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

April 25, 2003

Christopher B. Fisher, Esq.
Cuddy & Feder & Worby LLP
90 Maple Avenue
White Plains, NY 10601-5196

RE: **EM-AT&T-011-030304** - AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify an existing telecommunications facility located at 8 Hoskins Road, Bloomfield, Connecticut.

Dear Attorney Fisher:

At a public meeting held on April 23, 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 received in our office on March 4, 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 Faith McMahon, Mayor, Town of Bloomfield
Louie Chapman, Jr., Town Manager, Town of Bloomfield
Thomas B. Hooper, Director of PlanningTown of Bloomfield
Roger C. Zaklukiewicz, Vice President, Northeast Utilities Service Company
Thomas J. Regan, Esq., Brown Rudnick Berlack Israels, LLP
Michele G. Briggs, Southwestern Bell Mobile Systems
Sandy M. Carter, Verizon Wireless

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CUDDY & FEDER & WORBY LLP

90 MAPLE AVENUE
WHITE PLAINS, NEW YORK 10601-5196

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TELECOPIER (914) 761-5372/6405
www.cfwlaw.com

500 FIFTH AVENUE
NEW YORK, NEW YORK 10110
(212) 644-2641
TELECOPIER (212) 644-2643

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FISHKILL, NEW YORK 12524
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Of Counsel
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MARYANN M. PALERMO
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LOUIS R. TAFFERA

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CONNECTICUT
SITING COUNCIL

April 10, 2003

VIA FACSIMILIE (860) 827-2950
S. Derek Phelps, Executor Director
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: EM-AT&T-011-030304
EM-AT&T-145-030304

Dear Mr. Phelps:

We are writing to request that both of the above referenced matters which were tabled on March 11th at AT&T's request, be placed on the next available agenda for acknowledgment by the Council. Thank you for your understanding in this regard.

Very truly yours,

Christopher B. Fisher

cc: Carmen Chapman, AT&T Wireless
Harold Hewett, Bechtel

C&F&W: 328429.1

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90 MAPLE AVENUE
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MARYANN M. PALERMO
ROBERT C. SCHNEIDER
LOUIS R. TATTERA

March 11, 2003

VIA FACSIMILIE (860) 827-2950
S. Derek Phelps, Executor Director
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

RECEIVED
MAR 11 2003
CONNECTICUT
SITING COUNCIL

Re: Today's Agenda – Request to Table
EM-AT&T-011-030304
EM-AT&T-145-030304

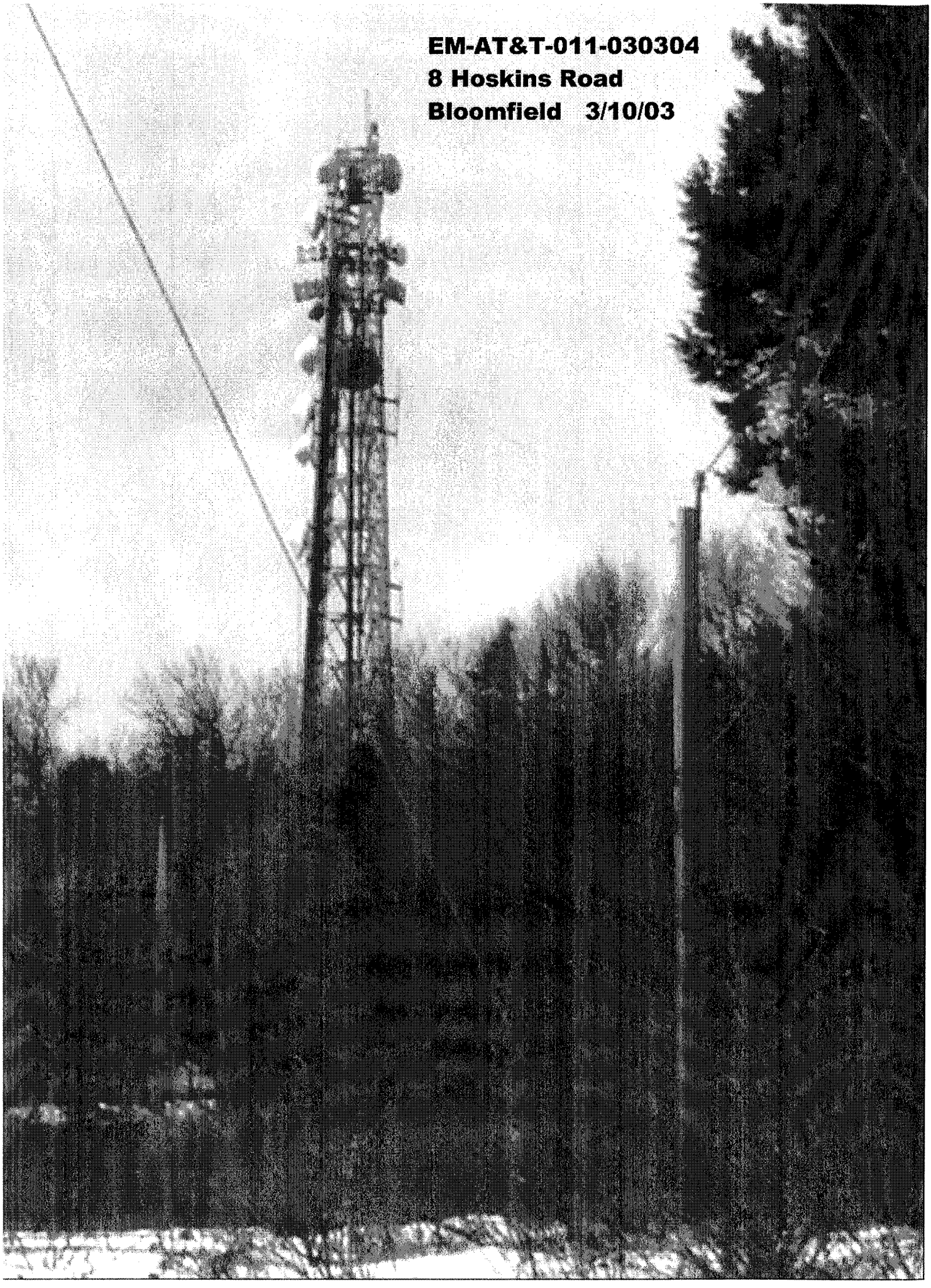
Dear Mr. Phelps:

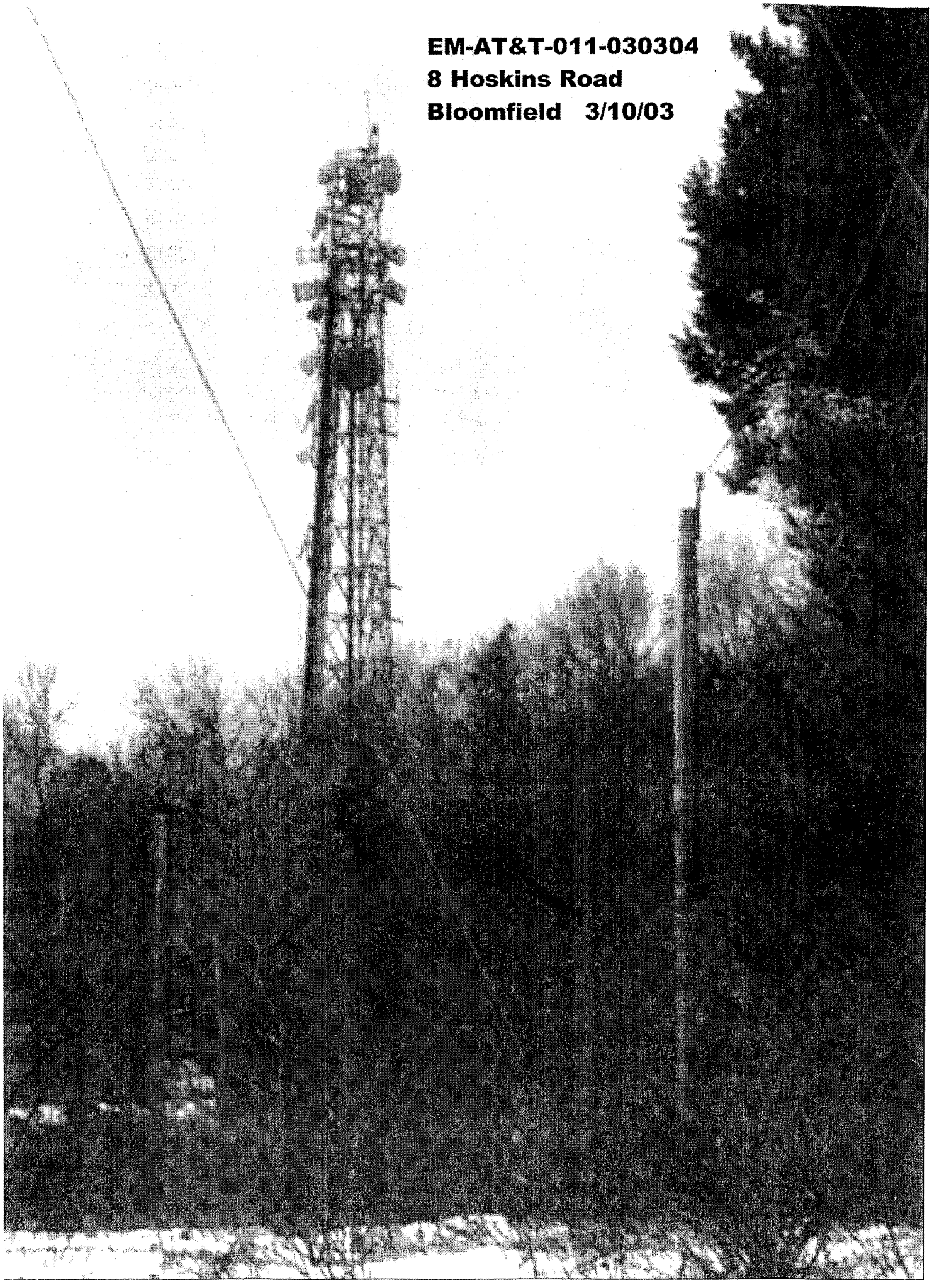
On behalf of AT&T Wireless we are writing to request that both of the above referenced matters be tabled from today's agenda. While they are routine matters for acknowledgment by the Council, our client has instructed us to request that they be tabled. It is my understanding that despite having the authority to file as outlined in each notice of exempt modification, this request is being made by our client in order to permit it to address further business issues with CL&P. As such, we would respectfully request that these matters remain tabled until such time as our client advises us to move forward and we in turn advise the Council that they are ready for acknowledgment. Thank you for your understanding in this regard.

Very truly yours,

Christopher B. Fisher

cc: Carmen Chapman, AT&T Wireless
Harold Hewett, Bechtel


EM-AT&T-011-030304
8 Hoskins Road
Bloomfield 3/10/03


EM-AT&T-011-030304
8 Hoskins Road
Bloomfield 3/10/03

NOTICE OF INTENT TO MODIFY AN EXISTING TELECOMMUNICATIONS FACILITY AT 8 HOSKINS ROAD, BLOOMFIELD, CONNECTICUT (DOCKET NO. 158)

Pursuant to the Public Utility Environmental Standards Act, Connecticut General Statutes § 16-50g et. seq. ("PUESA"), and Sections 16-50j-72(b) of the Regulations of Connecticut State Agencies adopted pursuant to the PUESA, AT&T Wireless PCS, LLC d/b/a AT&T Wireless ("AT&T Wireless") hereby notifies the Connecticut Siting Council of its intent to modify an existing facility located at 8 Hoskins Road, Bloomfield, Connecticut (the "Hoskins Road Facility") (Docket No. 158), owned by Connecticut Light and Power ("CL&P"). AT&T Wireless and CL&P have agreed to share the use of the Hoskins Road Facility, as detailed below.

The Hoskins Road Facility

The Hoskins Road Facility consists of an approximately one hundred eighty (180) foot lattice tower (the "Tower") and associated equipment currently being used for wireless communications by Sprint, Cingular, Verizon and others.[1] The surrounding land uses are predominantly business commercial.

AT&T Wireless' Facility

As shown on the enclosed plans prepared by Tectonic/Keyes Associates, including a site plan and tower elevation of the Hoskins Road Facility, AT&T Wireless proposes shared use of the Facility by placing antennas on the Tower and equipment cabinets at grade needed to provide personal communications services ("PCS"). AT&T Wireless will install 6 panel antennas at approximately the 67 foot level of the Tower and associated equipment cabinets (2 proposed, 2 future, each 76"H x 30" W x 30" D) located on a concrete pad within the existing fenced compound. As evidenced in the structural evaluation prepared by H.E. Bergeron Engineers, annexed hereto as Exhibit A, AT&T has confirmed that with the indicated antenna modifications and removal, the Tower is structurally capable of supporting the addition of AT&T Wireless' antennas.

AT&T Wireless' Facility Constitutes An Exempt Modification

The proposed addition of AT&T Wireless' antennas and equipment to the Hoskins Road Facility constitutes an exempt "modification" of an existing facility as defined in Connecticut General Statutes Section 16-50i(d) and Council regulations promulgated pursuant thereto. Addition of AT&T Wireless' antennas and equipment to the Tower will not result in an increase of the Tower's height nor extend the site boundaries. Further, there will be no increase in noise levels by six (6) decibels or more at the Tower site's boundary. As set forth in the MPE Analysis prepared by WFI, annexed hereto as Exhibit B, the total radio frequency electromagnetic radiation power density at the Tower site's boundary will not be increased to or above the

[1] See MPE Analysis annexed hereto as Exhibit B.

standard adopted by the Connecticut Department of Environmental Protection as set forth in Section 22a-162 of the Connecticut General Statutes and MPE limits established by the Federal Communications Commission. For all the foregoing reasons, addition of AT&T Wireless' facility to the Tower constitutes an exempt modification which will not have a substantially adverse environmental effect.

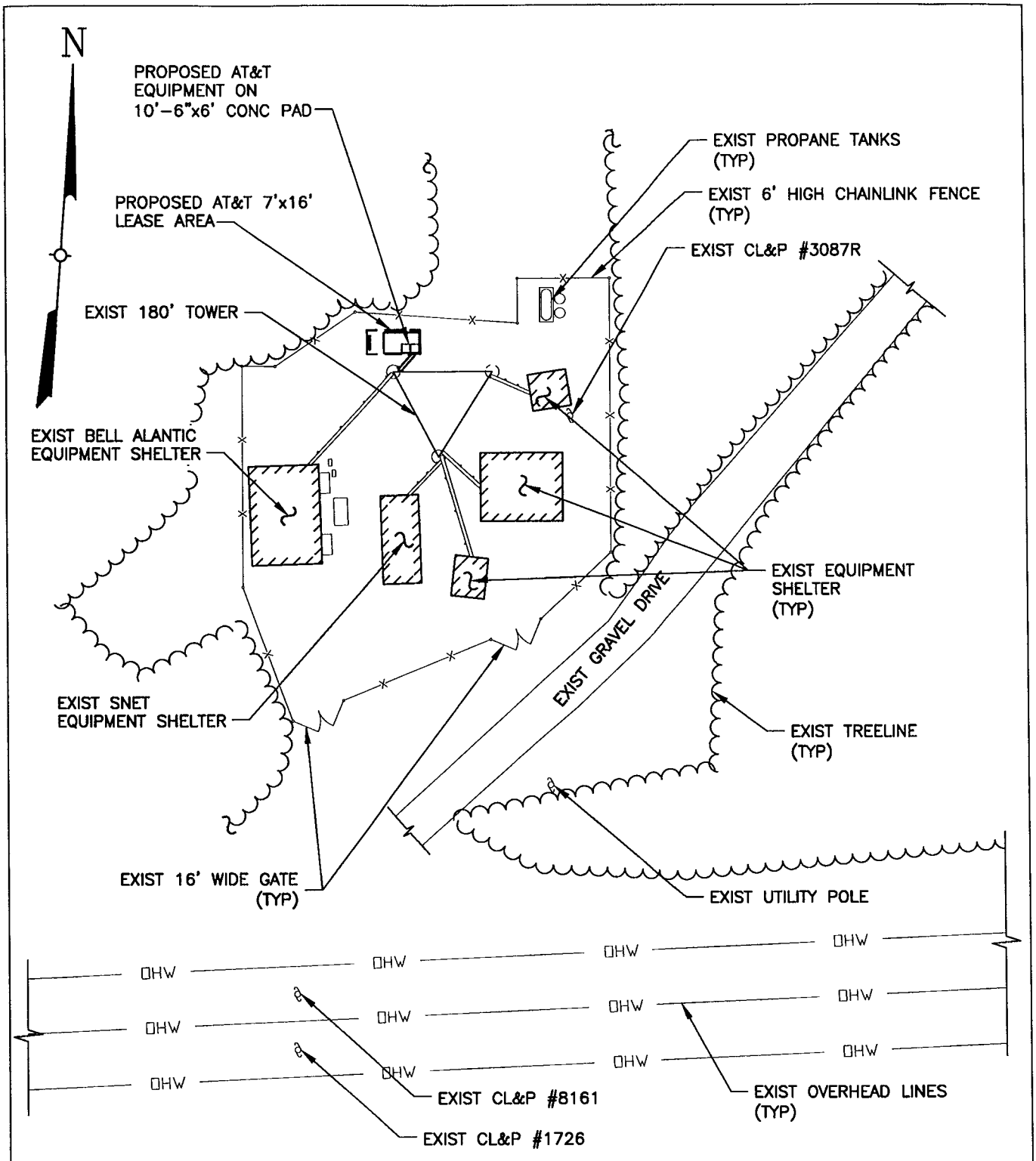
Conclusion

Accordingly, AT&T Wireless requests that the Connecticut Siting Council acknowledge that its proposed modification to the Hoskins Road Facility meets the Council's exemption criteria.

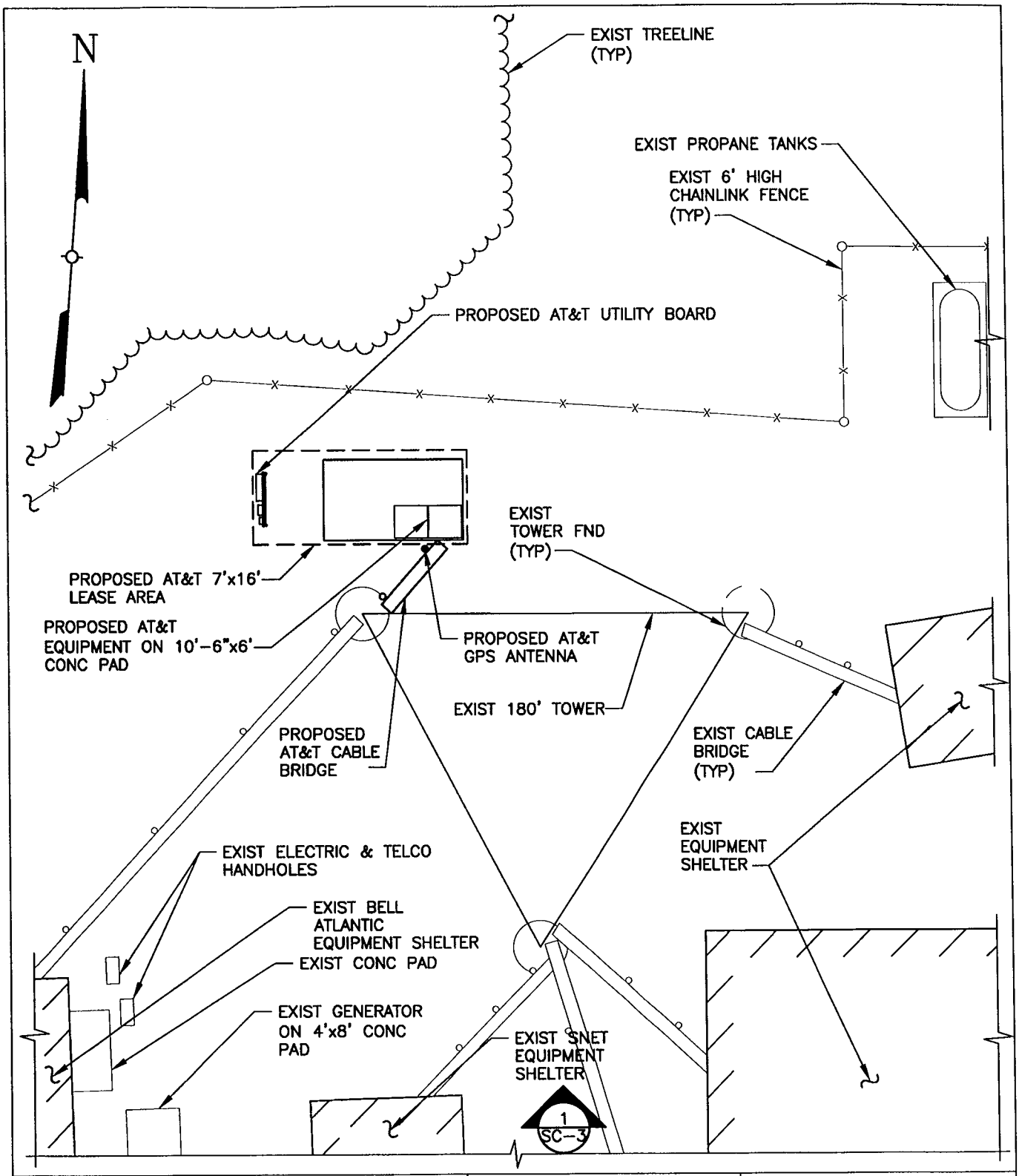
Respectfully Submitted,

Christopher B. Fisher, Esq.
On behalf of AT&T Wireless

cc: Town Manager, Town of Bloomfield
Sue Silva, Bechtel



TECTONIC/KEYES ASSOCIATES	AT&T AT&T WIRELESS SERVICES, INC. 12 Omega Drive, Second Floor Stamford, Connecticut 06902	DRAWING TITLE: SITE PLAN PROJECT INFORMATION: BLOOMFIELD NORTH CT-401 HOSKINS ROAD BLOOMFIELD, CT 06002 PROPERTY OWNER: NORTHEAST UTILITIES PO BOX 270 HARTFORD, CT 06141	DRAWING NO. SC-1 REVISION NO. 0 — DRAWN BY: KBF DATE: 12/2/02 — CHECKED BY: MC SCALE: 1"=40' — APPROVED BY: JDF ISSUED FOR APPROVAL — SHEET NO. 1 of 3 WORK ORDER #: 2650.CT401



TECTONIC/KEYES ASSOCIATES

AT&T

AT&T WIRELESS SERVICES, INC.
12 Omega Drive, Second Floor
Stamford, Connecticut 06902

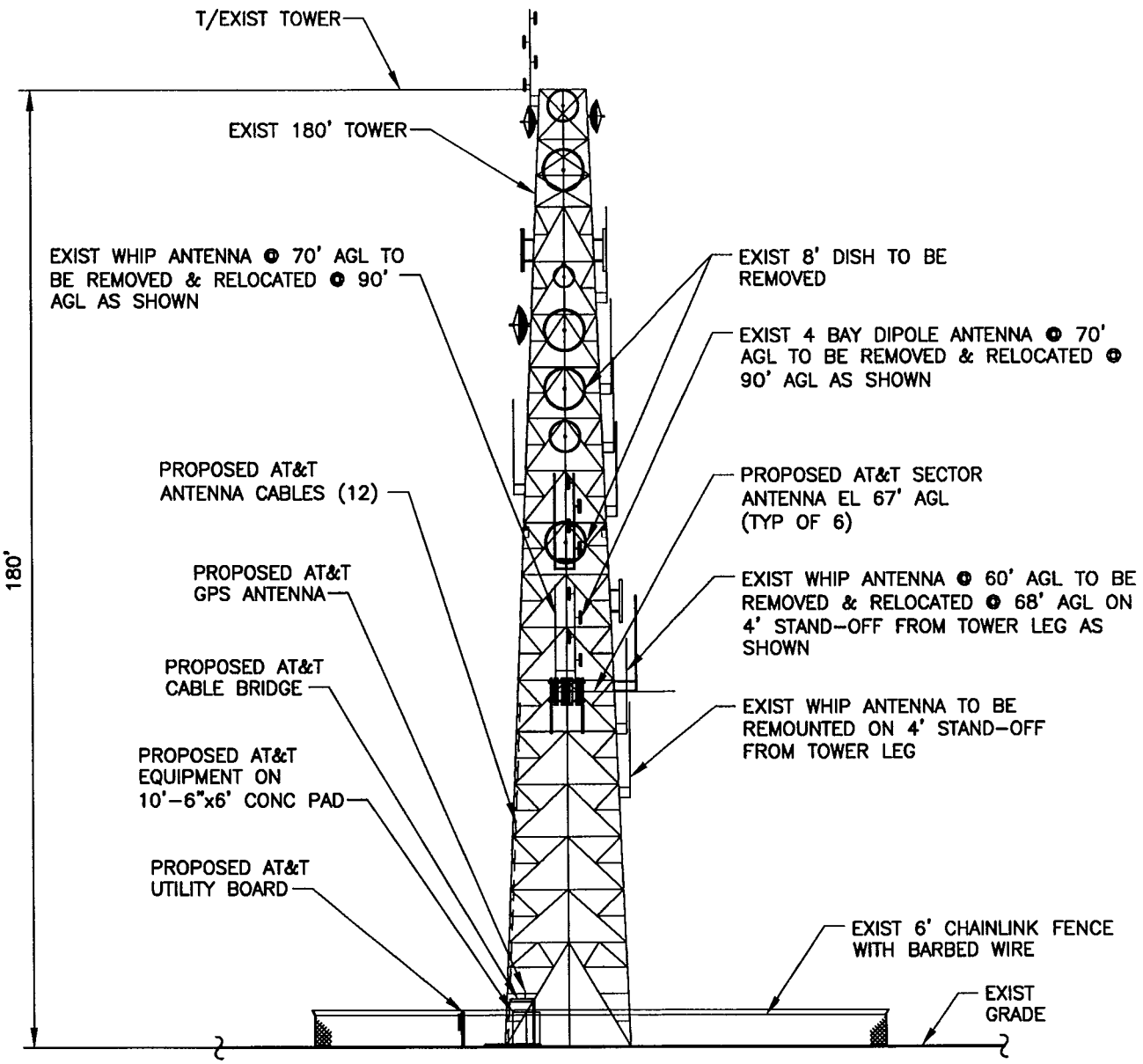
DRAWING TITLE:
SITE DETAIL PLAN

PROJECT INFORMATION:
BLOOMFIELD NORTH
CT-401
HOSKINS ROAD
BLOOMFIELD, CT 06002

PROPERTY OWNER:
NORTHEAST UTILITIES
PO BOX 270
HARTFORD, CT 06141

DRAWING NO.
SC-2

REVISION NO. 0	DRAWN BY: KBF
DATE: 12/2/02	CHECKED BY: MC
SCALE: 1"=10'	APPROVED BY: JDF
ISSUED FOR APPROVAL	SHEET NO. 2 of 3
WORK ORDER #: 2650.CT401	



SOUTH ELEVATION

TECTONIC/KEYES ASSOCIATES	AT&T AT&T WIRELESS SERVICES, INC. 12 Omega Drive, Second Floor Stamford, Connecticut 06902	DRAWING TITLE: ELEVATION PROJECT INFORMATION: BLOOMFIELD NORTH CT-401 HOSKINS ROAD BLOOMFIELD, CT 06002 PROPERTY OWNER: NORTHEAST UTILITIES PO BOX 270 HARTFORD, CT 06141	DRAWING NO. SC-3 REVISION NO. 0 — DRAWN BY: KBF DATE: 12/2/02 — CHECKED BY: MC SCALE: 1"=30' — APPROVED BY: JDF ISSUED FOR APPROVAL — SHEET NO. 3 of 3 WORK ORDER #: 2650.CT401

CT-401
LDA

Northeast
Utilities System

107 Selden Street, Berlin, CT 06037

Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06141-0270
(860) 665-5000

February 27, 2003

Mr. Harold Hewett
Site Acquisition
Bechtel Telecommunications
AT&T Wireless Project-Connecticut Market
210 Pomeroy Avenue
Meriden, CT 06450

Re: Site Permitting Authorization
Bloomfield Telecommunications Site (AWS Site CT-401)
Talcott Hill/Hoskins Road, Bloomfield, CT

Dear Mr. Hewett:

Authorization is hereby given to AT&T Wireless Services (AT&T), its employees and its duly authorized agents and independent contractors (hereinafter collectively referred to as "AT&T"), to apply for any and all local municipal, state and federal licenses, permits and approvals, including but not limited to Connecticut Siting Council, building permits, zoning variances, zoning special exceptions, site plan and subdivision approvals, driveway, wetlands and terrain alteration permits, which are or may be necessary or required for AT&T to construct, operate and maintain a wireless communications system (PCS System), and/or antenna site on the following property over which The Connecticut Light & Power Company (CL&P) has easement rights:

CL&P Structure #1008220, AWS #CT-401
Talcott Hill/Hoskins Road
Bloomfield, Connecticut

The foregoing authorization is given subject to the following conditions:

1. This authorization shall be nonexclusive. Nothing herein shall prevent or restrict CL&P from authorizing any other person or entity to apply for any similar licenses, permits or approvals to construct, operate and maintain any other communication system or facility of any type on the property at any time.

2. This authorization shall not obligate CL&P to pay for or reimburse any costs or expenses or to provide any assistance of any kind in connection with any applications, or bind or obligate CL&P to agree or be responsible for any on-site or off-site improvements, development restrictions, impact fees or assessments, capital improvement charges, bonds or other security, or any other fee, assessment, charge or expense imposed or required as a condition of any license, permit or approval. AT&T shall be solely and fully responsible for all fees, charges costs and expenses of any kind in connection with any applications. CL&P agrees to reasonably cooperate with AT&T in signing such applications or other similar documents as may be required in order for AT&T to apply for any license, permit or approval.

3. This authorization shall not be deemed or construed to grant or transfer to AT&T any interest in the property, whatsoever, and shall not in any respect obligate or require CL&P to sell, lease or license the Property to AT&T or otherwise allow AT&T to use or occupy

the property for any purpose, regardless of whether any licenses, permits and approvals applied for by AT&T for the property are granted. AT&T understands and acknowledges that any and all applications filed by AT&T for the property at AT&T's sole risk and without any enforceable expectation that the property will be made available for AT&T's use.

4. AT&T shall be required to supply to CL&P, free of charge and contemporaneous with AT&T's filing of same, a complete copy of any and all applications, plans, reports and other public filings made by AT&T with any local, municipal, state or federal governmental or regulatory officer, agency board, bureau, commission or other person or body for any licenses, permits or approvals for the property, and to keep CL&P fully informed on a regular basis of the status of AT&T's applications.

5. This authorization shall automatically expire six (6) months after the date of this letter, unless extended in writing by mutual agreement of CL&P and AT&T.

Very truly yours,

Salvatore Giuliano, Manager
Real Estate and Land Planning

AGREED TO ON BEHALF OF AT&T Wireless Services

By: _____ ~~BECHTEL~~ TELECOM. AS AUTHORIZED REP. OF AT+T WIRELESS
Duly Authorized

Date: 2.28.03

CT·401

H. E. Bergeron Engineers
• Civil • Structural • Land Surveying

P.O. Box 440
2605 White Mountain Highway
North Conway, NH 03860
(603) 356-6936
(603) 356-7715 (fax)

65 W. Commercial Street
Portland, ME 04101
(207) 780-1100
(207) 780-1101 (fax)
www.hebcivil.com

HEB

November 22, 2002

Tectonic Engineering & Surveying Consultants P.C.
1344 Silas Deane Highway, Suite 500
Rocky Hill, CT 06067

Attn: Pete Carbone
Re: 180' Andrew 3ST tower, Bloomfield, CT

Dear Pete,

In the past, HEB has performed two structural analyses of Northeast Utilities' 180-foot self-supporting tower on Hoskins Road in Bloomfield, CT. We understand you now propose the following antenna changes:

- Two 8' dishes at the 95-foot and 124-foot elevations will be removed.
- A dipole and whip will be relocated from the 70-foot elevation to the 90-foot elevation.
- A 4' stand-off will be added to the whip at the 48-foot elevation.
- A whip at the 60-foot elevation will be relocated to the 68-foot elevation and a 4' side-arm will be added to it.
- The addition of six (6) ALLGON 7250 panels mounted on 10-foot Microflect wireless mounts at the 67-foot elevation.

It was assumed that the additional cables will be stacked on the existing waveguide and will therefore not increase the wind load, just the deadload. The cumulative change in wind load on the tower is an increase of 401 lbf as shown on the attached calculation sheet. HEB's analysis dated July 28, 2000 states that the tower is capable of supporting the proposed loads. The proposed changes mentioned above do not significantly increase the loads on the tower above the July 28, 2000 loading.

HEB has assumed that all tower properties, antennas and waveguides are the same as the July 28, 2000 analysis indicates. Any changes or additions done since then have not been accounted for in these calculations.

Please feel free to call with any questions.

Sincerely,
H. E Bergeron Engineers, P.A.

STATE OF CONNECTICUT
H. EDMUND BERGERON
No. 20022
LICENSED PROFESSIONAL ENGINEER

Joe Klementovich E.I.T.
Project Engineer

H. Edmund Bergeron P.E.
President

H. E. BERGERON ENGINEERS
2605 White Mountain Highway, PO Box 440
North Conway, NH 03860
(603) 356-6936

Client: **Tectonic**
Job: **Bloomfield, CT** Job No.: **2000-043A-2**

Calculated By: **J. Klementovich** Date: **05-Dec-02**
Checked By: Date:

Tower Height = 180 ft.
Wind Speed = 100 mph
Gust Response = 1.12

Antennas

Type	Elev. (z)	Coeff. (C)	Kz	Qz	Area (ice)	Force (ice)	Weight (w/ ice)
Existing Dipole & whip	70	1.2	1.24	31.74	9.9	423	300
Relocated Dipole & whip	90	1.2	1.33	34.10	9.9	455	300
Difference						32	0
Add 4' Stand-off	48	1.2	1.11	28.49	3.5	134	75
Relocated w/ mount PD1142	68	1.2	1.23	31.47	6.6	280	75
Existing PD1142	60	1.2	1.19	30.37	3.1	128	
Diference						153	75
Dishes to be removed							
8' dish w/radome	95	0.00109	1.35	34.63	57.0	946	975
8' dish w/radome	124	0.00109	1.46	37.37	57.0	1020	975
Difference						-1966	-1950
Proposed Antennae							
(6) ALLGON 7250 10' mounts	67	1.4	1.22	31.34	41.7	2049	1420

	Force (ice)	Weight (w/ ice)
Total Change	401	-380

Evaluation of Human Exposure to Radio Frequency Emissions

Prepared for

AT&T Wireless

City	***Bloomfield, CT***
Site Name	***Bloomfield North***
Site ID	***CT-401***
Structure Type	***Self-Support Tower***
Report Date	***December 2, 2002***

Table of Contents

1 Introduction

The analysis of site CT-401 has been performed to determine its compliance with the rules and guidelines that were established by the Federal Communications Commission (FCC) regarding Maximum Permissible Exposure (MPE) to non-ionizing RF emissions. The evaluation of this site has been completed through the use of both predictive methods (using mathematical equations) and physical survey.

The equations and modeling tools used for any predictions or pre-calculations assume a worst case scenario in all instances and a 100% duty cycle for all the transmitters. Hence, actual exposure at this site is likely to be much less than predicted herein.

The physical survey was carried out using a Narda 8718 EME survey meter and a shaped E-field isotropic probe. This instrument has a shaped frequency response that has been calibrated to measure power density in percent of the FCC standard. The physical survey also verified antenna locations so as to enable any recommendations to ensure site compliance with the FCC rules.

Appendix I provides a brief description of the specifications of the survey meter.

An MPE and power density level modeling software was used for any proposed systems to predict power density levels in the vicinity of the site.

2 Site Description

Site CT-401 is a self-support tower with an overall height of 180 feet above ground level (AGL). It is populated with several types of antennas owned by various telecommunication service providers. AT&T will also install their GSM facility at this site. AT&T antenna height will be 70' AGL. This will be a 3-sector configuration with 1 antenna per sector. Figure 2-1 is a sketch of the tower and the proposed antenna location and orientation.

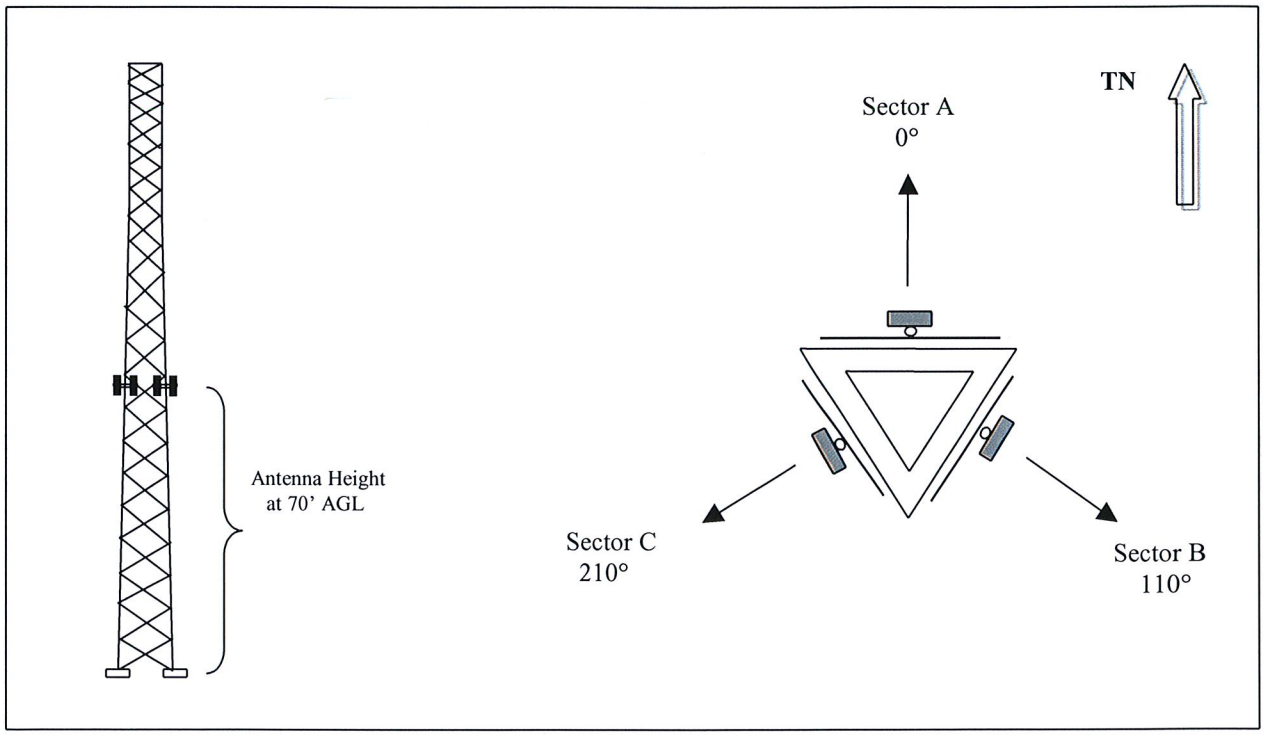


Figure 2-1. Sketch of the Tower, Proposed Antenna Location, and Orientation

Photo 2-1. View of Site CT-401 Looking North

Photo 2-2. View of the Tower Base

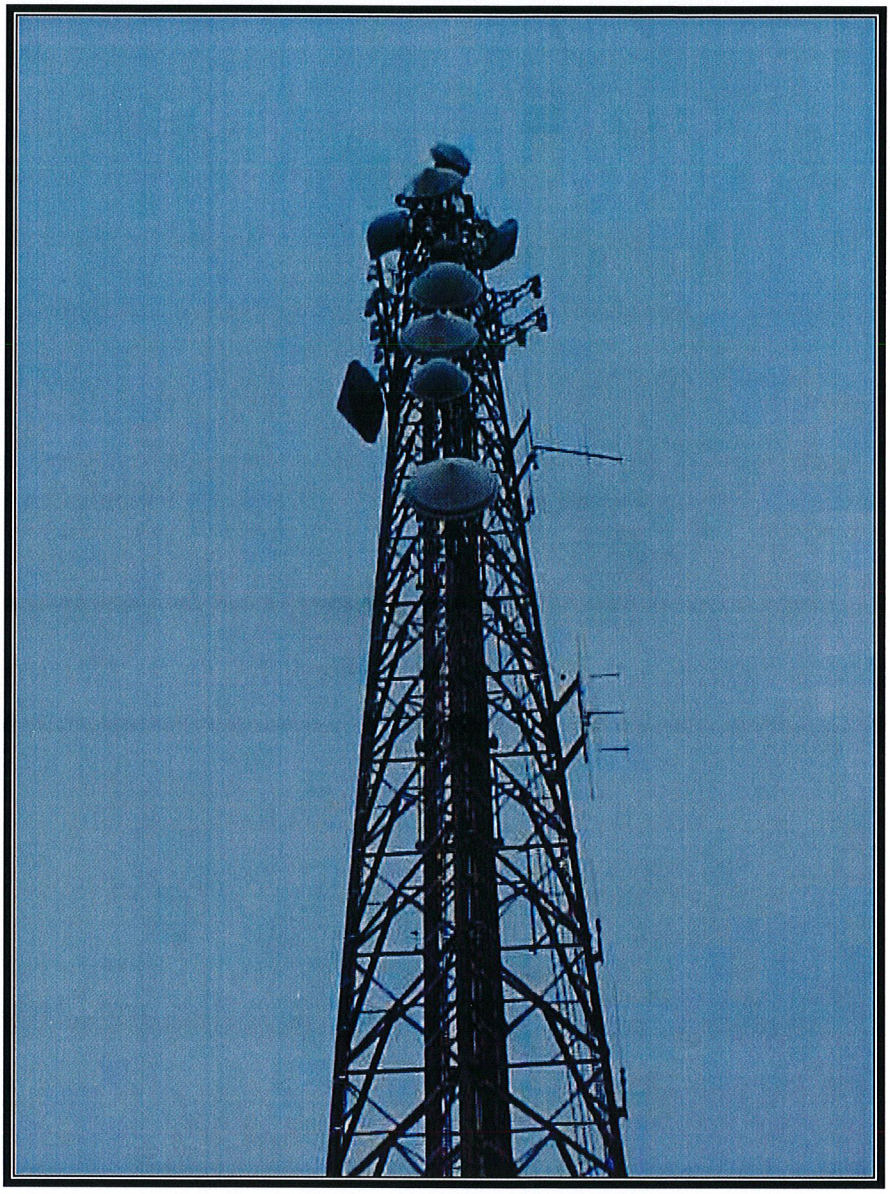


Photo 2-3. View of the Self-Support Tower

3 Data Presentation

3.1 RF Study Objectives

The purpose of this study is to establish electromagnetic emissions compliance for this site with respect to the FCC regulations detailed in 47 U.S.C. Section 332(c)(7)(B)(iv) for both controlled and uncontrolled environments. RF measurements were performed in a manner which would consider the composite level of all operating systems that may be contributing to the RF environment in and around the site. A theoretical analysis was then done using the worst-case transmit parameters for the proposed system. The combined levels for both the RF measurements and the theoretical analysis were used to determine composite levels at each measured area.

3.2 Measurements and Results for Current Configuration

Table 3.2-1. Summary of Current Site Configuration

Site ID	CT-401
Site Name	Bloomfield North
Latitude	41.892717 N
Longitude	72.758917 W
Address of Structure	Hoskins Road Bloomfield, CT
Type of Structure	Self-Support Tower
Antenna Owner	N/A
Address of Antenna Owner	N/A
FCC Class and Type of Service	N/A
Azimuths (Deg.)	N/A
Elevation (AGL)	N/A
Antenna Configuration	N/A
Antenna Manufacturer	N/A
Antenna Type	N/A

Controlled environments are areas with limited access where there may be exposure by persons made aware of the potential risk as a consequence of employment or by other individuals made fully aware of the potential for exposure. Uncontrolled environments are locations where individuals are exposed who have no knowledge or control over their exposure. This may include members of the general population or workers who have not been made fully aware of the potential for exposure. The table that follows details the results of the on-site MPE measurements performed for both the controlled and uncontrolled environments at this facility.

On-site measurement data was recorded in areas in front of each of the proposed AT&T sector antennas and at other surrounding areas inside and outside of the fenced enclosure. For this analysis, the area inside the fenced enclosure is considered a controlled environment. All other areas were considered uncontrolled.

Figure 3.2-1 shows a sketch of the facility and indicates the measured areas.

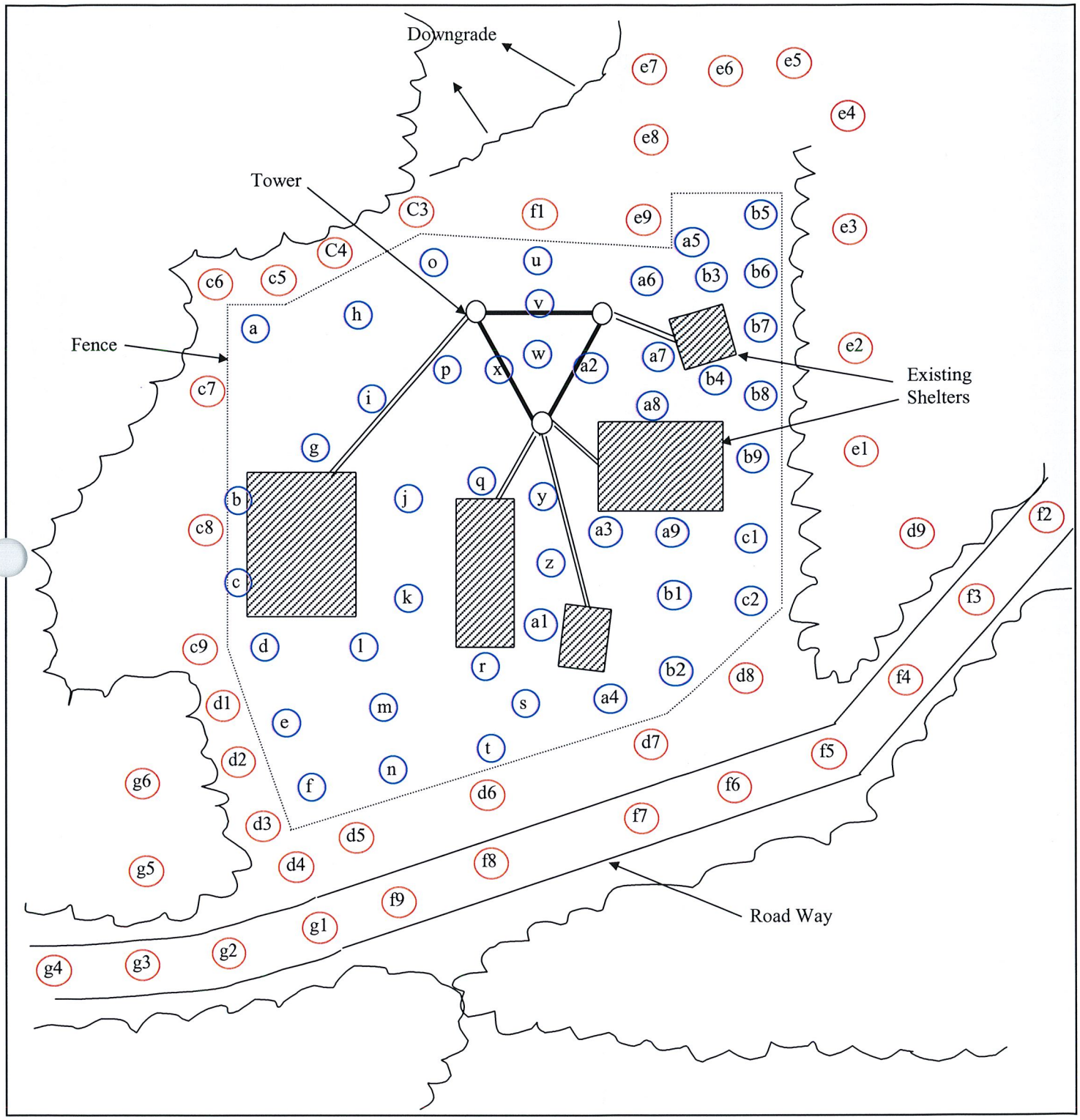


Figure 3.2-1. Sketch of the Facility Indicating Measurement Locations

The following table indicates the results of the on-site measurements taken at 6 feet above ground level. For all measured areas within the controlled environment, a maximum of 0.48% of the applicable MPE limit was recorded in region "d", while a maximum of 3.8% of the MPE limit within the uncontrolled area was recorded in region "g2". These maximum levels were both recorded on the northwestern side of the tower.

Measured Area	MPE Limit Set by FCC ($\mu W/cm^2$)	% of the Standard
Controlled Area		
a	Combined	0.18
b	Combined	0.28
c	Combined	0.13
d	Combined	0.48
e	Combined	0.35
f	Combined	0.26
g	Combined	0.16
h	Combined	0.16
i	Combined	0.093
j	Combined	0.24
k	Combined	0.22
l	Combined	0.41
m	Combined	0.18
n	Combined	0.28
o	Combined	0.26
p	Combined	0.075
q	Combined	0.13
r	Combined	0.30
s	Combined	0.35
t	Combined	0.18
u	Combined	0.018
v	Combined	0.056
w	Combined	0.018
x	Combined	0.13
y	Combined	0.31
z	Combined	0.30
a1	Combined	0.22
a2	Combined	0.31
a3	Combined	0.15
a4	Combined	0.093

a5	Combined	0.24
a6	Combined	0.30
a7	Combined	0.33
a8	Combined	0.26
a9	Combined	0.18
b1	Combined	0.18
b2	Combined	0.28
b3	Combined	0.31
b4	Combined	0.35
b5	Combined	0.33
b6	Combined	0.39
b7	Combined	0.41
b8	Combined	0.24
b9	Combined	0.16
c1	Combined	0.16
c2	Combined	0.056
Measured Area	**MPE Limit Set by FCC ($\mu W/cm^2$)**	**% of the Standard**
Uncontrolled Area		
c3	Combined	1.850
c4	Combined	1.950
c5	Combined	1.500
c6	Combined	1.750
c7	Combined	0.800
c8	Combined	1.300
c9	Combined	1.000
d1	Combined	1.500
d2	Combined	1.950
d3	Combined	0.750
d4	Combined	0.090
d5	Combined	1.000
d6	Combined	0.800
d7	Combined	1.950
d8	Combined	0.800
d9	Combined	2.400
e1	Combined	2.900
e2	Combined	1.100
e3	Combined	1.300
e4	Combined	1.200

e5	Combined	1.500
e6	Combined	1.950
e7	Combined	1.850
e8	Combined	3.150
e9	Combined	2.700
f1	Combined	2.250
f2	Combined	1.300
f3	Combined	1.650
f4	Combined	2.800
f5	Combined	1.400
f6	Combined	1.300
f7	Combined	0.550
f8	Combined	0.090
f9	Combined	1.550
g1	Combined	2.500
g2	Combined	3.800
g3	Combined	3.150
g4	Combined	3.050
g5	Combined	1.850
g6	Combined	1.750

3.3 Analysis and Results for Future Configuration

Table 3.3-1. Summary of Future Site Configuration

Site ID	CT-401
Site Name	Bloomfield North
Latitude	41.892717
Longitude	-72.758917
Address of Structure	Hoskins Road Bloomfield, CT
Type of Structure	Self-Support Tower
Antenna Owner	AT&T Wireless
Address of Antenna Owner	15 E. Midland Ave. Paramus, NJ 07652
FCC Class and Type of Service	PCS GSM
Azimuths (Deg.)	0, 110, 210
Elevation (AGL)	70 ft.
Antenna Configuration	3 Sector - 1 Antenna per Sector
Antenna Manufacturer	Allgon
Antenna Type	Panel

Table 3.3-2. Summary of Proposed Antenna Parameters

Ant ID	Operator	Antenna Type or Model	Height Above Ground Level (Feet)	Azimuth (Degrees)	Number of Channels	Worst Case ERP per Sector Used for this Analysis (Watts)
1	PCS GSM (AT&T)	Allgon 7250.03	70	0	12	3000
2	PCS GSM (AT&T)	Allgon 7250.03	70	110	12	3000
3	PCS GSM (AT&T)	Allgon 7250.03	70	210	12	3000

For the future PCS GSM system, a worst-case scenario with 12 channels at 250 Watts per channel (3000 Watts per sector) was used for the analysis. These values were chosen to be conservative and consider a higher ERP than will likely be used.

3.3.1 Ground Level Analysis – Controlled Environment

A controlled environment is defined as an area where the general public has no access and only authorized personnel like RF engineers or technicians would be. Since the fenced enclosure around the tower structure is locked and contained, it serves as a controlled environment. Therefore, only authorized personnel who are aware of the transmitters present inside the perimeter fence should be allowed access.

Figure 3.3.1-1 is a graphical representation of the site. It illustrates predicted levels (blue shade) for the proposed GSM system within the controlled area of the site. The blue shade indicates 0 – 5% of the FCC MPE limit for occupational/controlled environment exposures.

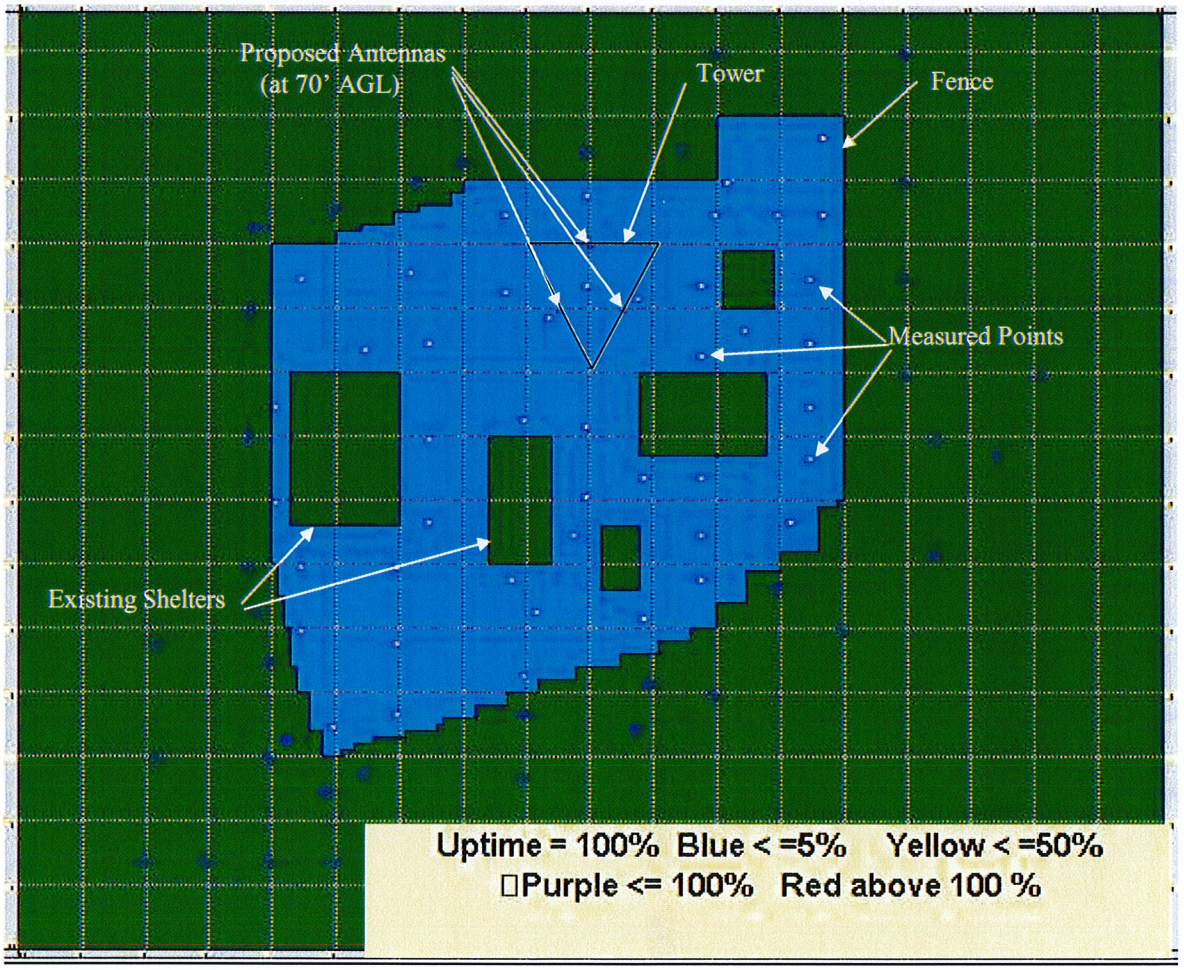


Figure 3.3.1-1. Roofview Plot Showing Predicted Power Density Levels

The following table illustrates the combination of the actual measurements taken at various points and the theoretical analysis for the future configuration using PCS-GSM. At all points, the worst case predicted level was combined with the measured levels to determine a composite value. For the proposed GSM system, a maximum of 12 channels at 250 Watts per channel was used.

Measured Area	Actual Measurements (Composite of All Existing Carriers)		Theoretical Analysis (Using Proposed PCS-GSM System Only)			Total % of the Standard (Composite)
	MPE Limit for Controlled Environment Set by FCC (μW/cm²)	% of the Standard	Predicted Value (μW/cm²)	MPE Limit for PCS Band Controlled Environment Set by FCC (μW/cm²)	% of the Standard	
a	Combined	0.18	0.14	5000	0.0028	0.1828
b	Combined	0.28	0.33	5000	0.0066	0.2866
c	Combined	0.13	0.43	5000	0.0086	0.1386
d	Combined	0.48	0.52	5000	0.0104	0.4904
e	Combined	0.35	0.45	5000	0.0090	0.359
f	Combined	0.26	0.35	5000	0.0070	0.267
g	Combined	0.16	0.56	5000	0.0112	0.1712
h	Combined	0.16	0.26	5000	0.0052	0.1652
i	Combined	0.093	1.36	5000	0.0272	0.1202
j	Combined	0.24	2.075	5000	0.0415	0.2815
k	Combined	0.22	1.285	5000	0.0257	0.2457
l	Combined	0.41	0.865	5000	0.0173	0.4273
m	Combined	0.18	0.58	5000	0.0116	0.1916
n	Combined	0.28	0.4	5000	0.0080	0.288
o	Combined	0.26	0.905	5000	0.0181	0.2781
p	Combined	0.075	1.215	5000	0.0243	0.0993
q	Combined	0.13	5.305	5000	0.1061	0.2361
r	Combined	0.30	0.78	5000	0.0156	0.3156
s	Combined	0.35	0.56	5000	0.0112	0.3612
t	Combined	0.18	0.385	5000	0.0077	0.1877
u	Combined	0.018	29.69	5000	0.5938	0.6118
v	Combined	0.056	247.275	5000	4.9455	5.0015
w	Combined	0.018	0.07	5000	0.0014	0.0194
x	Combined	0.13	152.29	5000	3.0458	3.1758
y	Combined	0.31	1.745	5000	0.0349	0.3449
z	Combined	0.30	0.92	5000	0.0184	0.3184
a1	Combined	0.22	0.75	5000	0.0150	0.235
a2	Combined	0.31	13.74	5000	0.2748	0.5848
a3	Combined	0.15	0.76	5000	0.0152	0.1652
a4	Combined	0.093	0.315	5000	0.0063	0.0993
a5	Combined	0.24	0.595	5000	0.0119	0.2519
a6	Combined	0.30	0.75	5000	0.0150	0.315
a7	Combined	0.33	4.25	5000	0.0850	0.415

a8	Combined	0.26	8.565	5000	0.1713	0.4313
a9	Combined	0.18	0.89	5000	0.0178	0.1978
b1	Combined	0.18	0.49	5000	0.0098	0.1898
b2	Combined	0.28	0.35	5000	0.0070	0.287
b3	Combined	0.31	0.615	5000	0.0123	0.3223
b4	Combined	0.35	4.36	5000	0.0872	0.4372
b5	Combined	0.33	0.295	5000	0.0059	0.3359
b6	Combined	0.39	0.52	5000	0.0104	0.4004
b7	Combined	0.41	1.16	5000	0.0232	0.4332
b8	Combined	0.24	1.94	5000	0.0388	0.2788
b9	Combined	0.16	1.67	5000	0.0334	0.1934
c1	Combined	0.16	1.15	5000	0.0230	0.183
c2	Combined	0.056	0.585	5000	0.0117	0.0677

Using the above predicted results and combining them with the measured levels within the controlled environment, the resulting worst-case composite level is just 5.0015% of the FCC MPE limit for controlled environments.

3.3.2 Ground Level Analysis – Uncontrolled Environment

An uncontrolled environment is defined as an area where the general public has unrestricted access. All of the surrounding area around the fenced enclosure serves as an uncontrolled environment.

Figure 3.3.2-1 is a graphical representation of the site. It illustrates the predicted levels (blue shade) within the uncontrolled area of the site. The blue shade indicates 0 – 5% of the FCC MPE limit for general population exposures.

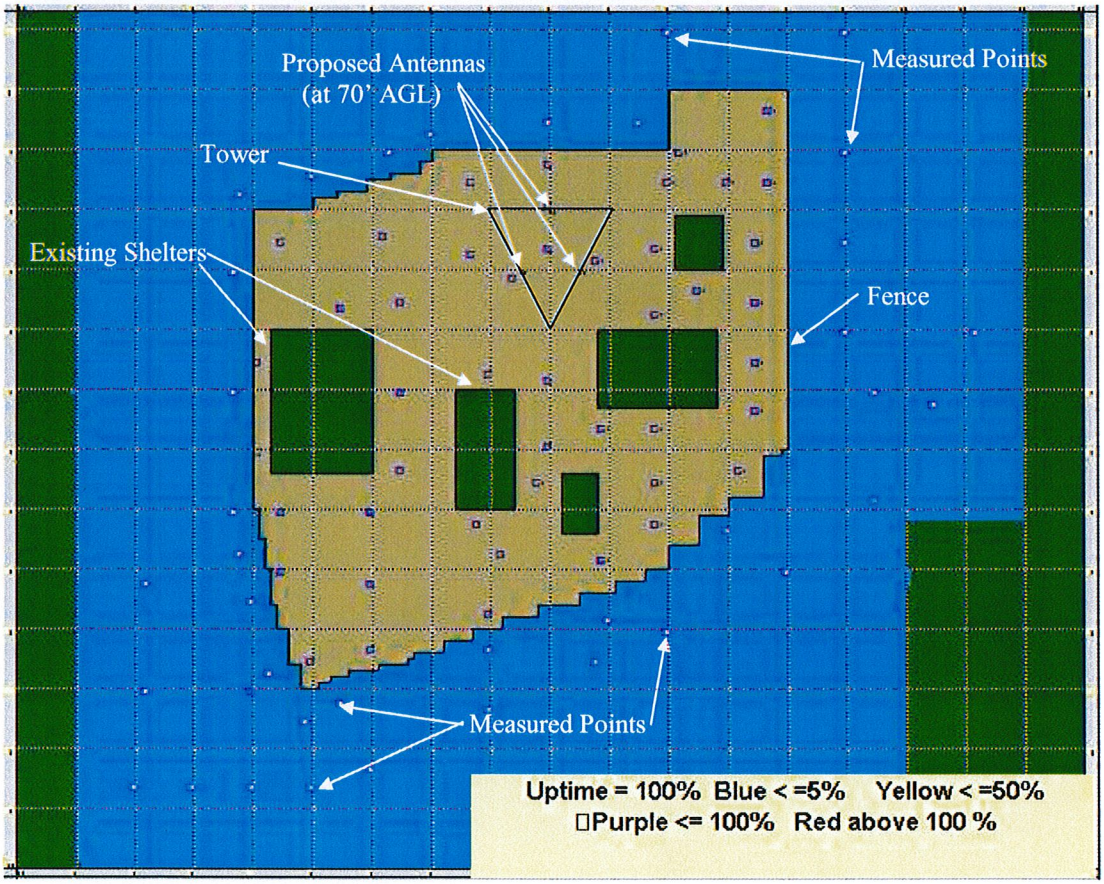


Figure 3.3.2-1. Roofview Plot Showing Predicted Power Density Levels

The following table illustrates the combination of the actual measurements taken at various points and the predictive analysis for the future configuration using PCS-GSM. At all points, the worst case predicted level was combined with the measured levels to determine a composite value. For the proposed GSM system, a maximum of 12 channels at 250 Watts per channel was used.

Measured Area	Actual Measurements (Composite of All Existing Carriers)		Theoretical Analysis (Using Proposed PCS-GSM System Only)			Total % of the Standard (Composite)
	MPE Limit for Uncontrolled Environment Set by FCC ($\mu W/cm^2$)	% of the Standard	Predicted Value ($\mu W/cm^2$)	MPE Limit for PCS Band Uncontrolled Environment Set by FCC ($\mu W/cm^2$)	% of the Standard	
c3	Combined	1.850	0.596	1000	0.0596	1.9096
c4	Combined	1.950	0.225	1000	0.0225	1.9725
c5	Combined	1.500	0.094	1000	0.0094	1.5094
c6	Combined	1.750	0.073	1000	0.0073	1.7573
c7	Combined	0.800	0.138	1000	0.0138	0.8138
c8	Combined	1.300	0.302	1000	0.0302	1.3302
c9	Combined	1.000	0.380	1000	0.0380	1.038
d1	Combined	1.500	0.377	1000	0.0377	1.5377
d2	Combined	1.950	0.362	1000	0.0362	1.9862
d3	Combined	0.750	0.306	1000	0.0306	0.7806
d4	Combined	0.090	0.279	1000	0.0279	0.1179
d5	Combined	1.000	0.311	1000	0.0311	1.0311
d6	Combined	0.800	0.319	1000	0.0319	0.8319
d7	Combined	1.950	0.226	1000	0.0226	1.9726
d8	Combined	0.800	0.348	1000	0.0348	0.8348
d9	Combined	2.400	0.664	1000	0.0664	2.4664
e1	Combined	2.900	0.885	1000	0.0885	2.9885
e2	Combined	1.100	0.588	1000	0.0588	1.1588
e3	Combined	1.300	0.286	1000	0.0286	1.3286
e4	Combined	1.200	0.160	1000	0.0160	1.216
e5	Combined	1.500	0.201	1000	0.0201	1.5201
e6	Combined	1.950	0.306	1000	0.0306	1.9806
e7	Combined	1.850	0.484	1000	0.0484	1.8984
e8	Combined	3.150	0.726	1000	0.0726	3.2226
e9	Combined	2.700	1.406	1000	0.1406	2.8406
f1	Combined	2.250	8.454	1000	0.8454	3.0954
f2	Combined	1.300	0.384	1000	0.0384	1.3384
f3	Combined	1.650	0.472	1000	0.0472	1.6972
f4	Combined	2.800	0.421	1000	0.0421	2.8421
f5	Combined	1.400	0.265	1000	0.0265	1.4265
f6	Combined	1.300	0.189	1000	0.0189	1.3189
f7	Combined	0.550	0.200	1000	0.0200	0.57
f8	Combined	0.090	0.233	1000	0.0233	0.1133

f9	Combined	1.550	0.230	1000	0.0230	1.573
g1	Combined	2.500	0.214	1000	0.0214	2.5214
g2	Combined	3.800	0.204	1000	0.0204	3.8204
g3	Combined	3.150	0.185	1000	0.0185	3.1685
g4	Combined	3.050	0.161	1000	0.0161	3.0661
g5	Combined	1.850	0.201	1000	0.0201	1.8701
g6	Combined	1.750	0.222	1000	0.0222	1.7722

Using the above-predicted results and combining them with the measured levels within the controlled environment, the resulting worst-case composite level is just 3.8204% of the FCC MPE limit for uncontrolled environments.

4 Summary / Recommendations

Based on a combination of on-site RF measurements and theoretical analysis for the proposed GSM system, the following maximum power density levels were calculated.

Controlled Environment	% of Controlled MPE Limit
Current/Existing Configuration	0.48%
Future Configuration - With Addition of Proposed GSM System	5.00%

Uncontrolled Environment	% of Uncontrolled MPE Limit
Current/Existing Configuration	3.80%
Future Configuration - With Addition of Proposed GSM System	3.82%

As indicated by the results shown here, all calculated power density levels fall well below their respective FCC MPE limits for all ground level exposures. In fact, all calculated levels fall below both the controlled and the more conservative uncontrolled environment MPE levels. The addition of the proposed GSM system using the worst case transmit parameters noted in this report shows only a relatively small increase with respect to the MPE limits.

The results presented here are based on ground level analysis only. We would recommend that transmit power be reduced or exposure time be limited when working on or directly around the antennas.

Appendix I

The Measurement Equipment

The field survey meter that was used to perform the field tests was the model 8718 field strength meter and the B8742D field intensity probe, both from Narda Microwave. The meter has a dynamic range of 30 dB and is capable of calculating percentage with respect to the FCC MPE limits. It is portable and has time as well as spatial averaging capabilities. It can also log data for future download and analysis.

The probe is an E-field isotropic shaped probe and is capable of detecting signals in the range 300 kHz to 3 GHz. The calibrated unit (meter and probe) displays the readout in percent of the FCC occupational/controlled MPE limit. The probe is capable of measuring values in the range .6% to 600% of the standard. The shaped response of the probe allows field measurements to be conducted quickly and accurately.