

December 5, 2002

Ms. Isabel Tartaglia  
Tartaglia and Associates  
477 Main Street  
Monroe, CT 06468

446  
12/9/02

Dear Ms. Tartaglia:

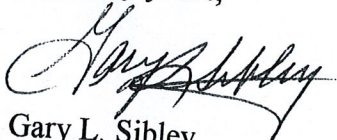
This letter follows our previous conversations concerning NorthCoast PCS and their earlier interest in leasing tower space (at the 80' height) on your tower at 1330 Chopsey Hill Road in Bridgeport, Ct.

As you know, NorthCoast had completed some preliminary plan design as well as initial discussions and application filing with the City of Bridgeport zoning officials as well as the Connecticut Siting Council (file TS-NorthCoast-015-011220). Unfortunately, a license agreement with NorthCoast PCS and AAT Communications was never completed due to financial problems and a Chapter 11 filing by NorthCoast PCS's parent company.

This letter is to formally notify you that the 80' elevation on your tower is no longer required for this installation and is available for other tower tenants as you determine.

Please call me if you have any questions or require any additional information. Wishing you a safe and Happy Holiday Season, I remain

Sincerely yours,



Gary L. Sibley  
General Manager

Cc: Ct Siting Council  
Melanie J. Howlett, City of Bridgeport

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DANIEL F. LEARY (also CT)  
BARRY E. LONG

March 6, 2002

VIA FAX

Hon. Mortimer Gelston, Chairman and Members  
of the Siting Council  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051



Re: AT&T Wireless - TS-AT&T-015-990913  
1000 Trumbull Avenue (the "Chopsey Hill Facility"),  
Bridgeport, Connecticut  
Notice of Exempt Modification

Hon. Mortimer Gelston, Chairman and Members of the Siting Council:

This letter and its enclosures are submitted in further support of AT&T's February 19<sup>th</sup> "notice of exempt modification" with respect to the above referenced facility. We are in receipt of a March 5, 2002 letter from Melanie Howlett, Esq., submitted on behalf of the City with respect to the above referenced matter requesting that the Council table this matter at its March 7, 2002 meeting because the City believes AT&T's filing is "incomplete". We respectfully disagree and request that the Council consider this matter at its March 7, 2002 meeting and acknowledge AT&T's notice of exempt modification based on the information contained therein and this letter which is simultaneously being provided to the City's representatives.

As noted in AT&T's February 2002 Notice, AT&T has an existing wireless facility at the Chopsey Hill Facility in Bridgeport. AT&T will be deploying additional telecommunications equipment in its existing on site shelter. AT&T's February 19<sup>th</sup> filing contained an MPE report which, by field measurement, included power density information for all transmitters currently

operating at the site including those of AT&T, Verizon and numerous other carriers, paging entities and others. By virtue of the measurement protocol, all existing users of the tower were included in the MPE analysis.

Nevertheless, it should be noted that in 1999 AT&T “mapped” the tower and all users then transmitting from the facility in order to prepare MPE calculations for the Council as part of its original tower sharing application (TS-AT&T-015-990913). A detailed report was prepared by Lucent and is on file with the Council as part of AT&T’s 1999 tower sharing approval. Moreover, it is our understanding, that AT&T’s report has been utilized by subsequent carriers as a “base line” to prepare their MPE analysis for purposes of the Council’s review and tower sharing proposals.

Indeed, it is our understanding that the Council recently approved a tower sharing request by Northcoast (TS-Northcoast-015-011220) at the Chopsey Hill Facility. Included in Northcoast’s filing was an MPE report by LCC, a copy of which is enclosed for the Council and City’s convenience. In its report, LCC concluded that the existing worst case calculated power density at the site was 25.2% and together with Northcoast’s proposed facility, no more than 26% of the FCC’s Uncontrolled Standards. Moreover, we know that AT&T’s additional equipment will only contribute an additional .011% of the standard utilizing FCC OET Bulletin 65 worst case assumptions. See Report by WFI accompanying AT&T’s notice of exempt modification (existing AT&T facility is .057% and existing and proposed AT&T facility is .068%). As such, AT&T’s modifications at the Chopsey Hill Facility that are associated with this exempt modification will nominally contribute to the overall power density at the site, (i.e., cumulative site power density is calculated at no more than 27% of the FCC’s standard). Of note, the field measurements taken by WFI confirm that calculations are truly conservative (i.e. compare % of standards).

Accordingly, and regardless of how it is calculated or measured, the site is in compliance with FCC Standards in its existing configuration, as approved for modification by other carriers and as proposed to be further modified by AT&T.



Page 3

Given all of the foregoing, AT&T Wireless respectfully submits that the proposed addition of equipment to the Chopsey Hill Facility meets the Council's exemption criteria and requests an acknowledgment of same.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'C. Fisher', is written over the typed name.

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

cc: Robert Mercier, CSC  
Melanie J. Howlett, Esq. (w/enc)(By fax)  
Darryl Hendrickson, Bechtel Telecommunications





This report provides information regarding Northcoast Communications' compliance with the FCC Guidelines for Human Exposure to RF Electromagnetic Fields at the proposed site located at 1330 Chopsey Hill Road, Bridgeport.

The Federal Communications Commission has provided guidelines regarding human exposure to the radio frequency electromagnetic fields. These guidelines are defined in FCC's OET Bulletin No. 65. In this bulletin, the FCC has set the limits for maximum permissible exposure (MPE) limits for both the occupational and general population. These limits for maximum permissible exposure are shown below on Table 1.

**Table 1. LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)**

**(A) Limits for Occupational/Controlled Exposure**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

**(B) Limits for General Population/Uncontrolled Exposure**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz \*Plane-wave equivalent power density

Northcoast's transmit frequencies are in the range of 1970 to 1975 MHz. Based on Table 1, the limit for the occupational exposure at these frequencies is 5 mW/cm<sup>2</sup> and the limit for the general population is 1 mW/cm<sup>2</sup>.

Below are calculations showing Northcoast power density levels at the base of the tower. These calculations were done using the maximum gain of the antennas and assuming that all channels are operating concurrently, to provide a "worst case" scenario.

<b>Power Density Parameters</b>		
<b>Transmit Power (3 Channels)</b>	<b>48</b>	<b>W</b>
<b>Transmit Power (dBm)</b>	<b>46.81</b>	<b>dBm</b>
<b>Cable Type</b>	<b>VXL7-50 (1 5/8")</b>	
<b>Cable Length (ft)</b>	<b>120</b>	<b>ft</b>
<b>Cable Loss/100ft</b>	<b>1.13</b>	<b>dB/100ft</b>
<b>Main Feeder Loss</b>	<b>1.36</b>	<b>dB</b>
<b>Jumper</b>	<b>VXL5-50 (7/8")</b>	
<b>Jumper Loss</b>	<b>0.2412</b>	<b>dB</b>
<b>Connectors' Loss</b>	<b>0.6</b>	<b>dB</b>
<b>Splitter Loss</b>	<b>0</b>	<b>dB</b>
<b>Power Into Antenna</b>	<b>28.94</b>	<b>W</b>
<b>Antenna Gain</b>	<b>15</b>	<b>dBd</b>
<b>EIRP (dBm)</b>	<b>61.82</b>	<b>dBm</b>
<b>EIRP (3 Channels)</b>	<b>1518.87</b>	<b>W</b>

Calculations	Distance (feet)	Distance (meters)	Angle of Radiation	Vertical Gain (dB)	EIRP (dBm)	EIRP (W)	Power Density (mW/cm <sup>2</sup> )
Northcoast calculations at the bottom of the tower.	80	24.392	89.20	15	61.82	1518.87	0.052005609
Total %MPE of all carriers at the bottom of the tower.	25.2%						

The resulting power density from the above calculations is 0.052005609 mW/cm<sup>2</sup>. These results indicate calculation levels not exceeding 6% for Northcoast and 26% total for the MPE limit of 1 mW/cm<sup>2</sup> for the general population.

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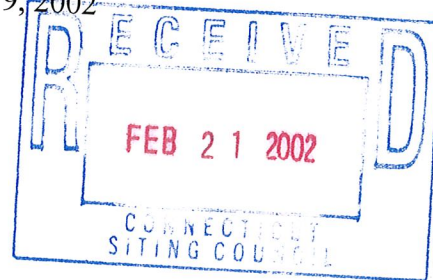
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BARRY E. LONG

VIA FEDERAL EXPRESS

Hon. Mortimer Gelston, Chairman and Members  
of the Siting Council  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051

February 19, 2002



Re: AT&T Wireless - TS-AT&T-015-990913  
1000 Trumbull Avenue (the "Chopsey Hill Facility"),  
Bridgeport, Connecticut  
Notice of Exempt Modification

Hon. Mortimer Gelston, Chairman and Members of the Siting Council:

On October 21, 1999 the Council ruled that AT&T's proposed shared use of the existing Wireless Communications facility complied with Section 16-50aa of the Regulations of Connecticut State Agencies (TS-AT&T-015-990913) permitting AT&T to install up to twelve (12) panel antennas at the 165' level on the existing tower, with an associated equipment shelter located within the fenced compound.

This notice of exempt modification is being provided pursuant to Section 16-50j-72 of the Council's regulations. AT&T will be installing additional equipment within the existing shelter at the facility. There will be no other infrastructure changes to AT&T's facility.

The proposed addition of equipment to AT&T Wireless' facility does not constitute a "modification" of an existing facility as defined in Connecticut General Statutes Section 16-50i(d). The proposed addition to AT&T Wireless' facility will not result in an increase in the



February 19, 2002

Page 2

Tower's height or extend the boundaries of the existing fenced area surrounding the Tower. Further, there will be no increase in noise levels by six (6) decibels or more at the Tower site's boundary. AT&T made measurements of the existing facility to confirm compliance with MPE limits and as set forth in a report prepared by Wireless Facilities, Inc., annexed hereto, 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. For all the foregoing reasons, the proposed modifications to AT&T Wireless' existing facility constitutes an exempt modification which will not have a substantially adverse environmental effect.

AT&T Wireless respectfully submits that the addition of the equipment to the Chopsey Hill Facility meets the Council's exemption criteria and requests an acknowledgment of same.

Respectfully Submitted,



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

cc: Mayor, City of Bridgeport  
Darryl Hendrickson, Bechtel Telecommunications



Wireless Facilities, Inc.  
 1840 Michael Faraday Drive  
 Suite 200  
 Reston, VA 20190

February 7, 2002

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

**RE: FCC Compliance Statement for AT&T Site CT-093 (Bridgeport North Lattice tower)**

Dear Mr. Gelston:

On behalf of AT&T Wireless, Wireless Facilities Inc. has performed in-field RF measurements and office analyses for site CT-040 to determine compliance with FCC mandated Maximum Permissible Exposure (MPE) limits as defined in 47 CFR § 1.1310.

The table below gives a brief summary of the site location, its configuration and associated technical parameters.

**Summary of the site configuration and technical parameters:**

<b>Site ID</b>	CT-093
<b>Site Name</b>	Bridgeport North-LatticeTower
<b>Latitude</b>	41.21944
<b>Longitude</b>	-73.20138
<b>Address of structure</b>	1280 Chopsey Hill Rd Bridgeport, CT
<b>Type of structure</b>	Tower
<b>Antenna structure owner</b>	AT&T Wireless services
<b>Address of antenna owner</b>	149 Water street, Norwalk, CT
<b>Antenna owner contact number</b>	203-831-4010
<b>FCC class and Type of service</b>	PCS TDMA (IS-136) PCS GSM
<b>Operating frequency</b>	D, E bands (PCS)
<b>Azimuths</b>	30,150,270
<b>Elevation (ft)</b>	165
<b>Antenna manufacturer</b>	Allgon
<b>Antenna type</b>	Panel

The mathematical equations used in evaluating the power density values are exactly as outlined in the Office of Engineering & Technology (OET) Bulletin Number 65 which contains the FCC

guidelines for evaluating human exposure to radio-frequency electromagnetic fields.

In the case of a single radiating antenna, a prediction for power density in the far field of the antenna can be written as:

$$S = \frac{EIRP}{4\pi D^2} = \frac{1.64 * ERP}{4\pi D^2}$$

**Where** S = Power density in  $\mu\text{W}/\text{cm}^2$   
 EIRP = Effective isotropic radiated power (W)  
 ERP = Effective radiated power (W)

Using the EPA's recommended factor of 1.6 for 100 % reflection, the worst case power density can be obtained by incorporating this factor into the above equation. If the distance, D, is in meters, the ERP is in Watts, then the worst case power density in  $\mu\text{W}/\text{cm}^2$  is given by.

$$S = \frac{33.4 * ERP}{D^2} \text{ (Section 2, OET bulletin 65).}$$

WFI's analysis considered both the current configuration as well as the future GSM deployment AT&T is proposing. For the current configuration, both in-field measurements and a predictive analysis tool were used to determine compliance. For the future deployment, only a predictive analysis was performed. The maximum worst-case values of the power density for this analysis are outlined below:

Configuration	Theoretical Measuring point	predicted value $\mu\text{W}/\text{cm}^2$	Maximum Limit for PCS band uncontrolled environment set by FCC $\mu\text{W}/\text{cm}^2$	% of the standard
Current PCS TDMA configuration	370 feet away in front of the antenna	0.57	1000	0.057
Future PCS TDMA and GSM configuration	340 feet away in front of the antenna	0.68	1000	0.068



In addition to predictive analysis, on-site data was recorded at different locations around the lattice tower. In all areas, less than or equal to 1 % of the MPE for public/uncontrolled limits was recorded. The reason the actual measurements are higher than the predicted values is because the actual measurements include emissions from the other carriers at the site while the theoretical study focused on the level of emissions contributed by AT&T only.

On-site measuring point	Worst Case Measured Value $\mu\text{W}/\text{cm}^2$	Maximum Limit for Cellular Band Uncontrolled Environment Set by FCC $\mu\text{W}/\text{cm}^2$	% of the Standard
50 meters in front of sector 1	10	1000	1
50 meters in front of sector 2	0.5	1000	0.05
50 meters in front of sector 3	8	1000	0.8

The results of these analyses indicate that output power levels for the AT&T owned equipment deployed at the above referenced facility meets FCC approved exposure limits for all uncontrolled areas where general population exposure may exist. Thus, the maximum level of RF radiation in all uncontrolled areas (Assuming a worst case scenario and a 100 % duty cycle for all the transmitters.) is less than or equal to 1 % of the maximum permissible exposure limit mandated by the FCC and endorsed by the NCRP and ANSI/IEEE.

To the best of my knowledge, the statements made and information disclosed in this study are complete and accurate.

Sincerely,  
Wireless Facilities, Inc. ?



Dan Hardiman  
Senior Engineer II  
Fixed Network Engineering

CITY ATTORNEY  
Mark T. Anastasi

DEPUTY CITY ATTORNEY  
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LEGAL ADMINISTRATOR

Kathleen Pacacha

Telephone (203) 576-7647

Facsimile (203) 576-8252

November 22, 1999

**Via Facsimile and First Class Mail**

Neil Alexander  
Christopher B. Fisher  
Cuddy & Feder & Worby LLP  
90 Maple Avenue  
White Plains, New York 10601-5196

**RECEIVED**

NOV 26 1999

CONNECTICUT  
SITING COUNCIL

Re: **TS-AT&T-015-990913** – AT&T Antenna & Equipment Shed at 1000 Trumbull Avenue (“Chopsey Hill”), Bridgeport, Connecticut;

EM-AT&T-015-990913 – AT&T Antenna & Equipment Shed at the existing SNET Facility at Kaechele Place, Bridgeport, Connecticut

Dear Gentlemen:

This letter will confirm my recent telephone conversation with Neil Alexander that AT&T has scheduled November 29, 1999, as the date it plans to visit the Building Department of the City of Bridgeport (“City”) to obtain a building permit regarding the two applications noted above that were approved by the State Siting Council on October 21, 1999.

In order for that to occur, the City will require a Surety Removal Bond to ensure the future removal of the antennas and equipment sheds if they remain unused for a period of six (6) months, made out to the City. I have reviewed the estimated costs of constructing and removing plant and equipment at both locations, as provided by your office on November 9 and November 16, 1999. These estimates indicate that the cost of constructing/installing the plant and equipment is approximately \$45,500 at Trumbull Avenue and \$47,070 at Kaechele Place. The cost of removing the same equipment is approximately \$13,707 and \$14,600, respectively. However, these estimates do not address the installation and/or removal of necessary electrical wiring and equipment which will most probably still be in place prior to the time of the removal. Accordingly, the City has determined that the amounts of the Surety Removal Bonds shall be \$16,000 at 1000 Trumbull Avenue and \$17,000 at Kaechele Place.

In addition, a copy of a the language required by the City in other Removal Bonds has been previously provided to you for your last application regarding 2370 North Avenue. In my last conversation with Neil, he questioned whether the Bond language for these particular projects should refer to the Building Officer rather than the “then Chairperson of the Planning & Zoning Commission” since they were approved by the State Siting Council. **I think not.**

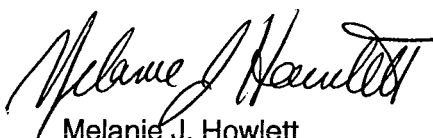
While the siting of this equipment is based on State approvals, it is the local Zoning Enforcement Officer of each town or municipality who maintains the records of such approvals and therefore it he or she, and not the Building Official, who will require initial notification if the Surety Bond is being terminated. Accordingly, the Bond shall state that any notice to the City that the Bond may be terminated is to be forwarded by the Surety Company to the Office of the City Attorney and the then "Zoning Enforcement Officer of the City".

Please issue a draft of a new Bond and fax it to me for approval at the number listed above. Upon my approval, re-issue the Bond and forward it to William Shaw, Clerk of the Planning & Zoning Commission, 45 Lyon Terrace, Bridgeport, Connecticut 06604. Upon receipt of the corrected Bond, building permits for the installation of the antennas and equipment at the locations discussed herein will be issued by the City. However, due to the recent construction boom in the City, I will notify the Building Department to expect AT&T's representatives on November 29, 1999, to insure the permits are ready that day, assuming all documents required by the Building Official are in order. Following the construction and installation of this plant and equipment, and successful City inspections, the Zoning Enforcement Officer will issue the appropriate Certificate of Environmental Compliance for each location.

In the interim, if you have any questions regarding this matter, please do not hesitate to contact me.

Finally, if you are planning to file any new applications with either the State Siting Council or the City Zoning Board of Appeals or Planning and Zoning Commission before January 15, 2000, I will be limiting my hours at the City office during the month of December 1999. **To insure your applications are not delayed, please forward a copy of any and all applications to our outside council: Anthony Macleod, Whiteman, Breed, Abbott and Morgan, 100 Field Point Road, Greenwich, Connecticut 06830, in addition to copies provided to this office to my attention. Attorney Macleod can also be reached at 203-862-2458.**

Sincerely,



Melanie J. Howlett  
Assistant City Attorney

cc: William Shaw - Bridgeport Zoning Enforcement Officer  
Mark Anastasi, City Attorney/ Barbara Brazzel-Massaró, Associate City Attorney  
Joel Reinbold, Connecticut Siting Council





STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

Ten Franklin Square  
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Phone: (860) 827-2935  
Fax: (860) 827-2950

October 25, 1999

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

RE: TS-AT&T-015-990913 - AT&T Wireless PCS request for an order to approve tower sharing at an existing telecommunications facility located at 1000 Trumbull Avenue in Bridgeport, Connecticut.

Dear Attorney Fisher:

At a public meeting held October 21, 1999, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures.

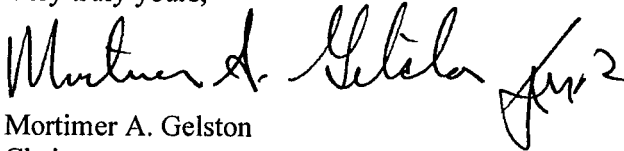
This facility has been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequency now used on this tower. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut 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 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.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction. This decision does not waive the requirements for a local building permit, nor is it transferable or assignable to another entity without Council approval.

The proposed shared use is to be implemented as specified in your letter dated September 9, 1999 and in additional information dated October 5, 1999.

Thank you for your attention and cooperation.

Very truly yours,



Mortimer A. Gelston  
Chairman

MAG/SLL/sll

cc: Honorable Joseph P. Ganim, Mayor, City of Bridgeport  
Peter W. van Wilgen, Director - Real Estate Operations, SNET Wireless Inc.  
Sandy M. Carter, Manager - Regulatory, Bell Atlantic Mobile  
Ronald C. Clark, Manager - Real Estate, Nextel Communications  
Steve Kotfila, Site Development Manager, Sprint PCS  
Melanie Howlett, Office of the City Attorney, City of Bridgeport

CITY ATTORNEY  
Mark T. Anastasi

CITY OF BRIDGEPORT  
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Melanie J. Howlett  
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October 15, 1999

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**Via Facsimile and Overnight Mail**

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**CONNECTICUT  
SITING COUNCIL**

Joel M. Rinebold  
Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051

Re: Petition No. TS-AT&T-015-990913 – AT&T Wireless PCS request for an order to approve tower sharing at an existing telecommunications facility located at 1000 Trumbull Avenue, Bridgeport, Connecticut ("Chopsey Hill")-Revised Comments

The City of Bridgeport ("City") hereby rescinds its earlier comments dated October 4, 1999, regarding the Application noted above. In lieu of those earlier comments, the City provides the following information to your Agency:

The Tower at 800 Trumbull Avenue is in compliance with the 250 foot variance granted by the City's Zoning Board of Appeals. (The correct legal address for the building site is not 1000 but 800 Trumbull Avenue; with access from 1330 Chopsey Hill Road.) While a Cease and Desist Order was issued by the City a few years ago it pertained to the construction of that Tower at a height that was greater than 250 feet. The Tower was shortened to its current height of 240 feet and remains in compliance with the City's Zoning regulations.

Earlier today AT&T was notified that the City has approved its request for a Certificate of Zoning Compliance ("Certificate") for the installation of antennas on the existing tower at 800 Trumbull Avenue, and the construction of a 12 X 20 foot equipment shed at that location. The Certificate will be issued no later than Tuesday, October 19, 1999. In addition, if AT&T has notified the Tax Assessor of the value of this plant and equipment by that date, as well as provided the City with an Antenna Removal Bond, a Building Permit for this project will also be issued by October 22, 1999.

I wish to thank you for allowing the City the opportunity to investigate and resolve this matter with AT&T. If you have any questions regarding this matter, please do not hesitate to contact me.

Sincerely,

Melanie J. Howlett  
Assistant City Attorney

Cc: William Shaw - Clerk Bridgeport Zoning Board of Appeals  
Mark Anastasi, City Attorney  
Barbara Brazzel-Massarò, Associate City Attorney  
Christopher B. Fisher, Esq. – AT&T

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October 12, 1999

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**CONNECTICUT  
SITING COUNCIL**

Re: AT&T Wireless PCS, LLC d/b/a AT&T Wireless Services  
TS-AT&T-015-990913-240' Tower, 1000 Trumball Avenue

Dear Mr. Rinebold:

This letter is respectfully submitted on behalf of AT&T Wireless Services requesting that the Connecticut Siting Council place the above referenced matter on its October 21, 1999 agenda for discussion. In this regard, enclosed is a copy of our recent correspondence to the City of Bridgeport Planning & Zoning Commission addressing the tower height issue and AT&T's proposed shared use of the tower. In light of this meeting which has been coordinated with Attorney Melanie J. Howlett of the City of Bridgeport, we respectfully request that the Council approve AT&T's tower sharing request on October 21, 1999 with the following limitation:

"The Siting Council's approval of AT&T's tower sharing request is without prejudice to the City of Bridgeport's right to enforce against the tower owner any conditions of prior zoning approvals affecting the underlying tower structure."

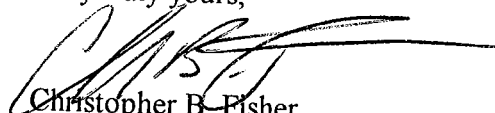
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October 12, 1999

Page 2

Thank you for your consideration of this letter and its enclosures.

Very truly yours,



Christopher B. Fisher

Enc.

cc: Melanie J. Howlett, Esq.  
Jennifer Young Gaudet, Esq.  
Michael Murphy



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October 12, 1999

**BY FEDERAL EXPRESS**

**Chairwoman Dorothy Guman and Members**

**of the Planning & Zoning Commission**

**City of Bridgeport**

**City Hall**

**45 Lyon Terrace**

**Bridgeport, Connecticut 06604**

**Re: AT&T Wireless Services  
Tower Sharing Application-Connecticut Siting Council  
1000 Trumbull Avenue, 240' Existing Telecommunications Tower**

Dear Chairman Guman and Members of the Planning & Zoning Commission:

This letter is respectfully submitted on behalf of AT&T Wireless PCS, Inc. ("AT&T") in regard to the above-referenced matter. In the course of the Connecticut Siting Council's review of AT&T's request to place antennas at the 165' level of an existing 240' tower previously approved by the City of Bridgeport, City representatives raised an issue regarding the approved height of the tower. In an effort to resolve AT&T's shared use of the tower and the tower height issue, we respectfully request that the Planning & Zoning Commission place the above referenced matter on its October 25, 1999 agenda for discussion.

In furtherance thereof, enclosed please find thirteen sets of AT&T's Memorandum in Support of the Issuance of a Certificate of Zoning Compliance, a September 9, 1999 tower sharing application to the Connecticut Siting Council and follow up correspondence dated October 8, 1999, all of which details our understanding of the tower's history. Specifically, we believe that the tower is in compliance with all zoning regulations including a variance granted by

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Chairwoman Dorothy Guman and Members of the Planning & Zoning Commission

October 12, 1999

Page 2

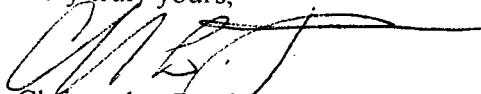
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the Zoning Board of Appeals to a height of 250'. Moreover, it is our understanding that several wireless carriers including Sprint and Nextel have obtained building permits from the City of Bridgeport to share use of the tower (i.e., install antennas on the tower and equipment at grade).

Nevertheless, should the existing 240' tower exceed by 15' a 225' height limit allegedly imposed as a condition of a prior zoning approval, the matter would of necessity be an enforcement issue between the tower owner and your Commission, not AT&T Wireless Services. Indeed, AT&T's proposed shared use of the tower at 165' would in no way effect or prejudice the City's resolution of the tower height issue with the property owner. As such, we respectfully request that on October 25, 1999, your Commission acknowledge the appropriateness of AT&T's shared use of the tower and the issuance of necessary permits therefor. In this regard, please be advised that we have already discussed and consented with the City Attorney's Office that AT&T will post a removal bond for its equipment on this tower and another Siting Council site on Kaechele Place in the City of Bridgeport.

Thank you in advance for your consideration of the enclosed.

Very truly yours,



Christopher B. Fisher

CBF/cd

Enclosures

cc: William A. Shaw, P&Z Commission Clerk  
Melanie J. Howlett, Esq., Office of the City Attorney  
Joel M. Rinebold, Executive Director Connecticut Siting Council  
Mr. Michael Murphy, AT&T Wireless Services  
Jennifer Young Gaudet, Esq.



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TO: JOEL M. RINEBOLD TELECOPIER NO. 860-827-2950

FROM: CHRISTOPHER B. FISHER, ESQ.

DATE: October 8, 1999

PAGES: 5 TIME: 9:15 AM CLIENT 1844 MATTER: 191  
(Including Cover)

MESSAGE:

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OPERATOR: CAROL DOWNER (914) 761-1300 Ext. 237  
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CONNECTICUT  
SITING COUNCIL

VIA FAX (860) 827-2950

Joel M. Rinebold  
Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051

Re: AT&T Wireless PCS, LLC d/b/a AT&T Wireless Services  
EM-AT&T-015-990913-SNET Monopole, Kaechele Place  
TS-AT&T-015-990913-240' Tower, 1000 Trumball Avenue

Dear Mr. Rinebold:

This letter is respectfully submitted on behalf of AT&T Wireless Services in response to a letter dated October 4, 1999 from Attorney Melanic J. Howlett of the City of Bridgeport with respect to the above referenced matters.

1. EM-AT&T-015-990913

AT&T appreciates that the City of Bridgeport has no objection to AT&T's exempt modification of a SNET tower which was previously issued a Certificate by the Siting Council. With respect to the conditions requested by the City, AT&T will agree to remove its building and equipment in the event its operations at the site cease for a consecutive period of six months or more and abide by the Council's directives in this regard. Nevertheless, given that the Council has ongoing jurisdiction over the SNET facility at Kaechele Place, including any exempt modification by AT&T, we do not believe that a surety bond is necessary or appropriate under the circumstances surrounding this particular application. Should the Council acknowledge AT&T's



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October 8, 1999

Page 2

notice of exempt modification, AT&T will thereafter obtain a building permit from the City's Building Department.

2. TS-AT&T-015-990913

Presumably, the City of Bridgeport has no objection to the substance of AT&T's tower sharing request which involves the installation of antennas at the 165' level of an existing 240' privately owned tower located on Trumball Avenue. AT&T's tower sharing request is essentially an exempt modification and undoubtedly consistent with and in furtherance of the State's policy to avoid the proliferation of towers. Rather, the City's current objection to AT&T's application for shared use approval is apparently the result of an internal ongoing review by the City of prior zoning approvals issued for this tower, that review having been triggered by AT&T's recent application.

Please be advised that prior to applying for shared used approval from the Council, our office conducted a comprehensive search of City of Bridgeport zoning files on this tower and spoke with zoning officials in the City. That search revealed that the existing tower was issued variances by the City of Bridgeport Zoning Board of Appeals for a tower up to 250' in height as evidenced by the enclosed approval resolution. We did not, however, locate any cease and desist order or notice of violation which would call into question the Zoning Board of Appeal's approval or which indicated that the approved height was anything other than 250'.

Indeed, a review of the Siting Council's own file on this tower reveals that in 1990, the Council approved an exempt modification request by Bell Atlantic Mobile. Bell Atlantic Mobile's application clearly indicated that the existing tower was 240' in height. Moreover, in the last several years, other wireless carriers including Nextel and Sprint have installed their facilities on the tower pursuant to building permits issued by the City and without the need for any zoning approvals. It is for all these reasons, that we believe the existing 240' tower is in full compliance with all City of Bridgeport zoning regulations and approvals.

Regardless, the Council's exercise of its exclusive jurisdiction in this matter and approval of AT&T's shared use application would in no way abrogate or hinder the City of Bridgeport's ability to enforce a 225' height condition in any prior zoning approval should that be accurate. Specifically, AT&T's installation is at the 165' level of the tower. As such, even if the City did issue a notice of violation, which it has not yet done, and the top 15' feet of the tower needed to be removed, it could be irrespective of AT&T's shared use of the tower. Accordingly, we respectfully request that the Council issue an order of shared use as requested by AT&T and refer



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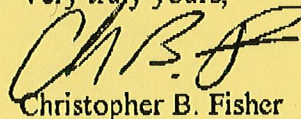
October 8, 1999

Page 3

this matter to the Planning & Zoning Commission in connection with its review of the approved height of the tower.

Thank you for your consideration of this letter and its enclosures.

Very truly yours,



Christopher B. Fisher

Enc.

cc: Melanie J. Howlett, Esq.  
Jennifer Young Gaudet, Esq.  
Michael Murphy



The "Board" assigned the following reason for its action:

1. The granting of this petition would not create any detrimental effects and provides a service to the neighborhood as well as the general public.

3) Petition of E & F Development Company, owner, 1330 Chopsey Hill Rd. & 800 Trumbull Avenue, N/E corner, lot: 481.56' x 459.47' x 711.29' x 419.5', waive regulation prohibiting the business use of property in an A-RESIDENCE ZONE & waive regulation prohibiting a structure exceeding 35' in height to permit the erection of a 250' high radio station tower & accessory transmission equipment building.

One person appeared in favor.

Exhibit 1 - Copy of prior approval submitted in favor.

Exhibit 2 - Real Estate Appraisal submitted in favor.

Exhibit 3 - Qualification and Report of C Thomas Jones, P.E. submitted in favor.

No one appeared in opposition.

Motion made by Mr. Lunin, seconded by Ms. Gamble that this petition be granted conditionally, subject to the following:

1. The development of the subject property shall be substantially in accord with the plans submitted.
2. The petitioner shall file plans & applications for the issuance of a Certificate of Zoning Compliance and a Building Permit.
3. All construction shall conform with the requirements of the Basic Building Code of the State of Connecticut.

Unanimously approved.

4) Petition of Joseph Ortiz, owner, 29 Harvard Street, west side 140' north of Wheeler Avenue & 32 Rosinoff Place, east side 140' north of Wheeler Avenue, lot: 70' x 95' x 5' x 94.2' x 70' x 94.4' x 5' x 95', waive 2'9" of the setback requirement of 16'9" in a C-RESIDENCE ZONE & waive 7'8" of the accumulative side yard requirement of 23'4" to permit the construction of a 3½-sty. 16 unit apartment building with 32 on-site parking spaces.

Two persons appeared in favor.

Letter from City Engineer Department, regarding sewers, read by Chairman Neary.

Copy of Tax Assessor's Map submitted in favor.

No one appeared in opposition.

Motion made by Ms. Gamble, seconded by Mr. LaChioma that this petition be granted.

UPON A ROLL CALL OF VOTES, THOSE VOTING

In Favor  
Gamble  
LaChioma

Against  
Lunin  
Bopko  
Neary

Motion to grant failed to pass.

Reason assigned by those in favor.

1. The granting of this petition will provide needed residential rental units without creating any detrimental effects on the immediate area.

Reasons assigned by those in opposition.

1. The petitioner failed to present an exceptional difficulty or unusual hardship owing to conditions directly affecting this parcel of land.
2. The granting of this petition would result in an overuse of the subject property.

5) Petition of Jack Rodrigues, owner, 94 Center Street, north side 340' east of Herral Avenue, lot: 50' x 113', waive 3'6" of the setback requirement of 16'6" in a C-RESIDENCE ZONE, waive 4'8" of the accumulative side yard requirement of 16'8" & waive 2' of the rear yard requirement of 16' to permit the construction of a 3½-sty. 5 unit residential building with 10 on-site parking spaces.

Two persons appeared in favor.

No one appeared in opposition.

Motion made by Ms. Gamble, seconded by Mr. LaChioma that this petition be granted conditionally subject to the following:



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October 5, 1999

VIA FAX (860) 827-2950

Steven Levine  
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**CONNECTICUT  
SITING COUNCIL**

Re: AT&T Wireless PCS, LLC d/b/a AT&T Wireless Services

Dear Mr. Levine:

On behalf of AT&T Wireless Services, enclosed please find additional information that you had requested with respect to its filings on two sites in Bridgeport, one in Middletown and another in West Haven. While some of this information is not statutorily required, we are submitting it as a courtesy to further your review of each site and such that they may be reviewed and acted on by the Council on October 8, 1999.

I. AT&T Site 88, SNET Monopole, Kaechele Place, Bridgeport-EM

This site is internally referred to by AT&T as a "Trumball" site and is geographically located in the City of Bridgeport. The current adjacent land uses are mixed commercial and residential and largely unchanged since the monopole was constructed on wooded property owned by SNET Wireless. Enclosed is supplemental information from Bell Labs outlining the analytical technique used to calculate emissions and confirm compliance as set forth in its report previously submitted to the Council. Also enclosed is a letter from the professional engineer on the project confirming that the existing monopole can structurally accommodate AT&T's proposed wireless facility.



CUDDY & FEDER & WORBY LLP

October 5, 1999  
Page 2

II. AT&T Site 93, 240' Lattice Tower, Trumball Avenue, Bridgeport-TS

There is one 240' tower located in the Chopsey Hill area of the Bridgeport with multiple property addresses due to its location on property at the intersection of Trumball Avenue and Chopsey Hill Road. Please be advised that the plans originally submitted by AT&T with its tower sharing request erroneously showed the tower as 270' in height which has been corrected on the enclosed drawing prepared by Tectonic Engineering, P.C.. Nevertheless, all of the structural and emissions information submitted in support of AT&T's tower sharing request accurately reflects an overall tower height of 240' which will remain unchanged by AT&T's shared use thereof. The current adjacent land use is residential and largely unchanged since the tower was constructed in 1987 pursuant to approvals issued by the City of Bridgeport. Enclosed is supplemental information from Bell Labs outlining the analytical technique used to calculate emissions and confirm compliance as set forth in its report previously submitted to the Council.

III. AT&T Site 103, SNET Tower, Burwell Road, West Haven-EM

The current adjacent land uses are mixed consisting of commercial, public and residential uses with other towers and a water tank on adjacent property. Enclosed is supplemental information from Bell Labs outlining the analytical technique used to calculate emissions and confirm compliance as set forth in its report previously submitted to the Council. Also enclosed is a letter from the professional engineer on the project confirming that the existing tower can structurally accommodate AT&T's proposed wireless facility.


IV. AT&T Site 119, Omnipoint Monopole, Industrial Park Road, Middletown-TS

The current adjacent land uses are industrial and light manufacturing and largely unchanged since the tower was constructed. Enclosed is supplemental information from Bell Labs outlining the analytical technique used to calculate emissions and confirm compliance as set forth in its report previously submitted to the Council. Also enclosed is a letter from the professional engineer on the project confirming that the existing tower can structurally accommodate AT&T's proposed wireless facility.

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October 5, 1999  
Page 3

Thank you for your continued assistance on these matters.

Very truly yours,  
  
Christopher B. Fisher

Enc.  
cc: Jennifer Young Gaudet



**Analytical Technique Used To Calculate Radiofrequency Environment in the  
Vicinity of a Proposed Personal Communications Services Base Station  
Site CT-093: Beardsley Tower, 1280 Chopsey Hill Road, Bridgeport, Connecticut**

**Introduction**

This document describes the methodology used to predict the radiofrequency (RF) electromagnetic environment surrounding the AT&T PCS antennas proposed for Chopsey Hill Road in Bridgeport, Connecticut. As a conservative measure, the methodology applies "worst-case" conditions that result in an over-estimate of the RF environment. Therefore, the predicted values are the theoretical maxima that could occur and not typical values. The calculations include the effect of field reinforcement from in-phase reflections, the assumption that the maximum number of transmitters are installed, operate continuously and at the highest power that normally would be used. Moreover, because of the intermittent nature of the transmission from some wireless services antennas, the actual time-weighted-average values will be lower. The analytical technique used is *extremely* conservative. The actual power density levels have always been found to be smaller than the corresponding predicted levels<sup>1</sup>. The methodology described follows that outlined by the Federal Communications Commission (FCC) in their OST Bulletin No. 65<sup>2</sup>.

**Method**

The prediction for the power density in the far-field of an isolated antenna can be made by use of the following equation:

$$S = \left( \frac{N \times P_N \times G_a \times 1.64}{4\pi R^2} \right)$$

and

$$S_{\max} = 4 \times S$$

where:

- S = plane wave equivalent power density
- S<sub>max</sub> = factor of 4 assumes a 100% ground reflection (resulting in a doubling of the field strength and a four-fold increase in power density)
- N = maximum number of transmitters (channels)
- P<sub>N</sub> = actual power per channel input to the antenna
- G<sub>0</sub> = far-field gain (numeric) of the antenna relative to a half-wave dipole in the direction of point of interest
- R = distance (radial or slant) from the antenna center to point of interest
- 1.64 = gain of a half-wave dipole (2.15 dB) over an isotropic radiator

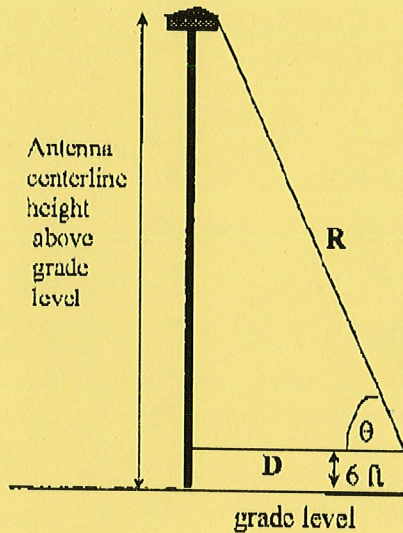
**Conclusion**

To properly estimate the maximum RF power density at 6 ft above grade, a series of power density predictions was run for depression angles below the horizon from 5° to 90° using the vertical gain pattern of the antenna provided by the antenna manufacturer. Based on the technical specifications for the site

- 
1. Petersen, R.C., and Testagrossa, P.A., Radiofrequency Fields Associated with Cellular-Radio Cell-Site Antennas, *Bioelectromagnetics*, Vol. 13, No. 6 (1992).
  - 2 Federal Communications Commission Office of Engineering & Technology, *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Radiation*, OET Bulletin No. 65, Edition 97-01 (August 1997).



outlined in Table 1 of the original analysis<sup>3</sup>, the maximum RF power density associated with the AT&T PCS antennas occurs at a depression angle of 30° below the horizon and is calculated as follows:



$$\text{Power per channel: } P_N = \frac{\text{ERP}}{10^{(G_{\max}/10)}}$$

where  $G_{\max}$  is the gain of the antenna in the main beam.

$$\theta = \tan^{-1}(H/D) \quad R = H/\sin \theta$$

where H is equal to the antenna centerline height less 6 (ft)

$$\text{Power density (S): } S = \frac{N \times P_N \times 10^{(G_{\theta}/10)} \times 1.64}{4\pi R^2}$$

where N is the number of transmitters (channels) installed and  $G_{\theta}$  is the antenna gain at an angle of  $\theta$  degrees

$$P_N = \text{ERP}/G_{\max} = \frac{100}{10^{(14.4\text{dBd}/10)}} = 3.98 \text{ watts per channel}$$

$$R = H/\sin \theta = (165-6)/\sin(30^\circ) = 318 \text{ ft}$$

$$G_{30^\circ} = -2.2 \text{ dBd (from antenna elevation gain pattern)}$$

$$\begin{aligned} S_{\max} &= 4 \times \frac{N \times P_N \times 10^{(G_{\theta}/10)} \times 1.64}{4\pi R^2} \\ &= 4 \times \frac{8 \text{ ch} \times 3.98 \text{ W} / \text{ch} \times 10^{(-2.2\text{dBd}/10)} \times 1.64}{4 \times 3.14 \times (318 \text{ ft} \times 12 \times 2.54)^2} \end{aligned}$$

$$S_{\max} = 1.1 \times 10^{-7} \text{ W/cm}^2 = 0.11 \text{ } \mu\text{W/cm}^2$$

$$\% \text{ of MPE} = \frac{0.11 \text{ } \mu\text{W/cm}^2}{1000 \text{ } \mu\text{W/cm}^2} \times 100\% = 0.02\%$$

3. *An Analysis of the Radiofrequency Environment in the Vicinity of a Proposed Personal Communications Services Base Station Site CT-093: Beardsley Tower, 1280 Chopsey Hill Road, Bridgeport, Connecticut.* Lucent Technologies, Bell Laboratories. August 6, 1999.



240'±

(T/EXISTING TOWER)

165'±

(C PROPOSED AT&T ANTENNAS)

ANTENNA CABLES MOUNTED TO INSIDE OF EXIST TOWER LEG

EXIST SNET EQUIP SHELTER (BEYOND)

PROPOSED SECTOR ANTENNA (TYP) (SEE ANTENNA MTG PLAN & DETAIL 3/C-3)

(C PROPOSED ANTENNAS EL 637'± AMSL

EXIST LATTICE TOWER

PROPOSED 12'x20' AT&T UNMANNED EQUIPMENT SHELTER (SEE ELEVATION 4/C-3)

EXIST 8' HIGH CHAIN LINK FENCE W/RAZOR WIRE

EXIST EQUIP BUI

EXIST GR. EL 472' /

NOTE: EXISTING ANTENNAS NOT SHOWN FOR CLARITY.



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Mark T. Anastasi

DEPUTY CITY ATTORNEY  
John D. Guman, Jr.

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John P. Bohannon, Jr.  
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LEGAL ADMINISTRATOR  
Kathleen Pacacha

Telephone (203) 576-7647  
Facsimile (203) 576-8252

October 4, 1999

*Via Facsimile and Overnight Mail*

Joel M. Rinebold  
Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051

**RECEIVED**

OCT - 5 1999

**CONNECTICUT  
SITING COUNCIL**

Re: Petition No. EM-AT&T-015-990913 – AT&T Wireless PCS notice of intent to modify an existing telecommunications facility at the SNET facility located at Kaechele Place, Bridgeport, Connecticut

Petition No. TS-AT&T-015-990913 – AT&T Wireless PCS request for an order to approve tower sharing at an existing telecommunications facility located at 1000 Trumbull Avenue, Bridgeport, Connecticut ("Chopsey Hill")

Dear Mr. Rinebold:

I am in receipt on September 23, 1999, of your letter dated September 17, 1999, advising the City of Bridgeport ("City") that AT&T has filed two applications for approval to share and/or modify existing wireless telecommunication tower facilities at two locations within the City of Bridgeport ("City"), pursuant to Section 16-50aa of the General Statutes of Connecticut, and Section 16-50j-72 of the Regulations of Connecticut State Agencies. These applications are cited above. Please enter my appearance on behalf of the City in both matters.

The City has no objection to the Siting Council approving AT&T's request to locate antennas below the height of the existing SNET Facility at Kaechele Place, and also construct a 12' x 20' equipment shed, based on the following conditions:

AT&T shall obtain a Surety Bond in an amount to be determined by the Office of the City Attorney for the future removal of this building and equipment in the event AT&T ceases to use the equipment for a period of six months;

The AT&T approval is not transferable or assignable to another entity without Siting Council approval; and

AT&T shall obtain a building permit from the City before the shed is constructed or the antennas are installed.

As you are aware, these conditions are similar to ones placed on Omnipoint which applied for and was granted permission to share an existing CL&P Tower in the City, and other wireless telecommunication providers in recent local zoning decisions that allowed the location of antennas on existing buildings, and the construction of a monopole, in the City.

The City does object to the approval of the second AT&T application regarding Chopsey Hill on the following grounds:

The application requests approval to share an existing telecommunications facility that is 240 feet in height.

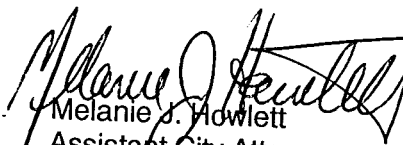
The City Planning & Zoning Commission ("P&Z") approved a variance at this site for a tower not to exceed 225 feet. The original applicant built the tower at 240 feet and was found in violation of the variance. Following the issuance of a Cease and Desist Order by the P&Z, the Tower was lowered to 225 feet. The filing of this application with a recent Engineering Report that indicates that the tower is again at 240 feet has resulted in the initiation of an P&Z Enforcement Investigation by the P&Z. Until that investigation is completed, the original tower is in a potential "Notice of Violation" status.

If the current tower is found to be in violation of the variance for the second time, the City has the legal the right to take appropriate enforcement actions before any additional approvals are granted for the use or modification of the existing Facilities at this site.

Accordingly, since Section 16-50aa of the General Statutes of Connecticut allows but does not require the Siting Council to review an application to share an existing tower facility, the City requests that the Siting Council refer this matter to the our P&Z for review. An application filed with the our P&Z will allow the factual record in this matter to be clarified and will insure that the tower will remain in operation.

If you have any questions regarding this matter, please do not hesitate to contact me.

Sincerely,

  
Melanie J. Howlett  
Assistant City Attorney

Cc: William Shaw - Bridgeport Clerk Planning & Zoning Commission  
Christopher B. Fischer, Esq. - AT&T  
Mark Anastasi, City Attorney  
Barbara Brazzel-Massaró, Associate City Attorney



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square  
New Britain, Connecticut 06051  
Phone: (860) 827-2935  
Fax: (860) 827-2950

September 16, 1999

Honorable Joseph P. Ganim  
Mayor  
City of Bridgeport  
City Hall, Room 124  
45 Lyon Ter.  
Bridgeport, CT 06604

RE: TS-AT&T-015-990913 - AT&T Wireless PCS request for an order to approve tower sharing at an existing telecommunications facility located at 1000 Trumbull Avenue in Bridgeport, Connecticut.

Dear Mayor Ganim:

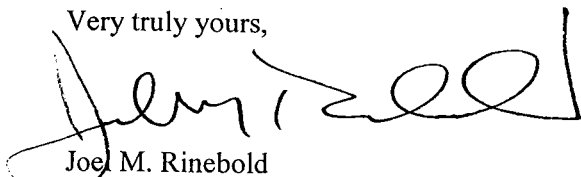
The Connecticut Siting Council (Council) received this request for tower sharing, pursuant to Connecticut General Statutes § 16-50aa.

The Council will consider this item at the next meeting scheduled for Friday, October 8, 1999, at 10:00 a.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,



Joel M. Rinebold  
Executive Director

JMR/jlh

Enclosure: Notice of Tower Sharing

c: Melanie J. Howlett, Assistant City Attorney, City of Bridgeport



**CUDDY & FEDER & WORBY LLP**

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**CUDDY & FEDER**  
1971-1995

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DANIEL F. LEARY (also CT)  
BARRY E. LONG

September 10, 1999

**RECEIVED**

SEP 13 1999

**CONNECTICUT  
SITING COUNCIL**

VIA FEDERAL EXPRESS

Hon. Mortimer A. Gelston, Chairman  
and Members of the Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051

Re: Request by AT&T Wireless Services d/b/a AT&T Wireless PCS, Inc., for the Shared Use of an Existing Tower Facility at 1000 Trumbull Avenue, Bridgeport, Connecticut

Dear Chairman Gelston and Members of the Council:

On behalf of AT&T Wireless PCS, Inc. d/b/a AT&T Wireless Services, we respectfully enclose an original and twenty copies of its request for the shared use of an existing tower with respect to the above mentioned facility, together with a check for \$500.00, the filing fee. We would appreciate it if this matter were placed on the next available agenda by the Council to approve the application and issue an order for shared use by AT&T. Should the Council or staff have any questions regarding this matter, please do not hesitate to contact us.

Very truly yours,

  
Linda Grant

cc: Christopher B. Fisher, Esq.  
Mr. Michael Murphy

CUDDY & FEDER & WORBY LLP

September 10, 1999

Page 2

Hon. Joseph Ganim, Mayor  
City of Bridgeport



**CUDDY & FEDER & WORBY LLP**

90 MAPLE AVENUE  
WHITE PLAINS, NEW YORK 10601-5196

**CUDDY & FEDER**  
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ROBERT L. OSAR (also TX)  
ROBERT C. SCHNEIDER  
LOUIS R. TAFFERA

September 9, 1999

VIA FEDERAL EXPRESS

Hon. Mortimer Gelston, Chairman and Members  
of the Siting Council  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051

**RECEIVED**

SEP 13 1999

**CONNECTICUT  
SITING COUNCIL**

Re: Request by AT&T Wireless Services d/b/a AT&T Wireless PCS, Inc., for the Shared Use of an Existing Tower Facility at 1000 Trumball Avenue, Bridgeport, Connecticut

Hon. Mortimer Gelston, Chairman and Members of the Siting Council:

Pursuant to Connecticut General Statutes (C.G.S.) § 16-50aa AT&T Wireless PCS, Inc., d/b/a AT&T Wireless Services (the "Applicant") hereby requests an order from the Connecticut Siting Council (the "Council") to approve the proposed shared use of an existing tower located at 1000 Trumball Avenue in the City of Bridgeport (the "Chopsey Hill Facility"). The Applicant has entered into a lease with the tower/property owner to permit the installation of a Wireless Communications Facility at the existing Chopsey Hill Facility See lease signature page annexed hereto as Exhibit A.

The Chopsey Hill Facility

The Chopsey Hill Facility consists of an approximately 3-acre lot improved with a 240' lattice tower and other equipment at grade within a fenced compound. Currently existing on the tower are Sprint Spectrum PCS antennas; Southern New England Telephone and Bell Atlantic Mobile cellular radio antennas; Nextel Communications ESMR antennas; Red Star and Metrocall land mobile radio antennas; Metrocall, Clinton Tower and AAT paging antennas and WCUM commercial AM radio broadcast antennas.

September 9, 1999

Page 2

AT&T Wireless' Facility

As shown on the enclosed plans prepared by Tectonic Engineering PC including a site plan, equipment room layout and tower elevation of the Chopsey Hill Facility, AT&T Wireless proposes shared use of the Facility by utilizing the Tower and constructing a 12' x 20' equipment shelter at the base of the Tower within the fenced compound for its equipment needed to provide personal communications services ("PCS"). AT&T Wireless' facility will also consist of up to twelve (12) panel antennas installed at the 165 foot level of the Tower.

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

The shared use of the Chopsey Hill Facility satisfies the approval criteria set forth in C.G.S. § 16-50aa as follows:

- A. Technical Feasibility The Tower is structurally sound and capable of supporting the addition of AT&T Wireless' antennas. The proposed shared use of this Tower is therefore technically feasible. See Letter of Structural Integrity dated September 2, 1999 prepared by Tectonic Engineering PC annexed hereto as Exhibit B.
- B. Legal Feasibility Pursuant to C.G.S. § 16-50aa, the Council has been authorized to issue an order approving shared use of the existing Chopsey Hill Facility. (C.G.S. § 16-50aa(c)(1).) Under the authority vested in the Council by C.G.S. § 16-50aa, an order by the Council approving the shared use of a tower would permit the Applicant to obtain a building permit for the proposed installation.
- C. Environmental Feasibility The proposed shared use would have a minimal environmental effect, for the following reasons:
  1. The proposed installation would have a deminimis visual impact, and would not cause any significant change or alteration in the physical or environmental characteristics of the existing facility;
  2. The proposed installation by the Applicant would not increase the height of the shared tower and the shared facility would not extend the



September 9, 1999

Page 3

- boundaries of the site outside the limits of the existing Chopsey Hill Facility compound;
3. The proposed installation would not increase the noise levels at the existing facility by six decibels or more;
  4. Operations of antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the FCC. The "worst case" exposure calculated for the operation of this facility (i.e., calculated at the base of the tower, which represents the closest publicly accessible point within the broadcast field of the antennas) for all carriers, would be approximately 20% of the standard as measured for mixed frequency sites See Bell Labs Report dated August 6, 1999 annexed hereto as Exhibit C;
  5. The proposed shared use of the Chopsey Hill Facility would not require any water or sanitary facilities, or generate air emissions or discharges to water bodies. Further, the installation will not generate any traffic other than maintenance visits once or twice a month.
- D. Economic Feasibility As evidenced in Exhibit A annexed hereto, the Applicant and the Tower/Property Owner have entered into a mutual agreement to share use of the Chopsey Hill Facility on terms agreeable to both parties. The proposed tower sharing is therefore economically feasible.
- E. Public Safety Concerns As stated above and evidenced in the Bell Labs Report annexed hereto as Exhibit C the operation of antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the FCC. Additionally, the compound is completely fenced for security purposes. Further, the addition of AT&T Wireless' telecommunications service in the Bridgeport area through shared use of the Chopsey Hill Facility is expected to enhance the safety and welfare of local residents and travelers through the area resulting in an improvement to public safety in this area of Bridgeport.

### Conclusion

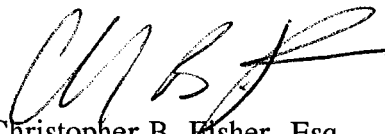
As delineated above, the proposed shared use of the Chopsey Hill Facility satisfies the criteria set forth in C.G.S. § 16-50aa, and advances the General Assembly's and the Siting Council's goal of preventing the proliferation of towers in the State of Connecticut. The

September 9, 1999

Page 4

Applicant therefore requests the Siting Council issue an order approving the proposed shared use.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'C.B.F.', written in a cursive style.

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

cc: Hon. Joseph Ganim



(e) Governing Law. This Agreement will be governed by the laws of the state in which the Premises are located, without regard to conflicts of law.

(f) Interpretation. Unless otherwise specified, the following rules of construction and interpretation apply: (i) captions are for convenience and reference only and in no way define or limit the construction of the terms and conditions hereof; (ii) use of the term "including" will be interpreted to mean "including but not limited to"; (iii) whenever a party's consent is required under this Agreement, except as otherwise stated in the Agreement or as same may be duplicative, such consent will not be unreasonably withheld, conditioned or delayed; (iv) exhibits are an integral part of the Agreement and are incorporated by reference into this Agreement; (v) use of the terms "termination" or "expiration" are interchangeable, and (vi) reference to a default will take into consideration any applicable notice, grace and cure periods.

(g) Estoppel. Either party will, at any time upon fifteen (15) days prior written notice from the other, execute, acknowledge and deliver to the other a statement in writing (i) certifying that this Agreement is unmodified and in full force and effect (or, if modified, stating the nature of such modification and certifying this Agreement, as so modified, is in full force and effect) and the date to which the rent and other charges are paid in advance, if any, and (ii) acknowledging that there are not, to such party's knowledge, any uncured defaults on the part of the other party hereunder, or specifying such defaults if any are claimed. Any such statement may be conclusively relied upon by any prospective purchaser or encumbrancer of the Premises. Failure to deliver such a statement within such time will be conclusive upon the requesting party that (i) this Agreement is in full force and effect, without modification except as may be properly represented by the requesting party, (ii) there are no uncured defaults in either party's performance, and (iii) no more than one month's rent has been paid in advance.

(h) No Option. The submission of this Agreement for examination or consideration does not constitute a reservation of or option for the Premises. This Agreement will become effective as an Agreement only upon the legal execution, acknowledgment and delivery hereof by Landlord and Tenant.

IN WITNESS WHEREOF, the undersigned has caused this Agreement to be executed this 20 day of May, 1999.  
WITNESSES:

[Signature]  
Print Name: ERIC DAHL

Barda Kulla  
Print Name: BARDA KULLA

[Signature]  
Print Name: Carmen Chapman

[Signature]  
Print Name: MICHAEL P. MURPHY

"LANDLORD"

By: [Signature]  
Print Name: FRANCOIS LA MORTE

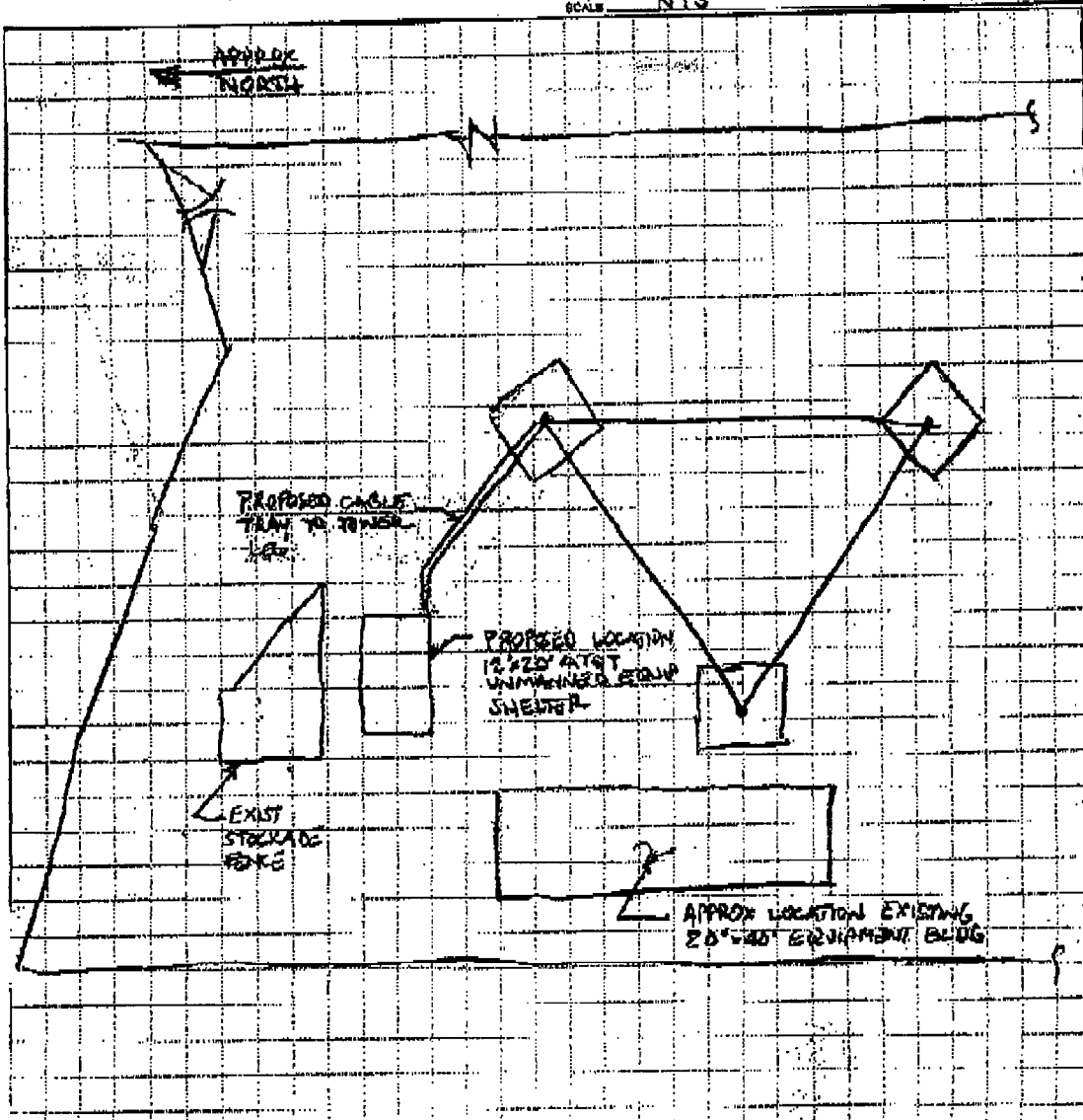
"TENANT"

By: [Signature]  
Print Name: PAUL A. SPORLOCK  
Its: Sys. Dev. Mgmt.

EXHIBIT 1

ROS

SCALE NTS





INDIVIDUAL ACKNOWLEDGMENT

STATE OF CONNECTICUT  
COUNTY OF FAIRFIELD

BE IT REMEMBERED, that on this 20<sup>th</sup> day of MAY, 1999 before me, the subscriber, a person authorized to take oaths in the State of CONN., personally appeared FRANCIS LAMORTE who, being duly sworn on his/her/their oath, deposed and made proof to my satisfaction that he/she/they is/are the person(s) named in the within instrument; and I, having first made known to him/her/them the contents thereof, he/she/they did acknowledge that he/she/they signed, sealed and delivered the same as his/her/their voluntary act and deed for the purposes therein contained.

[Signature]  
Notary Public  
My Commission Expires: 11-30-97

CORPORATE ACKNOWLEDGMENT

STATE OF NEW JERSEY  
COUNTY OF BERGEN, ss:

I CERTIFY that on 20<sup>th</sup> of May, 1999, Paul A. Sparlock [name of representative] personally came before me and acknowledged under oath that he or she:

(a) is the Manager [title] of System Development [name of corporation], the corporation named in the attached instrument.

(b) was authorized to execute this instrument on behalf of the corporation and

(c) executed the instrument as the act of the corporation.

[Signature]  
Notary Public  
My Commission Expires: **DENISE CASTNER**  
Notary Public of New Jersey  
Commission Expires 8/18/2001



---

**An Analysis of the Radiofrequency Environment in the  
Vicinity of a Proposed Personal Communications Services Base Station  
Site CT-093: Beardsley Tower  
1280 Chopsey Hill Road, Bridgeport, Connecticut**

*Prepared by*

Wireless & Optical Technologies Safety Department  
Bell Laboratories  
Murray Hill, New Jersey 07974-0636

*Prepared for*

Carmen Chapman  
AT&T Wireless Services  
149 Water Street  
Suite 2C & 2D  
Norwalk, CT 06854

August 6, 1999

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**An Analysis of the Radiofrequency Environment in the  
Vicinity of a Proposed Personal Communications Services Base Station  
Site CT-093: Beardsley Tower  
1280 Chopsey Hill Road, Bridgeport, Connecticut**

**Summary**

This report is an analysis of the radiofrequency (RF) environment in normally accessible areas surrounding the AT&T Wireless Services personal communications services (PCS) facility proposed for installation in Bridgeport, CT. The analysis includes contributions from co-located PCS, cellular radio, enhanced specialized mobile radio (ESMR), land mobile radio, paging and commercial AM radio broadcast antennas. The analysis utilizes engineering data provided by AT&T Wireless together with well-established analytical techniques utilized for calculating the RF fields associated with these types of transmitting antennas. Worst-case assumptions were used to ensure safe-side estimates, i.e., the actual values will be significantly lower than the corresponding analytical values. The maximum level of RF energy associated with each transmitting antenna was compared with the appropriate frequency-dependent exposure limit, and these individual comparisons were combined to ensure that the total RF environment is in compliance with safety guidelines.

The results of this analysis indicate that the *total* maximum level of RF energy in normally accessible areas surrounding the installation is below all applicable health and safety limits. Specifically, the maximum level of RF energy associated with *simultaneous and continuous operation of all co-located transmitters* will be less than 20% of the safety criteria adopted by the Federal Communications Commission as mandated by the Telecommunications Act of 1996. The Telecommunications Act of 1996 is the applicable Federal law with respect to consideration of the environmental effects of RF emissions in the siting of personal wireless facilities.

The total maximum level of RF energy will also be less than 20% of the exposure limits of ANSI, IEEE, NCRP and the limits used by all states that regulate RF exposure. *In actual operation, many of the cellular radio, land mobile radio and paging transmitters will operate intermittently and, hence, the real time-averaged levels will be an even small percentage of the safety guidelines.*



## 1. Introduction

This report was prepared in response to a request from AT&T Wireless Services for an analysis of the radiofrequency (RF) environment in the vicinity of the proposed personal communications services (PCS) facility, and an opinion regarding the concern for public health associated with long-term exposure in this environment. The analysis includes contributions from co-located PCS, cellular radio, enhanced specialized mobile radio (ESMR), land mobile radio, paging and commercial AM radio broadcast antennas.

The Telecommunications Act of 1996[1] is the applicable *Federal law* with respect to consideration of environmental effects of RF emissions in the siting of wireless facilities. Regarding personal wireless services, e.g., PCS, cellular radio and ESMR, Section 704 of the Telecommunications Act of 1996 states the following:

"No 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."

Therefore, the purpose of this report is to ensure that the total RF environment associated with the co-located antennas complies with Federal Communications Commission (FCC) guidelines as required by the Telecommunications Act of 1996.

## 2. Technical Data

The proposed AT&T Wireless Services PCS antennas are to be mounted to an existing lattice-type tower located at 1280 Chopsey Hill Road in Bridgeport, CT. Existing on the tower are Sprint Spectrum PCS antennas; Southern New England Telephone and Bell Atlantic Mobile cellular radio antennas; Nextel Communications ESMR antennas; Red Star and Metrocall land mobile radio antennas; Metrocall, Clinton Tower and AAT paging antennas; WCUM commercial AM radio broadcast antennas. The frequencies transmitted by each of these services are listed in Tables 1A through 1C. Public access to the area immediately surrounding the tower is precluded by the placement of an eight-foot fence with barbed wire. The closest approach to the tower by the general public is approximately 40 feet.

The actual RF power propagated from a PCS, cellular radio or ESMR antenna is usually less than 10 watts per transmitter (channel) and the actual *total* RF power is usually less than 200 watts per sector (assuming the maximum number of transmitters are installed and operate *continuously at maximum power*). The RF power propagated from land mobile radio antennas is usually less than 100 watts per transmitter; the power propagated from paging antennas is usually less than 1000 watts. These are extremely low power systems when compared with other familiar radio systems such as AM, FM, and television broadcast, which operate upwards of 50,000 watts. The attached figure, which depicts the electromagnetic spectrum, lists familiar uses of RF energy. Table 1 lists engineering specifications for the proposed and existing installations.

## 3. Environmental Levels of RF Energy

Using methodology recommended by the FCC [2] for predicting the RF environment in the vicinity of FCC-licensed facilities, the maximal potential exposure levels associated with *simultaneous and continuous operation* of all proposed and existing transmitters can be readily calculated at any point in a plane at any height above grade. Based on the information shown in Tables 1A through

1C, the maximum power densities associated with all co-located facilities are shown in Table 2 for 6 ft and 16 ft above grade. The values for 16 ft above grade are representative of the maximum power densities immediately outside the second floor of nearby buildings (assuming level terrain). As recommended by the FCC for commercial AM radio broadcast antennas, both the maximum electric field strength and magnetic field strength at 6 ft above grade are reported. The values in Table 2 are also shown as a percentage of the FCC's maximum permissible exposure (MPE) values found in the Telecommunications Act of 1996 (specifically, in the FCC *Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation* [3]).

These power density values are the theoretical maxima that could occur and are not typical values. For example, the calculations include the effect of 100% field reinforcement from in-phase reflections. The assumption was also made that each transmitter operates continuously at maximum power. However, because of the variability in the number of calls being handled by a PCS system, the average power will be less than maximum and, hence, will be less than those values indicated in Table 2. Furthermore, the intermittent nature of the transmissions from a cellular radio, land mobile radio and paging systems will result in time-weighted-average values that will be lower than those above. Experience has shown that the analytical technique used is extremely conservative. That is, actual power density levels have always been found to be smaller than the corresponding calculated levels even when extrapolated to maximum use conditions (all transmitters operating simultaneously at maximum power) [4]. Also, levels inside nearby homes and buildings will be lower than those immediately outside because of the high attenuation of common building materials at these frequencies and, hence, will not be significantly different from typical ambient levels.

#### **4. Comparison of Environmental Levels with RF Safety Criteria**

Table 2 shows the calculated maximal RF energy levels in normally accessible areas in the vicinity of the proposed and existing antennas; Tables 3 & 4 show federal, state and consensus exposure limits for human exposure to RF energy at the frequencies of interest. Table 4 specifically shows the FCC MPE field limits for exposure of the general public to RF energy at frequencies below 30 MHz, including the frequencies used for AM radio broadcast. Because the MPEs vary with frequency, the calculated RF levels for each transmitting antenna must first be compared with the appropriate MPE (the individual percentages are shown in Table 2) and then these comparisons combined before compliance with safety guidelines can be shown. With respect to FCC limits for public exposure, comparisons of the weighted and combined analytical results indicate that the maximal levels associated with these antennas is at least 5 times below the MPE, i.e., less than 20% of the MPE.

#### **5. Discussion of Safety Criteria**

Publicity given to speculation about possible associations between health effects and exposure to magnetic fields from electric-power distribution lines, electric shavers and from the use of hand-held cellular telephones has heightened concern among some members of the public about the possibility that health effects may be associated with any exposure to electromagnetic energy. Many people feel uneasy about new or unfamiliar technology and often want absolute proof that something is safe. Such absolute guarantees are not possible since it is virtually impossible to prove that something does not exist. However, sound judgments can be made as to the safety of a physical agent based on the weight of the pertinent scientific evidence. This is exactly how safety guidelines are developed.

The overwhelming weight of scientific evidence unequivocally indicates that biological effects associated with exposure to RF energy are threshold effects, i.e., unless the exposure level is sufficiently high the effect will not occur regardless of exposure duration. (Unlike ionizing radiation, e.g., X-rays and nuclear radiation, repeated exposures to low level RF radiation, or nonionizing radiation, are not cumulative.) Thus, it is relatively straightforward to derive safety limits. By adding safety factors to the threshold level at which the most sensitive effect occurs, conservative exposure guidelines have been developed to ensure safety.

At present, there are more than 10,000 reports in the scientific literature which address the subject of RF bioeffects. These reports, most of which describe the results of epidemiology studies, animal and cell-culture studies, have been critically reviewed by leading researchers in the field and all new studies are continuously being reviewed by various groups and organizations whose interest is in developing health standards. These include the U.S. Environmental Protection Agency, the National Institute for Occupational Safety and Health, the National Council on Radiation Protection and Measurements, the standards committees sponsored by the Institute of Electrical and Electronics Engineers, the International Radiation Protection Association under the sponsorship of the World Health Organization, and the National Radiological Protection Board of the UK. All of these groups have recently either reaffirmed existing health standards, developed and adopted new health standards, or proposed health standards for exposure to RF energy.

For example, in 1986, the National Council on Radiation Protection and Measurements (NCRP) published recommended limits for occupational and public exposure[5]. These recommendations were based on the results of an extensive critical review of the scientific literature by a committee of the leading researchers in the field of bioelectromagnetics. The literature selected included many controversial studies reporting effects at low levels. The results of all studies were weighed, analyzed and a consensus obtained establishing a conservative threshold upon which safety guidelines should be based. This threshold corresponds to the level at which the most sensitive, reproducible effects that could be related to human health were reported in the scientific literature. Safety factors were incorporated to ensure that the resulting guidelines would be at least ten to fifty times lower than the established threshold, even under worst-case exposure conditions. The NCRP recommended that continuous occupational exposure or exposure of the public should not exceed approximately those values indicated in Table 3. (See Table 3 for a summary of the corresponding safety criteria recommended by various organizations throughout the world.)

In July of 1986, the Environmental Protection Agency published a notice in the Federal Register, calling for public comment on recommended guidance for exposure of the public[6]. Three different limits were proposed. In 1987 the EPA abandoned its efforts and failed to adopt official federal exposure guidelines. However, in 1993 and 1996 the EPA, in its comments on the FCC's Notice of Proposed Rule Making to adopt safety guidelines[7], recommended adoption of the 1986 NCRP limits[5].

In September 1991, the RF safety standard developed by Subcommittee 4 of the Institute of Electrical and Electronics Engineers (IEEE) Standards Coordinating Committee SCC-28 was approved by the IEEE Standards Board[8]. (Until 1988 IEEE SCC-28 was known as the American National Standards Institute (ANSI) C95 Committee—established in 1959.) In November 1992, the ANSI Board of Standards Review approved the IEEE standard for use as an American National Standard. The limits of this standard are identical to the 1982 ANSI RFPGs[9] for occupational exposure and approximately one-fifth of these values for exposure of the general public at the frequencies of interest. Like those of the NCRP, these limits resulted from an



extensive critical review of the scientific literature by a large committee of preeminently qualified scientists, most of whom were from academia and from research laboratories of federal public health agencies.

The panels of scientists from the World Health Organization's International Commission on Non-Ionizing Radiation Protection (ICNIRP)[10] and the National Radiological Protection Board in the United Kingdom[11] independently developed and in 1993 published guidelines similar to those of ANSI/IEEE. In 1997, after another critical review of the latest scientific evidence, ICNIRP reaffirmed the limits published in 1993[12]. Also, what was formerly the USSR, which traditionally had the lowest exposure guides, twice has revised upward its limits for public exposure. Thus, there is a converging consensus of the world's scientific community as to what constitutes safe levels of exposure.

Finally, in implementing the National Environmental Policy Act regarding potentially hazardous RF radiation from radio services regulated by the FCC, the Commission's Rules require that licensees filing applications after January 1, 1997<sup>1</sup> ensure that their facilities will comply with the 1996 FCC MPE limits outlined in 47 CFR §1.1310[4]<sup>2</sup>. (Under the terms of the Telecommunications Act of 1996, no local government may regulate the placement of wireless facilities based on RF emissions to the extent that these emissions comply with the FCC regulations [1].)

With respect to the proposed and existing antennas, be assured that the actual exposure levels in the vicinity of the Bridgeport, CT installation will be below any health standard used anywhere in the world and literally thousands of times below any level reported to be associated with any verifiable functional change in humans or laboratory animals. This holds true even when all transmitters operate *simultaneously and continuously at their highest power*. Power density levels of this magnitude are not even a subject of speculation with regard to an association with adverse health effects.

## 6. For Further Information

Anyone interested can obtain additional information about the environmental impact of FCC-licensed radio communications systems from:

Dr. Robert Cleveland, Jr.  
Federal Communications Commission  
Office of Engineering and Technology  
Room 7002  
2000 M Street NW  
Washington, DC 20554  
(202) 418-2422

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1. The FCC extended the transition period to October 15, 1997. Second Memorandum Opinion and Order and Notice of Proposed Rulemaking, ET Docket 93-62, FCC 97-303, adopted August 25, 1997. Prior to this date the FCC required most licensees to comply with 1982 ANSI C95.1 limits.

2. Although all FCC licensees will be required to comply with 47 CFR §1.1310 limits, the FCC will continue to exclude certain land mobile services from proving compliance with these limits 47 CFR §1.1307. Previously, although licensees had to comply with the 1982 ANSI C95.1 limits, the FCC categorically excluded land mobile services, including paging, cellular, ESMR and two-way radio, from hazard analyses because "individually or cumulatively they do not have a significant effect on the quality of the human environment"[13]. The FCC pointed out that there was no evidence of excessive exposure to RF radiation during routine normal operation of these radio services.

## 7. Conclusion

This report is an analysis of the radiofrequency (RF) environment in normally accessible areas surrounding the AT&T Wireless Services personal communications services (PCS) facility proposed for installation in Bridgeport, CT. The analysis includes contributions from co-located PCS, cellular radio, enhanced specialized mobile radio (ESMR), land mobile radio, paging and commercial AM radio broadcast antennas. The analysis utilizes engineering data provided by AT&T Wireless together with well-established analytical techniques utilized for calculating the RF fields associated with these types of transmitting antennas. Worst-case assumptions were used to ensure safe-side estimates, i.e., the actual values will be significantly lower than the corresponding analytical values. The maximum level of RF energy associated with each transmitting antenna was compared with the appropriate frequency-dependent exposure limit, and these individual comparisons were combined to ensure that the total RF environment is in compliance with safety guidelines.

The results of this analysis indicate that the *total* maximum level of RF energy in normally accessible areas surrounding the installation is below all applicable health and safety limits. Specifically, the maximum level of RF energy associated with *simultaneous and continuous operation of all co-located transmitters* will be less than 20% of the safety criteria adopted by the Federal Communications Commission as mandated by the Telecommunications Act of 1996. The Telecommunications Act of 1996 is the applicable Federal law with respect to consideration of the environmental effects of RF emissions in the siting of personal wireless facilities.

The total maximum level of RF energy will also be less than 20% of the exposure limits of ANSI, IEEE, NCRP and the limits used by all states that regulate RF exposure. *In actual operation, many of the cellular radio, land mobile radio and paging transmitters will operate intermittently and, hence, the real time-averaged levels will be an even small percentage of the safety guidelines.*

## 8. References

- [1] Telecommunications Act of 1996, Title VII, Section 704, *Facilities Siting; Radio Frequency Emissions Standards*
- [2] Federal Communications Commission OET Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Energy," and Supplement A to OET Bulletin 65, "Additional Information for Radio and Television Broadcast Stations," Editions 97-01, August 1997.
- [3] Federal Communication Commission 47 CFR Parts 1, 2, 15, 24 and 97. "Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation." (August 6, 1996)
- [4] Petersen, R.C., and Testagrossa, P.A., "Radiofrequency Fields Associated with Cellular-Radio Cell-Site Antennas," *Bioelectromagnetics*, Vol. 13, No. 6. (1992)
- [5] *Biological Effects and Exposure Criteria for Radio Frequency Electromagnetic Fields*, NCRP Report No. 86, National Council on Radiation Protection and Measurements, Bethesda, MD. (1986)
- [6] Federal Register, Vol. 51, No. 146, Wednesday, July 30, 1986.
- [7] Notice of Proposed Rule Making *In the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, August 13, 1993. ET Docket No. 93-62
- [8] *IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz*, ANSI/IEEE C95.1-1992, Institute of Electrical and Electronics Engineers, Piscataway, NJ. (1991)
- [9] American National Standard *Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz*, ANSI C95.1-1982, American National Standards Institute, New York, NY. (1982)
- [10] *Electromagnetic Fields (300 Hz to 300 GHz)*, Environmental Health Criteria 137, World Health Organization, Geneva, Switzerland. (1993)
- [11] *Board Statement on Restrictions on Human Exposure to Static and Time Varying Electromagnetic Fields and Radiation*, Documents of the NRPB, Vol. 4, No. 5, National Radiological Protection Board, Chilton, Didcot, Oxon, United Kingdom. (1993)
- [12] "Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz) - ICNIRP Guidelines," *Health Physics*, Vol. 74, No. 4, pp. 494-522. (1998)
- [13] Action by the Commission February 12, 1987, by Second Report and Order (FCC 87-63), and Third Notice of Proposed Rulemaking (FCC 87-64). General Docket No. 79-144.

Enclosure: Figure. Electromagnetic Spectrum



**Table 1B: Engineering Specifications for the Proposed and Existing Radio Systems  
Bridgeport, CT**

Site Specifications	Red Star	Metrocall	Metrocall	Clinton Tower	AAT
frequency	44 MHz	75 MHz	930 MHz	930 MHz	930 MHz
maximum ERP <sup>†</sup> per channel	150 watts	150 watts	3500 watts	3500 watts	3500 watts
actual radiated power per channel	48 watts	30 watts	440 watts	880 watts	440 watts
actual total radiated power	48 watts	30 watts	440 watts	880 watts	440 watts
number of transmit/receive antennas	1	1	1	1	1
number of transmit antennas	N/A	N/A	N/A	N/A	N/A
number of receive antennas	N/A	N/A	N/A	N/A	N/A
maximum number of transmitters	1	1	1	1	1
antenna centerline height above grade	217 ft	239 ft	240 ft	223 ft	235 ft
antenna manufacturer	Decibel	Celwave	Celwave	Decibel	Scala
model number	DB212	PD156S	PD1110	DB806	OGB9-900
gain	7.15 dBi	9.15 dBi	11.15 dBi	8.15 dBi	11.15 dBi
type	omni	yagi	omni	omni	omni
downtilt	0°	0°	0°	0°	0°

† Effective Radiated Power - ERP is a measure of how well an antenna concentrates RF energy; it is not the actual power radiated from the antenna. To illustrate the difference, compare the brightness of an ordinary 100 watt light bulb with that from a 100 watt spot-light. Even though both are 100 watts, the spot-light appears brighter because it concentrates the light in one direction. In this direction, the spot-light effectively appears to be emitting more than 100 watts. In other directions, there is almost no light emitted by the spot-light and it effectively appears to be much less than 100 watts.

**Table 1A: Engineering Specifications for the Proposed and Existing Radio Systems  
Bridgeport, CT**

Site Specifications	AT&T Wireless	SNET	Sprint Spectrum	Nextel	Bell Atlantic Mobile
frequency	1930 - 1990 MHz	869 - 894 MHz	1930 - 1990 MHz	851 - 866 MHz	869 - 894 MHz
maximum ERP <sup>†</sup> per channel	100 watts	100 watts	400 watts	100 watts	100 watts
actual radiated power per channel	4 watts	12.6 watts	16 watts	10 watts	6.4 watts
actual total radiated power per sector	32 watts	252 watts	64 watts	80 watts	128 watts
number of transmit/receive antennas	N/A	N/A	2 per sector	2 per sector	N/A
number of transmit antennas	1 per sector	2 per sector	1 per sector	N/A	1 per sector
number of receive antennas	2 per sector	2 per sector	N/A	N/A	1 per sector
maximum number of transmitters	8 per sector	20 per sector	4 per sector	8 per sector	20 per sector
number of sectors configured	3	3	3	3	3
antenna centerline height above grade	165 ft	158 ft	174 ft	187 ft	151 ft
antenna manufacturer	Allgon	Celwave	Allgon	EMS Wireless	Decibel
model number	7184.14	PD10017	7184.05	RS90-10-00*	DB844
gain	16.15 dBi	11.15 dBi	16.15 dBi	12.15 dBi	14.15 dBi
type	directional	directional	directional	directional	directional
downtilt	2° (electrical)	0°	0°	0°	0°

<sup>†</sup> *Effective Radiated Power* - ERP is a measure of how well an antenna concentrates RF energy; it is not the actual power radiated from the antenna. To illustrate the difference, compare the brightness of an ordinary 100 watt light bulb with that from a 100 watt spot-light. Even though both are 100 watts, the spot-light appears brighter because it concentrates the light in one direction. In this direction, the spot-light effectively appears to be emitting more than 100 watts. In other directions, there is almost no light emitted by the spot-light and it effectively appears to be much less than 100 watts.

\* this EMS antenna contains multiple antenna arrays within a single radome.

**Table 1C: Engineering Specifications for the Existing WCUM AM Radio Transmitter  
Bridgeport, CT**

Site Specification	
Frequency	1450 kHz
Transmitter Power	1000 watts
Tower Height	232 ft
Assumed Electrical Height of Tower	0.1λ

**Table 2: Calculated Maximal Levels in Publicly Accessible Areas and the Levels as a Percentage of  
1996 FCC MPEs\* for the Proposed and Existing Antennas, Bridgeport, CT**

Provider	Power Density ( $\mu\text{W}/\text{cm}^2$ )		% of MPEs*	
	6 ft AMGL†	16 ft AMGL†	6 ft AMGL†	16 ft AMGL†
AT&T Wireless Services	< 0.11	< 0.13	0.02%	0.02%
SNET	< 5.72	< 6.55	1.04%	1.19%
Sprint Spectrum	< 0.32	< 0.36	0.04%	0.04%
Nextel	< 0.35	< 0.40	0.06%	0.08%
Bell Atlantic Mobile	< 1.54	< 1.78	0.28%	0.33%
Red Star	< 0.07	< 0.08	0.04%	0.04%
Metrocall (75 MHz)	< 0.22	< 0.24	0.11%	0.12%
Metrocall (930 MHz)	< 4.23	< 4.61	0.71%	0.77%
Clinton Tower	< 0.55	< 0.60	0.10%	0.10%
AAT	< 1.40	< 1.53	0.24%	0.26%
<b>TOTAL</b>			2.64%	2.95%
WCUM	Field Strength at 6 ft AMGL‡		% of MPEs*	
	E-Field (V/m)	H-Field (A/m)	E-Field	H-Field
	80	0.15	14.09%	9.94%

\* MPE: The FCC limits for maximum permissible exposure (same as 1986 NCRP limits at the frequencies of interest)

‡ These maximum field strength values represent the maximum exposure at approximately 40 ft from the tower, which is the closest publicly accessible approach to the facility. These data were taken from Figure 1 in Supplement A of FCC's OET Bulletin 65 [2].



**Table 3: Summary of International, Federal, State and Consensus Safety Criteria for Exposure to Radiofrequency Energy at Frequencies Used for Radio Communication Systems (30 - 2000 MHz)**

Organization/Government Agency	Exposure Population	Power Density ( $\mu\text{W}/\text{cm}^2$ )	
		30 - 300 MHz	300 - 2000 MHz
<b>International Safety Criteria</b>			
International Commission on Non-Ionizing Radiation Protection (1997) ( <i>Health Physics</i> 74:4, 494-522. (1998) <sup>2</sup> )	Occupational	1000	$f/0.4^1$
	Public	200	$f/2$
National Radiological Protection Board (NRPB, 1993)	Occupational	1000 <sup>3</sup>	5000 <sup>3</sup>
	Public	660 <sup>3</sup>	2600 <sup>3</sup>
<b>Federal Requirements</b>			
Federal Communications Commission <sup>4</sup> (47 CFR §1.1310)	Occupational	1000	$f/0.3$
	Public	200	$f/1.5$
<b>Consensus Standards and Recommendations</b>			
American National Standards Institute (ANSI C95.1 - 1982)	Occupational	1000	$f/0.3$
	Public	1000	$f/0.3$
Institute of Electrical and Electronics Engineers (ANSI/IEEE C95.1-1999 Edition) <sup>5</sup>	Occupational	1000	$f/0.3$
	Public	200	$f/1.5$
National Council on Radiation Protection & Measurements (NCRP Report 86, 1986)	Occupational	1000	$f/0.3$
	Public	200	$f/1.5$
<b>State Codes</b>			
New Jersey (NJAC 7:28-42)	Public	1000	$f/0.3$
Massachusetts (Department of Health 105 CMR 122)	Public	200	$f/1.5$
New York State <sup>6</sup>	Public	200	$f/1.5$

**NOTES:**

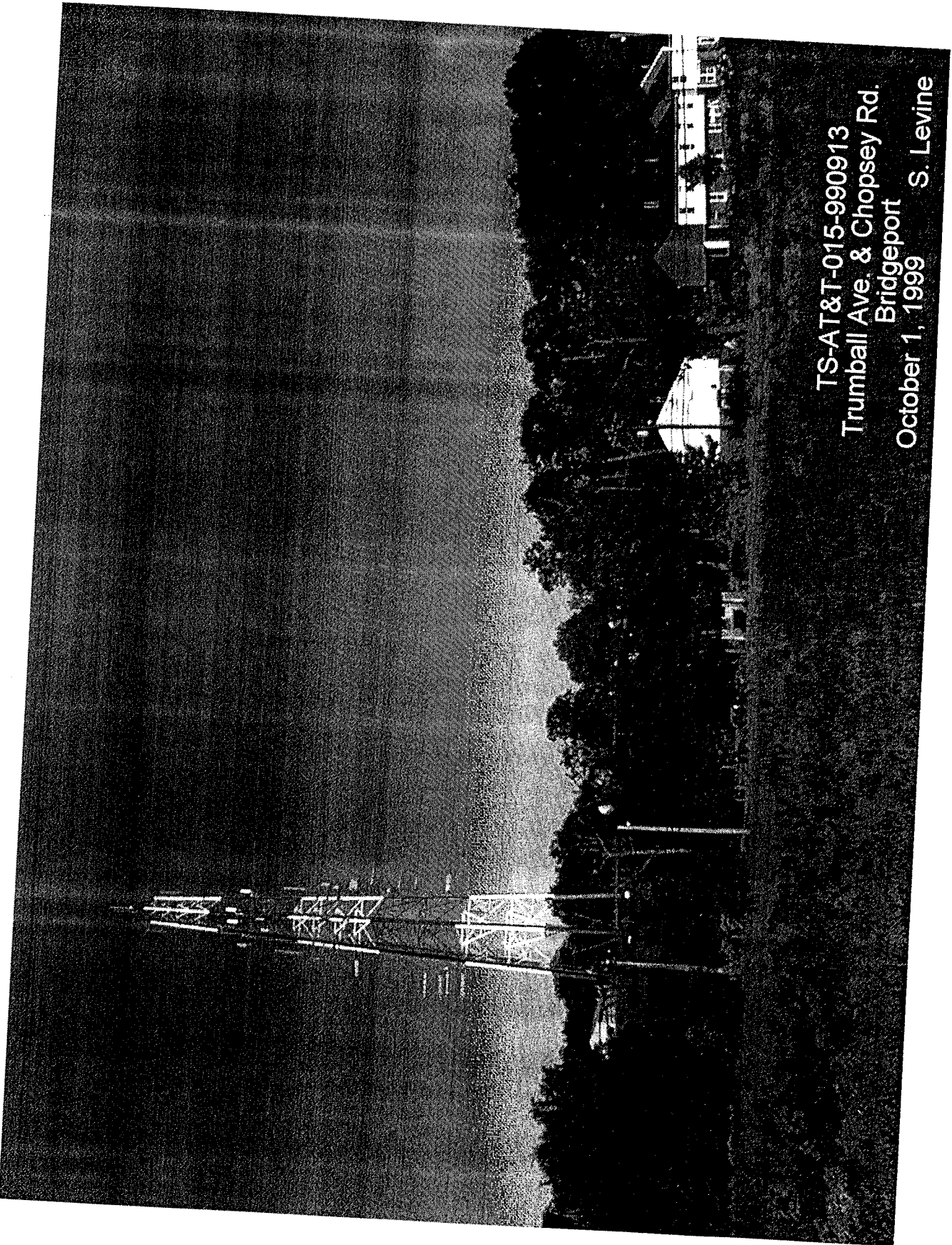
1.  $f$  = frequency in MHz
2. Reaffirmed in 1997 and published, with modification, in 1998.
3. The NRPB guidelines have slightly different frequency ranges for their investigation levels. The values shown are the lowest values for the corresponding frequency range.
4. All licensees are required to comply with the limits outlined in 47 CFR §1.1307.
5. Incorporating IEEE Standard C95.1-1991 and IEEE Standard C95.1a-1998.
6. State of New York Department of Health follows NCRP Report 86.

**Table 4: Federal Communications Commission Maximum Permissible Exposure (MPE)  
Field Limits for Exposure of the General Public to Communications Systems  
Transmitting at Frequencies Less Than 30 MHz**

<b>Frequency Range (MHz)</b>	<b>Electric Field Strength (V/m)</b>	<b>Magnetic Field Strength (A/m)</b>
0.3 - 1.34	614	1.63
1.34 - 30	$824/f^1$	$2.19/f$

**NOTES:**

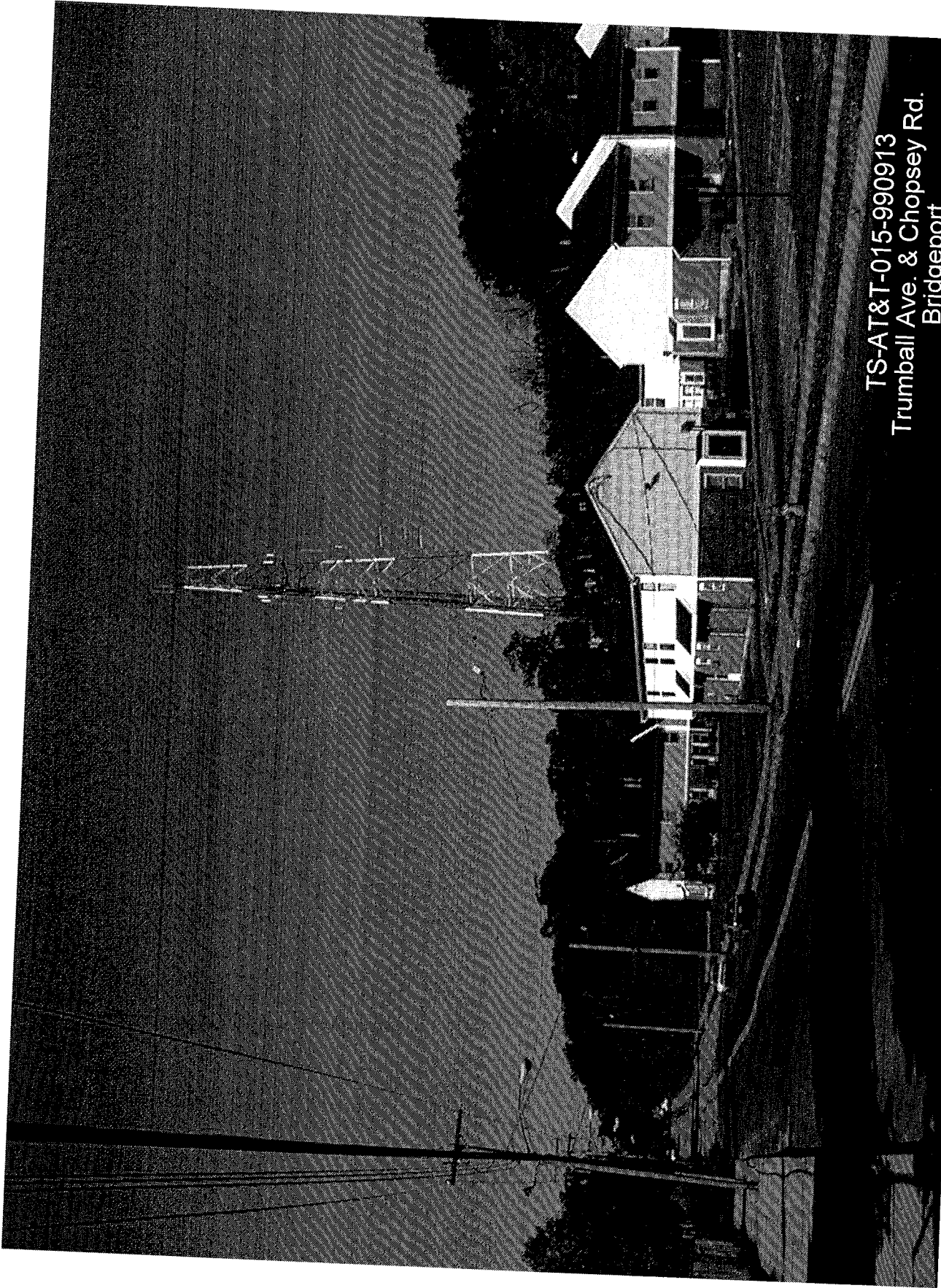
1.  $f$  = frequency in MHz



TS-AT&T-015-990913  
Trumball Ave. & Chopsey Rd.  
Bridgeport  
October 1, 1999 S. Levine

*EXTRA View*  
NOT RECORDED





TS-AT&T-015-990913  
Trumball Ave. & Chopsey Rd.  
Bridgeport  
October 1, 1999 S. Levine

Pursuant to section 16-50aa of the Connecticut General Statutes (CGS), this form is to be used to initiate telecommunications tower sharing proposals between two parties. The full text of section 16-50aa of the CGS is attached. All information is to be provided by the requesting party after consultation with the tower owner, property owner, and other appropriate persons. Any type of information that cannot be obtained due to an uncooperative tower owner, property owner, or other persons should be so identified in this form.

REQUESTING PARTY: AT&T Wireless PCS, Inc.	TELEPHONE: 201-986-2568
ADDRESS: 149 Water Street, Norwalk, CT 06854	
REPRESENTED BY: Cuddy, Feder & Worby, LLP	TELEPHONE: 914-761-1300
ADDRESS: 90 Maple Avenue, White Plains, NY 10601	

TOWER OWNER: Remo Tartaglia/Francis LaMorte	TELEPHONE: 203-261-4811
ADDRESS: 477 Main Street, Monroe, CT 06468	
REPRESENTED BY:	TELEPHONE:
ADDRESS:	

PROPERTY OWNER: Remo Tartaglia/Francis LaMorte	TELEPHONE: 203-261-4811
ADDRESS: 477 Main Street, Monroe, CT 06468	
REPRESENTED BY:	TELEPHONE:
ADDRESS:	

## PROPOSED SERVICE:

PCS Communications

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## SUMMARY OF PROPOSED ACTION:

Shared use of the existing 240' self supporting lattice tower.

The applicant proposes the addition of a wireless telecommunications

facility consisting of up to twelve (12) panel antennas mounted

at the 165' level of the tower with unmanned wireless communication

equipment contained within a new 12' by 20' equipment shelter installed

at the base of the tower.

## PROPOSED EQUIPMENT:

ANTENNA 1: Sector A (See site plans prepared by Tectonic Engineering PC submitted herewith)

Type: Allgon Panel antenna model 7184.14

Azimuth and location (height) on tower:

AZ = 30' at the 165' level of the tower

Description:

Three panel antenna 4'x3" in height and 5 1/2" in width.

Frequency, emission type, transmit power, and wave length:

Frequency - 1930 - 1990 - MHz, Emission type - tdma, Transmit

Power - maximum ERP per channel 100 watts, Wave length - 1/4 wave length

ANTENNA 2: Sector B (See site plans prepared by Tectonic Engineering PC submitted herewith)

Type: Allgon panel antenna model 7184.14

Azimuth and location (height) on tower:

AZ=150' at the 165' level of the tower.

Description:

Three panel antenna 4'x3" in height and 5 1/2" in width

Frequency, emission type, transmit power, and wave length:

Frequency - 1930-1990 MHz, Emission type - tdma,

Transmit power - maximum ERP per channel 100 Watts,

Wave length - 1/4 wave length

ANTENNA 3: Sector C (See site plans prepared by Tectonic Engineering PC submitted herewith)

Type: Allgon panel antenna model 7184.14

Azimuth and location (height) on tower:

AZ=270 at the 165' level of the tower.

Description:

Three panel antenna 4'x3" in height and 5 1/2" in width

Frequency, emission type, transmit power, and wave length:

Frequency -1930-1990 MHz, Emission Type - tdma,

Transmit power - maximum ERP per channel 100 watts,

Wavelength - 1/4 wavelength

ANCILLARY EQUIPMENT (Example: Equipment Building):

Addition of new 12'x20' equipment shelter housing unmanned wireless communication equipment.

\*TECHNICAL ANALYSIS: (Example: Frequency Coordination and Tower Loading)

RF and P.E. evaluations of the tower indicate no interference or



structural overloading from proposed tower sharing. The tower is structurally sound and capable of supporting the addition of AT&T's antennas. See letter of Structural Integrity prepared by Tectonic Engineering PC and annexed hereto as Exhibit .

LEGAL ANALYSIS: (Example: Access and Maintenance Responsibility)

Pursuant to Section 16-50aa the council is authorized to issue an order approving shared use of the existing tower facility. The applicant has obtained approval to access the facility and maintain the proposed installation. See copy of lease signature page annexed heret as Exhibit .

ENVIRONMENTAL ANALYSIS: (Example: Visibility and Calculated or Measured Power Densities at Site Boundaries)

The proposed shared use would have a minimal environmental effect. The visibility of the antennas and equipment shelter will have a diminimus impact. See Site Plans prepared by Tectonic Engineering PC submitted herewith. The additional antennas will not exceed the total radio frequency electromagnetic radiation power density level adopted by the FCC. See Bell Labs report prepared by Lucent Technologies annexed hereto as Exhibit .

\*ECONOMIC ANALYSIS: (Example: Project Cost, Proposed Compensation, and Financial Condition of the Applicant)

The applicant and tower/property owner have a private lease agreement.

The height of the existing tower will not be increased. Therefore, no additional lighting or marking is required. Further, the tower compound is surrounded by an existing 8' chain link fence. The addition of the applicant's wireless telecommunications service in the Bridgeport area through shared use of the existing tower is expected to enhance the safety and welfare of area residents and travelers through the area.

This filing shall be completed by the requesting party, if possible in consultation with the tower owner and property owner, and filed with the Connecticut Siting Council (Council) at the same time it is served to the tower owner and property owner. The tower owner, property owner, and other interested parties may respond to this proposal form with service to the Council and all other parties within 30 days of the filing of this form.

TELECOMMUNICATIONS TOWER SHARING PROCEDURE:

- 1) File completed Telecommunications Tower Sharing Proposal Form.
  - a. If necessary, request arbitration by the Council.
- 2) If necessary, formally request a feasibility proceeding by the Council.
  - a. Notice of public hearing within 30 days after formal request for feasibility proceeding.
  - b. Public hearing within 90 days after formal request for feasibility proceeding.
  - c. Council decision within 180 days after formal request for feasibility proceeding.
- 3) If necessary, initiate arbitration to determine compensation within 90 days of the Council's decision of feasibility or disagreement by parties regarding fair compensation.
- 4) If necessary, initiate court action to determine compensation.

\*Exclude from public submittal if confidential or proprietary.

Connecticut General Statutes section 16-50aa

Christopher Fisher, Esq.  
Cuddy & Feder & Worby  
90 Maple Ave.  
White Plains, NY 10601

September 2, 1999

**RE: W.O. 2323.093  
AT&T WIRELESS SERVICES  
SITE NO. CT-093  
1000 TRUMBULL AVENUE  
BRIDGEPORT, CT  
CAPACITY OF EXISTING TOWER**

Dear Mr. Fisher:

Tectonic Engineering Consultants, PC has evaluated the proposed installation of AT&T antennas on the above referenced tower, as indicated on our drawing no. C-3, dated August 4, 1999.

This tower was designed and fabricated by UNR-Rohn, as shown on their drawing no. C880400R1, dated 3/9/88, and was constructed by Clinton Tower Service. It is 240 feet tall, but was originally designed for a total height of 300 feet.

The original tower design was based on a wind speed of 85 mph with no ice, and a reduced wind speed with 1/2" ice, in conjunction with supporting the following items:

- 4 10' diameter dish antennas near the top
- 3 sets of six (6) antennas each at various elevations

We performed a structural inspection of the tower and found it to be in good condition, capable of supporting its original design loads. Some of the members have been previously reinforced to increase their capacity.

The tower currently supports a total of 43 antennas, including three sectorized cellular or PCS antenna arrays.

AT&T proposes to install the following items on the tower:

- 9 Allgon 7184.14 panel antennas mounted three (3) per sector on 12' wide frames at the 165' level
- 9 1-5/8" diameter cables to the 165' level on one of the existing waveguide ladders



W.O. 2323.093  
Bridgeport Tower

Page 2

September 2, 1999

Tectonic has performed a detailed structural analysis of this tower, including all of the existing and proposed antennas, cables, and other equipment in accordance with ANSI/TIA/EIA-222-F-1996 "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures".

We find that the tower is capable of supporting the proposed antenna and cable configuration in accordance with applicable codes. Furthermore, the calculated foundation reactions are less than those used in the original tower foundation design. The existing foundation is therefore acceptable.

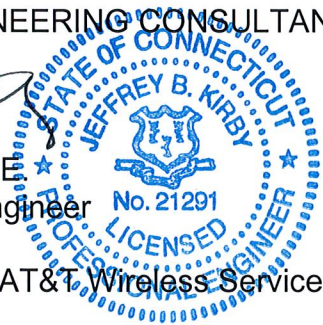
Please contact us if you require any further information.

Very truly yours,

TECTONIC ENGINEERING CONSULTANTS P.C.



Jeffrey B. Kirby, P.E.  
Chief Structural Engineer

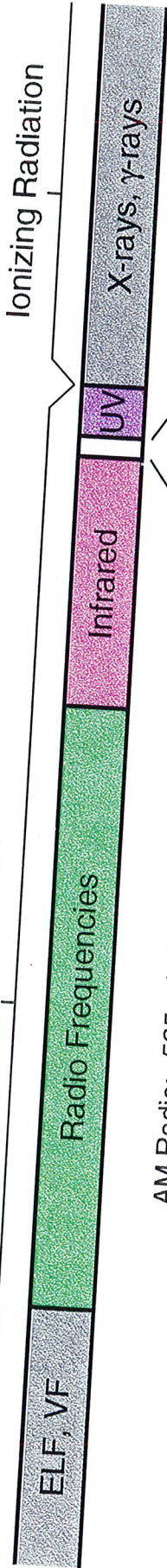


cc: Bill Appleton / AT&T Wireless Services

file jk76/AT&T/Conn/093BeardsleyTwr

# ELECTROMAGNETIC SPECTRUM

Non-Ionizing Radiation



Ionizing Radiation

AM Radio: 535 - 1605 kHz

CB Radio: 27 MHz

Cordless Phones: 49 MHz

TV Ch 2-6: 54 - 88 MHz

FM Radio: 88 - 108 MHz

Marine Radio: 160 MHz

TV Ch 7-13: 174 - 216 MHz

TV UHF Ch 14-69: 470 - 800 MHz

Cellular Radio, Specialized Mobile Radio, Paging:  
806 - 946 MHz

Antitheft devices: 10-20 kHz and/or 915 MHz

Microwave oven: 915 and 2450 MHz

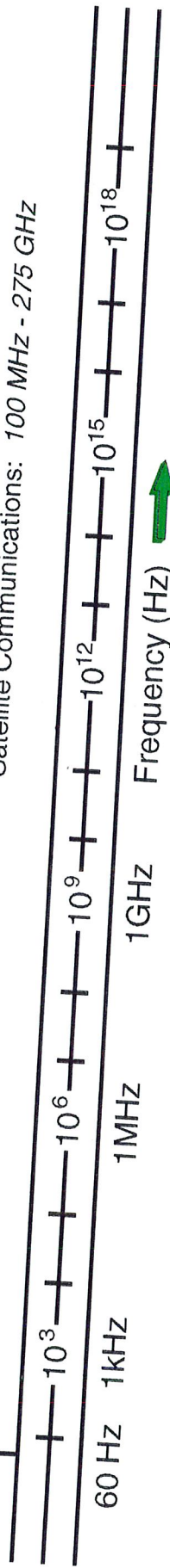
Personal Communication Services: 1800 - 2200 MHz

Intrusion alarms / door openers: 10.5 GHz

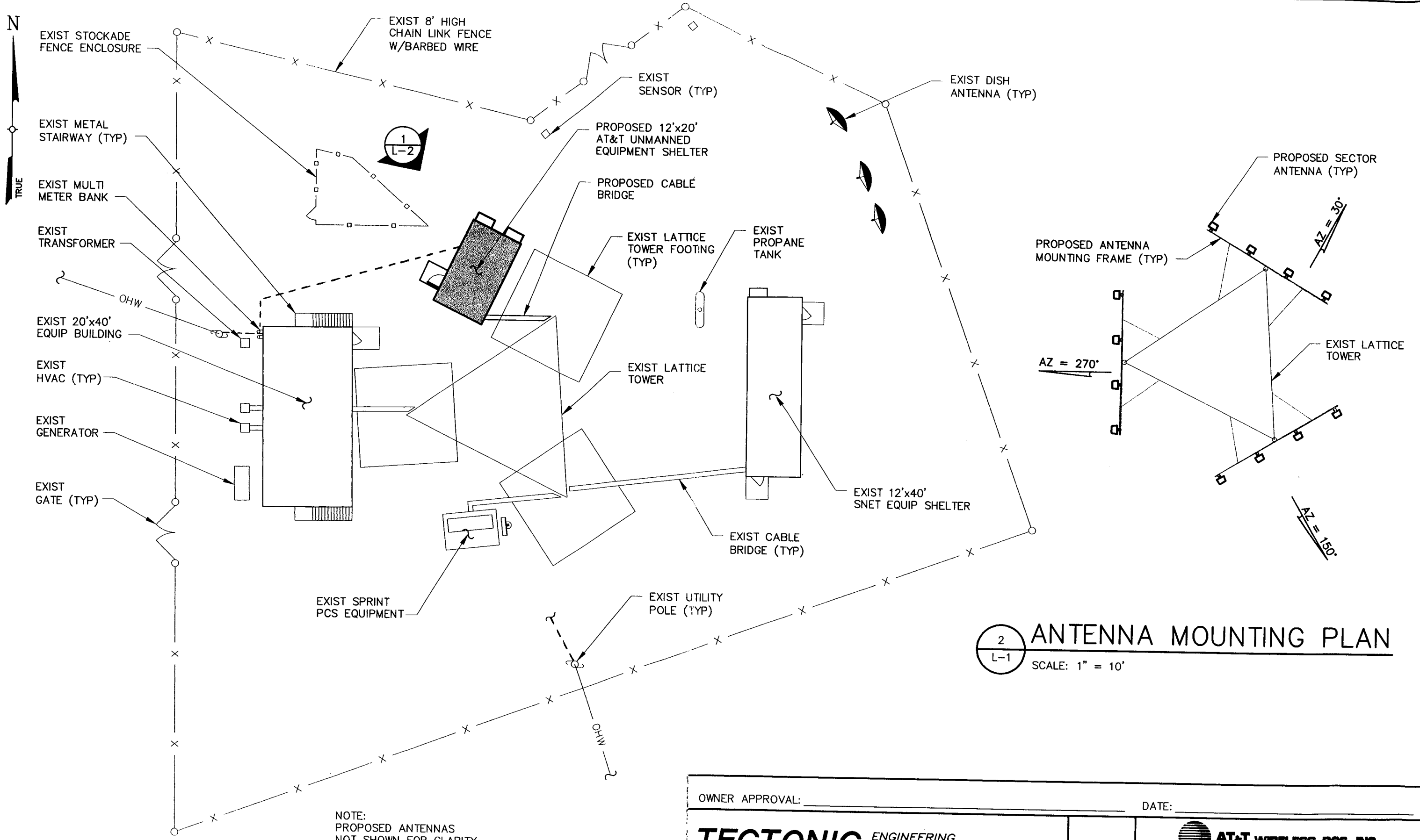
Microwave radio: 1 - 40 GHz

Satellite Communications: 100 MHz - 275 GHz

Power  
Frequency

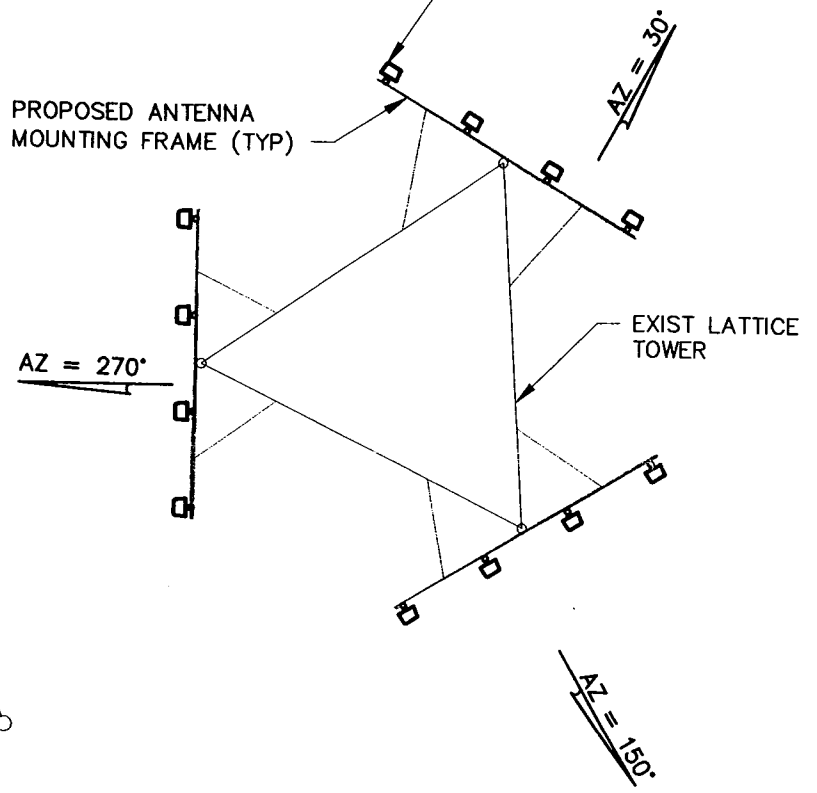


Lucent Technologies - Proprietary  
Use pursuant to Company instructions



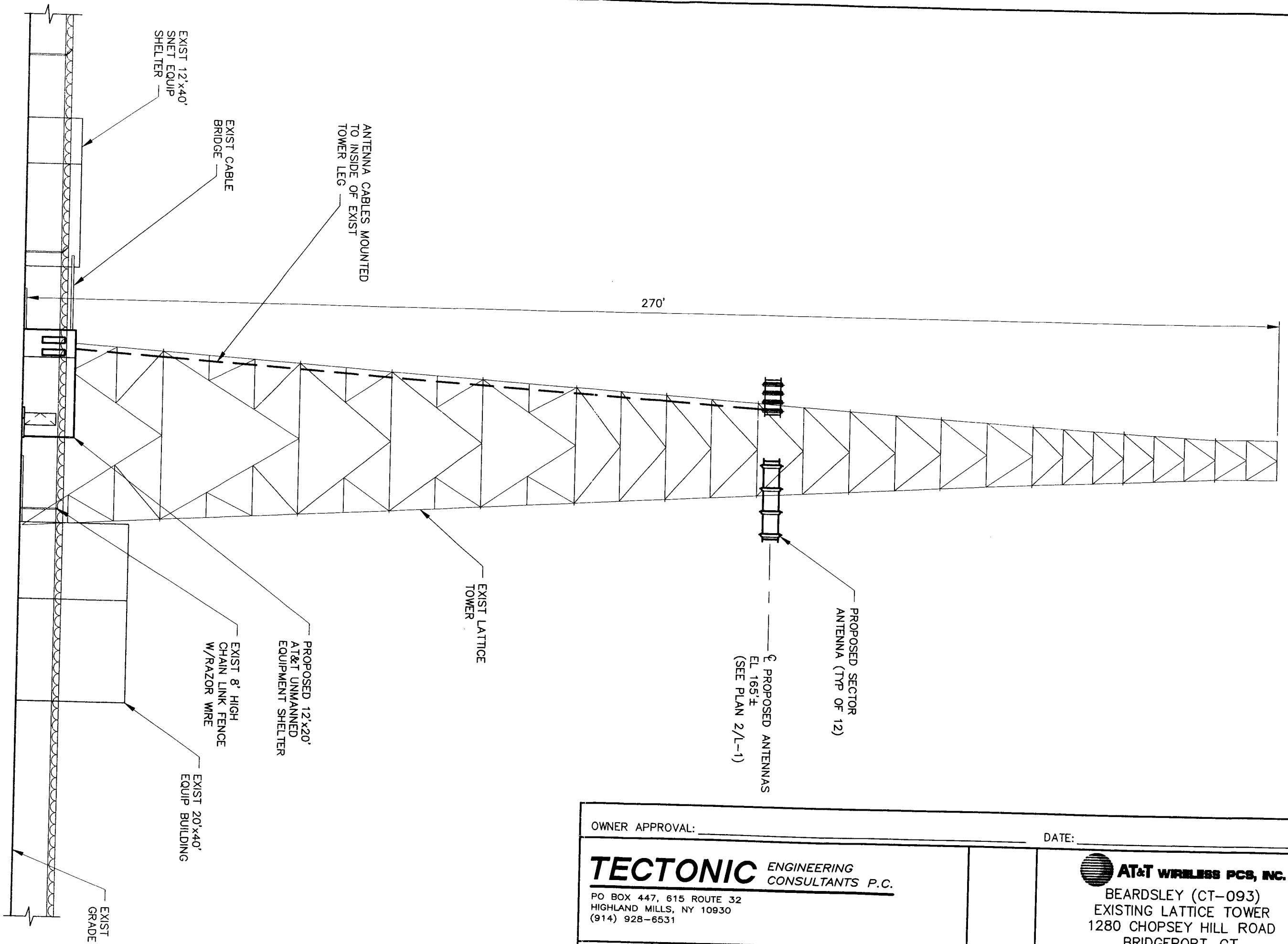
1  
L-1  
**PARTIAL SITE PLAN**  
SCALE: 1" = 20'

2  
L-1  
**ANTENNA MOUNTING PLAN**  
SCALE: 1" = 10'



OWNER APPROVAL: _____		DATE: _____	
<b>TECTONIC</b> ENGINEERING CONSULTANTS P.C. PO BOX 447, 615 ROUTE 32 HIGHLAND MILLS, NY 10930 (914) 928-6531		<b>AT&amp;T WIRELESS PCS, INC.</b> BEARDSLEY (CT-093) EXISTING LATTICE TOWER 1280 CHOPSEY HILL ROAD BRIDGEPORT, CT	
ISSUED BY: <i>T. Kossel</i>	W.O. 2323.093	5/24/99	LEASE EXHIBIT
			L-1





OWNER APPROVAL: _____		DATE: _____	
<b>TECTONIC</b> ENGINEERING CONSULTANTS P.C. PO BOX 447, 615 ROUTE 32 HIGHLAND MILLS, NY 10930 (914) 928-6531		<b>AT&amp;T WIRELESS PCS, INC.</b> BEARDSLEY (CT-093) EXISTING LATTICE TOWER 1280 CHOPSEY HILL ROAD BRIDGEPORT, CT	
ISSUED BY: <i>T. Kosze</i>	W.O. 2323.093	5/24/99	LEASE EXHIBIT
			L-2

1  
L-2  
ELEVATION  
SCALE: 1" = 20'