



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

March 18, 2009

Jennifer Young Gaudet
HPC Development LLC
53 Lake Avenue Ext.
Danbury, CT 06811

RE: **EM-T-MOBILE-043-090226** - Omnipoint Communications, Inc. (T-Mobile) notice of intent to modify an existing telecommunications facility located at 100 Sunset Ridge Road, East Hartford, Connecticut.

Dear Mrs. Gaudet:

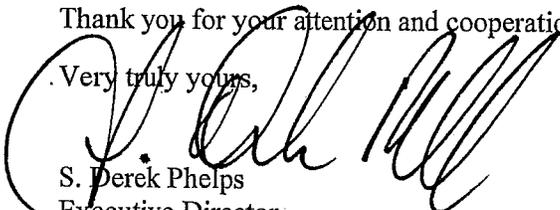
The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated February 25, 2009 and additional information received on March 18, 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
Executive Director

SDP/MP/laf

c: The Honorable Melody A. Currey, Mayor, Town of East Hartford
Michael J. Dayton, Town Planner, Town of East Hartford



CONNECTIONICUT SITING COUNCIL
Affirmative Action / Equal Opportunity Employer

Perrone, Michael

From: Jennifer Gaudet [jgaudet@hpcdevelop.com]
Sent: Wednesday, March 18, 2009 2:08 PM
To: Perrone, Michael
Cc: Fontaine, Lisa
Subject: RE: exempt mod response letters - Omnipoint
Attachments: CT11737 structural summary revised.pdf

Mike –

Attached in response to your question about the Sunset Ridge, East Hartford tower is a revised structural that accurately reflects the TMAs. Please let me know if you need hard copies or any additional information.

Thank you.

Jennifer

Jennifer Young Gaudet
HPC Development LLC
53 Lake Avenue Extension
Danbury, CT 06811
Cell: (860) 798-7454
Fax: (203) 797-1137
jgaudet@hpcdevelop.com
www.hpcdevelop.com

CONFIDENTIALITY NOTICE:

This message originates from the firm of HPC Development LLC. The information contained in this e-mail and any files transmitted with it may be a confidential communication or may otherwise be privileged and confidential and part of the work product doctrine. If the reader of this message, regardless of the address or routing, is not an intended recipient, you are hereby notified that you have received this transmittal in error and any review, use, distribution, dissemination or copying is strictly prohibited. If you have received this message in error, please delete this e-mail and all files transmitted with it from your system and immediately notify HPC Development LLC by sending a reply e-mail to the sender of this message. Thank you.

From: Perrone, Michael [mailto:Michael.Perrone@ct.gov]
Sent: Tuesday, March 17, 2009 4:49 PM
To: Jennifer Gaudet
Cc: Fontaine, Lisa
Subject: RE: exempt mod response letters - Omnipoint

Hi Jennifer.

I have attached both letters.

The Sunset Ridge East Hartford one has already gone through the Town comment phase. The deadline for Town Comments was March 13th. We received no comments. I just had one last question on that. Did the structural analysis include the tower mounted amplifiers? It could be the case that they add no wind area because they're hidden behind the antennas, but I just wanted to check. Worst case, if for some reason the TMAs do count and were left out inadvertently, we could simply include a condition to the approval/acknowledgement that a revised structural analysis be submitted, so as not to delay anything. Let me know what you think.

The 52 New Britain Avenue, Rocky One is still in the Town comment phase. The deadline for comments is March 23, 2009. We could issue the letter shortly after that.

3/18/2009



March 18, 2009

Jennifer Young Gaudet
HPC Development LLC
53 Lake Avenue Extension
Danbury, CT 06811

Reference: Structural Analysis of Existing Self Support Tower for Antenna Upgrade
CT11737
100 Sunset Ridge Road, East Hartford, CT
URS Project Number: 36917334/HPC-024

Dear Ms. Mansell,

URS Corporation (URS) has been retained by HPC Development, LLC-T-Mobile to perform a structural review of the existing 140' self support tower located at 100 Sunset Ridge Road, East Hartford, CT. The analysis was conducted in accordance with the 2005 Connecticut State Building Code and the TIA/EIA-222-F standard for a wind velocity of 80 mph (fastest mile) and 69 mph (fastest mile) concurrent with 0.5" ice. The antenna loading considered in this analysis consists of all existing and proposed antennas, transmission lines, and ancillary items as outlined in Table 1.

Table 1: Antenna and Mount Configuration

ANTENNA & MOUNT DESCRIPTION	CARRIER	MOUNT	CENTERLINE ELEVATION	CABLE
(3) APX16PV-16PVL Panel Antennas with (6) TMAs	T-Mobile	(3) Pipe Mounts	120'	(12) 1-5/8"
(3) APX16PV-16PVL Panel Antennas with (3) TMAs	T-Mobile (Proposed)	(3) Pipe Mounts (existing)	120'	(6) 1-5/8" (on existing hangers)
(3) 20' Dipole	Town	(3) Pipe Mounts	130'	(3) 1"
(3) 7' Whip Antenna	Town	(3) 3' Stand-off	143'	(3) 1"
14' Dipole	Town	3' Stand-off	147'	(1) 1"

Note: The dimensions of the existing town antennas were scaled from the site visit photographs.

The results of the analysis indicate that the tower structure has the capacity to support the proposed loading conditions as summarized in Table 2. **The self support tower structure and its foundation are considered structurally adequate with the wind load classification specified above and the proposed antenna loading.** The equipment cabinet shall be located on a concrete slab on grade.

URS Corporation
500 Enterprise Drive, Suite 3B
Rocky Hill, CT 06067
Tel: 860.529.8882
Fax: 860.529.3991



Table 2: Tower Component Stress vs. Capacity Table

COMPONENT/ SECTION NO.	EXISTING COMPONENT SIZE	CONTROLLING ELEVATION	STRESS (% CAPACITY)	PASS/FAIL
Leg (T6)	Pirol 195564	20'-40'	46.6	Pass
Diagonal (T7)	L3x3x5/8	0-20'	58.6	Pass
Top Girt (T1)	L3x3x3/8	120'-140'	1.8	Pass
Tower Bolts	1" dia.	20'	38.9	Pass
Anchor Bolt	1.25" dia.	Tension	24	Pass
Foundation	24.5' Square Footing	OTM (2.0/2.87)	69.6	Pass

Note: Minimum factor of safety for overturning moment (OTM) is 2.0 per IBC 2003 Section 3108.4.2

This analysis is based on:

- 1) The tower structure's theoretical capacity, not including any assessment of the condition of the tower.
- 2) Tower structure and foundation design documents prepared by Valmont Structures, job number A-121847-F-1008516 signed and sealed on February 6, 2006.
- 3) Site documentation and visual verification of existing appurtenances conducted from existing grade by URS during November 2008.

This report is only valid as per the assumptions and data utilized in this report for antenna inventory, mounts and associated cables. The user of this report shall field verify the assumption of the antenna and mount configuration as well as the physical condition of the tower. Notify the engineer in writing immediately if any of the information in this report is found to be other than specified.

If you should have any questions, please call.

Sincerely,

URS Corporation


Richard Sambor, P.E.
Manager Facilities Design



cc: ICA, MJE, CF/Book - URS
J. Gaudet - HPC

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
14' Dipole (Town)	147	APX16PV-16PVL-C w/ mount (T-Mobile)	120
7' Whip (Town)	143	APX16PV-16PVL-C w/ mount (T-Mobile)	120
7' Whip (Town)	143	APX16PV-16PVL-C w/ mount (T-Mobile)	120
3' Stand-off (Town)	138	APX16PV-16PVL-C w/ mount (T-Mobile)	120
3' Stand-off (Town)	138	APX16PV-16PVL-C w/ mount (T-Mobile)	120
20' 4-Bay Dipole (Town)	130	(3) RFS - TMA (shielded) (T-Mobile)	120
20' 4-Bay Dipole (Town)	130	(3) RFS - TMA (shielded) (T-Mobile)	120
10' Boom Gate w/3/2 - 3/8" Pipe (Vertical) (3) (T-Mobile)	120	(3) RFS - TMA (shielded) (T-Mobile)	120
APX16PV-16PVL-C w/ mount (T-Mobile)	120		
APX16PV-16PVL-C w/ mount (T-Mobile)	120		

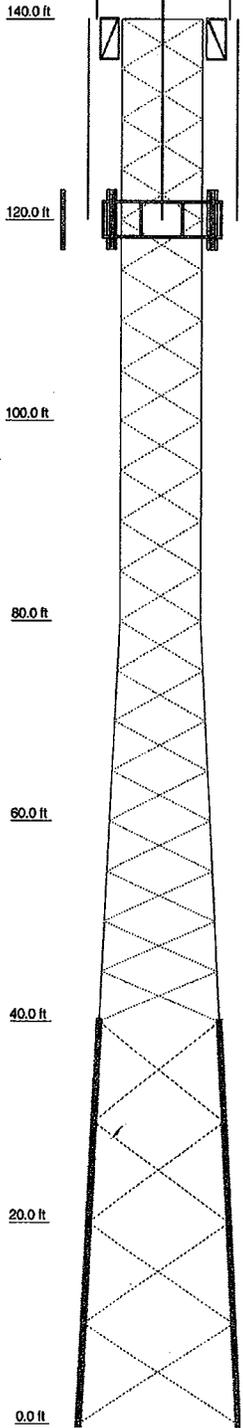
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

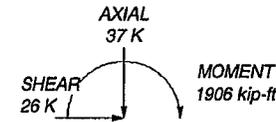
1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 69 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind.
5. Weld together tower sections have flange connections.
6. Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications.
7. Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
8. Welds are fabricated with ER-70S-6 electrodes.
9. TOWER RATING: 58.6%

	T1	T2	T3	T4	T5	T6	T7	
Section								
Legs	SR 2 1/4	SR 2 3/4	SR 3	SR 3 1/4	Pirod 105218	Pirod 105219		
Leg Grade	L1 3/4x1 3/4x1/8	L1 3/4x1 3/4x1/4	A572-50	L2 1/2x2 1/2x5/16	L3x3x5/16			
Diagonals								
Diagonal Grade			A36					
Top Girts	L3x3x3/8							
Face Width (ft)					10	14	12	
# Panels @ (ft)			20 @ 5		4 @ 10	4 @ 10		
Weight (K)	1.3	1.4	2.2	2.7	3.1	3.4	4.2	18.5

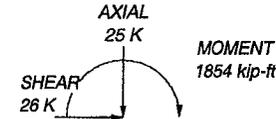


MAX. CORNER REACTIONS AT BASE:

DOWN: 150 K
 UPLIFT: -119 K
 SHEAR: 19 K



TORQUE 1 kip-ft
 69 mph WIND - 0.5000 in ICE



TORQUE 1 kip-ft
 REACTIONS - 80 mph WIND

URS Corporation		Job: HPC-024	
500 Enterprise Drive, Suite 3B		Project: 140' Self Support Tower	
Rocky Hill, CT 06067		Client: HPC / T-Mobile	Drawn by: Kevin Barker
Phone: (860) 529-8882		Code: TIA/EIA-222-F	Date: 03/18/09
FAX: (860) 529-3991		Path: P:\09\ERI Files\HPC-024 140' Valmont Tower.dwg	Scale: NTS
			Dwg No. E-1



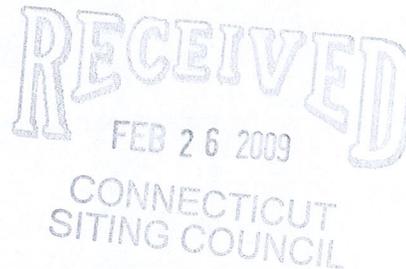
EM-T-MOBILE-043-090226

ORIGINAL

February 25, 2009

VIA OVERNIGHT DELIVERY

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



Re: Omnipoint Communications, Inc. – exempt modification
100 Sunset Ridge Road, East Hartford, Connecticut

Dear Mr. Phelps:

This letter and attachments are submitted on behalf of Omnipoint Communications, Inc. (also referred to herein as “T-Mobile”). T-Mobile is enhancing the capabilities of its wireless system in Connecticut by implementing UMTS technology. In order to do so, T-Mobile will modify antenna and equipment configurations at a number of its existing sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the Mayor of East Hartford.

T-Mobile plans to modify the existing facility at 100 Sunset Ridge Road, East Hartford owned by the Town of East Hartford (coordinates 41°46’18” N, -72°35’26” W). Attached are a compound plan and elevation depicting the planned changes, and documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration. Also included is a power density calculation reflecting the modification to T-Mobile’s operations at the site.

The changes to the facility do not constitute a modification as defined in Connecticut General Statutes (“C.G.S.”) Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. The height of the overall structure will be unaffected. Both T-Mobile’s existing and proposed antennas will be located at an approximate center line of 120’ AGL on the approximately 140’ tower. T-Mobile will add three panel antennas to the three existing antennas for a total of six, and will add three TMAs for a total of

nine. In addition, T-Mobile will install six additional cables. The modifications will not extend the height of the tower.

2. The proposed changes will not extend the site boundaries. T-Mobile will install one additional cabinet on an existing concrete pad adjacent to its existing equipment within the site compound.
3. The proposed changes will not increase the noise level at the existing facility by six decibels or more. The incremental effect of the proposed changes will be negligible.
4. The changes to the facility will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site. As indicated on the attached power density calculation, T-Mobile's operations at the site will result in a power density of 7.9095%; the combined site operations will result in a total power density of 11.0295%.

Please feel free to call me at (860) 798-7454 with questions concerning this matter.
Thank you for your consideration.

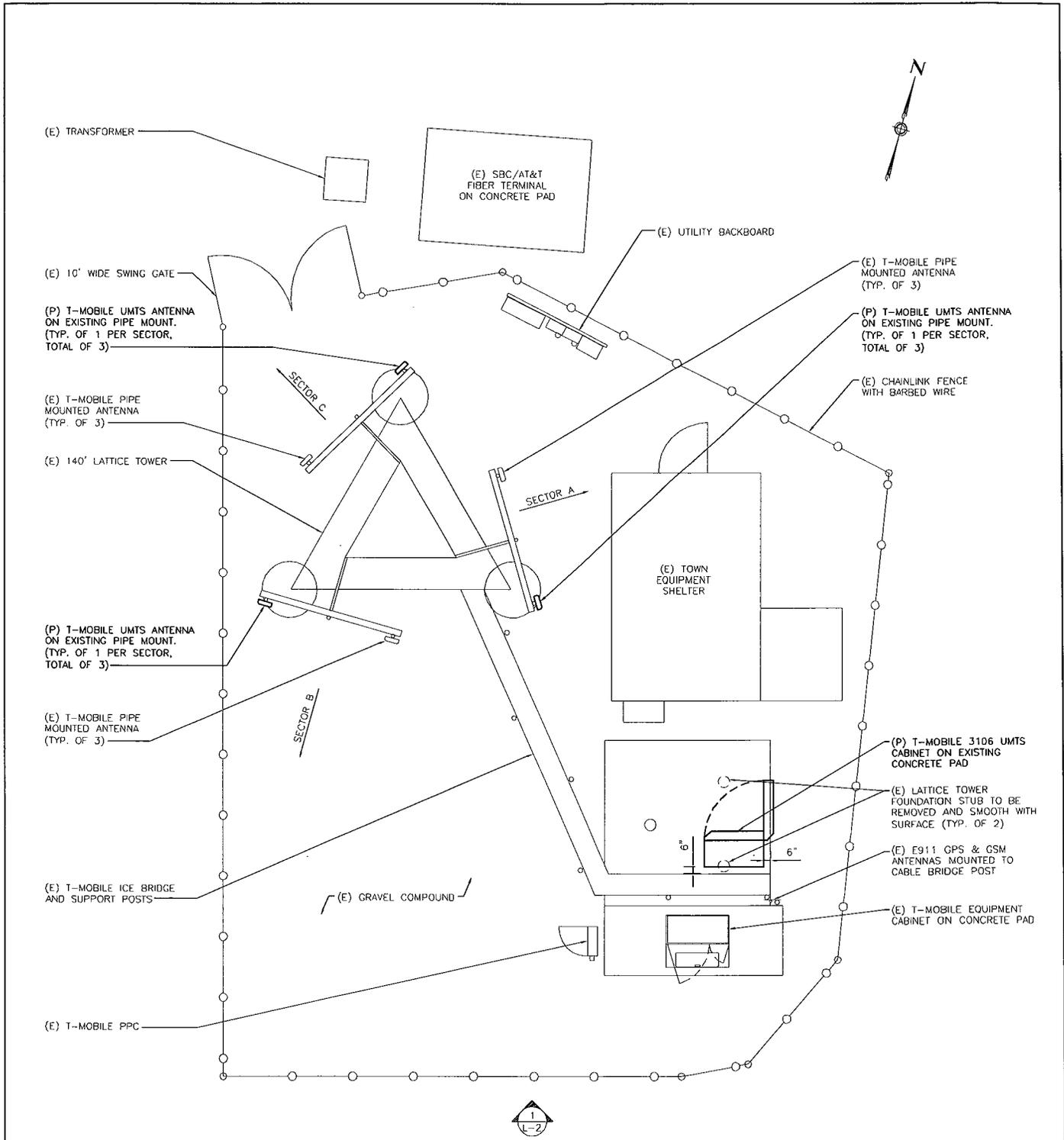
Respectfully yours,



Jennifer Young Gaudet

cc: Honorable Melody A. Currey, Mayor, Town of East Hartford
(also underlying property owner)

Attachments



1
L-1

COMPOUND PLAN
SCALE: 1" = 10'-0"



CT11737C

SITE ID NO:
36917334

Designed by:
MJE

Drawn by:
KAP

Checked by:
ICA

Approved by:

URS CORPORATION AES

500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
1-(860)-529-8882

HPC DEVELOPMENT LLC FOR T-Mobile

53 LAKE AVENUE EXT. DANBURY, CONNECTICUT 06811

35 GRIFFIN ROAD SOUTH BLOOMFIELD, CONNECTICUT 06002

SITE ADDRESS: **CT737/E HARTFORD TOWN SST**
100 SUNSET RIDGE ROAD
EAST HARTFORD, CONNECTICUT 06108

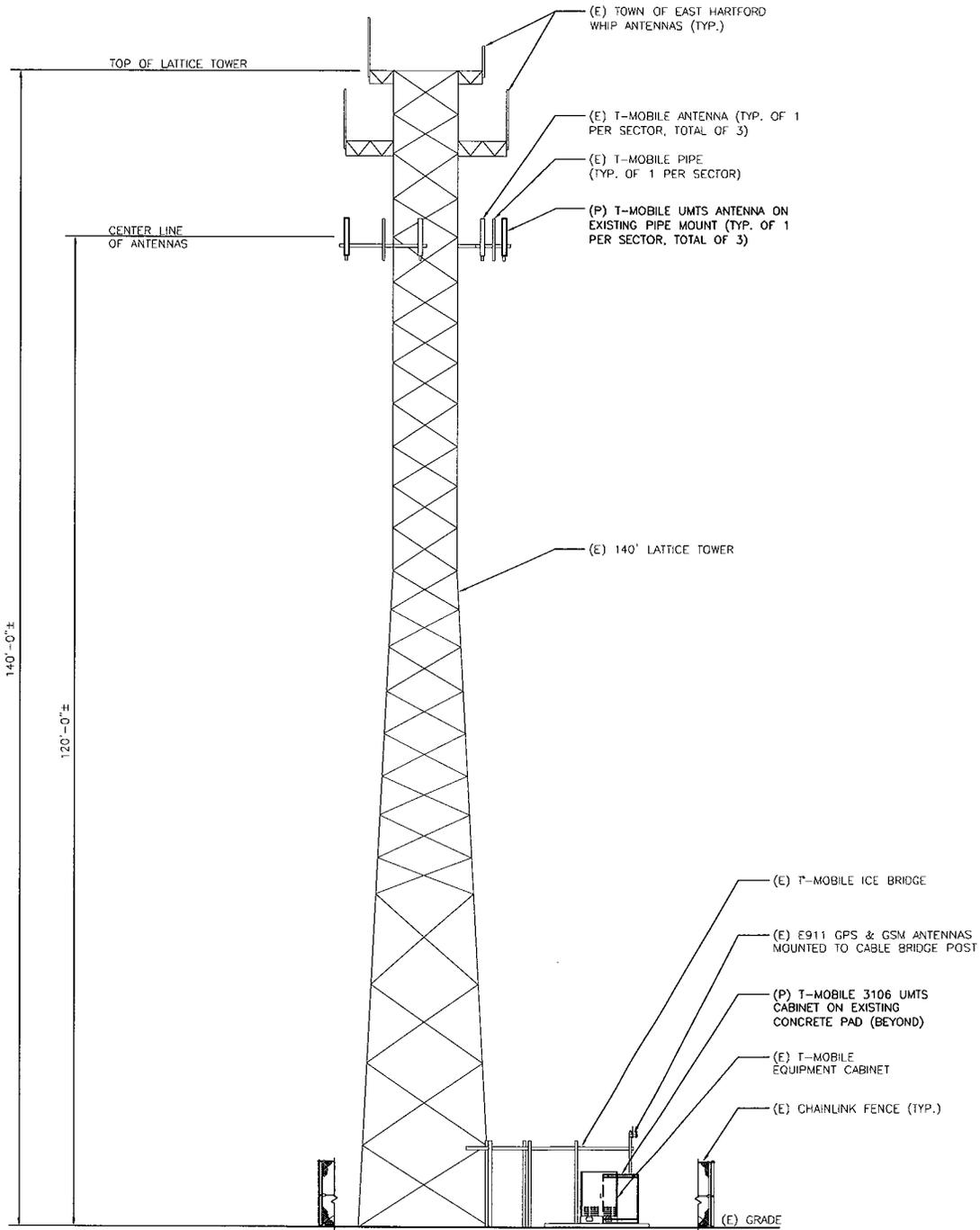
REV.	DATE:	DESCRIPTION

Scale: AS NOTED Date: 11/21/08

Job No. HPC 024 File No. L-1

Dwg. No.
L-1

Dwg. 1 of 2



1 ELEVATION
L-2 SCALE: 1" = 20'-0"



CT11737C

SITE ID NO:
36917334

Designed by:
MJE

Drawn by:
KAP

Checked by:
ICA

Approved by:

URS CORPORATION AES

500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
1-(860)-529-8882

HPC DEVELOPMENT LLC

53 LAKE AVENUE EXT.
DANBURY, CONNECTICUT 06811

FOR

T-Mobile
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CONNECTICUT 06002

SITE ADDRESS:

CT737/E HARTFORD TOWN SST
100 SUNSET RIDGE ROAD
EAST HARTFORD, CONNECTICUT 06108

REV.	DATE:	DESCRIPTION

Scale: AS NOTED Date: 11/21/08

Job No. HPC 024

File No. L-2

Dwg. No.

L-2

Dwg. 2 of 2



January 19, 2009

Yvonne Mansell
T-Mobile
35 Griffin Road South
Bloomfield, CT 06002

Reference: Structural Analysis of Existing Self Support Tower for Antenna Upgrade
CT11737
100 Sunset Ridge Road, East Hartford, CT
URS Project Number: 36917334/HPC-024

Dear Ms. Mansell,

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Table 1: Antenna and Mount Configuration

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URS Corporation
500 Enterprise Drive, Suite 3B
Rocky Hill, CT 06067
Tel: 860.529.8882
Fax: 860.529.3991



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Note: Minimum factor of safety for overturning moment (OTM) is 2.0 per IBC 2003 Section 3108.4.2

This analysis is based on:

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If you should have any questions, please call.

Sincerely,

URS Corporation


 Richard Sambor, P.E.
 Manager Facilities Design



cc: ICA, MJE, CF/Book - URS
 H. Fujimoto - HPC

Technical Memo

To: HPC
From: Farid Marbough - Radio Frequency Engineer
cc: Jason Overbey
Subject: Power Density Report for CT11737C
Date: February 13, 2009

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the T-Mobile PCS antenna installation on a Self Support Tower at 100 Sunset Ridge Road, East Hartford, 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 2 antennas per sector.
- 3) The model number for GSM antenna is APX16PV-16PVL.
- 3) The model number for UMTS antenna is APX16DWV-16DWV.
- 4) GSM antenna center line height is 120 ft.
- 4) UMTS antenna center line height is 120 ft.
- 5) The maximum transmit power from any GSM sector is 2291.5 Watts Effective Radiated Power (EiRP) assuming 8 channels per sector.
- 5) The maximum transmit power from any UMTS sector is 2393.81 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 PCS antenna installation on a Self Support Tower at 100 Sunset Ridge Road, East Hartford, CT, is 0.0791 mW/cm². This value represents 7.91% of the Maximum Permissible Exposure (MPE) standard of 1 milliwatt per square centimeter (mW/cm²) 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 3.12%. The combined Power Density for the site is 11.03% of the M.P.E. standard.

Connecticut Market



Worst Case Power Density

Site: CT11737C
Site Address: 100 Sunset Ridge Road
Town: East Hartford
Tower Height: 140 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	APX16PV-16PVL	Antenna Model	APX16DWV-16DWV
Cable Size	1 5/8 in.	Cable Size	1 5/8 in.
Cable Length	150 ft.	Cable Length	150 ft.
Antenna Height	120.0 ft.	Antenna Height	120.0 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	17.8 dBi	Antenna Gain	18.0 dBi
Cable Loss per foot	0.0116 dB	Cable Loss per foot	0.0116 dB
Total Cable Loss	1.7400 dB	Total Cable Loss	1.7400 dB
Total Attenuation	6.2400 dB	Total Attenuation	3.2400 dB
Total EIRP per Channel (In Watts)	54.57 dBm 286.44 W	Total EIRP per Channel (In Watts)	60.78 dBm 1196.91 W
Total EIRP per Sector (In Watts)	63.60 dBm 2291.50 W	Total EIRP per Sector (In Watts)	63.79 dBm 2393.81 W
nsg	11.5600	nsg	14.7600
Power Density (S) = 0.038684 mW/cm ²		Power Density (S) = 0.040411 mW/cm ²	
T-Mobile Worst Case % MPE =		7.9095%	

Equation Used :

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

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

Co-Location Total

Carrier	% of Standard
Verizon	
Cingular	
Sprint	
AT&T Wireless	
Nextel	
MetroPCS	
Other Antenna Systems	3.1200 %
Total Excluding T-Mobile	3.1200 %
T-Mobile	7.9095
Total % MPE for Site	11.0295%