

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

ORIGINAL

March 30, 2011

RECEIVED
MAR 31 2011
CONNECTICUT
SITING COUNCIL

David Martin
Siting Analyst
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **EM-VER-015-100427 – Cellco Partnership d/b/a Verizon Wireless
623 Pine Street, Bridgeport, Connecticut**

Dear Mr. Martin:

On May 25, 2010, the Siting Council acknowledged receipt of Cellco's notice of intent to modify the above-referenced telecommunications facility. This modification involved the replacement of six (6) of Cellco's PCS antennas with three (3) newer model PCS antennas and (3) three LTE antennas.

As a condition of this acknowledgement, Cellco was required to provide the Council with a letter stating that the recommendations specified in the structural report included in that filing were implemented. Attached is a Tower Modification Certification Letter verifying that this condition has been satisfied.

If you have any questions regarding any of these materials, please do not hesitate to contact me or Rachel Mayo.



Law Offices

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STAMFORD

WHITE PLAINS

NEW YORK CITY

ALBANY

SARASOTA

www.rc.com

Sincerely,

Kenneth C. Baldwin

Attachment

Copy to:

Sandy M. Carter

Brian Ragozzine

Mark Gauger

March 11, 2011

Mr. Mark Gauger
Verizon Wireless
99 East River Drive
East Hartford, Connecticut 06108

Re: Existing Telecommunications Facility Tower Modification Certification Letter

Project: Verizon ~ Bridgeport SW
623 Pine Street
Bridgeport, Connecticut

Tower Owner: Radio Communications Company
8035 Chapel Hill Road
Cary, North Carolina 27513

Engineer: KM Consulting Engineers
32 West Upper Ferry Road Ewing, New Jersey 08628-0829

Contractor: Construction Services of Branford
63-3 North Branford Road, Branford, CT 06405

Centek Project No.: 10179.CO1

Dear Mr. Gauger,

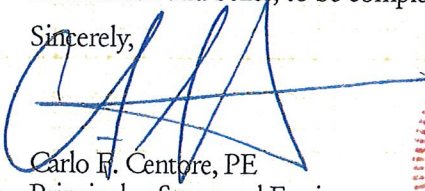
We are providing this "Existing Telecommunications Facility Tower Modification Certification Letter" with regard to the antenna upgrade by Verizon Wireless at the above referenced project.

The following are the basis for substantiating compliance with the design documents prepared by KM Consulting Engineers:

- Review of the structural analysis report prepared by KM Consulting Engineers dated 4/1/2010 and Revised 4/22/2010.
- Field observations by Centek personnel on 1/5/2011 confirming compliance with the above referenced documents.
- The tower and foundation do not exceed 100 percent of their post-construction structural rating with no reinforcement required.

The work under this Contract has been reviewed and found, to the Engineer's best knowledge, information and belief, to be completed in general compliance with the documents referenced above.

Sincerely,


Carlo F. Centore, PE
Principal ~ Structural Engineer



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ORIGINAL

December 13, 2010

RECEIVED
DEC 14 2010
CONNECTICUT
SITING COUNCIL

Linda Roberts
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Construction Activity**
EM-VER-002-100107 – 401 Wakelee Avenue, Ansonia, Connecticut
EM-VER-057-100111 – 1081 North Street, Greenwich, Connecticut
EM-VER-008-100222 – 93 Old Amity Road, Bethany, Connecticut
EM-VER-015-100427 – 623 Pine Street, Bridgeport, Connecticut
EM-VER-058-091217 – 2 Sunny Lane, Westport, Connecticut
EM-VER-035-100311 – Ledge Road, Darien, Connecticut

Dear Ms. Roberts:

The purpose of this letter is to notify you that construction activity associated with the above-referenced facility modifications has been completed.

If you have any questions or need any additional information regarding any of these facilities, please do not hesitate to contact me.

Sincerely,



Kenneth C. Baldwin

KCB/kmd
Copy to:
Sandy M. Carter



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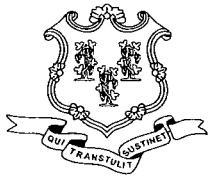
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STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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

E-Mail: siting.council@ct.gov

www.ct.gov/csc

May 25, 2010

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

RE: **EM-VER-015-100427**- Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 623 Pine Street, Bridgeport, Connecticut.

Dear Attorney Baldwin:

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 with the following conditions:

- The recommendations specified in the structural analysis report dated April 1, 2010 and revised April 22, 2010 shall be implemented; and
- Not more than 45 days after completion of construction, the Council shall be notified in writing that the recommendations have been implemented.

The proposed modifications are to be implemented as specified here and in your notice dated April 27, 2010, 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,

A handwritten signature in black ink that reads "S. Derek Phelps/cmw". The signature is written in a cursive style.

S. Derek Phelps
Executive Director

SDP/MP/laf

c: The Honorable Bill Finch, Mayor, City of Bridgeport
Melanie J. Howlett, Associate City Attorney, City of Bridgeport
Radio Communications



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

www.ct.gov/csc

April 29, 2010

The Honorable Bill Finch
Mayor
City of Bridgeport
City Hall Annex
999 Broad Street
Bridgeport, CT 06604

RE: **EM-VER-015-100427-** Celco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 623 Pine Street, Bridgeport, Connecticut.

Dear Mayor Finch:

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 May 13, 2010.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/jbw

Enclosure: Notice of Intent

c: Melanie J. Howlett, Associate City Attorney, City of Bridgeport

EM-VER-015-100427

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Hartford, CT 06103-3597
Main (860) 275-8200
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ORIGINAL

April 27, 2010

Via Hand Delivery

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

RECEIVED
APR 27 2010
CONNECTICUT
SITING COUNCIL

Re: **Notice of Exempt Modification – Antenna Swap
623 Pine Street, Bridgeport, Connecticut**

Dear Mr. Phelps:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains wireless telecommunications antennas at the 110-foot level of the existing 250-foot tower at the above-referenced address. The tower is owned by Radio Communications, Inc. The Council approved Cellco’s use of the tower in TS-BAM-015-000807. Cellco now intends to modify its installation by replacing six (6) of its PCS antennas with three (3) model MG D3800T0 PCS antennas; two (2) model LNX-6514DS-T4M LTE antennas; and one (1) model P65-16-XL-2 LTE antenna, all at the same 110-foot level on the tower. Attached behind Tab 1 are the specifications for the proposed replacement antennas.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to William Finch, Mayor for the City of Bridgeport. A copy of this letter is also being sent to Andrew and Lillian Knapp, the owners of the property on which the tower is located.

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

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco’s antennas will be located at the same 110-foot level on the existing tower.



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10337069-v1

S. Derek Phelps
April 27, 2010
Page 2

2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

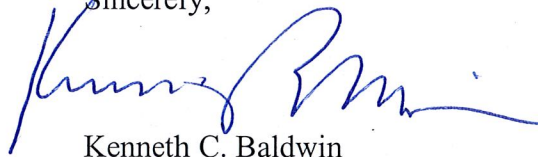
3. The proposed modifications will not increase noise levels at the facility by six decibels or more.

4. The operation of the replacement antennas will not increase radio frequency (RF) power density levels at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard. A cumulative power density table for Cellco's modified facility is included behind Tab 2.

Also attached is a Structural Analysis Report confirming that the tower and foundation can support Cellco's proposed antennas modification. (See Tab 3).

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,



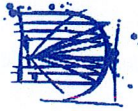
Kenneth C. Baldwin

Enclosures

Copy to:

William Finch, Bridgeport Mayor
Andrew and Lillian Knapp
Sandy M. Carter





SINGLE-BAND PANEL ANTENNA BROADBAND 1700-2170 MHz

MGD3-800TX

1710-1880	1850-1990	1920-2170
H66° V7.2°	H64° V6.6°	H63° V6.3°
Fixed Tilt 0°, 2°, 4°, 6°	Fixed Tilt 0°, 2°, 4°, 6°	Fixed Tilt 0°, 2°, 4°, 6°

ELECTRICAL SPECIFICATIONS

BROADBAND 1710-2170 MHz

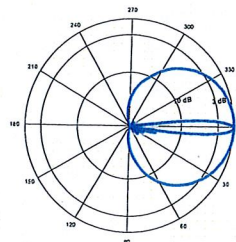
Antenna Model	MGD3-800TX		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	66°	64°	63°
Vertical Beamwidth	7.2°	6.6°	6.3°
Gain (dBi)	17.9	18	18.5
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1 st lobe above main beam (dB)	20	20	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1.4 : 1	< 1.4 : 1	< 1.4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed mph (km/h)	124 (200)
Front Windload lbs (N) @ 160 km/h	83 (370)
Lateral Windload lbs (N) @ 160 km/h	38 (170)
Radome Color	Grey, paintable
Temperature Range F (°C)	-67° to 140° (-55° to +60°)
Humidity	100%
Antenna Weight lbs (kg)	15.43 (7)
Antenna Dimension in (mm) H X W X D	53 X 6.29 X 3.54 (1340 X 160 X 90)



H&V Pattern



RYMSA Telecom Group (Headquarters)



www.rymsawireless.com

RYMSA México:
 Rymsa Wireless U.S.A.:

Product Specifications



LNX-6514DS-T4M

DualPol® Antenna, 698–896 MHz, 65° horizontal beamwidth, fixed electrical tilt



- Broadband, providing future-ready single antenna for application in 700 MHz and existing 850 MHz cellular operation
- Air dielectric design provides superior PIM performance with repeatable antenna-to-antenna gain and pattern consistency
- Single piece radome provides long term mechanical stability
- Proven core design technology, with over 1,000,000 similar antennas deployed
- Exceptional USLS pattern shaping for optimizing coverage and interference mitigation for LTE applications
- Specifically designed to have physical dimensions similar to most existing cellular antennas

CHARACTERISTICS

General Specifications

Antenna Type	DualPol®
Brand	DualPol®
Operating Frequency Band	698 – 896 MHz

Electrical Specifications

Frequency Band, MHz	698–806	806–896
Beamwidth, Horizontal, degrees	66	64
Gain, dBd	13.8	14.5
Gain, dBi	15.9	16.6
Beamwidth, Vertical, degrees	12.0	11.0
Beam Tilt, degrees	4	4
Upper Sidelobe Suppression (USLS), typical, dB	18	18
Front-to-Back Ratio at 180°, dB	33	33
Isolation, dB	30	30
VSWR Return Loss, db	1.35:1 16.5	1.35:1 16.5
Intermodulation Products, 3rd Order, 2 x 20 W, dBc	-150	-150
Input Power, maximum, watts	500	500
Polarization	±45°	±45°
Impedance, ohms	50	50
Lightning Protection	dc Ground	dc Ground

www.commscope.com/andrew

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page 1 of 3
2/24/2010

Product Specifications

LNx-6514DS-T4M



Mechanical Specifications

Color	Light gray
Connector Interface	7-16 DIN Female
Connector Location	Bottom
Connector Quantity	2
Wind Loading, maximum	617.7 N @ 150 km/h 138.9 lbf @ 150 km/h
Wind Speed, maximum	241.0 km/h 149.8 mph

Dimensions

Depth	181.0 mm 7.1 in
Length	1847.0 mm 72.7 in
Width	301.0 mm 11.9 in
Net Weight	17.4 kg 38.4 lb

Regulatory Compliance/Certifications

Agency

RoHS 2002/95/EC
China RoHS SJ/T 11364-2006

Classification

Compliant by Exemption
Above Maximum Concentration Value (MCV)



INCLUDED PRODUCTS



MTG-L-STD

Downtilt Mounting Kit for panel Antennas

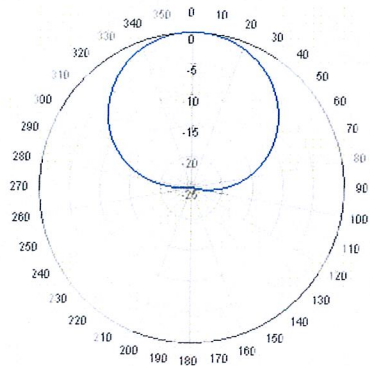
Product Specifications

LNx6514DS-T4M

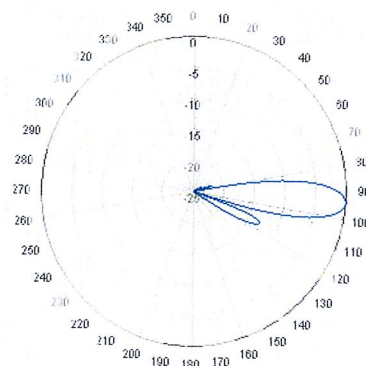


Horizontal Pattern

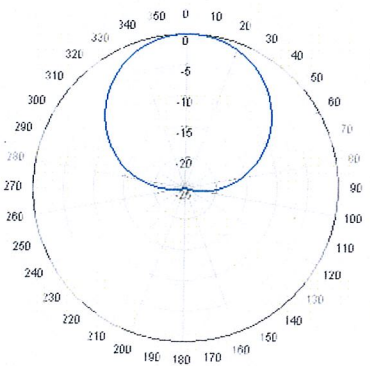
Vertical Pattern



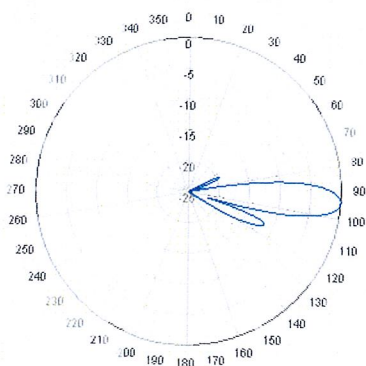
Freq: 750, Tilt 0



Freq: 750, Tilt 0



Freq: 850, Tilt 0



Freq: 850, Tilt 0

P65-16-XL

Very Low Broadband Antennas

-2

POLARIZATION: Dual linear $\pm 45^\circ$
 FREQUENCY (MHz): 698-894
 HORIZONTAL BEAM WIDTH ($^\circ$): 65
 GAIN (dBi/dBd): 16.0/13.9
 TILT: 2
 LENGTH: 72"

ELECTRICAL SPECIFICATIONS*

	698-806	698-894	806-894
Frequency range (MHz)			
Frequency band (MHz)	698-806		
Gain (dBi/dBd)	15.5/13.4		16.0/13.9
Polarization			
Nominal Impedance (Ω)			
VSWR			
Horizontal beam width, -3 dB ($^\circ$)	68		65
Vertical beam width, -3 dB ($^\circ$)	10.5		9.5
Electrical down tilt ($^\circ$)			
Side lobe suppression, vertical 1st upper (dB)	> 15		> 15
Isolation between inputs (dB)	> 30		> 30
Tracking, horizontal plane $\pm 60^\circ$ (dB)	< 2		< 2
First null fill (dB)	-		-
Vertical beam squint ($^\circ$)	< 0.5		< 0.5
Front to back ratio (dB)	> 30		> 30
Front to back ratio, total power (dB)	> 25		> 25
Cross polar discrimination (XPD) 0° (dB)	> 15	> 15	> 25
Cross polar discrimination (XPD) $\pm 60^\circ$ (dB)	> 10		> 10
Far field coupling			
IM3, 2xTx@43dBm (dBc)	-153		
IM7, 2xTx@43dBm (dBc)			
Power handling, average per input (W)			
Power handling, average total (W)			

MECHANICAL SPECIFICATIONS*

Connector	2 X 7/16 DIN Female
Connector position	Bottom
Dimensions, HxWxD, mm (ft)	72" x 12" x 5" (1829 x 305 x 125)
Mounting	Pre-mounted Tilt Brackets
Weight, with brackets, kg (lbs)	44 (20)
Weight, without brackets, kg (lbs)	33 (15)
Wind load, frontal/lateral/rear side 42 m/s Cd=1.6 (N)	1380
Maximum operational wind speed, m/s (mph)	100 (45)
Survival wind speed, m/s (mph)	125 (55)
Lightning protection	DC Ground
Radome material	PVC
Radome colour	Light Grey
Package size, HxWxD, mm (ft)	82" x 16" x 10" (2082 x 400 x 255)
Shipping weight, kg (lbs)	55 (25)
RET	N/A
Brackets	7256.00, 7454.00, 2210.00

*All specifications subject to change without notice. Please contact your Powerwave representative for complete performance data.

ANTENNA PATTERNS*

For detailed patterns visit <http://www.powerwave.com/rpa/>.

		General		Power		Density							
Site Name: Bridgeport SW Tower Height: Verizon @ 110Ft.		# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total				
*Sprint iDEN		12	100	85	0.0597	851	0.5673	10.53%					
*Clearwire		2	153	88	0.0142	2496	1.0000	1.42%					
*Clearwire		1	211	88	0.0098	23 GHz	1.0000	0.98%					
*Sprint WiMAX		3	562	85	0.0839	2657	1.0000	8.39%					
*Microwave		2	1096	240	0.0137	22500	1.0000	1.37%					
*T-Mobile GSM		8	145	184	0.0123	1945	1.0000	1.23%					
*T-Mobile UMTS		2	605	184	0.0129	2100	1.0000	1.29%					
*Unknown		1	500	272	0.0024	162	0.2000	1.22%					
*Unknown		3	3500	267	0.0530	930	0.6200	8.54%					
*Unknown		6	500	260	0.0160	450	0.3000	5.32%					
*MetroPCS		7	734	126	0.1164	2310	1.0000	11.64%					
Verizon		3	436	110	0.0389	1970	1.0000	3.89%					
Verizon		9	272	110	0.0727	869	0.5793	12.56%					
Verizon		1	692	110	0.0206	757	0.4973	4.13%					
									72.49%				
* Source: Siting Council													

STRUCTURAL ANALYSIS AND REPORT

FOR

VERIZON WIRELESS

PINE STREET BRIDGEPORT
BRIDGEPORT WEST TOWER

PROJECT NO. CT11014B

KM NO: 091113.00

BRIDGEPORT, CONNECTICUT

250 FT. SELF-SUPPORTED TRIANGULAR TOWER

Prepared By:



CONSULTING ENGINEERS, INC.

32 West Upper Ferry Road

Ewing, New Jersey 08628-0829

Phone: (609) 538-0400 Fax (609) 538-8858

April 1, 2010

Revised: April 20, 2010

Revised: April 22, 2010

Prepared to EIA/TIA-222-F June 1996
Structural Standards for Steel Antenna Towers
and Antenna Supporting Structures

Structural wind & ice: 85 MPH and 74 MPH with ½ radial ice

VERIZON WIRELESS PROJECT: BRIDGEPORT

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 EXECUTIVE SUMMARY.....	3
2.0 APPURTENANCE LISTING.....	4
3.0 COMMENTARY.....	5
4.0 ANALYSIS PROCEDURE.....	6
5.0 WIND AND ICE LOADING.....	7
6.0 EQUIPMENT AND LOADING.....	8
7.0 TOWER ANALYSIS AND RESULTS	9
8.0 RECOMMENDATIONS.....	10
9.0 APPENDIX.....	11

Load Case 1 - EXISTING AND PROPOSED LOAD CONDITIONS

1.0 EXECUTIVE SUMMARY

Structure

- 250 ft. Self-Support Communications Tower
- Owner - Radio Communications, Inc.
- Location - Bridgeport, CT

Equipment

Proposed at 110 AGL elev - installation of proposed (2) Lucent LNX-6514DS-T0M Antenna, (1) Powerwave P65-16-XL-2 Antenna, and (3) MGD3-800T0, (18) 1 5/8" coax.

Synopsis

The tower as it exists and with the proposed equipment installation does meet the EIA/TIA-F standards. The maximum tower utilization with proposed and existing antenna is 93.3%.

Information on the existing foundations has been reviewed. Utilizing the proposed loading reactions of the tower, a foundations analysis indicates that the existing capacity of the foundation will meet the EIA/TIA-F and IBC standards.

- End of Executive Summary -

2.0 APPURTENANCE LISTING

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Omni antenna	276.5	mounting frames w/stable bar (MetroPCS)	138
yaggi in radom	264	mounting frames w/stable bar (MetroPCS)	138
Beacon	264	mounting frames w/stable bar (Verizon)	110
Omni antenna	264	(2) APL866513 w/Mount Pipe (Verizon)	110
Omni antenna	264	(2) APL866513 w/Mount Pipe (Verizon)	110
Top Platform	264	mounting frames w/stable bar (Verizon)	110
Omni antenna	256 - 239	mounting frames w/stable bar (Verizon)	110
Omni antenna	239	(2) APL866513 w/Mount Pipe (Verizon)	110
(2) APX16PV-16VL (T-Mobile)	173	mounting frames w/stable bar (Verizon)	110
mounting frames w/stable bar (T-Mobile)	173	mounting frames w/stable bar (Verizon)	110
mounting frames w/stable bar (T-Mobile)	173	(2) APL866513 w/Mount Pipe (Verizon)	110
mounting frames w/stable bar (T-Mobile)	173	Lucent LNX-6514DS-T4M (Verizon)	110
amplifier (T-Mobile)	173	Lucent LNX-6514DS-T4M (Verizon)	110
amplifier (T-Mobile)	173	Lucent P66-16-XL-2 (Verizon)	110
amplifier (T-Mobile)	173	MGD3-800-TX (Verizon)	110
(2) APX16PV-16VL (T-Mobile)	173	MGD3-800-TX (Verizon)	110
(2) APX16PV-16VL (T-Mobile)	173	MGD3-800-TX (Verizon)	110
APX16DWV-16DWV (T-Mobile)	173	TV 65 antenna	100
APX16DWV-16DWV (T-Mobile)	173	TV 65 antenna	100
APX16DWV-16DWV (T-Mobile)	173	(4) sector antenna (Nextel)	83
amplifier (T-Mobile)	173	mounting frames w/stable bar (Nextel)	83
amplifier (T-Mobile)	173	(4) sector antenna (Nextel)	83
(2) MetroPCS Antenna (MetroPCS)	138	mounting frames w/stable bar (Nextel)	83
(2) MetroPCS Antenna (MetroPCS)	138	(4) sector antenna (Nextel)	83
(2) MetroPCS Antenna (MetroPCS)	138	mounting frames w/stable bar (Nextel)	83
mounting frames w/stable bar (MetroPCS)	138		

*Proposed Verizon antenna at 110 ft. AGL.

3.0 COMMENTARY

A tower climb was performed by KM Consulting Engineers Inc. (KMCE) on March 18, 2010 in order to ascertain antenna configurations and antenna heights on the tower. The structure is a Rohn self-supported tower located at 623 Pine Street, Bridgeport, CT.

The tower is a 250 ft. structure with a triangular platform located at the top of the tower. Our scope of work is to determine if the existing structure is capable of withstanding additional stresses/forces imposed by the addition of (6) Verizon antenna at 110 ft. AGL. The structural analysis was configured for this proposed installation as per Verizon Wireless, Inc.,

The following report will provide analytical calculations and commentary regarding the capacity of the existing tower and subsequent recommendations.

4.0 ANALYSIS PROCEDURE

KM Consulting Engineers, Inc. carried out their structural analysis by correlating an inventory/field inspection and processing the retrieved data into RISATower analytical program.

This program runs in conjunction with the guidelines set down in the EIA/TIA-222-F June 1996 Standard "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures."

The existing Tower is analyzed by placing wind forces on the structure in 30° positional increments around the tower (ie. forces directly onto the tower corners, faces and parallel to the faces). This enables the user to "create" a three-dimensional representation, yielding results for maximum worst case scenarios.

In effect, the production of these results allows the user to study the structural integrity of the tower when influenced by wind forces from any direction.

The proceeding report includes analysis for the tower with the addition of (3) LTE antenna in the scenario previously stated. For clarity, the analysis shall include worst case loadings and a typical elevation view with maximum foundation loads tabulated.

5.0 WIND AND ICE LOADING

The existing 250 ft. self-supported tower is located at 623 Pine Street, Bridgeport, CT.

Structural wind speed has been taken as 85 MPH (concurrent with listings applicable for Fairfield County, CT) for EIA/TIA-222-F.

Additionally, the tower has been analyzed for ½" radial ice loading with a reduced wind speed of 74 MPH, for EIA/TIA-222-F.

6.0 EQUIPMENT LOADING

The preceding analytical data has been formulated for the following:

Load Case #1: Existing 250 ft. self-supported tower with existing inventory and adding (6) Verizon antenna at 110 ft. Capacity utilization is LC1 - 93.3% for the EIA/TIA-222-F.

The tower foundation has adequate capacity for the Load Case 1 in the EIA/TIA 222-F analysis.

7.0 TOWER ANALYSIS AND RESULTS

The tower was analyzed for the existing inventory plus the proposed loading condition

For Load Case #1: The existing tower meets the standards of EIA/TIA 222-F.

The tower foundation has adequate capacity to meet the EIA/TIA-222-F and IBC standards. The IBC requires that the foundation resist two time the wind load.

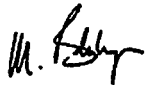
8.0 RECOMMENDATIONS

Further to our calculations, we conclude that the tower structure and foundation meets the standards of EIA/TIA 222-F and the IBC.

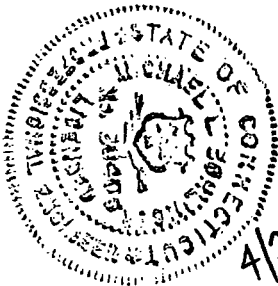
We recommend the following:

1. The antenna will be mounted as per this report at rad center 110' AGL, add (12) new coax to the towers' A face.
2. Verizon will remove (6) antenna from height 110' AGL and (6) 1 5/8" coax.
3. Verizon will have a total of (12) antenna and (18) 1 5/8" coax @110' AGL.

Prepared By:



Michael L. Bohlinger, PE
Principal
CT License No. 20405



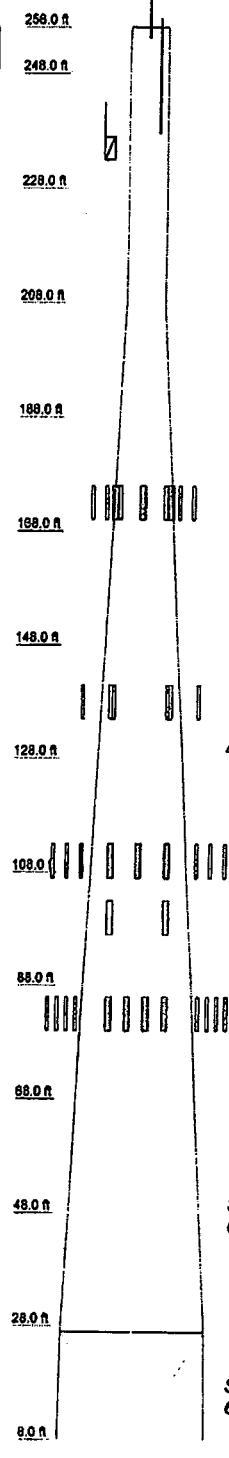
4/22/10

APPENDIX

LOAD CASE #1

EXISTING AND PROPOSED LOAD CONDITIONS

Section	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs		P10x5			ROHN 8 EH	ROHN 8 EHS	A572-50	ROHN 6 EH	ROHN 5 EH	ROHN 4 EH	ROHN 3 EH		A
Leg Grade													
Diagonals					L4x4x0.31	L4x4x0.31	L3x3x0.14	L3x3x0.14	L3x3x0.14	L2x2x1/4			B
Diagonal Grade													
Top Girts													
Rest. Diagonals													C
Inner Bracing													
Rest. Diagonals													
Inner Bracing													
Face Width (ft)	25.97	23.228	21.25	18.25	17.0833	14.986	12.916	10.916	8.916	6.833			6.9
# Panels @ (ft)	1 @ 19									4 @ 5			12 @ 4
Weight (lb)	46402.6	8827.4	8827.4	8827.4	8827.4	8827.4	8827.4	8827.4	8827.4	8827.4	8827.4	8827.4	1779.6



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Omni antenna	276.5	mounting frames w/stable bar	138
yaggi in radom	264	(MetroPCS)	
Beacon	264	mounting frames w/stable bar	138
Omni antenna	264	(MetroPCS)	
Omni antenna	264	mounting frames w/stable bar	110
Top Platform	264	(Verizon)	
Omni antenna	256 - 239	(2) APL886513 w/Mount Pipe	110
Omni antenna	238	(Verizon)	
(2) APX18PV-18VL (T-Mobile)	173	(2) APL886513 w/Mount Pipe	110
mounting frames w/stable bar	173	(Verizon)	
(T-Mobile)		mounting frames w/stable bar	110
(Verizon)		(Verizon)	
mounting frames w/stable bar	173	mounting frames w/stable bar	110
(T-Mobile)		(Verizon)	
mounting frames w/stable bar	173	mounting frames w/stable bar	110
(T-Mobile)		(Verizon)	
amplifier (T-Mobile)	173	(2) APL886513 w/Mount Pipe	110
amplifier (T-Mobile)	173	(Verizon)	
amplifier (T-Mobile)	173	Lucent LNX-8514DS-T4M (Verizon)	110
amplifier (T-Mobile)	173	Lucent LNX-8514DS-T4M (Verizon)	110
(2) APX18PV-18VL (T-Mobile)	173	Lucent P65-16-XL-2 (Verizon)	110
(2) APX18PV-18VL (T-Mobile)	173	MGD3-800-TX (Verizon)	110
APX18DW-18DW (T-Mobile)	173	MGD3-800-TX (Verizon)	110
APX18DW-18DW (T-Mobile)	173	MGD3-800-TX (Verizon)	110
APX18DW-18DW (T-Mobile)	173	TV 65 antenna	100
amplifier (T-Mobile)	173	TV 65 antenna	100
amplifier (T-Mobile)	173	(4) sector antenna (Nextel)	83
amplifier (T-Mobile)	173	mounting frames w/stable bar (Nextel)	83
amplifier (T-Mobile)	173	(4) sector antenna (Nextel)	83
(2) MetroPCS Antenna (MetroPCS)	138	mounting frames w/stable bar (Nextel)	83
(2) MetroPCS Antenna (MetroPCS)	138	(4) sector antenna (Nextel)	83
(2) MetroPCS Antenna (MetroPCS)	138	mounting frames w/stable bar (Nextel)	83
mounting frames w/stable bar	138	(MetroPCS)	

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	ROHN 3 STD	C	L3x3x1/4
B	L1 3/4x1 3/4x3/16		

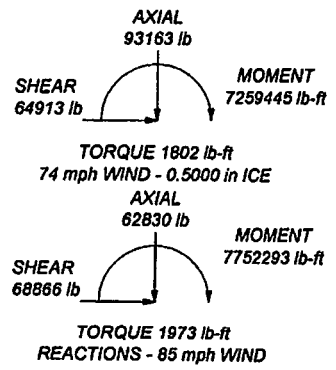
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 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: 93.3%

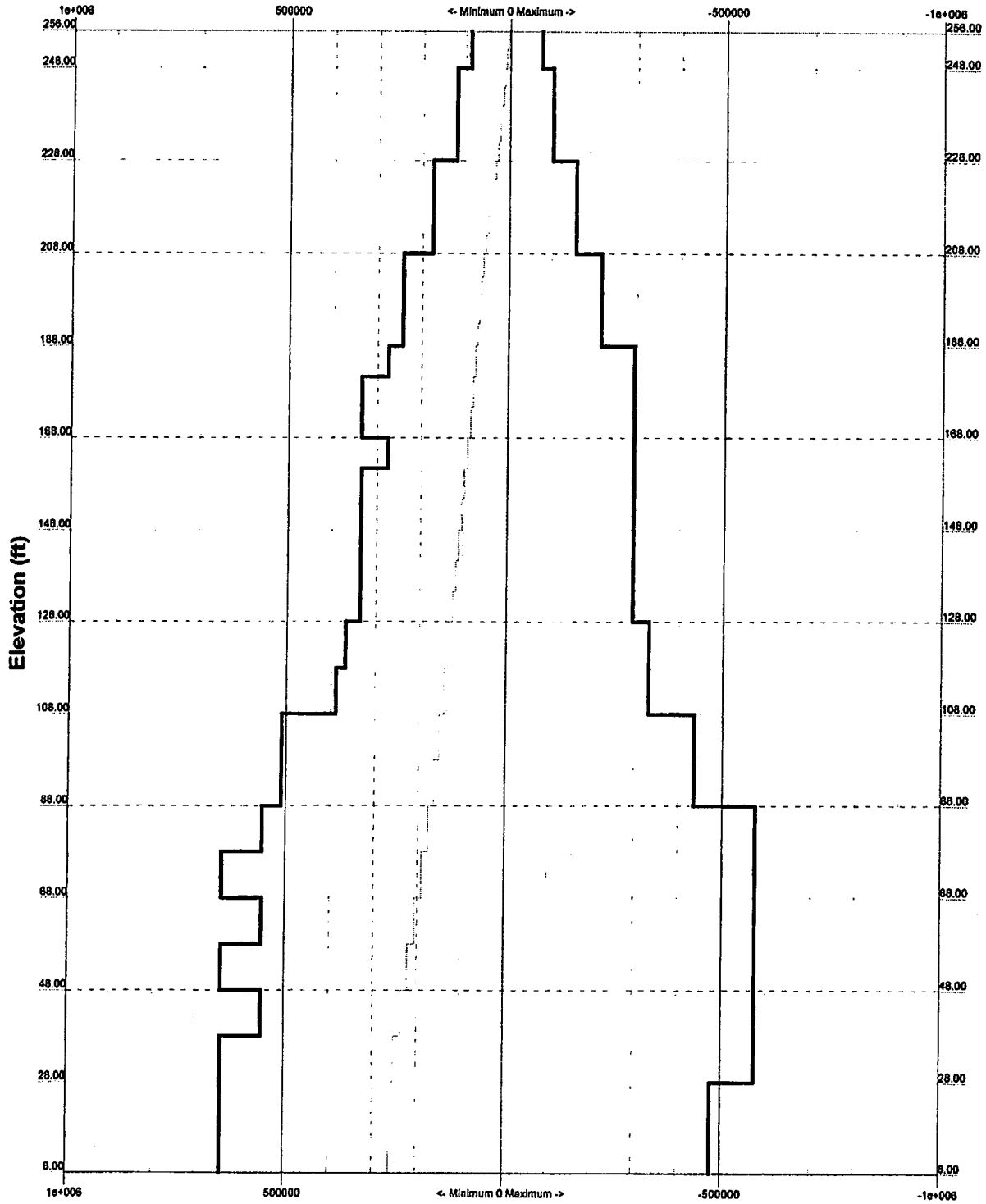
MAX. CORNER REACTIONS AT BASE:
 DOWN: 365632 lb
 UPLIFT: -305878 lb
 SHEAR: 35780 lb



KM Consulting Engineers, Inc. 32 West Upper Ferry Road Ewing, NJ. 08628 Phone: (609) 538-0400 FAX: (609) 538-8858	Job: Bridgeport RCI Tower PROPOSED with Verizon
	Project: 250' Rohn SSV, Bridgeport, CT
	Client: Verizon Wireless Drawn by: User App'd:
	Code: TIA/EIA-222-F Date: 04/22/10 Scale: NTS
	Path: X:\Verizon\Bridgeport\Engineering\Bridgeport LCI1.rvt Dwg No.: E-1

TIA/EIA-222-F - 85 mph/74 mph 0.5000 in Ice

Leg Capacity ——— Leg Compression (lb)

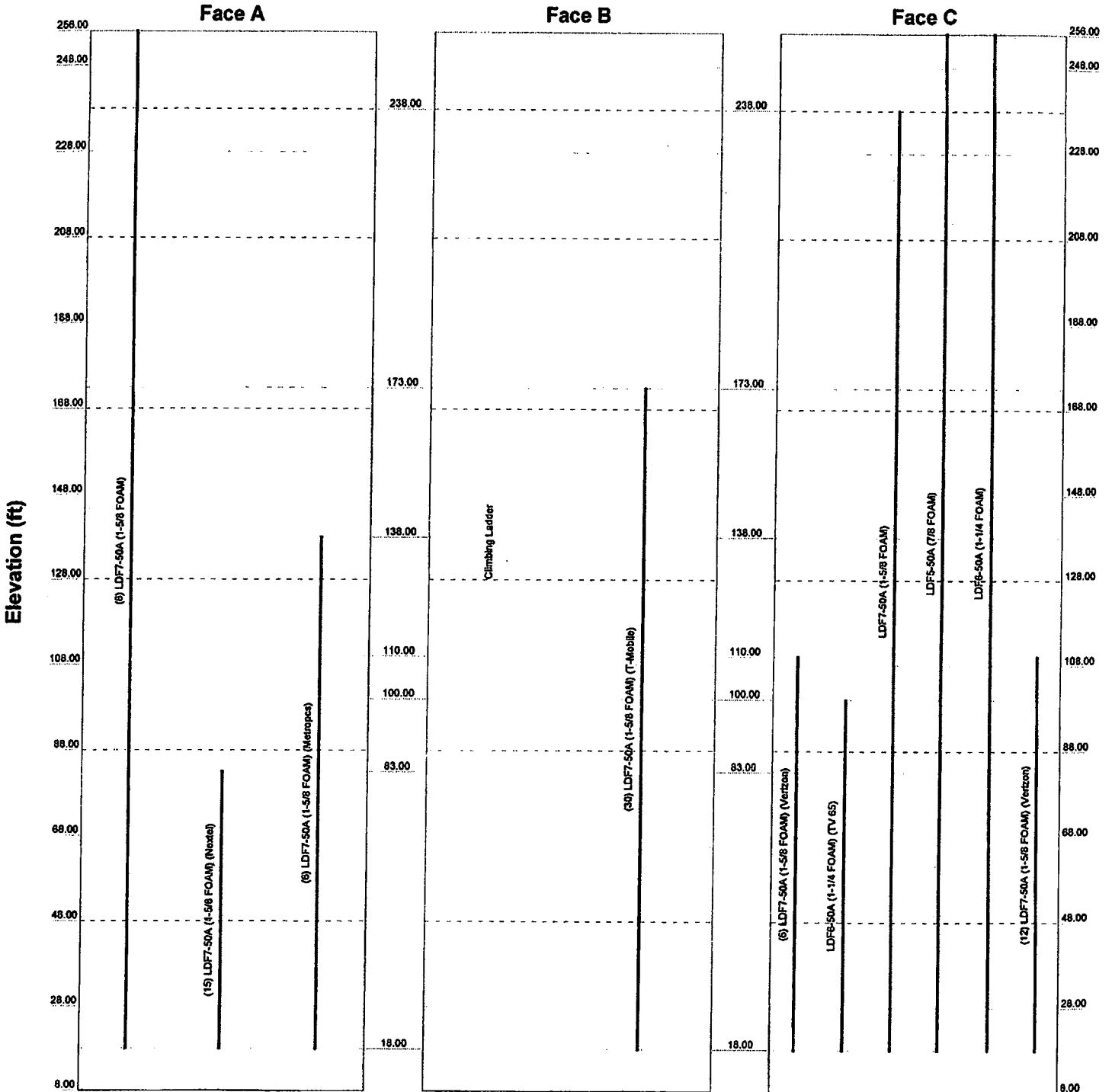


KM Consulting Engineers, Inc. 32 West Upper Ferry Road Ewing, NJ. 08628 Phone: (800) 538-0400 FAX: (609) 538-8858	Job: Bridgeport RCI Tower PROPOSED with Verizon		
	Project: 250' Rohn SSV, Bridgeport, CT		
	Client: Verizon Wireless	Drawn by: User	App'd:
	Code: TIA/EIA-222-F	Date: 04/22/10	Scale: NTS
Path: X:\Verizon\Bridgeport\Engineering\Bridgeport RCI.tst		Dwg No. E-3	

Feedline Distribution Chart

8' - 256'

Round
Flat
App In Face
App Out Face
Truss Leg

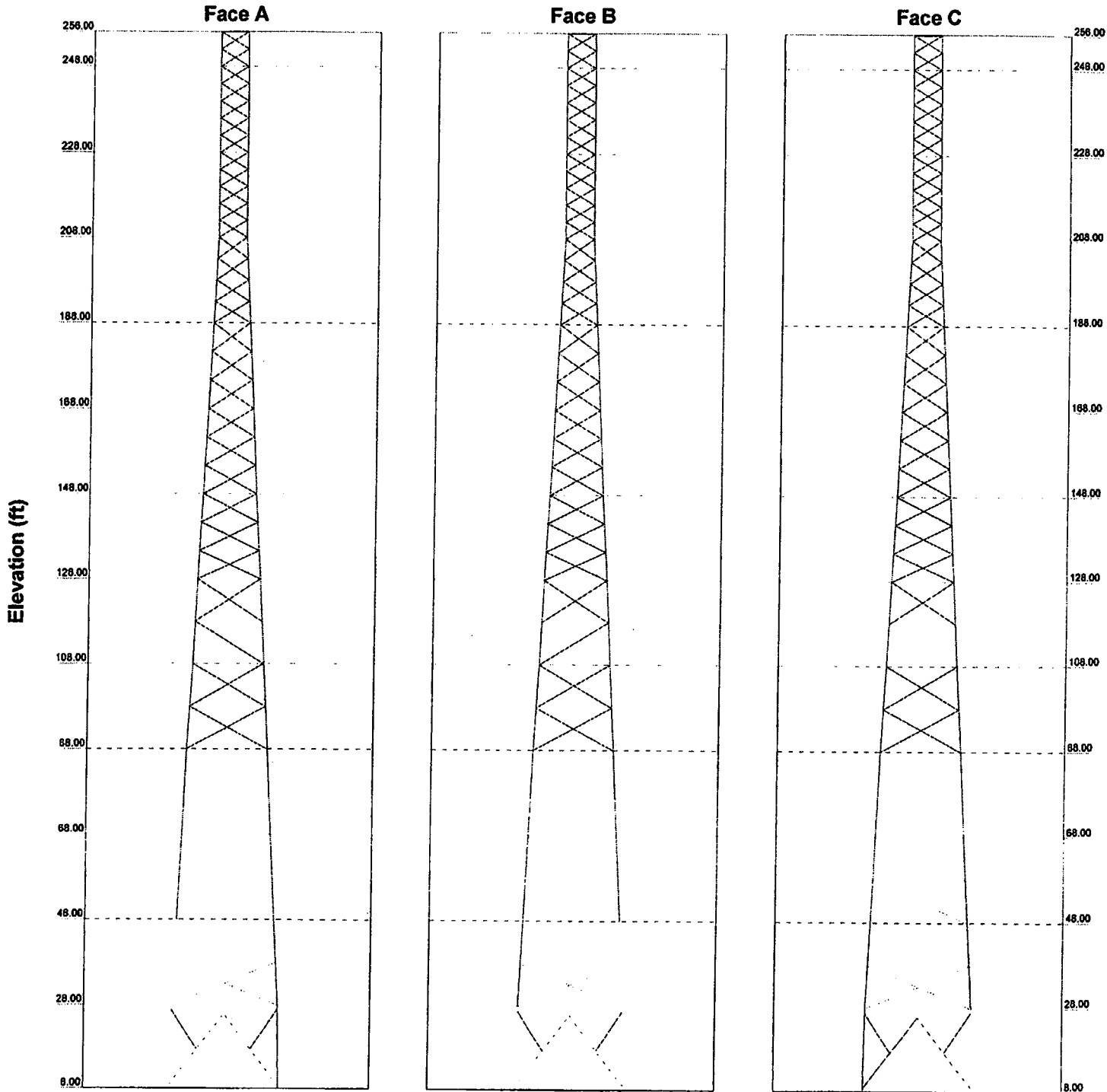


KM Consulting Engineers, Inc. 32 West Upper Ferry Road Ewing, NJ. 08628 Phone: (609) 538-0400 FAX: (609) 538-8858		Job: Bridgeport RCI Tower PROPOSED with Verizon	
		Project: 250' Rohn SSV, Bridgeport, CT	
Client: Verizon Wireless	Drawn by: User	App'd:	
Code: TIA/EIA-222-F	Date: 04/22/10	Scale: NTS	
Path: x:\Verizon\Bridgeport\Engineering\Bridgeport LCI.dwg	Dwg No. E-7		

Stress Distribution Chart

8' - 256'

█ > 100% █ 90%-100% █ 75%-90% █ 50%-75% █ < 50% Overstress



KM Consulting Engineers, Inc.		Job: Bridgeport RCI Tower PROPOSED with Verizon	
32 West Upper Ferry Road		Project: 250' Rohn SSV, Bridgeport, CT	
Ewing, NJ. 08628		Client: Verizon Wireless	Drawn by: User
Phone: (609) 538-0400		App'd:	
FAX: (609) 538-8858		Code: TIA/EIA-222-F	Date: 04/22/10
		Scale: NTS	
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		Dwg No. E-8	

RISATower KM Consulting Engineers, Inc. 32 West Upper Ferry Road Ewing, NJ. 08628 Phone: (609) 538-0400 FAX: (609) 538-8858	Job Bridgeport RCI Tower PROPOSED with Verizon	Page 35 of 37
	Project 250' Rohn SSV, Bridgeport, CT	Date 10:04:18 04/22/10
	Client Verizon Wireless	Designed by User

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T13	28 - 8	ROHN 3 STD	11.34	10.52	108.5	30.000	2.2285	4913.58	66854.10	0.073 ✓

Redundant Hip (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T13	28 - 8	ROHN 1.5 STD	6.34	6.34	122.2	30.000	0.7995	6.50	23983.70	0.000 ✓

Redundant Hip Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T13	28 - 8	ROHN 1.5 STD	14.59	14.59	281.2	30.000	0.7995	152.39	23983.70	0.006 ✓

Inner Bracing Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T13	28 - 8	ROHN 3 STD	12.68	12.68	130.8	30.000	2.2285	335.12	66854.10	0.005 ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P _{allow} lb	% Capacity	Pass Fail
T1	256 - 248	Leg	ROHN 3 STD	3	-8815.92	76206.01	11.6	Pass
		Diagonal	L1 3/4x1 3/4x3/16	8	-1503.79	6904.95	21.8	Pass
		Top Girt	L3x3x1/4	4	-585.43	29163.64	2.0	Pass
T2	248 - 228	Leg	ROHN 3 EH	21	-28331.80	102570.88	27.6	Pass
		Diagonal	L2x2x1/4	23	-2799.00	13590.20	20.6	Pass
T3	228 - 208	Leg	ROHN 4 EH	54	-58159.50	157673.90	36.9	Pass
		Diagonal	L2x2x1/4	56	-3928.14	14108.47	27.8	Pass
T4	208 - 188	Leg	ROHN 5 EH	87	-77399.80	218465.36	35.4	Pass
		Diagonal	L2x2x1/4	89	-2356.41	8319.80	28.3	Pass

RISATower KM Consulting Engineers, Inc. 32 West Upper Ferry Road Ewing, NJ, 08628 Phone: (609) 538-0400 FAX: (609) 538-8858	Job Bridgeport RCI Tower PROPOSED with Verizon	Page 36 of 37
	Project 250' Rohn SSV, Bridgeport, CT	Date 10:04:18 04/22/10
	Client Verizon Wireless	Designed by User

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P _{allow} lb	% Capacity	Pass Fail			
T5	188 - 168	Leg	ROHN 6 EH	114	-95584.20	294794.27	32.4	Pass			
		Diagonal	L2 1/2x2 1/2x1/4	116	-3650.30	10570.13	34.5	Pass			
T6	168 - 148	Leg	ROHN 6 EH	135	-118357.00	294794.27	40.1	Pass			
		Diagonal	L3x3x1/4	137	-4438.27	14250.70	31.1	Pass			
T7	148 - 128	Leg	ROHN 6 EH	156	-141954.00	294787.61	48.2	Pass			
		Diagonal	L3x3x1/4	158	-5190.78	11088.25	46.8	Pass			
T8	128 - 108	Leg	ROHN 8 EHS	177	-164970.00	332528.83	49.6	Pass			
		Diagonal	L4x4x3/8	179	-6722.74	26862.75	25.0	Pass			
T9	108 - 88	Leg	ROHN 8 EH	192	-193351.00	435191.16	44.4	Pass			
		Diagonal	L4x4x0.31	194	-8328.42	18685.06	44.6	Pass			
T10	88 - 68	Leg	P10x.5	207	-227293.00	574275.04	39.6	Pass			
		Diagonal	L5x5x3/8	209	-11258.30	38315.75	29.4	Pass			
T11	68 - 48	Leg	P10x.5	222	-265107.00	574277.70	46.2	Pass			
		Diagonal	L5x5x3/8	224	-12705.60	32860.98	38.7	Pass			
T12	48 - 28	Leg	P10x.5	237	-303812.00	574259.04	52.9	Pass			
		Diagonal	L5x5x3/8	239	-14367.90	28177.62	51.0	Pass			
T13	28 - 8	Leg	P10x.5	252	-317256.00	476994.04	66.5	Pass			
		Diagonal	ROHN 3 STD	258	-33404.70	35785.18	93.3	Pass			
		Top Girt	ROHN 3 STD	253	-19348.40	27863.96	69.4	Pass			
		Redund Diag 1 Bracing	ROHN 3 STD	263	-4913.58	37696.70	13.0	Pass			
		Redund Hip 1 Bracing	ROHN 1.5 STD	272	-83.62	10653.39	0.8	Pass			
		Redund Hip Diagonal Bracing	ROHN 1.5 STD	273	-64.02	2012.78	3.2	Pass			
		Inner Bracing	ROHN 3 STD	275	-308.14	25930.58	31.2	Pass			
									Summary		
									Leg (T13)	66.5	Pass
									Diagonal (T13)	93.3	Pass
									Top Girt (T13)	69.4	Pass
									Redund Diag 1 Bracing (T13)	13.0	Pass
									Redund Hip 1 Bracing (T13)	0.8	Pass
							Redund Hip Diagonal Bracing (T13)	3.2	Pass		
							Inner Bracing (T13)	31.2	Pass		
							Bolt Checks	85.4	Pass		
							RATING =	93.3	Pass		