Robinson+Cole

KENNETH C. BALDWIN

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Also admitted in Massachusetts

ORIGINAL

RECEIVED
NOV 12 2014
CONNECTICUT
SITING COUNCIL

November 10, 2014

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **EM-VER-081-130717 – 1021 Straits Turnpike, Middlebury, Connecticut**
EM-VER-056-130726 – 150 Lost Acres Road, Granby, Connecticut
EM-VER-025-130722 – 500 Highland Avenue, Cheshire, Connecticut
EM-VER-135-130726B – 300 Tresser Boulevard, Stamford, Connecticut
EM-VER-008-130802 – 719 Amity Road, Bethany, Connecticut
EM-VER-015-130805 – 2 Kaechele Place, Bridgeport, Connecticut
EM-VER-155-130805 – South Quaker Lane, West Hartford, Connecticut
EM-VER-155-130806 – 570 New Park Avenue, West Hartford, Connecticut

Completion of Construction Activity

Dear Ms. Bachman:

The purpose of this letter is to notify the Siting Council that construction activity associated with the above-referenced Cellco Partnership d/b/a Verizon Wireless telecommunications facilities has been completed.

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

Sincerely,

Kenneth C. Baldwin

Copy to:
Sandy M. Carter

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

August 15, 2013

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

RE: **EM-VER -025-130722** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 500 Highland Avenue, Cheshire, 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:

- Any deviation from the proposed modification as specified in this notice and supporting materials with the Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration.

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated July 19, 2013. 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. Thank you for your attention and cooperation.

Very truly yours,

Melanie A. Bachman
Acting Executive Director

MAB/CDM/jb

c: The Honorable Timothy Slocum, Chairman, Town of Cheshire
Michael A. Milone, Town Manager, Town of Cheshire
William S. Voelker, AICP, Town Planner, Town of Cheshire
Sean Gormley, SBA
Burton B. Cohen, Esq., Murtha Cullina LLP

EM-VEK-025-130722

ROBINSON & COLE LLP

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Also admitted in Massachusetts

August 7, 2013

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification**
500 Highland Avenue, Cheshire, Connecticut

Dear Ms. Bachman:

The purpose of this letter is to clarify certain aspects of the above-referenced exempt modification filing made by Cellco Partnership d/b/a Verizon Wireless ("Cellco") on July 19, 2013.

First, with respect to the issue of antenna height, please note that in the Structural Analysis, the mounting level for the Cellco antennas will remain at 122.5 feet above ground level. As installed, however, the centerline of the antennas remains at 117 feet, according to Cellco's records. Because the centerline is the level at which RF emissions are calculated the General Power Density table included behind Tab 2 of the July 19, 2013 filing is correct.

Second, in addition to the antenna modifications described in the July 19, 2013 filing, Cellco will also be adding six (6) coaxial cable diplexers behind its antennas. The cable diplexers are listed in the Final Proposed Loading Configuration table in the Structural Analysis Report. I apologize for the confusion.

Sincerely,

Kenneth C. Baldwin

KCB/kmd
Copy to:
Burton B. Cohen, Esq.

12367807-v1

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
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www.ct.gov/csc

July 23, 2013

The Honorable Timothy Slocum
Chairman
Town of Cheshire
Town Hall
84 South Main Street
Cheshire, CT 06410

RE: **EM-VER -025-130722** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 500 Highland Avenue, Cheshire, Connecticut.

Dear Chairman Slocum:

The Connecticut Siting Council (Council) received a request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72, a copy of which has already been provided to you.

If you have any questions or comments regarding the proposal, please call me or inform the Council by August 6, 2013.

Thank you for your cooperation and consideration.

Very truly yours,

Melanie Bachman
Acting Executive Director

MB/jb

c: Michael A. Milone, Town Manager, Town of Cheshire
William S. Voelker, AICP, Town Planner, Town of Cheshire

ROBINSON & COLE LLP

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Also admitted in Massachusetts

EM-VER-025-130722

ORIGINAL

July 19, 2013

RECEIVED
JUL 22 2013
CONNECTICUT
SITING COUNCIL

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification**
500 Highland Avenue, Cheshire, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains twelve (12) wireless telecommunications antennas at the 117-foot level on the existing 160-foot tower at the above-referenced address. The tower is owned by SBA. The Council approved Cellco's use of this tower in 2005. Cellco now intends to replace three (3) of its existing antennas with three (3) model BXA-70063-6CF LTE antennas, all at the same 117-foot level. Attached behind Tab 1 are the specifications for Cellco's 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 Michael A. Milone, Town Manager for the Town of Cheshire. The Town of Cheshire is the owner 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 replacement antennas will be located at the 117-foot level on the 160-foot tower.

2. The proposed modifications will not involve any change 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, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency (RF) emissions 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.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The tower and its foundation can support Cellco's proposed modifications. (*See* Structural Analysis Report attached behind 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:
Michael A. Milone, Cheshire Town Manager
Sandy M. Carter

Amphenol ANTENNA SOLUTIONS

BXA-70063-6CF-EDIN-X

X-Pol | FET Panel | 63° | 14.5 dBd

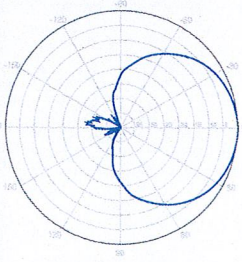
Replace "X" with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.

Electrical Characteristics	696-900 MHz	
Frequency bands	696-806 MHz	806-900 MHz
Polarization	±45°	
Horizontal beamwidth	65°	63°
Vertical beamwidth	13°	11°
Gain	14.0 dBd (16.1 dBi)	14.5 dBd (16.6 dBi)
Electrical downtilt (X)	0, 2, 3, 4, 5, 6, 8, 10	
Impedance	50Ω	
VSWR	≤1.35:1	
Upper sidelobe suppression (0°)	-18.3 dB	-18.2 dB
Front-to-back ratio (+/-30°)	-33.4 dB	-36.3 dB
Null fill	5% (-26.02 dB)	
Isolation between ports	< -25 dB	
Input power with EDIN connectors	500 W	
Input power with NE connectors	300 W	
Lightning protection	Direct Ground	
Connector(s)	2 Ports / EDIN or NE / Female / Center (Back)	
Mechanical Characteristics		
Dimensions Length x Width x Depth	1804 x 285 x 132 mm	71.0 x 11.2 x 5.2 in
Depth with z-brackets	172 mm	6.8 in
Weight without mounting brackets	7.9 kg	17 lbs
Survival wind speed	> 201 km/hr	> 125 mph
Wind area	Front: 0.51 m^2 Side: 0.24 m^2	Front: 5.5 ft^2 Side: 2.6 ft^2
Wind load @ 161 km/hr (100 mph)	Front: 759 N Side: 391 N	Front: 169 lbf Side: 89 lbf

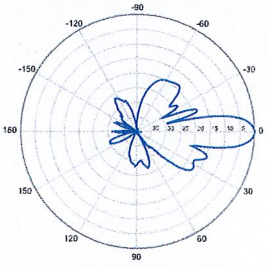
Mounting Options	Part Number	Fits Pipe Diameter	Weight
3-Point Mounting & Downtilt Bracket Kit	36210008	40-115 mm 1.57-4.5 in	6.9 kg 15.2 lbs
Concealment Configurations	For concealment configurations, order BXA-70063-6CF-EDIN-X-FP		

BXA-70063-6CF-EDIN-X



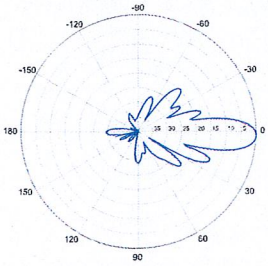
Horizontal | 750 MHz

BXA-70063-6CF-EDIN-0

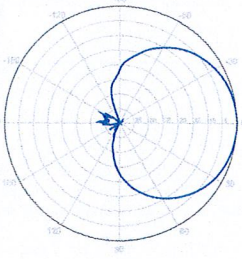


0° | Vertical | 750 MHz

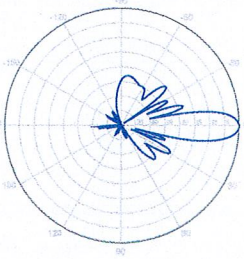
BXA-70063-6CF-EDIN-2



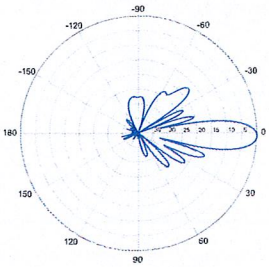
2° | Vertical | 750 MHz



Horizontal | 850 MHz



0° | Vertical | 850 MHz

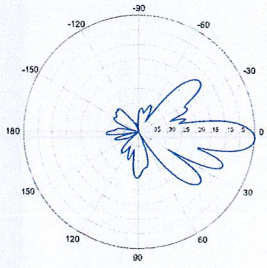


2° | Vertical | 850 MHz

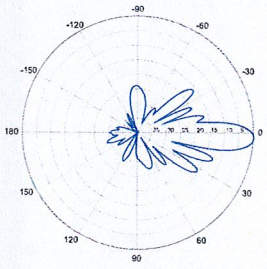
BXA-70063-6CF-EDIN-X

X-Pol | FET Panel | 63° | 14.5 dBd

BXA-70063-6CF-EDIN-3

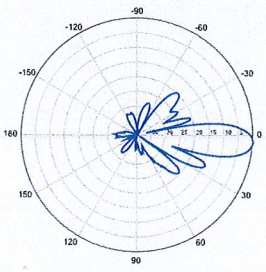


3° | Vertical | 750 MHz

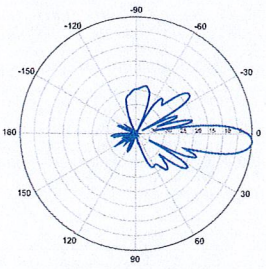


3° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-4

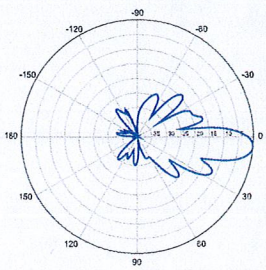


4° | Vertical | 750 MHz

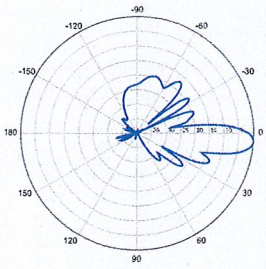


4° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-5

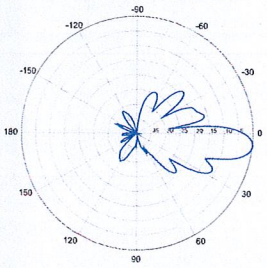


5° | Vertical | 750 MHz

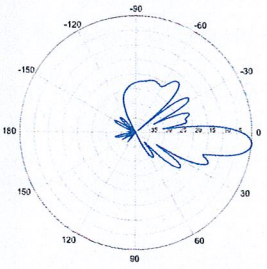


5° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-6

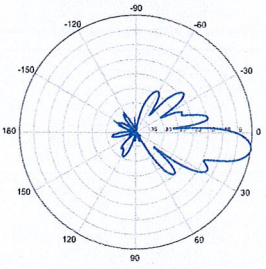


6° | Vertical | 750 MHz

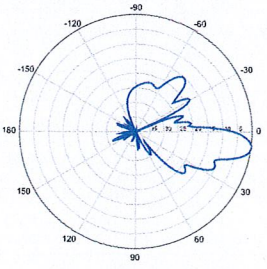


6° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-8

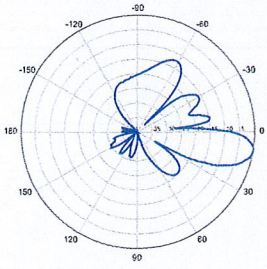


8° | Vertical | 750 MHz

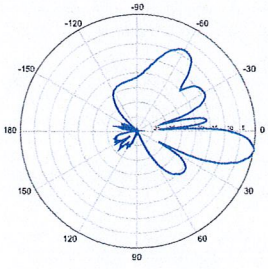


8° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-10



10° | Vertical | 750 MHz



10° | Vertical | 850 MHz

	General	Power	Density					
Site Name: Cheshire NE								
Tower Height: Verizon @ 117ft								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*Sprint microwave antenna	2	4.42	157.5	0.0001	22500	1.0000	0.01%	
*Sprint WiMAX	3	562	157.5	0.0244	2657	1.0000	2.44%	
*Sprint	2	778	158	0.0224	1900	1.0000	2.24%	
*Sprint	1	438	158	0.0063	850	0.5667	1.11%	
*MetroPCS CDMA	3	727	137.5	0.0415	2135	1.0000	4.15%	
*MetroPCS LTE	1	1200	137.5	0.0228	2130	1.0000	2.28%	
*Town Emergency Svcs	1	1200	167.5	0.0154	450	0.3000	5.13%	
*T-Mobile GSM/UMTS	2	12	149	0.0004	1950	1.0000	0.04%	
*T-Mobile UMTS	2	12	149	0.0004	2100	1.0000	0.04%	
*T-Mobile LTE	2	24	149	0.0008	2100	1.0000	0.08%	
*AT&T UMTS	2	565	132	0.0233	880	0.5867	3.97%	
*AT&T UMTS	2	1077	132	0.0445	1900	1.0000	4.45%	
*AT&T GSM	1	647	132	0.0134	880	0.5867	2.28%	
*AT&T GSM	4	934	132	0.0771	1900	1.0000	7.71%	
*AT&T LTE	1	1615	132	0.0333	734	0.4893	6.81%	
*Nextel	12	100	107	0.0377	851	0.5673	6.64%	
Verizon PCS	**11**	**258**	**117**	**0.0745**	**1970**	**1.0000**	**7.45%**	
Verizon Cellular	**9**	**262**	**117**	**0.0619**	**869**	**0.5793**	**10.69%**	
Verizon AWS	**1**	**1750**	**117**	**0.0460**	**2145**	**1.0000**	**4.60%**	
Verizon 700	**1**	**856**	**117**	**0.0225**	**698**	**0.4653**	**4.83%**	
								76.96%
* Source: Siting Council								

GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.

STRUCTURAL ANALYSIS REPORT

160' Monopole Tower

500 Highland Avenue
Cheshire, CT 06410

SBA Site Name: Cheshire
SBA Site Number: CT33762-M

Verizon Site Name: Cheshire NE

GPD Project Number: 2013778.33762.01

Analysis Results

Tower Components	69.7%	Sufficient
Foundation	39.1%	Sufficient

June 24, 2013

Respectfully submitted by:

6/24/13

John N. Kabak, P.E.
Connecticut #: 28836

520 South Main Street . Suite 2531 . Akron, Ohio 44311 . 330-572-2100 . Fax 330-572-2101 . www.GPDGroup.com
Glaus Pyle Schomer Burns and DeHaven, Inc.

TABLE OF CONTENTS

APPENDICES

Executive Summary

The purpose of this analysis is to verify whether the existing monopole tower is structurally capable of carrying the proposed antenna and coax loads as specified by Verizon to SBA. This report was commissioned by Ms. Trisha Lohman of SBA Site Management.

The existing structure and its foundations have been analyzed using the following requirements:

Governing Code/s	TIA-222-G & 2005 CTBC
Wind Speed	100 MPH 3-Second Gust
Wind Speed w/ Ice	50 MPH 3-Second Gust
Radial Ice Thickness	3/4"
Structure Class	II
Exposure Class	B
Topographic Category	1

Conclusions & Recommendations

The designs of the tower and its foundation are sufficient for the proposed loading configuration considering the above analysis criteria and will not require modification.

Tower Description

The existing 160' Monopole Tower is located in Cheshire, Connecticut. The tower was originally designed by Sabre in September of 2003. All structural information was obtained from a previous analysis performed by URS. The original design load for the tower was not available at the time of analysis.

Documents Provided:

Document Type	Remarks	Source
Previous Analysis	URS Corporation, Job #: 36917370, dated 10/10/2012	SBA
Previous Analysis	Hudson Design Group, dated 05/06/2013	SBA
Foundation Calculations	URS Corporation, Job #: 36917370, dated 10/10/2012	SBA
Application	Amendment Application, dated 04/03/2013	SBA

Tower Materials:

Structural Components	Material Strength
Pole	ASTM A572 (65 KSI Yield Strength)
Base Plate	ASTM A572 (60 KSI Yield Strength)
Anchor Rods	ASTM A615 (75 KSI Yield Strength)

Tower Loading

The following data shows the major loading that the tower supports. All existing/leased and proposed loading was provided by SBA.

Existing/Leased Loading

Carrier	Mounting Level (ft)	Center Line Elevation (ft)	# of Antennas	Antenna Manufact.	Antenna/Mount Model	# of Coax	Coax Size (in)	Note
Town of Cheshire	160	170	1		20' Omni	4	1/2	
		168	2	Decibel	DB224			
		166.17	1		6' Omni			
		160	3		T-Arm			
Sprint	160	162	3	RFS	APXVSPP18-C-A20	6	1-5/8 Hybriflex	
		160	1		LP Platform	3		
		158	6		RRH			
T-Mobile	152	149	3	Ericsson	AIR21 B2A/B4P	18	1-5/8	
			3	Ericsson	AIR21 B4A/B2P			
			3	RFS	APX16-PV-6PVL-C			
			3	Ericsson	KRY 112			
			3	RFS	ATMAA1412D			
		152	1		LP Platform			
Pocket	141.08	141.08	3	RFS	APXV18-206517S-C	6	1-5/8	1
			3		T-Arm			
AT&T	132	132	3	Kathrein	800 10121	12	1-5/8	
			2	Powerwave	P65-16-XL-2			
			2	KMW	AM-X-CD-16-65-00T-RET			
			2	Andrew	SBNM-1D6565C			
			12		TMA			
			1		LP Platform			
	125	125	6		RRH	1	3" Conduit	2
			1	Raycap	DC6-48-60-18-8F			
			1		Universal Ring Mount w/8" Standoff			
Verizon	122.5	122.5	3	Powerwave	P65-16-XL-2	12	1-5/8	
			4	Andrew	DB844F65ZAXY			
			2	Antel	LPA 80090/4CF			
			3	Antel	BXA 185063/8CF			
			1		LP Platform			
Nextel	112.17	112.17	12	Andrew	844G65VTZASX	12	1-5/8	
			1		LP Platform			
Town of Cheshire	89.08	89.08	1		Dipole Antenna	5	1/2	
			1		Collar Mount			
		81.25	1		Yagi Antenna			
		79.33	1		Yagi Antenna			
	83.17	83.17	1	PCTEL	GPS-TMG-HR-26N			
			1		Collar Mount			
		81.17	1		Yagi Antenna			

Notes:

1) Coax installed outside the monopole in a single row.
2) Conduit contains DC and power cables.

Final Proposed Loading Configuration

Carrier	Mounting Level (ft)	Center Line Elevation (ft)	# of Antennas	Antenna Manufact.	Antenna/Mount Model	# of Coax	Coax Size (in)	Note
Verizon	122.5	117	3	Antel	BXA 70063/6CF	12	1-5/8	1
			4	Andrew	DB844F65ZAXY			
			2	Antel	LPA 80090/4CF			
			3	Antel	BXA 185063/8CF			
			6	RFS	FD9R6004/2C-3L			
			1		LP Platform			

Notes:

1) This loading represents the final configuration for Verizon. See the next page for the proposed coax layout.

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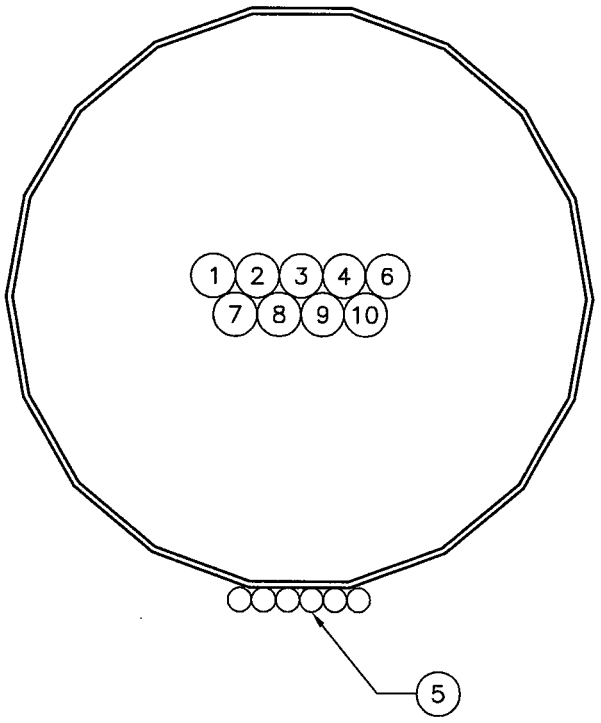
Proposed Coax Configuration



#	CARRIER	SIZE	QTY.	ELEVATION	NOTES
1	Town of Cheshire	1/2"	4	160'	
2	Sprint	1-5/8"	6	160'	
3	Sprint	1-1/4" Hybrid	3	160'	
4	T-Mobile	18	1-5/8"	152'	
5	Pocket	1-5/8"	6	141.08'	
6	AT&T	1-5/8"	12	132'	
7	AT&T	3" Conduit	1	125'	Carries DC and power cables
8	Verizon	1-5/8"	12	122.5'	
9	Nextel	1-5/8"	12	112.17'	
10	Town of Cheshire	1/2'	5	89.09'	

Assumptions

This structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the 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) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in the Existing/Reserved Loading and Proposed Loading Tables, and the specified documents.
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) Mount sizes, weights, and manufacturers are best estimates based on photos provided and determined without the benefit of a site visit by GPD.
6) The proposed coax shall be installed internal to the monopole.
7) All member connections and foundation steel reinforcing are assumed designed to meet or exceed the load carrying capacity of the connected member and surrounding soils respectively unless otherwise specified in this report.
8) The existing loads on the tower were modeled from the previous structural performed by URS, Job #: 36917370, dated 10/10/2012.

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

Tower Section Results

Capacity Summary of Structural Components

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass/ Fail
L1	160 - 146.5	Pole	TP20.91x16.75x0.1875	1	-4.55	865.69	17.6	Pass
L2	146.5 - 95.75	Pole	TP36.16x19.6876x0.25	2	-18.80	1841.20	66.2	Pass
L3	95.75 - 46.75	Pole	TP50.76x34.2745x0.3125	3	-31.89	3077.94	69.7	Pass
L4	46.75 - 0	Pole	TP64.53x48.1321x0.375	4	-51.84	4662.89	62.0	Pass
							Summary	
						Pole (L3)	69.7	Pass
						RATING =	**69.7**	**Pass**

Additional Capacities

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
	Anchor Rods	0	63.2	Pass
	Base Plate	0	39.4	Pass
	Tower Base Foundation	0	39.1	Pass

Disclaimer of Warranties

GPD GROUP 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 GROUP 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 GROUP 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 GROUP 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 in excess of the code specified amount, 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 GROUP, 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 GROUP 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 GROUP 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 GROUP pursuant to this report will be limited to the total fee received for preparation of this report.

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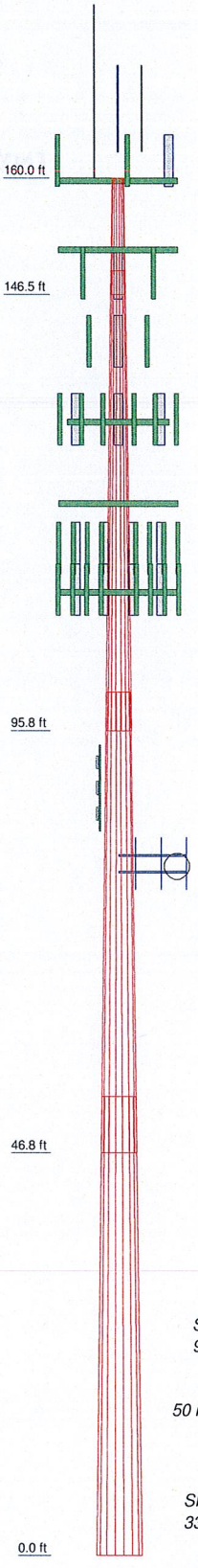
June 24, 2013

TNX TOWER OUTPUT

Section	1	2	3	4				
Length (ft)	13.50	53.50	53.50	53.25				
Number of Sides	18	18	18	18				
Thickness (in)	0.1875	0.2500	0.3125	0.3750				
Socket Length (ft)	2.75	4.50	6.50					
Top Dia (in)	16.7500	19.6876	34.2745	48.1321				
Bot Dia (in)	20.9100	36.1600	50.7600	64.5300				
Grade					A572-65			
Weight (K)	0.5	4.0	7.6	12.1				24.2



ALL REACTIONS ARE FACTORED

AXIAL 89 K

SHEAR 9 K / *MOMENT 1044 kip-ft*

TORQUE 0 kip-ft
50 mph WIND - 0.7500 in ICE

AXIAL 52 K

SHEAR 33 K / *MOMENT 3752 kip-ft*

TORQUE 1 kip-ft
REACTIONS - 100 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
20' Omni (3" Diam)	160	800 10121 w/ Mount Pipe	132
DB224	160	AM-X-CD-16-65-00T-RET w/ Mount Pipe	132
DB224	160	P65-15-XLH-RR w/ Mount Pipe	132
6' Omni	160	(4) TMA	132
MTS 36" Standoff (3)	160	(4) TMA	132
APXVSPP18-C-A20 w/ Mount Pipe	160	(4) TMA	132
APXVSPP18-C-A20 w/ Mount Pipe	160	Mount Pipe	132
APXVSPP18-C-A20 w/ Mount Pipe	160	Mount Pipe	132
(2) RRH	160	Mount Pipe	132
(2) RRH	160	Sabre 12' LP Platform	132
(2) RRH	160	(2) RRH	125
Mount Pipe	160	(2) RRH	125
Mount Pipe	160	(2) RRH	125
Mount Pipe	160	DC6-48-60-18-8F	125
Sabre 12' LP Platform	160	Universal Ring Mount w/8" Standoff	125
AIR21 B2A/B4P w/ mount pipe	152	BXA-70063/6CF w/ Mount Pipe	122.5
AIR21 B4A/B2P w/ mount pipe	152	BXA-70063/6CF w/ Mount Pipe	122.5
APX16-PV-6PVL-C w/ Mount Pipe	152	BXA-70063/6CF w/ Mount Pipe	122.5
AIR21 B2A/B4P w/ mount pipe	152	(2) DB844F65ZAXY w/ Mount Pipe	122.5
AIR21 B4A/B2P w/ mount pipe	152	DB844F65ZAXY w/ Mount Pipe	122.5
APX16-PV-6PVL-C w/ Mount Pipe	152	DB844F65ZAXY w/ Mount Pipe	122.5
AIR21 B2A/B4P w/ mount pipe	152	LPA-80090/4CF w/Mount Pipe	122.5
AIR21 B4A/B2P w/ mount pipe	152	LPA-80090/4CF w/Mount Pipe	122.5
APX16-PV-6PVL-C w/ Mount Pipe	152	BXA-185063/8CF w/ Mount Pipe	122.5
KRY 112	152	BXA-185063/8CF w/ Mount Pipe	122.5
ATMAA1412D	152	BXA-185063/8CF w/ Mount Pipe	122.5
KRY 112	152	(2) FD9R6004/2C-3L	122.5
ATMAA1412D	152	(2) FD9R6004/2C-3L	122.5
KRY 112	152	(2) FD9R6004/2C-3L	122.5
ATMAA1412D	152	MTS 14.5' LP Platform	122.5
Sabre 12' LP Platform	152	(4) 844G65VTZASX w/ Mount Pipe	112.17
APXV18-206517S-C w/ Mount Pipe	141.08	(4) 844G65VTZASX w/ Mount Pipe	112.17
APXV18-206517S-C w/ Mount Pipe	141.08	(4) 844G65VTZASX w/ Mount Pipe	112.17
APXV18-206517S-C w/ Mount Pipe	141.08	MTS 14.5' LP Platform	112.17
MTS 36" Standoff (3)	141.08	3' Yagi	89.08
800 10121 w/ Mount Pipe	132	3' Yagi	89.08
SBNH-1D6565C w/ Mount Pipe	132	Andrew Collar Mount	89.08
P65-15-XLH-RR w/ Mount Pipe	132	14' Dipole	89.08
800 10121 w/ Mount Pipe	132	3' Yagi	83.17
SBNH-1D6565C w/ Mount Pipe	132	Andrew Collar Mount	83.17
AM-X-CD-16-65-00T-RET w/ Mount Pipe	132	GPS-TMG-HR-26N	83.17

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 Exposure B to the TIA-222-G Standard.
3. Tower designed for a 100 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 69.7%

GPD GROUP
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Job: *CT33762 Cheshire, CT*		
Project: *2013778.33762.01*		
Client: SBA	Drawn by: rmoore	App'd:
Code: TIA-222-G	Date: 06/24/13	Scale: NTS
Path: \\AKRN04.gpdco.com\DATA\2013\SBA\33762\01 SA VZN\tnx\CT33762_G.Code.er		Dwg No. E-1