

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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

January 3, 2002

Richard Greene
Senior Wireless Designer
Edward and Kelcey
One Church Street, 3rd Floor
New Haven, CT 06510

RE: **EM-AT&T-005-018-031-055-068-092-111-125-153-162-168-011121** - Edwards and Kelcey on behalf of AT&T Wireless notice of intent to modify existing telecommunications facilities located at twelve sites throughout the State of Connecticut.

Dear Mr. Greene:

At a public meeting held on January 3, 2002, the Connecticut Siting Council (Council) acknowledged your notice to modify the Litchfield-Kent (L04); Mohawk Mountain (L12); Pine Meadows (L14); and North Kent (L17) sites of the proposed twelve existing telecommunications facilities, eight of which were previously approved on December 17, 2001, 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 November 20, 2001, December 10, 2001, and December 21, 2001. 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. These facilities have also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

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

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/laf

c: See attached list

List Attachment:

Honorable Dolores R. Schiesel, First Selectman, Town of Kent
Judith Wick, Zoning Enforcement Officer, Town of Kent
Honorable James P. O'Leary, First Selectman, Town of Goshen
Martin Connor, Town Planner, Town of Goshen
Honorable Michael D. Fox, First Selectman, Town of Barkhamsted
Karl Nilsen, Zoning Enforcement Officer, Town of Barkhamsted
Honorable P. Robert Moeller, First Selectman, Town of Sharon
Elizabeth H. Casey, Zoning Enforcement Officer, Town of Sharon
Honorable Gordon M. Ridgway, First Selectman, Town of Cornwall
Ruth Mucahy, Zoning Enforcement Officer, Town of Cornwall



STATE OF CONNECTICUT
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December 13, 2001

Richard Greene
Senior Wireless Designer
Edward and Kelcey
One Church Street, 3rd Floor
New Haven, CT 06510

RE: **EM-AT&T-005-018-031-055-068-092-111-125-153-162-168-011121** - Edwards and Kelcey on behalf of AT&T Wireless notice of intent to modify existing telecommunications facilities located at twelve sites throughout the State of Connecticut.

Dear Mr. Greene:

At a public meeting held on December 11, 2001, the Connecticut Siting Council (Council) acknowledged your notice to modify eight of the proposed twelve existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies. The Litchfield-Kent (L04); Mohawk Mountain (L12); Pine Meadows (L14); and North Kent (L17) sites will be presented at a future Council meeting after requested information is received.

The proposed modifications are to be implemented as specified here and in your notice dated November 20, 2001. 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. These facilities have also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

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

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/laf

c: See attached list

Honorable John F. Arcelaschi, Mayor, Town of Winchester
Anthony Cannavo, Planning and Zoning Chairman, Town of Winchester
Margaret A. Johnson, Town Manager, Town of Winchester
Honorable Rosalie G. Loughran, Chairman of the Town Council, Town of Watertown
Mary Barton, Zoning Enforcement Officer, Town of Watertown
Charles T. O'Conner, Jr., Town Manager, Town of Watertown
Honorable David C. Mischke, Mayor, Town of Plymouth
William Kuehn, Town Planner, Town of Plymouth
Honorable Richard W. Crane, First Selectman, Town of Woodbury
Christopher S. Wood, Town Planner, Town of Woodbury
Honorable Arthur J. Peitler, Mayor, Town of New Milford
David, N. Hubbard, Planning and Econ. Director, Town of New Milford
Honorable Dolores R. Schiesel, First Selectman, Town of Kent
Judith Wick, Zoning Enforcement Officer, Town of Kent
Honorable James P. O'Leary, First Selectman, Town of Goshen
Martin Connor, Town Planner, Town of Goshen
Honorable Katherine L. Rieger, First Selectman, Town of New Hartford
Karl Nilsen, Zoning Enforcement Officer, Town of New Hartford
Honorable Michael D. Fox, First Selectman, Town of Barkhamsted
Karl Nilsen, Zoning Enforcement Officer, Town of Barkhamsted
Honorable P. Robert Moeller, First Selectman, Town of Sharon
Elizabeth H. Casey, Zoning Enforcement Officer, Town of Sharon
Honorable Martin J. Foncello, Jr., First Selectmen, Town of Brookfield
Clare Ann Walsh, Land Use Enforcement Officer, Town of Brookfield
Heather Paton, Land Use Office, Town of Brookfield

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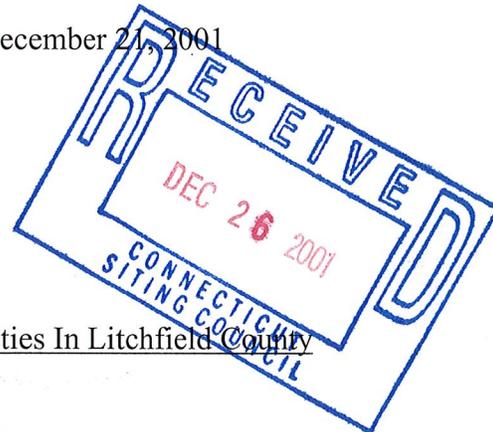
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BARRY E. LONG

December 21, 2001

VIA FEDERAL EXPRESS

Robert Mercier
Siting Analyst
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051



Re: AT&T Exempt Modification Filings For Facilities In Litchfield County

Dear Mr. Mercier:

On behalf of Litchfield Acquisition Corporation d/b/a AT&T Wireless ("AT&T") enclosed please find additional information that you had requested with respect to the Notice of Exempt Modifications that were filed with the Council by Edwards & Kelcey on November 27, 2001:

1. As noted in our December 10, 2001 correspondence with respect to AT&T Site L04, Bulls Bridge Road, Kent, Edwards & Kelcey and AT&T have confirmed that based on their information, AT&T's antennas are at 152' centerline on this existing tower facility with SCLP (Cingular) located at the 170' level (this is consistent with the Council's inventory).
2. AT&T Site L12 Mohawk State Forest, West Goshen - AT&T Wireless believes that this tower is owned by AT&T Long Lines which no longer has a corporate relationship with AT&T Wireless.
3. AT&T Site L14, 127 New Hartford Road, Barkhamsted - Annexed hereto is a revised report by RF Emissions Experts, dated December 19, 2001 with AT&T, Nextel and Cingular included as approved by the Council in 1998. As you may know, Sprint is

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December 21, 2001

Page 2

currently processing an application for an amended certificate and has included calculations in their filing for all carriers should a modified facility be approved by the Council.

4. AT&T Site L17, Herb Road, Sharon – Annexed hereto is a revised report by RF Emissions Experts, dated December 20, 2001 including AT&T, Nextel and Cingular as approved by the Council in 1998. At this time the State Police are not proposing to use the tower and as such have been excluded from the calculations provided by AT&T.

We would appreciate it if these notices were placed on the next available agenda of the Council for acknowledgement.

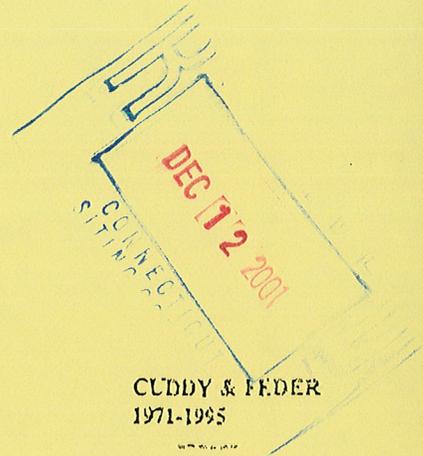
Thank you for your continued assistance. Please do not hesitate to contact me, should you require any additional information or have any questions.

Very truly yours,



Christopher B. Fisher

cc: Carmen Chapman, AT&T
Richard Greene, E&K
Darryl Hendrickson, Bechtel



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TO: Rob Mercier

FROM: _____

TELECOPIER NO. _____

DATE: _____ PAGES: _____ CLIENT _____ MATTER: _____
(Including Cover)

MESSAGE: Further correction to pg. 2
of revised RF Report for
ASST 417 - Monopole Height/centerline

IMPORTANT NOTICE: The accompanying fax transmission is intended to be viewed and read only by the individual or entity named above. If you are not the intended recipient so named, you are prohibited from reading this transmission. You are also notified that any dissemination, distribution or copying of this transmission is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and return the original transmission to us by the U.S. Postal Service. Thank you.

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IF THERE ARE ANY PROBLEMS, PLEASE NOTIFY OPERATOR IMMEDIATELY



FCC RF COMPLIANCE ANALYSIS FOR

AT&T Wireless

Sharon, CT Monopole

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 one existing 800 MHz antenna per sector with one 1900 MHz antenna per sector – data reflects additional 1900 MHz system)

Facility type	Existing 110 ft. Monopole
Transmit frequency band (proposed additional band)	1965 - 1975 MHz
Replacement Antenna type	Allgon 7262
Antenna major dimension (length)	4.3 ft.
Maximum antenna gain	14.0 dBd
Antenna centerline height	108 ft. above ground level
Total number of 1900 MHz antennas added	3 (1 per sector)
Number of 1900 MHz channels per antenna	2 channels
Maximum ERP per channel	150 watts
Maximum antenna downtilt	2 degrees (mechanical)
Existing carriers on monopole	See report

ANALYSIS METHOD AND ASSUMPTIONS

Type of analysis	Maximum / ground-level
Area analyzed	0' to 500' from monopole
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	from Ant. Mfr. data

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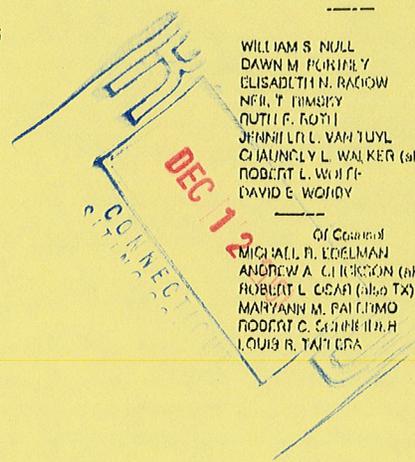
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BARBARA E. LONG

December 10, 2001

BY FAX (860) 827-2950

Robert Mercier
Siting Analyst
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: AT&T Exempt Modification Filings For Facilities In Litchfield County

Dear Mr. Mercier:

In furtherance of our discussion earlier today, the following additional information is submitted on behalf of Litchfield Acquisition Corporation d/b/a AT&T Wireless ("AT&T") in furtherance of the notices that were filed with the Council by Edwards & Kelcey on November 27, 2001.

- 1) AT&T Site L.03, Buckingham Street, Watertown – The height of the existing facility was erroneously noted on the title sheet of the drawings as 150' and Edwards & Kelcey has no reason to believe that the structure is anything other than 118' in height as noted in the Council's inventory;
- 2) AT&T Site L.04, Bulls Bridge Road, Kent – Edwards & Kelcey has confirmed that based on their information, AT&T's antennas are at 152' centerline on this existing tower facility with SCLP (Cingular) located at the 170' level (this is consistent with the Council's inventory);

CUDDY & FEDER & WORBY LLP

December 10, 2001

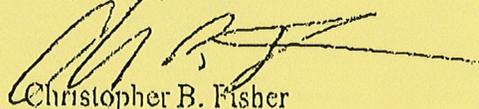
Page 2

- 3) AT&T Site L.12, Mohawk State Forest, West Goshen – Annexed hereto is a memorandum prepared by George Burylo supplementing his November 15, 2001 report and confirming that there is no substantive difference to the methodology used by AT&T Bell Laboratories in its February 9, 1995 report and that required by the subsequently adopted FCC OET Bulletin 65;
- 4) AT&T Site L.17, Herb Road, Sharon – Annexed hereto is a revised report by RF Emissions Experts, dated December 10, 2001 with an AT&T antenna centerline of 108' and confirming compliance with FCC MPE limits.

As we discussed, all of the minor antenna and equipment upgrades at these sites are considered exempt modifications pursuant to Section 16-50-j-72(b)(2) of the Council's Regulations. As such, we trust that the foregoing information will enable the Council to acknowledge same at its meeting tomorrow.

Thank you for your assistance and understanding in this regard.

Very truly yours,



Christopher B. Fisher

cc: Carmen Chapman, AT&T
Richard Greene, E&K
Darryl Hendrickson, Bechtel

Fisher, Christopher

From: Burylo, George [GBurylo@ekmail.com]
Sent: Monday, December 10, 2001 5:43 PM
To: 'Fisher, Christopher'
Subject: AT&T Site L12 - Mohawk Mountain

Chris,

As requested, we reviewed the AT&T Bell Laboratories RF Analysis, dated 2/9/98, for the Mohawk Mountain Tower site in Cornwall. The method used to calculate RF power density is consistent with the parameters set forth in the FCC OET Bulletin 65. To obtain the 1.018% MPE value for the combined existing systems, Edwards and Kelcey applied current OET 65 criteria.

George Burylo
Director - Engineering Services
Edwards and Kelcey, Inc.
(973) 267-8830, ext. 1250
gburylo@ekmail.com



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

***North Kent Site
70 Herb Road
Sharon, CT
Site ID: L17***

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

December 20, 2001

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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

Sharon, CT Monopole

This site compliance report is organized as follows:

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

SITE TECHNICAL DATA (replacing one existing 800 MHz antenna per sector with one 1900 MHz antenna per sector – data reflects additional 1900 MHz system)

Facility type	Existing 110 ft. Monopole
Transmit frequency band (proposed additional band)	1965 - 1975 MHz
Replacement Antenna type	Allgon 7262
Antenna major dimension (length)	4.3 ft.
Maximum antenna gain	14.0 dBd
Antenna centerline height	108 ft. above ground level
Total number of 1900 MHz antennas added	3 (1 per sector)
Number of 1900 MHz channels per antenna	2 channels
Maximum ERP per channel	150 watts
Maximum antenna downtilt	2 degrees (mechanical)
Other carriers on monopole	Springwich (proposed) @ 100 ft. Nextel (proposed) top mounted whip antennas

ANALYSIS METHOD AND ASSUMPTIONS

Type of analysis	Maximum / ground-level
Area analyzed	0' to 500' from monopole
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	from Ant. Mfr. data

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.)

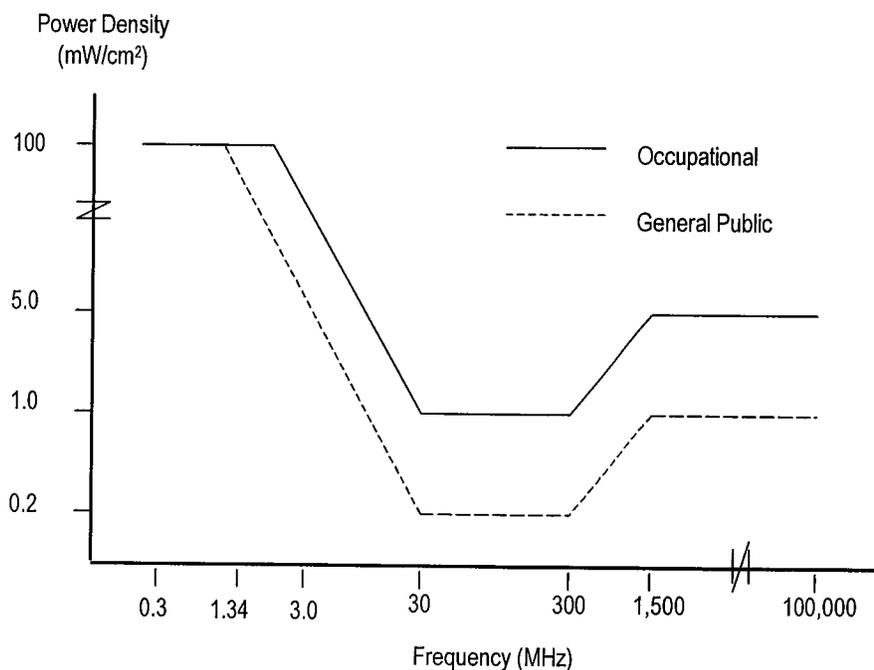
The specified continuous exposure MPE limits are based on known variation of human body susceptibility in different frequency ranges, and a Specific Absorption Rate (SAR) of 4 watts per kilogram, which is universally considered to accurately represent human capacity to dissipate incident RF energy (in 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.

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) $S \text{ [mW/cm}^2\text{]} = (4 * \text{EIRP}_{\text{max}} * \text{VertAntDisc}(\phi)) / (4 * \pi * R_{\text{cm}}^2)$
- (2) FCC MPE limit = 1.000 mW/cm²
- (3) 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) |
| VertAntDisc(φ) | = | 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 |
| 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 |

Near-Field Cylindrical Model

(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 will replace one existing antenna (in each of three sectors) presently transmitting in the 800 MHz band, with one 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. Note that the information on the vertical antenna discrimination has been taken from the antenna manufacturer's specification sheets. 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 monopole.

851 MHz Antenna Array (Nextel)					
G dist	R dist	V angle	V disc	MW/cm ²	GPMPE%
0	104.0	90.0	1.000	0.0416	7.332
20	105.9	79.1	1.000	0.0401	7.070
40	111.4	69.0	1.000	0.0362	6.387
60	120.1	60.0	1.000	0.0312	5.501
80	131.2	52.4	1.000	0.0261	4.606
100	144.3	46.1	1.000	0.0216	3.810
120	158.8	40.9	1.000	0.0178	3.145
140	174.4	36.6	1.000	0.0148	2.607
160	190.8	33.0	1.000	0.0124	2.178
180	207.9	30.0	1.000	0.0104	1.835
200	225.4	27.5	1.000	0.0089	1.561
220	243.3	25.3	1.000	0.0076	1.339
240	261.6	23.4	1.000	0.0066	1.159
260	280.0	21.8	1.000	0.0057	1.011
280	298.7	20.4	1.000	0.0050	0.889
300	317.5	19.1	1.000	0.0045	0.787
320	336.5	18.0	1.000	0.0040	0.700
340	355.6	17.0	1.000	0.0036	0.627
360	374.7	16.1	1.000	0.0032	0.565
380	394.0	15.3	1.000	0.0029	0.511
400	413.3	14.6	1.000	0.0026	0.464
420	432.7	13.9	1.000	0.0024	0.424
440	452.1	13.3	1.000	0.0022	0.388
460	471.6	12.7	1.000	0.0020	0.357
480	491.1	12.2	1.000	0.0019	0.329
500	510.7	11.7	1.000	0.0017	0.304

Table 1. 851 MHz ground level RF power density and percent-of-MPE calculations.

800 MHz Antenna Array (Springwich Cellular)					
G dist	R dist	V angle	V disc	MW/cm ²	GPMPE%
0	92.0	90.0	1.000	0.0531	9.963
20	94.1	77.7	1.000	0.0507	9.513
40	100.3	66.5	1.000	0.0447	8.379
60	109.8	56.9	1.000	0.0373	6.990
80	121.9	49.0	1.000	0.0303	5.673
100	135.9	42.6	1.000	0.0244	4.567
120	151.2	37.5	1.000	0.0197	3.688
140	167.5	33.3	1.000	0.0160	3.005
160	184.6	29.9	1.000	0.0132	2.475
180	202.1	27.1	1.000	0.0110	2.064
200	220.1	24.7	1.000	0.0093	1.740
220	238.5	22.7	1.000	0.0079	1.483
240	257.0	21.0	1.000	0.0068	1.276
260	275.8	19.5	1.000	0.0059	1.109
280	294.7	18.2	1.000	0.0052	0.971
300	313.8	17.0	1.000	0.0046	0.856
320	333.0	16.0	1.000	0.0041	0.761
340	352.2	15.1	1.000	0.0036	0.680
360	371.6	14.3	1.000	0.0033	0.611
380	391.0	13.6	1.000	0.0029	0.552
400	410.4	13.0	1.000	0.0027	0.501
420	430.0	12.4	1.000	0.0024	0.456
440	449.5	11.8	1.000	0.0022	0.417
460	469.1	11.3	1.000	0.0020	0.383
480	488.7	10.9	1.000	0.0019	0.353
500	508.4	10.4	1.000	0.0017	0.326

Table 2. 800 MHz ground level RF power density and percent-of-MPE calculations.

1900 MHz Antenna Array (AT&T Wireless)					
G dist	R dist	V angle	V disc	mW/cm ²	GPMPE%
0	100.0	90.0	1.000	0.0169	1.687
20	102.0	78.7	1.000	0.0162	1.622
40	107.7	68.2	1.000	0.0145	1.454
60	116.6	59.0	1.000	0.0124	1.240
80	128.1	51.3	1.000	0.0103	1.028
100	141.4	45.0	1.000	0.0084	0.843
120	156.2	39.8	1.000	0.0069	0.691
140	172.0	35.5	1.000	0.0057	0.570
160	188.7	32.0	1.000	0.0047	0.474
180	205.9	29.1	1.000	0.0040	0.398
200	223.6	26.6	1.000	0.0034	0.337
220	241.7	24.4	1.000	0.0029	0.289
240	260.0	22.6	1.000	0.0025	0.250
260	278.6	21.0	1.000	0.0022	0.217
280	297.3	19.7	1.000	0.0019	0.191
300	316.2	18.4	1.000	0.0017	0.169
320	335.3	17.4	1.000	0.0015	0.150
340	354.4	16.4	1.000	0.0013	0.134
360	373.6	15.5	1.000	0.0012	0.121
380	392.9	14.7	1.000	0.0011	0.109
400	412.3	14.0	1.000	0.0010	0.099
420	431.7	13.4	1.000	0.0009	0.090
440	451.2	12.8	1.000	0.0008	0.083
460	470.7	12.3	1.000	0.0008	0.076
480	490.3	11.8	1.000	0.0007	0.070
500	509.9	11.3	1.000	0.0006	0.065

Table 3. AT&T Wireless 1900 MHz ground level RF power density & percent-of-MPE calculations

On November 13, 2001 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. These values were then multiplied by a factor of 5 to reflect MPE levels for general population.

CONCLUSION

The calculations presented above demonstrate that the maximum potential exposure level around the existing monopole induced by the 1900 MHz AT&T Wireless system is 0.0169 mW/cm², which represents 1.687% of the FCC limits for exposure of the general population.

The worst case ground level measurement around the site was determined to be 5.50% of the FCC limit. When added to the worst case level expected from the proposed AT&T Wireless 1900 MHz system of 1.687% and the worst case levels from the proposed Nextel and Springwichee systems of 7.332% and 9.963% respectively, the resultant cumulative level of 24.482% is still safe for continuous exposure of the general population based on FCC standards.

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

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

December 20, 2001

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.



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Construction
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Real Estate Services



November 27th, 2001

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

RE: Notice of Intent to modify an existing telecommunication facility at 70 Herb Road Sharon, CT. (Site ID: L17).

Dear Mr. Gelston:

On behalf of AT&T Wireless, Edwards and Kelcey is enclosing 20 copies of an RF study that was recently done on the above site as well as 20 - 1/2 size drawing of our modifications to the site.

The changes we are proposing will have no visual changes to the site. One antenna will be changed out and replaced with a new one, same shape, size and weight. New radio equipment will be installed in an enclosed shelter.

The drawings were stamped by a structural engineer on the cover stating that no changes were required for this site.

In conclusion Edwards and Kelcey on behalf of AT&T Wireless Service Petition for a declaratory ruling that no amendment to the Certificate of Environmental Compatibility and public need is required for modifications to a facility located at 70 Herb Road in Sharon, CT.

Thank you for your consideration of this matter

Very truly yours,

EDWARDS AND KELCEY

Richard Greene
Senior Wireless Designer

EM-AT&T-005-018-031-055-068-092-096-111-125-153-
162-168-011121

Cc: Rob Davis

One Church Street, 3rd Floor
New Haven, Connecticut 06510

Voice 203.772.1710
Fax 203.772.1701
www.ekcorp.com



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Real Estate Services

November 20th, 2001

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

RE: Request by Edwards And Kelcey for an order to approve the AT&T Wireless 1900 MHZ System for
cellsites named below

Dear Mr. Gelston:

Enclosed you will find 20 copies of 12 cellsite RF reports and 20 copies of 1/2 size construction drawings showing the changes we will be making at these sites. As well as a statement on the cover of each drawing set stating that these changes will have no additional structural effect on the tower structure. We will be removing one panel on each sector and replacing it with one the same size, shape and weight.

Cellsite numbers involved in this study are as follows:

L02 Plymouth	L09 Cornwall
L03 Watertown	L12 Mohawk Mountain
L04 Litchfield-Kent	L13 Brookfield
L05 Winstead	L14 Pine Meadows
L06 New Milford	L16 Nepaug
L07 Woodbury	L17 North Kent

In conclusion we are requesting the approval by the siting council for the addition of the AT&T Wireless 1900 MHZ System.

Thank you for your consideration of this matter

Very truly yours,

EDWARDS AND KELCEY

Richard Greene
Senior Wireless Designer



One Church Street, 3rd Floor
New Haven, Connecticut 06510

Voice 203.772.1710
Fax 203.772.1701
www.ekcorp.com



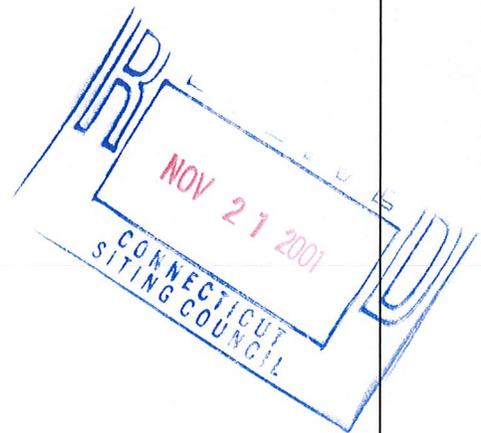
RF Emissions Experts
AN EDWARDS AND KELCEY SERVICE

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

***North Kent Site
70 Herb Road
Sharon, CT
Site ID: L17***

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

November 16, 2001



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

Tel: 973-267-8830 Fax: 973-267-3555
Email: gburylo@ekmail.com
Internet: <http://www.ekcorp.com>

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

Sharon, CT Monopole

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 one existing 800 MHz antenna per sector with one 1900 MHz antenna per sector – data reflects additional 1900 MHz system)

Facility type	Existing 150 ft. Monopole
Transmit frequency band (proposed additional band)	1965 - 1975 MHz
Replacement Antenna type	Allgon 7262
Antenna major dimension (length)	4.3 ft.
Maximum antenna gain	14.0 dBd
Antenna centerline height	150 ft. above ground level
Total number of 1900 MHz antennas added	3 (1 per sector)
Number of 1900 MHz channels per antenna	2 channels
Maximum ERP per channel	150 watts
Maximum antenna downtilt	2 degrees (mechanical)
Existing carriers on monopole	See report

ANALYSIS METHOD AND ASSUMPTIONS

Type of analysis	Maximum / ground-level
Area analyzed	0' to 500' from monopole
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	from Ant. Mfr. data

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.)

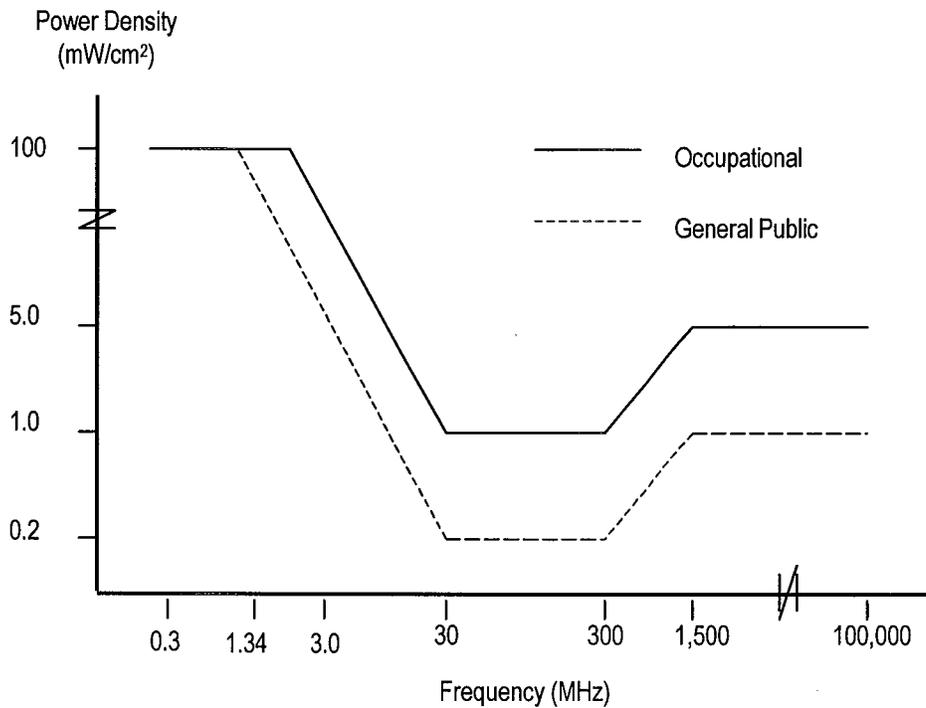
The specified continuous exposure MPE limits are based on known variation of human body susceptibility in different frequency ranges, and a Specific Absorption Rate (SAR) of 4 watts per kilogram, which is universally considered to accurately represent human capacity to dissipate incident RF energy (in 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.

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
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

Near-Field Cylindrical Model

- (1) $S \text{ [mW/cm}^2\text{]} = (P_i * \text{ACF} / (2 \pi R h))$
- (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 will replace one existing antenna (in each of three sectors) presently transmitting in the 800 MHz band, with one 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. Note that the information on the vertical antenna discrimination has been taken from the antenna manufacturer's specification sheets. 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 monopole.

1900 MHz Antenna Array (AT&T Wireless)					
G dist	R dist	V angle	V disc	mW/cm ²	GPMPE%
0	141.0	88.0	0.025	0.0002	0.021
20	142.4	79.9	0.025	0.0002	0.021
40	146.6	72.2	0.025	0.0002	0.020
60	153.2	64.9	0.025	0.0002	0.018
80	162.1	58.4	0.020	0.0001	0.013
100	172.9	52.7	0.020	0.0001	0.011
120	185.2	47.6	0.020	0.0001	0.010
140	198.7	43.2	0.020	0.0001	0.009
160	213.3	39.4	0.020	0.0001	0.007
180	228.7	36.1	0.020	0.0001	0.006
200	244.7	33.2	0.020	0.0001	0.006
220	261.3	30.7	0.020	0.0000	0.005
240	278.4	28.4	0.020	0.0000	0.004
260	295.8	26.5	0.020	0.0000	0.004
280	313.5	24.7	0.020	0.0000	0.003
300	331.5	23.2	0.020	0.0000	0.003
320	349.7	21.8	0.020	0.0000	0.003
340	368.1	20.5	0.020	0.0000	0.002
360	386.6	19.4	0.040	0.0000	0.004
380	405.3	18.4	0.040	0.0000	0.004
400	424.1	17.4	0.040	0.0000	0.004
420	443.0	16.6	0.040	0.0000	0.003
440	462.0	15.8	0.040	0.0000	0.003
460	481.1	15.0	0.040	0.0000	0.003
480	500.3	14.4	0.040	0.0000	0.003
500	519.5	13.7	0.040	0.0000	0.002

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

On November 13, 2001 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 attached site plan shows measured MPE levels for general population.

CONCLUSION

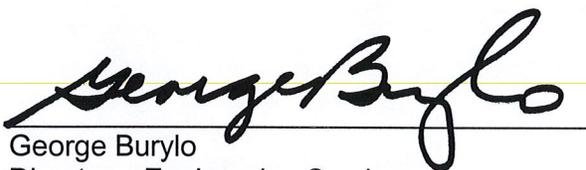
The calculations presented above demonstrate that the maximum potential exposure level around the existing monopole induced by the 1900 MHz AT&T Wireless system is 0.0002 mW/cm², which represents 0.021% of the FCC limits for exposure of the general population.

The worst case ground level measurement around the site was determined to be 5.50% of the FCC limit (see attached). When added to the additional level expected from the proposed AT&T Wireless 1900 MHz system of 0.021%, the resultant cumulative level of 5.521% is still safe for continuous exposure of the general population based on FCC standards.

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

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

George Burylo
Director – Engineering Services

November 16, 2001

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.

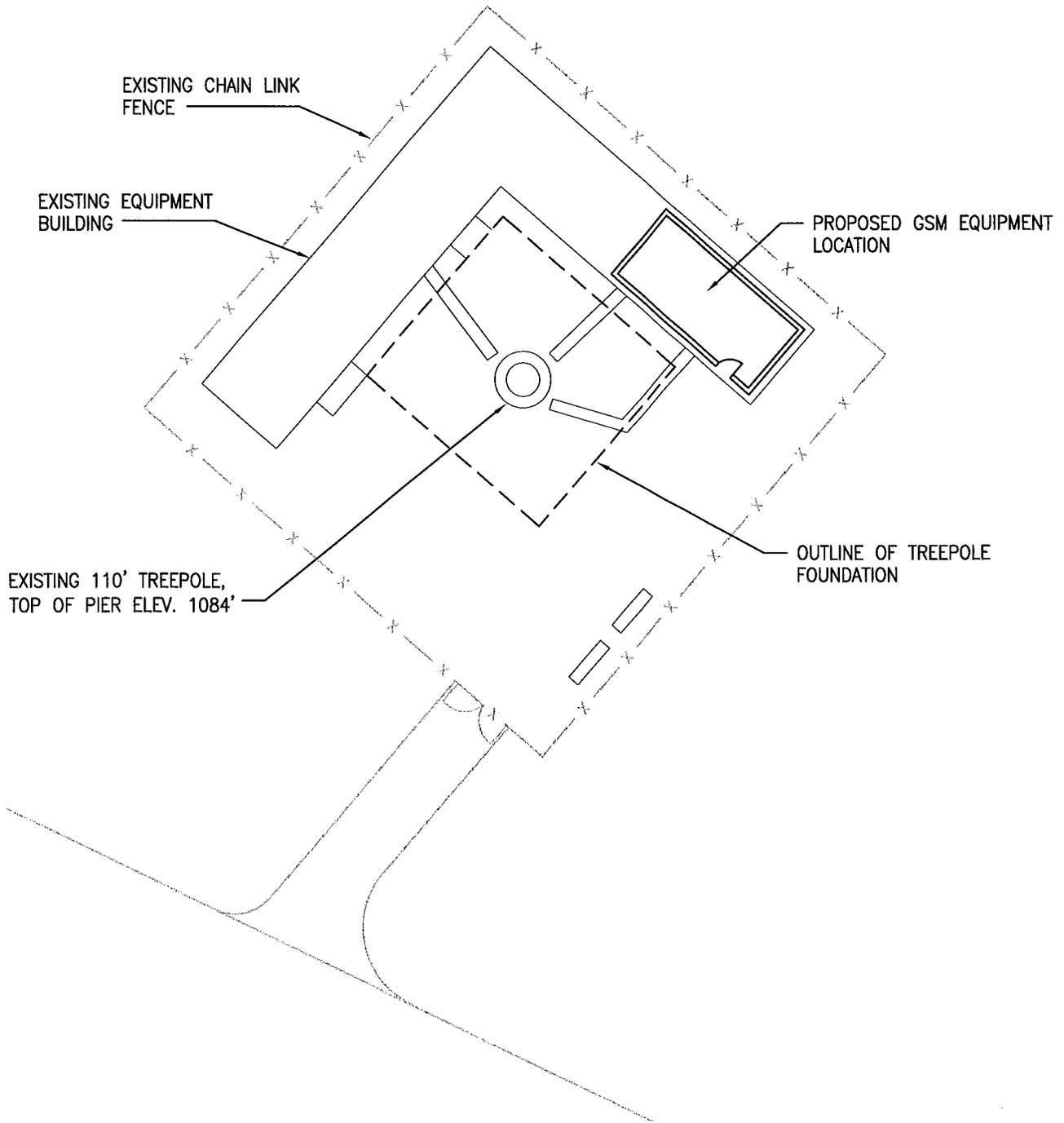
FCC Report and Order, ET Docket 93-62, *In the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, released August 1, 1996.

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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 Data



SITE ID NO:
 Designed by:
 Drawn by:
 Checked by:
 Approved by:



AT&T
 WIRELESS COMMUNICATIONS FACILITY

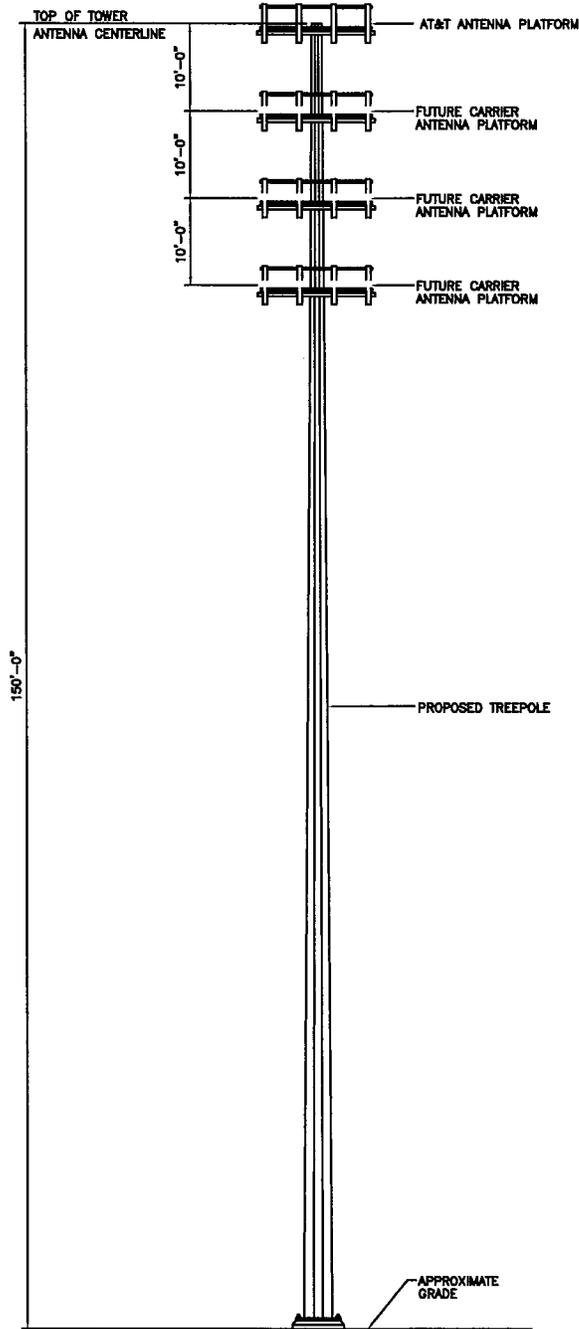
SITE ADDRESS:
SHARON
70 HERB ROAD
SHARON, CT

REV.	DATE:	DESCRIPTION

Scale: Date: 11/19/01

Job No. File No.

Dwg. No.
SK-1
 Dwg. of 1



SITE ID NO:
Designed by:
Drawn by:
Checked by:
Approved by:



AT&T
WIRELESS COMMUNICATIONS FACILITY

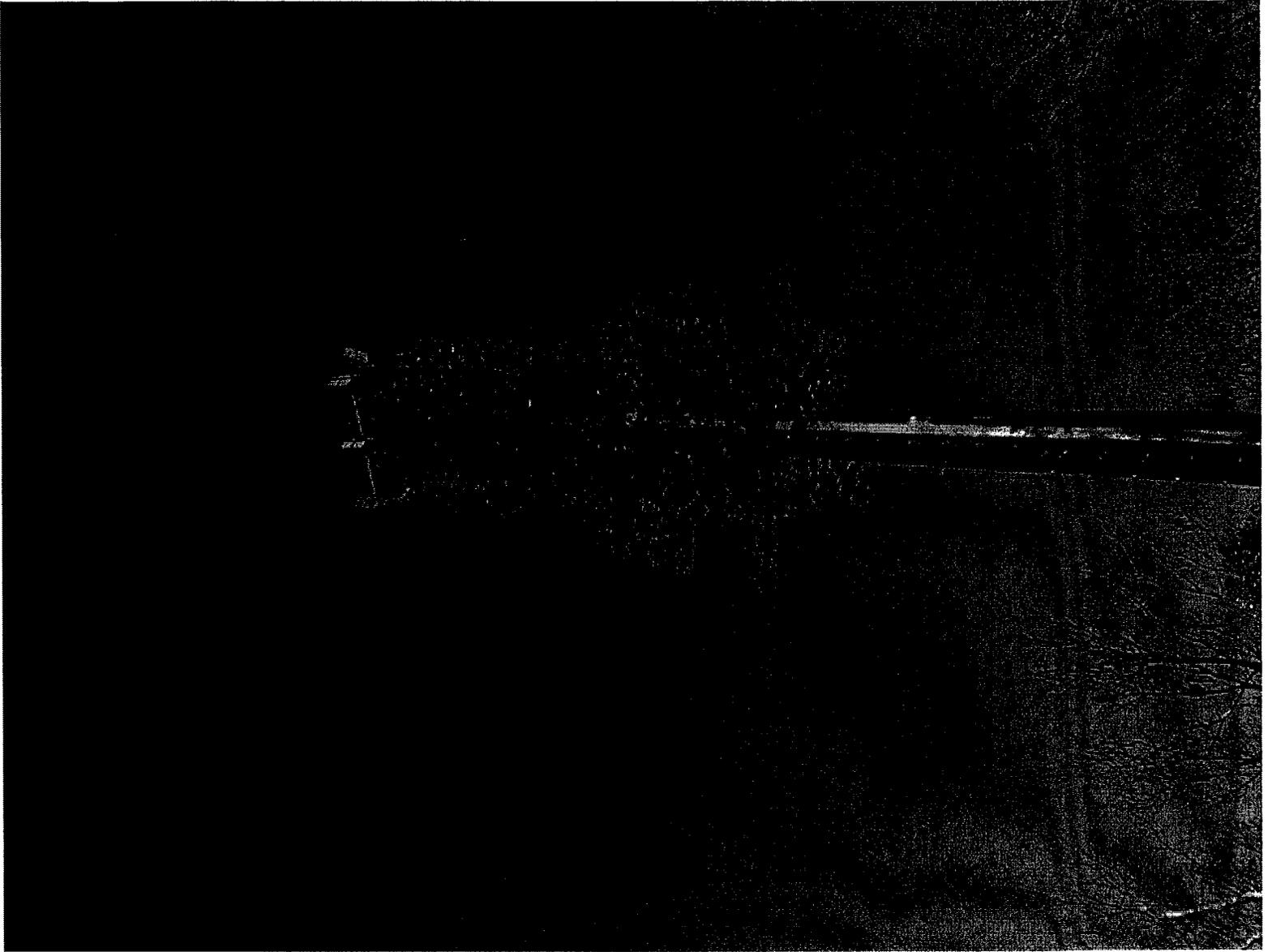
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SHARON
70 HERB ROAD
SHARON, CT

REV.	DATE:	DESCRIPTION

Scale: Date: 11/19/01

Job No. File No.

Dwg. No.
SK-2
Dwg. of 1





AT&T

AT&T WIRELESS SERVICES, LLC

SITE NUMBER: L17
SITE NAME: BRIDGEPORT

DRAWING INDEX	REV.	DIRECTIONS	PROJECT INFORMATION																								
<table border="0"> <tr><td>24623-313-CT-L17-01</td><td>TITLE SHEET</td><td>0</td></tr> <tr><td>24623-313-CT-L17-02</td><td>SITE LAYOUT</td><td>0</td></tr> <tr><td>24623-313-CT-L17-03</td><td>EQUIPMENT ROOM LAYOUT & NOTES</td><td>0</td></tr> <tr><td>24623-313-CT-L17-04</td><td>ELEVATION AND ANTENNA AZIMUTH</td><td>0</td></tr> <tr><td>24623-313-CT-L17-05</td><td>ANTENNA SCHEMATIC AND BILL OF MATERIALS</td><td>0</td></tr> <tr><td>24623-313-CT-L17-06</td><td>POWER, GROUNDING AND TELCO</td><td>0</td></tr> <tr><td>24623-313-CT-L17-07</td><td>STANDARD DETAILS</td><td>0</td></tr> <tr><td>24623-313-CT-L17-07</td><td>GENERAL AND RF NOTES</td><td>0</td></tr> </table>	24623-313-CT-L17-01	TITLE SHEET	0	24623-313-CT-L17-02	SITE LAYOUT	0	24623-313-CT-L17-03	EQUIPMENT ROOM LAYOUT & NOTES	0	24623-313-CT-L17-04	ELEVATION AND ANTENNA AZIMUTH	0	24623-313-CT-L17-05	ANTENNA SCHEMATIC AND BILL OF MATERIALS	0	24623-313-CT-L17-06	POWER, GROUNDING AND TELCO	0	24623-313-CT-L17-07	STANDARD DETAILS	0	24623-313-CT-L17-07	GENERAL AND RF NOTES	0		<p>TAKE I-95N. TAKE THE CT-25/CT-8 EXIT # 27A TOWARDS TRUMBULL/WATERBURY. MERGE ONTO COLONEL HENRY MUCCI HWY. TAKE CT-8N TOWARD CT-15N. SHELTON/WATERBURY. MERGE ONTO CT-8N. TAKE THE CT-202 EXIT # 44 TOWARDS CT-4 DOWNTOWN TORRINGTON GO TO CHRISTOPHER RD. TURN LEFT ONTO ELM ST. (CT-4). MICEON AVE / GOSHEN RD / TORRINGTON RD / SHARON TPK BECOMES BUNKER HILL RD. TURN LEFT CEMETERY HILL RD. TURN LEFT NORTHROP RD. LEFT S. ELLSWORTH/RIGHT HERB ROAD.</p> <p style="text-align: center;">VICINITY MAP</p> <p style="text-align: center;">NOT TO SCALE</p>	<p>SCOPE OF WORK: THE REPLACEMENT OF ANTENNA AND ASSOCIATED EQUIPMENT AT A TELECOMMUNICATIONS FACILITY</p> <p>SITE ADDRESS: 70 HERB ROAD SHARON, CT</p> <p>PROPERTY OWNER: JAMES E. GILLESPIE 46 WILDCAT ROAD BURLINGTON, CT 06013</p> <p>CONTACT PERSON: JAMES GILLESPIE</p> <p>APPLICANT: AT&T 15 EAST MIDLAND AVE PARAMUS, NJ 07652</p> <p>LATITUDE: 41.79027 LONGITUDE: -73.42583 ELEVATION: 1082' JURISDICTION: SHARON TAX I.D. NUMBER: MAP 3, LOT 2-1 CURRENT USE: WIRELESS TELECOMMUNICATIONS FACILITY PROPOSED USE: NO CHANGE ZONING DISTRICT: NAV STRUCTURE HEIGHT: 150' ANTENNA RAD CENTER: 150' RF DATASHEET: 06/26/01 (REV. 1) RF ENGINEER: TONY HOUWELING LUCENT TECHNOLOGIES (973) 386-8621</p> <p>ANTENNA LOCATION: TREEPOLE EQUIPMENT LOCATION: EQUIPMENT ROOM GENERAL CONTRACTOR: EK TECHNOLOGY THOMAS E. SMITH 299 MADISON AVENUE MORRISTOWN, NJ 07962 973-267-8830</p>
24623-313-CT-L17-01	TITLE SHEET	0																									
24623-313-CT-L17-02	SITE LAYOUT	0																									
24623-313-CT-L17-03	EQUIPMENT ROOM LAYOUT & NOTES	0																									
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24623-313-CT-L17-06	POWER, GROUNDING AND TELCO	0																									
24623-313-CT-L17-07	STANDARD DETAILS	0																									
24623-313-CT-L17-07	GENERAL AND RF NOTES	0																									
<p>STRUCTURAL REVIEW</p> <p>EXISTING TOWER/BUILDING AND FOUNDATION (AS APPLICABLE) HAVE BEEN EVALUATED FOR REPLACEMENT/ADDITION OF ANTENNAS, COAX CABLES, & EQUIPMENT AND NO MODIFICATIONS TO THE TOWER/BUILDING AND FOUNDATION ARE REQUIRED.</p>			<p>THOMAS R. CABANA P.E. No. 21784 11/19/01 DATE</p>																								

Edwards AND Kelcey
 EDWARDS AND KELCEY, INC.
 1247 WARD AVENUE
 WEST CHESTER, PA 19380-4259
 E & K PROJ.#: 020015.011
 CONTACT: ROB DAVIS
 PHONE: (401) 272-1969

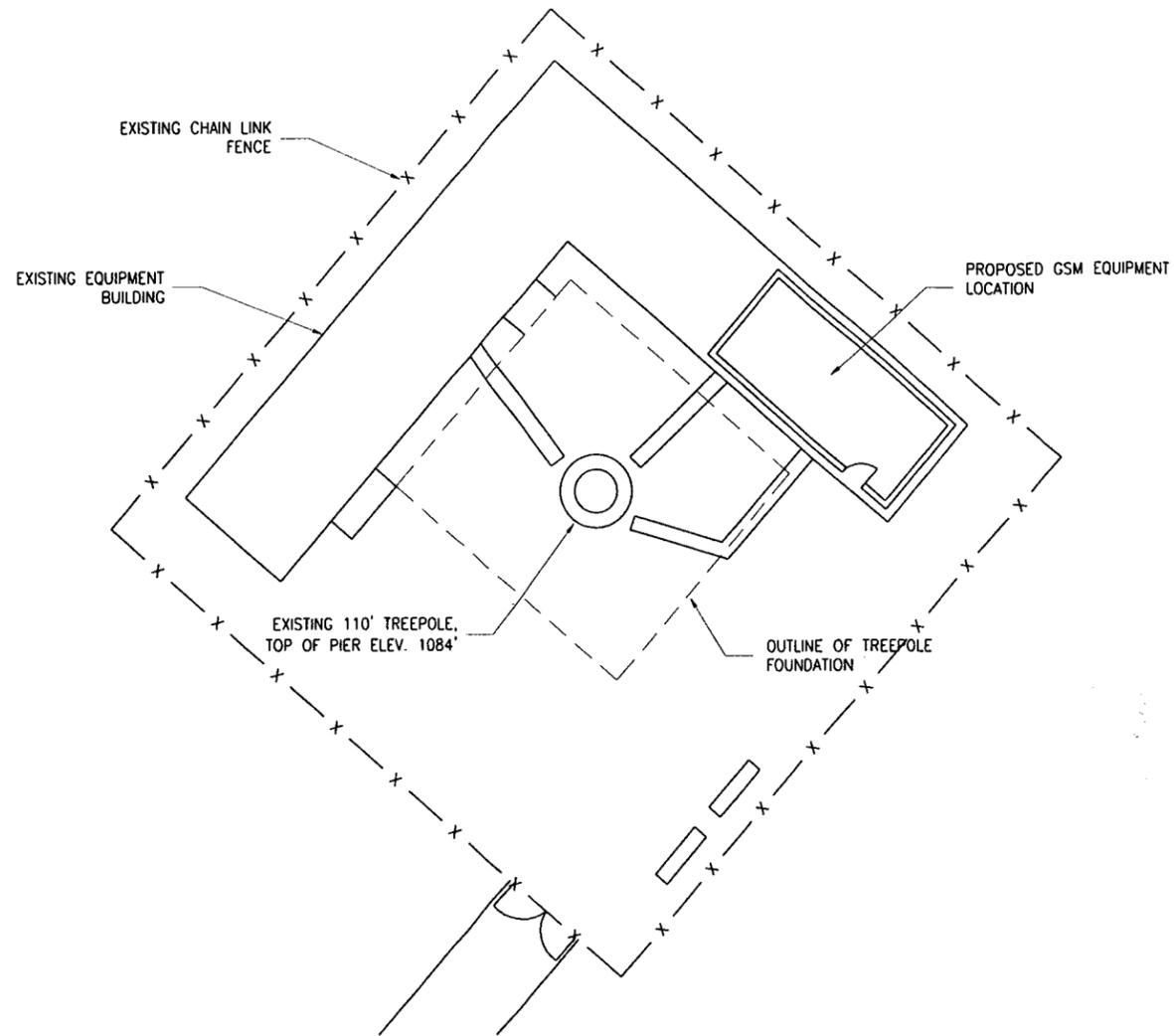
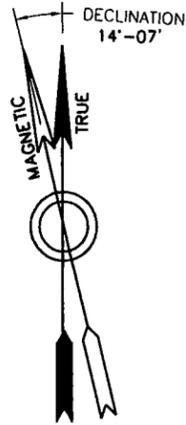
SITE NAME: BRIDGEPORT
 SITE#: L17
 70 HERB ROAD
 SHARON, CT

AT&T
 15 EAST MIDLAND AVE.
 PARAMUS, NJ 07652

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/24/01	ISSUED FOR PERMIT		DPD	PDC RLD
0	10/08/01	ISSUED FOR CONSTRUCTION		DPD	PDC

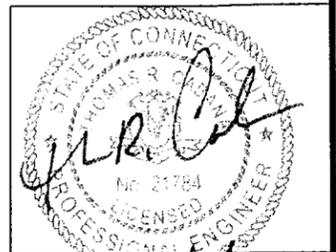
SCALE AS SHOWN DESIGNED DRAWN

L17 - BRIDGEPORT		
TITLE SHEET		
JOB NO.	DRAWING NUMBER	REV
24623-313	CT-L17-01	1



NOTE:
COMPLETENESS AND ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES OR STRUCTURES CANNOT BE GUARANTEED. LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES MUST BE VERIFIED PRIOR TO ANY EARTH MOVING ACTIVITIES.

SITE PLAN 1
02
NOT TO SCALE



THOMAS R. CABANA
P.E. No. 21784
11/19/01 DATE

**Edwards
AND Kelcey**

EDWARDS AND KELCEY, INC.
1247 WARD AVENUE
WEST CHESTER, PA 19380-4259

E & K PROJ.#: 020015.011
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SITE NAME: BRIDGEPORT
SITE#: L17
70 HERB ROAD
SHARON, CT



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15 EAST MIDLAND AVE.
PARAMUS, NJ 07652

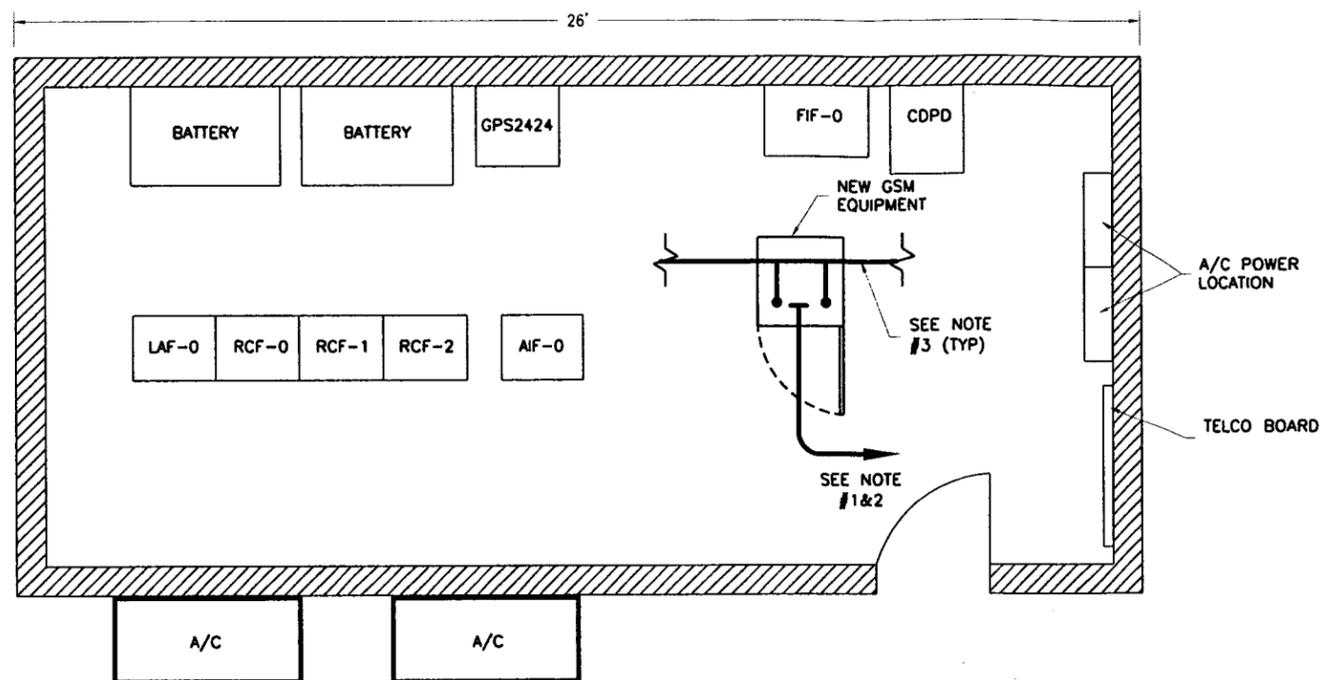
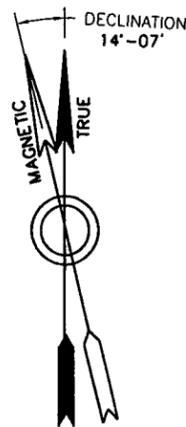
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1	10/24/01	ISSUED FOR PERMIT	DPD	PDC	RLO
0	10/08/01	ISSUED FOR CONSTRUCTION	DPD	PDC	

SCALE AS SHOWN DESIGNED DRAWN

L17 - BRIDGEPORT

SITE
LAYOUT

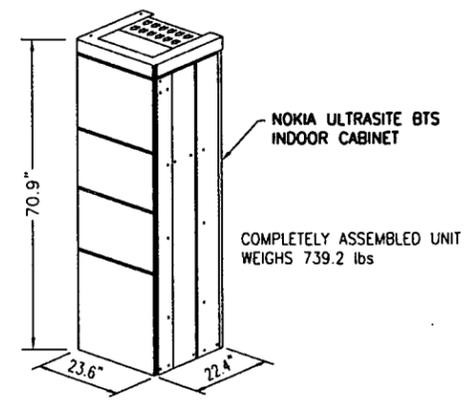
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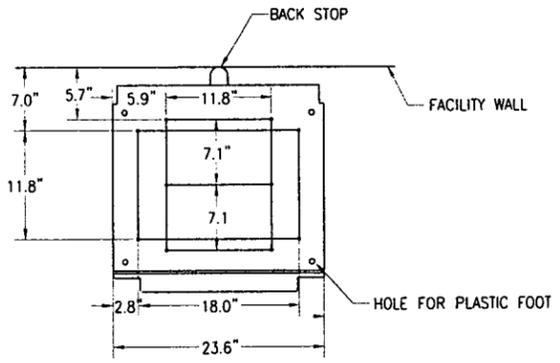
SPECIAL NOTES:

1. POWER
SUBCONTRACTOR TO PROVIDE 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 INCH EMT FROM AC PANEL TO 8x8x4 INCH JUNCTION BOX NEAR EQUIPMENT LOCATION. SUBCONTRACTORS TO RUN 6' FLEX CONDUIT FROM JUNCTION BOX TO 3 FT ABOVE GROUND. CONNECTION TO CABINET WILL BE MADE BY NOKIA.
2. 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.
3. GROUND
SUBCONTRACTOR SHALL PROVIDE PIG TAIL WITH 2-HOLE LUG FOR GROUNDING THE NOKIA GSM (BTS) CABINET FRAME TO SUPPLEMENTAL (LOCAL) GROUND BAR USING #2 AWG STRANDED & INSULATED STRANDED GREEN COPPER WIRE. SEE DETAIL 1015. CONNECTION TO CABINET WILL BE MADE BY NOKIA.
4. CLEARANCE:
GSM CABINETS SHOULD HAVE A MINIMUM OF 36 INCH FRONT CLEARANCE, UNLESS OTHERWISE SPECIFIED. ALSO, MINIMUM 2 INCH REAR CLEARANCE MUST BE MAINTAINED. INDOOR UNITS SHOULD HAVE A TOTAL CLEARANCE OF 90.6 INCHES FROM MOUNTING BASE TO THE TOP.
5. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OR WORK, AT&T ANTENNA PLATFORM LOCATION AND ANTENNAS TO BE REPLACED.
6. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.
7. CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL LADDER RACK, CABLE TRAY, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATIONS.
8. USE NEC APPROVED WIRING METHODS IN ALL LOCATIONS.

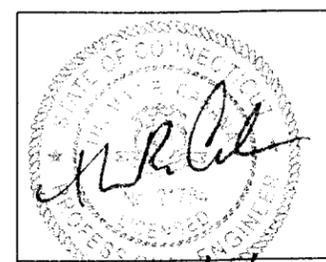
EQUIPMENT PLAN
NOT TO SCALE



EQUIPMENT DETAIL
SCALE: N.T.S.



INDOOR BASE DETAIL
SCALE: N.T.S.



11/19/01 DATE

L17 - BRIDGEPORT		
EQUIPMENT ROOM LAYOUT AND NOTES		
JOB NO.	DRAWING NUMBER	REV
24623-313	CT-L17-03	1

Edwards AND Kelcey
EDWARDS AND KELCEY, INC.
1247 WARD AVENUE
WEST CHESTER, PA 19380-4259

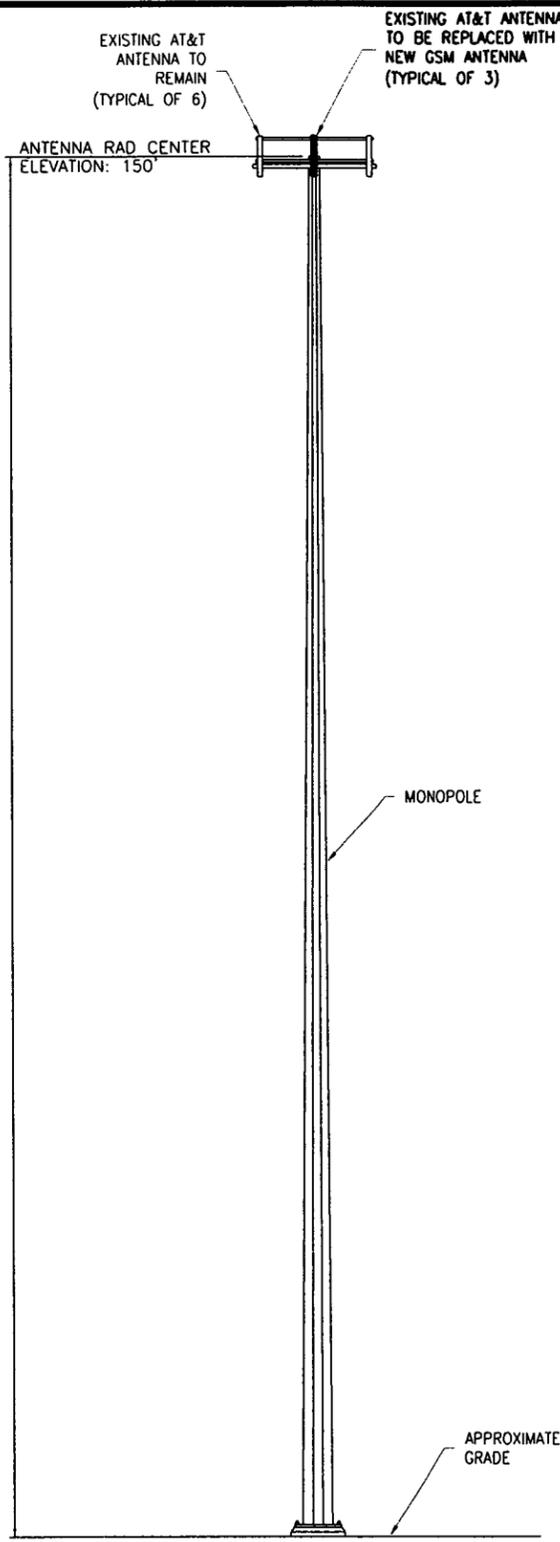
E & K PROJ #: 020015.011
CONTACT: ROB DAVIS
PHONE: (401) 272-1969

SITE NAME: BRIDGEPORT
SITE#: L17
70 HERB ROAD
SHARON, CT

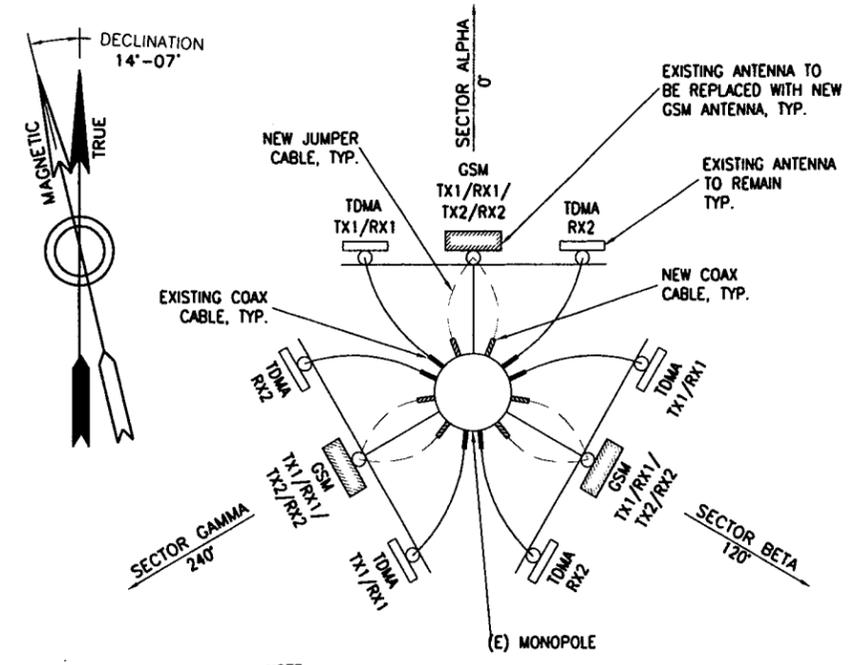


AT&T
15 EAST MIDLAND AVE.
PARAMUS, NJ 07652

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1	10/24/01	ISSUED FOR PERMIT	DPD	PDC	RLD
0	10/08/01	ISSUED FOR CONSTRUCTION	DPD	PDC	
SCALE AS SHOWN		DESIGNED	DRAWN		

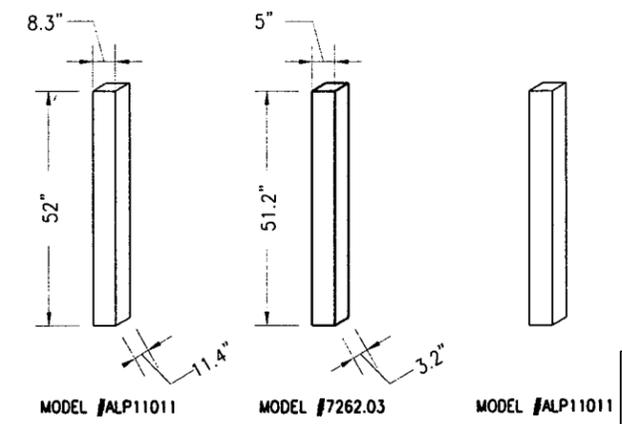


ELEVATION NOT TO SCALE 1
04

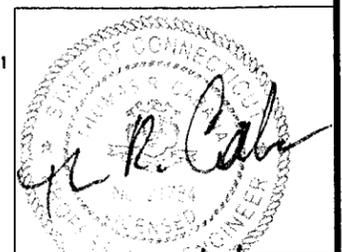


- NOTE:
- SEE SHEET 05 FOR SPECIFIC ANTENNA/COAX CONFIGURATION.
 - ROUTE NEW COAX CABLES ALONGSIDE EXISTING CABLES UNLESS OTHERWISE NOTED ON PLANS.

TYPICAL ANTENNA ORIENTATION PLAN NOT TO SCALE 2
04



ANTENNA SCHEMATIC NOT TO SCALE 3
04



THOMAS R. CABANA 11/19/01 DATE
P.E. No. 21784

Edwards AND Kelcey
EDWARDS AND KELCEY, INC.
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WEST CHESTER, PA 19380-4259
E & K PROJ #: 020015.011
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SITE NAME: BRIDGEPORT
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70 HERB ROAD
SHARON, CT



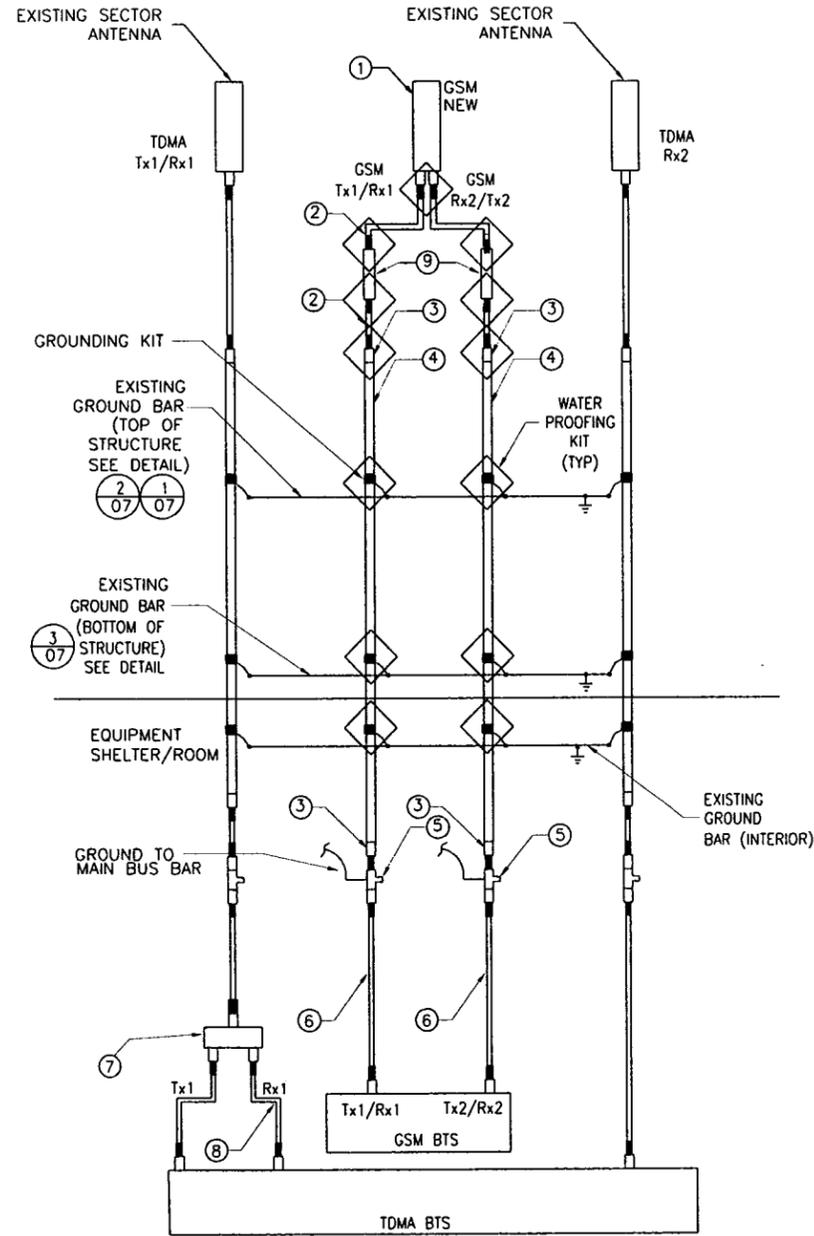
AT&T
15 EAST MIDLAND AVE.
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SCALE AS SHOWN DESIGNED DRAWN

L17 - BRIDGEPORT	
ELEVATION AND ANTENNA AZIMUTH	
JOB NO.	DRAWING NUMBER
24623-313	CT-L17-04
REV	1

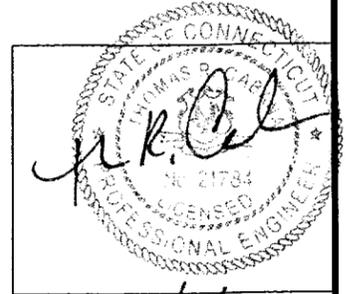
BILL OF MATERIALS



3/4 VDP
ANTENNA CONFIGURATION
NOT TO SCALE

ITEM NO.	ITEM DESCRIPTION	SYS.	SECTOR ALPHA AZIMUTH 0°			SECTOR BETA AZIMUTH 120°			SECTOR GAMMA AZIMUTH 240°			TOTAL QUANTITY	SUPPLIED BY
			EXISTING	TX1/RX1/RX2/TX2 (GSM)	EXISTING	EXISTING	TX1/RX1/RX2/TX2 (GSM)	EXISTING	EXISTING	TX1/RX1/RX2/TX2 (GSM)	EXISTING		
1	ANTENNA		ALP 11011 EXISTING	ALLGON 7262.01 NEW	ALP 11011 EXISTING	ALP 11011 EXISTING	ALLGON 7262.01 NEW	ALP 11011 EXISTING	ALP 11011 EXISTING	ALLGON 7262.01 NEW	ALP 11011 EXISTING	3	BECHTEL
	MECHANICAL DOWNTILT			0 DEG.			2 DEG.			0 DEG.			
2	STANDARD HELIAX JUMPER LDF 1/2" JUMPER, DIN MALE/DIN MALE			L4A-PDM-6 NEW			L4A-PDM-6 NEW			L4A-PDM-6 NEW		6	BECHTEL
3	STANDARD HELIAX UNATTACHED CONNECTOR, DIN FEMALE			L5PDF-RPC NEW			L5PDF-RPC NEW			L5PDF-RPC NEW		12	BECHTEL
4	MAIN COAXIAL CABLE (LENGTH)			LDF5-50A (210'-7/8") 1-NEW 1-EXISTING			LDF5-50A (210'-7/8") 1-NEW 1-EXISTING			LDF5-50A (210'-7/8") 1-NEW 1-EXISTING		630' (7/8")	BECHTEL
5	SURGE ARRESTOR			APTDC-BDFDM-SAT NEW			APTDC-BDFDM-SAT NEW			APTDC-BDFDM-SAT NEW		6	BECHTEL
6	1/2" JUMPER, DIN MALE/DIN MALE			L4A-PDM-25			L4A-PDM-25			L4A-PDM-25		6	TBD
7	DUPLEXER											TBD	TBD
8	1/2" JUMPER, DIN MALE/DIN MALE											TBD	TBD
9	LOW NOISE AMPLIFIER			LUCENT TMA19(DX MAU)			LUCENT TMA19(DX MAU)			LUCENT TMA19(DX MAU)		6	CONTRACTOR
	ID TAG			ALPHA A2/A3 ATTWS GSM			BETA B2/B3 ATTWS GSM			GAMMA C2/C3 ATTWS GSM			SUB CONTRACTOR
	COLOR CODE			2/3 RED			2/3 BLUE			2/3 GREEN			SUB CONTRACTOR

- SUBCONTRACTOR SHALL VERIFY THE ACTUAL LENGTH IN THE FIELD BEFORE INSTALLATION
- TAG (SEE DETAIL 6 ON SHEET 06) & COLOR CODE ALL MAIN CABLES AT LOCATIONS PER AWS TOWER/ANTENNA CABLE MARKING STANDARD:
TOP OF TOWER END OF MAIN COAX
BOTTOM OF TOWER SHELTER EXTERIOR AT CABLE ENTRY PORT
WAVE GUIDE PORT SHELTER INTERIOR AT CABLE ENTRY PORT
DIRECTLY BEFORE AND AFTER RF EQUIPMENT (DUPLEXERS, DIPLEXERS, ETC.)
END OF INTERIOR JUMPERS AT BTS EQUIPMENT
- ANTENNAS SHALL BE PROCURED AND INSTALLED WITH DOWN TILT MOUNTING BRACKETS SUPPLIED BY ANTENNA MANUFACTURER
- PRIOR APPROVAL IS REQUIRED BEFORE PERFORMING ANY WORK ON EXISTING CELL SITE EQUIPMENT
- CONTRACTOR SHALL PROVIDE ALL GROUNDING KITS AND WEATHER PROOFING KITS.
- INFORMATION FROM RF DATA SHEETS, REV. 1. (6/26/01)



THOMAS R. CABANA
P.E. No. 21784 11/19/01 DATE

Edwards AND Kelcey
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1247 WARD AVENUE
WEST CHESTER, PA 19380-4259
E & K PROJ.#: 020015.011
CONTACT: ROB DAVIS
PHONE: (401) 272-1969

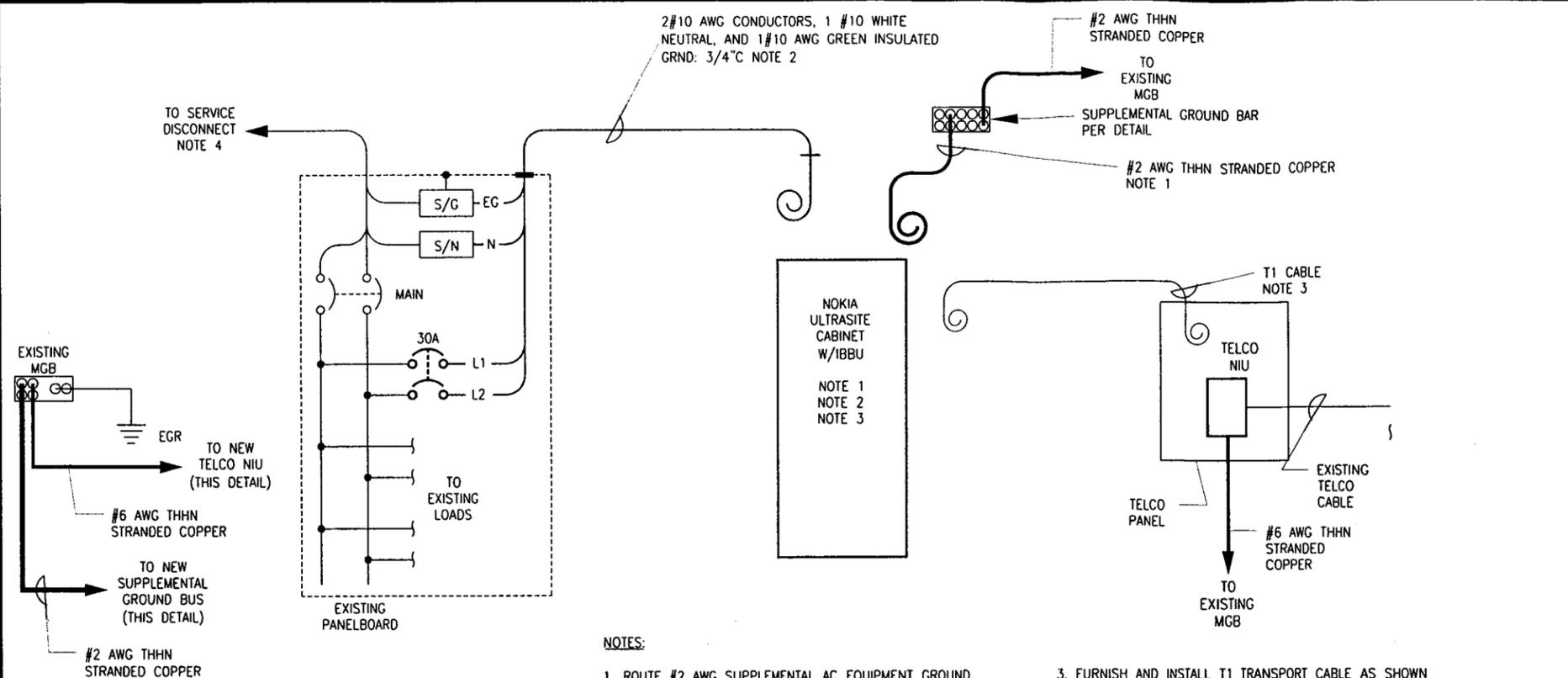
SITE NAME: BRIDGEPORT
SITE#: L17
70 HERB ROAD
SHARON, CT



AT&T
15 EAST MIDLAND AVE.
PARAMUS, NJ 07652

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/24/01	ISSUED FOR PERMIT		OPD	PDC RLD
0	10/08/01	ISSUED FOR CONSTRUCTION		OPD	PDC
SCALE	AS SHOWN	DESIGNED		DRAWN	

L17 - BRIDGEPORT	
ANTENNA SCHEMATIC AND BILL OF MATERIALS	
JOB NO.	DRAWING NUMBER
24623-313	CT-L17-05
REV	
1	



EXISTING 200A PANEL					
DESCRIPTION	BREAKER/CIRCUIT	CIRCUIT	BREAKER	DESCRIPTION	
RECTIFIER 5	30	1	2	30	LIGHTS
		3	4	30	LIGHTS
		5	6	30	LIGHTS
RECTIFIER 5	30	7	8	30	LIGHTS
		9	10	30	LIGHTS
RECTIFIER 5	30	11	12	30	LIGHTS
		13	14	30	LIGHTS
		15	16	30	LIGHTS
AC	60	17	18	30	LIGHTS
		19	20	30	LIGHTS
		21	22	30	LIGHTS
AC	60	23	24	30	NEW GSM
		25	26		
		27	28		
		29	30		
		31	32		
		33	34		
		35	36		
		37	38		
		39	40		
		41	42		
SURGE ARRESTER					

NOTE: SUBCONTRACTOR SHALL VERIFY IN FIELD AND MAKE ADJUSTMENTS IF NECESSARY

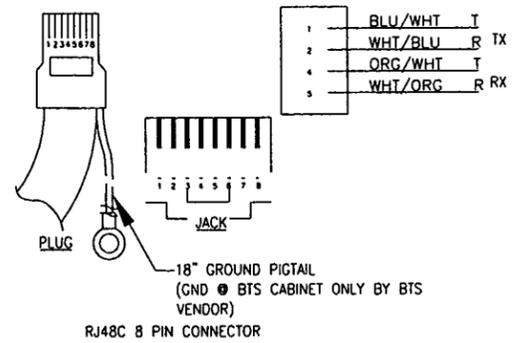
PANEL SCHEDULE
NOT TO SCALE

3
06

* VENDOR:
CDS DATACOM INC.
(214)340-9199

INDOOR SINGLE ENDED P/N C00411450-XXX
INDOOR DOUBLED ENDED P/N C00411467-XXX
OUTDOOR SINGLE ENDED P/N C00411483-XXX
OUTDOOR DOUBLE ENDED P/N C00411484-XXX

xxx = LENGTH IN FEET

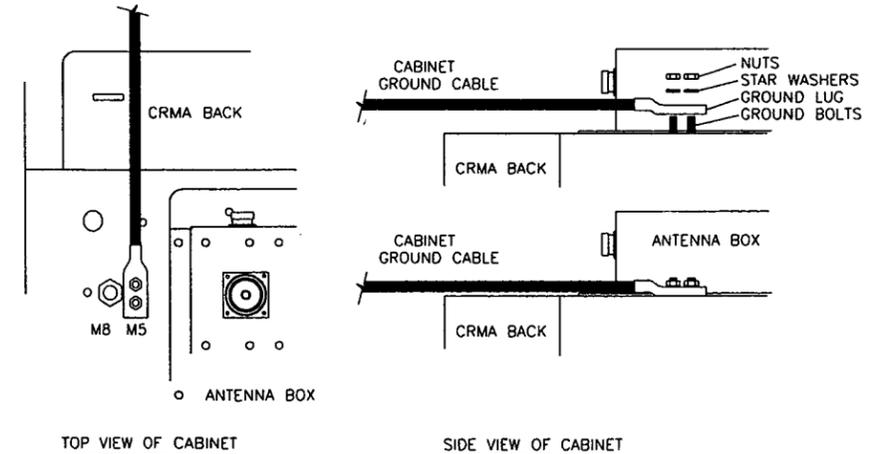


* T1 CABLE MUST BE CDS DATACOM (NO SUBSTITUTION)

- NOTES:
- THE CABLE IS SUITABLE FOR NOKIA ULTRA SITE GSM BTS.
 - THE CABLE IS A STRAIGHT-THROUGH CABLE WITH IDENTICAL CONNECTOR PIN-OUT CONNECTION ON BOTH ENDS.

T1/PCM CONNECTOR PIN-OUT
DETAIL 1016

- NOTES:
- ROUTE #2 AWG SUPPLEMENTAL AC EQUIPMENT GROUND CONDUCTORS TO TOP OF NOKIA CABINET. CUT, COIL, AND TAPE TEN FOOT PIGTAIL FOR FUTURE CONNECTION BY NOKIA. SEE DETAIL 1015 FOR ADDITIONAL INFORMATION.
 - ROUTE BRANCH CIRCUITS TO TOP OF NOKIA POWER CABINET. TRANSITION RACEWAY FROM PVC/IMC TO LIQUID-TIGHT FLEX. CONDUIT WITHIN 6 FEET OF NOKIA CABINET. CUT, COIL, AND TAPE A 10 FOOT PIGTAIL (WITH 6 FEET OF LT. FLEX AND STRAIGHT LT. FLEX CONNECTOR) FROM END OF CONDUIT FOR FUTURE CONNECTION BY NOKIA.
 - FURNISH AND INSTALL T1 TRANSPORT CABLE AS SHOWN IN DETAIL 1016. CABLE TO BE INSTALLED WITH CONNECTORS ON BOTH ENDS AND PIGTAILED.
 - FURNISH AND INSTALL NEW TVSS DEVICE AT SERVICE DISCONNECT (IF NOT PROVIDED) IN ACCORDANCE WITH NEC CODE.
 - SUBCONTRACTOR TO CONNECT SUPPLEMENTAL (LOCAL) GROUND BAR AND EXISTING M.G.B. USING #2AWG THHN STRANDED COPPER WIRE.



DETAIL 1015 NOKIA CABINET GROUNDING

THOMAS R. CABANA
P.E. No. 21784
11/19/01 DATE

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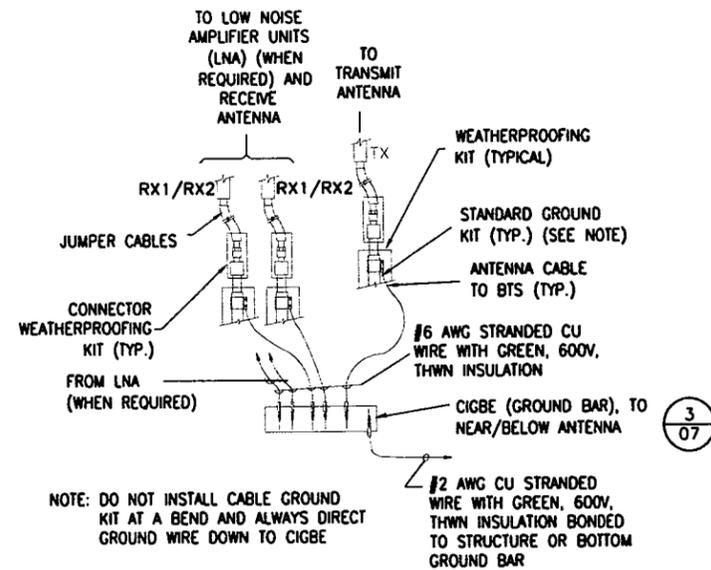


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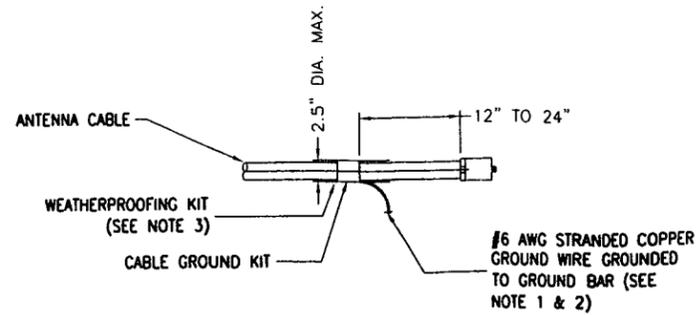
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0	10/08/01	ISSUED FOR CONSTRUCTION		DPD	PDC

SCALE AS SHOWN DESIGNED DRAWN

L17 - BRIDGEPORT		
STANDARD DETAILS		
JOB NO.	DRAWING NUMBER	REV
24623-313	CT-L17-06	1

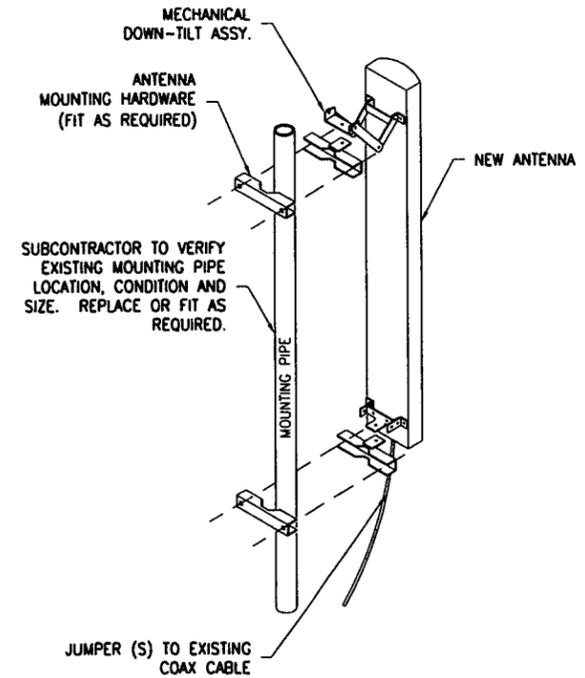


CONNECTION OF GROUND WIRE TO GROUND BAR (522A) 1
07
NOT TO SCALE

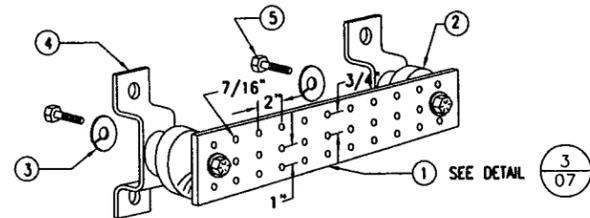


- NOTE:
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 - GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
 - WEATHER PROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE (513A) 2
07
NOT TO SCALE



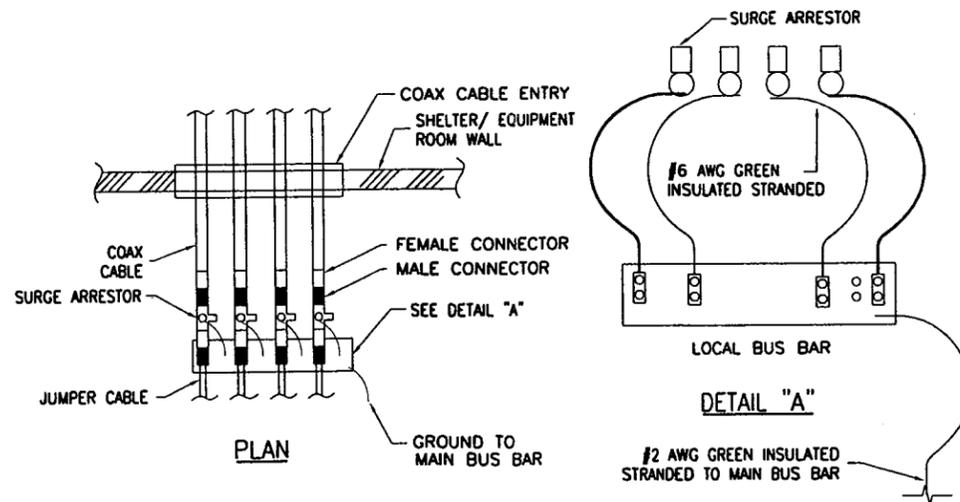
ANTENNA MOUNT DETAIL 3
07
NOT TO SCALE



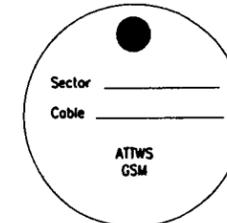
LEGEND

- COPPER GROUND BAR, 1/2" X 4" X 20", NEWTON INSTRUMENT CO. CAT. NO. B-6142 OR EQUAL. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
- INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
- 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
- WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056
- 5/8-11 X 1" HHCS BOLTS, NEWTON INSTRUMENT CO. CAT. NO. 3012-1

GROUND BAR DETAIL (509) 4
07
NOT TO SCALE



SURGE ARRESTOR GROUNDING DETAIL (527) 5
07
NOT TO SCALE



TAG LABELING 6
07
NOT TO SCALE

Edwards AND Kelcey

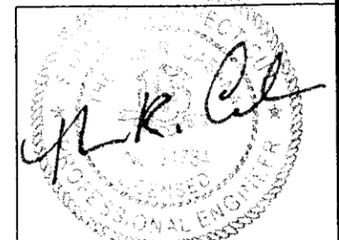
EDWARDS AND KELCEY, INC.
1247 WARD AVENUE
WEST CHESTER, PA 19380-4259
E & K PROJ.#: 020015.011
CONTACT: ROB DAVIS
PHONE: (401) 272-1969

SITE NAME: BRIDGEPORT
SITE#: L17
70 HERB ROAD
SHARON, CT



AT&T
15 EAST MIDLAND AVE.
PARAMUS, NJ 07652

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/24/01	ISSUED FOR PERMIT	DPD	PDC	RLD
0	10/08/01	ISSUED FOR CONSTRUCTION	DPD	PDC	
SCALE AS SHOWN		DESIGNED	DRAWN		



THOMAS R. CABANA
P.E. No. 21784
11/19/01 DATE

L17 - BRIDGEPORT

STANDARD DETAILS

JOB NO.	DRAWING NUMBER	REV
24623-313	CT-L17-07	1

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR - BECHTEL CORPORATION
 SUBCONTRACTOR - GENERAL CONSTRUCTION(CONSTRUCTION)
 OWNER - AT&T WIRELESS SERVICES
2. PRIOR TO SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCIES FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL WORK SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF NATIONAL STATE, CITY, AND LOCAL CODES, STANDARDS, AND AMENDMENTS.
4. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM INFORMATION AND DRAWINGS PROVIDED BY CONTRACTOR. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
5. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED.
6. ALL ITEMS OTHER THAN WHAT IS NOTED IN THE BILL OF MATERIALS FOR ANTENNAS, WILL BE PROVIDED BY THE SUBCONTRACTOR.
7. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
8. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF SPECIFICATIONS LISTED BELOW.
9. THE SUBCONTRACTOR SHALL INSIST ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
10. FIELD ROUTE ALL CONDUITS, CABLES, ETC. AS REQUIRED. CONFIRM THE EXACT ROUTING WITH THE ON-SITE CONTRACTOR CONSTRUCTION MANAGER PRIOR TO THE START OF WORK.
11. ALL DAMAGE TO THE EXISTING STRUCTURE DURING THE CELL SITE UPGRADE MUST BE MADE GOOD TO THE PRE-CONSTRUCTION CONDITION OR BETTER.
12. REMOVE AND CLEAN UP ANY DEBRIS OR MATERIAL FROM THE SITE THROUGHOUT THE DURATION OF THE CONTRACT UPON COMPLETION OF THE WORK AS DIRECTED BY THE CONTRACTOR.

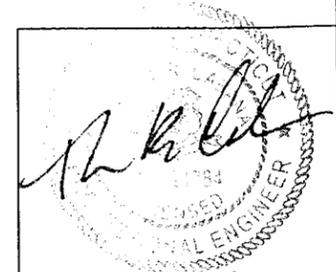
13. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
14. THIS CELL SITE IS IN FULL COMMERCIAL OPERATION. THE SUBCONTRACTOR IS NOT TO DISRUPT THE EXISTING SITE'S NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR AND SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
15. SINCE THIS SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
16. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
17. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
18. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

RF NOTES:

1. RADIO SIGNAL CABLE SHALL BE SUPPORTED IN ACCORDANCE WITH THE CONNECTOR AND CABLE MANUFACTURES INSTRUCTIONS. MANUFACTURES RECOMMENDED CABLE SUPPORT ACCESSORIES SHALL BE USED.
2. THE OUTDOOR CABLE SUPPORT SYSTEM, IF REQUIRED, SHALL BE PROVIDED WITH AN ICE SHIELD TO SUPPORT AND PROTECT ANTENNA CABLE RUNS.
3. DRIP LOOPS SHALL BE REQUIRED. CABLES SHALL BE SLOPED AWAY FROM THE BUILDING TO PREVENT WATER FROM ENTERING THROUGH THE COXIAL CABLE SUPPORT.
4. WHEN MODIFYING EXISTING 2G TDMA COXIAL CABLES AND ANTENNAS, REMOVE ALL EXISTING N TYPE CONNECTORS AND REPLACE WITH NEW 7/16 DIN STANDARD CONNECTORS.
5. ALL 7/16 DIN STANDARD CONNECTORS SHALL BE APPROVED, LISTED, OR LABELED FOR THEIR LOCATION. SUPPLEMENTAL WEATHER PROTECTION MATERIAL (E.G. 3M BRAND HEAT SHRINK OR COLD SHRINK TERMINAL KITS, OR APPROVED EQUAL) SHALL BE REQUIRED FOR ALL OUTDOOR CALBE CONNECTIONS.
6. ALL ANTENNA CONNECTIONS SHALL BE WATERPROOFED IN ACCORDANCE WITH THE CONNECTOR AND ANTENNA MANUFACTURES INSTRUCTIONS.
7. ANTENNAS SHALL BE PAINTED, WHEN REQUIRED, TO MATCH EXISTING ANTENNAS IN ACCORDANCE WITH ANTENNA MANUFACTURES SURFACE PREPARATION AND PAINTING REQUIREMENTS. ALLGON ANTENNAS SHALL USE ALLGON SYSTEM AB; ALLGON DOCUMENT NUMBER 990323/LL BALL ANTENNAS SHALL USE SPRYLAT CORPORATION PRODUCTS PER BALL DRAWING NUMBER W702194, REVISION R2.
8. APPROVED GROUNDING KITS, WHICH INCLUDE GROUNDING STRAPS, SHALL BE USED TO GROUND THE COXIAL CABLE SHIELDS AND CONDUITS, THE GROUND CONDUCTORS FOR THE KITS AT THE TOP OF THE TOWER, AND IN THE MIDDLE SECTION OF THE TOWER, ARE BONDED DIRECTLY TO THE TOWER STEEL USING EXOTHERMIC, BOLTED OR APPROVED CLAMP CONNECTIONS.
9. ALL RADIO SIGNAL CABLE SHALL BE LABELED WITH COLOR CODED ELECTRICAL TAPE (3M SCOTCH 35, 7 MILS THICK, 1/2 INCH WIDE, VINYL ELECTRICAL TAPE, OR EQUAL) AND BRASS OR STAINLESS STEEL IDENTIFICATION TAGS AS SPECIFIED IN TAG DETAIL.
10. DUPLEXERS AND/OR DIPLEXERS AND MOUNTING HARDWARE (J CLAMPS) SHALL BE SUPPLIED BY CONTRACTOR AND INSTALLED BY THE SUBCONTRACTOR.
11. MHA (TO BE INSTALLED AT TOWER) SHALL BE SUPPLIED BY CONTRACTOR (WHERE NEEDED) AND INSTALLED BY THE SUBCONTRACTOR. WHERE LOW NOISE AMPLIFIER (LNA) WAS INDICATED IN BOM, REPLACE WITH MAST HEAD AMPLIFIER (MHA). IN ADDITION, A 1/2" CONNECTOR BARREL TYPE ADAPTOR (RFD-1653-2) WILL BE REQUIRED DURING THE COAXIAL CABLE SWEEP TESTING TO BYPASS THE MHA.
12. ANTENNA CIRCUIT SWEEP TESTING SHALL BE PERFORMED AND REPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF AWS PROCEDURE NUMBER (LATER). CONTRACTOR WILL NOT ACCEPT A RADIO SIGNAL CABLE INSTALLATION WITH UNSATISFACTORY SWEEP TEST RESULTS.

REFERENCE SPECIFICATIONS:

1. 24623-033-3PS-A002-00002-4-GC, EXHIBIT D.PDF, SCOPE OF WORK
2. 24623-033-3PS-A002-00004-10-GC, EXHIBIT E-NOKI.PDF, SPECIFICATIONS AND DRAWINGS



THOMAS R. CABANA
 P.E. No. 21784 11/19/01 DATE

L17 - BRIDGEPORT

GENERAL AND
 RF NOTES

JOB NO.	DRAWING NUMBER	REV
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