



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@po.state.ct.us

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

March 28, 2002

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

RE: **EM-AT&T-064-143-148-020225** - AT&T Wireless notice of intent to modify an existing telecommunications facilities located in Hartford, Torrington, and Wallingford, Connecticut.

Dear Attorney Fisher:

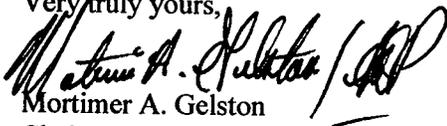
At a public meeting held on March 21, 2002, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notices dated February 22, 2002. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,


Mortimer A. Gelston
Chairman

MAG/RM/laf

- c: Honorable Eddie A. Perez, Mayor, City of Hartford
- Robert A. LaPorte, Chairman of City Plan Com., City of Hartford
- Sandra Kee-Borges, City Manager, City of Hartford
- Honorable William W. Dickinson, Jr., Mayor, Town of Wallingford
- Linda Bush, Town Planner, Town of Wallingford
- Honorable Owen J. Quinn, Jr., Mayor, City of Torrington
- Martin Connor, City Planner, City of Torrington



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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

March 12, 2002

Honorable Eddie A. Perez
Mayor
City of Hartford
Municipal Building
550 Main Street
Hartford, CT 06103

RE: **EM-AT&T-064-143-148-020225** - AT&T Wireless notice of intent to modify an existing telecommunications facilities located in Hartford, Torrington, and Wallingford, Connecticut.

Dear Mayor Perez:

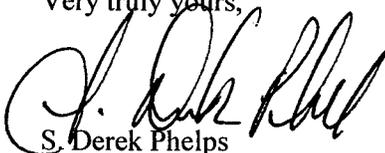
The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting tentatively scheduled for March 21, 2002, 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,


S. Derek Phelps
Executive Director

SDP/laf

Enclosure: Notice of Intent

c: Robert A. LaPorte, Chairman of City Plan Com., City of Hartford
Saundra Kee-Borges, City Manager, City of Hartford



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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

March 12, 2002

Honorable William W. Dickinson, Jr.
Mayor
Town of Wallingford
Municipal Building
45 South Main Street
P. O. Box 427
Wallingford, CT 06492

RE: **EM-AT&T-064-143-148-020225** - AT&T Wireless notice of intent to modify an existing telecommunications facilities located in Hartford, Torrington, and Wallingford, Connecticut.

Dear Mayor Dickinson:

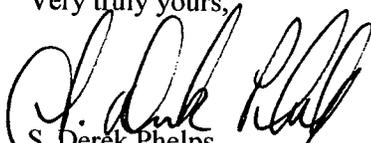
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The Council will consider this item at the next meeting tentatively scheduled for March 21, 2002, at 10:00 a.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

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,


S. Derek Phelps
Executive Director

SDP/laf

Enclosure: Notice of Intent

c: Linda Bush, Town Planner, Town of Wallingford



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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

March 12, 2002

Honorable Owen J. Quinn, Jr.
Mayor
City of Torrington
Municipal Building
140 Main Street
Torrington, CT 06790-5245

RE: **EM-AT&T-064-143-148-020225** - AT&T Wireless notice of intent to modify an existing telecommunications facilities located in Hartford, Torrington, and Wallingford, Connecticut.

Dear Mayor Quinn:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting tentatively scheduled for March 21, 2002, 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,

S. Derek Phelps
Executive Director

SDP/laf

Enclosure: Notice of Intent

c: Martin Connor, City Planner, City of Torrington

CUDDY & FEDER & WORBY LLP

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300 SOUTH LAKE DRIVE
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TELECOPIER (845) 896-3672**

**STAMFORD, CONNECTICUT
NORWALK, CONNECTICUT**

**CUDDY & FEDER
1971-1995**

**WILLIAM S. NULL
DAWN M. PORTNEY
ELISABETH N. RADOW
NEIL T. RIMSKY
RUTH E. ROTH
JENNIFER L. VAN TUYL
CHAUNCEY L. WALKER (also CA)
ROBERT L. WOLFE
DAVID E. WORBY**

**Of Counsel
MICHAEL R. EDELMAN
ANDREW A. GLICKSON (also CT)
ROBERT L. OSAR (also TX)
MARYANN M. PALERMO
ROBERT C. SCHNEIDER
LOUIS R. TAFFERA**

**NEIL J. ALEXANDER (also CT)
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THOMAS R. BEIRNE (also DC)
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ROBERT FEDER
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ANTHONY B. GIOFFRE III (also CT)
SUSAN E.H. GORDON
KAREN G. GRANIK
JOSHUA J. GRAUER
WAYNE E. HELLER (also CT)
KENNETH F. JURIST
MICHAEL L. KATZ (also NJ)
JOSHUA E. KIMERLING (also CT)
DANIEL F. LEARY (also CT)
BARRY E. LONG**

February 22, 2002

VIA FEDERAL EXPRESS

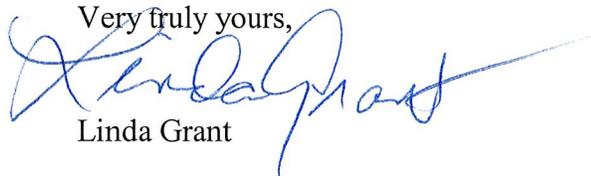
Hon. Mortimer Gelston, Chairman and Members
of the Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051



Re: AT&T Wireless Notice of Exempt Modification
1210 Highland Avenue, Torrington, Connecticut
439-455 Homestead Avenue, Hartford, Connecticut
23 Wayne Road (The "Tripp Facility"), Wallingford, Connecticut

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

On behalf of AT&T Wireless, we respectfully enclose an original and twenty copies of its notice of exempt modification with respect to the above mentioned facilities together with a check in the amount of \$500.00. We would appreciate it if these matters were placed on the next available agenda for acknowledgment by the Council. 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.

CUDDY & FEDER & WORBY LLP

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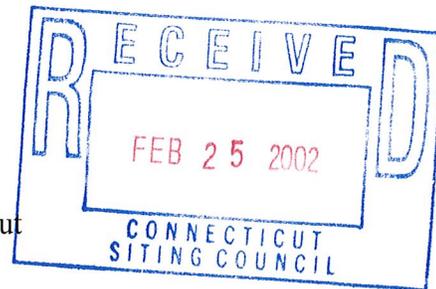
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BARRY E. LONG

February 22, 2002

VIA FEDERAL EXPRESS

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

Re: AT&T Wireless - EM-CROWN-064-990917
439-455 Homestead Avenue, Hartford, Connecticut
Notice of Further Exempt Modification



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

Crown Atlantic Company LLC ("Crown") holds the Siting Council certificate for the existing communications tower and related facility located at 439-455 Homestead Avenue, Hartford, Connecticut (Docket No. 126). On October 8, 1999 Crown, on behalf of AT&T Wireless ("AT&T"), received the Council's acknowledgement of a notice to modify the existing facility pursuant to Section 16-50j-72 of the Regulations of Connecticut State Agencies (EM-CROWN-064-990917) permitting AT&T to install panel antennas at the 117' level on the existing tower, with associated equipment cabinets located on a concrete pad within the fenced compound.

This notice of further exempt modification is also being provided pursuant to Section 16-50j-72 of the Council's regulations. AT&T will be replacing three existing antennas and installing an additional equipment cabinet at the facility. In order for AT&T to install the additional equipment cabinet (approximately 76"H x 76"W x 30"D), the existing concrete pad must be extended. AT&T proposes to add a 4'-0" x 2'-4" poured concrete pad to the existing pad within the existing fenced compound. See plans prepared by URS Corporation annexed hereto as Exhibit 1. There will be no other infrastructure changes to AT&T's facility.

CUDDY & FEDER & WORBY LLP

The proposed replacement antennas and 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 modifications to AT&T Wireless' facility will not result in an increase in the 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 as Exhibit 2, 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.

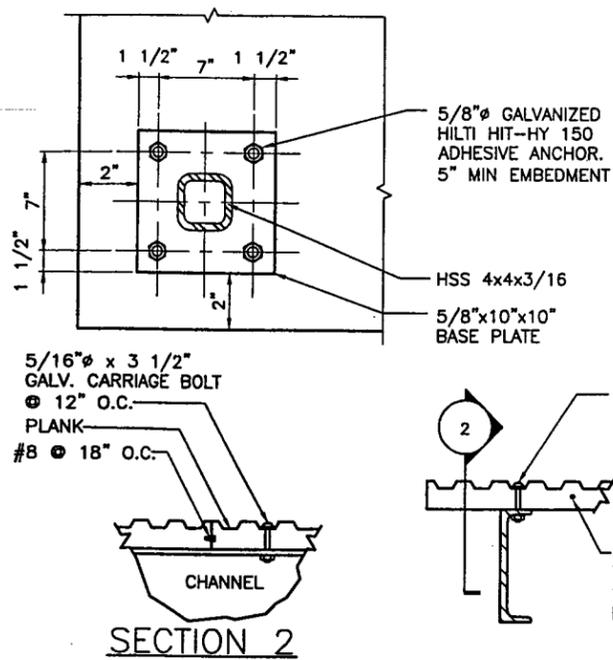
AT&T Wireless respectfully submits that the proposed replacement antennas and addition of the equipment to the Homestead Avenue Facility meets the Council's exemption criteria and requests an acknowledgment of same.

Respectfully Submitted,

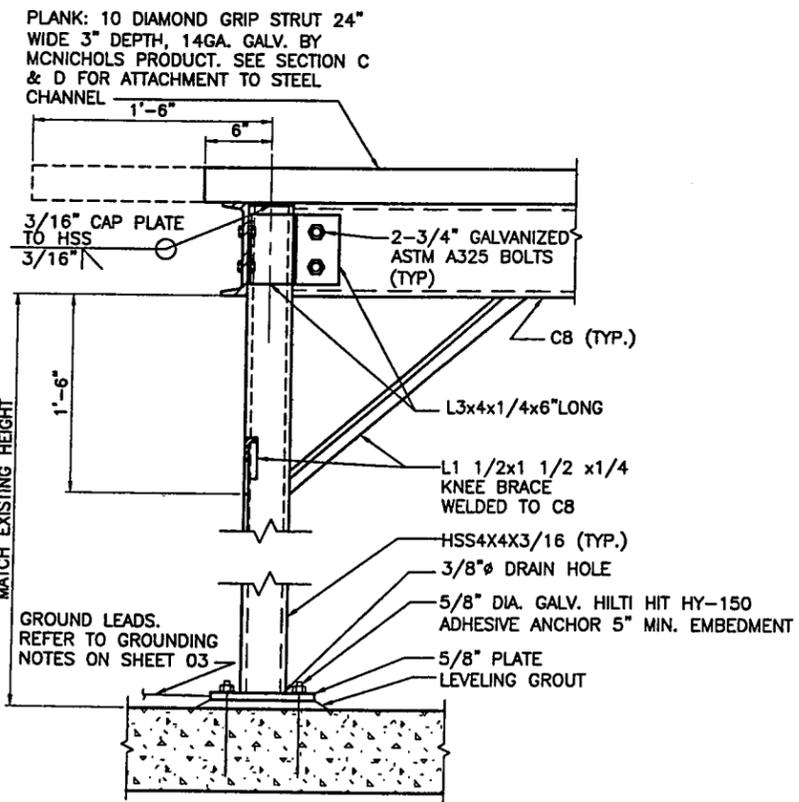


Christopher B. Fisher, Esq.
On behalf of AT&T Wireless

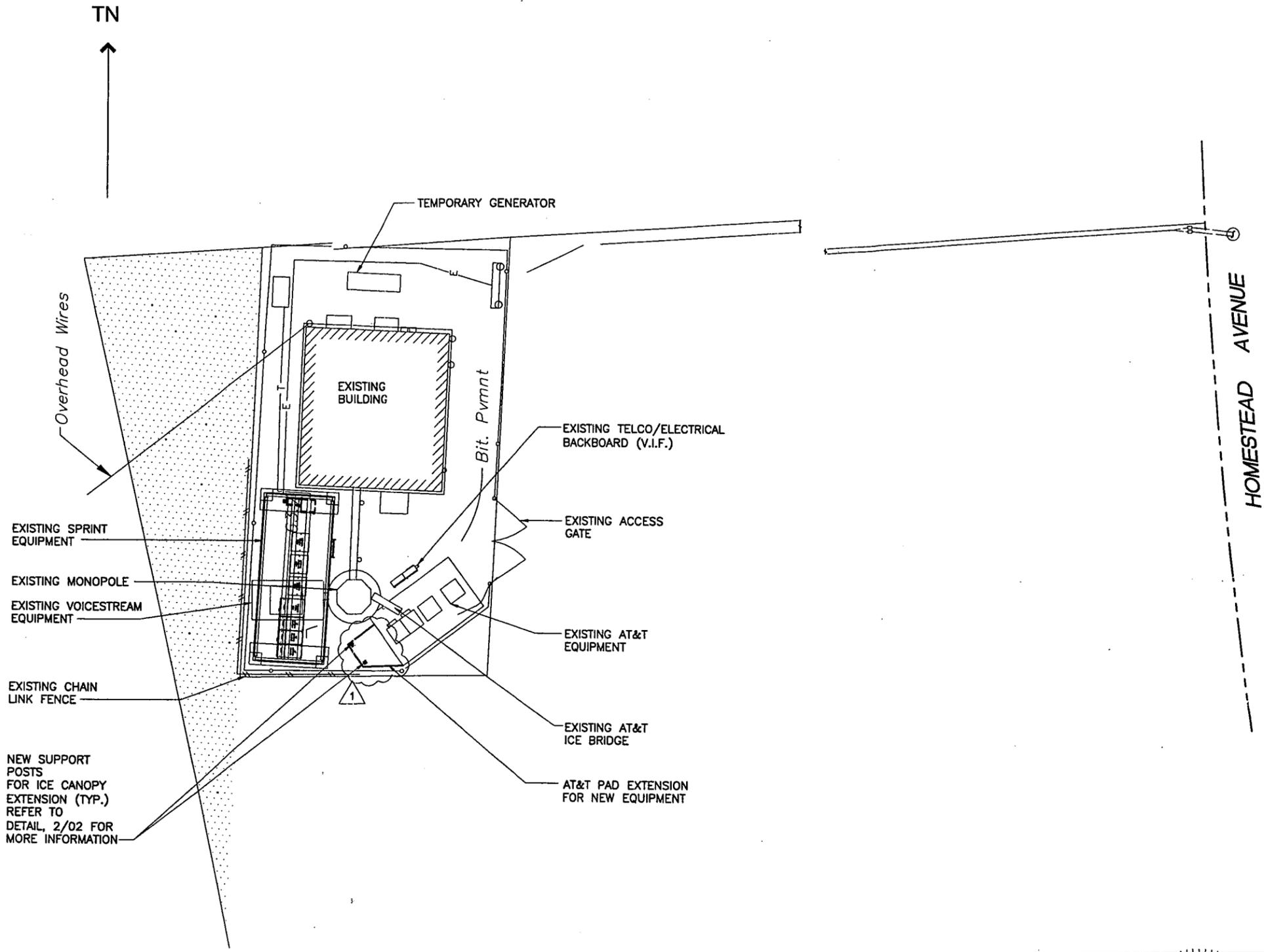
cc: Mayor, City of Hartford
Darryl Hendrickson, Bechtel Telecommunications
Kenneth Baldwin, Esq.



TYPICAL ICE CANOPY DETAILS SCALE: N.T.S. 2



SUPPORT POST FOR ICE CANOPY DETAIL SCALE: N.T.S. 3



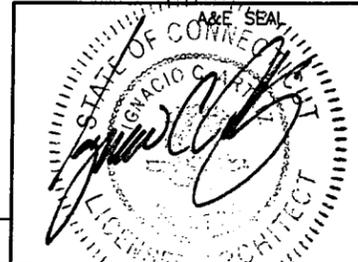
SITE PLAN SCALE: N.T.S. 1

URS CORPORATION AES
 795 BROOK STREET, BUILDING 5
 ROCKY HILL, CONNECTICUT
 1-(860)-529-8882
 URS JOB NUMBER: F302099.75

HARTFORD N.W.
 CT-131
 439-455 HOMESTEAD AVE.
 HARTFORD, CONNECTICUT

AT&T
 AT&T WIRELESS SERVICES, INC.
 15 EAST MIDLAND AVENUE
 PARAMUS, NJ 07652

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/16/01	GENERAL REVISIONS	VJB		
0	10/16/01	ISSUED FOR CONSTRUCTION	JGB	ICA	
A	09/24/01	90% REVIEW	VJB	ICA	



HARTFORD N.W.
 EXISTING MONOPOLE/EQUIPMENT PAD
 SITE PLAN AND ICE CANOPY
 DETAIL
 JOB NO. 24623-313 DRAWING NUMBER CT-131-02 REV 1

ELECTRICAL NOTES:

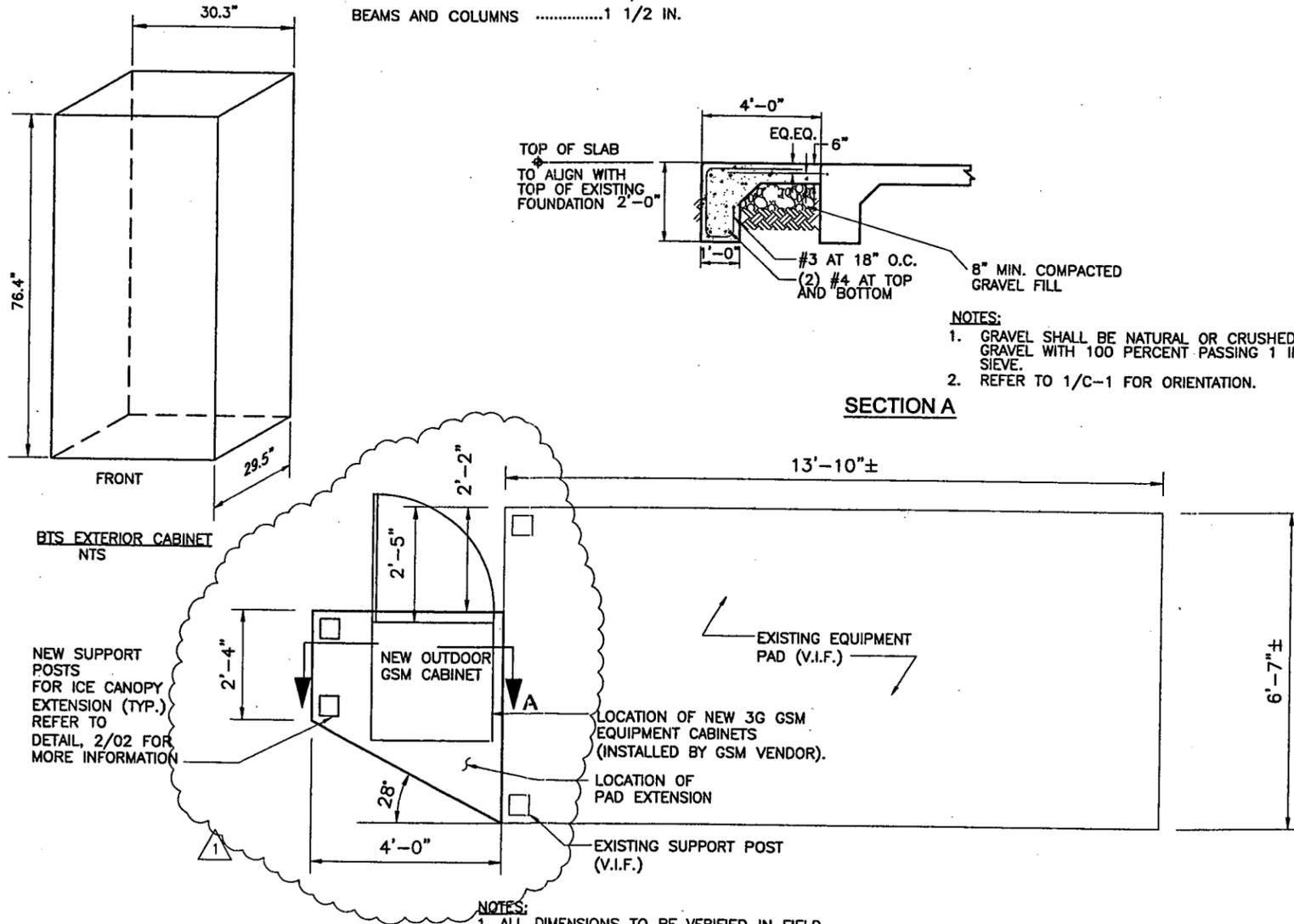
- POWER:**
SUBCONTRACTOR TO PROVIDE & INSTALL 1 DP 30 AMP BREAKER. SUBCONTRACTOR TO FIELD ROUTE 2#10 CONDUCTORS, 1#10 NEUTRAL, AND 1#10 GREEN INSULATED GROUND WIRE IN 3/4" GRC FROM AC PANEL TO EXISTING EQUIPMENT PAD CLOSE TO THE EQUIPMENT LOCATION. SUBCONTRACTOR TO RUN 6" LIQUIDTIGHT METALLIC FLEXIBLE CONDUIT TO GSM BTS.
 - TELCO:**
SUBCONTRACTOR TO PROVIDE, INSTALL & FIELD-ROUTE (1.5 MBIT/s) CAT 5E T-1 LINE FROM THE NETWORK INTERFACE UNIT (NIU) TO THE NOKIA BTS CABINET PER DETAIL 1016. CONNECTION TO CABINET WILL BE MADE BY NOKIA.
 - GROUND:**
SUBCONTRACTOR SHALL PROVIDE PIG TAIL WITH 2-HOLE LUG FOR GROUNDING THE NOKIA GSM (BTS) CABINET FRAME TO EXISTING MAIN GROUND BAR USING #2 AWG STRANDED & INSULATED GREEN COPPER WIRE. SEE DETAIL 1015.
 - CLEARANCE:**
GSM CABINETS SHOULD HAVE A MINIMUM OF 30" FRONT CLEARANCE, UNLESS OTHERWISE SPECIFIED. ALSO, MINIMUM 24" REAR CLEARANCE MUST BE MAINTAINED. OUTDOOR UNITS SHOULD HAVE TOP CLEARANCE OF 22".
 - FIELD VERIFICATION:**
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OR WORK, AT&T ANTENNA PLATFORM LOCATION AND ANTENNAS TO BE REPLACED.
 - COORDINATION OF WORK:**
SUBCONTRACTOR SHOULD COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.
 - CABLE LADDER RACK:**
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATIONS.
- USE NEC APPROVED WIRING METHODS IN ALL LOCATIONS.

CONCRETE AND REINFORCING STEEL NOTES

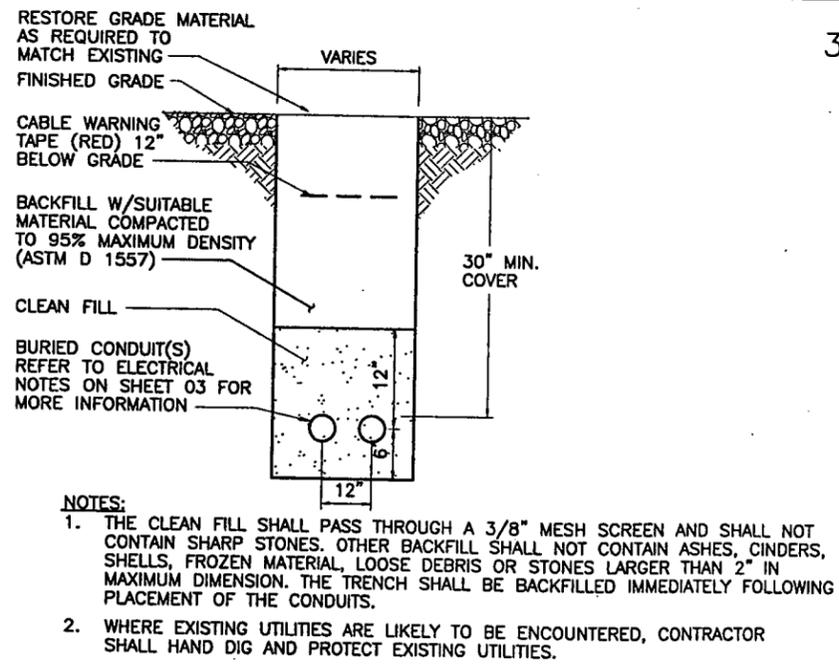
- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318 AND THE SPECIFICATION CAST-IN-PLACE CONCRETE.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. ALL CONCRETE TO BE AIR-ENTRAINED TO (4% TO 6%), SLUMP 3" TO 5".
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST EARTH.....3 IN.
 CONCRETE EXPOSED TO EARTH OR WEATHER:
 #6 AND LARGER2 IN.
 #5 AND SMALLER & WWF1 1/2 IN.
 CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
 SLAB AND WALL3/4 IN.
 BEAMS AND COLUMNS1 1/2 IN.

- A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE.
- COLD WEATHER CONCRETE POURING SHALL BE IN ACCORDANCE WITH ACI-306
- NO FOOTING SHALL BE PLACED ON FROZEN GROUND. FRESH CONCRETE SHALL BE PROTECTED AGAINST FROST.
- APPLY NON-SLIP BROOM FINISH IMMEDIATELY AFTER TROWEL FINISHING.



ELECTRICAL NOTES



TRENCH DETAIL

EQUIPMENT LAYOUT PLAN

NO.	DATE	REVISIONS	BY	CHK APP'D
2	10/31/01	REVISED CONDUIT ROUTING		
1	10/16/01		VJB	
0	10/16/01	ISSUED FOR CONSTRUCTION	JGB	ICA

SCALE: AS NOTED DESIGNED: JGB DRAWN: VJB



HARTFORD N.W.
 EXISTING MONOPOLE/EQUIPMENT PAD
EQUIPMENT LAYOUT PLAN AND ELECTRICAL NOTES

JOB NO.	DRAWING NUMBER	REV
24623-313	CT-131-03	2

URS CORPORATION AES
 795 BROOK STREET, BUILDING 5
 ROCKY HILL, CONNECTICUT
 1-(860)-529-8882
 URS JOB NUMBER: F302099.75

HARTFORD N.W. CT-131
 439-455 HOMESTEAD AVE.
 HARTFORD, CONNECTICUT

AT&T
 AT&T WIRELESS SERVICES, INC.
 15 EAST MIDLAND AVENUE
 PARAMUS, NJ 07652



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-131 (Hartford N.W.)

Dear Mr. Gelston:

On behalf of AT&T Wireless, Wireless Facilities Inc. has performed in-field RF measurements and office analyses for the above referenced site 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:

Site ID	CT-131
Site Name	Hartford N.W.
Latitude	41.78361
Longitude	-72.70416
Owner of the structure	Crown Castle Intl.
Address of structure	439-455 Homestead Ave, Hartford, CT 06112
Type of structure	Monopole
Antenna structure owner	AT&T Wireless services
Address of antenna owner	15 East Midland Ave, Paramus,NJ 07652
FCC class and Type of service	PCS TDMA (IS-136), PCS GSM
Operating frequency	D, E bands (PCS)
Azimuths	40,160,280
Elevation (ft)	117
Antenna manufacturer	Allgon
Antenna type	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 W/m²
 EIRP = Effective isotropic radiated power (W)
 ERP = Effective radiated power (W)
 D = Distance in meters

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 μW/cm² is given by

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

Where: S = Power density in μW/cm²
 ERP = Effective radiated power (W)
 D = Distance in meters

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	Point of Worst Case Predicted Level	Predicted Value μW/cm ²	Maximum Limit for PCS Band Uncontrolled Environment Set by FCC μW/cm ²	% of the Standard
Current PCS TDMA configuration	260 feet away in front of the antenna	1.02	1000	0.102
Future PCS TDMA and GSM configuration	260 feet away in front of the antenna	1.15	1000	0.12

In addition to predictive analysis, on-site data was recorded at different locations around the monopole. In all areas, less than 3.15 % 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 that 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 PCS Band Uncontrolled Environment Set by FCC $\mu\text{W}/\text{cm}^2$	% of the Standard
50 meters in front of sector 1	31.5	1000	3.15
15 meters in front of sector 2	16.5	1000	1.65
50 meters in front of sector 3	8.0	1000	0.80

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 3.15 % 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

CUDDY & FEDER & WORBY LLP

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WHITE PLAINS, NEW YORK 10601-5196

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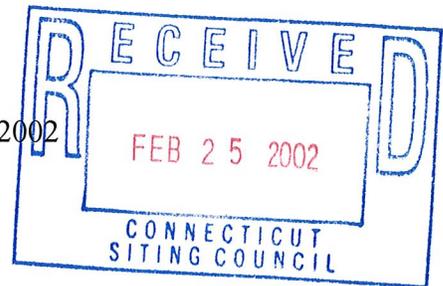
CUDDY & FEDER
1971-1995

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BARRY E. LONG

February 22, 2002



VIA FEDERAL EXPRESS

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

Re: AT&T Wireless
1210 Highland Avenue
Torrington, Connecticut
Notice of Exempt Modification

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

Litchfield County Cellular, Inc. received the Council's acknowledgement of a notice to modify the existing facility located at 1210 Highland Avenue in the City of Torrington pursuant to Section 16-50j-72 of the Regulations of Connecticut State Agencies (number unknown) permitting it to install panel antennas on the existing tower, with an associated equipment shelter located at grade.

This notice of further exempt modification is also being provided pursuant to Section 16-50j-72 of the Council's regulations. Litchfield Acquisition Corporation, Inc. d/b/a AT&T Wireless (successor in interest) will be replacing two antennas and installing additional equipment within the existing shelter at the facility. There will be no other infrastructure changes to AT&T's facility.

February 22, 2002

Page 2

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 Tower's height or extend the boundaries of the existing Tower Facility. Further, there will be no increase in noise levels by six (6) decibels or more at the Tower site's boundary. AT&T has made measurements of the existing facility to confirm compliance with MPE limits and as set forth in a report prepared by Edward and Kelcey, 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, addition of AT&T Wireless' equipment to its existing facility constitutes an exempt modification which will not have a substantially adverse environmental effect.

AT&T Wireless respectfully submits that the proposed addition of equipment to the Highland Avenue 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 Torrington
Darryl Hendrickson, Bechtel Telecommunications



RF Emissions Experts

AN EDWARDS AND KELCEY SERVICE

***Analysis and Report
of RF Exposure Levels
and Compliance with
FCC Regulations***

***Torrington Site
1210 Highland Avenue
Torrington, CT
Site ID: L01***

***Prepared for
AT&T Wireless***

February 19, 2002

EDWARDS AND KELCEY
299 Madison Avenue - PO Box 1936
Morristown, NJ 07962-1936

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PROPRIETARY – AT&T WIRELESS AND EDWARDS AND KELCEY

This document has been prepared for AT&T Wireless for its use in demonstrating RF compliance, as necessary, to federal, state and/or local authorities, and/or site landlords. Distribution beyond that described is prohibited without the express written consent of Edwards and Kelcey.



FCC RF COMPLIANCE ANALYSIS FOR

AT&T Wireless

Torrington, CT Tower

This site compliance report is organized as follows:

- Site Technical Data
- Analysis Method and Assumptions
- The FCC RF Radiation Exposure Regulations
- Applicable Formulas
- Analysis Results
- Conclusion

SITE TECHNICAL DATA (replacing two (of a total four) 800 MHz antennas with two 1900 MHz antennas – data reflects additional 1900 MHz system)

Facility type	Existing 260 ft. Tower
Transmit frequency band (proposed additional band)	1965 - 1975 MHz
Replacement Antenna type	DB 910CE-M
Antenna major dimension (length)	6.9 ft.
Maximum antenna gain	10.0 dBd
Antenna centerline height	213 ft. above ground level
Total number of 1900 MHz antennas	2 antennas
Total number of 800 MHz antennas	2 antennas
Number of 1900 MHz channels per antenna	2 channels
Maximum ERP per channel	150 watts
Maximum antenna downtilt	0 degrees
Existing carriers on tower	See report

ANALYSIS METHOD AND ASSUMPTIONS

Type of analysis	Maximum / ground-level
Area analyzed	0' to 500' from tower
Classification of area	Uncontrolled (gen. pop.)
FCC Maximum Permissible Exposure (MPE) limit	1.000 mW/ cm ² (1900 MHz)
Mathematical model	Point source, far field
Assumed ground reflection factor	100%
Assumed human height	6'0"
Vertical antenna discrimination included	(not used in CT)

THE FCC RF RADIATION EXPOSURE REGULATIONS

This RF exposure analysis is based on the current FCC guidelines for human exposure to RF fields, which represent the consensus of federal agencies responsible for RF safety matters. Those agencies include the National Council on Radiation Protection and Measurements (NCRP), the Occupational Health and Safety Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), the American National Standards Institute (ANSI), the Environmental Protection Agency (EPA), and the Food and Drug Administration (FDA). In formulating its guidelines, the FCC also considered input from the public and technical community – notably the Institute of Electrical and Electronics Engineers (IEEE).

The FCC's RF exposure guidelines are incorporated in Section 1.1301 *et seq* of its Rules and Regulations. Those guidelines specify maximum permissible exposure (MPE) levels for both occupational and general population exposure on a continuous basis, as well as averaging times for each of those categories when and if exposure exceeds the specified continuous exposure limits. (The concept of averaging time will be ignored in this analysis, as the results show the potential exposure levels are far below those permitted even for continuous exposure.)

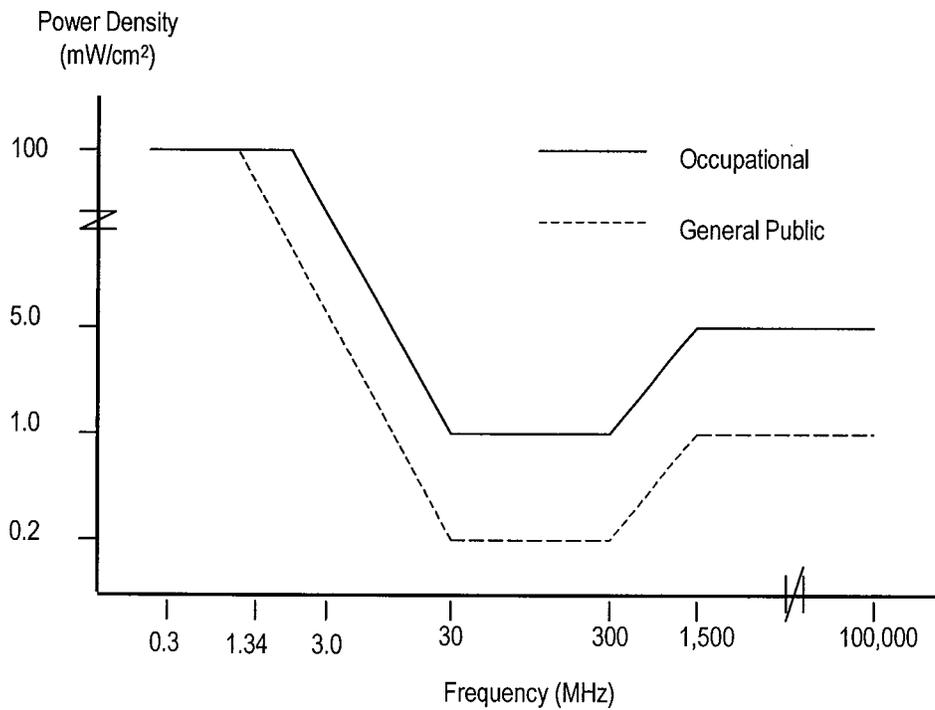
The specified continuous exposure MPE limits are based on known variation of human body susceptibility in different frequency ranges, and a Specific Absorption Rate (SAR) of 4 watts per kilogram, which is universally considered to accurately represent human capacity to dissipate incident RF energy (in the form of heat). The occupational MPE guidelines incorporate a safety factor of 10 or greater with respect to RF levels known to represent a health hazard, and an additional safety factor of five is applied to the MPE limits for general population exposure. Thus the general population MPE limit has a built-in safety factor of more than 50. Continuous exposure at levels equal to or below the applicable MPE limits is considered to result in no adverse health effects on humans.

The reason for *two* tiers of MPE limits is based on an understanding and assumption that members of the general public are unlikely to have had appropriate RF safety training and may not be aware of the exposures they receive; occupational exposure in controlled environments, on the other hand, is assumed to involve individuals who have had such training, are aware of the exposures, and know how to maintain a safe personal work environment.

The FCC's RF exposure limits are expressed in two equivalent forms, using alternative units of field strength (expressed in volts per meter, or V/m), and power density (expressed in milliwatts per square centimeter, or mW/cm²). The more popularly used reference unit is power density, as it is more easily understood. One milliwatt per square centimeter is approximately the energy impinging on an area roughly one-fourth the size of a dime from a light bulb emitting ten thousand times less than the energy of a common 100-watt bulb. The table below lists the FCC limits for both occupational and general population exposure to different radio frequencies.

Frequency Range (F) (MHz)	Occupational Exposure (mW/cm ²)	General Public Exposure (mW/cm ²)
0.3 - 1.34	100	100
1.34 - 3.0	100	180 / F ²
3.0 - 30	900 / F ²	180 / F ²
30 - 300	1.0	0.2
300 - 1,500	F / 300	F / 1500
1,500 - 100,000	5.0	1.0

The figure below provides a graphical illustration of both the FCC's occupational and general population MPE limits.



FCC MPE limits – graphical representation

The FCC makes it clear that the MPE limits apply only in accessible areas. Fundamentally, in areas that are considered normally inaccessible, the exposure issue is moot.

- (1) $S \text{ [mW/cm}^2\text{]} = (P_i * ACF / (2 \pi R h))$
- (2) FCC MPE limit = 1.000 mW/cm²
- (3) MPE% = 100 * (S / 1.000)

where:

- S = Calculated power density
- P_i = Total power input to the antenna, in mW
- ACF = Antenna correction factor (adjustment to near-field power density calculation to compensate for the antenna mounting height above ground level and resulting partial-body exposure; see Richard Tell article listed in the References)
- R = Straight-line distance from antenna to 6' human
- h = Subtended height of the antenna, in cm
- MPE% = Calculated exposure level, as a percentage of the FCC MPE limit for continuous exposure of the general population

ANALYSIS RESULTS – GROUND-LEVEL

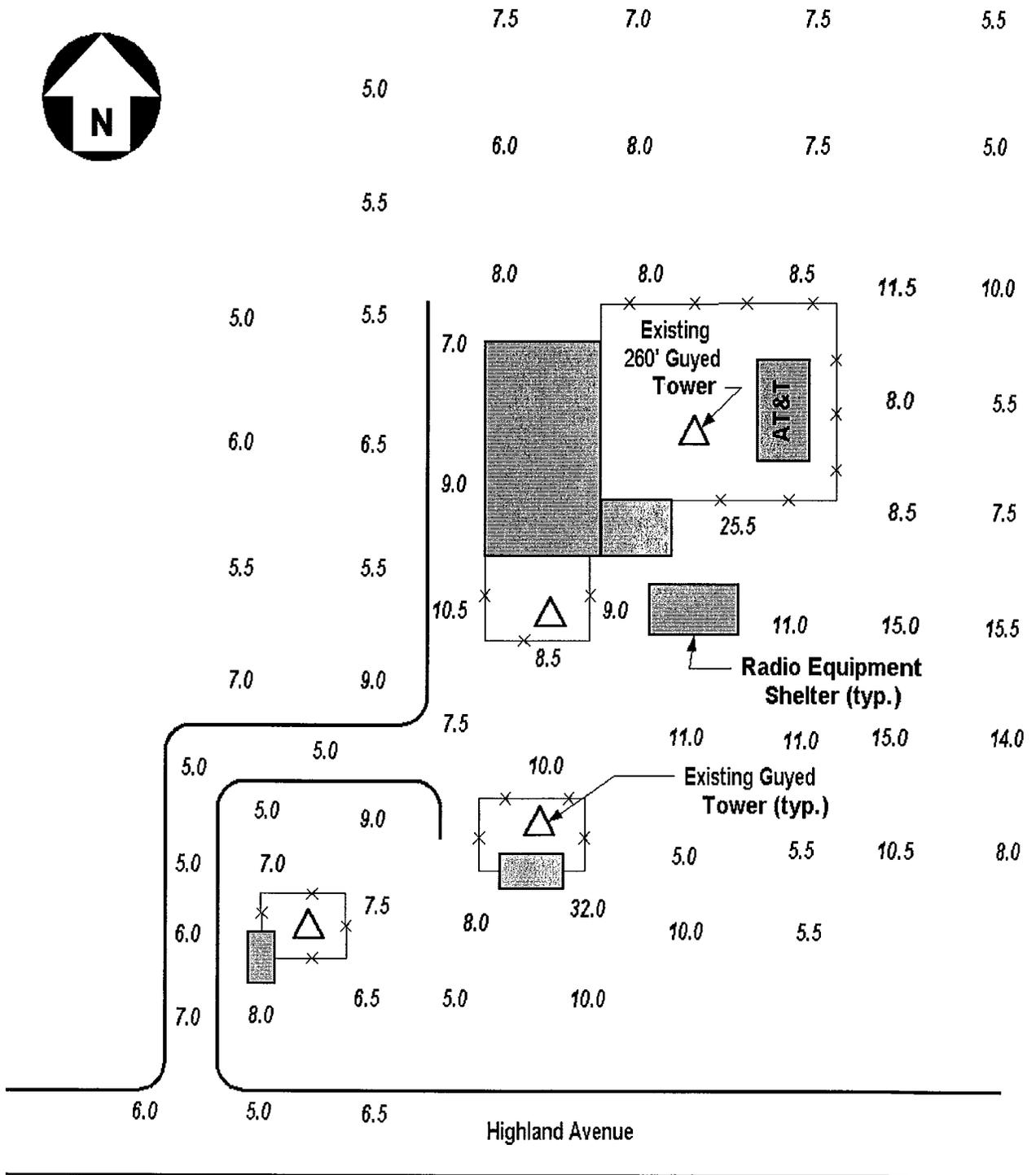
AT&T Wireless is replacing two of the four existing antennas presently transmitting in the 800 MHz band, with two new antenna that will transmit in the 1900 MHz band. This analysis will reflect the additional RF emissions from the replacement antennas.

The table on the following page summarizes the results of the calculations using the site data, method and far-field point source formula described above. In addition, note that while the tabular distances are listed in feet, the calculations translate these units into centimeters, to match the FCC specification of MPE units. Also note that the value for 'G dist' is the distance along the ground in feet, from the base of the tower.

1900 MHz Antenna Array (AT&T Wireless)					
G dist	R dist	V angle	V disc	mW/cm ²	GPMPE%
0	203.0	90.0	1.000	0.0041	0.409
20	204.0	84.4	1.000	0.0041	0.405
40	206.9	78.9	1.000	0.0039	0.394
60	211.7	73.5	1.000	0.0038	0.376
80	218.2	68.5	1.000	0.0035	0.354
100	226.3	63.8	1.000	0.0033	0.329
120	235.8	59.4	1.000	0.0030	0.303
140	246.6	55.4	1.000	0.0028	0.277
160	258.5	51.8	1.000	0.0025	0.252
180	271.3	48.4	1.000	0.0023	0.229
200	285.0	45.4	1.000	0.0021	0.208
220	299.3	42.7	1.000	0.0019	0.188
240	314.3	40.2	1.000	0.0017	0.171
260	329.9	38.0	1.000	0.0016	0.155
280	345.8	35.9	1.000	0.0014	0.141
300	362.2	34.1	1.000	0.0013	0.129
320	379.0	32.4	1.000	0.0012	0.117
340	396.0	30.8	1.000	0.0011	0.108
360	413.3	29.4	1.000	0.0010	0.099
380	430.8	28.1	1.000	0.0009	0.091
400	448.6	26.9	1.000	0.0008	0.084
420	466.5	25.8	1.000	0.0008	0.078
440	484.6	24.8	1.000	0.0007	0.072
460	502.8	23.8	1.000	0.0007	0.067
480	521.2	22.9	1.000	0.0006	0.062
500	539.6	22.1	1.000	0.0006	0.058

Table 1. AT&T Wireless 1900 MHz ground level RF power density & percent-of-MPE calculations

On February 8, 2002 Edwards & Kelcey conducted on-site RF exposure measurements. These measurements were performed using a Narda model 8722 RF probe and Narda model 8718 RF meter. Both the probe and meter are capable of broadband RF measurements, covering a range of 300 kHz to 50 GHz. The measuring equipment is designed to automatically register measured total RF exposure levels and report them as percentages of the FCC's overall occupational MPE limit. The following site plan shows measured MPE levels for general population.



SITE PLAN
NOT TO SCALE

Figure 1: Field Measurements at 1210 Highland Avenue, Torrington, CT

CONCLUSION

The calculations demonstrate that the maximum potential exposure level around the existing tower induced by the 1900 MHz AT&T Wireless system is 0.0041 mW/cm², which represents 0.409% of the FCC limits for exposure of the general population.

The worst case ground level measurement around the site was determined to be 32.0% of the FCC limit. This level includes the additional level expected from the upgraded AT&T Wireless 1900 MHz system of 0.407% MPE.

Therefore, the addition of the AT&T Wireless 1900 MHz system to the existing facility should not create a significant risk of cumulative exposure to RF emissions to the general population. And, according to the calculations and field measurements, the AT&T Wireless facility is in compliance with the FCC regulations (FCC OET Bulletin 65) concerning the control of potential RF exposure.

APPLICABLE FORMULAS

According to FCC OET Bulletin 65, different mathematical models apply to different distances around an antenna. At the height of the antenna, the breakpoint is the “far-field distance”, calculated as the ratio of the square of the major dimension of the antenna divided by the signal wavelength. Beyond the far-field distance at the height of the antenna, as well as at ground-level underneath the antenna, a “far-field point source” model applies; within that distance, a “near-field cylindrical model applies. The subsections below provide background on the two applicable models in the 1900 MHz band.

Far-Field Point Source Model

$$(1) \quad S \text{ [mW/cm}^2\text{]} = (4 * \text{EIRP}_{\text{max}} * \text{VertAntDisc}(\phi)) / (4 * \pi * R^2_{\text{cm}})$$

$$(2) \quad \text{FCC MPE limit} = 1.000 \text{ mW/cm}^2$$

$$(3) \quad \text{MPE}\% = 100 * (S / 1.000)$$

where:

S	=	Calculated power density
4 (in numerator)	=	100% field ground reflection effect (has $[1 + 1]^2 = 4$ effect on power density)
EIRP_{max}	=	Maximum effective isotropically radiated power (Note: EIRP is 64% higher than ERP, which is referenced to a half-wave dipole)
$\text{VertAntDisc}(\phi)$	=	Numeric factor for antenna discrimination (EIRP reduction) in the vertical plane, applicable at downward angle ϕ to a 6' human standing on ground, calculated at distances from 0' to 500' away from the antenna (not used in Connecticut sites – as requested by the Connecticut Siting Council)
R	=	Straight-line distance from antenna to 6' human
MPE%	=	Calculated exposure level, as a percentage of the FCC MPE limit for continuous exposure of the general population

CERTIFICATION

This report was prepared by George Burylo, Director – Engineering Services. The undersigned certifies that the analysis provided herein is consistent with the applicable FCC Rules and Regulations and accepted industry practice.


George Burylo
Director – Engineering Services

February 19, 2002

REFERENCES

47 CFR, FCC Rules and Regulations, Section 1.1301 *et seq.*

FCC Second Memorandum Opinion and Order and Notice of Proposed Rulemaking (FCC 97-303), *In the Matter of Procedures for Reviewing Requests for Relief From State and Local Regulations Pursuant to Section 332(c)(7)(B)(v) of the Communications Act of 1934 (WT Docket 97-192), Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation (ET Docket 93-62), and Petition for Rulemaking of the Cellular Telecommunications Industry Association Concerning Amendment of the Commission's Rules to Preempt State and Local Regulation of Commercial Mobile Radio Service Transmitting Facilities*, released August 25, 1997.

FCC First Memorandum Opinion and Order, ET Docket 93-62, *In the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, released December 24, 1996.

FCC Report and Order, ET Docket 93-62, *In the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, released August 1, 1996.

FCC Office of Engineering and Technology (OET) Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", Edition 97-01, August 1997.

FCC Office of Engineering and Technology (OET) Bulletin 56, "Questions and Answers About Biological Effects and Potential Hazards of Radiofrequency Electromagnetic Fields", Fourth Edition, August 1999.

Richard Tell, "CTIA's EME Design and Operation Considerations for Wireless Antenna Sites", November 15, 1996.

Site Photo



TORRINGTON, CT SITE (Subject tower at far left)

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February 22, 2002

VIA FEDERAL EXPRESS

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-148-000124
23 Wayne Road (The "Tripp Facility"),
Wallingford, Connecticut
Notice of Exempt Modification

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

On February 2, 2000 the Council ruled that AT&T's proposed shared use of the existing communications tower located at 23 Wayne Road in the Town of Wallingford complied with Section 16-50aa of the Regulations of Connecticut State Agencies (TS-AT&T-148-000124) permitting AT&T to install three (3) panel antennas on a pipe mounted to the top of the tower, with associated equipment located within the existing equipment building.

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 equipment building 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-

CUDDY & FEDER & WORBY LLP

February 22, 2002

Page 2

50i(d). The proposed addition to AT&T Wireless' facility will not result in an increase in the Tower's height or extend the boundaries of the existing Tower Facility. Further, there will be no increase in noise levels by six (6) decibels or more at the Tower site's boundary. AT&T has 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, addition of AT&T Wireless' equipment to its existing facility constitutes an exempt modification which will not have a substantially adverse environmental effect.

AT&T Wireless respectfully submits that the proposed addition of equipment to the Tripp 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, Town of Wallingford
Darryl Hendrickson, Bechtel Telecommunications



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

February 12, 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-172 (Mount Tom – Wallingford Tripp Tower)

Dear Mr. Gelston:

On behalf of AT&T Wireless, Wireless Facilities Inc. has performed in-field RF measurements and office analyses for the above referenced site 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:

Site ID	CT-172
Site Name	Mount Tom Wallingford – Tripp Tower
Latitude	41.4625
Longitude	-72.8425
Address of structure	23 Wayne Road, Wallingford, CT
Type of structure	Lattice Tower
Antenna structure owner	AT&T
Address of antenna owner	15 East Midland AVE Paramus, NJ 07652
FCC class and Type of service	PCS TDMA (IS-136), PCS GSM
Operating frequency	D, E bands (PCS)
Azimuths	30,150,270
Elevation (ft)	88 AGL
Antenna manufacturer	EMS
Antenna type	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 W/m²
 EIRP = Effective isotropic radiated power (W)
 ERP = Effective radiated power (W)
 D = Distance in meters

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 μW/cm² is given by

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

Where: S = Power density in μW/cm²
 ERP = Effective radiated power (W)
 D = Distance in meters

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	Point of Worst Case Predicted Level	Predicted Value μW/cm ²	Maximum Limit for the PCS Band Uncontrolled Environment Set by FCC μW/cm ²	% of the Standard
Current PCS TDMA configuration	320 feet away in front of the antenna	1.49	1000	0.15
Future PCS TDMA and GSM configuration	320 feet away in front of the antenna	2.0	1000	0.2

In addition to predictive analysis, on-site data was recorded at different locations around the lattice tower. In all areas, less than 0.9 % 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 that 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 PCS Band Uncontrolled Environment Set by FCC $\mu\text{W}/\text{cm}^2$	% of the Standard
10 meters in front of sector 1	9	1000	0.90
20 meters in front of sector 2	2.8	1000	0.28
15 meters in front of sector 3	4.75	1000	0.475

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 0.9 % 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