STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Internet: ct.gov/csc

Daniel F. Caruso
Chairman

February 17, 2009

Steven L. Levine
Real Estate Consultant
New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, CT 06067

RE: **EM-CING-107-081209** – New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 525 Orange Center Road, Orange, Connecticut.

Dear Mr. Levine:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies .

The proposed modifications are to be implemented as specified here and in your notice dated December 9, 2008, including the placement of all necessary equipment and shelters within the tower compound. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

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

Thank you for your attention and cooperation.

Very truly yours,

S. Derek Phelps

S. Derek Phelps
Executive Director

SDP/MP

c: The Honorable James M. Zeoli, First Selectman, Town of Orange
Paul Dinice, Zoning Enforcement Officer, Town of Orange

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
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www.ct.gov/csc

December 12, 2008

The Honorable James M. Zeoli
First Selectman
Town of Orange
Town Hall
617 Orange Center Road
Orange, CT 06477-2423

RE: **EM-CING-107-081209** - New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 525 Orange Center Road, Orange, Connecticut.

Dear Mr. Zeoli:

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

If you have any questions or comments regarding this proposal, please call me or inform the Council by December 26, 2008.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/jb

Enclosure: Notice of Intent

c: Paul Dinice, Zoning Enforcement Officer, Town of Orange

EM-CING-107-081209

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New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7636
Fax: (860) 513-7190

Steven L. Levine
Real Estate Consultant

HAND DELIVERED

ORIGINAL

December 9, 2008

Honorable Daniel F. Caruso, Chairman,
and Members of the Connecticut Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: New Cingular Wireless PCS, LLC notice of intent to modify an existing tele-communications facility located at 525 Orange Center Road, Orange (owner, Town of Orange)

Dear Chairman Caruso and Members of the Council:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") capability, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC ("AT&T") plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the chief elected official of the municipality in which the affected cell site is located.

UMTS technology offers services to mobile computer and phone users anywhere in the world. Based on the Global System for Mobile (GSM) communication standard, UMTS is the planned worldwide standard for mobile users. UMTS, fully implemented, gives computer and phone users high-speed access to the Internet as they travel. They have the same capabilities even when they roam, through both terrestrial wireless and satellite transmissions.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

The changes to the facility do not constitute modifications as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed or altered. Rather, the planned changes to the facility fall

squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. The height of the overall structure will be unaffected. Modifications to the existing site include all or some of the following as necessary to bring the site into conformance with the plan:

- Replacement of existing panel antennas with new antennas or, installation of additional antennas of a size required to accommodate UMTS.
- Installation of small tower mount amplifiers ("TMA's") and/or diplexers to the platform on which the panel antennas are mounted to enhance signal reception.
- Installation of additional or larger coaxial cables as required.
- Installation of an additional equipment cabinet in existing shelters, or on existing or enlarged concrete pads.
- Radome enlargement for flagpole and "stick" structures to accommodate larger antennas and additional associated equipment.

None of these modifications will extend the height of the tower.

2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound other than some enlarged equipment pads as may be noted in the attachments.

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.

4. Radio frequency power density may increase due to use of one or more GSM channel for UMTS transmissions. However, the changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons, New Cingular Wireless respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (860) 513-7636 with questions concerning this matter. Thank you for your consideration.

Sincerely,

Steven L. Levine
Real Estate Consultant

Attachments

NEW CINGULAR WIRELESS
Equipment Modification

525 Orange Center Road, Orange
Site Number 2174
Docket 177A and Exempt Modification approved 8/02

Tower Owner/Manager: Town of Orange

Equipment Configuration: Monopole

Current and/or Approved: Nine CSS DUO-1417-8686 panel antennas @ 146 ft AGL
Six TMA's and three diplexers @ 146 ft
Nine runs 1 ¼ inch coax cable
Equipment Shelter

Planned Modifications: Remove all existing antennas, TMA's, and diplexers
Install six Powerwave 7770 antennas (or equivalent) @ 148 ft
Install six TMA's and six diplexers @ 148 ft
Install three additional lines 1 ¼ inch coax

Power Density:

Worst-case calculations for existing wireless operations at the site indicate a radio frequency electromagnetic radiation power density, measured at ground level beside the tower, of approximately 28.7 % of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density following proposed modifications would be approximately 26.9 % of the standard.

Existing

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Other Users *							20.81
AT&T TDMA *	145	880 - 894	16	100	0.0274	0.5867	4.66
AT&T GSM *	145	1900 Band	2	427	0.0146	1.0000	1.46
AT&T GSM *	145	880 - 894	2	296	0.0101	0.5867	1.73
Total							28.7%

* Per CSC records

Proposed

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Other Users *							20.81
AT&T UMTS	148	880 - 894	1	500	0.0082	0.5867	1.40
AT&T GSM	148	1900 Band	2	427	0.0140	1.0000	1.40
AT&T GSM	148	880 - 894	4	296	0.0194	0.5867	3.31
Total							26.9%

* Per CSC records

Structural information:

The attached structural analysis demonstrates that the tower has adequate structural capacity to accommodate the proposed equipment modifications. (GPD Associates, 12/8/08)

Note that there is an error in the GPD analysis which results in a conservative outcome in support of the present Notice of Exempt Modification:

- Originally, AT&T (old) occupied the 110 ft level of the tower with a platform, 12 panel antennas, and 12 lines of coax. In 2007, this loading was removed from the tower. Subsequently in 2008, Pocket was approved to place 3 flush-mount antennas at the 113 ft level. Instead of either AT&T or Pocket, the structural analysis incorrectly identifies the 110 level of the tower as occupied by Nextel with a platform, 12 panel antennas, and 12 lines of coax.
- We apologize for the obvious error in the analysis, but wish to point out that the loading erroneously listed for Nextel at 110 ft is far greater than the actual Pocket antennas at 113 ft.
- With the error, the overall tower usage is rated at 84%. Were the correct (smaller and lighter) Pocket equipment substituted for the "Nextel" equipment at the 110 ft level, the overall usage would be less than 84%.

Accordingly, the error leads to a conservative result, and the attached structural is valid insofar as it demonstrates that the tower can accommodate the equipment modifications now proposed by AT&T (New Cingular).

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New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7636
Fax: (860) 513-7190

Steven L. Levine
Real Estate Consultant

December 9, 2008

James M. Zeoli, 1st Selectman
Town of Orange
Town Hall 617 Orange Center Rd.
Orangae, Ct 06477

Re: Telecommunications Facility – 525 Orange Center Road

Dear Mr. Zeoli:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") capability, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC ("AT&T") will be changing its equipment configuration at certain cell sites.

As required by 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 AT&T's proposal. Please accept this letter 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 to the Siting Council fully describes AT&T's proposal for the referenced cell site. 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) 513-7636 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Steven L. Levine
Real Estate Consultant

Enclosure

Derek Creaser
Hudson Design Group, LLC
1600 Osgood Street, Building 20 North, Suite 2-101
North Andover, MA 01845
(617) 306-3034

GPD ASSOCIATES
Brian Daugherty
520 South Main St., Suite 2531
Akron, Ohio 44311
(614) 210-0751
mimiller@gpdgroup.com

GPD# 2008147.26
December 8, 2008

STRUCTURAL ANALYSIS REPORT

HDG DESIGNATION:	**Site Number:**	**2174**
AT&T DESIGNATION:	Site USID:	61193
	Site Name:	ORANGE CENTRAL
ANALYSIS CRITERIA:	**Codes:**	**TIA/EIA-222-F & 2003 IBC** **85-mph with 0" ice** **74-mph with 1/2" ice**
SITE DATA:		**525 Orange Center Rd., Orange, CT 06477, New Haven County** **Latitude 41° 16' 25.284"N, Longitude 73° 1' 7.787" W** **160' Valmont Monopole**

Mr. Creaser,

GPD is pleased to submit this Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the addition of the following proposed loading configuration:

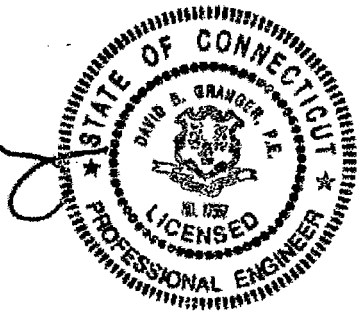
Elev. 148' (6) Powerwave 7770.00 Antennas on the existing 13' Platform w/rails, w/ (3) 1-1/4" internal coax
(6) Powerwave LGP21401 TMA's mounted behind the antennas
(6) Powerwave LGP21901 Diplexers mounted behind the antennas

Based on our analysis we have determined that the **tower and its foundation are sufficient** for the proposed, existing, and reserved loadings as referenced in Appendix A.

We at GPD appreciate the opportunity of providing our continuing professional services to you and AT&T. If you have any questions please do not hesitate to call.

Respectfully submitted,

David B. Granger, P.E.
Connecticut #: 17557



SUMMARY & RESULTS

The purpose of this analysis was to verify whether the existing structure is capable of carrying the proposed loading configuration as specified by AT&T to Hudson Design Group, LLC. This report was commissioned by Mr. Derek Creaser of Hudson Design Group, LLC.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Pole	83.8%	Pass
Anchor Rods	69.6%	Pass
Base Plate	60.4%	Pass
Foundation	64.8%	Pass

ANALYSIS METHOD

RISA Tower (Version 5.3.0.1), a commercially available software program, was used to create a three-dimensional model of the tower and calculate primary member stresses for various dead, live, wind, and ice load cases. Selected output from the analysis is included in Appendix B. The following table details the information provided to complete this structural analysis. This analysis is solely based on this information and is being provided without the benefit of a site visit.

DOCUMENTS PROVIDED

Document	Remarks	Source
Previous Structural Analysis	Natcomm, Inc. Project #: 08032 Rev. 1, dated 3/7/08	D. Creaser
AT&T RF Data Sheet	Dated 10/6/08	D. Creaser

ASSUMPTIONS

This structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the guyed tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The tower's member sizes and shape are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated in the materials section.
2. The antenna configuration is as supplied and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements
3. Some assumptions are made regarding antennas and mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
4. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5. The soil parameters are as per data supplied or as assumed and stated in the calculations. If no data is available, the foundation system is not verified.
6. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
7. All welds and connections are assumed to develop at least the member capacity, unless determined otherwise and explicitly stated in this report.
8. All tower mounted amplifiers are assumed to be mounted behind the antennas.
9. All existing and proposed loading was obtained from the previous structural analysis performed by Natcomm, Inc. Project #: 08032 Rev. 1, dated 3/7/08, and tower photos.
10. The proposed coax are assumed to be installed internal to the pole.

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

DISCLAIMER OF WARRANTIES

GPD ASSOCIATES has not performed a site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD ASSOCIATES in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

GPD ASSOCIATES does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD ASSOCIATES provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD ASSOCIATES, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

GPD ASSOCIATES makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD ASSOCIATES will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD ASSOCIATES pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

Tower Analysis Summary Form

Tower Analysis Summary Form

General Info

Site Name	ORANGE CENTRAL
Site USID Number	61193
Date of Analysis	12/8/2008
Company Performing Analysis	GPD

The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Tower Info	Description	Date
Tower Type (G, SST, MP)	MP	
Tower Height (top of steel AGL)	160	
Tower Manufacturer	n/a	
Tower Model	n/a	
Manufacturer Drawings	n/a	
Foundation Design	n/a	
Geotech Report	n/a	
Tower Mapping	n/a	
Previous Structural Analysis	Natcomm, Inc, Project #: 08032 Rev. 1	3/7/2008

Design Parameters

Design Code Used	TIA/EIA-222-F
Location of Tower (County, State)	New Haven, Connecticut
Basic Wind Speed (mph)	85-fastest
Ice Thickness (in)	0.5"
Structure Classification (I, II, III)	
Exposure Category (B, C, D)	
Topographic Category (1 to 5)	

Analysis Results

Existing & reserved Condition	
Pole	84.2%
Foundation	64.8%
Guy Wire	n/a

Proposed Condition	
Pole	83.8%
Foundation	64.8%
Guy Wire	n/a

Steel Yield Strength (ksi)

Pole	65
Base Plate	60
Anchor Rods	75

Note: Steel grades were taken from previous analysis.

Existing/Reserved

Antenna							Mount				Transmission Line		
Antenna Owner	Centerline Height (ft)	Quantity	Type	Model	EPA (ft²) each	Azimuth	Quantity	Type	Model	EPA (ft²) total	Quantity	Size	Attachment Leg/Face
Nextel	169	1	Dish	VHLP1	1.26		3	12' Lt. Wt. T-Frames		30.60	1	1-5/8"	Internal
Nextel	167	12	Panel	DB844H90E-XY	3.58						12	1-1/4"	Internal
Verizon Wireless	155.2	6	Panel	DB948F85T2E-M	2.62		1	13' Platform w/rails		35.90	6	1-5/8"	Internal
Verizon Wireless	155.2	6	Panel	LPA-80063/6CF	10.57			on same mount			6	1-5/8"	Internal
AT&T Mobility	148	9	Panel	DUO1417-8686	7.25		1	13' Platform w/rails		35.90	9	1-1/4"	Internal
AT&T Mobility	148	5	TMA	TMA	Shielded			on same mount					
AT&T Mobility	148	3	Diplexer	Diplexer	Shielded			on same mount					
Sprint PCS	134.1	6	Panel	DB980H90E-M	4.27		1	13' Platform w/rails		35.90	6	1-5/8"	Internal
T-Mobile	121.9	6	Panel	RR90-17-02DP	4.91		1	13' Platform w/rails		35.90	6	1-5/8"	Internal
T-Mobile	121.9	6	TMA	TMA	Shielded								
~~POCKET~~	110	12	Panel	DB844H90	3.30		1	13' Platform w/rails		35.90	12	1-1/4"	Internal
Sprint PCS	83.4	1	GPS	GPS	0.17		2	2' Standoffs		2.72	1	1-2"	Internal

Note: The proposed antennas, TMA's, and Diplexers are to replace three of the existing antennas at 148' as well as the TMA's and Diplexers at 148'

Proposed

Antenna							Mount				Transmission Line		
Antenna Owner	Centerline Height (ft)	Quantity	Type	Model	EPA (ft²) each	Azimuth	Quantity	Type	Model	EPA (ft²) total	Quantity	Size	Attachment Leg/Face
AT&T Mobility	148	6	Panel	7770.00	6.58			on existing mount			3	1-1/4"	Internal
AT&T Mobility	148	6	TMA	LGP21401	Shielded			on existing mount					
AT&T Mobility	148	6	Diplexers	LGP219nn Diplexer	Shielded			on existing mount					

Note: The proposed antennas, TMA's, and Diplexers are to replace three of the existing antennas at 148' as well as the TMA's and Diplexers at 148'

Revision:1.2
Date: 12/15/06

APPENDIX B

RISA Tower Output File

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 New Haven 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 60 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.

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
LDF7-50A (1-5/8 FOAM)	C	No	Inside Pole	160.00 - 8.00	1	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
LDF6-50A (1-1/4 FOAM)	A	No	Inside Pole	160.00 - 8.00	12	No Ice	0.00	0.66
						1/2" Ice	0.00	0.66
LDF7-50A (1-5/8 FOAM)	B	No	Inside Pole	156.00 - 8.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
LDF6-50A (1-1/4 FOAM)	C	No	Inside Pole	148.00 - 8.00	12	No Ice	0.00	0.66
						1/2" Ice	0.00	0.66
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	132.00 - 8.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
LDF7-50A (1-5/8 FOAM)	B	No	Inside Pole	122.00 - 8.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
LDF6-50A (1-1/4 FOAM)	C	No	Inside Pole	110.00 - 8.00	12	No Ice	0.00	0.66
						1/2" Ice	0.00	0.66
LDF4-50A (1/2 FOAM)	A	No	Inside Pole	83.50 - 8.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
PiROD 12' Lightweight T-Frame (GPD)	A	From Leg	2.00 0.00	0.0000	160.00	No Ice 1/2" Ice	10.20 16.20	2.94 4.96	0.25 0.35

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00						
PiROD 12' Lightweight T-Frame (GPD)	B	From Leg	2.00 0.00 0.00	0.0000	160.00	No Ice 1/2" Ice	10.20 16.20	2.94 4.96	0.25 0.35
PiROD 12' Lightweight T-Frame (GPD)	C	From Leg	2.00 0.00 0.00	0.0000	160.00	No Ice 1/2" Ice	10.20 16.20	2.94 4.96	0.25 0.35
(4) DB844H90E-XY w/Mount Pipe	A	From Leg	4.00 0.00 7.00	0.0000	160.00	No Ice 1/2" Ice	3.58 4.20	5.40 6.49	0.04 0.08
(4) DB844H90E-XY w/Mount Pipe	B	From Leg	4.00 0.00 7.00	0.0000	160.00	No Ice 1/2" Ice	3.58 4.20	5.40 6.49	0.04 0.08
(4) DB844H90E-XY w/Mount Pipe	C	From Leg	4.00 0.00 7.00	0.0000	160.00	No Ice 1/2" Ice	3.58 4.20	5.40 6.49	0.04 0.08
Valmont 13' Platform w/ Rails (GPD)	C	None		0.0000	155.20	No Ice 1/2" Ice	35.90 40.50	35.90 40.50	1.34 3.00
(2) DB948F85T2E-M w/Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	155.20	No Ice 1/2" Ice	2.62 3.23	4.92 6.01	0.03 0.07
(2) DB948F85T2E-M w/Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	155.20	No Ice 1/2" Ice	2.62 3.23	4.92 6.01	0.03 0.07
(2) DB948F85T2E-M w/Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	155.20	No Ice 1/2" Ice	2.62 3.23	4.92 6.01	0.03 0.07
(2) LPA-80063/6CF w/Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	155.20	No Ice 1/2" Ice	10.57 11.24	10.67 11.94	0.05 0.14
(2) LPA-80063/6CF w/Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	155.20	No Ice 1/2" Ice	10.57 11.24	10.67 11.94	0.05 0.14
(2) LPA-80063/6CF w/Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	155.20	No Ice 1/2" Ice	10.57 11.24	10.67 11.94	0.05 0.14
Valmont 13' Platform w/ Rails (GPD)	C	None		0.0000	148.00	No Ice 1/2" Ice	35.90 40.50	35.90 40.50	1.34 3.00
DUO1417-8686 w/Mount Pipe	A	From Centroid-Leg	3.63 1.69 0.00	25.0000	148.00	No Ice 1/2" Ice	7.25 7.96	5.86 6.96	0.05 0.10
DUO1417-8686 w/Mount Pipe	B	From Centroid-Leg	3.80 1.24 0.00	18.0000	148.00	No Ice 1/2" Ice	7.25 7.96	5.86 6.96	0.05 0.10
DUO1417-8686 w/Mount Pipe	C	From Centroid-Leg	3.73 1.43 0.00	21.0000	148.00	No Ice 1/2" Ice	7.25 7.96	5.86 6.96	0.05 0.10
(2) 7770.00 w/Mount Pipe	A	From Centroid-Leg	3.63 1.69 0.00	25.0000	148.00	No Ice 1/2" Ice	6.58 7.21	4.94 5.86	0.08 0.13
(2) 7770.00 w/Mount Pipe	B	From Centroid-Leg	3.80 1.24 0.00	18.0000	148.00	No Ice 1/2" Ice	6.58 7.21	4.94 5.86	0.08 0.13
(2) 7770.00 w/Mount Pipe	C	From Centroid-Leg	3.73 1.43 0.00	21.0000	148.00	No Ice 1/2" Ice	6.58 7.21	4.94 5.86	0.08 0.13
(2) LGP21401	A	From	3.63	25.0000	148.00	No Ice	0.00	0.23	0.01

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
		Centroid-Le g	1.69 0.00			1/2" Ice	0.00	0.31	0.02
(2) LGP21401	B	From Centroid-Le g	3.80 1.24 0.00	18.0000	148.00	No Ice 1/2" Ice	0.00 0.00	0.23 0.31	0.01 0.02
(2) LGP21401	C	From Centroid-Le g	3.73 1.43 0.00	21.0000	148.00	No Ice 1/2" Ice	0.00 0.00	0.23 0.31	0.01 0.02
(2) LGP21901	A	From Centroid-Le g	3.63 1.69 0.00	25.0000	148.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	0.01 0.01
(2) LGP21901	B	From Centroid-Le g	3.80 1.24 0.00	18.0000	148.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	0.01 0.01
(2) LGP21901	C	From Centroid-Le g	3.73 1.43 0.00	21.0000	148.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	0.01 0.01
Valmont 13' Platform w/ Rails (GPD)	C	None		0.0000	131.80	No Ice 1/2" Ice	35.90 40.50	35.90 40.50	1.34 3.00
(2) DB980H90E-M w/Mount Pipe	A	From Centroid-Le g	4.00 0.00 2.30	0.0000	131.80	No Ice 1/2" Ice	4.27 4.86	3.86 4.95	0.03 0.07
(2) DB980H90E-M w/Mount Pipe	B	From Centroid-Le g	4.00 0.00 2.30	0.0000	131.80	No Ice 1/2" Ice	4.27 4.86	3.86 4.95	0.03 0.07
(2) DB980H90E-M w/Mount Pipe	C	From Centroid-Le g	4.00 0.00 2.30	0.0000	131.80	No Ice 1/2" Ice	4.27 4.86	3.86 4.95	0.03 0.07
Valmont 13' Platform w/ Rails (GPD)	C	None		0.0000	119.00	No Ice 1/2" Ice	35.90 40.50	35.90 40.50	1.34 3.00
(2) RR90-17-02DP w/Mount Pipe	A	From Centroid-Le g	4.00 0.00 2.90	0.0000	119.00	No Ice 1/2" Ice	4.91 5.57	3.64 4.70	0.04 0.08
(2) RR90-17-02DP w/Mount Pipe	B	From Centroid-Le g	4.00 0.00 2.90	0.0000	119.00	No Ice 1/2" Ice	4.91 5.57	3.64 4.70	0.04 0.08
(2) RR90-17-02DP w/Mount Pipe	C	From Centroid-Le g	4.00 0.00 2.90	0.0000	119.00	No Ice 1/2" Ice	4.91 5.57	3.64 4.70	0.04 0.08
(2) TMA	A	From Centroid-Le g	4.00 0.00 2.90	0.0000	119.00	No Ice 1/2" Ice	0.00 0.00	0.12 0.17	0.00 0.00
(2) TMA	B	From Centroid-Le g	4.00 0.00 2.90	0.0000	119.00	No Ice 1/2" Ice	0.00 0.00	0.12 0.17	0.00 0.00
(2) TMA	C	From Centroid-Le g	4.00 0.00 2.90	0.0000	119.00	No Ice 1/2" Ice	0.00 0.00	0.12 0.17	0.00 0.00
Valmont 13' Platform w/o rails (GPD)	C	None		0.0000	110.00	No Ice 1/2" Ice	24.80 26.20	24.80 26.20	1.50 2.50
(4) DB844H90 w/ Mount Pipe	A	From Centroid-Le g	4.00 0.00 0.00	0.0000	110.00	No Ice 1/2" Ice	3.30 3.69	4.92 5.60	0.03 0.07
(4) DB844H90 w/ Mount Pipe	B	From Centroid-Le g	4.00 0.00 0.00	0.0000	110.00	No Ice 1/2" Ice	3.30 3.69	4.92 5.60	0.03 0.07
(4) DB844H90 w/ Mount	C	From	4.00	0.0000	110.00	No Ice	3.30	4.92	0.03

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Pipe		Centroid-Leg	0.00 0.00			1/2" Ice	3.69	5.60	0.07
2'-0" - STANDOFF	C	From Leg	2.00 0.00 0.00	0.0000	83.40	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
2'-0" - STANDOFF	A	From Leg	2.00 0.00 0.00	0.0000	83.40	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
GPS	A	From Leg	4.00 0.00 0.00	0.0000	83.40	No Ice 1/2" Ice	0.17 0.24	0.17 0.24	0.00 0.00

Dishes

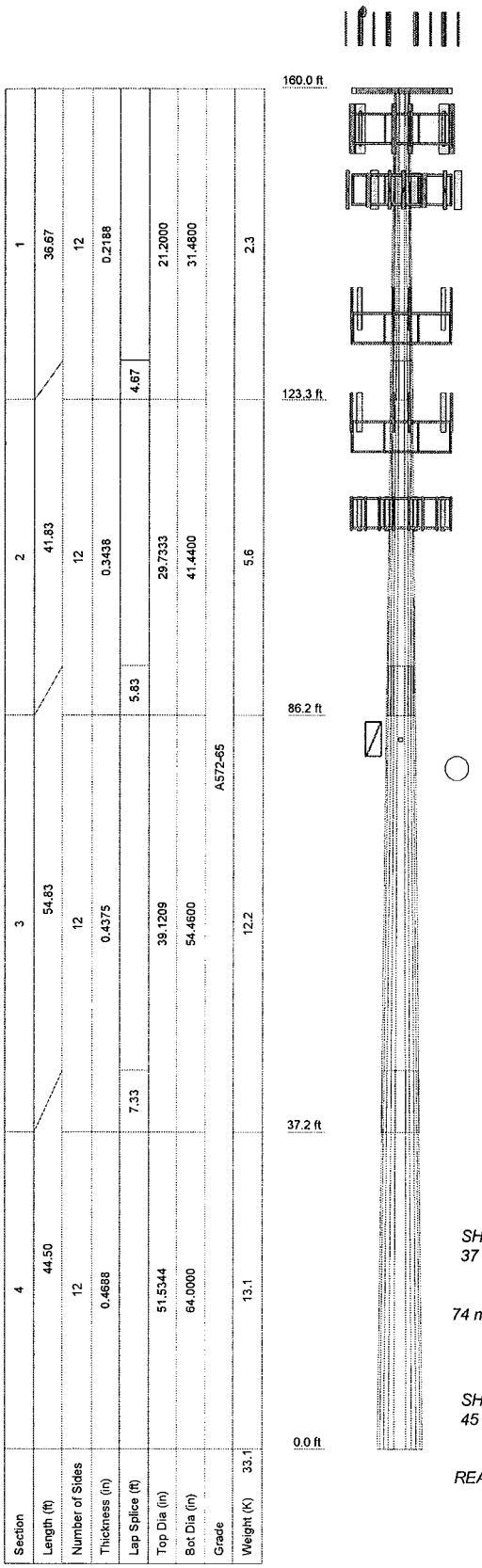
Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
VHLP1-23	C	Paraboloid w/Radome	From Leg	4.00 0.00 9.00	0.0000		160.00	1.27	No Ice 1/2" Ice	1.28 1.45	0.01 0.03

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
L1	160 - 123.33	Pole	TP31.48x21.2x0.2188	1	-7.73	1023.30	75.5	Pass
L2	123.33 - 86.17	Pole	TP41.44x29.7333x0.3438	2	-17.70	2270.91	80.2	Pass
L3	86.17 - 37.17	Pole	TP54.46x39.1209x0.4375	3	-32.04	3806.25	78.7	Pass
L4	37.17 - 0	Pole	TP64x51.5344x0.4688	4	-49.67	4679.11	83.8	Pass
							Summary	
						Pole (L4)	83.8	Pass
						RATING =	**83.8**	**Pass**

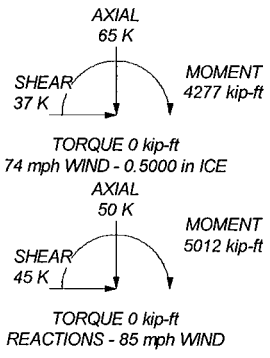
APPENDIX C

Tower Elevation Drawing



Section	1	2	3	4
Length (ft)	36.67	41.83	54.83	44.50
Number of Sides	12	12	12	12
Thickness (in)	0.2188	0.3438	0.4375	0.4688
Lap Splice (ft)	4.67	5.83	7.33	
Top Dia (in)	21.2000	29.7333	39.1209	51.5344
Bot Dia (in)	31.4800	41.4400	54.4600	64.0000
Grade			A572-65	
Weight (K)	2.3	5.6	12.2	13.1

Total Weight: 33.1 K



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
PiROD 12' Lightweight T-Frame (GPD)	160	(2) LGP21401	148
PiROD 12' Lightweight T-Frame (GPD)	160	(2) LGP21401	148
PiROD 12' Lightweight T-Frame (GPD)	160	(2) LGP21901	148
(4) DB844H90E-XY w/Mount Pipe	160	(2) LGP21901	148
(4) DB844H90E-XY w/Mount Pipe	160	(2) LGP21901	148
(4) DB844H90E-XY w/Mount Pipe	160	Valmont 13' Platform w/ Rails (GPD)	148
VHLP1-23	160	(2) DB980H90E-M w/Mount Pipe	131.8
(2) DB948F85T2E-M w/Mount Pipe	155.2	(2) DB980H90E-M w/Mount Pipe	131.8
(2) DB948F85T2E-M w/Mount Pipe	155.2	(2) DB980H90E-M w/Mount Pipe	131.8
(2) DB948F85T2E-M w/Mount Pipe	155.2	Valmont 13' Platform w/ Rails (GPD)	131.8
(2) LPA-80063/6CF w/Mount Pipe	155.2	(2) RR90-17-02DP w/Mount Pipe	119
(2) LPA-80063/6CF w/Mount Pipe	155.2	(2) RR90-17-02DP w/Mount Pipe	119
(2) LPA-80063/6CF w/Mount Pipe	155.2	(2) RR90-17-02DP w/Mount Pipe	119
Valmont 13' Platform w/ Rails (GPD)	155.2	(2) TMA	119
DUO1417-8686 w/Mount Pipe	148	(2) TMA	119
DUO1417-8686 w/Mount Pipe	148	(2) TMA	119
DUO1417-8686 w/Mount Pipe	148	Valmont 13' Platform w/ Rails (GPD)	119
(2) 7770.00 w/Mount Pipe	148	(4) DB844H90 w/ Mount Pipe	110
(2) 7770.00 w/Mount Pipe	148	(4) DB844H90 w/ Mount Pipe	110
(2) 7770.00 w/Mount Pipe	148	(4) DB844H90 w/ Mount Pipe	110
(2) LGP21401	148	Valmont 13' Platform w/o rails (GPD)	110
		2'-0" - STANDOFF	83.4
		GPS	83.4
		2'-0" - STANDOFF	83.4

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

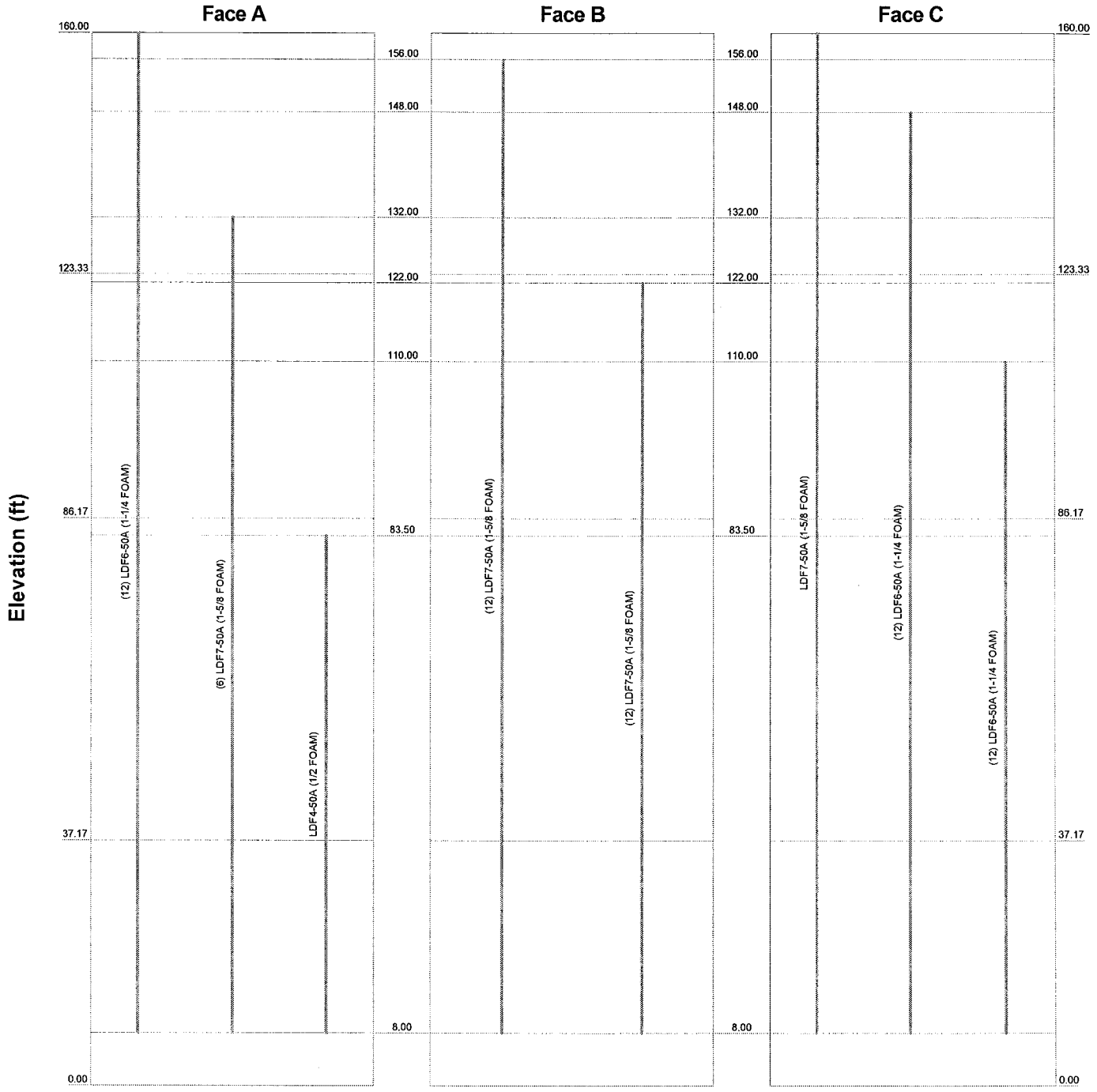
1. Tower is located in New Haven County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 60 mph wind.
5. TOWER RATING: 83.8%

GPD Associates
520 South Main St. Suite 2531
Akron, OH 44311
Phone: (330) 572-2100
FAX: (330) 572-2101

Job: 61193 ORANGE CENTRAL			
Project: 2008147.26			
Client: Crown Castle	Drawn by: mimiller	App'd:	
Code: TIA/EIA-222-F	Date: 12/08/08	Scale: NTS	
Path: \\KRN01\Data\Telecom\2008147\26\RSA Model\61193 Orange Central.er		Dwg No. E-1	

Feedline Distribution Chart
0' - 160'

Round | Flat | App In Face | App Out Face | Truss Leg



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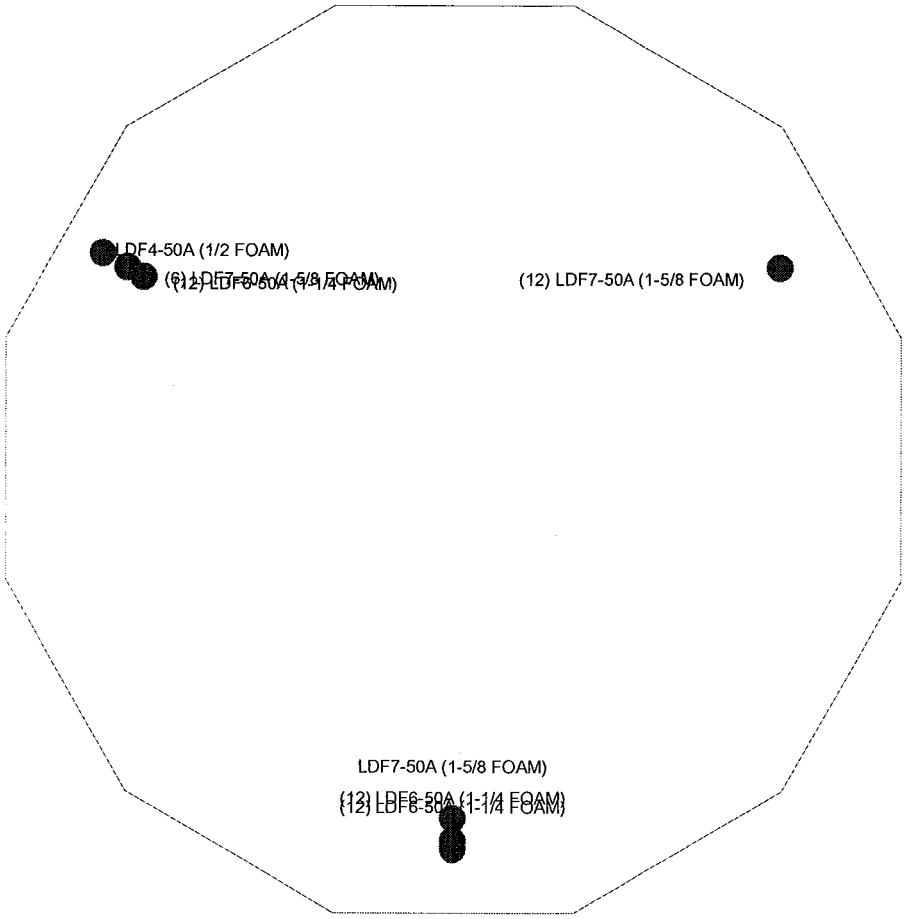
Client: Crown Castle	Drawn by: mimiller	App'd:	
Code: TIA/EIA-222-F	Date: 12/08/08	Scale: NTS	
Path: \\AKRN01\Data\Telecom\2006147\26\RSA Models\61193 Orange Central.eri		Dwg No. E-7	

Feedline Plan

Round _____ Flat _____ App In Face _____ App Out Face



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Job: 61193 ORANGE CENTRAL			
Project: 2008147.26			
Client: Crown Castle	Drawn by: mimiller		App'd:
Code: TIA/EIA-222-F	Date: 12/08/08		Scale: NTS
Path: \\AKRN01\Data\Telecom\2008147\26\RISA Model\61193 Orange Central.en			Dwg No. E-7

APPENDIX D

Anchor Rod and Base Plate Analysis

Anchor Rod and Base Plate Stresses

61193 ORANGE CENTRAL

Overturning Moment =	5012.00	k*ft
Axial Force =	50.00	k
Shear Force =	45.00	k

Anchor Rods		
Pole Diameter =	64	in
Number of Rods =	24	
Rod Grade (Fy) =	75	ksi
Rod Circle =	72.76	in
Rod Diameter =	2.25	in
Net Tensile Area =	3.25	in^2
Max Tension on Rod =	135.68	kips
Max Compression on Rod =	139.85	kips
Allow. Rod Force =	195.00	kips
Anchor Rod Capacity =	69.6%	OK

Base Plate		
Plate Strength (Fy) =	60	ksi
Plate Thickness =	3	in
w_{calc} =	8.38	in
e =	3.255	in
w_{max} =	13.02	in
w =	8.38	in
S =	12.57	in^3
fb =	36.22	ksi
Fb =	60	ksi
Base Plate Capacity =	60.4%	OK

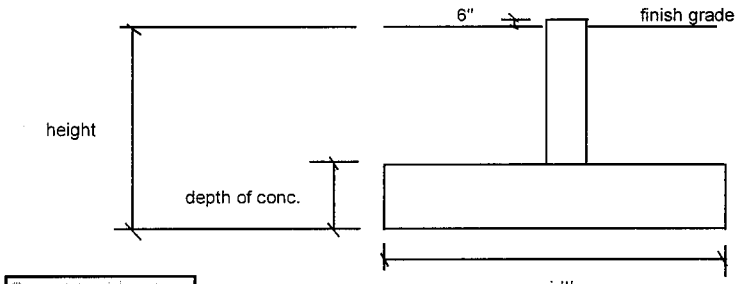
APPENDIX E

Foundation Analysis

PAD & PIER DESIGN - Monopole
61193 ORANGE CENTRAL

TOWER REACTIONS

total overturning moment =	5013	Kip-ft
total shear =	45	Kip
axial =	50	Kip
ground water table =	Below	ft



Spreadsheet Input
PCAMATS Input

PAD DIMENSIONS

width =	22	ft
height =	14	ft
depth of conc =	4	ft
γ_{soil} =	0.125	kcf
γ_{conc} =	0.150	kcf

Mr =	14045.15	k-ft
Mot =	5664.5	k-ft
P =	945.4	k
w_{wedge}	79.39	k
Allowable Bearing =	10	ksf

F.S. $_{OVERTURNING}$ = 2.4795034 ok > 1.5

F.S. $_{OVERTURNING}$ / F.S. $_{ALLOWABLE}$ = 60.5%

LOAD PERPENDICULAR TO PAD

Q_{MAX} = P/A+M/S= 5.1451728
Q_{MIN} = P/A-M/S= -1.23856123

width/6 = 3.67 M/P = 5.99 NG (width/6 < M/P), use Qmax

IF M/P>width/6
Qmax = 5.720 ksf
Qmin = 0.000 ksf

Q_{MAX}/Q_{ALL} = 57.2% OK

LOAD AT 45 DEGREES TO PAD

Q_{MAX} = P/A+M/S= 6.47511739
Q_{MIN} = P/A-M/S= -2.56850582

Verify max pressure in PCAMATS for this load case

Mx =	4005.408	
My =	4005.408	
e_X =	4.237	
ey =	4.237	
e_X/W =	0.193	NG (e/W > 1/6) use Qmax
e_Y/W =	0.193	NG (e/W > 1/6) use Qmax

IF e/W > 1/6

Q_{ALL} =	2058.4	kips
Q_{MAX} =	1332.8	kips
Q_{MAX}/Q_{ALL} =	64.8%	OK

B_1 =	20.29	ft
L_1 =	20.29	ft

Foundation Capacity:	**64.8%**	**OK**