4.462	0.000	4.462	-1.240
35.00	28.643	22.702	0.000	0.000	0.000	2,067.340	-4.593	0.000	4.593	-1.259
40.00	28.081	21.697	0.000	0.000	0.000	1,924.126	-6.017	0.000	6.017	-1.454
45.00	27.506	20.521	0.000	0.000	0.000	1,783.724	-7.645	0.000	7.645	-1.649
50.00	26.789	19.388	0.000	0.000	0.000	1,646.162	-9.476	0.000	9.476	-1.843
55.00	26.185	18.386	0.000	0.000	0.000	1,512.218	-11.509	0.000	11.509	-2.035
58.25	25.790	17.753	0.000	0.000	0.000	1,427.117	-12.938	0.000	12.938	-2.160
60.00	25.576	17.115	0.000	0.000	0.000	1,381.986	-13.743	0.000	13.743	-2.228
63.25	25.148	15.985	0.000	0.000	0.000	1,298.866	-15.304	0.000	15.304	-2.352
65.00	24.956	15.661	0.000	0.000	0.000	1,254.856	-16.178	0.000	16.178	-2.419
70.00	24.344	14.835	0.000	0.000	0.000	1,130.084	-18.820	0.000	18.820	-2.620
75.00	23.731	14.038	0.000	0.000	0.000	1,008.368	-21.670	0.000	21.670	-2.816
80.00	23.119	13.268	0.000	0.000	0.000	889.712	-24.720	0.000	24.720	-3.004
85.00	19.670	11.242	0.000	0.000	0.000	774.117	-27.963	0.000	27.963	-3.185
90.00	19.059	10.535	0.000	0.000	0.000	675.770	-31.390	0.000	31.390	-3.356
95.00	18.452	9.856	0.000	0.000	0.000	580.478	-34.992	0.000	34.992	-3.519
100.00	14.539	7.751	0.000	0.000	0.000	473.813	-38.758	0.000	38.758	-3.671
100.50	14.486	7.675	0.000	0.000	0.000	466.544	-39.143	0.000	39.143	-3.686
104.50	13.973	6.854	0.000	0.000	0.000	408.601	-42.277	0.000	42.277	-3.797
105.00	13.925	6.791	0.000	0.000	0.000	401.615	-42.676	0.000	42.676	-3.811
110.00	13.346	6.381	0.000	0.000	0.000	331.989	-46.762	0.000	46.762	-3.990
115.00	12.775	6.992	0.000	0.000	0.000	265.261	-51.027	0.000	51.027	-4.152
120.00	9.438	4.206	0.000	0.000	0.000	201.386	-55.449	0.000	55.449	-4.292
125.00	8.885	3.861	0.000	0.000	0.000	164.198	-60.006	0.000	60.006	-4.411
130.00	8.345	3.535	0.000	0.000	0.000	109.772	-64.677	0.000	64.677	-4.510
135.00	7.818	3.228	0.000	0.000	0.000	68.045	-69.439	0.000	69.439	-4.585
138.00	3.913	1.798	0.000	0.000	0.000	44.590	-72.329	0.000	72.329	-4.617
140.00	3.711	1.683	0.000	0.000	0.000	36.763	-74.265	0.000	74.265	-4.634
145.00	3.214	1.408	0.000	0.000	0.000	18.208	-79.130	0.000	79.130	-4.664
148.00	3.089	0.000	0.000	0.000	0.000	8.565	-82.062	0.000	82.062	-4.674

Pole : CT03XC365
 Location: 3017673 - Westport, CT
 Height: 148.0 (ft)
 Shape: 12 Sides
 Base Dia: 49.92 (in)
 Taper: 0.203000 (in/ft)

Global Signal
 Base Elev: 0.000 (ft)
 Top Dia: 22.00 (in)



Load Case: No Ice 85 mph - No Ice 23 Iterations

Gust Response Factor : 1.69 Effective Wind Speed : 85.00 (mph)

Dead Load Factor : 1.00

Wind Load Factor : 1.00

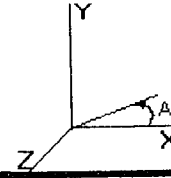
Calculated Stresses

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	0.419	0.831	0.000	0.000	0.000	39.336	39.780	48.0	0.829
5.00	0.409	0.833	0.000	0.000	0.000	38.891	39.327	48.0	0.819
10.00	0.399	0.836	0.000	0.000	0.000	38.410	38.837	48.0	0.809
15.00	0.390	0.839	0.000	0.000	0.000	37.889	38.306	48.0	0.798
20.00	0.380	0.843	0.000	0.000	0.000	37.322	37.731	48.0	0.786
25.00	0.371	0.846	0.000	0.000	0.000	36.706	37.106	48.0	0.773
28.75	0.364	0.849	0.000	0.000	0.000	36.211	36.604	48.0	0.763
30.00	0.357	0.851	0.000	0.000	0.000	36.042	36.429	48.0	0.769
34.50	0.374	0.954	0.000	0.000	0.000	38.646	39.056	48.0	0.814
35.00	0.373	0.955	0.000	0.000	0.000	38.562	38.969	48.0	0.812
40.00	0.363	0.959	0.000	0.000	0.000	37.645	38.044	48.0	0.793
45.00	0.353	0.962	0.000	0.000	0.000	36.647	37.038	48.0	0.772
50.00	0.342	0.961	0.000	0.000	0.000	35.559	35.940	48.0	0.749
55.00	0.333	0.964	0.000	0.000	0.000	34.389	34.762	48.0	0.724
58.25	0.327	0.965	0.000	0.000	0.000	33.581	33.950	48.0	0.707
60.00	0.318	0.966	0.000	0.000	0.000	33.131	33.491	48.0	0.698
63.25	0.345	1.104	0.000	0.000	0.000	35.979	36.375	48.0	0.758
65.00	0.342	1.106	0.000	0.000	0.000	35.417	35.809	48.0	0.746
70.00	0.332	1.108	0.000	0.000	0.000	33.680	34.067	48.0	0.710
75.00	0.323	1.111	0.000	0.000	0.000	31.783	32.164	48.0	0.670
80.00	0.315	1.114	0.000	0.000	0.000	29.706	30.082	48.0	0.627
85.00	0.275	0.976	0.000	0.000	0.000	27.425	27.751	48.0	0.578
90.00	0.265	0.975	0.000	0.000	0.000	25.449	25.770	48.0	0.537
95.00	0.266	0.974	0.000	0.000	0.000	23.283	23.599	48.0	0.492
100.00	0.208	0.792	0.000	0.000	0.000	20.282	20.536	48.0	0.428
100.50	0.207	0.792	0.000	0.000	0.000	20.104	20.357	48.0	0.424
104.50	0.278	1.153	0.000	0.000	0.000	26.629	26.981	48.0	0.562
105.00	0.277	1.153	0.000	0.000	0.000	26.349	26.700	48.0	0.556
110.00	0.269	1.143	0.000	0.000	0.000	23.314	23.666	48.0	0.493
115.00	0.262	1.133	0.000	0.000	0.000	19.987	20.343	48.0	0.424
120.00	0.190	0.868	0.000	0.000	0.000	16.323	16.582	48.0	0.345
125.00	0.182	0.849	0.000	0.000	0.000	13.482	13.742	48.0	0.286
130.00	0.173	0.829	0.000	0.000	0.000	10.383	10.654	48.0	0.222
135.00	0.164	0.809	0.000	0.000	0.000	6.986	7.287	48.0	0.152
138.00	0.094	0.415	0.000	0.000	0.000	4.817	4.963	48.0	0.103
140.00	0.089	0.401	0.000	0.000	0.000	4.111	4.268	48.0	0.089
145.00	0.078	0.363	0.000	0.000	0.000	2.226	2.389	48.0	0.050
148.00	0.000	0.358	0.000	0.000	0.000	1.107	1.269	48.0	0.026

Pole : CT03XC355
 Location: 3017673 - Westport, CT
 Height: 148.0 (ft)
 Shape: 12 Sides
 Base Dia: 49.92 (in)
 Taper: 0.203000 (in/ft)

Global Signal
 Base Elev: 0.000 (ft)
 Top Dia: 22.00 (in)

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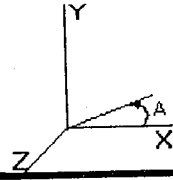
Load Case: Ice	85 mph - With Ice - Ice Thickness = 0.5 in	23 Iterations
Gust Response Factor : 1.69	Effective Wind Speed : 73.61 (mph)	
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

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	13.87	23.44	306.22	1.030	0.00	0.000	0.000	0.00	0.00	0.0
5.00		1.00	13.87	23.44	299.99	1.030	5.00	21.006	21.635	507.18	0.00	1,494.5
10.00		1.00	13.87	23.44	293.76	1.030	5.00	20.582	21.200	496.97	0.00	1,463.5
15.00		1.00	13.87	23.44	287.54	1.030	5.00	20.159	20.764	486.76	0.00	1,432.5
20.00		1.00	13.87	23.44	281.31	1.030	5.00	19.736	20.328	476.54	0.00	1,401.5
25.00		1.00	13.87	23.44	275.08	1.030	5.00	19.313	19.893	466.33	0.00	1,370.6
28.75	Bot - Section 2	1.00	13.87	23.44	270.41	1.030	3.75	14.208	14.634	343.06	0.00	1,007.9
30.00		1.00	13.87	23.44	268.86	1.030	1.25	4.774	4.917	115.27	0.00	599.0
34.50	Top - Section 1	1.01	14.04	23.74	264.93	1.030	4.50	16.968	17.477	414.94	0.00	2,126.8
35.00		1.01	14.10	23.84	270.26	1.030	0.50	1.864	1.920	45.77	0.00	117.6
40.00		1.06	14.66	24.76	269.07	1.030	5.00	18.409	18.962	469.62	0.00	1,159.7
45.00		1.09	15.15	25.61	267.12	1.030	5.00	17.986	18.526	474.53	0.00	1,132.2
50.00	Appertunance(s)	1.12	15.62	26.39	264.57	1.030	5.00	17.563	18.090	477.53	0.00	1,104.7
55.00		1.15	16.05	27.12	261.50	1.030	5.00	17.141	17.655	478.90	0.00	1,077.2
58.25	Bot - Section 3	1.17	16.31	27.57	259.26	1.030	3.25	10.916	11.242	309.99	0.00	685.8
60.00		1.18	16.46	27.80	257.99	1.030	1.75	5.912	6.090	169.35	0.00	647.1
63.25	Top - Section 2	1.20	16.70	28.23	256.50	1.030	3.25	10.843	11.168	315.29	0.00	1,185.7
65.00		1.21	16.83	28.45	259.16	1.030	1.75	5.764	5.937	168.93	0.00	316.9
70.00		1.24	17.19	29.06	254.99	1.030	5.00	16.184	16.670	484.44	0.00	888.2
75.00		1.26	17.53	29.63	250.51	1.030	5.00	15.761	16.234	481.17	0.00	864.2
80.00		1.28	17.86	30.19	245.77	1.030	5.00	15.338	15.799	476.98	0.00	840.1
85.00	Appertunance(s)	1.31	18.17	30.71	240.78	1.030	5.00	14.916	15.363	471.93	0.00	816.1
90.00		1.33	18.47	31.22	235.57	1.030	5.00	14.493	14.927	466.10	0.00	792.1
95.00		1.35	18.76	31.71	230.15	1.030	5.00	14.070	14.492	459.54	0.00	768.0
100.00	Appertunance(s)	1.37	19.04	32.17	224.55	1.030	5.00	13.647	14.056	452.31	0.00	744.0
100.50	Bot - Section 4	1.37	19.06	32.22	223.98	1.030	0.50	1.341	1.382	44.52	0.00	73.2
104.50	Top - Section 3	1.39	19.28	32.58	219.36	1.030	4.00	10.746	11.068	360.66	0.00	917.0
105.00		1.39	19.30	32.63	222.39	1.030	0.50	1.324	1.364	44.50	0.00	51.6
110.00		1.41	19.56	33.06	216.48	1.030	5.00	13.009	13.400	443.08	0.00	505.1
115.00		1.42	19.81	33.49	210.42	1.030	5.00	12.586	12.964	434.16	0.00	488.0
120.00	Appertunance(s)	1.44	20.05	33.89	204.22	1.030	5.00	12.163	12.528	424.70	0.00	470.9
125.00		1.46	20.29	34.29	197.88	1.030	5.00	11.741	12.093	414.74	0.00	453.9
130.00		1.48	20.52	34.68	191.42	1.030	5.00	11.318	11.657	404.31	0.00	436.8
135.00		1.49	20.74	35.05	184.84	1.030	5.00	10.895	11.222	393.42	0.00	419.7
138.00	Appertunance(s)	1.50	20.87	35.28	180.84	1.030	3.00	6.334	6.524	230.16	0.00	244.0
140.00		1.51	20.96	35.42	178.15	1.030	2.00	4.138	4.262	150.99	0.00	159.4
145.00		1.52	21.17	35.78	171.35	1.030	5.00	10.049	10.350	370.36	0.00	385.5
148.00	Appertunance(s)	1.53	21.29	35.99	167.22	1.030	3.00	5.826	6.001	216.99	0.00	223.5
Totals:							148.00			13,441.01	0.00	28,864.3

Pole : CT03XC355
 Location: 3017673 - Westport, CT
 Height: 148.0 (ft)
 Shape : 12 Sides
 Base Dia: 49.92 (in)
 Taper : 0.203000 (in/ft)

Global Signal
 Base Elev: 0.000 (ft)
 Top Dia: 22.00 (in)



Load Case: Ice 85 mph - With Ice - Ice Thickness = 0.5 in 23 iterations

Gust Response Factor : 1.69 Effective Wind Speed : 73.61 (mph)

Dead Load Factor : 1.00

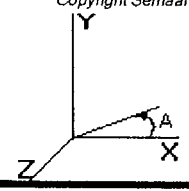
Wind Load Factor : 1.00

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)
50.00	standoff	1	15.62	26.39	4.340	1.000	0.000	0.0	0.0	114.66	0.00	0.00	0.00	0.00	63.0
50.00	MON 64 Omni Antenna	1	15.70	26.54	8.030	1.000	0.000	1.0	0.0	213.17	0.00	0.00	0.00	213.17	93.0
85.00	low profile platform	1	18.17	30.71	27.320	1.000	0.000	0.0	0.0	839.23	0.00	0.00	0.00	0.00	2100.0
85.00	RR90-17	12	18.17	30.71	46.423	0.667	0.000	0.0	0.0	1426.05	0.00	0.00	0.00	0.00	420.0
100.00	SC421	1	19.32	32.66	5.380	1.000	0.000	5.3	0.0	175.71	0.00	0.00	0.00	937.42	76.5
100.00	PD201	2	19.24	32.63	3.620	1.000	0.000	3.9	0.0	117.76	0.00	0.00	0.00	456.31	25.4
100.00	low profile platform	1	19.04	32.17	27.320	1.000	0.000	0.0	0.0	879.12	0.00	0.00	0.00	0.00	2100.0
100.00	DB230	1	19.04	32.17	12.390	1.000	0.000	0.0	0.0	398.69	0.00	0.00	0.00	0.00	103.0
100.00	PD83	3	19.46	32.89	21.840	1.000	0.000	8.1	0.0	718.50	0.00	0.00	0.00	5783.92	240.0
100.00	DB205	1	19.51	32.98	3.770	1.000	0.000	9.0	0.0	124.35	0.00	0.00	0.00	1124.11	55.0
100.00	DB224	1	19.59	33.12	9.080	1.000	0.000	10.6	0.0	300.73	0.00	0.00	0.00	3195.29	74.0
100.00	PD220	1	19.61	33.15	6.860	1.000	0.000	11.0	0.0	227.43	0.00	0.00	0.00	2501.69	83.0
100.00	DB806	1	19.45	32.87	6.010	1.000	0.000	7.8	0.0	197.57	0.00	0.00	0.00	1533.12	71.0
100.00	PD1110	1	19.39	32.77	4.000	1.000	0.000	6.6	0.0	131.08	0.00	0.00	0.00	863.17	46.0
120.00	LGP 2140 TMA	6	20.05	33.89	9.000	1.000	0.000	0.0	0.0	305.09	0.00	0.00	0.00	0.00	156.8
120.00	low profile platform	1	20.05	33.89	27.320	1.000	0.000	0.0	0.0	926.12	0.00	0.00	0.00	0.00	2100.0
120.00	Powerwave 7770	6	20.05	33.89	28.645	0.730	0.000	0.0	0.0	971.05	0.00	0.00	0.00	0.00	408.0
138.00	low profile platform	1	20.87	35.28	27.320	1.000	0.000	0.0	0.0	963.85	0.00	0.00	0.00	0.00	2100.0
138.00	APL866513-42T4	12	20.87	35.28	55.272	0.940	0.000	0.0	0.0	1950.01	0.00	0.00	0.00	0.00	624.0
148.00	DB420	2	21.74	36.74	15.620	1.000	0.000	11.0	0.0	573.88	0.00	0.00	0.00	6335.57	154.0
148.00	Lightning Rod, 7'	1	21.44	36.23	1.730	1.000	0.000	3.5	0.0	62.68	0.00	0.00	0.00	219.40	44.0
148.00	low profile platform	1	21.29	35.99	27.320	1.000	0.000	0.0	0.0	983.32	0.00	0.00	0.00	0.00	2100.0
148.00	DB980H90	9	21.37	36.13	23.112	0.667	0.000	2.0	0.0	835.04	0.00	0.00	0.00	1670.08	252.0
										13,435.0	0.00				13,488.6

Pole : CT03XC355
 Location: 3017673 - Westport, CT
 Height : 148.0 (ft)
 Shape : 12 Sides
 Base Dia : 49.92 (in)
 Taper : 0.203000 (in/ft)

Global Signal
 Base Elev : 0.000 (ft)
 Top Dia : 22.00 (in)



Load Case: Ice 85 mph - With Ice - Ice Thickness = 0.5 in 23 Iterations
 Gust Response Factor : 1.69 Effective Wind Speed : 73.61 (mph)
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

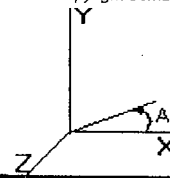
Applied Forces Summary

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	507.18	1,494.48	0.00	0.00	0.00	0.00
10.00	0.00	0.00	496.97	1,463.50	0.00	0.00	0.00	0.00
15.00	0.00	0.00	486.76	1,432.52	0.00	0.00	0.00	0.00
20.00	0.00	0.00	476.54	1,401.54	0.00	0.00	0.00	0.00
25.00	0.00	0.00	466.33	1,370.56	0.00	0.00	0.00	0.00
28.75	0.00	0.00	343.05	1,007.89	0.00	0.00	0.00	0.00
30.00	0.00	0.00	115.27	598.99	0.00	0.00	0.00	0.00
34.50	0.00	0.00	414.94	2,126.80	0.00	0.00	0.00	0.00
35.00	0.00	0.00	45.77	117.82	0.00	0.00	0.00	0.00
40.00	0.00	0.00	469.62	1,159.68	0.00	0.00	0.00	0.00
45.00	0.00	0.00	474.53	1,132.17	0.00	0.00	0.00	0.00
50.00	0.00	0.00	805.27	1,260.67	0.00	0.00	0.00	213.17
55.00	0.00	0.00	478.90	1,077.16	0.00	0.00	0.00	0.00
58.25	0.00	0.00	309.99	685.77	0.00	0.00	0.00	0.00
60.00	0.00	0.00	169.35	647.07	0.00	0.00	0.00	0.00
63.25	0.00	0.00	315.29	1,185.67	0.00	0.00	0.00	0.00
65.00	0.00	0.00	168.93	316.90	0.00	0.00	0.00	0.00
70.00	0.00	0.00	484.44	888.18	0.00	0.00	0.00	0.00
75.00	0.00	0.00	481.17	864.15	0.00	0.00	0.00	0.00
80.00	0.00	0.00	476.98	840.12	0.00	0.00	0.00	0.00
85.00	0.00	0.00	2,737.21	3,336.09	0.00	0.00	0.00	0.00
90.00	0.00	0.00	466.10	792.06	0.00	0.00	0.00	0.00
95.00	0.00	0.00	459.54	768.03	0.00	0.00	0.00	0.00
100.00	0.00	0.00	3,723.24	3,617.86	0.00	0.00	0.00	16,395.03
100.50	0.00	0.00	44.52	73.22	0.00	0.00	0.00	0.00
104.50	0.00	0.00	360.66	917.01	0.00	0.00	0.00	0.00
105.00	0.00	0.00	44.50	51.59	0.00	0.00	0.00	0.00
110.00	0.00	0.00	443.08	506.09	0.00	0.00	0.00	0.00
115.00	0.00	0.00	434.16	488.01	0.00	0.00	0.00	0.00
120.00	0.00	0.00	2,626.97	3,135.71	0.00	0.00	0.00	0.00
125.00	0.00	0.00	414.74	453.86	0.00	0.00	0.00	0.00
130.00	0.00	0.00	404.31	436.78	0.00	0.00	0.00	0.00
135.00	0.00	0.00	393.42	419.70	0.00	0.00	0.00	0.00
138.00	0.00	0.00	3,144.03	2,968.00	0.00	0.00	0.00	0.00
140.00	0.00	0.00	150.99	159.38	0.00	0.00	0.00	0.00
145.00	0.00	0.00	370.36	385.54	0.00	0.00	0.00	0.00
148.00	0.00	0.00	2,670.92	2,773.51	0.00	0.00	0.00	8,225.05
Totals:			26,876.01	42,352.90	0.00	0.00	0.00	24,833.25

Pole : CT03XC356
 Location: 3017673 - Westport, CT
 Height: 148.0 (ft)
 Shape: 12 Sides
 Base Dia: 49.92 (in)
 Taper: 0.203000 (in/ft)

Global Signal
 Base Elev: 0.000 (ft)
 Top Dia: 22.00 (in)

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Load Case: Ice 85 mph - With Ice - Ice Thickness = 0.5 in 23 Iterations

Gust Response Factor : 1.69 Effective Wind Speed : 73.61 (mph)

Dead Load Factor : 1.00

Wind Load Factor : 1.00

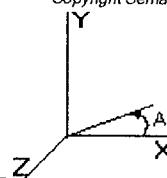
Calculated Forces and Deflections

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	26.932	42.317	0.000	0.000	0.000	2,666.319	0.000	0.000	0.000	0.000
5.00	26.529	40.754	0.000	0.000	0.000	2,531.661	-0.080	0.000	0.080	-0.149
10.00	26.130	39.224	0.000	0.000	0.000	2,399.017	-0.317	0.000	0.317	-0.300
15.00	25.735	37.726	0.000	0.000	0.000	2,268.367	-0.712	0.000	0.712	-0.461
20.00	25.342	36.261	0.000	0.000	0.000	2,139.697	-1.267	0.000	1.267	-0.604
25.00	24.942	34.837	0.000	0.000	0.000	2,012.988	-1.983	0.000	1.983	-0.758
28.75	24.631	33.801	0.000	0.000	0.000	1,919.457	-2.626	0.000	2.626	-0.875
30.00	24.559	33.165	0.000	0.000	0.000	1,888.669	-2.861	0.000	2.861	-0.915
34.50	24.149	31.013	0.000	0.000	0.000	1,778.158	-3.791	0.000	3.791	-1.056
35.00	24.151	30.857	0.000	0.000	0.000	1,766.083	-3.903	0.000	3.903	-1.072
40.00	23.744	29.638	0.000	0.000	0.000	1,645.331	-5.115	0.000	5.115	-1.238
45.00	23.326	28.450	0.000	0.000	0.000	1,526.611	-6.502	0.000	6.502	-1.405
50.00	22.567	27.146	0.000	0.000	0.000	1,409.768	-8.062	0.000	8.062	-1.571
55.00	22.119	26.031	0.000	0.000	0.000	1,296.934	-9.796	0.000	9.796	-1.735
58.25	21.824	25.323	0.000	0.000	0.000	1,225.049	-11.015	0.000	11.015	-1.843
60.00	21.669	24.651	0.000	0.000	0.000	1,186.857	-11.702	0.000	11.702	-1.902
63.25	21.347	23.446	0.000	0.000	0.000	1,116.433	-13.034	0.000	13.034	-2.008
65.00	21.214	23.092	0.000	0.000	0.000	1,079.076	-13.781	0.000	13.781	-2.066
70.00	20.763	22.161	0.000	0.000	0.000	973.006	-16.037	0.000	16.037	-2.238
75.00	20.309	21.259	0.000	0.000	0.000	869.193	-18.472	0.000	18.472	-2.407
80.00	19.852	20.385	0.000	0.000	0.000	767.652	-21.081	0.000	21.081	-2.569
85.00	17.009	17.134	0.000	0.000	0.000	668.392	-23.856	0.000	23.856	-2.725
90.00	16.546	16.324	0.000	0.000	0.000	583.348	-26.789	0.000	26.789	-2.873
95.00	16.085	16.543	0.000	0.000	0.000	500.619	-29.873	0.000	29.873	-3.014
100.00	12.187	12.116	0.000	0.000	0.000	403.802	-33.100	0.000	33.100	-3.145
100.50	12.150	12.033	0.000	0.000	0.000	397.709	-33.430	0.000	33.430	-3.157
104.50	11.749	11.127	0.000	0.000	0.000	349.109	-36.115	0.000	36.115	-3.252
105.00	11.718	11.061	0.000	0.000	0.000	343.235	-36.456	0.000	36.456	-3.264
110.00	11.273	10.554	0.000	0.000	0.000	284.647	-39.957	0.000	39.957	-3.417
115.00	10.833	10.068	0.000	0.000	0.000	228.282	-43.610	0.000	43.610	-3.556
120.00	8.027	7.089	0.000	0.000	0.000	174.118	-47.400	0.000	47.400	-3.677
125.00	7.595	6.651	0.000	0.000	0.000	133.983	-51.305	0.000	51.305	-3.780
130.00	7.170	6.232	0.000	0.000	0.000	96.010	-55.310	0.000	55.310	-3.867
135.00	6.754	5.835	0.000	0.000	0.000	60.159	-59.395	0.000	59.395	-3.933
138.00	3.414	3.089	0.000	0.000	0.000	39.897	-61.874	0.000	61.874	-3.961
140.00	3.254	2.940	0.000	0.000	0.000	33.068	-63.536	0.000	63.536	-3.976
145.00	2.858	2.580	0.000	0.000	0.000	16.800	-67.713	0.000	67.713	-4.003
148.00	2.671	0.000	0.000	0.000	0.000	8.225	-70.230	0.000	70.230	-4.013

Pole : CT03XC355
 Location: 3017673 - Westport, CT
 Height: 148.0 (ft)
 Shape: 12 Sides
 Base Dia: 49.92 (in)
 Taper: 0.203000 (in/ft)

Global Signal
 Base Elev: 0.000 (ft)
 Top Dia: 22.00 (in)

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 Page: 12



Load Case: Ice 85 mph - With Ice - Ice Thickness = 0.6 in 23 Iterations

Gust Response Factor : 1.69 Effective Wind Speed : 73.61 (mph)

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Calculated Stresses

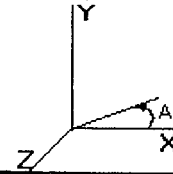
Seg Elev (ft)	Applied Stresses							Combined (ksi)	Allowable Stress (Fb) (ksi)	Stress Ratio
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)				
0.00	0.532	0.688	0.000	0.000	0.000	33.333	33.886	48.0	0.706	
5.00	0.523	0.692	0.000	0.000	0.000	32.998	33.542	48.0	0.699	
10.00	0.514	0.696	0.000	0.000	0.000	32.630	33.166	48.0	0.691	
15.00	0.505	0.700	0.000	0.000	0.000	32.226	32.764	48.0	0.682	
20.00	0.497	0.705	0.000	0.000	0.000	31.781	32.301	48.0	0.673	
25.00	0.488	0.710	0.000	0.000	0.000	31.291	31.803	48.0	0.663	
28.75	0.482	0.713	0.000	0.000	0.000	30.895	31.401	48.0	0.654	
30.00	0.475	0.715	0.000	0.000	0.000	30.758	31.258	48.0	0.651	
34.50	0.508	0.803	0.000	0.000	0.000	33.012	33.548	48.0	0.699	
35.00	0.506	0.805	0.000	0.000	0.000	32.942	33.478	48.0	0.698	
40.00	0.498	0.811	0.000	0.000	0.000	32.190	32.719	48.0	0.682	
45.00	0.490	0.816	0.000	0.000	0.000	31.365	31.886	48.0	0.664	
50.00	0.479	0.810	0.000	0.000	0.000	30.453	30.964	48.0	0.646	
55.00	0.471	0.814	0.000	0.000	0.000	29.494	29.998	48.0	0.625	
58.25	0.467	0.817	0.000	0.000	0.000	28.826	29.327	48.0	0.611	
60.00	0.458	0.819	0.000	0.000	0.000	28.453	28.946	48.0	0.603	
63.25	0.507	0.937	0.000	0.000	0.000	30.926	31.474	48.0	0.666	
65.00	0.504	0.940	0.000	0.000	0.000	30.455	31.002	48.0	0.646	
70.00	0.497	0.945	0.000	0.000	0.000	28.999	29.541	48.0	0.615	
75.00	0.490	0.951	0.000	0.000	0.000	27.396	27.934	48.0	0.582	
80.00	0.483	0.956	0.000	0.000	0.000	25.630	26.166	48.0	0.545	
85.00	0.418	0.844	0.000	0.000	0.000	23.679	24.142	48.0	0.503	
90.00	0.411	0.846	0.000	0.000	0.000	21.968	22.427	48.0	0.467	
95.00	0.404	0.849	0.000	0.000	0.000	20.080	20.536	48.0	0.428	
100.00	0.325	0.664	0.000	0.000	0.000	17.285	17.648	48.0	0.368	
100.50	0.324	0.664	0.000	0.000	0.000	17.138	17.500	48.0	0.365	
104.50	0.452	0.970	0.000	0.000	0.000	22.752	23.264	48.0	0.485	
105.00	0.451	0.970	0.000	0.000	0.000	22.519	23.031	48.0	0.480	
110.00	0.445	0.966	0.000	0.000	0.000	19.989	20.503	48.0	0.427	
115.00	0.440	0.961	0.000	0.000	0.000	17.201	17.719	48.0	0.369	
120.00	0.321	0.738	0.000	0.000	0.000	14.113	14.490	48.0	0.302	
125.00	0.313	0.726	0.000	0.000	0.000	11.714	12.092	48.0	0.252	
130.00	0.305	0.712	0.000	0.000	0.000	9.082	9.467	48.0	0.197	
135.00	0.297	0.699	0.000	0.000	0.000	6.176	6.586	48.0	0.137	
138.00	0.161	0.362	0.000	0.000	0.000	4.310	4.515	48.0	0.094	
140.00	0.156	0.351	0.000	0.000	0.000	3.698	3.902	48.0	0.081	
145.00	0.143	0.323	0.000	0.000	0.000	2.054	2.267	48.0	0.047	
148.00	0.000	0.310	0.000	0.000	0.000	1.063	1.191	48.0	0.025	

Pole : CT03XC355
 Location: 3017673 - Westport, CT
 Height : 148.0 (ft)
 Shape : 12 Sides
 Base Dia : 49.92 (in)
 Taper : 0.203000 (in/ft)

Global Signal
 Base Elev : 0.000 (ft)
 Top Dia : 22.00 (in)

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 Page: 13



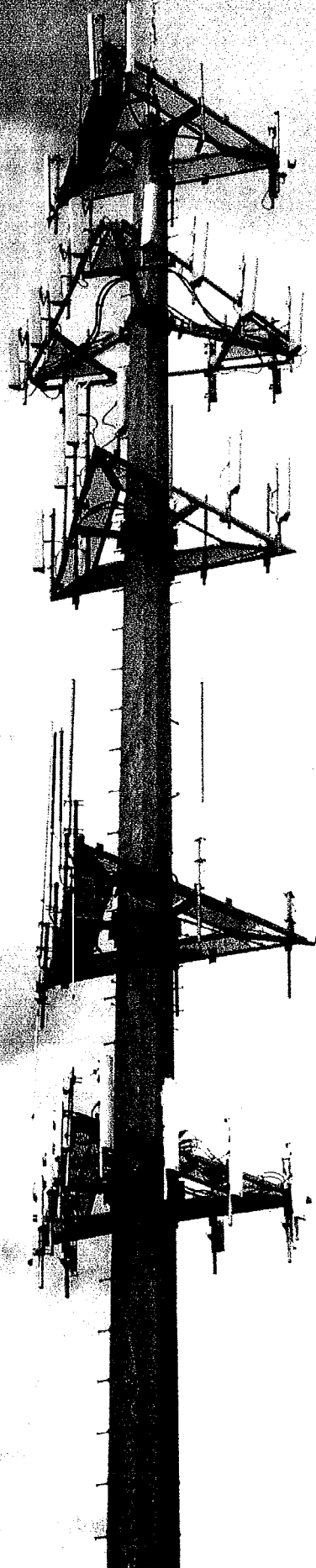
Load Case: No Ice 85 mph - No Ice 23 Iterations
 Gust Response Factor : 1.69 Effective Wind Speed : 85.00 (mph)
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

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	32.526	0.000	33.318	0.000	0.000	3,146.397	39.780	48.0	0.000	0.829
Ice	26.932	0.000	42.317	0.000	0.000	2,666.319	33.886	48.0	0.000	0.706



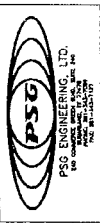
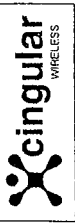
Site 2



Site Specific Attachments

Site 3

1. Site Plans
2. Tower Structural Analysis
3. Site Photographs



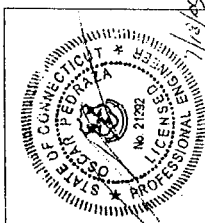
SITE NUMBER:
CT-0093
SITE NAME:
BEARDSLEY
SITE ADDRESS:
1000 TRUMBULL AVE.
BRIDGEPORT, CT 06606

IF IS A VIOLATION OF THE APPLICABLE RIGHTS DOCUMENT UNLESS THESE ARE AUTHORIZED AS PART OF THE PROJECT'S DESIGN.

DESIGNED BY: _____
CHECKED BY: _____
PROJECT NO.: _____

SUBMITTALS

NO. OF SUBMITTALS	BY DATE
1	07/10/09
1	07/10/09



SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
T1



SITE NUMBER: CT-093
SITE NAME: BEARDSLEY

BLDG. CODES AND STANDARDS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (LAW) FOR THE LOCATION. THE EDITION OF THE APPLICABLE CODES IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:
INTERNATIONAL BUILDING CODE (IBC), 2003

ELECTRICAL CODE:
NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70 - 2005 NATIONAL ELECTRICAL CODE

LIGHTNING PROTECTION CODE:
NFPA 780 - 2000, LIGHTNING PROTECTION CODE

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
CONCRETE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, 14TH EDITION
TELECOMMUNICATIONS INDUSTRIES ASSOCIATION (TIA) 222-F, STRUCTURAL REQUIREMENTS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES
TIA 807, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM
IEEE 98, RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

IEEE C62.41, RECOMMENDED PRACTICES FOR SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY C3 AND "HIGH SYSTEM EXPOSURE")

TELECOM 08-1503, COAXIAL CABLE CONNECTIONS

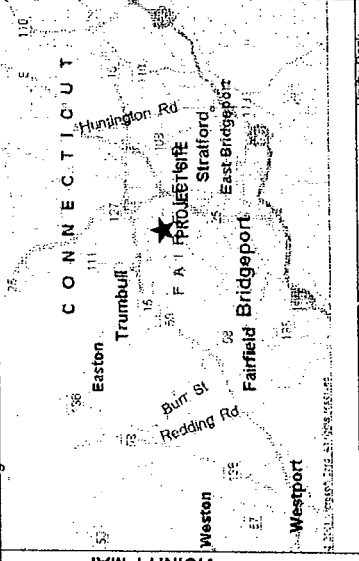
TELECOM 08-1275, GENERAL INSTALLATION REQUIREMENTS

ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION

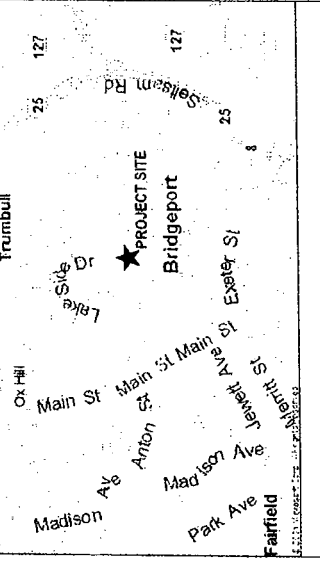
FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THESE IS THE SAME, THE REQUIREMENTS OF THE MOST RESTRICTIVE REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

MAPS & DIRECTIONS

FROM BRIDGEPORT, CT, TAKE S. STATE ST. TO EX-15, TO EXIT 48 IN BRIDGEPORT. TURN LEFT ON MAIN STREET AND TRAVEL SOUTH ON MAIN STREET TO OLD TOWN ROAD. TURN LEFT ON OLD TOWN ROAD AND FOLLOW TO CHIPPSEY HILL ROAD. TURN RIGHT ON CHIPPSEY HILL ROAD AND SITE WILL BE ON THE LEFT AT TRUMBULL AVE.



SITE MAP



APPROVALS

NAME (PRINT)	SIGNATURE	DATE
NAME (PRINT)	SIGNATURE	DATE
NAME (PRINT)	SIGNATURE	DATE
NAME (PRINT)	SIGNATURE	DATE
NAME (PRINT)	SIGNATURE	DATE
NAME (PRINT)	SIGNATURE	DATE

OTHER

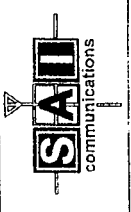
DRAWING INDEX

REV	DESCRIPTION
1	TITLE SHEET
1	SITE PLAN
1	SITE ELEVATION & ANTENNA PLAN
1	ANTENNA PLUMBING DIAGRAM-ALPHA
1	ANTENNA PLUMBING DIAGRAM-BETA
1	ANTENNA PLUMBING DIAGRAM-GAMMA
1	RF DATA INFORMATION

PROJECT INFORMATION

UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS

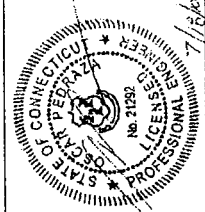
SCOPE OF WORK:
CT-093
BEARDSLEY
1000 TRUMBULL AVE
BRIDGEPORT, CT 06606
41° 13' 08" N
73° 12' 08" W
FAIRFIELD COUNTY
TELECOMMUNICATIONS FACILITY
TELECOMMUNICATIONS FACILITY
PROPOSED USE:
SELF SUPPORT TOWER
SITE TYPE:
150'-0"
RADIO CENTER:
REMO TARTAGLIA



SITE NUMBER:
CT-0093
SITE NAME:
BEARDSLEY
SITE ADDRESS:
1000 TRUMBULL AVE
BRIDGEPORT, CT 06606

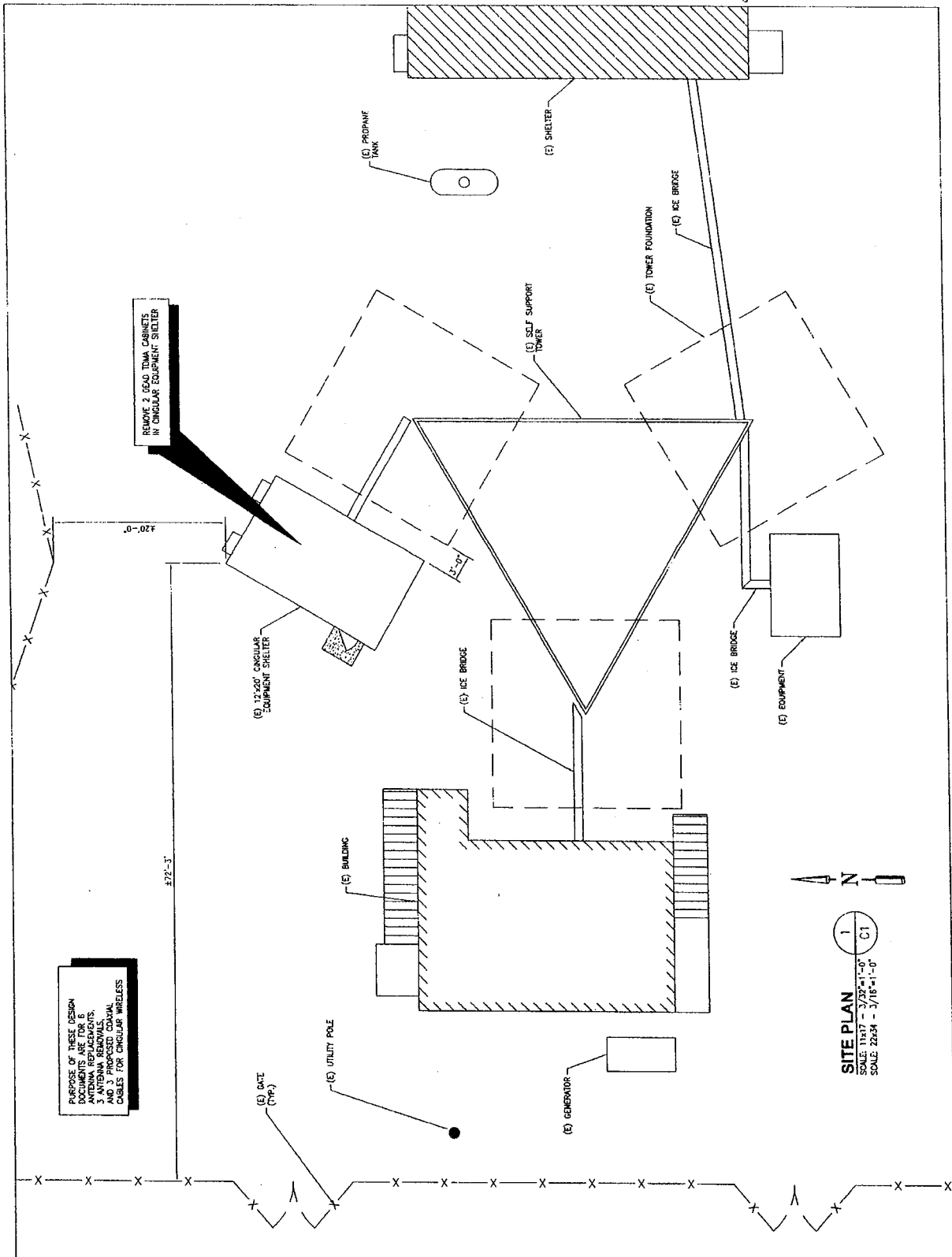
IT IS A VIOLATION OF THE PROFESSIONAL RIGHTS
DOCUMENT UNLESS THEY ARE INSTRUCTED
ACTING UNDER THE AUTHORITY OF A LICENSED
PROFESSIONAL ENGINEER.

DATE:	10/11/09
BY:	JM
FOR:	1. PERMITS
PROJECT NO.:	JM
DATE:	10/11/09
BY:	JM
FOR:	1. PERMITS



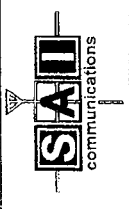
SHEET TITLE
SITE PLAN

SHEET NUMBER
C1



PURPOSE OF THESE DESIGN
ANTENNA REPLACEMENTS
3 ANTENNA REMOVALS
AND 3 PROPOSED COAXIAL
CABLES FOR CINGULAR WIRELESS

SITE PLAN
SCALE: 1/8" = 1'-0"
SCALE: 1/16" = 1'-0"
SCALE: 22/32" = 1'-0"
C1

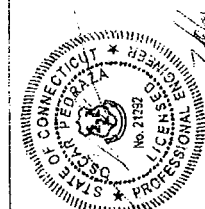


SITE NUMBER:
CT-0093
SITE NAME:
BEARDSLEY
SITE ADDRESS:
1000 TRUMBULL AVE.
BRIDGEPORT, CT 06606

IT IS A VIOLATION OF THE PROFESSIONAL STATUTE OF THE WIRELESS CARRIER TO ALTER THE LOCATION OF THE ANTENNA OR TO ALTER THE ACTING UNDER THE JURISDICTION OF A LICENSED PROFESSIONAL ENGINEER.

DATE: _____
CHECKED BY: _____
PROJECT NO.: _____

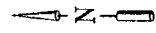
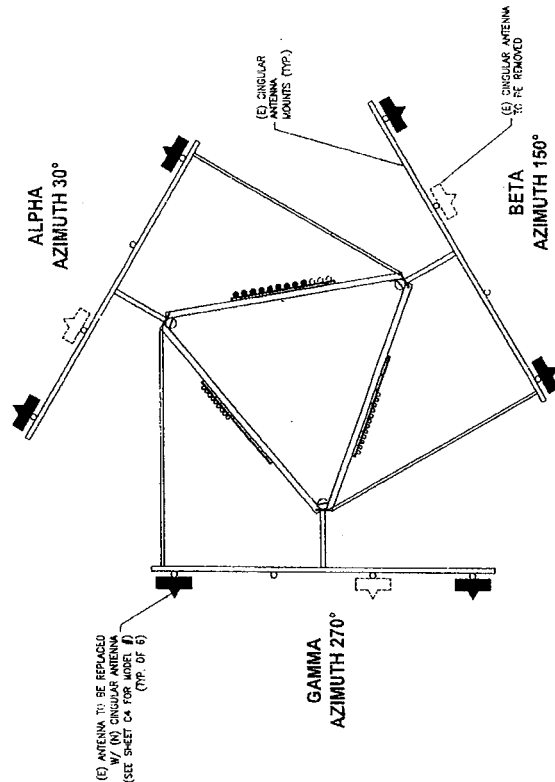
SUBMITTALS	
NO.	DATE
1	07/14/06
2	
3	
4	
5	
6	
7	
8	
9	
10	



SHEET TITLE
SITE ELEVATION & ANT PLAN

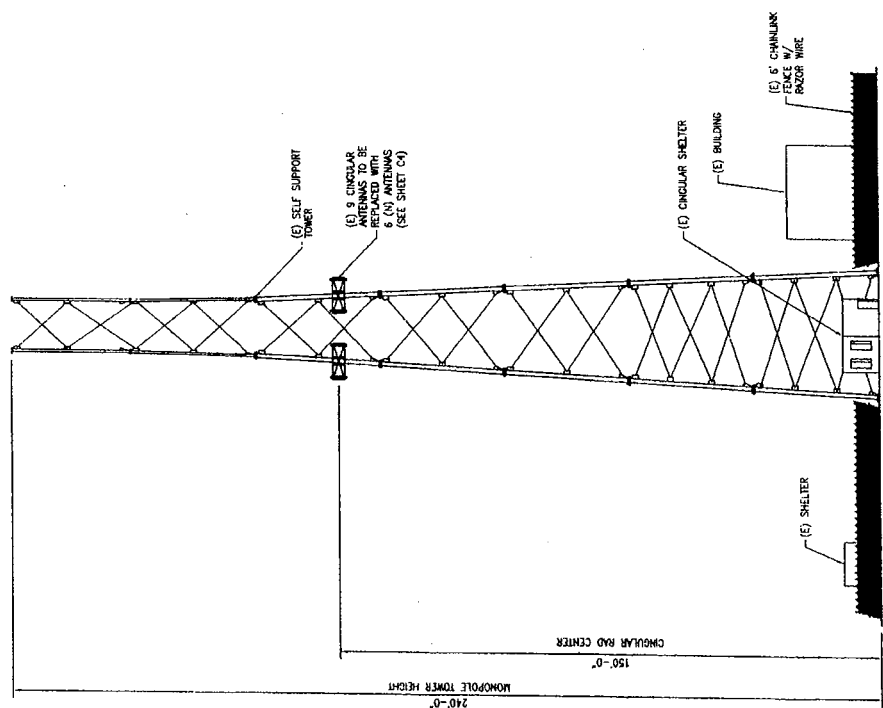
SHEET NUMBER
C2

PURPOSE OF THESE DESIGN DOCUMENTS ARE FOR:
1. ANTENNA REPLACEMENTS
2. ANTENNA REMOVALS
3. ANTENNA REPAIRS
4. ANTENNA CABLES FOR CINGULAR WIRELESS



ANTENNA PLAN VIEW
SCALE: 1/8" = 1'-0"
SCALE: 2/32" = 1'-0"
2 C2

CONSTRUCTION SHALL NOT PROCEED UNTIL A STRUCTURAL ANALYSIS HAS BEEN PERFORMED AND APPROVED BY A LICENSED ENGINEER REGISTERED IN CT TO DETERMINE IF THE TOWER IS STRUCTURALLY ADEQUATE TO SUPPORT THE PROPOSED ANTENNAS.



SITE ELEVATION
SCALE: 1/8" = 1'-0"
SCALE: 2/32" = 1'-0"
1 C2



November 22, 2005

George Bullock
Site Acquisitions, Inc.
184 Rockingham Road
Unit A
Londonderry, NH 03052
(512) 921-1681

PSG Engineering, Ltd.
245 Commerce Green Blvd.
Suite 240
Sugar Land, TX 77478
Phone: (281) 343-7099
Fax: (281) 343-7127

Subject: Structural Analysis Report

Carrier Designation

Cingular Wireless Co-Locate
Carrier Site Number: "CT-093"
Carrier Site Name: "BEARDSLEY"

Engineering Firm Designation

PSG Engineering Project Number: 0504A118-B010240

Site Data

1000 Trumbull Ave., Bridgeport, CT, Fairfield County
Latitude 41°-13'-09", Longitude -73°-12'-08"
240 Foot - Self Supporting Tower (Extendable to 300')

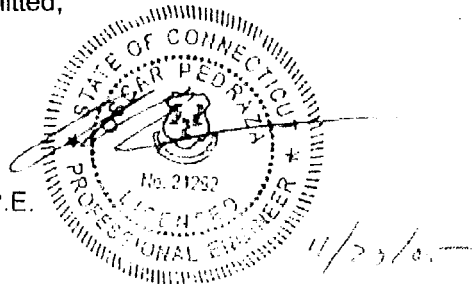
Dear Mr. Bullock,

PSG Engineering, Ltd. is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the aforementioned tower. This analysis has been performed in accordance with the terms of Site Acquisitions, Inc. Purchase Order Number CT-PSG-009. The purpose of the analysis is to determine the suitability of the tower with the addition of the proposed equipment listed in Table 1 of this report when combined with the existing and reserved equipment on the structure. This analysis has been performed in accordance with the TIA/EIA 222-F standard based upon wind speed condition of 85 mph.

Based on our analysis we have determined the tower and foundation **ARE** sufficient for the proposed loading.

We at PSG Engineering appreciate the opportunity of providing our continuing professional services to you and Site Acquisitions, Inc. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted,



Oscar Pedraza, P.E.
President

TABLE OF CONTENTS

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ANALYSIS CRITERIA

 Table 1 – Proposed Antenna and Cable Information

 Table 2 – Installed (I) and Reserved (R) Antenna and Cable Information

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ANALYSIS PROCEDURE

 Table 4 – Documents Provided

 Analysis Method

 Assumptions

ANALYSIS RESULTS

 Table 5 – Tower Section Capacity

APPENDIX A

 Output from Computer Programs

INTRODUCTION

This tower was designed by Rohn Industries on March 8, 1988 per EIA/222-D with a wind speed of 85 mph and 1/2" radial ice.

ANALYSIS CRITERIA

This tower is designed using the TIA/EIA-222-F standard.

The following design criteria apply:

- Basic wind speed of 85 mph.
- Nominal ice thickness of 0.5000 in.
- Ice density of 56 pcf.
- A wind speed of 74 mph is used in combination with ice.
- Deflections calculated using a wind speed of 50 mph.
- Feedline torque is considered.
- Pressures are calculated at each section.
- Stress ratio used in tower member design is 1.333

Table 1 – Proposed Antenna and Cable Information

Center Line Elevation (feet)	Number Of Antenna	Antenna Manufacturer	Antenna Model	Mount	Number Of Feed Lines	Feed Line Size (inches)
165	6	Powerwave Technologies	7770.00	-	*3	*1 5/8
	3		LGP21401			
	6		LGP13519			

*Note: See Appendix B for Coaxial Cable Routing Plan.

Table 2 – Installed (I) and Reserved (R) Antenna and Cable Information

Center Line Elevation Ant/Mount (feet)	Number Of Antenna	Antenna Manufacturer	Antenna Model	Mount	Number Of Feed Lines	Feed Line Size (inches)
243/239	2(I)	Celwave	PD1110 Whip	Pipe on Face (1) Side Arm (1)	2(I)	1 5/8
239	1(I)	Celwave	PD156S Yagi	Side Arm (1)	1(I)	7/8
238/235	1(I)	Scala	OGB9-900 Whip	Side Arm (1)	1(I)	1 5/8
235/232	1(I)	Celwave	PD83 Whip	Side Arm (1)	1(I)	7/8
232/229	1(I)	Sinclair	SRL-420 Whip	Side Arm (1)	1(I)	7/8
226/223	2(I)	Decibel	DB806D-Y Whip	Side Arm (2)	2(I)	1 5/8
217	1(I)	Decibel	DB212	Leg Mount (1)	1(I)	1/2
199	1(I)	Decibel	DB264	Side Arm (1)	1(I)	7/8
196	1(I)	Celwave	PD10108 Yagi	Leg Mount (2)	1(I)	3/8
	1(I)		PD688S Yagi		1(I)	7/8
194	1(I)	Celwave	PD688S Yagi	Leg Mount (1)	1(I)	7/8
187	6(I)	EMS Wireless	RS90-10-00DA-2 Panel	T-Frames (3)	12(I)	1 1/4
174	6(I)	Allgon	7184.05 Panel	T-Frames (3)	6(I)	1 5/8
**165	9(I)	Allgon	7184.14 Panel	T-Frames (3)	9(I)	1 5/8
168/165	1(I)	Sinclair	SRL-488 Whip	-	2(I)	7/8
159	-	-	-	-	2(I)	7/8
151	3(I)	Decibel	DB844H90E-XY Panel	6' Side Arms (3)	3(I)	7/8
146	3(I)	Decibel	DB844H90E-XY Panel	6' Side Arms (3)	3(I)	7/8
135	1(I)	Scientific Atlanta	AU-17 Yagi	Side Arm (1)	1(I)	3/8
132	1(I)	Scientific Atlanta	AU-17 Yagi	Side Arm (1)	1(I)	3/8
130	1(I)	Scientific Atlanta	QCD-UHF Yagi	Side Arm (1)	1(I)	3/8
121/118	1(I)	Celwave	ASP-700 Whip	Side Arm (1)	1(I)	7/8
117	1(I)	Scientific Atlanta	QCS-2 Yagi	Side Arm (1)	3(I)	3/8
109/106	1(I)	Scala	OGB9 Whip	Side Arm (1)	1(I)	7/8
98	1(I)	Scientific Atlanta	AU-17 Yagi	Side Arm (1)	1(I)	3/8
90	1(I)	Scientific Atlanta	QCS-4 Yagi	Side Arm (2)	5(I)	3/8
	1(I)		QCD-7 Yagi			
82	-	-	-	Side Arm (1)	-	-
56	1(I)	Unknown	GPS Antenna	Pipe on Face (1)	1 (I)	1/2
21	1(I)	Channel Master	4' Dish	Pipe on Face (1)	1(I)	1/2

**Note: Six existing antennas shall be removed and replaced with proposed loads. Existing coax and mounts to remain.

Table 3 – Original Tower Manufacturer Design Antenna and Cable Information

Center Line Elevation (feet)	Number Of Antenna	Antenna Manufacturer	Antenna Model	Mount	Number Of Feed Lines	Feed Line Size (inches)
265	6	Unknown	VHF Antennas	3' Side Arms	Unknown	
265	2	Unknown	10' HP Dishes	-		
252	6	Unknown	VHF Antennas	3' Side Arms		
250	2	Unknown	10' HP Dishes	-		
235	6	Unknown	VHF Antennas	3' Side Arms		

ANALYSIS PROCEDURE

Table 4 – Documents Provided

Document	Remarks	Reference	Source
Original Tower Manufacturer Design Drawing	Rohn Industries	Drawing No. C880400 R1	Site Acquisitions, Inc.
Previous Tower Analysis	Tectonic Engineering	Site No. CT-093	
Proposed Tower Loading	Cingular Wireless RF Data Sheet	RF Engineer: Francis Malabanan (860.513.7625)	

Analysis Methods

ERI Tower (Version 3.0.0.16), a commercially available software program, was used to create a three-dimensional model of the tower and calculate member stresses for various dead, live, wind, and ice load cases. All loads were computed in accordance with the ANSI/EIA/TIA 222F or the local building code requirements. Selected output from the analysis is included in Appendix A.

Assumptions

1. Tower and structures were built in accordance with the manufacturer's specifications.
2. The tower and structures have been maintained in accordance with manufacturer's specifications.
3. The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2.
4. When applicable, transmission cables are considered to be structural components for calculating wind loads, as allowed by TIA/EIA-222F.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and PSG Engineering should be allowed to review any new information to determine its effect on the structural integrity of the tower.

ANALYSIS RESULTS

Table 5 – Tower Section Capacity

Section Number	Elevation (feet)	Leg Capacity (%)	Bracing Capacity (%)	Pass/Fail
1	220 - 240	1.0	9.3	Pass
2	200 - 220	3.2	18.4	Pass
3	180 - 200	6.6	29.7	Pass
4	160 - 180	11.5	58.3	Pass
5	140 - 160	17.7	84.5	Pass
6	120 - 140	24.9	53.2	Pass
7	100 - 120	28.7	97.7	Pass
8	80 - 100	35.7	59.8	Pass
9	60 - 80	32.6	61.9	Pass
10	30 - 60	38.5	69.9	Pass
11	0 - 30	46.9	75.5	Pass
Base Foundation (Compared with original design loads)			≤69.2	Pass

APPENDIX A

Output from Computer Programs

240.0 ft
220.0 ft
200.0 ft
180.0 ft
160.0 ft
140.0 ft
120.0 ft
100.0 ft
80.0 ft
60.0 ft
30.0 ft
0.0 ft

Section	Legs	Diagonal Grade	Top Chits	Horizontal	Red. Horizontal	Red. Diagonal	Red. Hips	Inner Bracing	Face Width (ft)	# Panels @ (ft)	Weight (K)
11	ROHN 10 EH	ROHN 3 STD	ROHN 3.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 3 STD	36.5833	2 @ 30	59.0
10	ROHN 10 EH	ROHN 3 STD	ROHN 3 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 3 STD	32.8333	2 @ 30	59.0
9	ROHN 8 EH	ROHN 3 STD	ROHN 3 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 3 STD	30.3333	3 @ 20	51
8	ROHN 8 EH	ROHN 3 STD	ROHN 3 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 3 STD	27.6777	3 @ 20	43
7	ROHN 8 X-STR	ROHN 3 STD	ROHN 3 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 3 STD	25.1777	3 @ 20	43
6	ROHN 8 X-STR	ROHN 3 STD	ROHN 3 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 3 STD	22.6777	3 @ 20	52
5	ROHN 8 EH	ROHN 3 STD	ROHN 3 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 3 STD	20.1777	3 @ 20	47
4	ROHN 8 EH	ROHN 3 STD	ROHN 3 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 3 STD	17.6777	3 @ 20	44
3	ROHN 8 X-STR	ROHN 3 STD	ROHN 3 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 3 STD	15.1777	3 @ 20	39
2	ROHN 8 X-STR	ROHN 3 STD	ROHN 3 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 3 STD	12.9277	3 @ 20	36
1	ROHN 8 X-STR	ROHN 3 STD	ROHN 3 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 1.5 STD	ROHN 3 STD	10.9277	3 @ 20	36

TYPE	ELEVATION	TYPE	ELEVATION
Generic C-2 Lighting Spur	245	PIROD 12' T-Frame	165
PD1110	243	7184.05 w/Mount Pipe	165
PD1110	242	(2) 7770.00 w/Mount Pipe	165
7x2 1/2" Pipe Mount	240	LGP2140X (TMA)	165
Flash Beacon Lighting	240	(2) LGP13519	165
PD156S-4	239	LGP2140X (TMA)	165
Pirod 4' Side Mount Standoff (1)	239	PIROD 12' T-Frame	165
OG89-9000	238	7184.05 w/Mount Pipe	165
PD83-1	235	(2) 7770.00 w/Mount Pipe	165
Pirod 4' Side Mount Standoff (1)	235	DB84-490E-XY w/Mount Pipe	151
Pirod 4' Side Mount Standoff (1)	232	Pirod 6' Side Mount Standoff (1)	151
SRL-420NHD	232	DB84-490E-XY w/Mount Pipe	151
Pirod 4' Side Mount Standoff (1)	229	Pirod 6' Side Mount Standoff (1)	151
DB908D-Y	226	DB84-490E-XY w/Mount Pipe	151
DB808D-Y	226	Pirod 6' Side Mount Standoff (1)	151
Pirod 4' Side Mount Standoff (1)	223	DB84-490E-XY w/Mount Pipe	146
Pirod 4' Side Mount Standoff (1)	223	Pirod 6' Side Mount Standoff (1)	146
DB212-1	217	DB84-490E-XY w/Mount Pipe	146
7x2 1/2" Pipe Mount	217	Pirod 6' Side Mount Standoff (1)	146
DB264-A	189	DB84-490E-XY w/Mount Pipe	146
Pirod 4' Side Mount Standoff (1)	169	Pirod 6' Side Mount Standoff (1)	146
PD886S-4	166	Flash Beacon Lighting	140
7x2 1/2" Pipe Mount	166	Flash Beacon Lighting	140
PD1010S-1	166	Flash Beacon Lighting	140
7x2 1/2" Pipe Mount	166	6' Yagi	135
PD886S-4	164	Pirod 4' Side Mount Standoff (1)	135
7x2 1/2" Pipe Mount	164	Pirod 4' Side Mount Standoff (1)	132
(2) RS90-10	187	Pirod 4' Side Mount Standoff (1)	132
PIROD 10' Lightweight T-Frame	187	Pirod 4' Side Mount Standoff (1)	130
(2) RS90-10	187	6' Yagi	130
PIROD 10' Lightweight T-Frame	187	ASPT00	121
(2) RS90-10	187	Pirod 4' Side Mount Standoff (1)	118
PIROD 10' Lightweight T-Frame	187	Pirod 4' Side Mount Standoff (1)	117
(2) 7184.05 w/Mount Pipe	174	6' Yagi	117
PIROD 12' T-Frame	174	OGCS-825	109
(2) 7184.05 w/Mount Pipe	174	Pirod 4' Side Mount Standoff (1)	106
PIROD 12' T-Frame	174	Pirod 4' Side Mount Standoff (1)	98
(2) 7184.05 w/Mount Pipe	174	6' Yagi	98
PIROD 12' T-Frame	174	Pirod 4' Side Mount Standoff (1)	90
(2) LGP13519	168	6' Yagi	90
SRL-488	165	6' Yagi	90
PIROD 12' T-Frame	165	Pirod 4' Side Mount Standoff (1)	82
7184.05 w/Mount Pipe	165	GPS antenna w/ sidearm mount	56
(2) 7770.00 w/Mount Pipe	165	120 Tx	21
LGP2140X (TMA)	165		
(2) LGP13519	165		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	ROHN 2.5 STD	C	L2 1/2x2 1/2x3/16
B	ROHN 1.5 STD		

GRADE	FY	GRADE	Fy	Fu
A572-50	50 ksi			
				65 ksi

MATERIAL STRENGTH

MAX PIER FORCES:
 DOWN: 313 K
 UPLIFT: -239 K
 SHEAR: 47 K

AXIAL 117 K
 MOM 9554

TORQUE 134 kip-ft
 74 mph WIND - 0.5000 in ICE

AXIAL 83 K
 MOM 9644

TORQUE 124 kip-ft
 REACTIONS - 85 mph WIND

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.

PSG Engineering, Ltd.
 245 Commerce Green Blvd., Suite 240
 Sugar Land, Texas 77478
 Phone: (281) 343-7099
 FAX: (281) 343-7127

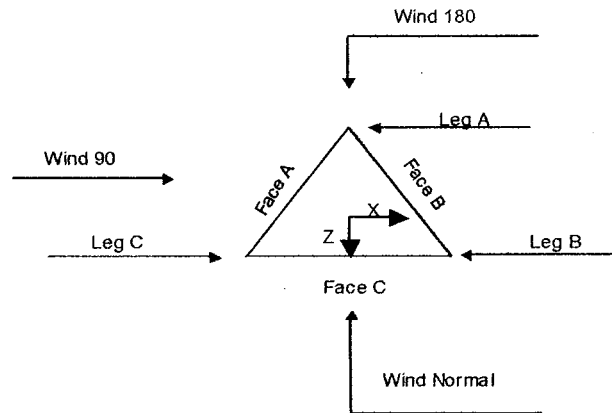
Job: **PSG Engineering Project Number: 0504A118-B01024**
 Project: **CT-0093 (BEARDSLEY)**
 Client: Crown Castle International
 Code: TIA/EIA-222-F
 Date: 11/23/05
 Scale: NTS
 Drawn by: Oscar Pedraza
 App'd: [Signature]
 Path: J:\Projects\0504A118\CT0093.dwg
 Dwg No: E-1

ERITower PSG Engineering, Ltd. 245 Commerce Green Blvd., Suite 240 Sugar Land, Texas 77478 Phone: (281) 343-7099 FAX: (281) 343-7127	Job PSG Engineering Project Number: 0504A118-B010240	Page 1 of 23
	Project CT-0093 (BEARDSLEY)	Date 12:43:52 11/23/05
	Client Crown Castle International	Designed by Oscar Pedraza

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 240.00 ft above the ground line.
 The base of the tower is set at an elevation of 0.00 ft above the ground line.
 The face width of the tower is 10.93 ft at the top and 40.33 ft at the base.
 This tower is designed using the TIA/EIA-222-F standard.
 The following design criteria apply:

- Tower is located in Fairfield County, Connecticut.
- Basic wind speed of 85 mph.
- Nominal ice thickness of 0.5000 in.
- Ice density of 56 pcf.
- A wind speed of 74 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 50 mph.
- Pressures are calculated at each section.
- Stress ratio used in tower member design is 1.333.
- Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.



Triangular Tower

Tower Section Geometry

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	Client Crown Castle International	Designed by Oscar Pedraza

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	240.00-220.00			10.93	1	20.00
T2	220.00-200.00			12.93	1	20.00
T3	200.00-180.00			15.18	1	20.00
T4	180.00-160.00			17.68	1	20.00
T5	160.00-140.00			20.18	1	20.00
T6	140.00-120.00			22.68	1	20.00
T7	120.00-100.00			25.18	1	20.00
T8	100.00-80.00			27.68	1	20.00
T9	80.00-60.00			30.33	1	20.00
T10	60.00-30.00			32.83	1	30.00
T11	30.00-0.00			36.58	1	30.00

Tower Section Geometry (cont'd)

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	240.00-220.00	6.67	K Brace Down	No	Yes	0.0000	0.0000
T2	220.00-200.00	10.00	K Brace Down	No	Yes	0.0000	0.0000
T3	200.00-180.00	10.00	K Brace Down	No	Yes	0.0000	0.0000
T4	180.00-160.00	10.00	K Brace Down	No	Yes	0.0000	0.0000
T5	160.00-140.00	10.00	K Brace Down	No	Yes	0.0000	0.0000
T6	140.00-120.00	10.00	K Brace Down	No	Yes	0.0000	0.0000
T7	120.00-100.00	20.00	K1 Down	No	Yes	0.0000	0.0000
T8	100.00-80.00	20.00	K1 Down	No	Yes	0.0000	0.0000
T9	80.00-60.00	20.00	K1 Down	No	Yes	0.0000	0.0000
T10	60.00-30.00	30.00	K2 Down	No	Yes	0.0000	0.0000
T11	30.00-0.00	30.00	K2 Down	No	Yes	0.0000	0.0000

Tower Section Geometry (cont'd)

Tower Elevation	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
ft						
T1 240.00-220.00	Pipe	ROHN 8 X-STR	A572-50 (50 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T2 220.00-200.00	Pipe	ROHN 8 X-STR	A572-50 (50 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)
T3 200.00-180.00	Pipe	ROHN 8 X-STR	A572-50 (50 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)
T4 180.00-160.00	Pipe	ROHN 8 X-STR	A572-50 (50 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)
T5 160.00-140.00	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)
T6 140.00-120.00	Pipe	ROHN 8 X-STR	A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T7 120.00-100.00	Pipe	ROHN 8 X-STR	A572-50 (50 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)
T8 100.00-80.00	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T9 80.00-60.00	Pipe	ROHN 10 EH	A572-50	Pipe	ROHN 3 STD	A572-50

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Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T10 60.00-30.00	Pipe	ROHN 10 EH	(50 ksi) A572-50	Pipe	ROHN 3 STD	(50 ksi) A572-50
T11 30.00-0.00	Pipe	ROHN 10 EH	(50 ksi) A572-50	Pipe	ROHN 3 STD	(50 ksi) A572-50

Tower Section Geometry (cont'd)

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T1 240.00-220.00	None	Solid Round		A36 (36 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T2 220.00-200.00	None	Solid Round		A36 (36 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T3 200.00-180.00	None	Solid Round		A36 (36 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T4 180.00-160.00	None	Solid Round		A36 (36 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)
T5 160.00-140.00	None	Solid Round		A36 (36 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)
T6 140.00-120.00	None	Solid Round		A36 (36 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)
T7 120.00-100.00	None	Solid Round		A36 (36 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)
T8 100.00-80.00	None	Solid Round		A36 (36 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T9 80.00-60.00	None	Solid Round		A36 (36 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T10 60.00-30.00	None	Solid Round		A36 (36 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T11 30.00-0.00	None	Solid Round		A36 (36 ksi)	Pipe	ROHN 3.5 STD	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T1 240.00-220.00	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x1/8	A36 (36 ksi)
T2 220.00-200.00	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x1/8	A36 (36 ksi)
T3 200.00-180.00	Solid Round		A572-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T4 180.00-160.00	Solid Round		A572-50 (50 ksi)	Single Angle	L3x3x3/16	A36 (36 ksi)
T5 160.00-140.00	Solid Round		A572-50 (50 ksi)	Single Angle	L3 1/2x3 1/2x1/4	A572-50 (50 ksi)

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Tower Elevation <i>ft</i>	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T6 140.00-120.00	Solid Round		A572-50 (50 ksi)	Single Angle	L3 1/2x3 1/2x1/4	A572-50 (50 ksi)
T7 120.00-100.00	Solid Round		A572-50 (50 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T8 100.00-80.00	Solid Round		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T9 80.00-60.00	Solid Round		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T10 60.00-30.00	Solid Round		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T11 30.00-0.00	Solid Round		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation <i>ft</i>	Redundant Bracing Grade	Redundant Type	Redundant Size	K Factor	
T7 120.00-100.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (1)	Pipe	ROHN 1.5 STD	1
		Hip (1)	Pipe	ROHN 1.5 STD	1
T8 100.00-80.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (1)	Pipe	ROHN 2 STD	1
		Hip (1)	Pipe	ROHN 1.5 STD	1
T9 80.00-60.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (1)	Pipe	ROHN 2 STD	1
		Hip (1)	Pipe	ROHN 1.5 STD	1
T10 60.00-30.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Horizontal (2)		ROHN 1.5 STD	
		Diagonal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (2)		ROHN 1.5 STD	
		Hip (1)	Pipe	ROHN 1.5 STD	1
		Hip (2)		ROHN 1.5 STD	
T11 30.00-0.00	A572-50 (50 ksi)	Hip Diagonal		ROHN 2 STD	1
		Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Horizontal (2)		ROHN 1.5 STD	
		Diagonal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (2)		ROHN 1.5 STD	
		Hip (1)	Pipe	ROHN 1.5 STD	1
		Hip (2)		ROHN 1.5 STD	
		Hip Diagonal		ROHN 2.5 STD	1

Tower Section Geometry (cont'd)

Tower Elevation <i>ft</i>	Gusset Area (per face) <i>ft²</i>	Gusset Thickness <i>in</i>	Gusset Grade	Adjust. Factor <i>A_f</i>	Adjust. Factor <i>A_r</i>	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals <i>in</i>	Double Angle Stitch Bolt Spacing Horizontals <i>in</i>
T1 240.00-220.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000

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	Client Crown Castle International	Designed by Oscar Pedraza

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
ft	ft ²	in						
T2 220.00-200.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T3 200.00-180.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T4 180.00-160.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T5 160.00-140.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T6 140.00-120.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T7 120.00-100.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T8 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T9 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T10 60.00-30.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T11 30.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000

Tower Section Geometry (cont'd)

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	Legs	K Factors ¹							
				X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace	
											X Y
ft											
T1 240.00-220.00	No	No	1	1	0.85	1	1	1	1	1	1
T2 220.00-200.00	No	No	1	1	0.85	1	1	1	1	1	1
T3 200.00-180.00	No	No	1	1	0.85	1	1	1	1	1	1
T4 180.00-160.00	No	No	1	1	0.85	1	1	1	1	1	1
T5 160.00-140.00	No	No	1	1	0.85	1	1	1	1	1	1
T6 140.00-120.00	No	No	1	1	0.85	1	1	1	1	1	1
T7 120.00-100.00	Yes	Yes	1	1	0.85	1	1	1	1	1	1
T8 100.00-80.00	Yes	Yes	1	1	0.85	1	1	1	1	1	1
T9 80.00-60.00	Yes	Yes	1	1	0.85	1	1	1	1	1	1
T10 60.00-30.00	Yes	Yes	1	1	0.85	1	1	1	1	1	1
T11 30.00-0.00	Yes	Yes	1	1	0.85	1	1	1	1	1	1

¹Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.

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Tower Section Geometry (cont'd)

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 240.00-220.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 220.00-200.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 200.00-180.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 180.00-160.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 160.00-140.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 140.00-120.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 120.00-100.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 100.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 60.00-30.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 30.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry (cont'd)

Tower Elevation ft	Connection Offsets							
	Diagonal				K-Bracing			
	Vert. Top	Horiz. Top	Vert. Bot.	Horiz. Bot.	Vert. Top	Horiz. Top	Vert. Bot.	Horiz. Bot.
in	in	in	in	in	in	in	in	
T1 240.00-220.00	0.0000	0.0000	0.0000	0.0000	6.0000	0.0000	6.0000	6.0000
T2 220.00-200.00	0.0000	0.0000	0.0000	0.0000	6.0000	0.0000	6.0000	6.0000
T3 200.00-180.00	0.0000	0.0000	0.0000	0.0000	6.0000	0.0000	6.0000	6.0000
T4 180.00-160.00	0.0000	0.0000	0.0000	0.0000	6.0000	0.0000	6.0000	6.0000
T5 160.00-140.00	0.0000	0.0000	0.0000	0.0000	6.0000	0.0000	6.0000	6.0000
T6 140.00-120.00	0.0000	0.0000	0.0000	0.0000	6.0000	0.0000	6.0000	6.0000
T7 120.00-100.00	0.0000	0.0000	0.0000	0.0000	6.0000	0.0000	6.0000	6.0000
T8 100.00-80.00	0.0000	0.0000	0.0000	0.0000	6.0000	0.0000	6.0000	6.0000
T9 80.00-60.00	0.0000	0.0000	0.0000	0.0000	6.0000	0.0000	6.0000	6.0000

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Tower Elevation	Connection Offsets							
	Diagonal				K-Bracing			
	Vert. Top	Horiz. Top	Vert. Bot.	Horiz. Bot.	Vert. Top	Horiz. Top	Vert. Bot.	Horiz. Bot.
ft	in	in	in	in	in	in	in	in
T10 60.00-30.00	0.0000	0.0000	0.0000	0.0000	6.0000	0.0000	6.0000	6.0000
T11 30.00-0.00	0.0000	0.0000	0.0000	0.0000	6.0000	0.0000	6.0000	6.0000

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Connection Type	Leg Bolt Size in	No.	Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
				Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
				T1 240.00-220.00	Flange	1.0000 A325N	8	0.6250 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 220.00-200.00	Flange	1.0000 A325N	8	0.6250 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T3 200.00-180.00	Flange	1.0000 A325N	8	0.6250 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T4 180.00-160.00	Flange	1.0000 A325N	8	0.6250 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T5 160.00-140.00	Flange	1.0000 A325N	8	0.6250 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T6 140.00-120.00	Flange	1.0000 A325N	8	0.6250 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T7 120.00-100.00	Flange	1.0000 A325N	8	0.7500 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0
T8 100.00-80.00	Flange	1.0000 A325N	12	0.7500 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0
T9 80.00-60.00	Flange	1.0000 A325N	12	0.7500 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0
T10 60.00-30.00	Flange	1.0000 A325N	12	0.8750 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0
T11 30.00-0.00	Flange	1.0000 A449	12	0.8750 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	# Per Row	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Face A LDF5-50A (7/8 FOAM)	A	Yes	Ar (CfAe)	146.00 - 10.00	0.0000	0	7	7	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM)	A	Yes	Ar (CfAe)	151.00 - 146.00	0.0000	0	4	4	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM)	A	Yes	Ar (CfAe)	229.00 - 151.00	0.0000	0	1	1	1.0900	1.0900		0.33
Feedline Ladder (Af)	A	Yes	Af (CfAe)	230.00 - 10.00	0.0000	0	1	1	0.0000	3.0000	12.0000	8.40

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Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
* ***Face B***												
LDF2-50 (3/8 FOAM)	B	Yes	Ar (CfAe)	90.00 - 10.00	0.0000	-0.25	8	8	0.4400	0.4400		0.08
LDF2-50 (3/8 FOAM)	B	Yes	Ar (CfAe)	98.00 - 90.00	0.0000	-0.25	7	7	0.4400	0.4400		0.08
LDF2-50 (3/8 FOAM)	B	Yes	Ar (CfAe)	117.00 - 98.00	0.0000	-0.25	6	6	0.4400	0.4400		0.08
LDF2-50 (3/8 FOAM)	B	Yes	Ar (CfAe)	130.00 - 117.00	0.0000	-0.25	3	3	0.4400	0.4400		0.08
LDF2-50 (3/8 FOAM)	B	Yes	Ar (CfAe)	132.00 - 130.00	0.0000	-0.25	2	2	0.4400	0.4400		0.08
Feedline Ladder (Af)	B	Yes	Af (CfAe)	135.00 - 10.00	0.0000	-0.25	1	1	0.0000	3.0000	12.0000	8.40
* ***Face C Outside***												
LDF7-50A (1-5/8 FOAM)	B	Yes	Ar (CfAe)	165.00 - 10.00	0.0000	0.25	18	15	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	B	Yes	Ar (CfAe)	174.00 - 165.00	0.0000	0.25	6	6	1.9800	1.9800		0.82
Feedline Ladder (Af)	B	Yes	Af (CfAe)	174.00 - 10.00	0.0000	0.25	1	1	0.0000	3.0000	12.0000	8.40
* ***Face C Outside***												
LDF7-50A (1-5/8 FOAM)	C	Yes	Ar (CfAe)	223.00 - 10.00	0.0000	0.25	5	5	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	C	Yes	Ar (CfAe)	235.00 - 223.00	0.0000	0.25	3	3	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	C	Yes	Ar (CfAe)	239.00 - 235.00	0.0000	0.25	2	2	1.9800	1.9800		0.82
Feedline Ladder (Af)	C	Yes	Af (CfAe)	240.00 - 10.00	0.0000	0.25	1	1	0.0000	3.0000	12.0000	8.40
* ***Face C Outside***												
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	106.00 - 10.00	0.0000	0	11	11	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	118.00 - 106.00	0.0000	0	10	10	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	159.00 - 118.00	0.0000	0	9	9	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	165.00 - 159.00	0.0000	0	7	7	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	194.00 - 165.00	0.0000	0	5	5	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	196.00 - 194.00	0.0000	0	4	4	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	199.00 - 196.00	0.0000	0	3	3	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	232.00 - 199.00	0.0000	0	2	2	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	239.00 - 232.00	0.0000	0	1	1	1.0900	1.0900		0.33
Feedline Ladder (Af)	C	Yes	Af (CfAe)	240.00 - 10.00	0.0000	0	1	1	0.0000	3.0000	12.0000	8.40
* ***Face C Outside***												
LDF4-50A (1/2 FOAM)	C	Yes	Ar (CfAe)	21.00 - 10.00	0.0000	-0.1	3	3	0.6300	0.6300		0.15
LDF4-50A (1/2 FOAM)	C	Yes	Ar (CfAe)	56.00 - 21.00	0.0000	-0.1	2	2	0.6300	0.6300		0.15
LDF4-50A (1/2 FOAM)	C	Yes	Ar (CfAe)	217.00 - 56.00	0.0000	-0.1	1	1	0.6300	0.6300		0.15

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Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
(1/2 FOAM)												
LDF2-50 (3/8 FOAM)	C	Yes	Ar (CfAe)	90.00 - 10.00	0.0000	-0.2	5	5	0.4400	0.4400		0.08
LDF2-50 (3/8 FOAM)	C	Yes	Ar (CfAe)	196.00 - 90.00	0.0000	-0.2	1	1	0.4400	0.4400		0.08
Feedline Ladder (Af)	C	Yes	Af (CfAe)	220.00 - 10.00	0.0000	-0.15	1	1	0.0000	3.0000	12.0000	8.40
* ***Face C Inside***												
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	187.00 - 10.00	-2.0000	0	12	12	1.5500	1.5500		0.66
Feedline Ladder (Af)	C	Yes	Af (CfAe)	187.00 - 10.00	-2.0000	0	1	1	0.0000	3.0000	12.0000	8.40
* ***TOWER HARDWARE***												
Climbing Ladder (Ar)	A	No	Ar (Leg)	240.00 - 10.00	0.0000	0	1	1	0.0000	0.3750		1.00
Climbing Ladder (Ar)	B	No	Ar (Leg)	240.00 - 10.00	0.0000	0	1	1	0.0000	0.3750		1.00
Climbing Ladder (Ar)	C	No	Ar (Leg)	240.00 - 10.00	0.0000	0	1	1	0.0000	0.3750		1.00

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	C _A A _A ft ² /ft	Weight plf
* * * * * * * *							

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
T1	240.00-220.00	A	2.067	2.500	0.000	0.000	0.11
		B	1.250	0.000	0.000	0.000	0.02
		C	13.801	10.000	0.000	0.000	0.41
T2	220.00-200.00	A	3.067	5.000	0.000	0.000	0.19
		B	1.250	0.000	0.000	0.000	0.02
		C	22.276	15.000	0.000	0.000	0.62
T3	200.00-180.00	A	3.067	5.000	0.000	0.000	0.19
		B	1.250	0.000	0.000	0.000	0.02

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Tower Section	Tower Elevation ft	Face	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight K
T4	180.00-160.00	C	38.321	16.750	0.000	0.000	0.75
		A	3.067	5.000	0.000	0.000	0.19
		B	22.535	3.500	0.000	0.000	0.26
T5	160.00-140.00	C	60.525	20.000	0.000	0.000	0.97
		A	7.699	5.000	0.000	0.000	0.21
		B	50.750	5.000	0.000	0.000	0.48
T6	140.00-120.00	C	66.702	20.000	0.000	0.000	1.00
		A	13.967	5.000	0.000	0.000	0.23
		B	51.997	8.750	0.000	0.000	0.61
T7	120.00-100.00	C	66.883	20.000	0.000	0.000	1.00
		A	13.967	5.000	0.000	0.000	0.23
		B	54.820	10.000	0.000	0.000	0.66
T8	100.00-80.00	C	69.063	20.000	0.000	0.000	1.00
		A	13.967	5.000	0.000	0.000	0.23
		B	56.177	10.000	0.000	0.000	0.66
T9	80.00-60.00	C	71.983	20.000	0.000	0.000	1.01
		A	13.967	5.000	0.000	0.000	0.23
		B	56.617	10.000	0.000	0.000	0.66
T10	60.00-30.00	C	73.450	20.000	0.000	0.000	1.02
		A	20.950	7.500	0.000	0.000	0.35
		B	84.925	15.000	0.000	0.000	1.00
T11	30.00-0.00	C	111.540	30.000	0.000	0.000	1.53
		A	13.967	5.000	0.000	0.000	0.23
		B	56.617	10.000	0.000	0.000	0.66
		C	75.078	20.000	0.000	0.000	1.02

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight K
T1	240.00-220.00	A	0.500	6.151	3.056	0.000	0.000	0.15
		B		4.583	0.000	0.000	0.000	0.03
		C		24.634	12.222	0.000	0.000	0.65
T2	220.00-200.00	A	0.500	8.067	6.111	0.000	0.000	0.28
		B		4.583	0.000	0.000	0.000	0.03
		C		38.693	18.333	0.000	0.000	1.00
T3	200.00-180.00	A	0.500	8.067	6.111	0.000	0.000	0.28
		B		4.583	0.000	0.000	0.000	0.03
		C		67.404	20.472	0.000	0.000	1.31
T4	180.00-160.00	A	0.500	8.067	6.111	0.000	0.000	0.28
		B		36.618	4.278	0.000	0.000	0.52
		C		104.692	24.444	0.000	0.000	1.78
T5	160.00-140.00	A	0.500	16.949	6.111	0.000	0.000	0.35
		B		79.083	6.111	0.000	0.000	1.09
		C		116.535	24.444	0.000	0.000	1.87
T6	140.00-120.00	A	0.500	28.967	6.111	0.000	0.000	0.43
		B		80.523	12.308	0.000	0.000	1.28
		C		116.883	24.444	0.000	0.000	1.88
T7	120.00-100.00	A	0.500	28.967	6.111	0.000	0.000	0.43
		B		81.483	18.896	0.000	0.000	1.38
		C		121.063	24.444	0.000	0.000	1.91
T8	100.00-80.00	A	0.500	28.967	6.111	0.000	0.000	0.43
		B		81.483	21.609	0.000	0.000	1.39
		C		123.850	27.378	0.000	0.000	1.95
T9	80.00-60.00	A	0.500	28.967	6.111	0.000	0.000	0.43
		B		81.483	22.489	0.000	0.000	1.40
		C		123.850	30.311	0.000	0.000	1.97

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Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	C_{MA} In Face ft ²	C_{MA} Out Face ft ²	Weight K
T10	60.00-30.00	A	0.500	43.450	9.167	0.000	0.000	0.65
		B		122.225	33.733	0.000	0.000	2.10
		C		185.775	48.197	0.000	0.000	2.97
T11	30.00-0.00	A	0.500	28.967	6.111	0.000	0.000	0.43
		B		81.483	22.489	0.000	0.000	1.40
		C		123.850	33.566	0.000	0.000	1.99

Feed Line Shielding

Section	Elevation ft	Face	A_R ft ²	A_R Ice ft ²	A_F ft ²	A_F Ice ft ²
T1	240.00-220.00	A	0.244	0.513	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	1.660	3.491	0.000	0.000
T2	220.00-200.00	A	0.412	0.841	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	2.177	4.485	0.000	0.000
T3	200.00-180.00	A	0.387	0.791	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	3.053	6.635	0.000	0.000
T4	180.00-160.00	A	0.397	0.797	0.000	0.000
		B	1.444	2.881	0.000	0.000
		C	4.617	9.952	0.000	0.000
T5	160.00-140.00	A	0.645	1.444	0.000	0.000
		B	3.069	6.160	0.000	0.000
		C	4.812	10.521	0.000	0.000
T6	140.00-120.00	A	1.091	2.505	0.000	0.000
		B	3.664	7.197	0.000	0.000
		C	5.274	11.210	0.000	0.000
T7	120.00-100.00	A	1.009	2.516	0.000	0.000
		B	3.621	7.854	0.000	0.000
		C	5.002	11.601	0.000	0.000
T8	100.00-80.00	A	1.156	2.742	0.000	0.000
		B	4.237	8.798	0.000	0.000
		C	5.920	13.148	0.000	0.000
T9	80.00-60.00	A	1.112	2.638	0.000	0.000
		B	4.104	8.539	0.000	0.000
		C	5.789	12.898	0.000	0.000
T10	60.00-30.00	A	1.551	3.830	0.000	0.000
		B	5.721	12.397	0.000	0.000
		C	8.149	18.949	0.000	0.000
T11	30.00-0.00	A	1.010	2.477	0.000	0.000
		B	3.728	8.018	0.000	0.000
		C	5.351	12.371	0.000	0.000

Feed Line Center of Pressure

Section	Elevation ft	CP_x in	CP_z in	CP_x Ice in	CP_z Ice in
T1	240.00-220.00	-3.7753	5.1040	-3.9232	5.4084

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Section	Elevation	CP _x	CP _y	CP _x Ice	CP _y Ice
	ft	in	in	in	in
T2	220.00-200.00	-5.5900	8.5753	-6.0092	9.3419
T3	200.00-180.00	-5.7099	13.7286	-5.8266	15.5648
T4	180.00-160.00	3.0327	19.4387	3.4518	21.8178
T5	160.00-140.00	10.9735	21.2198	11.4188	23.5242
T6	140.00-120.00	10.4597	19.5609	10.4075	21.9452
T7	120.00-100.00	12.3322	21.5321	12.0320	23.6952
T8	100.00-80.00	12.9984	22.3525	12.7992	24.6431
T9	80.00-60.00	13.3918	22.7977	13.3587	25.3564
T10	60.00-30.00	14.4864	24.8632	14.1684	26.9356
T11	30.00-0.00	11.9424	20.6303	12.0441	23.0303

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			ft ft ft	°	ft	ft ²	ft ²	K	
PD1110	C	From Face	0.00 1.00 0.00	0.0000	243.00	No Ice 1/2" Ice	2.50 3.84	2.50 3.84	0.02 0.04
7x2 1/2" Pipe Mount	C	From Face	0.00 1.00 0.00	0.0000	240.00	No Ice 1/2" Ice	2.01 2.59	2.01 2.59	0.04 0.06
* PD1110	C	From Leg	0.00 3.50 0.00	0.0000	242.00	No Ice 1/2" Ice	2.50 3.84	2.50 3.84	0.02 0.04
PD156S-4	C	From Leg	0.00 3.50 0.00	0.0000	239.00	No Ice 1/2" Ice	0.44 0.79	0.44 0.79	0.01 0.01
Pirod 4' Side Mount Standoff (I)	C	From Leg	0.00 2.00 0.00	0.0000	239.00	No Ice 1/2" Ice	2.72 4.91	2.72 4.91	0.05 0.09
* OGB9-900D	C	From Leg	0.00 3.75 0.00	0.0000	238.00	No Ice 1/2" Ice	1.94 2.94	1.94 2.94	0.02 0.03
Pirod 4' Side Mount Standoff (I)	C	From Leg	0.00 2.00 0.00	0.0000	235.00	No Ice 1/2" Ice	2.72 4.91	2.72 4.91	0.05 0.09
* PD83-1	A	From Leg	0.00 4.00 0.00	0.0000	235.00	No Ice 1/2" Ice	3.70 5.58	3.70 5.58	0.02 0.05
Pirod 4' Side Mount Standoff (I)	A	From Leg	0.00 3.00 0.00	0.0000	232.00	No Ice 1/2" Ice	2.72 4.91	2.72 4.91	0.05 0.09
* SRL-420NHD	B	From Leg	0.00 3.00 0.00	0.0000	232.00	No Ice 1/2" Ice	1.65 2.54	1.65 2.54	0.02 0.03
Pirod 4' Side Mount Standoff (I)	B	From Leg	0.00 2.00	0.0000	229.00	No Ice 1/2" Ice	2.72 4.91	2.72 4.91	0.05 0.09

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _s Front	C _A A _s Side	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft ²	ft ²	K
*			0.00						
DB806D-Y	B	From Leg	0.00		0.0000	226.00	No Ice	2.21	0.03
			3.00				1/2" Ice	3.12	0.04
			0.00						
Pirod 4' Side Mount Standoff (1)	B	From Leg	0.00		0.0000	223.00	No Ice	2.72	0.05
			2.00				1/2" Ice	4.91	0.09
			0.00						
DB806D-Y	A	From Leg	0.00		0.0000	226.00	No Ice	2.21	0.03
			4.00				1/2" Ice	3.12	0.04
			0.00						
Pirod 4' Side Mount Standoff (1)	A	From Leg	0.00		0.0000	223.00	No Ice	2.72	0.05
			3.00				1/2" Ice	4.91	0.09
			0.00						
*			0.00						
DB212-1	B	From Leg	0.00		0.0000	217.00	No Ice	4.40	0.03
			1.00				1/2" Ice	8.42	0.07
			0.00						
7x2 1/2" Pipe Mount	B	From Leg	0.00		0.0000	217.00	No Ice	2.01	0.04
			1.00				1/2" Ice	2.59	0.06
			0.00						
*			0.00						
DB264-A	B	From Leg	0.00		0.0000	199.00	No Ice	3.16	0.04
			4.00				1/2" Ice	5.69	0.05
			0.00						
Pirod 4' Side Mount Standoff (1)	B	From Leg	0.00		0.0000	199.00	No Ice	2.72	0.05
			3.00				1/2" Ice	4.91	0.09
			0.00						
*			0.00						
PD10108-1	A	From Leg	0.00		0.0000	196.00	No Ice	0.18	0.00
			1.00				1/2" Ice	0.32	0.00
			0.00						
7x2 1/2" Pipe Mount	A	From Leg	0.00		0.0000	196.00	No Ice	2.01	0.04
			1.00				1/2" Ice	2.59	0.06
			0.00						
*			0.00						
PD688S-4	A	From Leg	0.00		0.0000	196.00	No Ice	0.35	0.00
			1.00				1/2" Ice	0.63	0.00
			0.00						
7x2 1/2" Pipe Mount	A	From Leg	0.00		0.0000	196.00	No Ice	2.01	0.04
			1.00				1/2" Ice	2.59	0.06
			0.00						
*			0.00						
PD688S-4	A	From Leg	0.00		0.0000	194.00	No Ice	0.35	0.00
			1.00				1/2" Ice	0.63	0.00
			0.00						
7x2 1/2" Pipe Mount	A	From Leg	0.00		0.0000	194.00	No Ice	2.01	0.04
			1.00				1/2" Ice	2.59	0.06
			0.00						
*			0.00						
(2) RS90-10	A	From Leg	0.00		0.0000	187.00	No Ice	7.00	0.03
			4.00				1/2" Ice	7.47	0.07
			0.00						
PiROD 10' Lightweight T-Frame	A	From Leg	0.00		0.0000	187.00	No Ice	9.30	0.25
			2.67				1/2" Ice	14.50	0.34
			0.00						
(2) RS90-10	B	From Leg	0.00		0.0000	187.00	No Ice	7.00	0.03

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{MA} Front	C _{MA} Side	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft ²	ft ²	K
			4.00			1/2" Ice	7.47	4.62	0.07
PIROD 10' Lightweight T-Frame	B	From Leg	0.00		0.0000	187.00	No Ice	9.30	0.25
			2.67				1/2" Ice	14.50	0.34
			0.00						
(2) RS90-10	C	From Leg	0.00		0.0000	187.00	No Ice	7.00	0.03
			4.00				1/2" Ice	7.47	0.07
			0.00						
PIROD 10' Lightweight T-Frame	C	From Leg	0.00		0.0000	187.00	No Ice	9.30	0.25
			2.67				1/2" Ice	14.50	0.34
			0.00						
*									
(2) 7184.05 w/Mount Pipe	A	From Face	0.00		0.0000	174.00	No Ice	3.54	0.04
			4.00				1/2" Ice	4.15	0.07
			0.00						
PIROD 12' T-Frame	A	From Face	0.00		0.0000	174.00	No Ice	12.20	0.36
			2.67				1/2" Ice	17.60	0.49
			0.00						
(2) 7184.05 w/Mount Pipe	B	From Face	0.00		0.0000	174.00	No Ice	3.54	0.04
			4.00				1/2" Ice	4.15	0.07
			0.00						
PIROD 12' T-Frame	B	From Face	0.00		0.0000	174.00	No Ice	12.20	0.36
			2.67				1/2" Ice	17.60	0.49
			0.00						
(2) 7184.05 w/Mount Pipe	C	From Face	0.00		0.0000	174.00	No Ice	3.54	0.04
			4.00				1/2" Ice	4.15	0.07
			0.00						
PIROD 12' T-Frame	C	From Face	0.00		0.0000	174.00	No Ice	12.20	0.36
			2.67				1/2" Ice	17.60	0.49
			0.00						
*									
7184.05 w/Mount Pipe	A	From Leg	0.00		0.0000	165.00	No Ice	3.54	0.04
			4.00				1/2" Ice	4.15	0.07
			0.00						
(2) 7770.00 w/Mount Pipe	A	From Leg	0.00		0.0000	165.00	No Ice	5.98	0.05
			4.00				1/2" Ice	6.44	0.10
			0.00						
LGP2140X (TMA)	A	From Leg	0.00		0.0000	165.00	No Ice	1.23	0.02
			4.00				1/2" Ice	1.38	0.02
			0.00						
(2) LGP13519	A	From Leg	0.00		0.0000	165.00	No Ice	0.34	0.01
			4.00				1/2" Ice	0.42	0.01
			0.00						
PIROD 12' T-Frame	A	From Leg	0.00		0.0000	165.00	No Ice	12.20	0.36
			2.67				1/2" Ice	17.60	0.49
			0.00						
7184.05 w/Mount Pipe	B	From Leg	0.00		0.0000	165.00	No Ice	3.54	0.04
			4.00				1/2" Ice	4.15	0.07
			0.00						
(2) 7770.00 w/Mount Pipe	B	From Leg	0.00		0.0000	165.00	No Ice	5.98	0.05
			4.00				1/2" Ice	6.44	0.10
			0.00						
LGP2140X (TMA)	B	From Leg	0.00		0.0000	165.00	No Ice	1.23	0.02
			4.00				1/2" Ice	1.38	0.02
			0.00						
(2) LGP13519	B	From Leg	0.00		0.0000	165.00	No Ice	0.34	0.01
			4.00				1/2" Ice	0.42	0.01

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Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C ₂ A ₂ Front	C ₂ A ₂ Side	Weight			
			Horz	Lateral	Vert						°	ft	ft ²
Pirod 6' Side Mount Standoff (1)	C	From Leg	0.00	0.0000	146.00	No Ice	4.97	4.97	0.07				
			4.00							1/2" Ice	6.12	6.12	0.13
			0.00										
* 6' Yagi	B	From Leg	0.00	0.0000	135.00	No Ice	4.20	4.20	0.01				
			3.00							1/2" Ice	4.68	4.68	0.03
			0.00										
Pirod 4' Side Mount Standoff (1)	B	From Leg	0.00	0.0000	135.00	No Ice	2.72	2.72	0.05				
			2.00							1/2" Ice	4.91	4.91	0.09
			0.00										
* 6' Yagi	C	From Leg	0.00	0.0000	132.00	No Ice	4.20	4.20	0.01				
			3.00							1/2" Ice	4.68	4.68	0.03
			0.00										
Pirod 4' Side Mount Standoff (1)	C	From Leg	0.00	0.0000	132.00	No Ice	2.72	2.72	0.05				
			2.00							1/2" Ice	4.91	4.91	0.09
			0.00										
* 6' Yagi	A	From Leg	0.00	0.0000	130.00	No Ice	4.20	4.20	0.01				
			3.00							1/2" Ice	4.68	4.68	0.03
			0.00										
Pirod 4' Side Mount Standoff (1)	A	From Leg	0.00	0.0000	130.00	No Ice	2.72	2.72	0.05				
			2.00							1/2" Ice	4.91	4.91	0.09
			0.00										
* ASP700	C	From Leg	0.00	0.0000	121.00	No Ice	1.98	1.98	0.01				
			3.75							1/2" Ice	3.50	3.50	0.01
			0.00										
Pirod 4' Side Mount Standoff (1)	C	From Leg	0.00	0.0000	118.00	No Ice	2.72	2.72	0.05				
			3.00							1/2" Ice	4.91	4.91	0.09
			0.00										
* 6' Yagi	B	From Leg	0.00	0.0000	117.00	No Ice	4.20	4.20	0.01				
			3.00							1/2" Ice	4.68	4.68	0.03
			0.00										
Pirod 4' Side Mount Standoff (1)	B	From Leg	0.00	0.0000	117.00	No Ice	2.72	2.72	0.05				
			2.00							1/2" Ice	4.91	4.91	0.09
			0.00										
* OGC9-825	A	From Leg	0.00	0.0000	109.00	No Ice	2.10	2.10	0.02				
			3.00							1/2" Ice	3.18	3.18	0.03
			0.00										
Pirod 4' Side Mount Standoff (1)	A	From Leg	0.00	0.0000	106.00	No Ice	2.72	2.72	0.05				
			2.00							1/2" Ice	4.91	4.91	0.09
			0.00										
* 6' Yagi	B	From Leg	0.00	0.0000	98.00	No Ice	4.20	4.20	0.01				
			3.00							1/2" Ice	4.68	4.68	0.03
			0.00										
Pirod 4' Side Mount Standoff (1)	B	From Leg	0.00	0.0000	98.00	No Ice	2.72	2.72	0.05				
			2.00							1/2" Ice	4.91	4.91	0.09
			0.00										
* 6' Yagi	A	From Leg	0.00	0.0000	90.00	No Ice	4.20	4.20	0.01				
			3.00							1/2" Ice	4.68	4.68	0.03
			0.00										
Pirod 4' Side Mount Standoff	A	From Leg	0.00	0.0000	90.00	No Ice	2.72	2.72	0.05				

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C/A _z Front	C/A _s Side	Weight
			Horz Lateral	Vert					
			ft	ft	°	ft	ft ²	ft ²	K
(1)			2.00			1/2" Ice	4.91	4.91	0.09
6' Yagi	B	From Leg	0.00		0.0000	No Ice	4.20	4.20	0.01
			3.00			1/2" Ice	4.68	4.68	0.03
			0.00						
Pirot 4' Side Mount Standoff	B	From Leg	0.00		0.0000	No Ice	2.72	2.72	0.05
(1)			2.00			1/2" Ice	4.91	4.91	0.09
			0.00						
* Pirot 4' Side Mount Standoff	B	From Leg	0.00		0.0000	No Ice	2.72	2.72	0.05
(1)			2.00			1/2" Ice	4.91	4.91	0.09
			0.00						
* GPS antenna w/ sidcarm mount	C	From Face	0.00		0.0000	No Ice	8.00	8.00	0.28
			1.00			1/2" Ice	12.00	12.00	0.38
			0.00						
* * ***TOWER HARDWARE***									
Generic C-2 Lightning Spur	B	None			0.0000	No Ice	4.00	4.00	0.00
						1/2" Ice	7.00	7.00	0.00
Flash Beacon Lighting	A	From Leg	0.00		0.0000	No Ice	2.70	2.70	0.05
			0.00			1/2" Ice	3.10	3.10	0.07
			0.00						
Flash Beacon Lighting	A	From Leg	1.00		0.0000	No Ice	2.70	2.70	0.05
			0.00			1/2" Ice	3.10	3.10	0.07
			0.00						
Flash Beacon Lighting	B	From Leg	1.00		0.0000	No Ice	2.70	2.70	0.05
			0.00			1/2" Ice	3.10	3.10	0.07
			0.00						
Flash Beacon Lighting	C	From Leg	1.00		0.0000	No Ice	2.70	2.70	0.05
			0.00			1/2" Ice	3.10	3.10	0.07
			0.00						

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets:		Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight	
				Horz Lateral	Vert							
			ft	ft	°	°	ft	ft	ft ²	K		
120 Tx	C	Paraboloid w/o Radome	From Face	0.00		0.0000		21.00	4.00	No Ice	12.57	0.01
				1.00						1/2" Ice	13.10	0.07
				0.00								

Load Combinations

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Comb. No.	Description
1	Dead Only
2	Dead+ Wind 0 deg - No Ice
3	Dead+ Wind 30 deg - No Ice
4	Dead+ Wind 60 deg - No Ice
5	Dead+ Wind 90 deg - No Ice
6	Dead+ Wind 120 deg - No Ice
7	Dead+ Wind 150 deg - No Ice
8	Dead+ Wind 180 deg - No Ice
9	Dead+ Wind 210 deg - No Ice
10	Dead+ Wind 240 deg - No Ice
11	Dead+ Wind 270 deg - No Ice
12	Dead+ Wind 300 deg - No Ice
13	Dead+ Wind 330 deg - No Ice
14	Dead+Ice+Temp
15	Dead+ Wind 0 deg+ Ice+Temp
16	Dead+ Wind 30 deg+Ice+Temp
17	Dead+ Wind 60 deg+Ice+Temp
18	Dead+ Wind 90 deg+Ice+Temp
19	Dead+ Wind 120 deg+Ice+Temp
20	Dead+ Wind 150 deg+Ice+Temp
21	Dead+ Wind 180 deg+Ice+Temp
22	Dead+ Wind 210 deg+Ice+Temp
23	Dead+ Wind 240 deg+Ice+Temp
24	Dead+ Wind 270 deg+Ice+Temp
25	Dead+ Wind 300 deg+Ice+Temp
26	Dead+ Wind 330 deg+Ice+Temp
27	Dead+ Wind 0 deg - Service
28	Dead+ Wind 30 deg - Service
29	Dead+ Wind 60 deg - Service
30	Dead+ Wind 90 deg - Service
31	Dead+ Wind 120 deg - Service
32	Dead+ Wind 150 deg - Service
33	Dead+ Wind 180 deg - Service
34	Dead+ Wind 210 deg - Service
35	Dead+ Wind 240 deg - Service
36	Dead+ Wind 270 deg - Service
37	Dead+ Wind 300 deg - Service
38	Dead+ Wind 330 deg - Service

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	240 - 220	3.097	31	0.0202	0.1177
T2	220 - 200	2.966	31	0.0217	0.1168
T3	200 - 180	2.783	31	0.0240	0.1099
T4	180 - 160	2.513	31	0.0275	0.0983
T5	160 - 140	2.232	31	0.0292	0.0888
T6	140 - 120	1.858	31	0.0310	0.0739
T7	120 - 100	1.414	31	0.0321	0.0549
T8	100 - 80	1.062	31	0.0295	0.0413
T9	80 - 60	0.815	27	0.0237	0.0326
T10	60 - 30	0.564	27	0.0191	0.0238
T11	30 - 0	0.238	27	0.0107	0.0109

ERITower PSG Engineering, Ltd. 245 Commerce Green Blvd., Suite 240 Sugar Land, Texas 77478 Phone: (281) 343-7099 FAX: (281) 343-7127	Job PSG Engineering Project Number: 0504A118-B010240	Page 19 of 23
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	Client Crown Castle International	Designed by Oscar Pedraza

Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
245.00	Generic C-2 Lightning Spur	31	3.097	0.0202	0.1177	396289
243.00	PD1110	31	3.097	0.0202	0.1177	396289
242.00	PD1110	31	3.097	0.0202	0.1177	396289
240.00	7x2 1/2" Pipe Mount	31	3.097	0.0202	0.1177	396289
239.00	PD156S-4	31	3.090	0.0203	0.1177	396289
238.00	OGB9-900D	31	3.084	0.0203	0.1177	396289
235.00	Pirod 4' Side Mount Standoff (1)	31	3.066	0.0206	0.1177	396289
232.00	Pirod 4' Side Mount Standoff (1)	31	3.047	0.0208	0.1177	247682
229.00	Pirod 4' Side Mount Standoff (1)	31	3.028	0.0210	0.1176	180132
226.00	DB806D-Y	31	3.008	0.0212	0.1175	141533
223.00	Pirod 4' Side Mount Standoff (1)	31	2.987	0.0215	0.1172	116305
217.00	DB212-J	31	2.943	0.0220	0.1162	78935
199.00	DB264-A	31	2.771	0.0241	0.1093	41322
196.00	PD10103-1	31	2.734	0.0247	0.1076	50242
194.00	PD688S-4	31	2.707	0.0251	0.1064	61299
187.00	(2) RS90-10	31	2.611	0.0264	0.1020	271333
174.00	(2) 7184.05 w/Mount Pipe	31	2.432	0.0282	0.0956	626452
168.00	SRL-488	31	2.350	0.0287	0.0929	83995
165.00	7184.05 w/Mount Pipe	31	2.307	0.0289	0.0915	58420
151.00	DR844H90E-XY w/Mount Pipe	31	2.078	0.0300	0.0830	40155
146.00	DB844H90E-XY w/Mount Pipe	31	1.982	0.0304	0.0791	40978
140.00	Flash Beacon Lighting	31	1.858	0.0310	0.0739	46023
135.00	6' Yagi	31	1.748	0.0315	0.0692	92128
132.00	6' Yagi	31	1.680	0.0317	0.0662	324113
130.00	6' Yagi	31	1.634	0.0318	0.0643	372326
121.00	ASP700	31	1.435	0.0321	0.0558	40726
118.00	Pirod 4' Side Mount Standoff (1)	31	1.373	0.0320	0.0532	36279
117.00	6' Yagi	31	1.353	0.0320	0.0524	35974
109.00	OGC9-825	31	1.204	0.0312	0.0466	36898
106.00	Pirod 4' Side Mount Standoff (1)	31	1.154	0.0307	0.0446	37330
98.00	6' Yagi	27	1.034	0.0290	0.0403	44677
90.00	6' Yagi	27	0.933	0.0267	0.0367	114302
82.00	Pirod 4' Side Mount Standoff (1)	27	0.839	0.0243	0.0334	191968
56.00	GPS antenna w/ sidearm mount	27	0.516	0.0182	0.0220	125791
21.00	120 Tx	27	0.160	0.0076	0.0075	130119

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	240 - 220	8.878	6	0.0553	0.3810
T2	220 - 200	8.514	6	0.0599	0.3775
T3	200 - 180	7.996	6	0.0665	0.3556
T4	180 - 160	7.230	6	0.0769	0.3162
T5	160 - 140	6.427	6	0.0817	0.2840
T6	140 - 120	5.357	6	0.0869	0.2348
T7	120 - 100	4.079	6	0.0903	0.1734
T8	100 - 80	3.070	2	0.0832	0.1300
T9	80 - 60	2.350	2	0.0671	0.1028
T10	60 - 30	1.624	2	0.0540	0.0750
T11	30 - 0	0.684	2	0.0302	0.0344

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	Client Crown Castle International	Designed by Oscar Pedraza

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
245.00	Generic C-2 Lightning Spur	6	8.878	0.0553	0.3810	138878
243.00	PD1110	6	8.878	0.0553	0.3810	138878
242.00	PD1110	6	8.878	0.0553	0.3810	138878
240.00	7x2 1/2" Pipe Mount	6	8.878	0.0553	0.3810	138878
239.00	PD156S-4	6	8.861	0.0555	0.3810	138878
238.00	OGB9-900D	6	8.844	0.0558	0.3810	138878
235.00	Pirod 4' Side Mount Standoff (1)	6	8.792	0.0564	0.3810	138878
232.00	Pirod 4' Side Mount Standoff (1)	6	8.740	0.0571	0.3808	86709
229.00	Pirod 4' Side Mount Standoff (1)	6	8.686	0.0577	0.3804	63126
226.00	DB806D-Y	6	8.631	0.0584	0.3798	49599
223.00	Pirod 4' Side Mount Standoff (1)	6	8.574	0.0591	0.3789	40757
217.00	DB212-1	6	8.450	0.0606	0.3757	27636
199.00	DB264-A	6	7.963	0.0670	0.3538	14443
196.00	PD10108-1	6	7.857	0.0683	0.3482	17573
194.00	PD688S-4	6	7.783	0.0696	0.3442	21459
187.00	(2) RS90-10	6	7.510	0.0736	0.3295	96506
174.00	(2) 7184.05 w/Mount Pipe	6	6.998	0.0789	0.3068	198029
168.00	SRL-488	6	6.764	0.0802	0.2976	29547
165.00	7184.05 w/Mount Pipe	6	6.642	0.0808	0.2928	20502
151.00	DB844H90E-XY w/Mount Pipe	6	5.987	0.0838	0.2645	14074
146.00	DB844H90E-XY w/Mount Pipe	6	5.713	0.0852	0.2518	14366
140.00	Flash Beacon Lighting	6	5.357	0.0869	0.2348	16154
135.00	6' Yagi	6	5.040	0.0883	0.2194	32662
132.00	6' Yagi	6	4.845	0.0890	0.2099	116637
130.00	6' Yagi	6	4.714	0.0895	0.2036	138430
121.00	ASP700	6	4.140	0.0904	0.1762	14146
118.00	Pirod 4' Side Mount Standoff (1)	6	3.961	0.0902	0.1679	12592
117.00	6' Yagi	6	3.904	0.0901	0.1653	12485
109.00	OGC9-825	6	3.477	0.0879	0.1467	12805
106.00	Pirod 4' Side Mount Standoff (1)	6	3.333	0.0866	0.1407	12955
98.00	6' Yagi	2	2.990	0.0818	0.1268	15518
90.00	6' Yagi	2	2.695	0.0753	0.1156	40074
82.00	Pirod 4' Side Mount Standoff (1)	2	2.420	0.0686	0.1054	66963
56.00	GPS antenna w/ sidearm mount	2	1.484	0.0514	0.0693	44399
21.00	120 Tx	2	0.459	0.0216	0.0236	45532

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SP*P _{allow} K	% Capacity	Pass/Fail
T1	240 - 220	Leg	ROHN 8 X-STR	1	-4.89	466.41	1.0	Pass
T2	220 - 200	Leg	ROHN 8 X-STR	40	-13.77	435.18	3.2	Pass
T3	200 - 180	Leg	ROHN 8 X-STR	67	-28.51	435.13	6.6	Pass
T4	180 - 160	Leg	ROHN 8 X-STR	94	-49.86	435.13	11.5	Pass
T5	160 - 140	Leg	ROHN 8 EH	122	-77.17	435.13	17.7	Pass
T6	140 - 120	Leg	ROHN 8 X-STR	149	-108.18	435.13	24.9	Pass
T7	120 - 100	Leg	ROHN 8 X-STR	176	-125.09	435.13	28.7	Pass
T8	100 - 80	Leg	ROHN 8 EH	206	-155.49	435.09	35.7	Pass
T9	80 - 60	Leg	ROHN 10 EH	236	-187.26	574.19	32.6	Pass
T10	60 - 30	Leg	ROHN 10 EH	266	-221.13	574.19	38.5	Pass
T11	30 - 0	Leg	ROHN 10 EH	317	-269.30	574.19	46.9	Pass

ERITower PSG Engineering, Ltd. 245 Commerce Green Blvd., Suite 240 Sugar Land, Texas 77478 Phone: (281) 343-7099 FAX: (281) 343-7127	Job	Page	
	PSG Engineering Project Number: 0504A118-B010240		21 of 23
	Project	Date	
	CT-0093 (BEARDSLEY)	12:43:52 11/23/05	
Client	Designed by		
	Crown Castle International	Oscar Pedraza	

Section No.	Elevation ft	Component Type	Size	Critical Element	P/K	SH*P _{allow} /K	% Capacity	Pass/Fail
T1	240 - 220	Diagonal	ROHN 2 STD	14	-1.74	18.81	9.3	Pass
T2	220 - 200	Diagonal	ROHN 2.5 STD	43	-4.10	22.28	18.4	Pass
T3	200 - 180	Diagonal	ROHN 2.5 STD	72	-5.77	19.43	29.7	Pass
T4	180 - 160	Diagonal	ROHN 2.5 STD	99	-9.86	16.91	58.3	Pass
T5	160 - 140	Diagonal	ROHN 2.5 STD	125	-12.46	14.74	84.5	Pass
T6	140 - 120	Diagonal	ROHN 3 STD	152	-13.51	25.40	53.2	Pass
T7	120 - 100	Diagonal	ROHN 2.5 STD	179	-21.19	21.70	97.7	Pass
T8	100 - 80	Diagonal	ROHN 3 STD	209	-22.17	40.00	55.4	Pass
							59.8 (b)	
T9	80 - 60	Diagonal	ROHN 3 STD	239	-22.98	37.56	61.2	Pass
							61.9 (b)	
T10	60 - 30	Diagonal	ROHN 3 STD	269	-30.78	44.05	69.9	Pass
T11	30 - 0	Diagonal	ROHN 3 STD	320	-31.69	42.00	75.5	Pass
T1	240 - 220	Horizontal	ROHN 2 STD	13	-1.17	24.88	4.7	Pass
							7.1 (b)	
T2	220 - 200	Horizontal	ROHN 2 STD	43	-2.46	20.52	12.0	Pass
							14.4 (b)	
T3	200 - 180	Horizontal	ROHN 2 STD	70	-3.33	14.92	23.7	Pass
T4	180 - 160	Horizontal	ROHN 2.5 STD	97	-7.04	25.51	27.6	Pass
							41.2 (b)	
T5	160 - 140	Horizontal	ROHN 2.5 STD	124	-9.35	19.72	47.4	Pass
							55.3 (b)	
T6	140 - 120	Horizontal	ROHN 2.5 STD	151	-10.44	15.70	66.5	Pass
T7	120 - 100	Horizontal	ROHN 2.5 STD	178	-12.01	14.14	84.9	Pass
T8	100 - 80	Horizontal	ROHN 3 STD	208	-13.43	22.96	58.5	Pass
T9	80 - 60	Horizontal	ROHN 3 STD	238	-14.38	19.02	75.6	Pass
T10	60 - 30	Horizontal	ROHN 3 STD	268	-15.98	16.36	97.7	Pass
T11	30 - 0	Horizontal	ROHN 3.5 STD	319	-17.67	20.79	85.0	Pass
T1	240 - 220	Top Girt	ROHN 2 STD	6	-0.68	27.85	2.4	Pass
T7	120 - 100	Redund Horiz 1 Bracing	ROHN 1.5 STD	183	-1.60	12.16	13.1	Pass
T8	100 - 80	Redund Horiz 1 Bracing	ROHN 1.5 STD	228	-1.16	9.95	11.6	Pass
T9	80 - 60	Redund Horiz 1 Bracing	ROHN 1.5 STD	247	-1.49	8.41	17.7	Pass
T10	60 - 30	Redund Horiz 1 Bracing	ROHN 1.5 STD	275	-1.61	16.44	9.8	Pass
T11	30 - 0	Redund Horiz 1 Bracing	ROHN 1.5 STD	332	-0.71	13.42	5.3	Pass
T10	60 - 30	Redund Horiz 2 Bracing	ROHN 1.5 STD	282	-1.27	3.89	32.7	Pass
T11	30 - 0	Redund Horiz 2 Bracing	ROHN 1.5 STD	327	-1.24	3.10	39.8	Pass
T7	120 - 100	Redund Diag 1 Bracing	ROHN 1.5 STD	184	-1.73	3.69	46.9	Pass
T8	100 - 80	Redund Diag 1 Bracing	ROHN 2 STD	229	-1.19	7.44	16.0	Pass
T9	80 - 60	Redund Diag 1 Bracing	ROHN 2 STD	248	-1.49	6.89	21.6	Pass
T10	60 - 30	Redund Diag 1 Bracing	ROHN 1.5 STD	283	-1.89	4.20	45.0	Pass
T11	30 - 0	Redund Diag 1 Bracing	ROHN 1.5 STD	334	-0.73	3.91	18.7	Pass
T10	60 - 30	Redund Diag 2 Bracing	ROHN 1.5 STD	278	-1.20	2.27	53.0	Pass
T11	30 - 0	Redund Diag 2 Bracing	ROHN 1.5 STD	329	-0.96	1.98	48.4	Pass
T7	120 - 100	Redund Hip 1 Bracing	ROHN 1.5 STD	192	-0.01	10.81	0.1	Pass
T8	100 - 80	Redund Hip 1 Bracing	ROHN 1.5 STD	231	-0.01	8.95	0.1	Pass

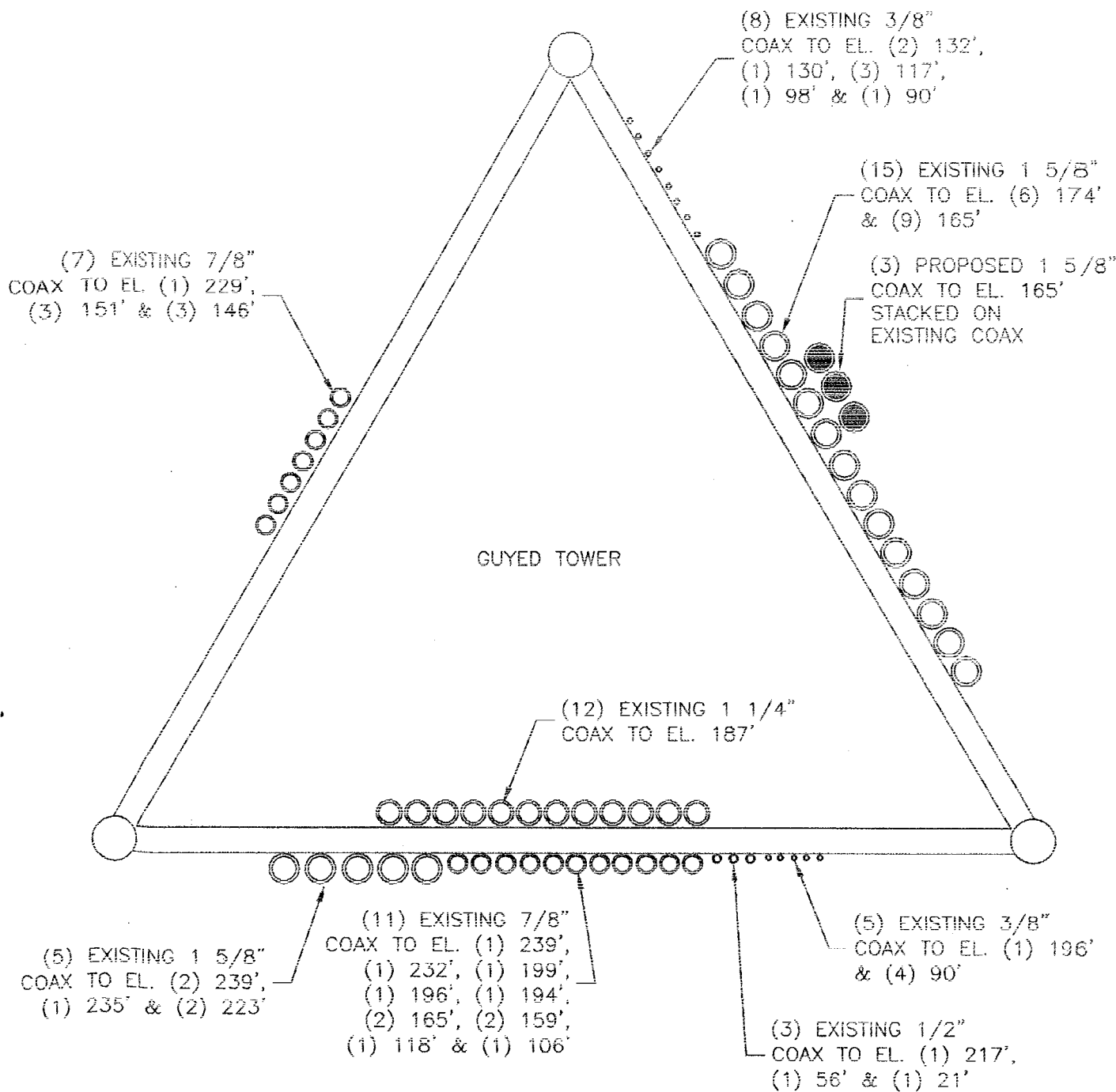
ERITower PSG Engineering, Ltd. 245 Commerce Green Blvd., Suite 240 Sugar Land, Texas 77478 Phone: (281) 343-7099 FAX: (281) 343-7127	Job PSG Engineering Project Number: 0504A118-B010240	Page 22 of 23
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	Client Crown Castle International	Designed by Oscar Pedraza

Section No.	Elevation ft	Component Type	Size	Critical Element	P/K	SF*P _{allow} /K	% Capacity	Pass/Fail	
T9	80 - 60	Redund Hip 1 Bracing	ROHN 1.5 STD	261	-0.01	7.45	0.2	Pass	
T10	60 - 30	Redund Hip 1 Bracing	ROHN 1.5 STD	309	-0.07	14.29	0.5	Pass	
T11	30 - 0	Redund Hip 1 Bracing	ROHN 1.5 STD	360	-0.06	11.52	0.5	Pass	
T10	60 - 30	Redund Hip 2 Bracing	ROHN 1.5 STD	291	-0.05	3.58	1.5	Pass	
T11	30 - 0	Redund Hip 2 Bracing	ROHN 1.5 STD	342	-0.04	2.88	1.5	Pass	
T10	60 - 30	Redund Hip Diagonal Bracing	ROHN 2 STD	293	-0.11	2.90	3.9	Pass	
T11	30 - 0	Redund Hip Diagonal Bracing	ROHN 2.5 STD	344	-0.11	5.74	1.8	Pass	
T1	240 - 220	Inner Bracing	L2x2x1/8	18	-0.00	2.82	0.2	Pass	
T2	220 - 200	Inner Bracing	L2x2x1/8	54	-0.00	2.14	0.3	Pass	
T3	200 - 180	Inner Bracing	L2 1/2x2 1/2x3/16	79	-0.01	4.53	0.2	Pass	
T4	180 - 160	Inner Bracing	L3x3x3/16	106	-0.01	5.98	0.3	Pass	
T5	160 - 140	Inner Bracing	L3 1/2x3 1/2x1/4	135	-0.01	9.80	0.2	Pass	
T6	140 - 120	Inner Bracing	L3 1/2x3 1/2x1/4	160	-0.01	7.86	0.2	Pass	
T7	120 - 100	Inner Bracing	ROHN 2 STD	202	-0.01	5.81	17.9	Pass	
T8	100 - 80	Inner Bracing	ROHN 3 STD	232	-0.02	21.78	11.6	Pass	
T9	80 - 60	Inner Bracing	ROHN 3 STD	262	-0.02	18.13	12.8	Pass	
T10	60 - 30	Inner Bracing	ROHN 3 STD	313	-0.04	15.48	14.3	Pass	
T11	30 - 0	Inner Bracing	ROHN 3 STD	364	-0.04	12.47	11.9	Pass	
							Summary		
							Leg (T11)	46.9	Pass
							Diagonal (T7)	97.7	Pass
							Horizontal (T10)	97.7	Pass
							Top Girt (T1)	2.4	Pass
							Redund Horz 1 Bracing (T9)	17.7	Pass
							Redund Horz 2 Bracing (T11)	39.8	Pass
							Redund Diag 1 Bracing (T7)	46.9	Pass
							Redund Diag 2 Bracing (T10)	53.0	Pass
							Redund Hip 1 Bracing (T11)	0.5	Pass
							Redund Hip 2 Bracing (T11)	1.5	Pass
							Redund Hip Diagonal Bracing (T10)	3.9	Pass
							Inner Bracing (T7)	17.9	Pass
							Bolt Checks	71.4	Pass
							RATING =	97.7	Pass

ERITower PSG Engineering, Ltd. 243 Commerce Green Blvd., Suite 240 Sugar Land, Texas 77478 Phone: (281) 343-7099 FAX: (281) 343-7177	Job PSG Engineering Project Number: 0504A118-B010240	Page 23 of 23
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	Client Crown Castle International	Designed by Oscar Pedraza

APPENDIX B

Coaxial Cable Routing Plan



COAXIAL CABLE ROUTING PLAN

SITE # CT0093

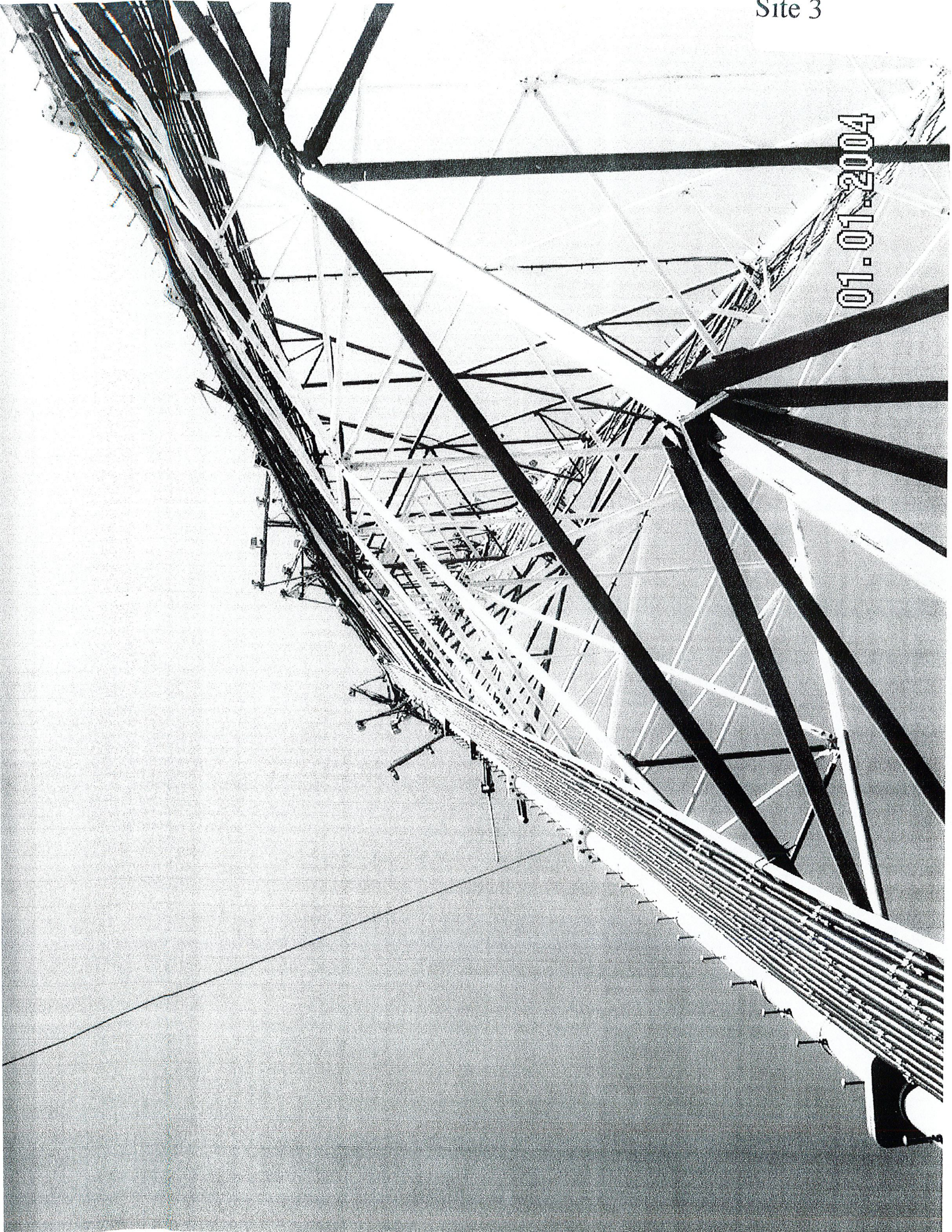
PSC ENGINEERING PROJECT #0504A118-B010150

SCALE: N.T.S.

DATE: 11.22.05

Site 3

01-01-2004



Site 3

01-01-2004



Letters to Chief
Elected Officials

December 12, 2005

Honorable Diane Goss Farrell,
First Selectwoman
Town of Westport
110 Myrtle Ave., Room 310
Westport, CT 06880

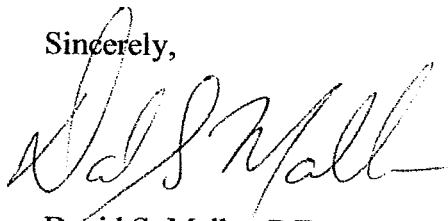
**Re: Notice of Exempt Modifications to Various Facilities in the
Towns of Westport and Bridgeport, Connecticut**

Dear Ms Farrell,

As part of its merger and integration efforts, New Cingular Wireless PCS, LLC (“Cingular” or “the Company”) intends to modify instrumentation and/or antenna configurations at certain wireless telecommunications facilities. As required by the Regulations of Connecticut State Agencies (“R.C.S.A.”) Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review the Company’s proposal. Please accept this letter and attachments as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter fully describes Cingular’s proposal. However, if you have any questions or require any further information on our plans or the Siting Council’s procedures, please call me at (860) 301-6378 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,



David S. Malko, P.E.
Consultant for New Cingular Wireless

Enclosure

December 12, 2005

Honorable John Fabrizi, Mayor
City of Bridgeport
City Hall Annex
999 Broad Street
Bridgeport, CT 06604

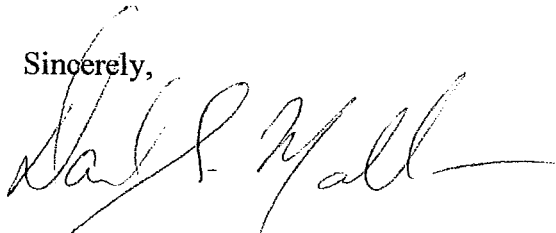
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Dear Mr. Fabrizi,

As part of its merger and integration efforts, New Cingular Wireless PCS, LLC ("Cingular" or "the Company") intends to modify instrumentation and/or antenna configurations at certain wireless telecommunications facilities. As required by the Regulations of Connecticut State Agencies ("R.C.S.A.") Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review the Company's proposal. Please accept this letter and attachments as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

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Sincerely,



David S. Malko, P.E.
Consultant for New Cingular Wireless

Enclosure