# ROBINSON & COLELLP

KENNETH C. BALDWIN

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

# ORIGINAL

September 23, 2009

Michael Perrone Siting Analyst Connecticut Siting Council 10 Franklin Square New Britain, CT 06051

Re: Cellco Partnership d/b/a Verizon Wireless Exempt Modification Approval

SEP 25 2009

CONNECTICUT
SITING COUNTY

Dear Mr. Perrone:

Enclosed you will find photographs showing Cellco Partnership d/b/a Verizon Wireless' coaxial cable installation. The coaxial cable has been installed in accordance with the structural analysis report dated April 29, 2008. The attached relates specifically to the following Siting Council filing.

EM-VER-011-080916
 Cottage Grove–1021 Blue Hills Avenue, Bloomfield, CT

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

Sincerely,

Kenneth C. Baldwin

RC

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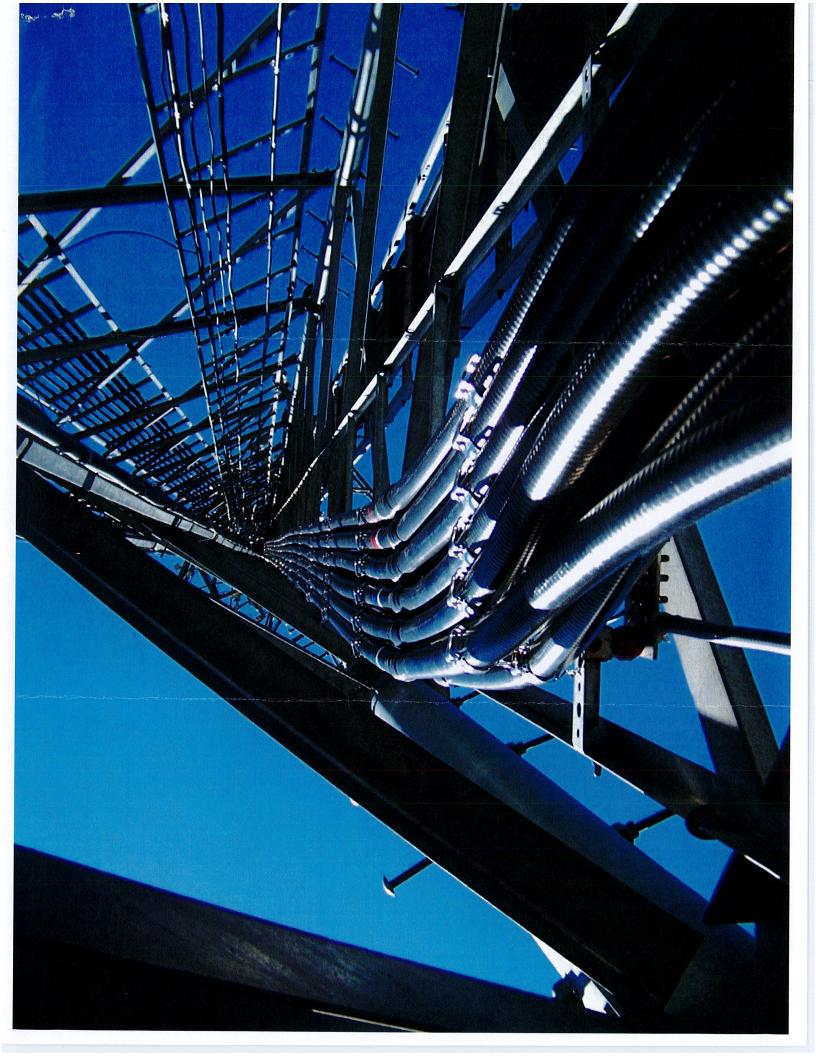
Enclosures

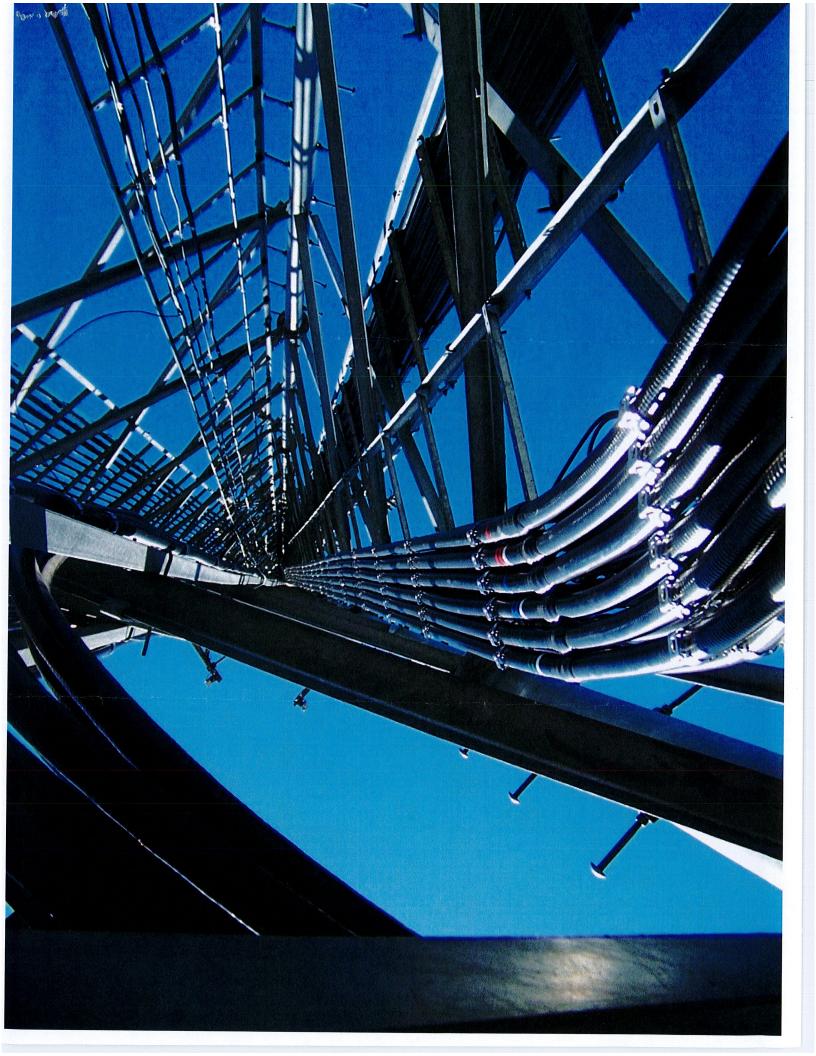
Copy to:

Sandy M. Carter

Tim Parks

10029172-v1





### Daniel F. Caruso Chairman

October 27, 2008

Kenneth C. Baldwin, Esq. Robinson & Cole LLP

280 Trumbull Street
Hartford, CT 06103-35

Hartford, CT 06103-3597

RE: EM-VER-011-080916 - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 1021 Blue Hills Avenue, Bloomfield, Connecticut.

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

### 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 following conditions:

- The proposed coax lines shall be installed per Figure 1 of the structural analysis report dated April 29, 2008 and sealed by Christopher Michael Murphy, P.E.; and
- The Council shall be notified in writing that the coax lines were installed as specified.

The proposed modifications are to be implemented as specified here and in your notice dated September 16, 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 dooperation.

S. Derek Phelps

Executive Director

SDP/MP/cm

c: Honorable Sydney Schulman, Mayor, Town of Bloomfield Louie Chapman, Jr., Town Manager, Town of Bloomfield Thomas B. Hooper, Director of Planning, Town of Bloomfield SBA

G:\EM\BAM-VERIZON\BLOOMFIE\dc100608,DOC

CONNECTICUT SITING COUNCIL.
Affirmative Action / Equal Opportunity: Employe.



## 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

September 17, 2008

The Honorable Sydney Schulman Mayor Bloomfield Town Hall 800 Bloomfield Avenue, P. O. Box 337 Bloomfield, CT 06002-0337

RE: EM-VER-011-080916 - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 1021 Blue Hills Avenue, Bloomfield, Connecticut.

Dear Mayor Schulman:

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 September 30, 2008.

Thank you for your cooperation and consideration.

S Correls Unedra

Executive Director

SDP/laf

Enclosure: Notice of Intent

c: Thomas B. Hooper, Director of Planning, Town of Bloomfield Louie Chapman, Jr., Town Manager, Town of Bloomfield



# ROBINSON & COLELLP

EM-VER-011-080916

KENNETH C. BALDWIN

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

# ORIGINAL

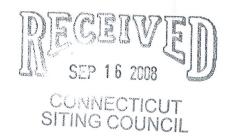
**September 16, 2008** 

Via Hand Delivery

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

Re: Notice of Exempt Modification 1021 Blue Hills Avenue Bloomfield, Connecticut

Dear Mr. Phelps:



Cellco Partnership d/b/a Verizon Wireless ("Cellco") intends to install antennas on the existing 125-foot self-supporting lattice tower owned by SBA Towers at 1021 Blue Hills Avenue in Bloomfield, Connecticut. Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Louis Chapman, Jr., Town Manager of the Town of Bloomfield. Pursuant to a Council directive, a copy of this letter is also being sent to Blue Hill Fire District, the owner of the property on which the tower is located.

The facility consists of a 125-foot self-supporting lattice tower capable of supporting multiple carriers within a fenced compound at 1021 Blue Hills Avenue in Bloomfield. The tower is currently shared by the Blue Hills Fire Department with antennas located at the 125-foot level; T-Mobile with antennas at the 125-foot level; Nextel with antennas located at the 120-foot level; AT&T with antennas located at the 98-foot level; and Sprint with antennas located at the 87-foot level on the tower. Cellco intends to install six (6) LPA-80063/4CF antennas and six (6) LPA-185063/8CF antennas at the 110-foot level on the tower. The 110-foot level was recently vacated following the AT&T/Cingular merger. Equipment associated with Cellco's antennas will be located in a 12' x 20' equipment shelter on the ground adjacent to the tower. Cellco will also install a stand-alone generator, on a concrete



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S. Derek Phelps September 16, 2008 Page 2

pad, adjacent to its equipment shelter. Attached behind <u>Tab 1</u> are Project Plans for the proposed Cellco facility.

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

- 1. The proposed modification will not increase the overall height of the existing tower. Cellco's antennas will be mounted with their centerline at the 110-foot level on the 125-foot tower.
- 2. The proposed installation of the associated equipment shelter will not require an extension of the fenced compound or lease area.
- 3. The proposed installation will not increase the noise levels at the facility by six decibels or more.
- 4. The operation of the antennas will not increase radio frequency (RF) power density levels at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard. The worst-case RF power density calculations for existing and Cellco antennas would be 86.93% of the FCC standard. A cumulative power density calculations table is included behind Tab 2.

Included behind <u>Tab 3</u>, is a Structural Analysis Report confirming that the tower can support the existing and Cellco antennas and associated equipment.

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

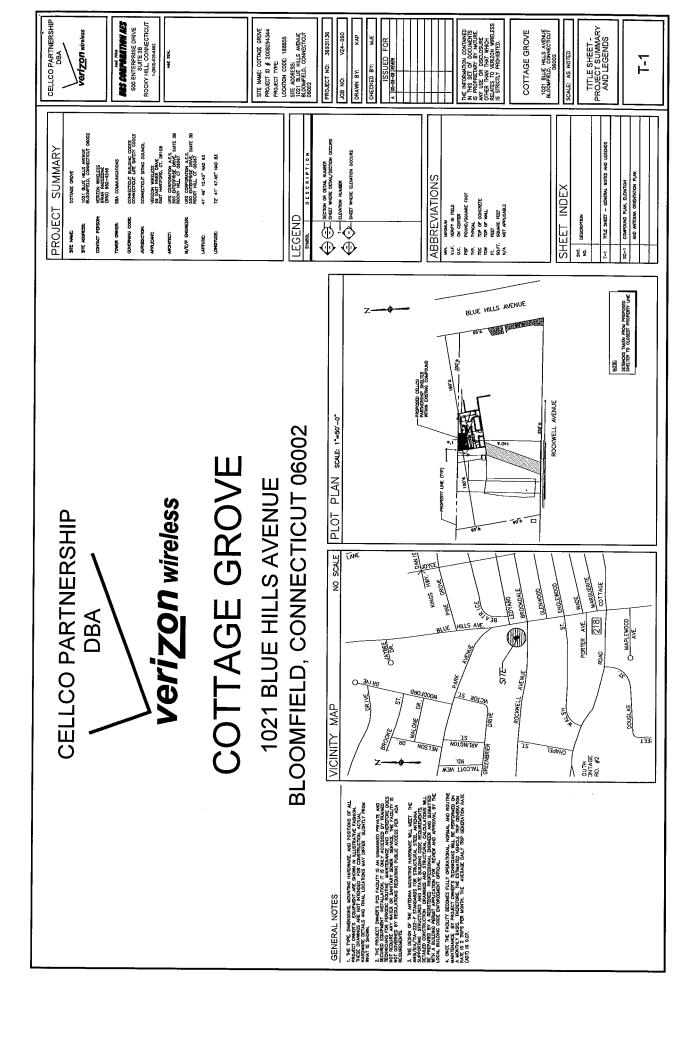
Sincerely,

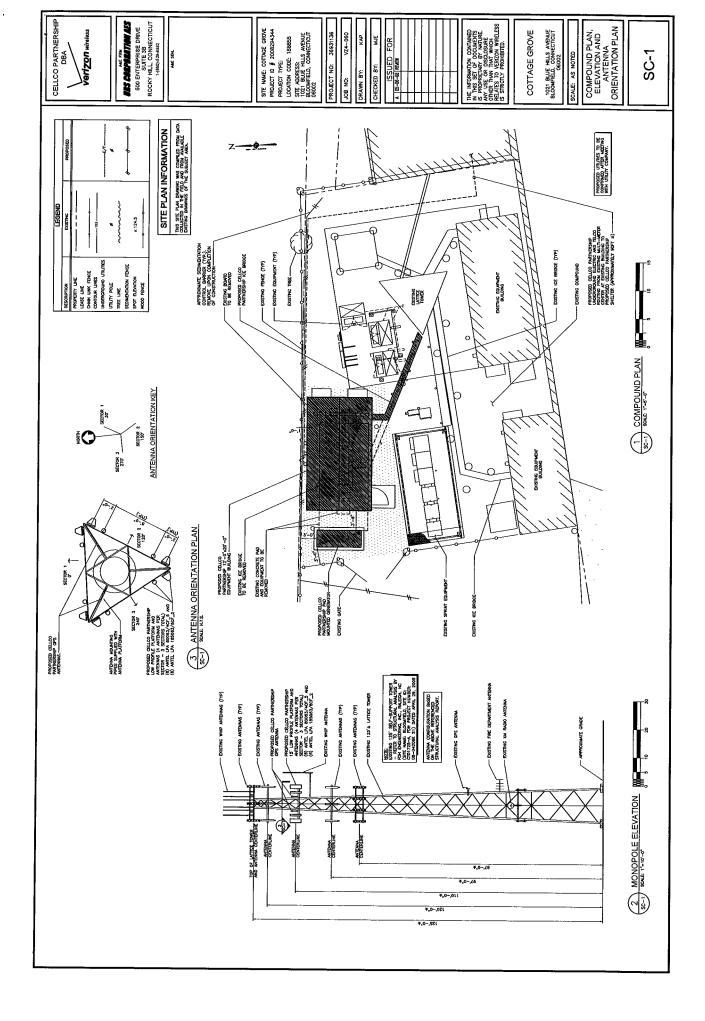
Kenneth C. Baldwin

Attachments Copy to:

Louis Chapman, Jr., Bloomfield Town Manager Blue Hills Fire District Sandy M. Carter Michelle Kababik







					Total															86.93%			
				FRACTION	MPE	10.42%	3.86%	3.26%	3.72%	29.69%	3.96%	1.48%	0.74%	0.46%	0.74%	12.48%	0.56%	3.19%	12.35%				
			MAX.	PERMISS. FR	EXP.	0.5867 1	<u> </u>	_	-	┝	_	1.0000		0.3013 0	_	0.2000	0.2000		0.5830 1				
				<u> </u>	FREQ.	880	880		1930	1900		2340		452					875				
			CALC.	POWER	DENS	0.0611	0.0226	0.0326	0.0372	0.2969	0.0225	0.0148	0.0045	0.0014	0.0022	0.0250	0.0011	0.0319	0.0720				
Density					HEIGHT	97	97	- 26	125	87		125		140	110	09	40	110	110				
Power	CONTROL OF THE CONTRO				WATTS ERP	100	296	427	202.29	568.23	100	321.78	150	75	75	250	5	358	269				
General	/e-Bloomfield	110Ft.			# OF CHAN.	16	2	2	80	11	တ	2	_	L	_	_	_	ဗ	6				
	Site Name: Cottage Grov	Tower Height: Verizon @			CARRIER	*Cingular TDMA	*Cingular GSM	*Cingular GSM	*VoiceStream	*Sprint	*Nextel	*XM Sat Radio	*Page Net	*Blue Hills FD	*Blue Hills FD	*Blue Hills FD	*Blue Hills FD	Verizon	Verizon		* Source: Siting Council		



# Structural Analysis for SBA Network Services, Inc.

125' Self-Support Tower

Site Name: Bloomfield Site ID: CT01725-A

FDH Project Number 08-04206E S1

Prepared By:

Brent McLain, El Project Engineer Reviewed By:

Christopher H. Murphy

Christopher M. Murphy, PE Vice President

CT PE License No. 25842

FDH Engineering, Inc.

PO Box 99556 Raleigh, NC 27615 (919)-755-1012 info@fdh-inc.com



April 29, 2008

Prepared pursuant to ANSI/TIA-222-G Structural Standards for Antenna Supporting Structures and Antennas

### **TABLE OF CONTENTS**

EXECUTIVE SUMMARY  Conclusions Recommendations	3
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#### **EXECUTIVE SUMMARY**

At the request of SBA Network Services, FDH Engineering performed an analysis of the existing self-support tower located in Bloomfield, CT to determine whether the tower is structurally adequate to support both the existing and proposed loads, pursuant to the *Structural Standards for Antenna Supporting Structures and Antennas, ANSI/TIA-222-G.* Information pertaining to the existing/proposed antenna loading, current tower geometry, and the member sizes was obtained from Fred A. Nudd Corp (Project No. 5566A) structural report dated March 10, 1998, FDH Engineering (Project No. 06-05106E) structural report dated May 17, 2006, and SBA Network Services, Inc.

The basic design wind speed per *ANSI/TIA-222-G* standards is 105 MPH without ice and 50 MPH with 1" radial ice. Furthermore, the tower was analyzed as a Class II structure in Exposure Category B.

#### **Conclusions**

With the existing and proposed antennas from Verizon in place at 110 ft, the tower meets the requirements of the *ANSI/TIA-222-G* standards. Furthermore, provide the foundations were constructed per the foundation dimensions listed in the structural report (see Fred A. Nudd Corp Project No. 5566A), the foundations should have the necessary capacity to support the existing and proposed loading. For a more detailed description of the analysis of the tower, see the **Results** section of this report.

Our structural analysis has been performed assuming all information provided to FDH is accurate (i.e. the steel data, tower layout, current antenna loading, and proposed antenna loading) and that the tower was properly erected and maintained per the original design drawings.

#### Recommendation

To ensure the requirements of the ANSI/TIA-222-G standards are met with the existing and proposed loading in place, we have the following recommendations:

1. Proposed coax lines must be installed as shown in Figure 1.

#### APPURTENANCE LISTING

The proposed and existing antennas with their corresponding cables/coax lines are shown in **Table 1.** If the actual layout determined in the field deviates from this layout, FDH should be contacted to perform a revised analysis.

### Table 1 - Appurtenance Loading

### **Existing Loading:**

Antenna No.	Elevation (ft)	Coax and Lines <sup>1</sup>	Carrier	Mount Type	Description
1-11	125	(1) 1-1/4" (2) 7/8" (2) 1/2"	Blue Hills Fire & PD	(3) 12' T-Frames (assumed)	(3) Celwave PD455 (2) 20' Omnis (assumed)
		(12) 1-5/8"	T-Mobile	(	(6) EMS RV90-17-00
12-23	120	(12) 1-1/4" <sup>2</sup>	Nextel	(3) 12' T-Frames (assumed)	(12) Decibel DB844H90E-XY
24-29	98	(12) 1-1/4 <sup>3</sup>	Cingular	(3) 12' T-Frames (assumed)	(6) Powerwave 7770.00 (12) TMAs
30-41	87	(12) 1-1/4" 4	Sprint	(3) 12' T-Frames (assumed)	(12) Decibel DB980F65T2E-M

<sup>1</sup> See Figure 1 for coax location.

### **Proposed Loading:**

Antenna No.	Elevation (ft)	Coax and Lines	Carrier	Mount Type	Description
1-14	110	(12) 1-5/8" (2) 1/2"	Verizon	(3) 12' T-Frames	(6) Antel LPA-80063/4CF (6) Antel LPA-185063/8CF (2) GPS

<sup>2</sup> Currently, Nextel has (9) 1-1/4" coax at 120 ft. According to the information provided by SBA, Nextel reserves the right to install an additional (3) 1-1/4" coax for a final configuration of (12) 1-1/4" coax at 120 ft. Analysis performed with full leased loading in place.

<sup>3</sup> Currently, Cingular has (6) Powerwave 7770.00 antennas, (12) TMAs, and (9) 7/8" coax at 98 ft. According to the information provided by SBA, Cingular reserves the right to (12) 1-1/4" coax at 98 ft. Analysis performed with full leased loading in place.

<sup>4</sup> Currently, Sprint has (6) 1-1/4" coax at 87 ft. According to the information provided by SBA, Sprint reserves the right to install an additional (6) 1-1/4" coax for a final configuration of (12) 1-1/4' coax. Analysis performed with full leased loading in place.

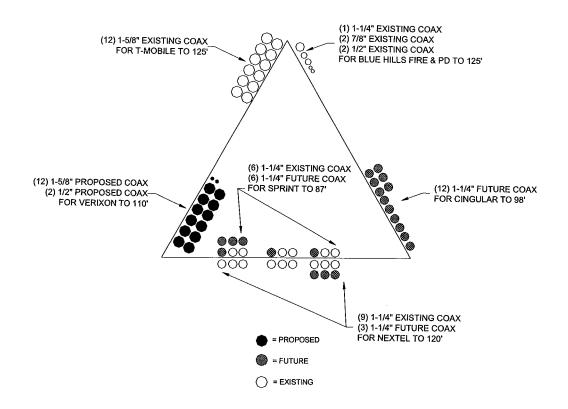


Figure 1 – Coax Layout

### **RESULTS**

The following yield strength of steel for individual members was used for analysis:

**Table 2 - Material Strength** 

Member Type	Yield Strength
Legs	55 ksi
Diagonals	36 ksi
Horizontals	36 ksi

**Table 3** displays the summary of the ratio (as a percentage) of actual force in the member to their allowable capacities. Values greater than 100% indicate locations where the maximum force in the member exceeds its allowable capacity. *Note: Capacities up to 105% are considered acceptable.* **Table 4** displays the maximum foundation reactions.

If the assumptions outlined in this report differ from actual field conditions, FDH should be contacted to perform a revised analysis. Furthermore, as no information pertaining to the allowable twist and sway requirements for the existing or proposed appurtenances was provided, deflection and rotation were not taken into consideration when performing this analysis.

See the Appendix for detailed modeling information

Table 3 – Summary of Working Percentage of Structural Components

Section	Elevation	Component	Size	% Conneity	Pass
No.	fi	Туре		Capacity	Fail
T1	125 - 120	Leg	P2.5x.203	8.0 8.1 (b)	Pass
		Diagonal	5/8	35.5	Pass
		Top Girt	L1 1/2x1 1/2x3/16	3.2	Pass
"		Mid Girt	L1 1/2x1 1/2x3/16	1.3	Pass
T2	120 - 100	Leg	P2.5x.203	65.1	Pass
		Diagonal	L1 1/2x1 1/2x3/16	63.1	Pass
		Top Girt	L1 1/2x1 1/2x3/16	5.8	Pass
T3	100 - 80	Leg	P3.5x.226	77.2	Pass
		Diagonal	L2x2x3/16	53.3	Pass
T4	80 - 60	Leg	P5x.258	72.7	Pass
		Diagonal	L2 1/2x2 1/2x3/16	50.2 56.6 (b)	Pass
T5	60 - 40	Leg	P6x.28	72.2	Pass
		Diagonal	L2 1/2x2 1/2x3/16	62.7	Pass
T6	40 - 20	Leg	P6x.28	99.8	Pass
		Diagonal	L3x3x3/16	75.3	Pass
T7	20 - 0	Leg	P8x.322	71.1	Pass
		Diagonal	L3 1/2x3 1/2x1/4	42.7 67.6 (b)	Pass

Table 4 - Maximum Base Reactions

Load Type	Direction	Current Analysis
Individual Foundation	Horizontal	23 k
	Uplift	248 k
	Compression	270 k
Overturning Moment	•	2,826 k-ft

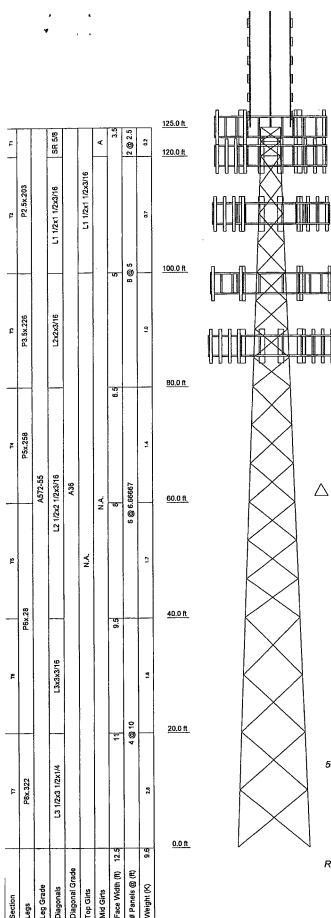
#### **GENERAL COMMENTS**

This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA to verify that the tower modeled and analyzed is the correct structure. If there are substantial modifications made to the appurtenance loading provided by SBA, FDH Engineering should be notified immediately to perform a revised analysis.

### **LIMITATIONS**

All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of this report. All opinions and conclusions are subject to revision based upon receipt of new or additional/updated information. All services are provided exercising a level of care and diligence equivalent to the standard and care of our profession. No other warranty or guarantee, expressed or implied, is offered. Our services are confidential in nature and we will not release this report to any other party without the client's consent. The use of this engineering work is limited to the express purpose for which it was commissioned and it may not be reused, copied, or distributed for any other purpose without the written consent of FDH Engineering, Inc.

# **APPENDIX**



Top Girts Mid Girts

#### DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
PD455 (Blue Hills Fire PD)	135	(2) LPA-185063/8CF (Verizon)	110
PD455 (Blue Hills Fire .PD)	135	12' T-Frame (Verizon)	110
PD455 (Blue Hills Fire .PD)	135	12' T-Frame (Verizon)	110
20 ft omni (Blue Hills Fire .PD)	135	12' T-Frame (Verizon)	110
20 ft omni (Blue Hills Fire PD)	135	GPS (Verizon)	110
(2) RV90-17-00 (T-Mobile)	125	GPS (Verizon)	110
(2) RV90-17-00 (T-Mobile)	125	(2) 7770.00 (Cingular)	98
(2) RV90-17-00 (T-Mobile)	125	(2) 7770.00 (Cingular)	98
12' T-Frame (T-Mobile)	125	(2) 7770.00 (Cingular)	98
12' T-Frame (T-Mobile)	125	12' T-Frame (Cingular)	98
12' T-Frame (T-Mobile)	125	12' T-Frame (Cingular)	98
(4) DB844H90E-XY (Nextel)	120	12' T-Frame (Cingular)	98
(4) DB844H90E-XY (Nextel)	120	(4) TMA (Verizon)	98
(4) DB844H90E-XY (Nextel)	120	(4) TMA (Verizon)	98
12' T-Frame (Nextel)	120	(4) TMA (Verizon)	98
12' T-Frame (Nextel)	120	(4) DB980F65T2E-M (Sprint)	87
12' T-Frame (Nextel)	120	12' T-Frame (Sprint)	87
(2) LPA-80063/4CF (Verizon)	110	12' T-Frame (Sprint)	87
(2) LPA-80063/4CF (Verizon)	110	12' T-Frame (Sprint)	87
(2) LPA-80063/4CF (Verizon)	110	(4) DB980F65T2E-M (Sprint)	87
(2) LPA-185063/8CF (Verizon)	110	(4) DB980F65T2E-M (Sprint)	87
(2) LPA-185063/8CF (Verizon)	110		

#### SYMBOL LIST

MARK	SIZE	MARK	SIZE						
Α	L1 1/2x1 1/2x3/16		<u> </u>						

#### **MATERIAL STRENGTH**

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-55	55 ksi	70 ksi	A36	36 ksi	58 ksi

### **TOWER DESIGN NOTES**

- Tower is located in Hartford County, Connecticut.
   Tower designed for Exposure B to the TIA-222-G Standard.
- Tower designed for a 105 mph basic wind in accordance with the TIA-222-G Standard.
- 4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
- 5. Deflections are based upon a 60 mph wind.
- 6. TOWER RATING: 99.8%

MAX. CORNER REACTIONS AT BASE:

DOWN: 270 K UPLIFT: -248 K SHEAR: 23 K

**AXIAL** 111 K MOMENT SHEAŔ 788 kip-ft 9 K /

TORQUE 0 kip-ft 50 mph WIND - 1.0000 in ICE AXIAL

28 K MOMENT 2826 kip-ft SHEAR 37 K |

TORQUE 1 kip-ft REACTIONS - 105 mph WIND

> FDH Engineering 2730 Rowland Road Raleigh, North Carolina ower Analysis

Phone: (919)755-1012 FAX: (919)755-3031

Bloomfield,	CT	Site: CT01725-A	<u> </u>
Project: 08-04206E			
Client: SBA	Drav	<sup>vn by:</sup> Brent McLain	App'd:
Code: TIA-222-G Date: 05/01/08			Scale: NTS
Path:	estri A. AnsibiA	8.04208DBloomfold CDAnabelelBloomfold	Dwg No. E-1