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 31, 2003

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

RE: **EM-T-MOBILE-007-030707** - Omnipoint Communications, Inc. notice of intent to modify an existing telecommunications facility located at 240 Kensington Road, Berlin, Connecticut.

Dear Attorney Humes:

At a public meeting held on July 22, 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, with the condition that the modifications recommended in the Tower Reanalysis Report prepared by Joseph Jacobs, dated June 13, 203) be implemented as part of the antenna installation.

The proposed modifications are to be implemented as specified here and in your notice dated July 7, 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 Paul C. Argazzi, Mayor, Town of Berlin
Brian J. Miller, Town Planner, Town of Berlin
Thomas F. Flynn III, Nextel Communications
Michele G. Briggs, Southwestern Bell Mobile Systems

I:\siting\em\t-mobile\berlin\dc072203.doc

STATE OF CONNECTICUT

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Phone: (860) 827-2935 Fax: (860) 827-2950
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Web Site: www.state.ct.us/csc/index.htm

July 9, 2003

Honorable Paul C. Argazzi
Mayor
Town of Berlin
240 Kensington Road
Kensington, CT 06037

RE: **EM-T-MOBILE-007-030707** - Omnipoint Communications, Inc. notice of intent to modify an existing telecommunications facility located at 240 Kensington Road, Berlin, Connecticut.

Dear Ms. Argazzi:

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 July 22, 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: Brian J. Miller, Town Planner, Town of Berlin

LEBOEUF, LAMB, GREENE & MACRAE
L.L.P.
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225 ASYLUM STREET
HARTFORD, CT 06103
(860) 293-3500
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WRITER'S DIRECT DIAL:
(860)

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EM-T-MOBILE-007-030707

July 7, 2003

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

Re: Notice of Exempt Modification
240 Kensington Road, Berlin, 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 add six antennas to its existing three-antenna array currently mounted on a low profile platform on the existing monopole facility at the Berlin Town Hall in Berlin. 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 Berlin Mayor Paul C. Argazzi.

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 ninety-five foot (190') monopole (see attached drawing, attached as Exhibit B) and surrounding compound. The coordinates for the site are **Lat: 41°-37'-34.25"** and **Long: 72°-46'-32.10".** The tower is on the south side of the Berlin Town Hall complex, approximately twelve hundred feet (1,200') west of Kensington Road and roughly eighteen hundred feet east of Route 71 in the north-central portion of Berlin (see site location map, attached as exhibit A). The site is located behind a town-owned building complex and parking area and is accessed from that property.

T-Mobile proposes to add six (6) antennas to supplement its existing three-antenna setup, 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 eighty-one foot seven inch (181'-7") centerline above ground level ("AGL"). A structure elevation is shown as part of Exhibit B. The model number for the replacement antennas is EMS-RR90-17-02DP. A structural analysis and design calculations 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 an 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 these 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 Berlin 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 Berlin 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: Berlin Mayor Paul C. Argazzi

Exhibit A

Site Map
240 Kensington Road
Berlin, Connecticut

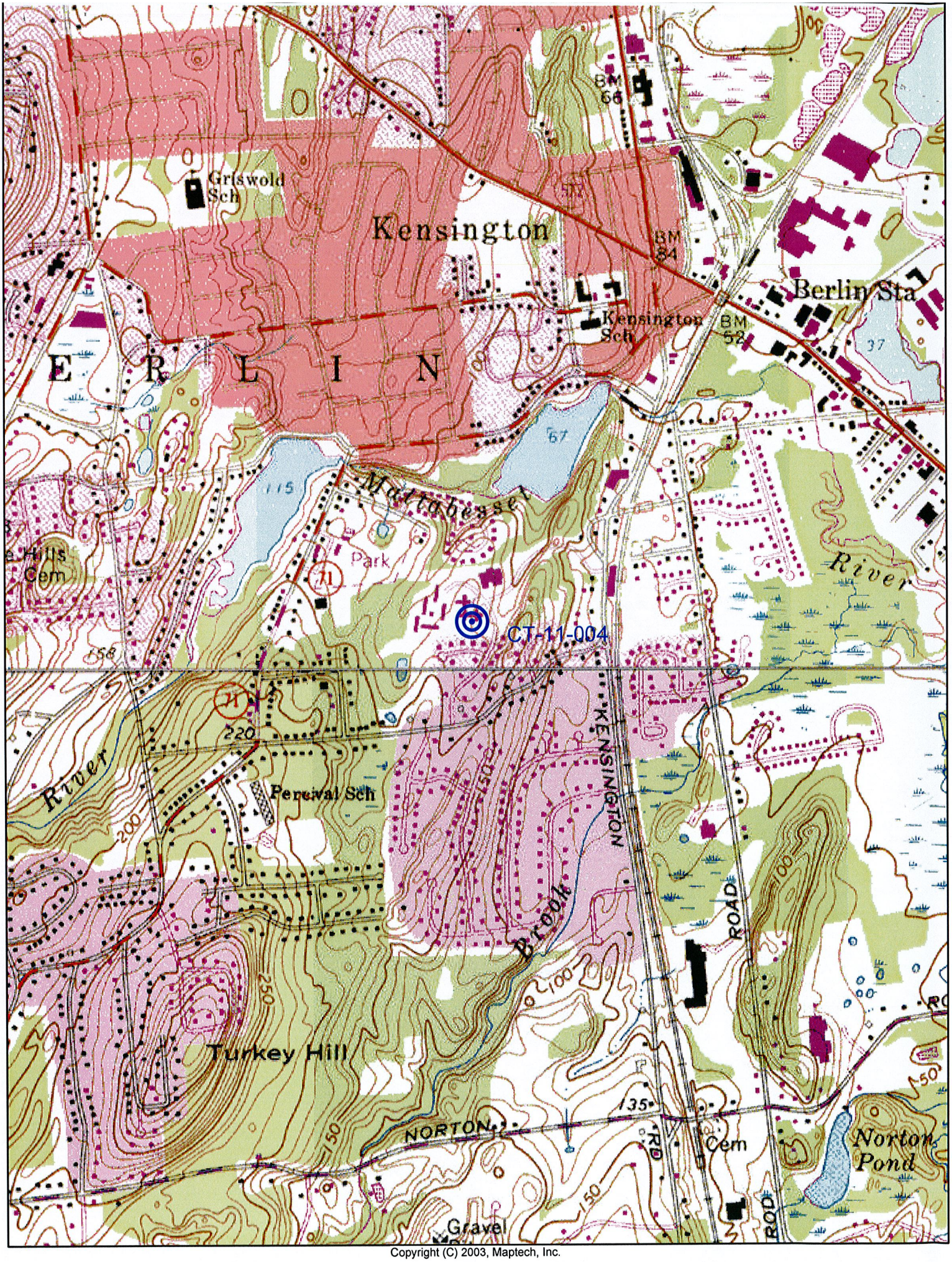
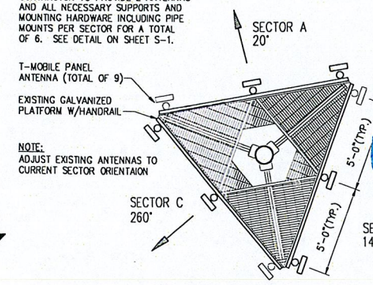


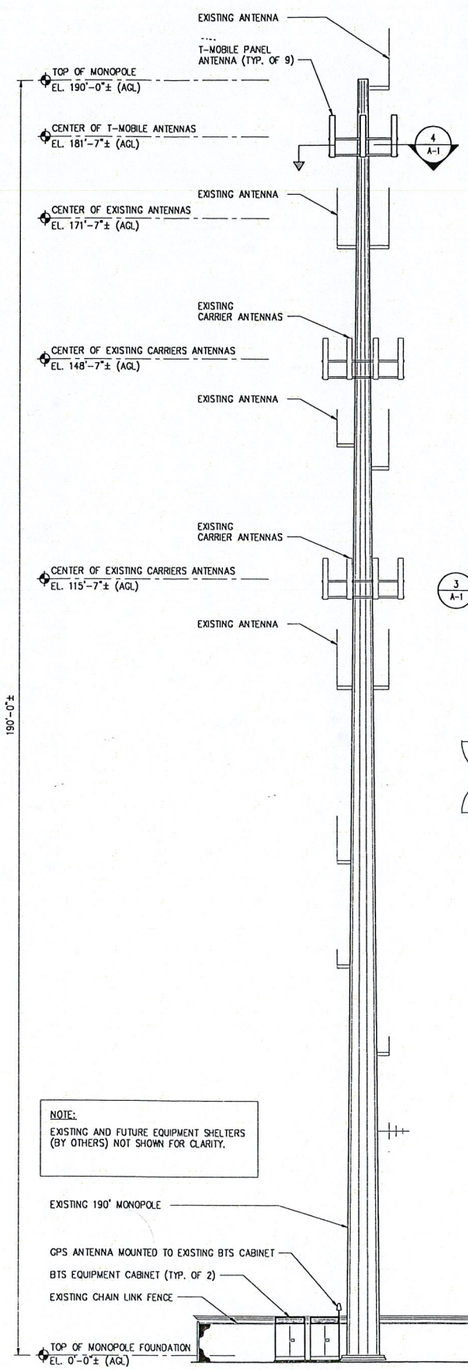
Exhibit B

Design Drawings
240 Kensington Road

Berlin, Connecticut

NOTE:
CONTRACTOR TO PROVIDE 2 ANTENNAS AND ALL NECESSARY SUPPORTS AND MOUNTING HARDWARE INCLUDING PIPE MOUNTS PER SECTOR FOR A TOTAL OF 6. SEE DETAIL ON SHEET S-1.





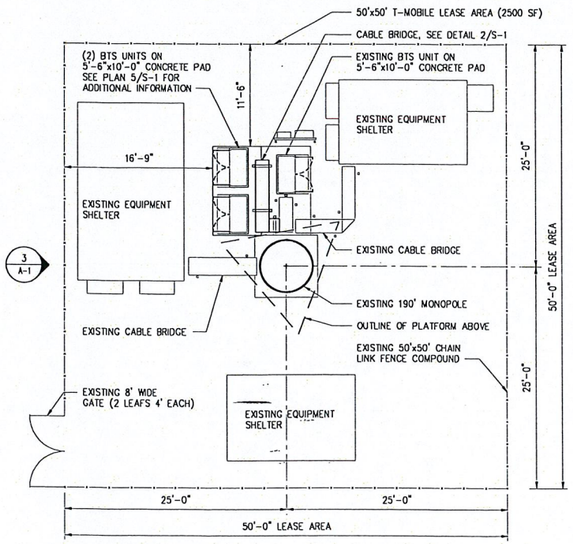
ANTENNA PLATFORM PLAN

4 A-1

SCALE: 1/4"=1'-0"

0 2 4 8 12

TRUE NORTH



PARTIAL SITE/ EQUIPMENT PLAN

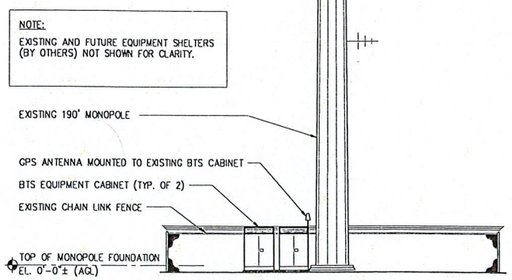
2 A-1

SCALE: 1/8"=1'-0"

0 4 8 16 24

TRUE NORTH

NOTE:
EXISTING AND FUTURE EQUIPMENT SHELTERS (BY OTHERS) NOT SHOWN FOR CLARITY.

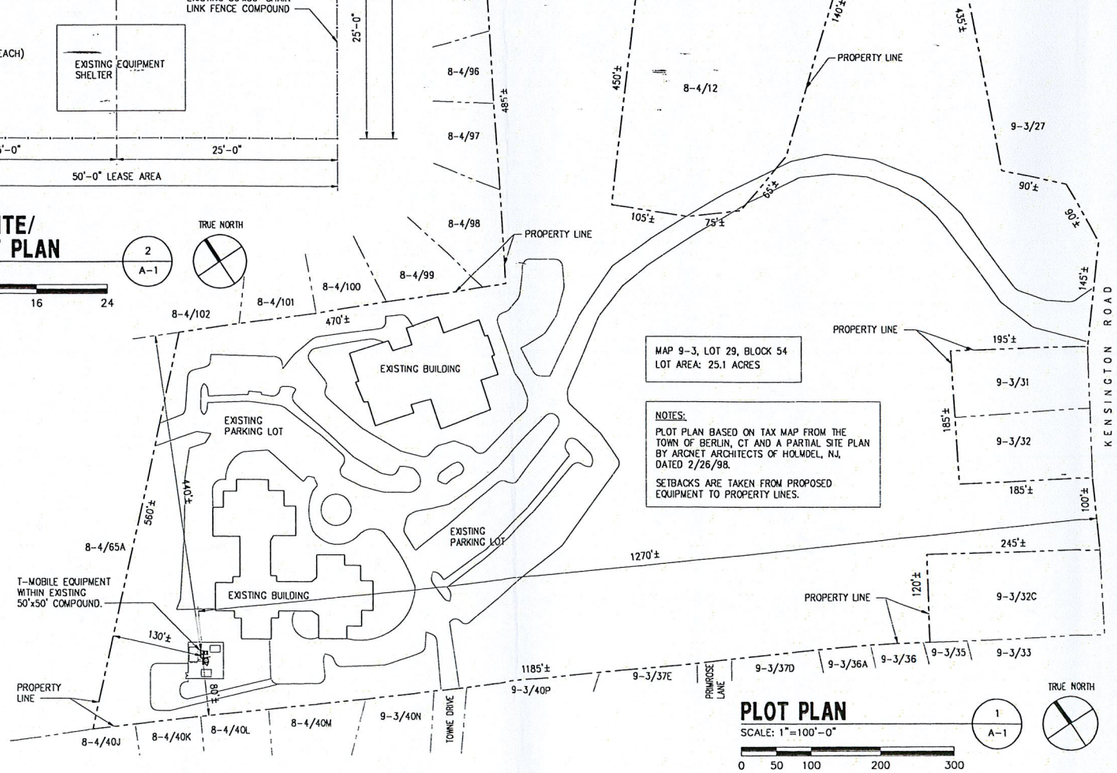


ELEVATION

3 A-1

SCALE: 3/32"=1'-0"

0 5'-4" 10'-8" 21'-4" 32'-0"



MAP 9-3, LOT 29, BLOCK 54
LOT AREA: 25.1 ACRES

NOTES:
PLOT PLAN BASED ON TAX MAP FROM THE TOWN OF BERLIN, CT AND A PARTIAL SITE PLAN BY ARCNET ARCHITECTS OF HOLMDEL, NJ, DATED 2/26/98.

SETBACKS ARE TAKEN FROM PROPOSED EQUIPMENT TO PROPERTY LINES.

PLOT PLAN

1 A-1

SCALE: 1"=100'-0"

0 50 100 200 300

TRUE NORTH

NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
2. ALL DIMENSIONS SHOWN THUS ± ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WHICH EFFECTS THE CONTRACTORS WORK. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH OWNER PRIOR TO CONSTRUCTION.
3. NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. CONTRACTOR SHALL VERIFY TRUE NORTH AND INFORM CONSTRUCTION MANAGER OF ANY DISCREPANCIES BEFORE STARTING CONSTRUCTION.
4. THE GENERAL CONTRACTOR AND OR HIS SUB CONSULTANT SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
5. ANTENNA INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES AND SUPPORT STRUCTURES.
6. COAXIAL CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE PROVIDED BY THE OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE OF OWNER SUPPLIED MATERIALS IS ATTACHED TO THE BID DOCUMENTS (SEE ATTACHMENT K). ALL OTHER HARDWARE TO BE PROVIDED BY THE CONTRACTOR. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.
7. ANY EQUIPMENT THAT IS TO BE PAINTED SHALL BE PAINTED TO MATCH EXISTING, PAINT SHALL BE SHERWIN WILLIAMS, COROTHANE II, SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS AND T-MOBILE GUIDELINES.
8. COORDINATION, LAYOUT, AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
9. EQUIPMENT WILL BE INDEPENDENTLY POWERED WITH SEPARATE METER.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
11. PRIOR TO EXCAVATION NEAR (E)TOWER, CONTRACTOR TO CONTACT AND COORDINATE WITH PROPERTY OWNER.
12. ALL (E)ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.
13. ALL (E)INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF UTILITY COMPANY ENGINEERING.
14. THE AREAS OF THE PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT, DRIVEWAY OR GRAVEL, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEEDED AND COVERED WITH MULCH.
15. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN SOIL EROSION AND SEDIMENTATION CONTROLS AT ALL TIMES DURING CONSTRUCTION.
16. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
17. 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.

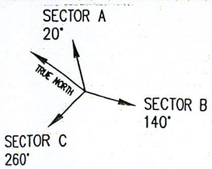
ABBREVIATIONS

ADJ	ADJUSTABLE	SF	SQUARE FOOT
APPROX	APPROXIMATE	SHT	SHEET
C	CONDUIT	SIM	SIMILAR
CONC	CONCRETE	STL	STEEL
CONT	CONTINUOUS	TOC	TOP OF CONCRETE
CJ	CONSTRUCTION JOINT	TOM	TOP OF MASONRY
DIA	DIAMETER	TYP	TYPICAL
DWG	DRAWING	VIF	VERIFY IN FIELD
EGB	EQUIPMENT GROUND BAR	UON	UNLESS OTHERWISE NOTED
EA	EACH	WWF	WELDED WIRE FABRIC
ELEC	ELECTRICAL	W/	WITH
EL	ELEVATION	BTS	BASE TRANSMISSION STATION
EQ	EQUAL	LNA	LOW NOISE AMPLIFIER
EQUIP	EQUIPMENT	PCS	PERSONAL COMMUNICATIONS SERVICES
(E)	EXISTING		
EXT	EXTERIOR	A-1	ANTENNA MARK NO.
FF	FINISHED FLOOR	PL	PLATE
FG	FINISHED GRADE	&	AND
GA	GAUGE	@	AT
GALV	GALVANIZED		
GC	GENERAL CONTRACTOR		
LG	LONG		
MAX	MAXIMUM		
MECH	MECHANICAL		
MFR	MANUFACTURER		
MGB	MASTER GROUND BAR		
MIN	MINIMUM		
MTL	METAL		
NIC	NOT IN CONTRACT		
NTS	NOT TO SCALE		
OC	ON CENTER		
OPP	OPPOSITE		

SYMBOLS AND MATERIALS

	NEW ANTENNA		GROUT OR PLASTER
	EXISTING ANTENNAS		(E)BRICK
	ASPHALT		(E)MASONRY
	NEW ACCESS EASEMENT		CONCRETE
	CONCRETE		EARTH
	ELECTRIC BOX		GRAVEL
	LIGHT POLE		PLYWOOD
	FND. MONUMENT		SAND
	SPOT ELEVATION		WOOD CONT.
	SET POINT		WOOD BLOCKING
	REVISION		STEEL
	GRID REFERENCE		CENTER LINE
OCT. / SHT.	DETAIL REFERENCE		PROPERTY LINE
			STEPPED FOOTING
D / S1	ELEVATION		MATCH LINE
			WORK POINT
D / S1	SECTIONS & DETAILS	G	GROUND WIRE
			COAXIAL CABLE

ANTENNA ORIENTATION KEY



T-Mobile
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BLOOMFIELD, CT 06002
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FAX: (860)-692-7159

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APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

PROJECT NO: 02125.23
DRAWN BY: MMC/MJE
CHECKED BY: DJD

SUBMITTALS

1	3/25/03	FOR CONSTRUCTION FINAL
0	2/26/03	FOR CONSTRUCTION

CT-11-004B
NEWINGTON 1
BERLIN TOWN HALL MONOPOLE
240 KENSINGTON ROAD
BERLIN, CT 06037

SHEET TITLE
PLANS AND ELEVATION

SHEET NUMBER
A-1

Exhibit C

Equipment Specifications
240 Kensington Road

Berlin, Connecticut

EMS Wireless

RR90-17-XXDP

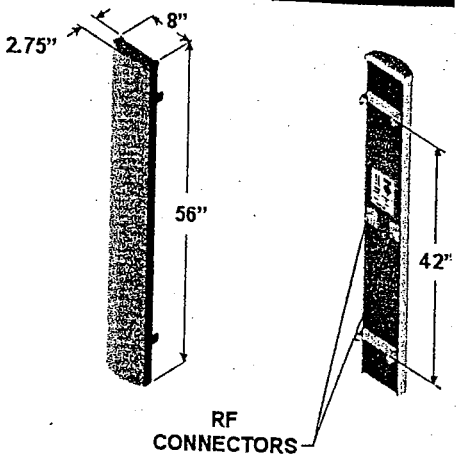
DualPol® Polarization

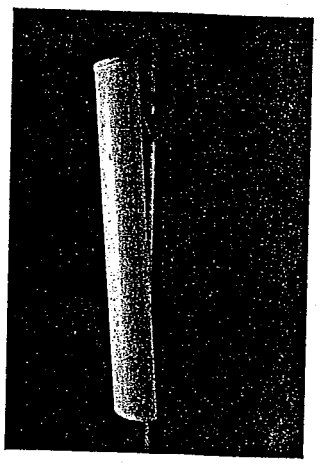
1850 MHz - 1990 MHz

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

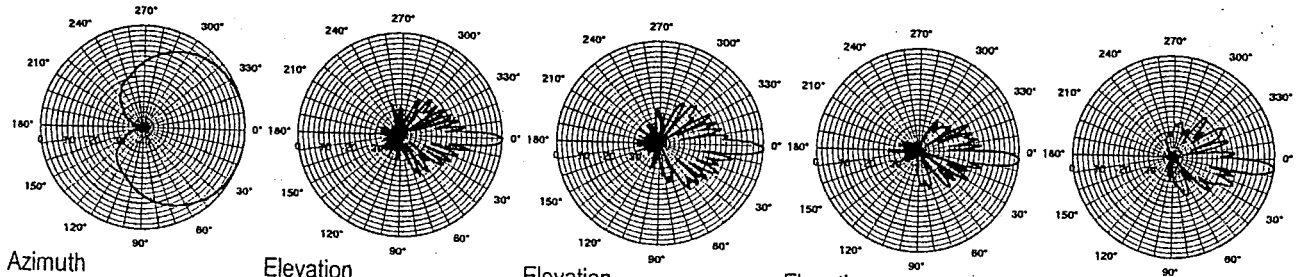
Dimensions (L x W x D)	56 in x 8 in x 2.75 in (142 cm x 20.3 cm x 7.0 cm)
Rated Wind Velocity	150 mph (241 km/hr)
Equivalent Flat Plate Area	3.1ft² (.29 m²)
Front Wind Load @ 100 mph (161 kph)	90 lbs (400 N)
Side Wind Load @ 100 mph (161 kph)	31lbs (139 N)
Weight	18 lbs (8.2 kg)

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

Mobile Wireless Introduction

Drawing from more than 30 years in the development of highly reliable systems, EMS *Wireless* has applied that knowledge and experience to the needs of commercial wireless communication service providers.

EMS *Wireless* offers a broad selection of innovative base station antennas offering superior performance for all wireless protocols including PCS, cellular, GSM, CDMA, TDMA and IDEN among others.

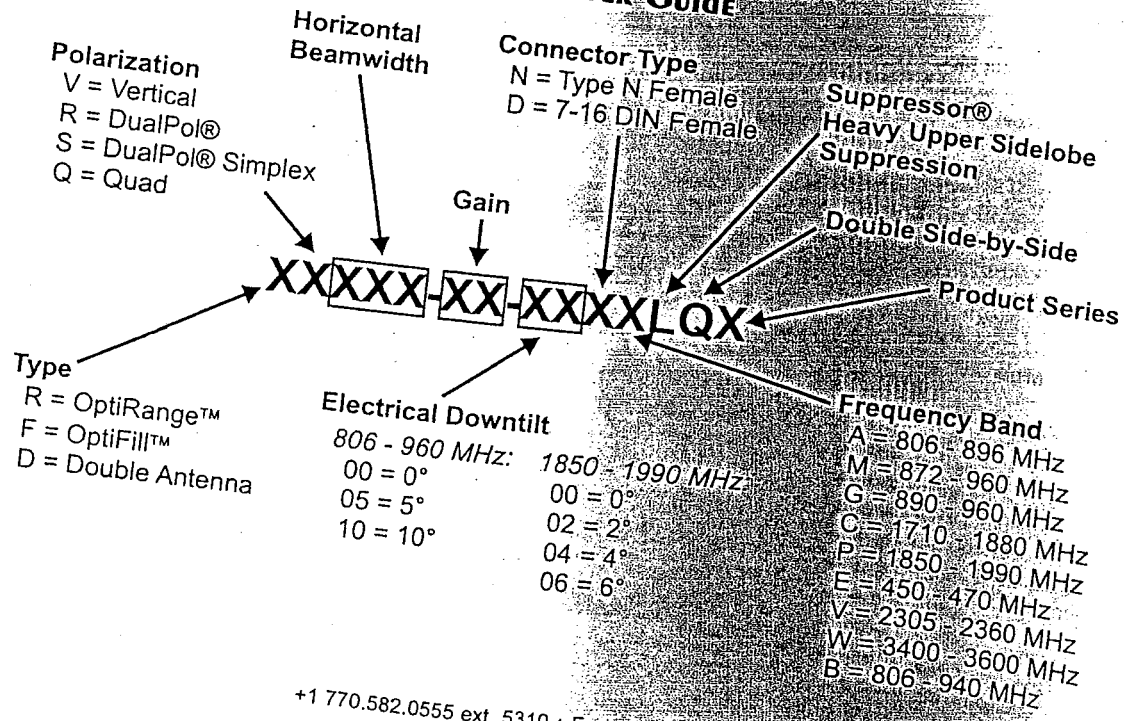
Mobile Wireless Products

Frequency Bands:
- PCS (1850-1990 MHz)
- Cellular (806-960 MHz)
- Dualband (806-896 and 1850-1900 MHz)
- CDMA 450 (450-470 MHz)
- GSM 900 (890-960 MHz)
- GSM 1800 (1710-1880 MHz)
- MMDS (2305-2360 MHz)

Micro AcCELLerator™ Series:
- MTRR75-17-XXXDPL (PCS)
- MTFR90-11-XXXDAL2-CMX (Cellular)

AcCELLerator™ Series:
- 16" AcCELLerator™
- 19" AcCELLerator™
- 30" AcCELLerator™
- 36" AcCELLerator™

Mobile Wireless Standard Model Number Guide



+1 770.582.0555 ext. 5310 • Fax +1 770.729.0036
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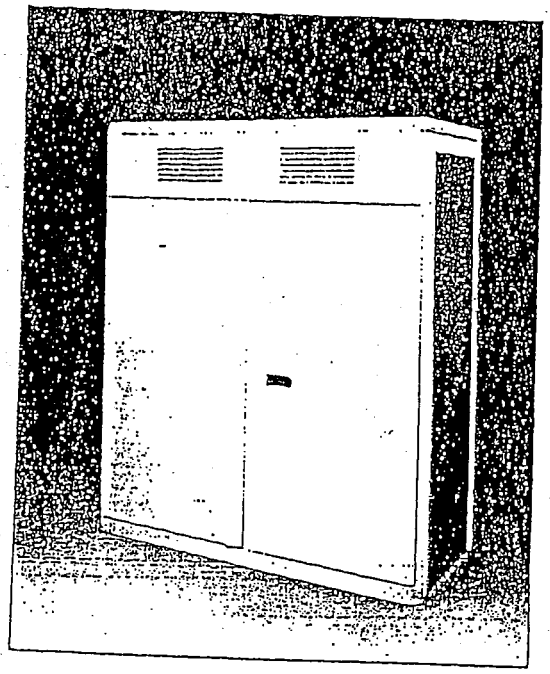
NORTEL
NORTHERN TELECOM

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.

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1-800-466-7838 or (214) 684-5935
http://www.nortel.com/wireless

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Information subject to change. Northern Telecom reserves the right to make changes, without notice, in equipment design as engineering or manufacturing methods warrant.

NORTEL
NORTHERN TELECOM

Exhibit D

Structural Analysis
240 Kensington Road

Berlin, Connecticut

PiROD INC.
A Valmont Industries Company

Tower Reanalysis Report

Proposal PR-2003-05-015
June 13, 2003

MP60 x 190' Tower
Berlin CT-11-004B, CT
PiRod Engineering File A-115400

Prepared for
T-mobile
Attn: Charmaine Simpson
100 Filley Street
Bloomfield, CT 06002

\\plycomapps1\Jdrive$\REANALYS\115\115400.doc

1545 Pidco Drive, Plymouth, Indiana 46563
Phone: 574-936-4221 *www.pirod.com* *Fax: 574-936-6458*

June 13, 2003
115400.doc

Tower Reanalysis Report
Proposal PR-2003-05-015

MP60 x 190' Tower
Berlin CT-11-004B, CT
PiRod Engineering File A-115400

Completed under the Supervision and Approval by
Joseph Pachicarah Jacobs, P.E.
Senior Project Engineer
e-mail: joseph.jacobs@valmont.com
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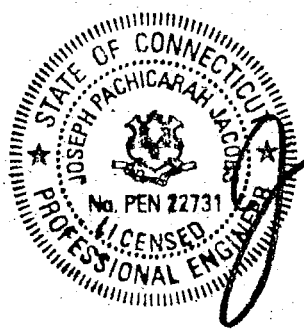

06.13.03

Joseph P. Jacobs, CT Professional Engineer # 22731

1545 Pidco Drive, Plymouth, Indiana 46563
Phone: 574-936-4221 *www.pirod.com* *Fax: 574-936-6458*

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1.0 EXECUTIVE SUMMARY

This reanalysis was performed by PiRod to determine if the structure is capable of accommodating loading that is different than previous design specifications. This engineering report gives the tower history, details how the loading changes affect the tower, specifies feasible modifications, and proposes modification materials. PiRod's engineering study concludes that the tower requires modifications. See section 6.0 for details.

2.0 ASSUMPTIONS

This engineering study is based on the theoretical capacity of the structure. It is not a condition assessment of the tower. This report is being provided by PiRod without the benefit of an inspection by PiRod personnel and is based on information supplied by the customer to PiRod. PiRod has made no independent determination, nor is required to, of the accuracy of the information provided. Therefore, unless specifically informed to the contrary by the customer in writing, PiRod assumes the following:

1. The subsoil characteristics exist as stated on the tower drawing or stated elsewhere in this report;
2. The tower is erected and maintained in accordance with the manufacturer's plans and specifications and is plumb;
3. There is no damage, natural or manmade, to the structure, either gradual or sudden;
4. All connections and guy cables are properly installed;
5. The information concerning the components, existing and proposed, is accurate; and
6. There are no modifications to the tower itself, except as may be disclosed elsewhere in this report.

PiRod recommends that qualified personnel assess the physical condition of the tower, preferably under the direction of a licensed professional engineer. Following is a list of the general areas that PiRod recommends to be inspected. Contact PiRod for a complete checklist.

Tower Structure	Guyed Towers	Foundations	Appurtenances
Tower Sections	Guy Cables	Cracking	Antennas
Bolted Connections	Turnbuckles	Drainage	Mounts
Welded Connections	Preforms	Spalling	Transmission Lines
Plumbness	Guy Lugs	Anchor Bolts	Line Brackets
Corrosion	Thimbles	Settling	Cable Hangers
Linearity	Torque Arms	Grounding	Lighting
Galvanization	Ice Clips	Grout	
Paint	Guy Tensions	Subsoil	
	Anchor Rods	Characteristics	
	Shackles	Erosion	
	Insulators		

3.0 TOWER HISTORY

Date of Origination: 1/13/1999
PiRod Model: MP60 x 190' Tower
Sold to: OMNIPOINT

ORIGINAL DESIGN CRITERIA				
Code/Standard	**Wind Loading**	**Radial Ice**	**Wind Load Reduction Used**	**Allowable Stress Increase Used**
TIA/EIA-222-F	80 mph fastest mile	no	none	yes
TIA/EIA-222-F	80 mph fastest mile	½" solid	25%	yes

The original design is based on the following antenna loading. This may not truly represent the antennas that have actually been placed on the tower.

HEIGHT (FT)	ANTENNAS		ASSUMED CAAC (SQ.FT.)	MOUNTS		LINES	
	QTY.	MODEL		QTY.	MODEL	QTY.	SIZE
190'	1	DB589		1	Side Arm	1	7/8"
182'	12	RR90-17-XXDP		1	LP Rot. Platform	12	1-5/8"
156'	1 1	DB205 SRL224		1	Side Arm	1	1/2" 7/8"
148'-6"	12	5' Panel		1	LP Rot. Platform	12	1-5/8"
131'	1	SRL233		1	Side Arm	1	7/8"
123'	1	DB205		1	Side Arm	1	½"
115'-6"	12	5' Panel		1	LP Rot. Platform	12	1-5/8"
90'	2	DB205		2	Side Arm	2	½"
70'	1	SRL233		1	Side Arm	1	7/8"
57'	1	DB583		1	Side Arm	1	½"
43'	1	FG4000		1	Side Arm	1	½"
33'	1	MYA4505		1	Side Arm	1	½"

For the structural analysis, the tower and foundation are assumed to exist as shown on the enclosed tower drawing, which is PiRod's latest revision.

4.0 CURRENT WIND LOAD REQUIREMENT

The TIA/EIA Standard is currently at version F. Hartford County is designated as a 80 mph basic wind speed zone by the current TIA/EIA Standard. We have taken the opportunity to reanalyze this structure using the following wind speed and ice load conditions.

Code/Standard	Wind Loading	Radial Ice	Wind Load Reduction Used (1)	Allowable Stress Increase Used (2)
TIA/EIA-222-F	80 mph fastest mile	no	none	Yes
TIA/EIA-222-F	80 mph fastest mile	½" solid	25%	Yes

(1) The wind load reduction is permitted by the TIA/EIA-222-F Standard section 2.3.16 and most other codes to account for the minimal chance that the maximum wind speed will occur simultaneously with the ice load.

(2) The allowable stress increase is permitted by the TIA/EIA-222-F Standard and most other codes in accordance with the AISC-ASD Manual of Steel Construction.

Note: Some localities stipulate wind load requirements that are different from that required by the TIA/EIA Standard. Please check with your local building department and verify the required wind load.

5.0 ANTENNA LOADING

The tower analysis uses the following antenna loading, which was provided on May 9, 2003.

HEIGHT (FT)	ANTENNAS		ASSUMED CAAC (SQ.FT.)	MOUNTS		LINES	
	QTY.	MODEL		QTY.	MODEL	QTY.	SIZE
Existing Loading							
193'-3"	1	Decibel DB589		1	Clamp on side arm (1 arm)	1	7/8"
181'-8"	4 2	EMS RR90-17-02-DB EMS RR65-18-02DB		1 12	16'-6" LP Platform 2"x 84" Antenna Pipe	18	1-5/8"
165'	1 1	Decibel DB205 Sinclair SRL224		1	Clamp on side arm (2 arm)	2	7/8"
136'	1	Sinclair SRL233		1	Clamp on side arm (1 arm)	1	7/8"
132'	1	Decibel DB205		1	Clamp on side arm (1 arm)	1	½"
116'	12	Allgon 7130.16		1 12	16'-6" LP Platform 2"x 84" Antenna Pipe	12	1-1/4"
99'	2	Decibel DB205		1	Clamp on side arm (2 arm)	2	½"
90'	2	GPS	3.0	1	Clamp on side arm (2 arm)	1 1	7/8" ½"
75'	1	Sinclair SRL233		1	Clamp on side arm (1 arm)	1	½"
58'-6"	1	Decibel DB583		1	Clamp on side arm (1 arm)	1	½"
45'-2"	1	FG4000*	2.0	1	Clamp on side arm (1 arm)	1	½"
31'-6"	1	MYA4505*	2.0	1	Clamp on side arm (1 arm)	1	½"
Proposed Additional Loading							
149'	9 6	CSS Power DUO4-8670 Amplifier	2.0	1 9	16'-6" LP Platform *(Existing)* 2"x 84" Antenna Pipe	9	1-1/4"
129'	1	LMU GSM RX*	3.0			1	½"

These antennas, mounts, and lines represent our understanding of the antenna loading required. Please contact us if any discrepancies are evident. If different antennas, mounts, or lines are installed on this structure, this analysis is invalid.

* An asterisk indicates that we were not provided with a value for the effective projected area (C_AA_C), and that the area has been assumed based on any information that was made available. The actual effective projected area for each antenna must be confirmed to be equal to the assumed area listed above. If it is determined that the area is different than that stated for any of the above items, this analysis is invalid.

Exhibit E

Power Density Calculations

240 Kensington Road

Berlin, Connecticut

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

Technical Memo

To: Karina Hansen
From: Hassan Syed - Radio Frequency Engineer
cc: Overbey Jason
Subject: Power Density Report for CT11004
Date: June 26, 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 240 Kensington, Berlin, 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 for each antenna is EMS RR90-17-02DP.
4) The antenna center line height is 182 ft.
5) The maximum transmit power from any sector is 3161.14 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 240 Kensington, Berlin, CT, is 0.02239 mW/cm^2. This value represents 2.239% 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.
The combined Power Density from other carriers is 5.2%. The combined Power Density for the site is 7.439% of the M.P.E. standard.

6.0 RESULTS

With the antennas listed in section 5.0, the following modifications are required for the tower to comply with the indicated code and TIA/EIA Standard listed in section 4.0.

6.1 Tower Modifications

Install (3) 4" x 6" portholes at the 175'-9" level per drawing 132486 for the transmission lines running to 181'-8". Special care should be taken not to damage the lines inside the pole while the hole is being cut.

The proposed materials, associated hardware, and updated engineering documentation are priced on the appended Reanalysis Parts Pricing Proposal.

6.2 Foundation Modifications

The foundation analysis is based on the soil report by French & Parello Associates, Inc., dated 12/13/98, file #98A209ER1.

The foundation complies without modifications.

These modifications outline the scope of work only and are not intended to imply sequence of work or construction procedures. Once the above modifications have been installed, the structure will comply with the indicated code and TIA/EIA Standard.

7.0 LIST OF APPENDICES

Reanalysis Parts Pricing Proposal	
Main Tower Drawing, latest revision	204566-B
4" x 6" Porthole Installation	132486

Note: The tower drawing included with this report is PiRod's latest revision and depicts the tower as we understand it to currently exist. It has not been updated to show the existing or proposed antenna loading or any modifications required as a result of this analysis.