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

June 2, 2009

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

RE: **EM-T-MOBILE-017-090429** - Omnipoint Communications, Inc. (T-Mobile) notice of intent to modify an existing telecommunications facility located at 985 Farmington Avenue, Bristol, 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.

The proposed modifications are to be implemented as specified here and in your notice dated April 29, 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 Art Ward, Mayor, City of Bristol
Alan Weiner, Planner/Dev. Coordinator, City of Bristol
Dumont Group Inc.

G:\EM\T-MOBILE\Bristol\dc052709FarmingtonAve.DOC

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 5, 2009

The Honorable Art Ward
Mayor
City of Bristol
City Hall
111 North Main Street
P.O.Box 114
Bristol, CT 06010-0114

RE: **EM-T-MOBILE-017-090429** - Omnipoint Communications, as subsidiary of T-Mobile USA, Inc., notice of intent to modify an existing telecommunications facility located at 985 Farmington Avenue, Bristol, Connecticut.

Dear Mayor Ward:

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 19, 2009.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/jb

Enclosure: Notice of Intent

c: Alan Weiner, Planner/Dev. Coordinator, City of Bristol

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

BROWNRUDNICK
CityPlace I
185 Asylum
Street
Hartford
Connecticut
06103
tel 860.509.6500
fax 860.509.6501

Via Hand Delivery

April 30, 2009

ORIGINAL

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

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. Bristol @ 985 Farmington Avenue;
2. Enfield @ 4 Oliver Road;
3. Cromwell @ 179 Shunpike Road;
4. East Windsor @ 232 South Main Street;
5. Windsor @ 297 Barber Street; and
6. Windsor @ 340 Bloomfield Avenue

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 six (6) 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 BERLACK ISRAELS LLP

By: Thomas J. Regan
Thomas J. Regan

TJR/bh
Enclosures
40259330 v1 - REGANTJ - 025064/0016

cc/encls: via 1st Class Mail:

Arthur J. Ward, Mayor
City of Bristol
111 North Main Street
Bristol, CT 06010

Denise Menard, First Selectman
Town of East Windsor
Town Hall
11 Rye Street
East Windsor, CT 06016

Donald Trinks, Mayor
Town of Windsor
Town Hall
275 Broad Street
PO Box 472
Windsor, CT 06095-0472

Jeremy Shingleton, First Selectman
Town of Cromwell
Town Hall
41 West Street
Cromwell, CT 06416

Scott R. Kaupin, Mayor
Town of Enfield
Town Hall
820 Enfield Street
Enfield, CT 06082

CONNECTICI

EM-T-MOBILE-017-090429

In re:

T-Mobile USA, Inc. Notice to Make an Exempt Modification to an Existing Facility, 985 Farmington Avenue, Bristol, Connecticut.	:	**EXEMPT MODIFICATION NO. _____**
	:	
	:	April 29, 2009

ORIGINAL

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 City of Bristol of T-Mobile's intent to make an exempt modification to an existing flagpole tower (the "Tower") located at 985 Farmington Avenue in Bristol, 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

BROWN RUDNICK LLP
CITYPLACE I
185 ASYLUM STREET
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 120-foot flagpole tower located at 985 Farmington Avenue in Bristol, Connecticut (41.696, -79.911). The Tower is owned by Dumont Group Inc. and T-Mobile is the only carrier located on the Tower. Currently, T-Mobile has 3 antennas and 6 Tower Mounted Amplifiers ("TMA") located on the Tower with a centerline of 118 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 a centerline of 113 feet. To confirm the Tower can support these changes, T-Mobile commissioned Velocitel, Inc. to perform a structural analysis of the Tower (attached). According to the structural analysis, dated April 16, 2009, "...the proposed additions can be implemented as intended" (Page 2, Structural Assessment).

In addition, T-Mobile plans to locate 6, 7/8 inch coax cables under the existing ice bridge. T-Mobile proposes to install the UMTS equipment cabinet on a proposed 5-foot by 6-foot concrete pad. The proposed concrete pad will be located within the chain link fence and therefore will not extend the boundaries of the Tower site. T-Mobile also proposes electric wiring to run inside the aboveground to the existing breaker panel and then to run to the proposed UMTS equipment cabinet. T-Mobile also proposes to install telephone wiring to run inside the existing aboveground conduit to the existing telephone cabinet and from the existing telephone cabinet to the proposed UMTS equipment cabinet.

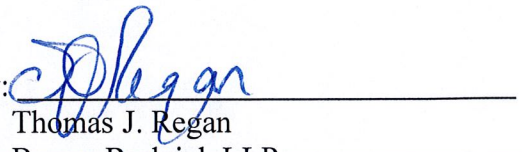
Therefore, excluding brief, minor, construction-related noise during the addition of the antennas and the installation of the equipment cabinet, T-Mobile's changes to the Tower will not increase noise levels at the site.

BROWN RUDNICK LLP
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103
(860) 509-6500

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"). A cumulative power density analysis indicates that together, all of T-Mobile's antennas on the Tower will emit only 7.61% 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: 

Thomas J. Regan
Brown Rudnick LLP
185 Asylum Street, CityPlace I
Hartford, CT 06103-3402
Email - tregan@brownrudnick.com
Phone - 860.509.6522
Fax - 860.509.6622

BROWN RUDNICK LLP
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103
(860) 509-6500

Certificate of Service

This is to certify that on this 29th day of April, 2009, the foregoing Notice of Exempt Modification was sent, via first class mail, to the following:

City of Bristol
City Hall
Mayor Arthur J. Ward
111 North Main Street
Bristol, CT 06010

By: _____
Thomas J. Regan

40259147 v1 - 025064/0016

BROWN RUDNICK LLP
CITYPLACE I
185 ASYLUM STREET
HARTFORD, CT 06103
(860) 509-6500

SITE PLAN

SCALE: 1"=80'-0"

40 0 40 80 120

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.

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
BLOOMFIEL, 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

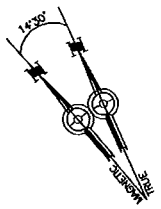
SITE NUMBER:	CT11272D
SITE NAME:	FARMINGTON AVE
ADDRESS:	985 FARMINGTON AVE BRISTOL, CT 06010
DRAWN BY	G.C.

REVISION	DATE
0: FINAL	03-11-09
A: REVIEW	02-13-09

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.



FARMINGTON AVE

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

GRASS AREA

(E) FLOOD LIGHT (TYP OF 2)

(E) 5.5' HIGH CHAIN LINK FENCE

(E) 120' HIGH FLAGPOLE TOWER

(P) (3)UMTS ANTENNAS, (3) TMA's AND (6) 7/ 8" COAX CABLES TYPICAL OF (1) ANTENNA, (1) TMA AND (2) 7/ 8" COAX CABLE PER SECTOR

(E) (3) GSM ANTENNAS, (6) TMA's AND (6) 1-5/8" COAX CABLES TO REMAIN

(P) ERICSSON 3106 UMTS CABINET ON (P) T-MOBILE 5'x6' CONC. PAD

(E) T-MOBILE EQUIPMENT CABINET ON (E) 5'x6' CONC. PAD TO REMAIN

(P) TELCO ABOVEGROUND CONDUIT FROM (E) TELCO CABINET TO (P) UMTS CABINET

(E) TELCO CABINET ON (E) H-FRAME

(E) 10' HIGH EVERGREEN

(E) TELCO DEMARC ON (E) H-FRAME

(E) T-MOBILE 100 AMPS METER TO UPGRADE TO 200 AMPS

SECTOR A 30°

SECTOR C 270°

SECTOR B 150°

(E) 12' WIDE GATE

1 LE-3

DRAIVEWAY TO STREET

(P) ELECTRIC WIRING TO RUN INSIDE (E) ABOVEGROUND CONDUIT FROM (E) METER TO (E) BREAKER PANEL

(P) POWER ABOVEGROUND CONDUIT FROM (E) BREAKER PANEL TO (P) UMTS CABINET

(P) TELCO WIRING TO RUN INSIDE (E) ABOVEGROUND CONDUIT FROM (E) TELCO DEMARC TO (E) TELCO CABINET

(E) BREAKER PANEL ON (E) H-FRAME

(E) 12' HIGH EVERGREEN (TYP)

(E) PARKING AREA

ANTENNA AZIMUTHS:
SECTOR A= 30°
SECTOR B= 150°
SECTOR C= 270°

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 GRIFIN ROAD SOUTH
BLOOMFIEL, 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

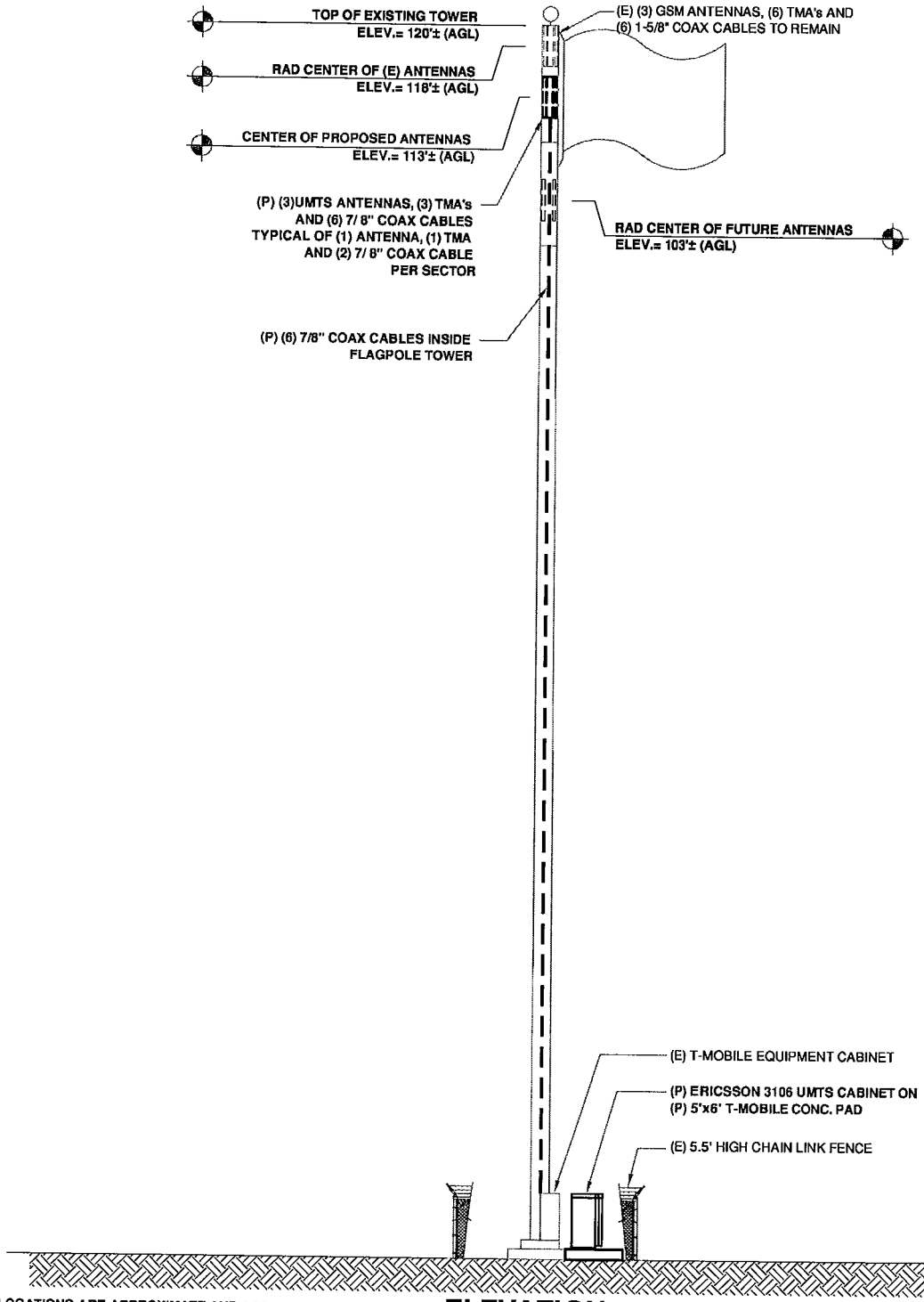
SITE NUMBER:	CT11272D
SITE NAME:	FARMINGTON AVE
ADDRESS:	985 FARMINGTON AVE BRISTOL, CT 06010
DRAWN BY	G.C.

REVISION	DATE
0: FINAL	03-11-09
A: REVIEW	02-13-09

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.



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.

ELEVATION

SCALE: 1" = 16'–0"

8 0 8 16 24

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 GRIFIN ROAD SOUTH
BLOOMFIEL, 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:	CT11272D
SITE NAME:	FARMINGTON AVE
ADDRESS:	985 FARMINGTON AVE BRISTOL, CT 06010
DRAWN BY	G.C.

REVISION	DATE
0: FINAL	03-11-09
A: REVIEW	02-13-09

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.

velocitel
complete wireless solutions

April 14, 2009

Subject: Structural Assessment
Site Number: CT11272D
Velocitel Engineering Project Number: 206AEATLCT11272
Location: 985 Farmington Avenue
Bristol, CT 06010

In accordance with Atlantis Group's request, Velocitel evaluated the structural capacity of the existing 119 feet high flagpole located at the above referenced address for the additions and alterations proposed by T-Mobile. Existing and proposed appurtenances by T-Mobile are as following:

Existing T-Mobile Appurtenances

Antenna & TMA	Mount	Coax
(3) RR90-17-02DP + (6) ddTMA 1.9GHz	Cluster Mount in Stealth Enclosure	(6) 1 5/8" Inside Shaft

Proposed T-Mobile Appurtenances

Antenna	Mount	Coax
(3) RFS APXV18-206516S-A20 + (3) RFS - Twin AWS	Cluster Mount in Stealth Enclosure	(6) 7/8" Inside Shaft

Final Configuration of T-Mobile Appurtenances

Antenna & TMA	Mount	Coax
(3) RR90-17-02DP (3) RFS APXV18-206516S-A20 + (3) RFS - Twin AWS (6) ddTMA 1.9GHz	(2) Cluster Mounts in Stealth Enclosure	(6) 1 5/8" + (6) 7/8" Inside Shaft

In addition to the existing cabinet, T-mobile is proposing to install a new Ericsson 3106 cabinet at the ground level on a new 5 ft by 6 ft concrete pad. The pad will be designed according to the code and construction details shall be provided.

Weight of Proposed appurtenances and cabinet:

RFS APXV18-206516S-A20: 26.2 lbs (18.7 lbs antenna and 7.5 lbs mounting hardware)
RFS - Twin AWS: 19 lbs
Ericsson 3106: 1960 lbs

This review included a review of the original design drawings prepared by EEI, (job # 6078, attached drawings dated February 14, 2000), and the proposed and existing antenna loading information provided by T-Mobile. Any deficiencies in the design or in the information provided

to Velocitel by others will not become evident due to the nature of this type of review. Velocitel will accept no liability due to design deficiencies and due to discrepancies between the attached original design drawing(s) and the as built configuration. Contractor should inspect the condition of the existing structure, mounts and connections and notify Velocitel for any discrepancies and deficiencies.

The proposed antennas will be mounted within the stealth enclosure at 108 ft radial center above the ground line. The addition does not increase projected wind area of the structure, thus the governing design load remains the same and the design by EEI is still applicable.

Therefore, the proposed additions can be implemented as intended. Should you need any clarifications or have any questions, please contact me at (919) 380 0062.

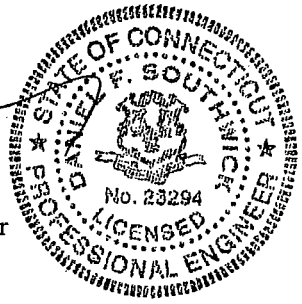
Very truly yours,
Velocitel, Inc.

Prepared By:

Ahmet Colakoglu

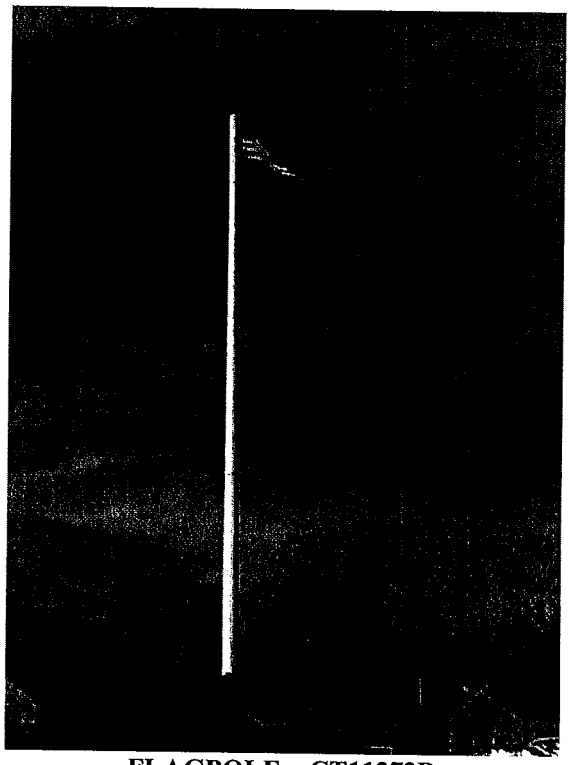
Reviewed By:

Daniel F. Southwick, PE
CT Professional Engineer
License No: 23294

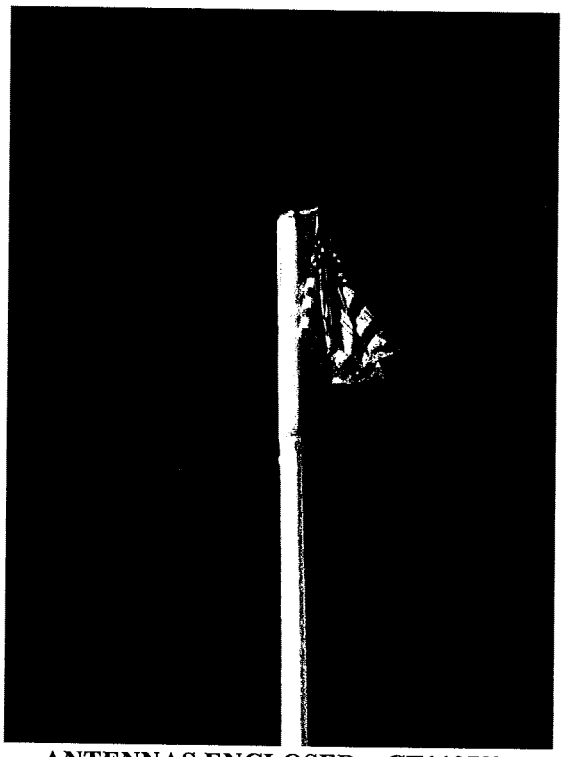


ATTACHMENTS:

Photos
Flagpole Structural Design - Site CT11272D
Radio Frequency Data Sheet - Site CT11272D



FLAGPOLE – CT11272D



ANTENNAS ENCLOSED – CT11272D

CT11-272

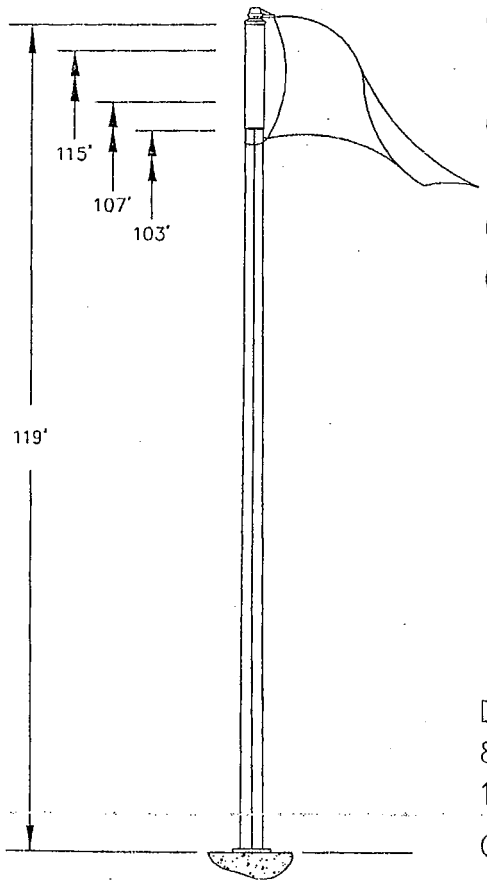
ENGINEERED ENDEAVORS INCORPORATED

Customer: OMNIPOINT COMMUNICATIONS | By: JAY PARR | Date: 2/14/00

Structure: 120' FLAG POLE | Checked: | Job/Quote No.: 6078

SITE LOCATION: BRISTOL, CT

SITE NAME: ROLAND DUMONT BUILDING/CT11272D



ANTENNA LOADING:

(2) SPA 1900/65/19/2/DS PANEL ANTENNAS AT 115'

(2) SPA 1900/65/19/2/DS PANEL ANTENNAS AT 107'

(1) 20 in x 16 ft FIBERGLASS ENCLOSURE

(1) 20 ft x 30 ft FLAG W/EXTERNAL HALYARD

STATE OF CONNECTICUT ★ MICHAEL R. MOREL ★ No. 21220 LICENSED PROFESSIONAL ENGINEER

2/18/00

Michael R. Morel

DESIGN NOTES:

DESIGNED IN ACCORDANCE WITH TIA/EIA 222-F

80 MPH BASIC WIND SPEED

1/2" RADIAL ICE

CASE I – 80 MPH BASIC WIND SPEED

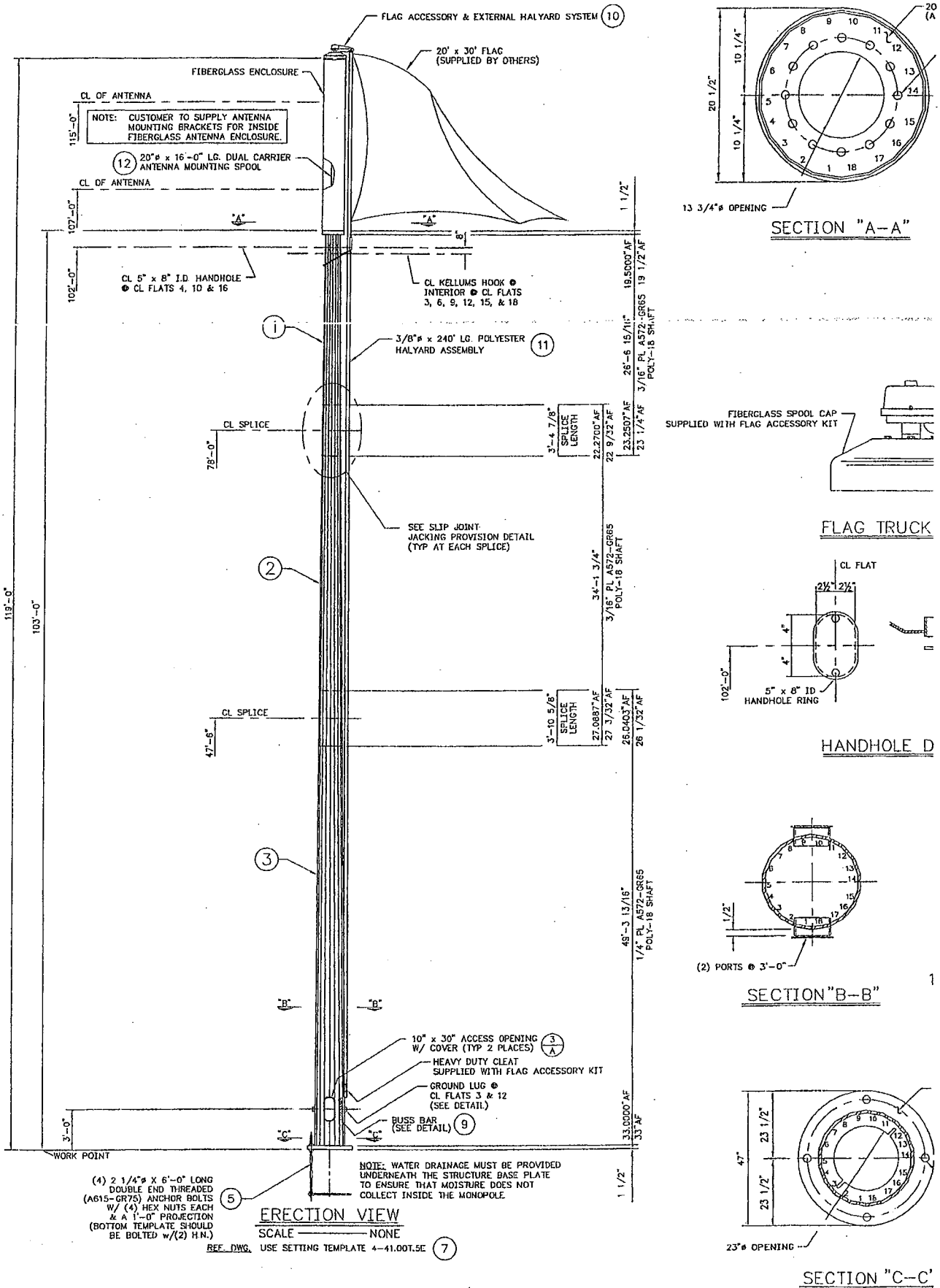
CASE II – 75% OF 80 MPH WIND LOAD WITH 1/2" RADIAL ICE

NOTE: IT IS THE RESPONSIBILITY OF THE PURCHASER TO VERIFY THAT THE WIND LOADS AND DESIGN CRITERIA SPECIFIED MEET THE REQUIREMENTS OF ALL LOCAL BUILDING CODES

ENGINEERED ENDEAVORS, INC.

7610 Jenther Drive • Mentor, Ohio 44060

Telephone: (440) 918-1101 • Telefax: (440) 918-1108



ERECTION VIEW

SCALE ——— NONE

REF. DWG. USE SETTING TEMPLATE 4-41.0OT.5E (7)

SECTION "A-A"

FLAG TRUCK

HANDHOLE D

SECTION "B-B"

SECTION "C-C"

ASSEMBLY MARKING PROCEDURE

EACH INDIVIDUAL ASSEMBLY SHALL HAVE A METAL TAG WELDED TO IT WHICH WILL BE ENGRAVED WITH THE ASSEMBLY MARK NO. AS SHOWN IN THE MATERIAL BLOCK (MINIMUM OF 5/8" HIGH LETTERS)

UMTS RFDS v2.0

T-Mobile

Site ID	CT11272D	Site Type	Co-Location.
Address	985 Farmington Avenue, Bristol, CT	Latitude	0
		Longitude	0

TMO UMTS Engineer	M Lucey

GSM Impacted?	
Alpha	
Beta	
Gamma	
Delta	

History (approvals)	Date
RFDS	02/18/09
GSM RF Acceptance	

RFDS Revision	1

Site Leasing/Zoning	Preliminary Leasing	Preliminary Zoning
* # of Sectors	Information not available	---
* # of Antennas	Information not available	Information not available
Antenna Model	Information not available	---
Antenna Size	---	Information not available
* # of TMA	Information not available	---
* # of Feeders	Information not available	Information not available
Feeder Diameter	Information not available	Information not available
Leased area (sq ft)	Information not available	Information not available
* # of Cabinets	Information not available	Information not available
Cabinet Model	Information not available	---
Site Comments	UMTS overlay at lower RAD center	

* Legend: Config under threshold | Config meets threshold | Config above threshold | Text / Not checked

GSM Information

Existing Configuration

Alpha	Beta	Gamma	Delta
118	118	118	
NO	NO	NO	
1 5/8"	1 5/8"	1 5/8"	
125	125	125	
2	2	2	
3	2	3	
S8000 outdoor			
1			

	Alpha	Beta	Gamma	Delta
Ant. Height (ft)	118	118	118	
RET deployed	NO	NO	NO	
Feeder Type	1 5/8"	1 5/8"	1 5/8"	
Feeder Length (ft)	125	125	125	
# Current TRX	2	2	2	
# Forec. TRX	3	2	3	
# of Nortel HePA				
Cabinet Type	S8000 outdoor			
Cabinet #	1			

Proposed Configuration

UMTS Information

Existing Configuration

Alpha	Beta	Gamma	Delta
---	---	---	---
---	---	---	---
---	---	---	---
---	---	---	---

	Alpha	Beta	Gamma	Delta
Ant. Height (ft)	108	108	108	
RET deployed	YES	YES	YES	
Feeder Type	7/8"	7/8"	7/8"	
Feeder Length (ft)	120	120	120	
Cabinet Type	RBS 3106			
Cabinet #	1			

Proposed Configuration

UMTS RFDS v2.0

T-Mobile

Site ID	CT11272D	Site Type	Co-Location.
Address	985 Farmington Avenue, Bristol, CT	Latitude	0
		Longitude	0

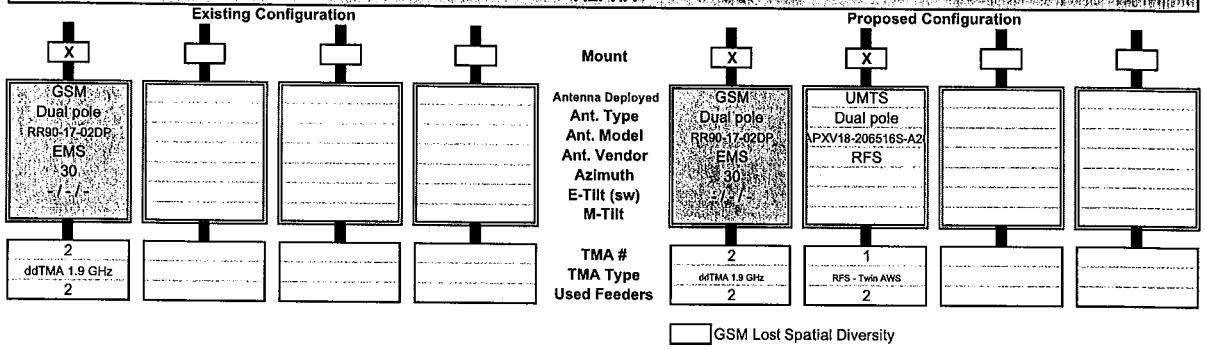
TMO UMTS Engineer	M Lucey

GSM Impacted?	
Alpha	
Beta	
Gamma	
Delta	

History (approvals)	Date
RFDS	02/18/09
GSM RF Acceptance	

RFDS Revision	1

ALPHA

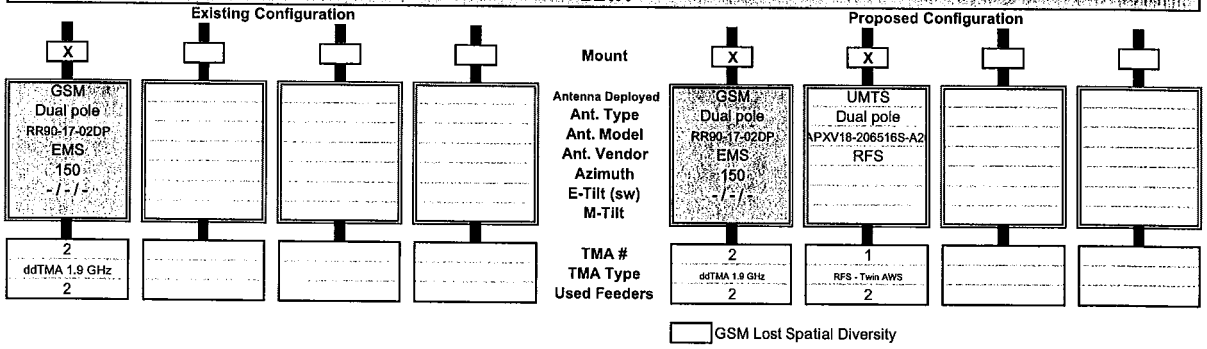


☐ GSM Lost Spatial Diversity

Req	OK	
		Add new Mount
		Relocate GSM antenna
		Swap GSM antenna
		Consolidate GSM feeders
X		Add Twin TMA
		Swap single TMA with twin TMA
		Add Booster
X		Add two new feeders for UMTS
		Reuse GSM feeders for UMTS

Comments

BETA



☐ GSM Lost Spatial Diversity

Req	OK	
		Add new Mount
		Relocate GSM antenna
		Swap GSM antenna
		Consolidate GSM feeders
X		Add Twin TMA
		Swap single TMA with twin TMA
		Add Booster
X		Add two new feeders for UMTS
		Reuse GSM feeders for UMTS

Comments

UMTS RFDS v2.0

T-Mobile

Site ID	CT11272D	Site Type	Co-Location.
Address	985 Farmington Avenue, Bristol, CT	Latitude	0
		Longitude	0

TMO UMTS Engineer	M Lucey

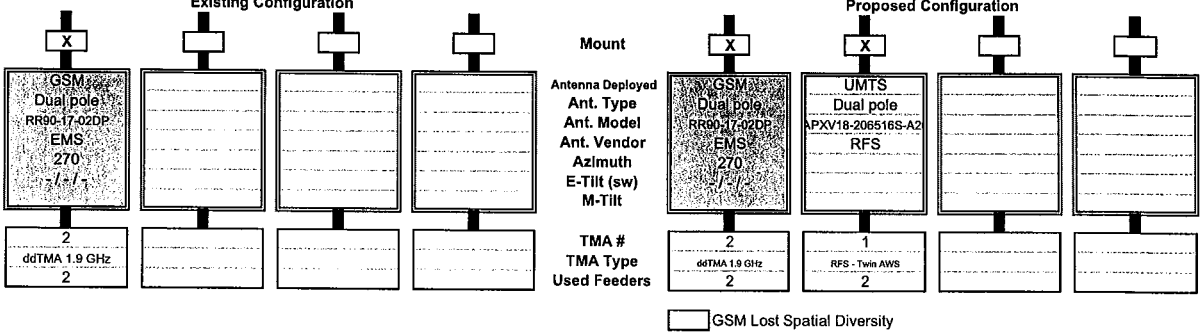
GSM Impacted?

Alpha	
Beta	
Gamma	
Delta	

History (approvals)	Date
RFDS	02/18/09
GSM RF Acceptance	

RFDS Revision	1

GAMMA

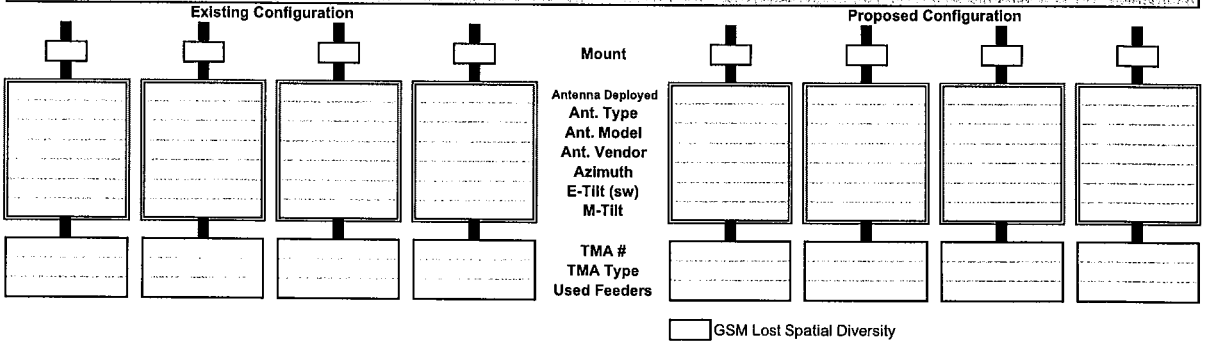


☐ GSM Lost Spatial Diversity

Req	OK	
		Add new Mount
		Relocate GSM antenna
		Swap GSM antenna
		Consolidate GSM feeders
X		Add Twin TMA
		Swap single TMA with twin TMA
		Add Booster
X		Add two new feeders for UMTS
		Reuse GSM feeders for UMTS

Comments

DELTA



☐ GSM Lost Spatial Diversity

Req	OK	
		Add new Mount
		Relocate GSM antenna
		Swap GSM antenna
		Consolidate GSM feeders
		Add Twin TMA
		Swap single TMA with twin TMA
		Add Booster
		Add two new feeders for UMTS
		Reuse GSM feeders for UMTS

Comments

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: Maxton
From: Farid Marbouh - Radio Frequency Engineer
cc: Jason Overbey
Subject: Power Density Report for CT11272D
Date: April 23, 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 Flagpole at 985 Farmington Avenue, Bristol, 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 RR90-17-02DP.
3) The model number for UMTS antenna is APXV18-206516.
4) GSM antenna center line height is 118 ft.
4) UMTS antenna center line height is 108 ft.
5) The maximum transmit power from any GSM sector is 1497.41 Watts Effective Radiated Power (EiRP) assuming 8 channels per sector.
5) The maximum transmit power from any UMTS sector is 2365.32 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 Flagpole at 985 Farmington Avenue, Bristol, CT, is 0.07607 mW/cm^2. This value represents 7.607% 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.

Connecticut Market

T-Mobile

Worst Case Power Density

Site:	**CT11272D**
Site Address:	**985 Farmington Avenue**
Town:	**Bristol**
Tower Height:	**120 ft.**
Tower Style:	**Flagpole**

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**	APXV18-206516
Cable Size	7/8 in.	**Cable Size**	7/8 in.
Cable Length	123 ft.	**Cable Length**	120 ft.
Antenna Height	118.0 ft.	**Antenna Height**	108.0 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**	17.6 dBi
Cable Loss per foot	0.0186 dB	**Cable Loss per foot**	0.0116 dB
Total Cable Loss	2.2878 dB	**Total Cable Loss**	1.3920 dB
Total Attenuation	6.7878 dB	**Total Attenuation**	2.8920 dB
Total EIRP per Channel	52.72 dBm	**Total EIRP per Channel**	60.73 dBm
(In Watts)	187.18 W	**(In Watts)**	1182.66 W
Total EIRP per Sector	61.75 dBm	**Total EIRP per Sector**	63.74 dBm
(In Watts)	1497.41 W	**(In Watts)**	2365.32 W
nsg	9.7122	**nsg**	14.7080
Power Density (S) =	**0.026189 mW/cm^2**	**Power Density (S) =**	**0.049878 mW/cm^2**

T-Mobile Worst Case % MPE = 7.6067%

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

Carrier	% of Standard
Verizon	
Cingular	
Sprint	
AT&T Wireless	
Nextel	
MetroPCS	
Other Antenna Systems	
Total Excluding T-Mobile	**0.0000 %**
T-Mobile	7.6067
Total % MPE for Site	**7.6067%**