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@po.state.ct.us
Web Site: www.state.ct.us/csc/index.htm

September 3, 2003

Stephen J. Humes
LeBoeuf, Lamb, Greene & MacRae
Goodwin Square
225 Asylum Street
Hartford, CT 06103

RE: **EM-T-MOBILE-014-030721** - Omnipoint Communications, Inc. notice of intent to modify an existing telecommunications facility located at 10 Sylvia Street, Branford, Connecticut.

Dear Attorney Humes:

At a public meeting held on August 26, 2003, the Connecticut Siting Council (Council) acknowledged 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 July 21 and July 24, 2003. 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. 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,

Pamela B. Katz, P.E.
Chairman

PBK/laf

c: Honorable Anthony J. DaRos, First Selectman, Town of Branford
Justine K. Gillen, Zoning Enforcement Officer, Town of Branford
Sandy M. Carter, Verizon Wireless
Michele G. Briggs, Southwestern Bell Mobile Systems
Thomas J. Regan, Esq., Brown Rudnick Berlack Israels
Christopher B. Fisher, Esq., Cuddy & Feder
Thomas F. Flynn III, Nextel Communications

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@po.state.ct.us
Web Site: www.state.ct.us/csc/index.htm

July 23, 2003

Honorable Anthony J. DaRos
First Selectman
Town of Branford
Town Hall
1019 Main Street
P. O. Box 150
Branford, CT 06405-0150

RE: **EM-T-MOBILE-014-030721** – Omnipoint Communications, Inc. notice of intent to modify an existing telecommunications facility located at 10 Sylvia Street, Branford, Connecticut.

Dear Mr. DaRos:

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.

The Council will consider this item at the next meeting scheduled for August 26, 2003, at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

Please call me or inform the Council if you have any questions or comments regarding this proposal.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/ld

Enclosure: Notice of Intent

c: Justine K. Gillen, Zoning Enforcement Officer, Town of Branford

LeBoeuf, Lamb, Greene & MacRae
L.L.P.
A LIMITED LIABILITY PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

NEW YORK
WASHINGTON, D.C.
ALBANY
BOSTON
DENVER
HARRISBURG
HARTFORD
HOUSTON
JACKSONVILLE
LOS ANGELES
NEWARK
PITTSBURGH
SALT LAKE CITY
SAN FRANCISCO

GOODWIN SQUARE
225 ASYLUM STREET, 13TH FLOOR
HARTFORD, CT 06103
(860) 293-3500
FACSIMILE: (860) 293-3555
E-MAIL ADDRESS: STEPHEN.HUMES@LLGM.COM
WRITER'S DIRECT DIAL: (860) 293-3744
WRITER'S DIRECT FACSIMIL

LONDON
(A LONDON-BASED MULTINATIONAL PARTNERSHIP)
PARIS
BRUSSELS
JOHANNESBURG
(PTY) LTD.
MOSCOW
RIYADH
(AFFILIATED OFFICE)

EM-T-MOBILE-014-030721

July 24, 2003

Pamela Katz, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Notice of Exempt Modification
10 Sylvia Street, Branford, Connecticut

Dear Chairman Katz and Members of the Council:

With respect to the above-referenced Exempt Modification, please be advised that Omnipoint Communications, Inc. ("T-Mobile") incorrectly stated in its Notice of Exempt Modification filed on July 21, 2003 that the proposed modification will not extend the boundaries of the existing compound area. While the proposed modification will not extend the boundaries of the leased compound area, the proposed modification will require a six foot (6') by fifteen foot (15') addition to the compound. This discrepancy has not effect on T-Mobile's conclusion that the proposed modification qualifies as an exempt modification pursuant to R.C.S.A. § 16-50j-73.

We apologize for any inconvenience caused by this discrepancy. If you have any further questions or concerns, please let us know.

Respectfully submitted,

Stephen J. Humes

cc: First Selectman Anthony J. DaRos

LEBOEUF, LAMB, GREENE & MACRAE
L.L.P.
A LIMITED LIABILITY PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

NEW YORK
WASHINGTON, D.C.
ALBANY
BOSTON
DENVER
HARRISBURG
HARTFORD
HOUSTON
JACKSONVILLE
LOS ANGELES
NEWARK
PITTSBURGH
SALT LAKE CITY
SAN FRANCISCO

GOODWIN SQUARE
225 ASYLUM STREET
HARTFORD, CT 06103
(860) 293-3500
FACSIMILE: (860) 293-3555

WRITER'S DIRECT DIAL:
(860) 293-3744

LONDON
(A LONDON-BASED MULTINATIONAL PARTNERSHIP)
PARIS
BRUSSELS
JOHANNESBURG
(PTY) LTD.
MOSCOW
RIYADH
(AFFILIATED OFFICE)
TASHKENT
BISHKEK
ALMATY
BEIJING

July 21, 2003

Pamela Katz, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

EM-T-MOBILE-014-030721

Re: Notice of Exempt Modification
10 Sylvia Street, Branford, Connecticut

Dear Chairman Katz and Members of the Council:

Please be advised that LeBoeuf, Lamb, Greene & MacRae, L.L.P. represents Omnipoint Communications, Inc., a subsidiary of T-Mobile USA, Inc. (hereinafter T-Mobile) in the above-referenced matter. T-Mobile intends to replace its existing six antenna array with a new nine antenna array on the existing monopole facility at 10 Sylvia Street in Branford. Please accept this letter as notification, pursuant to R.C.S.A. § 16-50j-73, of 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 Branford First Selectman, Anthony J. DaRos.

Background

T-Mobile holds the "A block" "Wideband PCS" license for the 2-GHz PCS frequencies for the greater New York City area, including the entire State of Connecticut. T-Mobile is licensed by the Federal Communications Commission (FCC) to provide PCS wireless telecommunications service in the State of Connecticut, which includes the area to be served by the proposed installation.

Discussion

The existing facility consists of a one hundred twenty-five foot (125') monopole (see attached drawing, attached as Exhibit B) and surrounding compound. The coordinates for the site are **Lat: 41°-17'-38.08"** and **Long: 72°-47'-8.62".** The tower is immediately south of Interstate 95 ("I-95") in the vicinity of Exit 55, roughly three hundred feet (300') west of East Main Street (Route 1) where it crosses under I-95 heading north (see site location map, attached as exhibit A).

T-Mobile proposes to replace its existing six-antenna setup with all new antennas, creating an antenna array with a total of nine (9) antennas. The proposed configuration is a cluster of three sectors with three antennas per sector mounted on an existing low profile platform at the one hundred twenty-two foot six inch (122'-6") centerline elevation above ground level ("AGL"). The model numbers for the replacement antennas are: (3) EMS-RR65-19-02DP and (6) EMS-RR90-17-02DP. A structural analysis of the tower has been completed and is attached as Exhibit D. As stated in the structural analysis, the existing tower is capable of supporting the proposed T-Mobile installation. Two (2) new Nortel S8000 equipment cabinets will be installed next to one existing T-Mobile Nortel S8000 equipment cabinet. A new five foot six inch by ten foot (5'-6" x 10') concrete pad would be installed adjacent to the existing cabinet to accommodate the two new cabinets (see drawing attached as part of Exhibit B). The existing fenced compound surrounding the monopole will not be altered in any way by the T-Mobile installation. Utilities will be run from those currently in place.

The planned modifications to the Branford 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 height of T-Mobile's approved antennas on the tower and will not extend the boundaries of the existing compound area. The enclosed tower drawings confirm that the planned changes will not increase the overall height of the tower.

2. The installation of T-Mobile equipment, as reflected on the attached site plan, will not require an extension of the site boundaries.

3. The proposed modification to the facility will not increase the noise levels at the existing facility by six decibels or more. T-Mobile's equipment is self-contained and requires no additional heating, ventilation or cooling equipment.

4. The operation of the additional antennas will not increase the total radio frequency (RF) power density, measured at the site boundary, to a level at or above the applicable standard. The "worst-case" RF power density calculations, for a point at the site boundary, are attached hereto as Exhibit E.

For the foregoing reasons, T-Mobile respectfully submits that the proposed addition of antennas and equipment at the Branford facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Thank you for your consideration of this matter.

Respectfully submitted,

OMNIPOINT COMMUNICATIONS, INC.

By: _____
Its Counsel
Stephen J. Humes

cc: First Selectman, Anthony J. DaRos

Exhibit A

Site Map
10 Sylvia Street
Branford, Connecticut

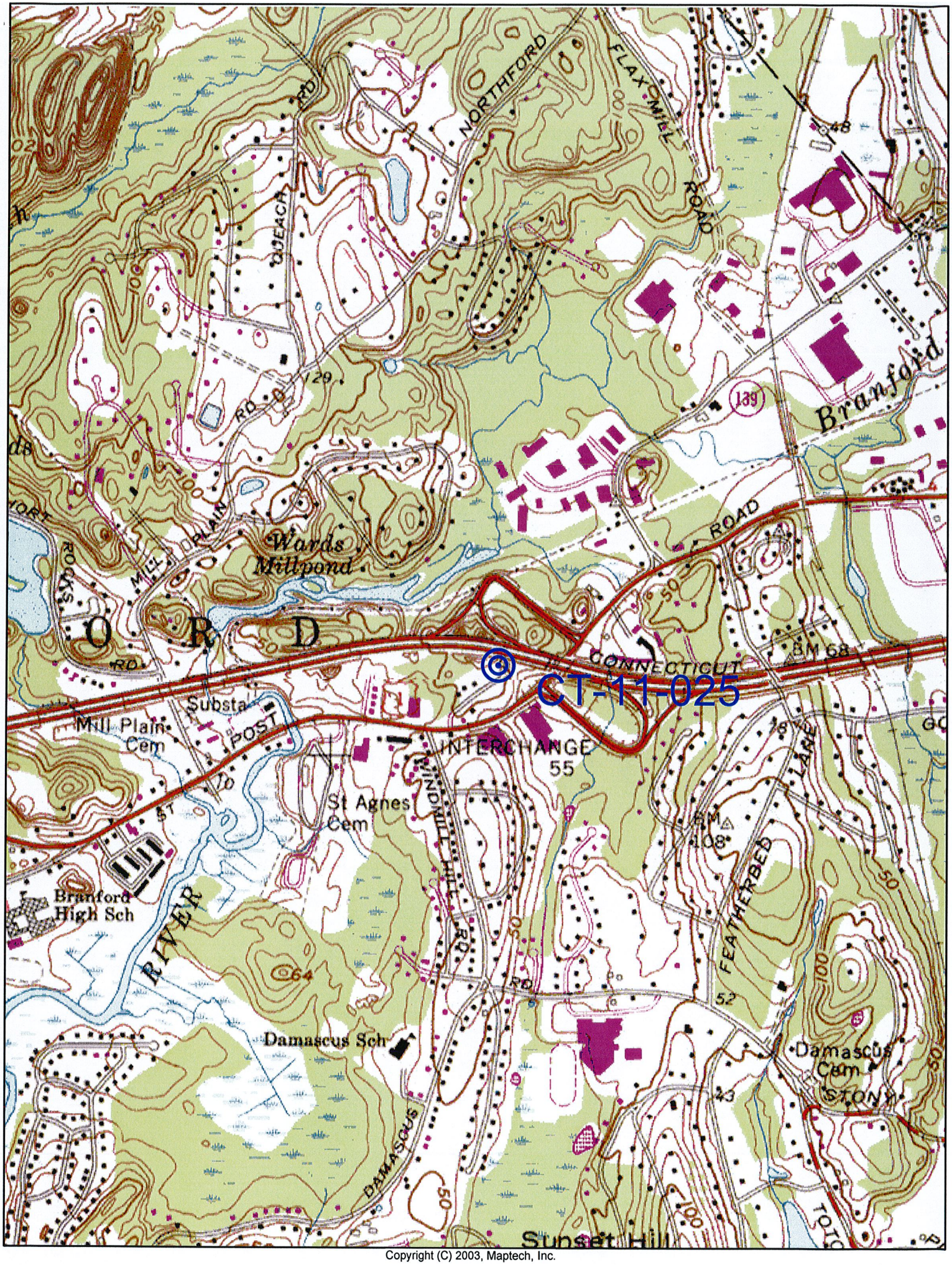


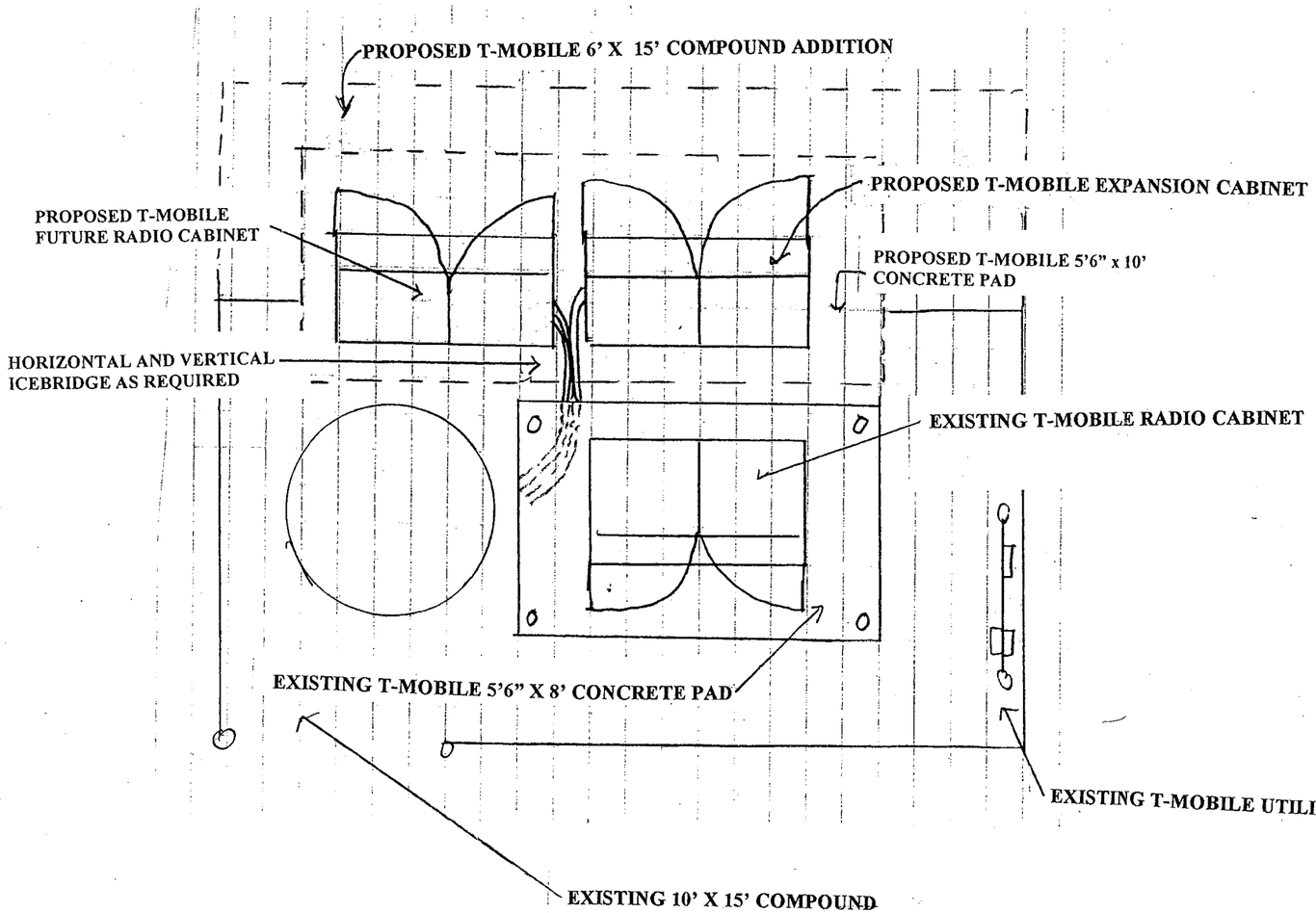
Exhibit B

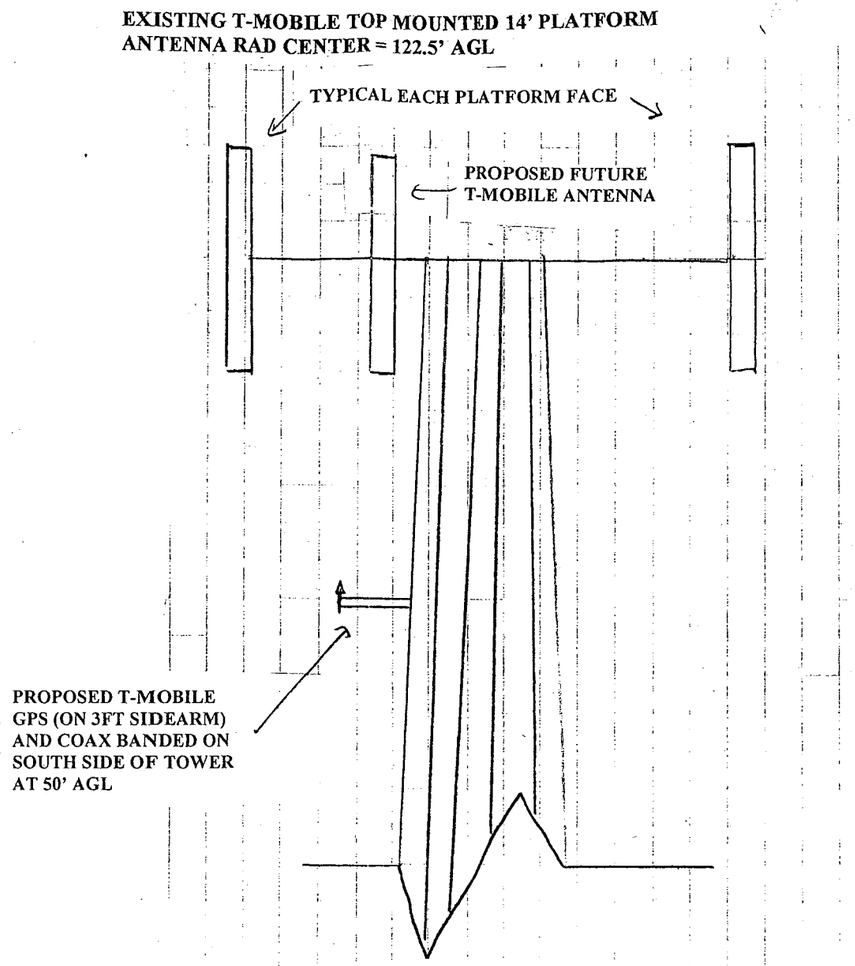
Design Drawings

10 Sylvia Street

Branford, Connecticut

PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE IS REQUIRED TO MEET NATIONWIDE STANDARDS FOR WIRELESS COMMUNICATIONS SYSTEMS. T-MOBILE IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT AND ANTENNAS GENERALLY DEPICTED ON THIS PLAN, ATTACHED TO OR MOUNTED IN CLOSE PROXIMITY TO THE BTS RADIO CABINETS. T-MOBILE RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO E911 EQUIPMENT AND LOCATION AS TECHNOLOGY EVOLVES TO MEET REQUIRED SPECIFICATIONS.





PROPOSED T-MOBILE ALPHA SECTOR SWAPOUT TO 2EA RR65-19-02DP ANTENNAS

PROPOSED T-MOBILE BETA AND GAMMA ANTENNA SWAPOUT TO 2EA PER SECTOR RR90-17-02DP ANTENNAS

T-Mobile

100 FILLEY STREET
BLOOMFIELD, CT 06002

SITE: CT11025B
SITE NAME: BRANFORD I95 X 55
ADDRESS: 10 SYLVIA STREET, BRANFORD CT

SCALE; NTS

"LEASE EXHIBIT"

PROPOSED T-MOBILE EXPANSION CABINET AND ANTENNA SWAPOUT/ADDITION

REVISIONS	DESIGNED BY:	DATE:
	DRAWN BY:	SCALE: AS NOTED
	PM:	L-

Exhibit C

Equipment Specifications

10 Sylvia Street

Branford, Connecticut

EMS Wireless

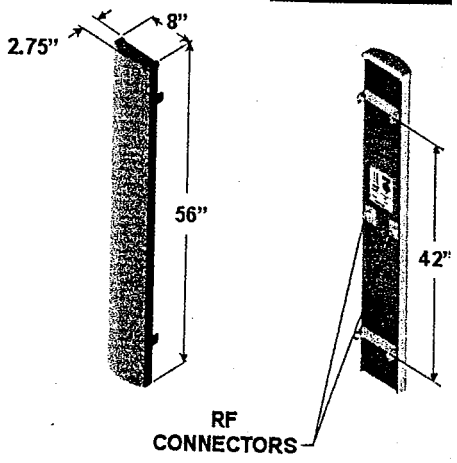
RR90-17-XXDP

DualPol® Polarization
1850 MHz - 1990 MHz

OptiRange™

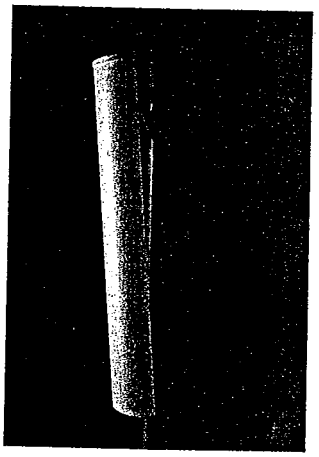
Electrical Specifications

Azimuth Beamwidth	90°
Elevation Beamwidth	6°
Gain	16.5 dBi (14.4 dBd)
Polarization	Dual Linear Slant (± 45°)
Port-to-Port Isolation	≥ 30 dB
Front-to-Back Ratio	≥ 28 dB (≥ 30 dB Typ.)
Electrical Downtilt Options	0°, 2°, 4°, 6°
VSWR	1.35:1 Max
Connectors	2; 7-16 DIN (female)
Power Handling	250 Watts CW
Passive Intermodulation	≤ -150 dBc
	[2 x 20 W (+ 43 dBm)]
Lightning Protection	Chassis Ground



Mechanical Specifications

Dimensions (L x W x D)	56 in x 8 in x 2.75 in
	(142 cm x 20.3 cm x 7.0 cm)
Rated Wind Velocity	150 mph (241 km/hr)
Equivalent Flat Plate Area	3.1ft² (.29 m²)
Front Wind Load @ 100 mph (161 kph)	90 lbs (400 N)
Side Wind Load @ 100 mph (161 kph)	31lbs (139 N)
Weight	18 lbs (8.2 kg)

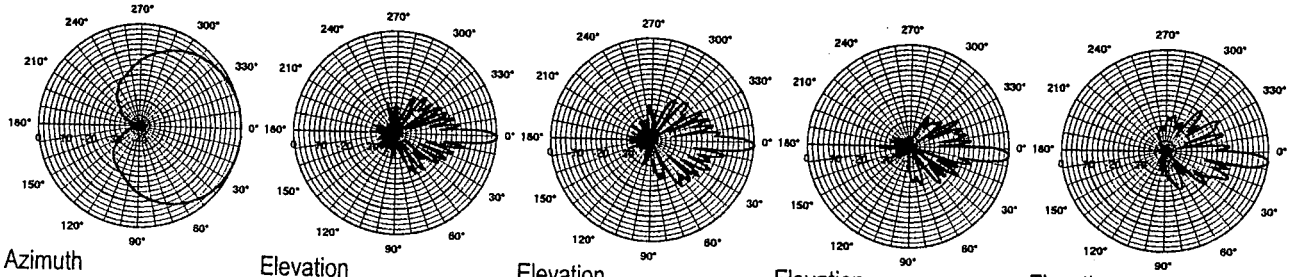


Mounting Options

MTG-P00-10, MTG-S02-10, MTG-DXX-20*, MTG-CXX-10*, MTG-C02-10, MTG-TXX-10*

*Note: *Model number shown represents a series of products. See Mounting Options section for specific model number.*

Patterns



Azimuth

Elevation
0° Downtilt

Elevation
2° Downtilt

Elevation
4° Downtilt

Elevation
6° Downtilt

Revised 04/05/02

EMS Wireless

RR65-19-XXDP

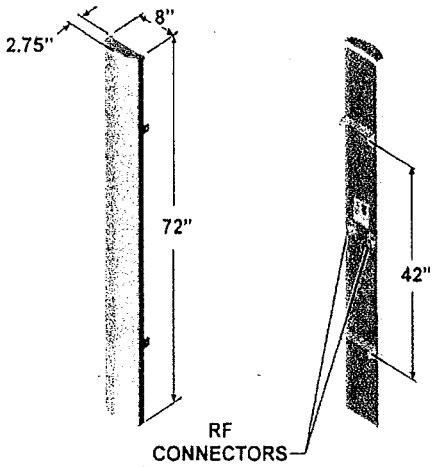
DualPol® Polarization

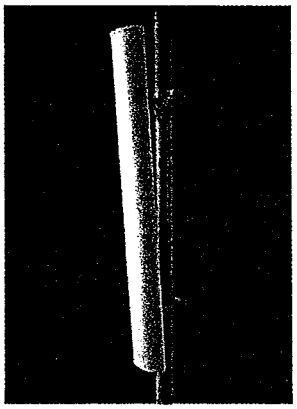
1850 MHz - 1990 MHz

OptiRange™

Electrical Specifications

Azimuth Beamwidth	65°
Elevation Beamwidth	4.5°
Gain	18.5 dBi (16.4 dBd)
Polarization	Dual Linear Slant (± 45°)
Port-to-Port Isolation	≥ 30 dB
Front-to-Back Ratio	≥ 30 dB
Electrical Downtilt Options	0°, 2°, 4°, 6°
VSWR	1.35:1 Max
Connectors	2; 7-16 DIN (female)
Power Handling	250 Watts CW
Passive Intermodulation	≤ -150 dBc [2 x 20 W (+ 43 dBm)]
Lightning Protection	Chassis Ground





Mechanical Specifications

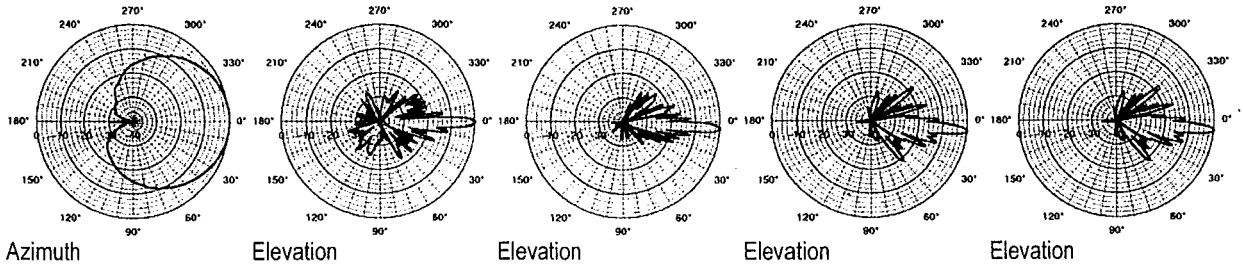
Dimensions (L x W x D)	72 in x 8 in x 2.75 in (183 cm x 20.3 cm x 7.0 cm)
Rated Wind Velocity	150 mph (241 km/hr)
Equivalent Flat Plate Area	4ft² (.37 m²)
Front Wind Load @ 100 mph (161 kph)	115 lbs (512 N)
Side Wind Load @ 100 mph (161 kph)	40 lbs (176 N)
Weight	23 lbs (10.4 kg)

Mounting Options

MTG-P00-10, MTG-S02-10, MTG-DXX-20*, MTG-CXX-10*, MTG-C02-10, MTG-TXX-10*

*Note: *Model number shown represents a series of products. See Mounting Options section for specific model number.*

Patterns



Azimuth | Elevation 0° Downtilt | Elevation 2° Downtilt | Elevation 4° Downtilt | Elevation 6° Downtilt

Revised 04/05/02

+1 770.582.0555 ext. 5310 • Fax +1 770.729.0036
www.emswireless.com

3 CABINET DESCRIPTION

3.1 PHYSICAL CHARACTERISTICS

3.1.1 S8000 Outdoor BTS

3.1.1.1 BTS cabinet

Dimensions

The BTS S8000 Outdoor has the following dimensions:

- height: 160 cm (63 in.)
- width: 135 cm (52.8 in.)
- depth: 65 cm (25.6 in.)

Weight

The weight of the cabinet when empty, that is, without its battery, fan units or boards, is 164 kg (361 lb). Depending on the configuration, a fully equipped cabinet weighs approximately 480 kg (1056 lb) with ACU unit or 440 kg (968 lb) with DACS unit.

These weights do not include the plinth.

Operating temperature

To operate correctly, the BTS requires a temperature greater than –40°C (–40°F) and less than +50°C (+122°F).

Consumption

BTS input voltage:

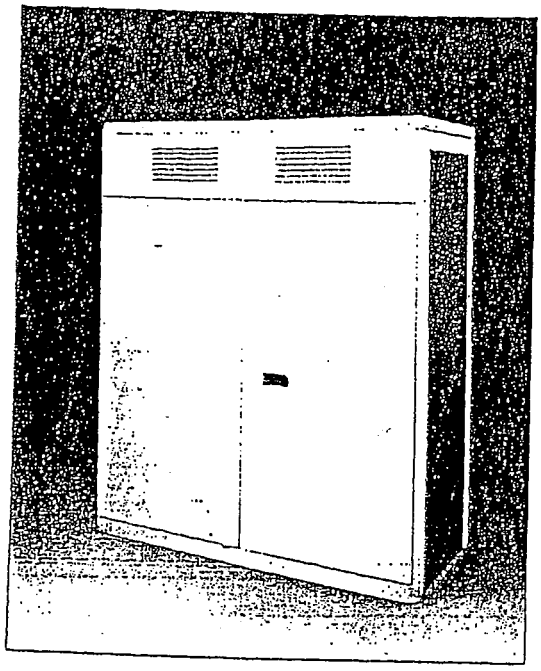
- GSM 900/1800
  - nominal voltage contained between 220V AC and 240V AC
  - minimum voltage: 220 – 10% = 198V AC
  - maximum voltage: 240 + 6% = 254V AC
- GSM 1900 (with DACS)
  - nominal voltage: 208V AC to 240V AC
  - minimum voltage: 208 – 10% = 187V AC
  - maximum voltage: 240 + 6% = 254V AC
- GSM 1900 (with ACU and/or the power system six–rectifier type)
  - nominal voltage: 240V AC
  - minimum voltage: 240 – 10% = 187V AC
  - maximum voltage: 240 + 6% = 254V AC

NON - PREMIUM BTS ONLY

GSM 900 / DCS 1800 / PCS 1900

NORTEL
NORTHERN TELECOM

S8000 Outdoor Base Transceiver Station



Nortel's S8000 Outdoor Base Transceiver Station has been designed to meet the economic and performance requirements of network operators. Based on a highly integrated RF and digital design, the S8000 Outdoor Base Transceiver Station represents a major technology advancement and delivers all the benefits of a compact, modular, high quality and high performance product.

Nortel's S8000 Outdoor BTS: Radio Performance Leadership - Reduced Site Acquisition and Operating Costs

Installation

- The S8000 Outdoor Base Transceiver Station (BTS) offers compact packaging and requires minimal floor space, only .88 sq m (9.5 sq ft.). Front only access keeps total space required, including maintenance access, to only 1.8 sq m (19.4 sq ft) per cabinet.

Transmission

- Integrated drop and insert connection to the Base Station Controller (BSC) and signaling concentration on the A-bis interface provide significant transmission cost reduction.
- Optional integrated digital microwave radio.

Maintenance

- Highly reliable technology, redundant architecture and integrated battery backup ensure high availability service.
- Front access and interconnections, as well as powerful fault detection, help reduce lifetime maintenance costs.

Industry leading performance

- New RF technology and advanced digital processing techniques provide very high receive sensitivity (-108 dBm guaranteed) and improved diversity gain (up to 6 dB). This provides higher resistance to interference, as well as, improved speech quality and cell coverage.
- Nortel's proven experience in frequency hopping, 1*3 frequency reuse, sophisticated microcellular handover algorithms and support of half-rate vocoders enables the operator to maximize use of available spectrum and deploy fewer cell sites.

Fast network deployment

- The S8000 BTS can be shipped fully equipped and tested, which provides fast network roll out to meet operator time to market requirements.

Modular and flexible configuration

- The S8000 supports eight transceivers (TRX) per cabinet in Omni and sectored configurations. The typical one cabinet S222 configuration may be expanded up to S332 or S422 without an additional cabinet.

• Frequency range		900 MHz GSM
		900 MHz GSM extended
		1800 MHz DCS
		1900 MHz PCS
• Receive sensitivity (guaranteed)		-108 dBm
• Dimensions	Height	1600 mm / 5 ft. 3 in.
	Width	1350 mm / 4 ft. 5 in.
	Depth	650 mm / 2 ft. 1 in.
• Weight	Fully equipped	600 kg / 1300 lbs.
• Capacity		8 TRX per cabinet
		up to 3 cabinets
• Configuration	Trisectorial	up to S888
	Omnidirectional	up to O16
• Amplifier output power		30 W (± 1.5 dB)
• Power control	Static	6 steps of 2 dB
	Dynamic	15 steps of 2 dB
• Frequency hopping		RF synthesized
		baseband
• Supported vocoders		Full rate
		Enhanced full rate
		Half rate
• Encryption algorithms		A5/1 A5/2
• Power supply		230V AC 50/60 Hz
• Power back-up		Integrated battery back-up plus optional battery cabinet allows provisioning up to 8 hours back-up time.
• Operating temperature range		-40°C to +50°C
		-40°F to +122°F

For more information,
please contact your local Nortel account representative.

In the USA:
Northern Telecom
2221 Lakeside Boulevard
Richardson TX 75082
USA
Telephone: 1-800-4 NORTEL
1-800-466-7838 or (214) 684-5935
http://www.nortel.com/wireless

In Canada:
Northern Telecom
2920 Matheson Boulevard East
Mississauga ON L4W 4M7
Canada
Telephone: 1-800-4 NORTEL

In the Caribbean and Latin America:
Northern Telecom (CALA) Corporation
1500 Concord Terrace
Sunrise FL 33323
USA
Telephone: (305) 851-8400

In Asia:
Northern Telecom (Asia) Limited
151 Lorong Chuan
#02-01 New Tech Park
Singapore 1955
Telephone: (65) 287-2877

Nortel China Ltd.
34th Floor, Central Plaza
18 Harbour Road, Wanchai
Hong Kong
Telephone (852) 2585 2888

In Europe:
Nortel Limited
Stafferton Way
Maidenhead
Berkshire SL6 1AY
England
Telephone: (44) (1628) 812000

Nortel Matra Cellular
BP 50
1 place des Frères Montgolfier
78042 Guyancourt Cedex
France
Telephone (33) (1) 34 52 52 52

Nortel Europe
12-12bis rue Jean Jaurès
92807 Puteaux
France
Telephone (33) (1) 46 96 15 15

Publication Reference S8O.INS.0696
Printed in France

NORTEL
NORTHERN TELECOM

Exhibit D

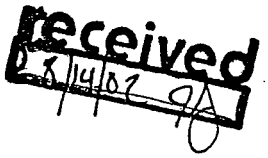
Structural Analysis
10 Sylvia Street

Branford, Connecticut

1047 N. 204th Avenue
Elkhorn, NE 68022
Ph:402-289-1888
Fax:402-289-1861

SEMAAN ENGINEERING SOLUTIONS

125 ft PIROD Monopole
Structural Analysis



Prepared for:
VoiceStream Wireless
12920 SE 38th Street
Bellevue, WA 98006

Site: CT11025B – AT&T
Branford, CT

August 12, 2002

Mr. Joseph Laurenzano
VoiceStream Wireless
12920 SE 38th Street
Bellevue, WA 98006

Re: Site Number CT11025B – Branford, CT.

Dear Mr. Laurenzano:

We have completed the structural analysis for the existing monopole, located at the above referenced site. The purpose of this analysis is to determine that the existing monopole design is in conformance with the EIA/TIA-222-F standard for the proposed antennae loads installation. Refer to the Review and Recommendations section at the end of this report for the analysis results.

Description of Structure:

The structure is a 125 ft PIROD Monopole.

Refer to PIROD drawing 204417-B dated January 14, 1999 for a detailed description of the structure.

Method of analysis:

The tower was analyzed using Semaan Engineering Solutions' software suite for communication structures. The structural analysis is performed using the SAPS finite element engine. The method is 3D, non-linear, which accounts for the second order geometric effects due to the displacements. The analysis was performed in conformance with **EIA/TIA-222-F for 85 mph with 1/2" radial ice.** Wind is applied to the structure, accessories and antennas.

Structure loading:
Per the loading sheet supplied, the analysis was performed using the following loading: (Proposed loading in bold)

Elev. (ft)	Qty.	Antennas and Mounts	Coax	Owner
122.0	12	RR65-19-00XP Mounted On a Low Profile platform	(24) 1-5/8	Voicestream
110.0	12	DB844H90 Mounted On a Low Profile platform	(12) 1-5/8	Verizon
100.0	**6**	**Allgon 7250.03 Mounted On a Low Profile platform**	**(12) 7/8**	**AT&T**
90.0	1	HP MW Dish, 4' Dia.	(1) 1-5/8	Voicestream

All new access holes shall be reinforced with welded rims that are compatible with the pole and to be sized and supplied by pole manufacturer.

used 1 1/4" authorized 12/17/02 RP

All transmission lines are assumed running inside of pole shaft with the exception of those for the proposed loading. The AT&T lines shall be strapped tightly to the outer face of the pole shaft.

Results of Analysis:
Refer to the attached Computer Summary sheets for detailed analysis results.

Structure:
The existing monopole is structurally capable of supporting the existing and proposed antennas. The maximum structure usage is: 67.7%.

Foundation:

Pole Reactions	Original Design Reactions	Current Analysis Reactions	% Of Design
Moment (ft-kips)	1,601.80	1,562.46	97.5

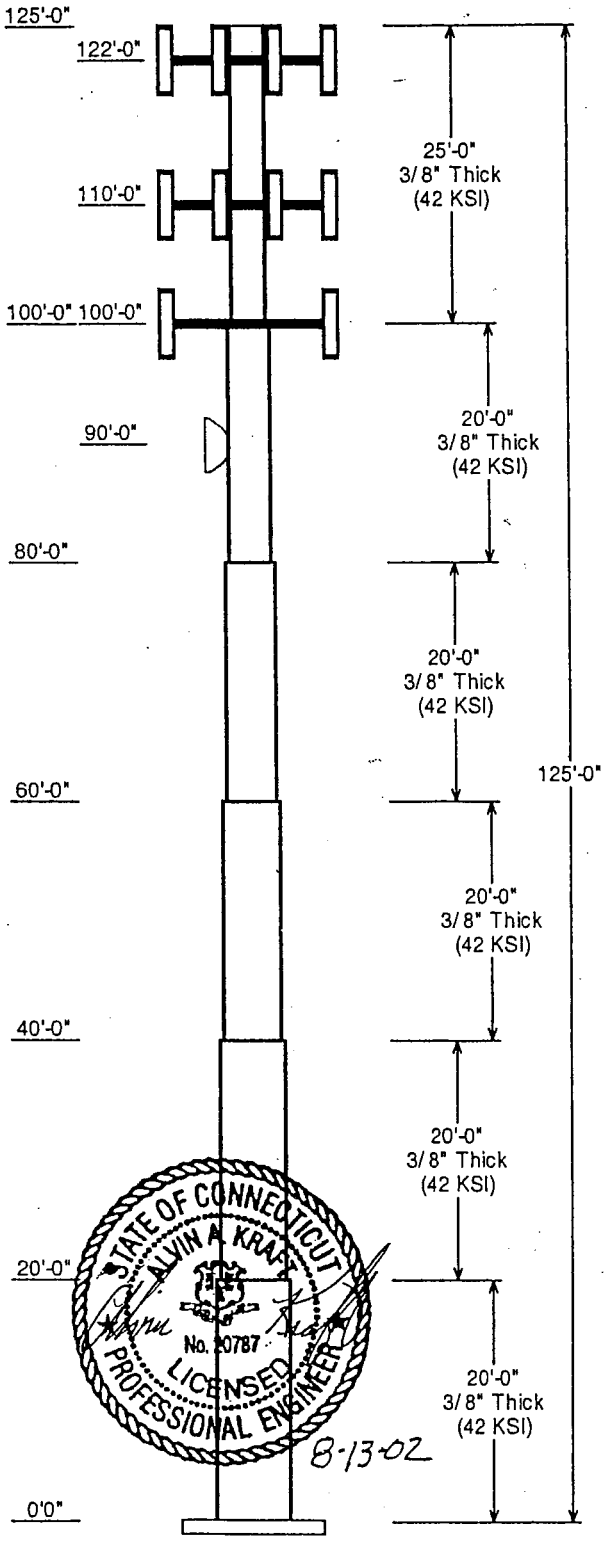
The structure base reactions resulting from this analysis do not exceed the ones shown on the original structure drawings.

Review and Recommendations:
Based on the analysis results, the existing structure meets the requirements per the EIA/TIA-222-F standards for a basic wind speed of 85 mph with 1/2" radial ice.

SEMAAN ENGINEERING SOLUTIONS
1047 N.204th Avenue
Elkhorn, NE 68022
Phone: 402-289-1888
Fax: 402-289-1861

Job Information

Pole :	CT11025B
Description :	
Client :	VoiceStream Wireless-OR
Location :	Branford, CT
Type :	Round Stepped Pole
Height :(ft)	125.000 Taper: 0.0000 (in/ft)



Sections Properties

Shaft Section	Section Length (ft)	Diameter (in) Across Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Steel Grade (ksi)
1	20.000	54.00	54.00	0.375		0.000	42
2	20.000	48.00	48.00	0.375	Butt Joint	0.000	42
3	20.000	42.00	42.00	0.375	Butt Joint	0.000	42
4	20.000	36.00	36.00	0.375	Butt Joint	0.000	42
5	20.000	30.00	30.00	0.375	Butt Joint	0.000	42
6	25.000	24.00	24.00	0.375	Butt Joint	0.000	42

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Type	Qty	Description
122.000	122.000	Platform	1	Low Profile platform
122.000	122.000	Panel	12	RR65-19-00XP
110.000	110.000	Platform	1	Low Profile platform
110.000	110.000	Panel	12	DB844H90
100.000	100.000	Platform	1	Low Profile platform
100.000	100.000	Panel	6	Allgon 7250.03
90.000	90.000	Dish	1	HP MW Dish, 4' Dia.

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	100.0	(12) 1 1/4" Coax	No
0.000	110.0	(12) 1 5/8" Coax	Yes

Load Cases / Deflections

Load Case	Attach Elev (ft)	Translation (in)	Rotation (deg)
No Ice	No Ice Wind Speed = 85.00 mph w/ No Ice		
	122.000	26.22	-1.807
	110.000	21.71	-1.765
	100.000	18.11	-1.678
	90.000	14.71	-1.550
Ice	Ice Wind Speed = 73.61 mph w/ Ice 0.50 in Thick		
	122.000	21.98	-1.516
	110.000	18.20	-1.481
	100.000	15.18	-1.408
	90.000	12.33	-1.300
Twist/Sway	Twist/Sway Wind Speed = 50.00 mph w/ No Ice		
	122.000	9.08	-0.625
	110.000	7.51	-0.611
	100.000	6.27	-0.581
	90.000	5.09	-0.537

Reactions

Load Case	Moment (Kip-ft)	Shear (Kips)	Axial (Kips)
No Ice	1,562.456	18.569	-25.765
Ice	1,305.674	15.379	-34.023
Twist/Sway	540.659	6.425	-25.779

Exhibit E

Power Density Calculations

10 Sylvia Street

Branford, Connecticut

T-Mobile USA Inc.
100 Filley St, Bloomfield, CT 06002-1853
Phone: (860) 692-7100
Fax: (860) 692-7159

Technical Memo

To: Marie Burbank
From: Jeetendra Ghare - Radio Frequency Engineer
cc: Overbey Jason
Subject: Power Density Report for CT11025B
Date: June 30, 2003

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 Monopole at 10 Sylvia St, Branford, 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 1935-1945 MHz frequency band.
2) The antenna array consists of three sectors, with 3 antennas per sector.
3) The model number of the antennas are EMS RR65-19-02DP and EMS RR90-17-02DP.
4) The antenna center line height is 122.5 ft.
5) The maximum transmit power from any sector is 3062.32 Watts Effective Radiated Power (EiRP) assuming 8 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 Monopole at 10 Sylvia St, Branford, CT, is 0.0495 mW/cm^2. This value represents 4.95% of the Maximum Permissible Emission (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.

New England Market
Connecticut
Worst Case Power Density

Site:	**CT11025B**
Site Address:	**10 Sylvia St**
Town:	**Branford**
Tower Height:	**120 ft.**
Tower Style:	**Monopole**
Base Station TX output	10 W
Number of channels	8
Antenna Model	EMS RR65-19-02DP
Cable Size	1 5/8 in.
Cable Length	144 ft.
Antenna Height	122.5 ft.
Ground Reflection	1.6
Frequency	1935.0 MHz
Jumper & Connector loss	1.00 dB
Antenna Gain	18.5 dBi
Cable Loss per foot	0.0116 dB
Total Cable Loss	1.6704 dB
Total Attenuation	2.6704 dB
Total EIRP per Channel	55.83 dBm
(In Watts)	382.79 W
Total EIRP per Sector	64.86 dBm
(In Watts)	3062.32 W
nsg	15.8296
Power Density (S) =	**0.049502 mW/cm^2**
T-Mobile USA Worst Case % MPE =	**4.9502%**

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 PCS	
AT&T Wireless	
Nextel	
Total Excluding T-Mobile USA	**0.0000 %**
T-Mobile USA	4.9502
Total % MPE for Site	**4.9502%**