



# 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](mailto:siting.council@po.state.ct.us)

Web Site: [www.state.ct.us/csc/index.htm](http://www.state.ct.us/csc/index.htm)

September 6, 2002

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

RE: **EM-AT&T-008-020828** - AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify an existing telecommunications facility located at 9 Meyers Road, Bethany, Connecticut.

Dear Attorney Fisher:

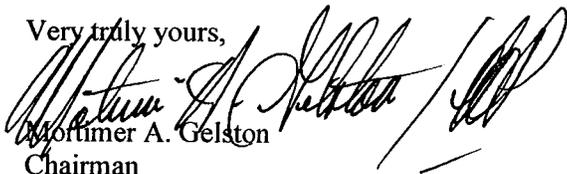
At a public meeting held on September 5, 2002, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the condition that the existing Verizon Wireless coaxial cables be reconfigured and the AT&T cables be installed per the recommendations stated in the letter from James Boltz, P.E., dated August 14, 2002.

The proposed modifications are to be implemented as specified here and in your notice received in our office on August 28, 2002. 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.

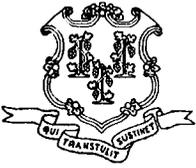
Very truly yours,



Mortimer A. Gelston  
Chairman

MAG/laf

c: Honorable Craig A. Stahl, First Selectman, Town of Bethany  
Robert H. Brinton, Zoning Enforcement Officer, Town of Bethany  
Jeremy McDavitt, American Tower Corporation  
Thomas F. Flynn III, Nextel Communications, Inc.  
Julie M. Donaldson, Esq., Hurwitz & Sagarin LLC  
Sandy M. Carter, Verizon Wireless



# 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](mailto:siting.council@po.state.ct.us)

Web Site: [www.state.ct.us/csc/index.htm](http://www.state.ct.us/csc/index.htm)

August 28, 2002

Honorable Craig A. Stahl  
First Selectman  
Town of Bethany  
Town Hall  
40 Peck Road  
Bethany, CT 06524-3338

RE: **EM-AT&T-008-020828** – AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify an existing telecommunications facility located at 9 Meyers Road, Bethany, Connecticut.

Dear Mr. Stahl:

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 tentatively scheduled for September 5, 2002, 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/slm

Enclosure: Notice of Intent

c: Robert H. Brinton, Zoning Enforcement Officer, Town of Bethany

**RECEIVED**

AUG 28 2002

**NOTICE OF INTENT TO MODIFY AN  
EXISTING TELECOMMUNICATIONS FACILITY AT  
CONNECTICUT SITING COUNCIL 9 MEYERS ROAD, BETHANY, CONNECTICUT**

**RECEIVED**

AUG 27 2002

CONNECTICUT  
SITING COUNCIL

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, Inc. 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 9 Meyers Road, Bethany, Connecticut<sup>1</sup> (the "Meyers Road Facility"), owned by American Tower ("American Tower"). AT&T Wireless and American Tower have agreed to share the use of the Meyers Road Facility, as detailed below.

**The Meyers Road Facility**

The Meyers Road Facility consists of an approximately three hundred thirty-eight foot (338') lattice tower (the "Tower") and associated equipment currently being used for wireless communications by Nextel, Sprint, Verizon and others.<sup>2</sup>

**AT&T Wireless' Facility**

As shown on the enclosed plans prepared by ScienTel, including a site plan and tower elevation of the Meyers 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 165 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 report prepared by Communication Structures Engineering, Inc., annexed hereto as Exhibit C, AT&T has confirmed that the Tower is structurally capable of supporting the addition of AT&T Wireless' antennas with some reconfiguration of Verizon's cabling and specific configuration of AT&T's proposed cabling. This work will be performed as part of AT&T's proposed exempt modification of the Tower.

**AT&T Wireless' Facility Constitutes An Exempt Modification**

The proposed addition of AT&T Wireless' antennas and equipment to the Meyers 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

<sup>1</sup> Please note the address of this Facility has been changed by the Town of Bethany from 93 Old Amity Road to 9 Meyers Road. See letter from Robert H. Brinton, Zoning Enforcement Officer of the Town of Bethany annexed hereto as Exhibit A.

<sup>2</sup> Metricom has not proceeded with leasing the 165' location on the tower as approved by the Council. See letter from American Tower and

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 an Emissions Report prepared by Prabhakar Kumar Rughoobur, RF Engineer, annexed hereto as Exhibit D, the total radio frequency electromagnetic radiation power density at the Tower site's boundary will not be increased to or above the 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 Meyers Road Facility meets the Council's exemption criteria.

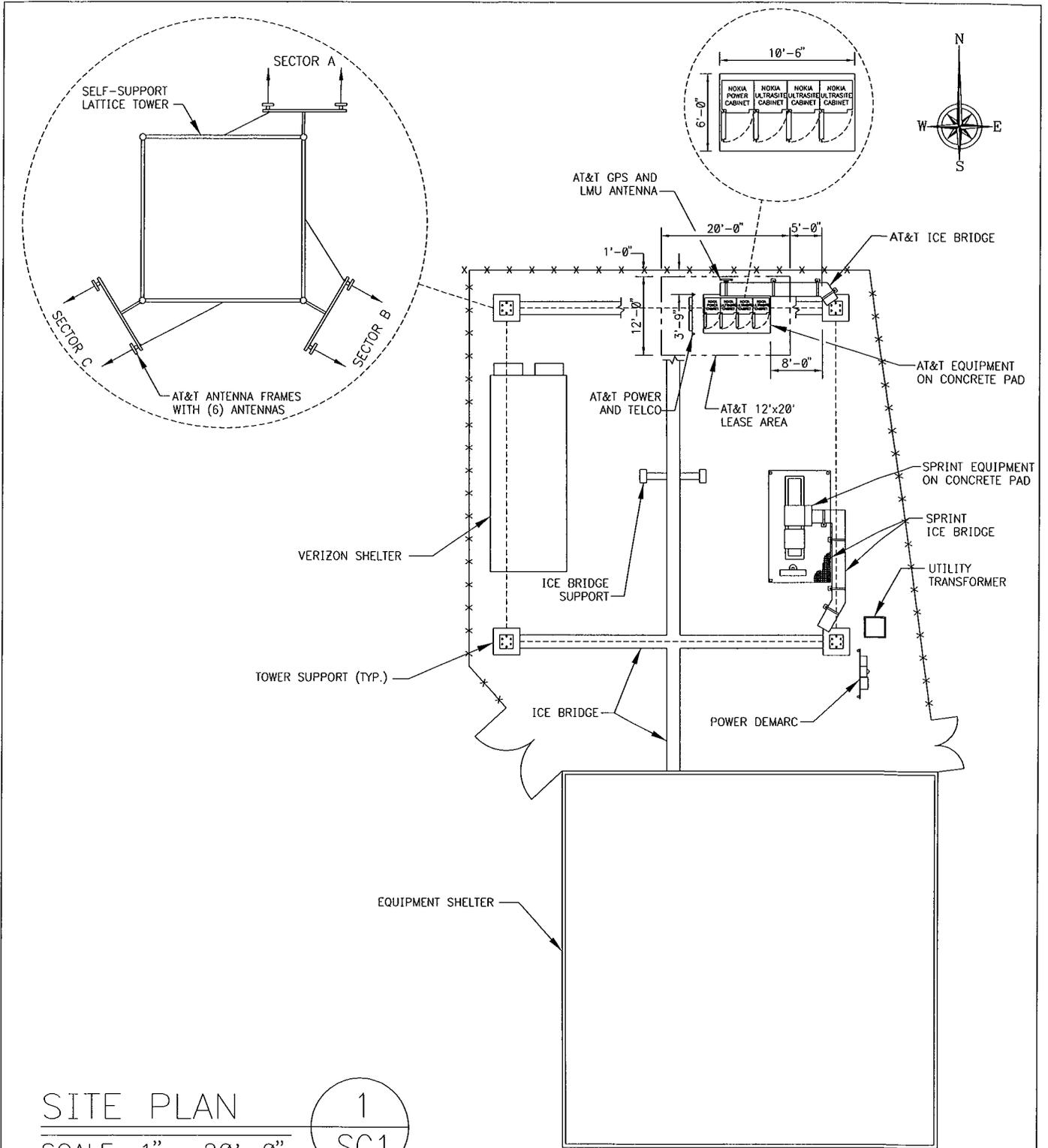
Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'C.B. Fisher', written over a horizontal line.

Christopher B. Fisher, Esq.

On behalf of AT&T Wireless

cc: First Selectman, Town of Bethany  
RJ Wetzel, Bechtel



SITE PLAN

SCALE: 1" = 20'-0"

1  
SC1

**SCIENTEL**  
 THE BLEACHERY  
 143 WEST STREET  
 NEW MILFORD, CT. 06776  
 Tel: (860) 210-3020  
 Fax: (860) 210-3047

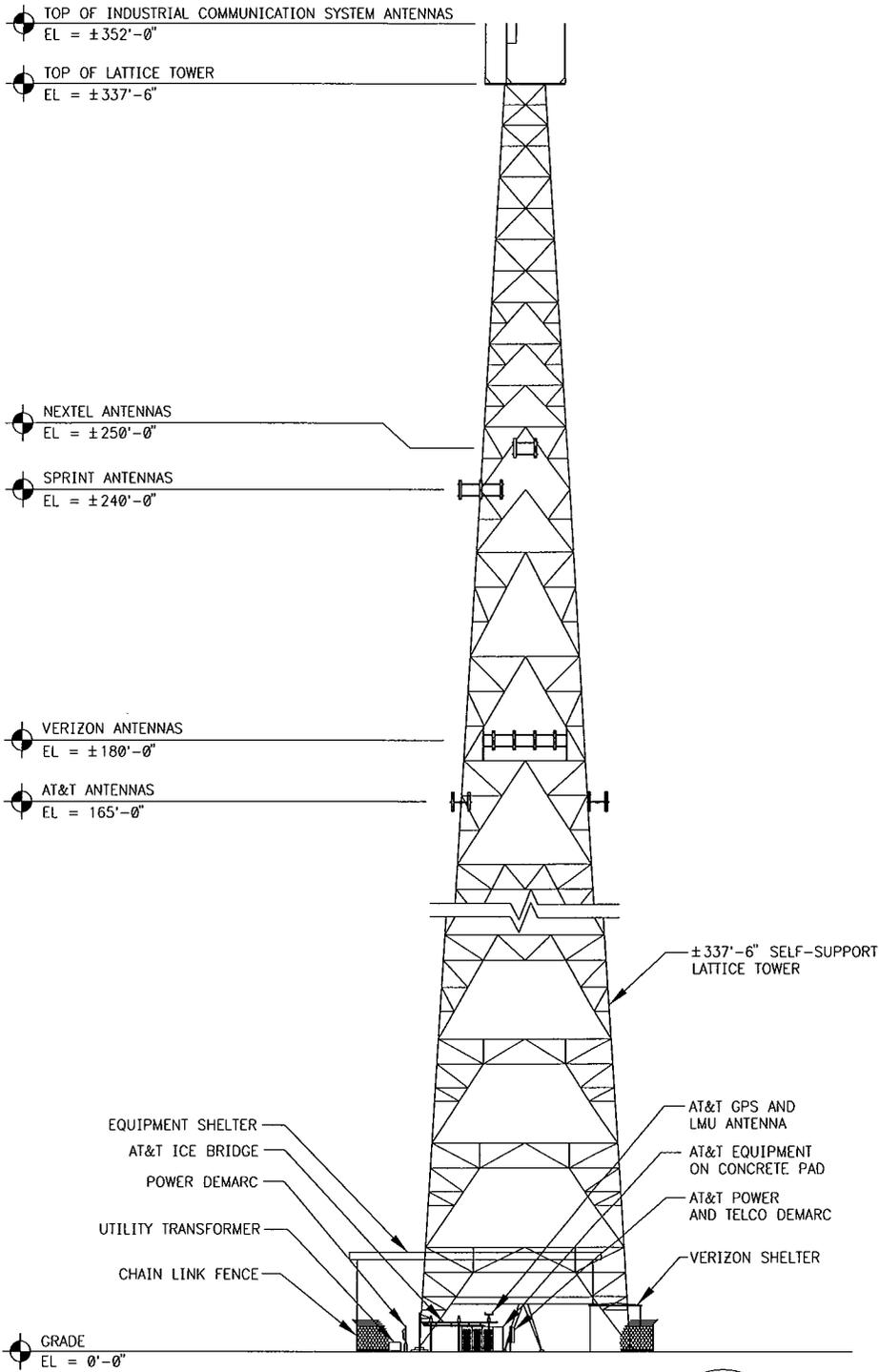
**AT&T**  
 AT&T WIRELESS PCS, LLC.  
 149 EAST WATER STREET  
 SOUTH NORWALK, CT. 06855

**DRAWING TITLE:**  
 SITING COUNCIL

**PROJECT INFORMATION:**  
 BETHANY  
 CT-632  
 9 MEYERS ROAD  
 BETHANY, CT. 06524

**PROPERTY OWNER:**  
 AMERICAN TOWERS, INC.  
 116 HUNTINGTON AVENUE  
 BOSTON, MA. 02116

DRAWING NO.	
<b>SC1</b>	
REVISION NO. 0	DRAWN BY: JT
DATE ISSUED: 08/21/02	CHECKED BY: KW
SCALE: 1" = 20'-0"	APPROVED BY: SC
SHEET NO. 1 OF 2	
A/E PROJECT NO:	17447-0006



NORTH ELEVATION

SCALE: 1" = 40'-0"

1  
SC2



THE BLEACHERY  
143 WEST STREET  
NEW MILFORD, CT. 06776  
Tel: (860) 210-3020  
Fax: (860) 210-3047



AT&T WIRELESS PCS, LLC.  
149 EAST WATER STREET  
SOUTH NORWALK, CT. 06855

DRAWING TITLE:

SITING COUNCIL

PROJECT INFORMATION:

BETHANY  
CT-632  
9 MEYERS ROAD  
BETHANY, CT. 06524

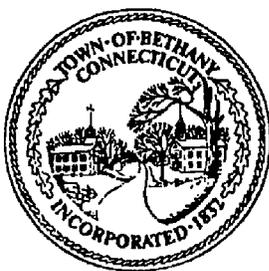
PROPERTY OWNER:

AMERICAN TOWERS, INC.  
116 HUNTINGTON AVENUE  
BOSTON, MA. 02116

DRAWING NO.

SC2

REVISION NO. 0	DRAWN BY: JT
DATE ISSUED: 08/21/02	CHECKED BY: KW
SCALE: 1" = 40'-0"	APPROVED BY: SC
	SHEET NO. 2 OF 2
A/E PROJECT NO: 17447-0006	



\* Town of Bethany

**TOWN OF BETHANY**  
Town Hall — 40 Peck Road  
Bethany, Connecticut 06524  
Tel. (203) 393-1977  
Fax: (203) 393-0821

Date: March 13, 2001

To: American Towers, Inc.  
116 Huntington Ave.  
Boston, MA 02116

Re: Assignment of road number

From: Zoning Enforcement Officer

Please be advised that the address of the 9.2± acre property formerly known as 93<sup>rd</sup> Old Amity Road and shown on Assessor's Map # 118 as Lot # 51C, has been assigned number 9 Mevers Road as an address.

The owner of record of this property in the Bethany Assessor's Office is currently listed as American Towers, Inc.

Please make sure that this number is promptly displayed at the entrance to your property in reflective numerals at least three inches in height.

Sincerely,

Robert H. Brinton  
Zoning Enforcement Officer

cc: Newton H. Borgerson, Jr. - Planning & Zoning Commission  
Daryll Christensen/ David Slezak - Resident State Troopers  
Jeanne Del Vecchio - Human Services Office  
Craig A. Stahl - First Selectman  
Clifford Rosson - Highway Department  
Herbert Howard - Fire Marshal  
Mario J. Panagrosso Jr. - Assessor  
Phyllis Rohloff - Board of Education  
Joan Simpson - Town Clerk  
Tom Martucci - Inland Wetlands Commission  
Lester Warner - Sanitarian  
William L. Brinton / Marian Ash - Registrars of Voters



Joanne Desjardins  
AT&T Wireless  
Bechtel Telecommunications  
210 Pomeroy Avenue  
Meriden, CT 06450

RE: CSC Filing –Bethany, CT (CT-632)

Dear Joanne:

As you requested, this letter is intended for Bechtel's use on behalf of AT&T Wireless for filing with the Connecticut Siting Council and serves to clarify the availability of the height on the site referenced above.

Please note that American Tower did not proceed forward with subleasing the above referenced tower to Metricom Corporation for the height of 165 feet. In addition, Nextel Communications acquired Industrial Communication. The antenna model and frequency levels did not change as a result of the acquisition. Should you have any questions please contact me at the number listed below.

Thank you,

Brad Weltman  
Area Development Manager – New England  
American Tower Corporation  
(203) 754-3790



August 14, 2002

Mr. Victor Rodriguez  
American Tower Corporation  
11312 South Pipeline Rd.  
Euless, TX 76040

Re: Structural Review of ATC's Bethany, CT Lattice Tower  
American Tower Site No: 88008 , New Haven County, CT  
Located: 93 Old Amity Road, Bethany, CT  
Latitude N 41° 24' 17", Longitude W 72° 59' 59"

Dear Mr. Rodriguez,

Communication Structures Engineering, Inc. (CSEI) has completed a review of American Tower Corporation's existing 337.5-ft Modified Type 'H' tower located at ATC's site known as Bethany, CT. In accordance with your request, we have performed a second structural analysis of this tower to check its capability to support the existing tower, antenna and equipment loads as well as the new loads from the AT&T Wireless Services (AWS) proposed additions. For this analysis we have assumed that the twelve existing Verizon cables would be reconfigured to reduce the wind loads from these cables. The specific loading criteria that we utilized in accordance with BOCA were those prescribed by the national standard "ANSI/TIA/EIA-222-F-1996", "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures." The applicable "basic wind speed" that was utilized for this tower site was the 85-mph, fastest-mile velocity, specified by the above standards for the New Haven County, CT area.

A description of the existing tower, the proposed AT&T Wireless Services additions, the existing antenna configuration, the structural analysis procedure, and a description of the results of CSEI's structural analysis follows.

#### **EXISTING TOWER INFORMATION & HISTORY**

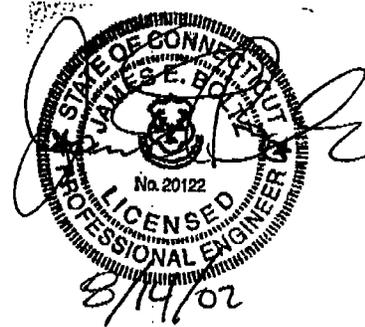
The 337.5-ft Modified Type 'H' tower at this site was originally built in 1966 for AT&T by Flint Steel Corporation to support four AT&T KS15676 Horn Antennas. The primary tower framing has not been modified since the original 1966 construction. The Four AT&T Horn antennas were removed in 1995 when Nextel added their three BMR antennas. Sprint PCS added six panel antennas in 1996. SGI Communications added three omni-directional antennas in 1997. The SGI antennas & cables were recently removed. Nextel added their six panel antennas in 1998. Our firm, CSEI, designed the existing mounting for the Sprint & Nextel additions on this tower. Verizon added their twelve antennas & cables to this tower in 2001.

CSEI utilized all of the engineering drawings for the original tower and subsequent tower modifications to conduct this structural review. A CSEI engineer previously visited this site in 1998. At that time, CSEI climbed, photographed & reviewed the condition of the existing tower structure and confirmed equipment locations. Recent photos of this structure, which were provided by American Tower Corporation, were used to confirm the current antenna & equipment configuration for this structure.

#### **PROPOSED AT&T WIRELESS SERVICES ADDITIONS**

AT&T Wireless Services is now proposing to add six panel antennas at a centerline elevation of approximately 165-ft AGL. Twelve new runs of coaxial cables associated with the AT&T Wireless Services' antennas will also be added. The final antenna configuration used for our structural analysis is summarized on the next page.

**PASSED**



**ANTENNA CONFIGURATION ( Used for Structural Analysis)**

**Existing Antennas & Transmission Lines**

- 1.) Nextel Communications  
Three Celwave BMR12 Omni antennas at 350-ft & 360-ft AGL each w/ one run of 1-5/8 inch coaxial cable.
- 2.) Nextel Communications  
Six Swedcom ALP-E9011 Antennas at 250-ft AGL each w/ one run of 1-5/8 inch coaxial cable.
- 3.) Sprint PCS  
Six DAPA 58000 panel antennas at 240.5-ft AGL each w/ one run of 1-5/8 inch cable.
- 4.) Verizon  
Twelve ALP 9212 panel antennas at 180-ft AGL each w/ one run of 1-5/8 inch coaxial cable.  
One GPS KS24019 antenna w/ one run of 7/8 inch coaxial cable.

**New AT&T Wireless Services Antenna & Transmission Line Additions**

- 1.) (AT&T Wireless Services) Six Allgon 7250.03 panel antennas at centerline of 165-ft above tower base plate and twelve associated runs of 1.25 inch diameter coaxial cable.

**STRUCTURAL ANALYSIS PROCEDURE**

The above referenced design standards combined with wind tunnel test data from extensive tests conducted on Type 'H' towers were utilized to determine the applicable loads for this structure. A frame analysis was performed utilizing the above wind loads and a computer model of the tower framing modeled on STAAD III (Structural Analysis and Design) software. The load carrying frame members of this structure were then reviewed to check their compliance with the AISC 1989 ASD "Specification for Structural Steel Buildings".

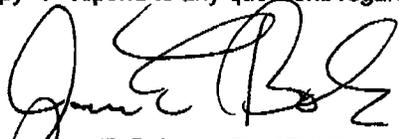
**RESULTS OF STRUCTURAL ANALYSIS**

The majority of the existing tower members had maximum stress levels that were less than the allowable stresses permitted by the AISC Specification. A few tower members had maximum stress levels that were slightly above (less than 5% above) the allowable AISC stress levels. It is our opinion that this 5% stress variation is within the range of accuracy of our analysis and does not constitute an overstress situation that requires tower strengthening at this time. We have therefore concluded that this existing tower is capable of supporting the existing loads as well as the proposed AT&T Wireless Services additions in compliance with the ANSI/TIA/EIA-222-F design criteria. This tower will not require any structural modifications or changes to support the stated equipment provided that the following conditions are satisfied. If the following conditions are not upheld, the results of our structural analysis will be invalid:

- 1.) The twelve existing 1-5/8" diameter Verizon Wireless coaxial cables that are presently routed up a cable ladder on the west tower face must be reconfigured. In order to reduce the wind load from these cables, the twelve coaxial cables must now be stacked in two rows, with one row directly behind the other, so that a maximum of six Verizon coaxial cables are exposed and six coaxial cables are shielded from wind loading.
- 2.) The AT&T Wireless Services cables will be mounted on the north tower face near one of the existing tower legs.
- 3.) The twelve new AT&T Wireless Services 1-1/4" diameter coaxial cables must also be stacked in two rows, with one row directly behind the other, so that a maximum of six AWS coaxial cables are exposed and six coaxial cables are shielded from wind loading.

If any co-location customers add any future additional antennas or equipment to this tower, this structure should be re-analyzed at that time. CSEI would be happy to respond to any questions regarding this structural analysis.

Sincerely,

  
James E. Boltz, P.E. (CT P.E. # 20122)



Attachment: Structural Calculations for Bethany CT Tower





---

**RF Exposure Analysis for Proposed  
AT&T Wireless Antenna Facility**

**SITE-ID : 913-008-632  
CT-632**

August 23, 2002

**Prepared by AT&T Wireless Services, Inc.  
Prabhakar Kumar Rughoobur RF Engineer**

## Table of Contents

1. INTRODUCTION.....	3
2. SITE DATA.....	3
3. RF EXPOSURE PREDICTION .....	3
4. FCC GUIDELINES FOR EVALUATING THE ENVIRONMENTAL EFFECTS OF RF RADIATION.....	4
5. COMPARISON WITH STANDARDS.....	4
6. CONCLUSION .....	5
7. FCC LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE .....	5
8. EXHIBIT A.....	6
9. FOR FURTHER INFORMATION .....	7
10. REFERENCES.....	7

## 1. Introduction

This report constitutes an RF exposure analysis for the proposed AT&T Wireless antenna facility to be located at 9 Meyers Rd, Bethany, CT 06524. This analysis uses site-specific engineering data to determine the predicted levels of radio frequency (RF) electromagnetic energy in the vicinity of the proposed facility and compares those levels with the Maximum Permissible Exposure (MPE) limits established by the Federal Communications Commission.

## 2. Site Data

Site Name: <i>Bethany</i>	
Number of simultaneously operating channels	12
Type of antenna	Allgon 7250.03
Power per channel (Watts ERP)	250.0 Watts
Height of antenna (feet AGL)	165 feet
Antenna Aperture Length	5 feet

## 3. RF Exposure Prediction

The following equations established by the FCC, in conjunction with the site data, were used to determine the levels of RF electromagnetic energy present in the vicinity of the proposed facility<sup>1</sup>:

$$PowerDensity = \frac{0.64 * N * EIRP(\theta)}{\pi * R^2} (mw/cm^2) \quad Eq. 1-Far-field$$

Where,  $N$ = Number of channels,  $R$ = distance in cm from the RC (Radiation Center) of antenna, and  $EIRP(\theta)$  = The isotropic power expressed in milliwatts in the direction of prediction point.

$$PowerDensity = \frac{P_{in} / ch * N * 10^3}{2 * \pi * R * h * \alpha / 360} (mw/cm^2) \quad Eq. 2-Near-field$$

Where  $P_{in}/ch$  = Input power to antenna terminals in watts/ch,  $R$  = distance to center of radiation,  $h$  = aperture height in meters,  $\alpha$  = 3 dB band-width of horizontal pattern.

<sup>1</sup> RF exposure is measured and predicted in terms of power density in units of milliwatts (mW), a thousandth of a watt, or microwatts ( $\mu$  W), a millionth of a watt, per square centimeter ( $cm^2$ ). Data comparing predictive analysis with on site measurements has demonstrated that power density can be effectively predicted at given locations in the vicinity of a wireless antenna facility.

#### 4. FCC Guidelines for Evaluating the Environmental Effects of RF Radiation

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by a Second Memorandum Opinion and Order. These new rules represent a consensus of the federal agencies responsible for the protection of public health and the environment, including the Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), the National Institute for Occupational Health and Safety (NIOSH), and the Occupational Safety and Health Administration (OSHA).

Under the laws that govern the delivery of wireless communications services in the United States, as amended by the Telecommunications Act of 1996, the FCC has exclusive jurisdiction over RF emissions from personal wireless antenna facilities, which include cellular, PCS, messaging and aviation sites.<sup>2</sup> Pursuant to its authority under federal law, the FCC has established rules to regulate the safety of emissions from these facilities.

#### 5. Comparison with Standards

Exhibit A shows the levels of RF electromagnetic energy as one moves away from the antenna facility. As shown in Exhibit A, the maximum power density is 0.000351 mW/cm<sup>2</sup> which occurs at 1500 feet from the antenna facility. The chart in exhibit A also shows that the power density is less than 0.000037 mW/cm<sup>2</sup> at a distance of 4 feet. Table 1 below shows the Maximum Permissible Exposure (MPE) limits established by the FCC. There are different MPE limits for public/uncontrolled and occupational/controlled environments.

*Table 1: Maximum Permissible Exposure limits for RF radiation*

<i>Frequency</i>	<i>Public/Uncontrolled</i>	<i>Occupational/controlled</i>	<i>Maximum power density at Accessible location</i>
Cellular	.580 mW/cm <sup>2</sup>	2.9 mW/cm <sup>2</sup>	0.000351 mW/cm <sup>2</sup>
PCS	1 mW/cm <sup>2</sup>	5.0 mW/cm <sup>2</sup>	

The maximum power density from AT&T's proposed system at the proposed facility represents only 0.04 % of the public MPE limit for PCS frequencies. Since there are other transmitters at this site operating at different frequencies, the proper method for evaluating compliance with exposure limits is to find the percentage of MPE for each service, then sum the percentages to reach a total % of MPE for the site. (OET 65, pp 35-37)

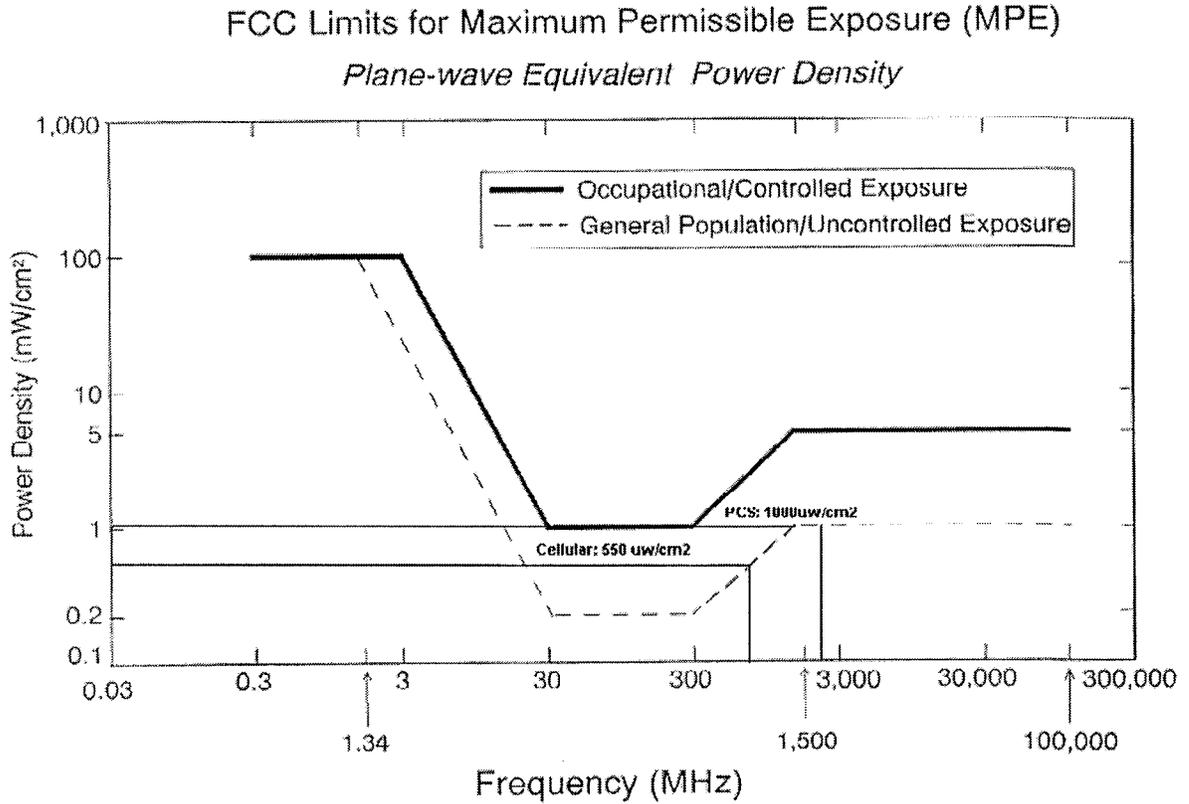
From the last Connecticut Siting Council filing done by Verizon Wireless, the "worst-case" exposure for this site was 7.61 % of MPE at the frequencies in operation (Please see : Copy of MPE results attached as Exhibit 1). Adding the energy from the proposed AT&T system brings the total exposure to 7.65 % of MPE for uncontrolled (general public) exposure.

<sup>2</sup> 47 U.S. C. Section 332 ( c ) (7)(B)(iv) states that "[n]o State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions."

## 6. Conclusion

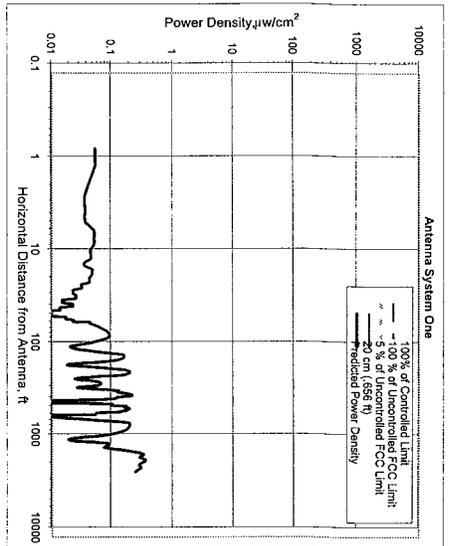
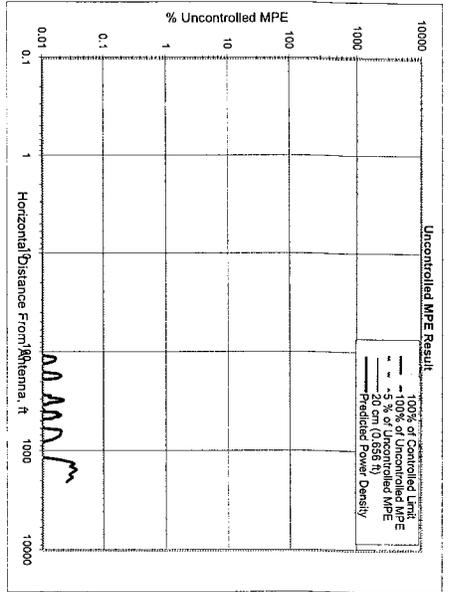
This analysis show that the maximum power density in accessible areas at this location will be 7.65% of MPE, a level of RF energy that is well below the Maximum Permissible Exposure limit established by the FCC.

## 7. FCC Limits for Maximum Permissible Exposure



*AT&T Wireless PCS, LLC.*

**8. Exhibit A**



Number of Antenna Systems: 1

Meets FCC Controlled Limits for The Antenna Systems.

Meets FCC Uncontrolled Limits for The Antenna Systems.

Meets 5% of FCC Uncontrolled Limits for The Antenna Systems.

No Further Analysis Required.

Power Density	mW/cm <sup>2</sup>	% of limit	@Horiz. Dist. feet
Maximum Power Density =	0.000261	0.04	1500.00
2.84735 times lower than the MPE limit for uncontrolled environment			
Composite Power (ERP) =	3.000.00	Watts	

Site ID: 913-008-632  
 Site Name: Bethany  
 Site Location: 9 Meyers Rd  
 Bethany, CT 06524

Performed By: Prabhakar Kumar Rughnobar  
 Date: 8/23/02

MPE from filing Previous Connecticut Siting Council filing : 7.81

The combined % MPE when adding AT&T Wireless' antennas will therefore be: 7.44512038

Antenna Model No.	Value
Frequency	1345.00 MHz
# of Channels	12
Max ERP/Ch	250.00 Watts
Max Pwr/Ch into Ant.	6.96 Watts
Center of Radiation	4.65.00 feet
Calculation Point (above ground or roof surface)	0.00 feet
Antenna Model No.	Algon 7250.03
Max Ant Gain	16.30 dBd
Down tilt	2.00 degrees
Miscellaneous Att.	0.00 dB
Height of aperture	5.11 feet
Ant HBW	85.00 degrees
Distance to Antenna	132.435 feet
WOS?	Y/N?

Ant System ONE Owner: AT&T  
 Sector: 3  
 Azimuth: 0/120/240

## 9. For Further Information

Additional information about the environmental impact of RF energy from personal wireless antenna facilities can be obtained from the Federal Communications Commission:

Dr. Robert Cleveland  
Federal Communications Commission  
Office of Engineering and Technology  
Washington, DC 20554

RF Safety Program: 202-418-2464  
Internet address: [rfsafety@fcc.gov](mailto:rfsafety@fcc.gov)  
RF Safety Web Site: [www.fcc.gov/oet/rfsafety](http://www.fcc.gov/oet/rfsafety)

## 10. References

- [1] The Communications Act of 1934, as amended by the Telecommunications Act of 1996, 47 U.S.C. Section 332 (c)(7)(B)(iv).
- [2] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Notice of Proposed Rulemaking, ET Docket 93-62, 8 FCC Rcd 2849 (1993).
- [3] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Report and Order, ET Docket 93-62, FCC 96-326, adopted August 1, 1996. 61 Federal Register 41006 (1996).
- [4] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Second Memorandum Opinion and Order, ET Docket 93-62, adopted August 25, 1997.
- [5] *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields*, OET Bulletin 65, August, 1997.

Network Dept.



Verizon Wireless  
20 Alexander Drive  
Wallingford, Connecticut 06492

**RECEIVED**

NOV 13 2000

CONNECTICUT  
SITING COUNCIL

November 13, 2000

Mr. Mortimer A. Gelston, Chairman  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051

HAND DELIVERED

Re: **Request by Cellco Partnership d/b/a Verizon Wireless for an Order to Approve the Shared Use of a Tower Facility located at 93 Old Amity Road, Bethany, Connecticut.**

Dear Chairman Gelston:

Pursuant to Connecticut General Statutes (C.G.S.) Sec. 16-50aa, Cellco Partnership d/b/a Verizon Wireless hereby requests an order from the Connecticut Siting Council ("Council") to approve the proposed shared use by Verizon Wireless of an existing tower located at 93 Old Amity Road, Bethany, Connecticut. The property and tower are owned by American Tower Corporation which is located in Boston, Massachusetts. As shown on the attached drawing and as further described below, Verizon Wireless proposes to install antennas on the existing tower and to locate an equipment shelter at the base of the tower. Verizon Wireless requests that the Council finds that the proposed shared use of the tower facility satisfy the criteria stated in C.G.S. Sec. 16-50aa, and to issue an order approving the proposed shared use.

**Background**

Verizon Wireless is licensed by the Federal Communications Commission to provide cellular telephone service in the New Haven County New England County Metropolitan Area (NECMA), which includes the area to be served by the proposed Bethany installation.

The facility at 93 Old Amity Road in Bethany, consists of an approximately 338 foot AGL lattice tower built by AT&T and recently purchased by American Tower Corporation. The lattice tower can structurally support multiple carriers and there other carriers located on the tower. Due to its massive structural capability, Verizon Wireless has not submitted a structural report. Verizon Wireless and American Tower Corporation have agreed to the proposed-shared use of this tower pursuant to mutually acceptable terms and conditions. American Tower Corporation has authorized Verizon Wireless to apply for all necessary permits, approvals and authorizations which may be required for the proposed shared use of this facility.

Mr. Mortimer A. Gelston  
November 13, 2000  
Page 2

Verizon Wireless proposes to install twelve (12) Swedcom Model ALP-9212 antennas, approximately 52 inches in height, on a platform with their center of radiation at approximately 180 feet above ground level ("AGL"). Verizon Wireless will also install one (1) GPS antenna on the tower. Equipment associated with these antennas, as well as a 40 KW diesel-fueled emergency stand-by generator, would be located in a new approximately 12-foot x 30-foot equipment building located at the base of the tower.

C.G.S. Sec. 16-50aa provides that, upon written request for approval of a proposed shared use, "if the Council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the Council shall issue an order approving such shared use" (C.G.S. Sec. 16-50aa(c)(1).)

### Discussion

A. Technical Feasibility. The existing tower is structurally sound and capable of supporting the proposed Verizon Wireless antennas. The tower will not require any structural modification to support the proposed attachments. Verizon Wireless engineers have determined that the proposed antenna installations present minimal potential for interference to or from existing radio transmissions from this location. In addition, the applicant is unaware of any occasion where its operations have caused interference with AM, FM or television reception. The proposed shared use of this tower therefore is technically feasible.

B. Legal Feasibility. Under C.G.S. Sec. 16-50aa, the Council has been authorized to issue an order approving the proposed-shared use of an existing communications tower facility such as the facility at 93 Old Amity Road. (C.G.S. Sec. 16-50aa(c)(1).) This authority complements the Council's prior-existing authority under C.G.S. Sec. 16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. C.G.S. Sec. 16-50x(a) directs the Council to "give consideration to other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing tower facilities. Under the authority vested in the Council by C.G.S. Sec. 16-50aa, an order by the Council approving the shared use would permit the applicant to obtain a building permit for the proposed installations.

Mr. Mortimer A. Gelston  
 November 13, 2000  
 Page 3

C. Environmental Feasibility. The proposed shared use would have a minimal environmental effect, for the following reasons:

1. The proposed installations would have an insignificant incremental visual impact, and would not cause any significant change or alteration in the physical or environmental characteristics of the existing site. The addition of the proposed antennas would not increase the height of the tower, and would not extend the boundaries of the tower site, including the placement of the equipment building near the base of the existing tower.
2. The proposed installation would not increase the noise levels at the existing facility by six decibels or more. The only additional noise will occur during emergency use or periodic exercising of the generator.
3. Operation of the additional antennas will not increase the total radio frequency electromagnetic radiation power density, measured at the tower base to a level at or above the applicable standard. "Worst-case" exposure calculation for a point at the base of the tower in relation to the operation of Verizon Wireless's and other existing antenna arrays are as follows:

	<u>Applicable ANSI Stnd</u>	<u>Calculated "Worst-Case"</u>	<u>Percentage of Stnd.</u>
Verizon Wireless	0.583 mW/cm <sup>2</sup>	0.0211 mW/cm <sup>2</sup>	3.61%

\*As per filing by Nextel Communications to the Council approved on March 16, 1998, all other Carriers on tower totaled a power density calculated At base of tower to be less than 4%.

The "worst-case" exposure would be only 7.61 % of the ANSI standard, as calculated for mixed frequency sites. Power density levels from shared use of the tower facility would thus be well below applicable ANSI standards

Mr. Mortimer A. Gelston  
November 13, 2000  
Page 4

4. The proposed installations would not require any water or sanitary facilities, or generate discharges to water bodies. Operation of the emergency back-up generator will result in limited air emissions; pursuant to R.C.S.A. Section 22a-174-3, the generator will require the issuance of a permit from the Department of Environmental Protection Bureau of Air Management. After construction is complete, the proposed installation would not generate any traffic other than periodic maintenance visits.

The proposed use of this facility would therefore have a minimal environmental effect, and is environmentally feasible.

D. Economic Feasibility. As previously mentioned, the tower owner and the applicant have entered into a mutual agreement to share the use of the existing tower on terms agreeable to the parties, and the proposed tower sharing is thus economically feasible.

E. Public Safety Concerns. As stated above, the existing tower is structurally capable of supporting the proposed Verizon Wireless antennas. The Applicant is not aware of any other public safety concerns relative to the proposed tower sharing of the existing tower. In fact, the provision of new or improved cellular phone service in the Bethany area, including 5 miles of Route 63 and 2.5 miles of Route 67 and the surrounding area, through shared use of the tower is expected to enhance the safety and welfare of area residents and travelers. The public safety benefits of wireless service are further illustrated by the decision of local authorities elsewhere in Connecticut to provide cellular phones to residents to improve local public safety and emergency communications. The proposed-shared use of this facility would likewise improve public safety in the Bethany area.

### Conclusion

For the reasons discussed above, the proposed shared use of the existing telecommunications tower facility at 93 Old Amity Road satisfies the criteria stated in C.G.S. Sec. 16-50aa, and advances the General Assembly's and the Council's goal of preventing the proliferation of towers in Connecticut. The Applicant therefore requests that the Council issue an order approving the proposed shared use.

Mr. Mortimer A. Gelston  
November 13, 2000  
Page 5

Thank you for your consideration of this matter.

Pursuant to Connecticut General Statutes Sec. 16-50v and Section 16-50v-1(a) of the Regulations of Connecticut State Agencies, Verizon Wireless has enclosed a check in the amount of \$500.00 for the required filing fee.

Respectfully yours,

*Sandy M. Carter*

Sandy M. Carter  
Manager - Regulatory  
Verizon Wireless

Attachments

cc: Craig A. Stahl, First Selectman

Bethany, CT - Co-location on an Existing AT&T Tower		Power Density Calculations					
Transmitter	Frequency in Mhz	CT Standard mW/cm <sup>2</sup>	Power density calculated at the tower base	Power density calculated at 10' from the base	Power density calculated at 100' from the base	Power density calculated at 1000' from the base	Power density calculated at 10000' from the base
AT&T Omni Antenna Repeater System - 451 Mhz at center line 347' AGL - Existing							
Industrial Communications Omni SMR - 855 Mhz at center line 345' AGL - Existing							
Sprint Spectrum Directional Antenna PCS - 1900 Mhz at center line 240' AGL - Existing							
Nextel Directional Antennas ESMR - 851 Mhz at center line 250' AGL - Proposed							
Note: Power densities are in mW/cm <sup>2</sup>							
AT&T Omni Antenna Repeater System	451	0.30066667	0.000298483	0.000298235	0.000275594	0.0000321	0.0000004
AT&T Omni Antenna Repeater System - % of CT Standard			0.0993%	0.0992%	0.0917%	0.0107%	0.0001%
Industrial Communications - SMR	855	0.57	0.009058601	0.009050997	0.00835652	0.0009635	0.0000108
Industrial Communications - SMR - % of CT Standard			1.5992%	1.5979%	1.4661%	0.1690%	0.0019%
Sprint Spectrum - PCS	1900	1	0.008373521	0.008359009	0.007134834	0.0004560	0.0000048
Sprint Spectrum - PCS - % of CT Standard			0.8374%	0.8359%	0.7135%	0.0456%	0.0005%
Nextel Directional ESMR Antennas	851	0.567333333	0.00517536	0.005167093	0.004461517	0.0003044	0.0000032
Nextel Directional Antennas - % of CT Standard			0.9122%	0.9108%	0.7864%	0.0537%	0.0006%
Total % of CT Standard			3.4381%	3.4338%	3.0576%	0.2790%	0.0031%