STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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

E-Mail: siting.council@ct.gov

Internet: ct.gov/csc

Daniel F. Caruso
Chairman

May 20, 2009

Thomas J. Regan, Esq.
Brown Rudnick LLP
CityPlace I, 185 Asylum Street
Hartford, CT 06103

RE: **EM-T-MOBILE-011-090417B** - T-Mobile USA, Inc. notice of intent to modify an existing telecommunications facility located at 1021 Blue Hills Avenue, Bloomfield, Connecticut.

Dear Attorney Regan:

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 coax lines shall be installed per Figure 1 of the structural analysis report dated April 3, 2009 and sealed by Christopher Michael Murphy, P.E.;
- The proposed tower mounted amplifiers shall be installed behind the panel antennas; and
- The Council shall be notified in writing that the coax lines and tower mounted amplifiers were installed as specified.

The proposed modifications are to be implemented as specified here and in your notice dated April 17, 2009, including the placement of all necessary equipment and shelters within the tower compound. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure

and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

S. Derek Phelps

S. Derek Phelps
Executive Director

SDP/MP/laf

c: The 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 Network Services, Inc.

THOMAS J. REGAN
Direct Dial: (860) 509-6522
tregan@brownrudnick.com

BROWNRUDNICK
CityPlace I
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Street
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06103
tel 860.509.6500
fax 860.509.6501

Via Hand Delivery

April 17, 2009

Daniel F. Caruso, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

ORIGINAL

RE: T-Mobile USA, Inc - Exempt Modification

Dear Mr. Caruso:

On behalf of T-Mobile USA, Inc., enclosed for filing are an original and five (5) copies of a Notice to Make an Exempt Modification to an Existing Facility for each of the following:

1. Berlin @ 1657 Berlin Turnpike;
2. Bloomfield @ 30 Brae Burnie Lane;
3. Bloomfield @ 1021 Blue Hills Avenue;
4. New Britain @ 1 Hartford Square Street.

RECEIVED
APR 17 2009
CONNECTICUT
SITING COUNCIL

I have also enclosed a sixth copy of each Notice which I would like to have date-stamped and returned to the courier delivering this package.

Also enclosed are four (4) checks in the amount of $500.00 each to cover the filing fee. If you have any questions, please feel free to contact me.

Very truly yours,

BROWN RUDNICK LLP

By: _____
Thomas J. Regan

TJR/bh
Enclosures

40258812 v1 - 025064/0016

[CIL

EM-T-MOBILE-011-090417B

In re:
T-Mobile USA, Inc. Notice to Make an Exempt : EXEMPT MODIFICATION NO. _____
Modification to an Existing Facility, 1021 Blue :
Hills Avenue, Bloomfield, Connecticut. : April 17, 2009

NOTICE OF EXEMPT MODIFICATION

Pursuant to Conn. Agencies Regs. §§ 16-50j-73 and 16-50j-72(b), T-Mobile USA, Inc. ("T-Mobile") hereby gives notice to the Connecticut Siting Council ("Council") and the Town of Bloomfield of T-Mobile's intent to make an exempt modification to an existing self-support tower (the "Tower") located at 1021 Blue Hills Avenue in Bloomfield, Connecticut. Specifically, T-Mobile plans to upgrade its wireless system in Connecticut by implementing its Universal Mobile Telecommunications System ("UMTS"). UMTS is a third-generation ("3G") technology that utilizes a code division multiple access ("CDMA") base to allow for fast and large data transfers. To accomplish this upgrade, T-Mobile must modify its antenna and equipment configurations at many of its existing sites.

Once the UMTS upgrade is complete, T-Mobile will operate on a more unified communication system, allowing international wireless telephones to function world-wide. Furthermore, UMTS will enhance GPS navigation capabilities and provide emergency responders with more advanced tracking capabilities. The proposed UMTS technology is compatible with the existing second-generation ("2G") Global System for Mobile Communication ("GSM") currently on the Tower and the proposed upgrade is expected to enhance the existing 2G system. In order to accomplish the upgrade at this site, T-Mobile plans to add UMTS technology and install associated equipment at the base of the tower.

Under the Council's regulations (Conn. Agencies Regs. § 16-50j-72(b)), T-Mobile's plans do not constitute a modification subject to the Council's review because T-Mobile will not

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HARTFORD, CT 06103
(860) 509-6500

change the height of the Tower, will not extend the boundaries of the compound, will not increase the noise levels at the site, and will not increase the total radio frequency electromagnetic radiation power density at the site to levels above applicable standards.

The Tower is a 125-foot self-support tower located at 1021 Blue Hills Avenue in Bloomfield, Connecticut (41.8201, -72.6965). The Tower is owned by SBA Telecommunications, Inc. There are multiple carriers on the Tower. Currently, T-Mobile has 6 antennas and 6 Tower Mounted Amplifiers ("TMA") located on the Tower with a centerline of 125 feet. A site plan with Tower specifications is attached.

T-Mobile plans to add 3 UMTS antennas and add 3 UMTS Twin TMA to the Tower. The proposed antennas and TMA will have the same centerline as the existing antennas and TMA – 125 feet. To confirm the Tower can support these changes, T-Mobile commissioned FDH Engineering, Inc. to perform a structural analysis of the Tower (attached). According to the structural analysis, dated April 3, 2009, "...the foundations should have the necessary capacity to support the existing and proposed loading" (Page 3, Structural Analysis Report).

In addition, T-Mobile plans to locate 6, 1-5/8 inch coax cables under the existing canopy. T-Mobile proposes to install the UMTS equipment cabinet on its existing concrete pad within a proposed 4-foot by 6-foot (approximately) lease area. The area will be leased from SBA Telecommunications, Inc. The proposed lease area is on the existing concrete pad, hence, no increase in the size of the concrete pad is necessary. T-Mobile also proposes to install power wiring and telephone wiring to service the proposed equipment at this site.

Therefore, excluding brief, minor, construction-related noise during the addition of the antennas and the installation of the equipment cabinet, T-Mobile's changes to the Tower will not increase noise levels at the site.

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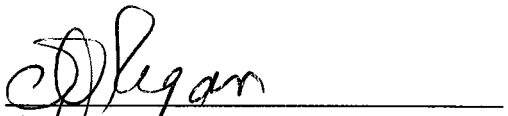
The proposed antennas and TMA will not adversely impact the health and safety of the surrounding community or the people working on the Tower. The total radio frequency exposure measured around the Tower will be well below the National Council on Radiation Protection and Measurements' ("NCRP") standard adopted by the Federal Communications Commission ("FCC"). The worst-case power density analysis measured at the base of the Tower indicates that T-Mobile's antennas will emit 6.17% of the NCRP's standard for maximum permissible exposure. A cumulative power density analysis indicates that together, all of the antennas on the Tower will emit only 73.93% of the NCRP's standard for maximum permissible exposure. Therefore, the power density levels will be well below the FCC mandated radio frequency exposure limits in all locations around the Tower, even with extremely conservative assumptions. The power density analysis is attached.

In conclusion, T-Mobile's proposed plan to add antennas and TMA at this site does not constitute a modification subject to the Council's jurisdiction because T-Mobile will not increase the height of the Tower, will not extend the boundaries of the site, will not increase the noise levels at the site, and the total radio frequency electromagnetic radiation power density will stay within all applicable standards. *See* Conn. Agencies Regs. § 16-50j-72.

T-Mobile USA, Inc.

By: 

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Certificate of Service

This is to certify that on this 17th day of April, 2009, the foregoing Notice of Exempt Modification was sent, via first class mail, to the following:

Town of Bloomfield
Town Hall
Mayor Sydney T. Schulman
800 Bloomfield Avenue
Bloomfield, CT 06002

By: _____
Thomas J. Regan

40258809 v1 - 025064/0016

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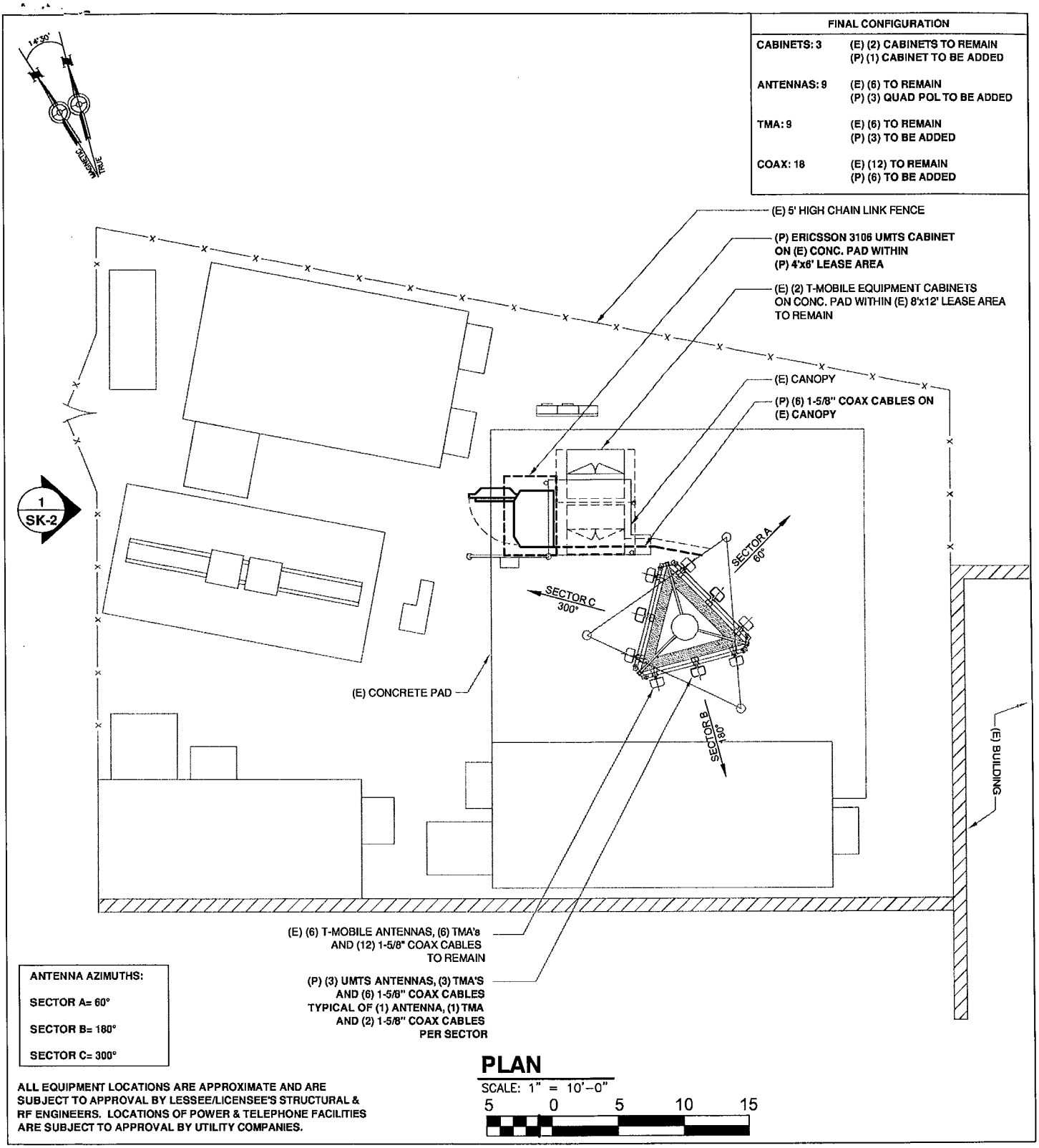


FINAL CONFIGURATION	
CABINETS: 3	(E) (2) CABINETS TO REMAIN (P) (1) CABINET TO BE ADDED
ANTENNAS: 9	(E) (6) TO REMAIN (P) (3) QUAD POL TO BE ADDED
TMA: 9	(E) (6) TO REMAIN (P) (3) TO BE ADDED
COAX: 18	(E) (12) TO REMAIN (P) (6) TO BE ADDED

ANTENNA AZIMUTHS:
SECTOR A= 60°
SECTOR B= 180°
SECTOR C= 300°

ALL EQUIPMENT LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO APPROVAL BY LESSEE/LICENSEE'S STRUCTURAL & RF ENGINEERS. LOCATIONS OF POWER & TELEPHONE FACILITIES ARE SUBJECT TO APPROVAL BY UTILITY COMPANIES.

PLAN

SCALE: 1" = 10'-0"

5 0 5 10 15

TRANSCEND WIRELESS
10 INDUSTRIAL AVE.
MAHWAH, NJ 0740
OFFICE: (210) 316-2085
FAX:(210) 684-0066

FOR

OMNIPOINT COMMUNICATIONS, INC. DBA T-MOBILE USA, INC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX:(860) 692-7159

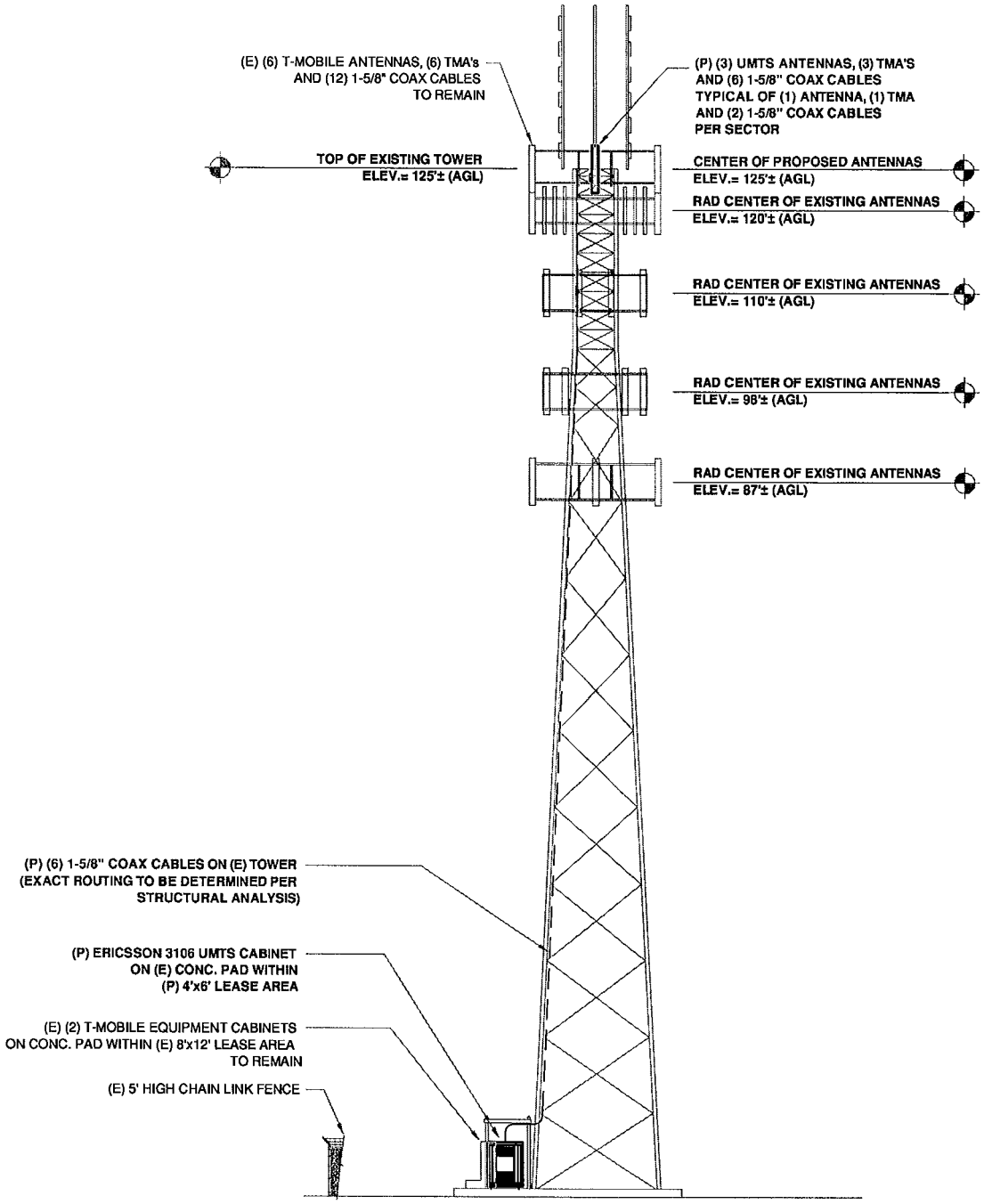
ATLANTIS GROUP
15 Cypress St., Suite 300
Newton Centre, MA 02459
Office: 617-965-0789
Fax: 617-663-6032

SITE NUMBER:	
CT11162B	
SITE NAME:	
BLUEHILLS/JN OF RT-187-1	
ADDRESS:	
1021 BLUE HILLS AVENUE BLOOMFIELD, CT 06002	
DRAWN BY	
G.C.	
0: FINAL	03-23-09
A: REVIEW	02-05-09
REVISION	DATE

APPROVALS

Site Owner	Date
Construction Manager	Date
RF Engineer	Date
Site Acquisition	Date

The above parties hereby approve and accept these documents and authorize the contractor to proceed with the construction described herein, all construction documents are subject to review by the local building department and any changes or modifications they may impose.



ELEVATION

SCALE: 1" = 20'-0"

10 0 10 20 30

ALL EQUIPMENT LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO APPROVAL BY LESSEE/LICENSEE'S STRUCTURAL & RF ENGINEERS. LOCATIONS OF POWER & TELEPHONE FACILITIES ARE SUBJECT TO APPROVAL BY UTILITY COMPANIES.

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FOR

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OFFICE: (860) 692-7100
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ATLANTIS GROUP
15 Cypress St., Suite 300
Newton Centre, MA 02459
Office: 617-965-0789
Fax: 617-663-6032

SITE NUMBER: CT11162B
SITE NAME: BLUEHILLS/JN OF RT-187-1
ADDRESS: 1021 BLUE HILLS AVENUE BLOOMFIELD, CT 06002
DRAWN BY: G.C.

REVISION	DATE
0: FINAL	03-23-09
A: REVIEW	02-05-09

APPROVALS

Site Owner	Date
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The above parties hereby approve and accept these documents and authorize the contractor to proceed with the construction described herein, all construction documents are subject to review by the local building department and any changes or modifications they may impose.

FDH

Structural Analysis for SBA Network Services, Inc.

125' Self-Support Tower

Site Name: Bloomfield
Site ID: CT01725-A

FDH Project Number 09-03240E S1

Prepared By:

Brent McLain

Brent McLain, EI
Project Engineer

Reviewed By:

Christopher M. Murphy

Christopher M. Murphy, PE
Vice President
CT PE License No. 25842

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2730 Rowland Rd.
Raleigh, NC 27615
(919)-755-1012
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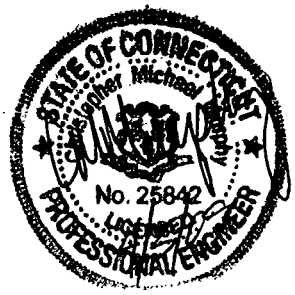

April 3, 2009

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

TABLE OF CONTENTS

2730 Rowland Rd., Suite 100 Raleigh, NC 27615 Ph: (919) 755-1012 Fax: (919) 755-1031 info@fdh-inc.com

EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Engineering, Inc. 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 Steel Antenna Towers and Antenna Supporting Structures, TIA/EIA-222-F.* 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 *TIA/EIA-222-F* standards is 80 MPH without ice and 69 MPH with 1/2" radial ice.

Conclusions

With the existing and proposed antennas from T-Mobile in place at 125 ft, the tower meets the requirements of the *TIA/EIA-222-F* 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 Engineering, Inc. is accurate (i.e. the steel data, tower layout, current antenna loading, and proposed antenna loading) and that the tower has been properly erected and maintained per the original design drawings.

Recommendation

To ensure the requirements of the *TIA/EIA-222-F* 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.**
2. The proposed TMAs should be installed directly behind the proposed and existing panels.

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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 Engineering, Inc. should be contacted to perform a revised analysis.*

Table 1 – Appurtenance Loading

Existing Loading:

Antenna No.	Elevation (ft)[1]	Coax and Lines[2]	Carrier	Mount Type	Description
1-11	125	(1) 1-1/4" (2) 7/8" (2) 1/2"	Blue Hills Fire & PD	(3) T-Frames	(3) Celwave PD455 (2) 20' Omnis (assumed)
		(12) 1-5/8"[3]	T-Mobile		(6) EMS RV90-17-00
12-23	120[4]	(12) 1-1/4"	Nextel	(3) T-Frames	(12) Decibel DB844H90E-XY
24-35	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
36-41	98[5]	(12) 1-1/4"	Cingular	(3) T-Frames	(6) Powerwave 7770.00 (12) TMAs
42-53	87[6]	(12) 1-1/4"	Sprint	(3) T-Frames	(12) Decibel DB980F65T2E-M
54	50	---	---	(1) Standoff	(1) 2' Omni (assumed)

1 Omni elevations measured from the base of the antenna.
2 See **Figure 1** for coax location.
3 T-Mobile's existing loading will be altered at 125 ft. See the proposed loading below.
4 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.
5 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.
6 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.

Proposed Loading:

Antenna No.	Elevation (ft)	Coax and Lines	Carrier	Mount Type	Description
1-9	125	(18) 1-5/8"[1]	T-Mobile	(3) 12' T-Frames (assumed)	(6) EMS RV90-17-00 (3) RFS APX16PV-16PVL-C (9) OneBase Twin TMAs

1 This represents the final configuration for T-Mobile at 125 ft. According to the information provided by SBA, T-Mobile will add (3) RFS APX16PV-16PVL-C antennas, (9) OneBase Twin TMAs, and (6) 1-5/8" coax to the existing loading at 125 ft.

2730 Rowland Rd., Suite 100 Raleigh, NC 27615 Ph: (919) 755-1012 Fax: (919) 755-1031 info@fdh-inc.com

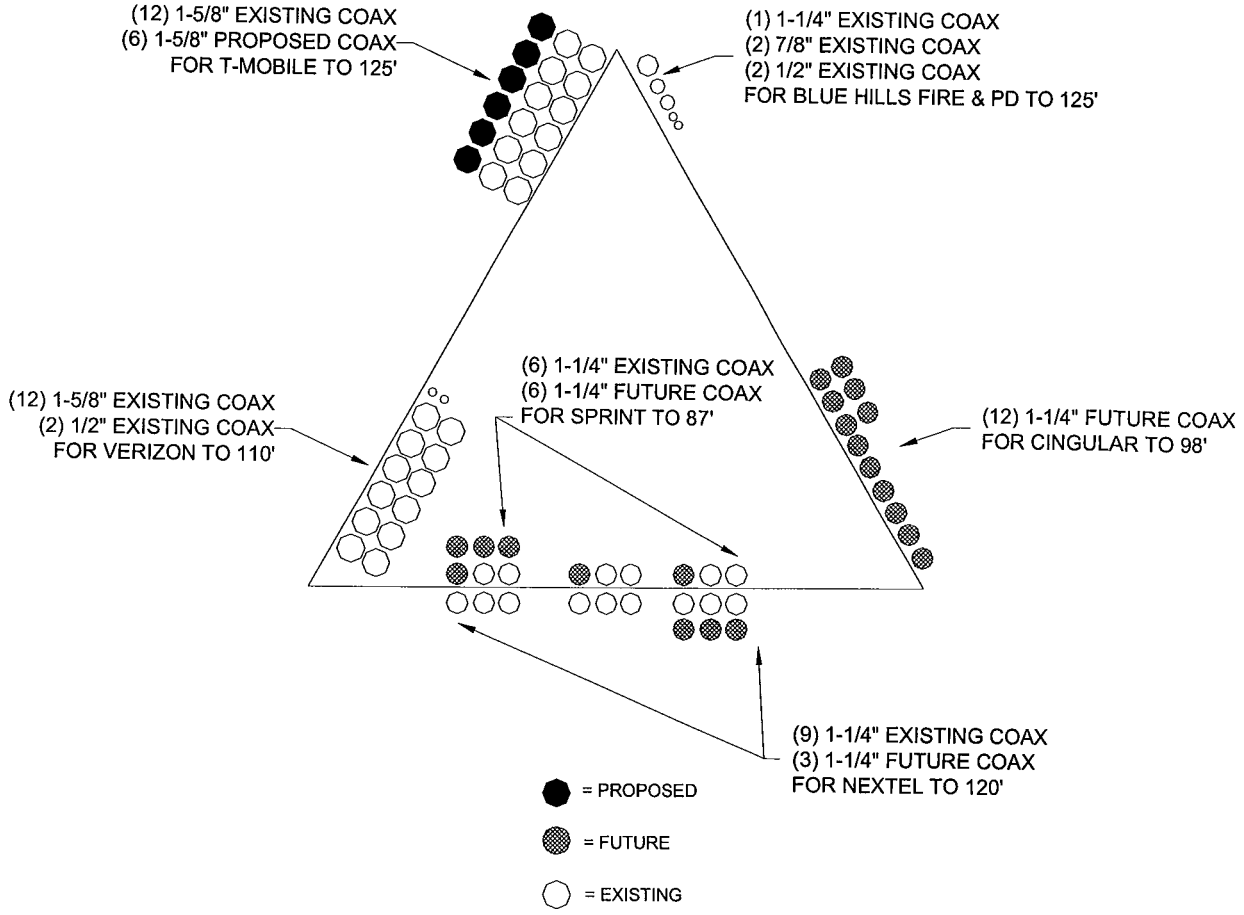

Figure 1 – Coax Layout

2730 Rowland Rd., Suite 100 Raleigh, NC 27615 Ph: (919) 755-1012 Fax: (919) 755-1031 info@fdh-inc.com

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 100% are considered acceptable.* **Table 4** displays the maximum foundation reactions.

If the assumptions outlined in this report differ from actual field conditions, FDH Engineering, Inc. 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 No.	Elevation ft	Component Type	Size	% Capacity	Pass Fail
T1	125 – 120	Leg	P2.5x.203	10.2	Pass
		Diagonal	5/8	45.3	Pass
		Top Girt	L1 1/2x1 1/2x3/16	4.1	Pass
		Mid Girt	L1 1/2x1 1/2x3/16	1.7	Pass
T2	120 – 100	Leg	P2.5x.203	75.6	Pass
		Diagonal	L1 1/2x1 1/2x3/16	70.8	Pass
		Top Girt	L1 1/2x1 1/2x3/16	7.3	Pass
T3	100 – 80	Leg	P3.5x.226	83.9	Pass
		Diagonal	L2x2x3/16	49.8 76.9 (b)	Pass
T4	80 – 60	Leg	P5x.258	74.4	Pass
		Diagonal	L2 1/2x2 1/2x3/16	40.5 81.7 (b)	Pass
T5	60 – 40	Leg	P6x.28	70.6	Pass
		Diagonal	L2 1/2x2 1/2x3/16	46.7 60.3 (b)	Pass
T6	40 – 20	Leg	P6x.28	92.7	Pass
		Diagonal	L3x3x3/16	52.6 71.7 (b)	Pass
T7	20 – 0	Leg	P8x.322	64.7	Pass
		Diagonal	L3 1/2x3 1/2x1/4	30.9 60.4 (b)	Pass

* Capacities include 1/3 allowable increase for wind.

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Table 4 – Maximum Base Reactions

Load Type	Direction	Current Analysis
Individual Foundation	Horizontal	16 k
	Uplift	185 k
	Compression	209 k
Overturning Moment		2,117 k-ft

*Foundation determined to be adequate per independent analysis.

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 Network Services, Inc. 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 Network Services, Inc., FDH Engineering, Inc. 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.

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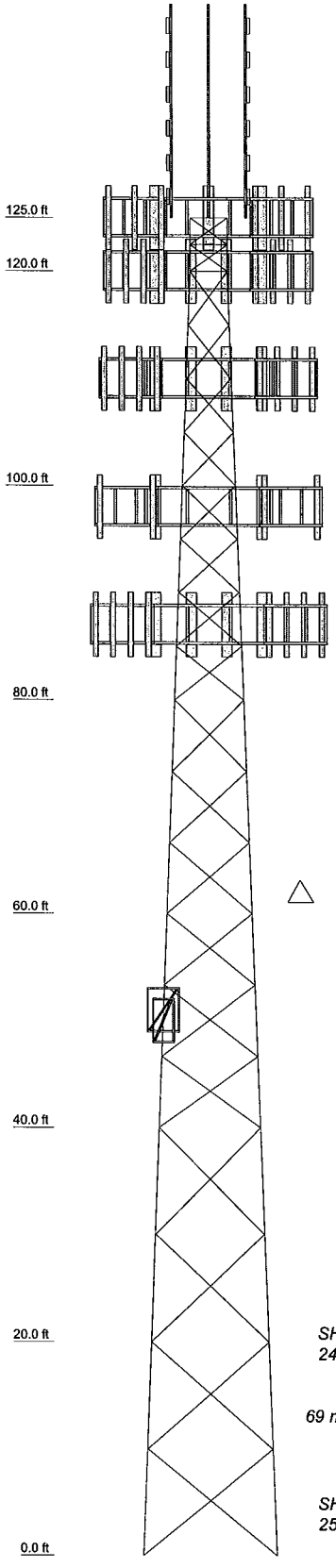
APPENDIX

2730 Rowland Rd., Suite 100 Raleigh, NC 27615 Ph: (919) 755-1012 Fax: (919) 755-1031 info@fdh-inc.com



Section	T1	T2	T3	T4	T5	T6	T7
Legs		P2.5x.203	P3.5x.226	P5x.258	P6x.28		P8x.322
Leg Grade				A572-55			
Diagonals	SR 5/8	L1 1/2x1 1/2x3/16	L2x2x3/16	L2 1/2x2 1/2x3/16		L3x3x3/16	L3 1/2x3 1/2x1/4
Diagonal Grade				A36			
Top Girts		L1 1/2x1 1/2x3/16		N.A.			
Mid Girts	A			N.A.			
Face Width (ft)	3.5		5	6.5	8	9.5	11
# Panels @ (ft)	2 @ 2.5		8 @ 5		6 @ 6.66667		4 @ 10
Weight (K)	0.2	0.7	1.0	1.4	1.7	1.8	2.8

Total Weight: 9.6

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
PD455 (Blue Hills Fire _PD)	135	(2) LPA-80063/4CFx5 w/Mount Pipe (Verizon)	110
PD455 (Blue Hills Fire _PD)	135	(2) LPA-185063/8CF w/Mount Pipe (Verizon)	110
PD455 (Blue Hills Fire _PD)	135	(2) LPA-185063/8CF w/Mount Pipe (Verizon)	110
20 ft omni (Blue Hills Fire _PD)	135	(2) LPA-185063/8CF w/Mount Pipe (Verizon)	110
20 ft omni (Blue Hills Fire _PD)	135	12' T-Frame (Verizon)	110
(2) RV90-17-00DP w/Mount Pipe (T-Mobile)	125	12' T-Frame (Verizon)	110
(2) RV90-17-00DP w/Mount Pipe (T-Mobile)	125	12' T-Frame (Verizon)	110
(2) RV90-17-00DP w/Mount Pipe (T-Mobile)	125	GPS (Verizon)	110
APX16PV-16PVL-C w/Mount Pipe (T-Mobile)	125	GPS (Verizon)	110
APX16PV-16PVL-C w/Mount Pipe (T-Mobile)	125	(2) 7770 w/Mount Pipe (Cingular)	98
APX16PV-16PVL-C w/Mount Pipe (T-Mobile)	125	(2) 7770 w/Mount Pipe (Cingular)	98
(3) TMA-OneBase Twin (T-Mobile)	125	(2) 7770 w/Mount Pipe (Cingular)	98
(3) TMA-OneBase Twin (T-Mobile)	125	(4) TMA (Verizon)	98
(3) TMA-OneBase Twin (T-Mobile)	125	(4) TMA (Verizon)	98
12' T-Frame (T-Mobile)	125	(4) TMA (Verizon)	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 w/Mount Pipe (Nextel)	120	12' T-Frame (Cingular)	98
(4) DB844H90E-XY w/Mount Pipe (Nextel)	120	(4) DB980F65T2E-M w/Mount Pipe (Sprint)	87
(4) DB844H90E-XY w/Mount Pipe (Nextel)	120	(4) DB980F65T2E-M w/Mount Pipe (Sprint)	87
12' T-Frame (Nextel)	120	(4) DB980F65T2E-M w/Mount Pipe (Sprint)	87
12' T-Frame (Nextel)	120	12' T-Frame (Sprint)	87
12' T-Frame (Nextel)	120	12' T-Frame (Sprint)	87
(2) LPA-80063/4CFx5 w/Mount Pipe (Verizon)	110	12' T-Frame (Sprint)	87
(2) LPA-80063/4CFx5 w/Mount Pipe (Verizon)	110	2' Omni	50
		4' Standoff	50

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L1 1/2x1 1/2x3/16		

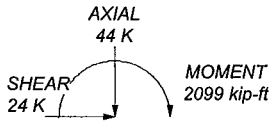
MATERIAL STRENGTH

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

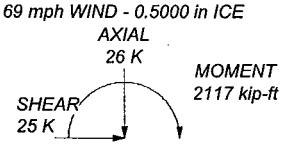
TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 69 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 92.7%

MAX. CORNER REACTIONS AT BASE:
DOWN: 209 K
UPLIFT: -185 K
SHEAR: 16 K



TORQUE 0 kip-ft
69 mph WIND - 0.5000 in ICE



TORQUE 1 kip-ft
REACTIONS - 80 mph WIND

FDH ENGINEERING
Tower Analysis

FDH Engineering, Inc.
2730 Rowland Road
Raleigh, North Carolina
Phone: (919)755-1012
FAX: (919)755-3031

Job: *Bloomfield, CT*		*Site: CT01725-A*	
Project: *09-03240E S1*			
Client: SBA	Drawn by: Brent McLain	App'd:	
Code: TIA/EIA-222-F	Date: 04/06/09	Scale: NTS	
Path:		Dwg No. E-1	

T-Mobile

T-Mobile USA Inc.
35 Griffin Rd South, Bloomfield, CT 06002-1853
Phone: (860) 692-7100
Fax: (860) 692-7159

Technical Memo

To: Transcend
From: Farid Marbouh - Radio Frequency Engineer
cc: Jason Overbey
Subject: Power Density Report for CT11162B
Date: April 10, 2009

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the T-Mobile antenna installation on a Self Support Tower at 1021 Blue Hills Avenue, Bloomfield, CT. This study incorporates the most conservative consideration for determining the practical combined worst case power density levels that would be theoretically encountered from locations surrounding the transmitting location.

2. Discussion:

The following assumptions were used in the calculations:

1) The emissions from T-Mobile transmitters are in the (1935-1944.8), (2140-2145), (2110-2120)MHz frequency Band.
2) The antenna array consists of three sectors, with 3 antennas per sector.
3) The model number for GSM antenna is RR90-17-02DP.
3) The model number for UMTS antenna is APX16DWV-16DWV.
4) GSM antenna center line height is 125 ft.
4) UMTS antenna center line height is 125 ft.
5) The maximum transmit power from any GSM sector is 1653.94 Watts Effective Radiated Power (EiRP) assuming 8 channels per sector.
5) The maximum transmit power from any UMTS sector is 2330.72 Watts Effective Radiated Power (EiRP) assuming 2 channels per sector.
6) All the antennas are simultaneously transmitting and receiving, 24 hours a day.
7) Power levels emitting from the antennas are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
8) The average ground level of the studied area does not change significantly with respect to the transmitting location.

Equations given in "FCC OET Bulletin 65, Edition 97-01" were then used with the above information to perform the calculations.

3. Conclusion:

Based on the above worst case assumptions, the power density calculation from the T-Mobile antenna installation on a Self Support Tower at 1021 Blue Hills Avenue, Bloomfield, CT, is 0.06173 mW/cm^2. This value represents 6.173% of the Maximum Permissible Exposure (MPE) standard of 1 milliwatt per square centimeter (mW/cm^2) set forth in the FCC/ANSI/IEEE C95.1-1991. Furthermore, the proposed antenna location for T-Mobile will not interfere with existing public safety communications, AM or FM radio broadcasts, TV, Police Communications, HAM Radio communications or any other signals in the area.

The combined Power Density from other carriers is 67.76%. The combined Power Density for the site is 73.933% of the M.P.E. standard.

Connecticut Market

T-Mobile

Worst Case Power Density

Site:	**CT11162B**
Site Address:	**1021 Blue Hills Avenue**
Town:	**Bloomfield**
Tower Height:	**130 ft.**
Tower Style:	**Self Support Tower**

GSM Data		**UMTS Data**	
Base Station TX output	20 W	**Base Station TX output**	40 W
Number of channels	8	**Number of channels**	2
Antenna Model	RR90-17-02DP	**Antenna Model**	APX16DWV-16DWV
Cable Size	1 5/8 in.	**Cable Size**	1 5/8 in.
Cable Length	160 ft.	**Cable Length**	160 ft.
Antenna Height	125.0 ft.	**Antenna Height**	125.0 ft.
Ground Reflection	1.6	**Ground Reflection**	1.6
Frequency	1945.0 MHz	**Frequency**	2.1 GHz
Jumper & Connector loss	4.50 dB	**Jumper & Connector loss**	1.50 dB
Antenna Gain	16.5 dBi	**Antenna Gain**	18.0 dBi
Cable Loss per foot	0.0116 dB	**Cable Loss per foot**	0.0116 dB
Total Cable Loss	1.8560 dB	**Total Cable Loss**	1.8560 dB
Total Attenuation	6.3560 dB	**Total Attenuation**	3.3560 dB
Total EIRP per Channel	53.15 dBm	**Total EIRP per Channel**	60.66 dBm
(In Watts)	206.74 W	**(In Watts)**	1165.36 W
Total EIRP per Sector	62.19 dBm	**Total EIRP per Sector**	63.67 dBm
(In Watts)	1653.94 W	**(In Watts)**	2330.72 W
nsg	10.1440	**nsg**	14.6440
Power Density (S) =	**0.025624 mW/cm^2**	**Power Density (S) =**	**0.036109 mW/cm^2**
T-Mobile Worst Case % MPE =		**6.1733%**	

Equation Used :

$$S = \frac{(1000)(grf)^2 (Power) * 10^{(nsg/10)}}{4\pi (R)^2}$$

Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997

Co-Location Total (From CSC power density data base)

Carrier	**% of Standard**
Verizon	
Cingular	17.6400 %
Sprint	29.6900 %
AT&T Wireless	
Nextel	3.9600 %
MetroPCS	
Other Antenna Systems	16.4700 %
Total Excluding T-Mobile	**67.7600 %**
T-Mobile	6.1733
Total % MPE for Site	**73.9333%**

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 22, 2009

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

RE: **EM-T-MOBILE-011-090417B** - Omnipoint Communications, as subsidiary of T-Mobile USA, Inc., 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 May 6, 2009.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/jb

Enclosure: Notice of Intent

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

CSC
CONNECTICUT SITING COUNCIL