ATTACHMENT A

A RESOLUTION APPROVING THE MINOR MODIFICATION TO THE CUP FOR THE CROWN CASTLE TELECOMMUNICATION TOWER LOCATED AT 200 REDFOOT DRIVE ALLOWING AT&T TO LOCATE AN ANTENNA ON THE TOWER AND INSTALL ADDITIONAL EQUIPMENT INSIDE THE FENCED IN AREA AT THE BASE OF THE TOWER.
Resolution No. 121/2002-03

WHEREAS, the Carrboro Board of Aldermen approved a Conditional Use Permit for a telecommunications tower at 200 Redfoot Drive on June 25th, 1996; and

WHEREAS, the Town of Carrboro Land Use Ordinance requires that additional users on a tower shall constitute a minor modification to the original Conditional Use Permit; and

WHEREAS, the Board of Aldermen finds that the applicant has satisfied the requirements related to minor modifications for towers contained in the Land Use Ordinance.

NOW, THEREFORE BE IT RESOLVED by the Carrboro Board of Aldermen that the minor modification to the Crown Castle Conditional Use Permit located at 200 Redfoot Drive allowing AT&T to install an antenna on the tower and install additional equipment within the fenced in area at the base of the tower.

This the 18th day of March 2003.

AT&T

AT&T WIRELESS SERVICES, INC.
SITE NUMBER: RLGHNCR239
SITE NAME: CHAPEL HILL / 814328

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027332 2-7-03 DAVID A. ALLEN

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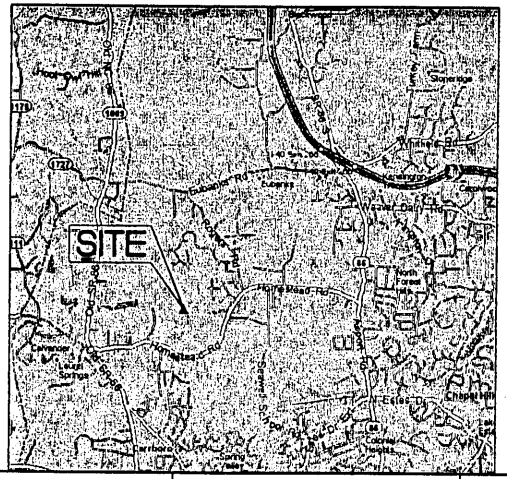
DIRECTIONS

FROM 4000 WESTCHASE BOULEVARD, TRAVEL NORTH TO DAN K. MOORE FWY; TURN LEFT ONTO DAN K. MOORE FWY, CONTINUE 2.0 MILES TO I-40, CONTINUE 22.6 MILES WEST ON I-40, TAKE EXIT 266, TURN LEFT ONTO HWY 86 AND TRAVEL SOUTH FOR 1.7 MILES; TURN RIGHT ONTO HOMESTEAD ROAD AND TRAVEL WEST FOR 1.6 MILES; TURN RIGHT ONTO HOGANWOODS CR.; THE SITE IS ON THE LEFT.

VICINITY MAP



PROJECT INFORMATION

SCOPE OF WORK:	AN ADDITION OF ANTENNAS AND OUTDOOR CABINET TO AN UNMANNED TELECOMMUNICATIONS FACILITY
SITE ADDRESS:	200 REDFOOT ROAD CHAPEL HILL, NC 27516
PROPERTY OWNER: TAX ID NUMBER:	CROWN CASTLE GT CO LLC 7.109F..35
CONTACT PERSON:	TONY QUEEN (919) 465-3517
APPLICANT:	AT&T 11760 N. US HWY 1 N. PALM BEACH, FL 33408
LATITUDE:	35° 56' 54.7"
LONGITUDE:	-79° 05' 29.3"
ELEVATION:	523.2'
JURISDICTION:	CITY OF CHAPEL HILL/ORANGE COUNTY
CURRENT USE:	TELECOMMUNICATIONS FACILITY - ZONED R-20
PROPOSED USE:	TELECOMMUNICATIONS FACILITY
POWER COMPANY:	DUKE POWER 800-653-5307
TELEPHONE COMPANY:	BELLSOUTH 780-2800

SITE QUALIFICATION PARTICIPANTS

	NAME	COMPANY	NUMBER
A/E	DAVID ALLEN	KIMLEY-HORN & ASSOC.	(704) 333-5131
SAC	SHANNON BAILEY	CROWN CASTLE	(704) 321-3800
RF	VIKAS BONDE	BECHTEL	(704) 521-3769
CON	TONY QUEEN	CROWN CASTLE	(919) 465-3517
LANDLORD	ASHLEY ALLEN	CROWN CASTLE	(704) 321-3800

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4601 CHARLOTTE PARK DRIVE, SUITE 350 CHARLOTTE, NORTH CAROLINA 28217
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Drawn by	Check by	Approved by	Date
HAM	JGT	DAA	02/05/03

CHAPEL HILL
RLGHNCR239
200 REDFOOT ROAD
CHAPEL HILL, NC 27516

AT&T
AT&T WIRELESS SERVICES, INC.

REVISIONS					KHA NO.: 015408010
No.	DATE	DESCRIPTION	BY	CHK	APP'D
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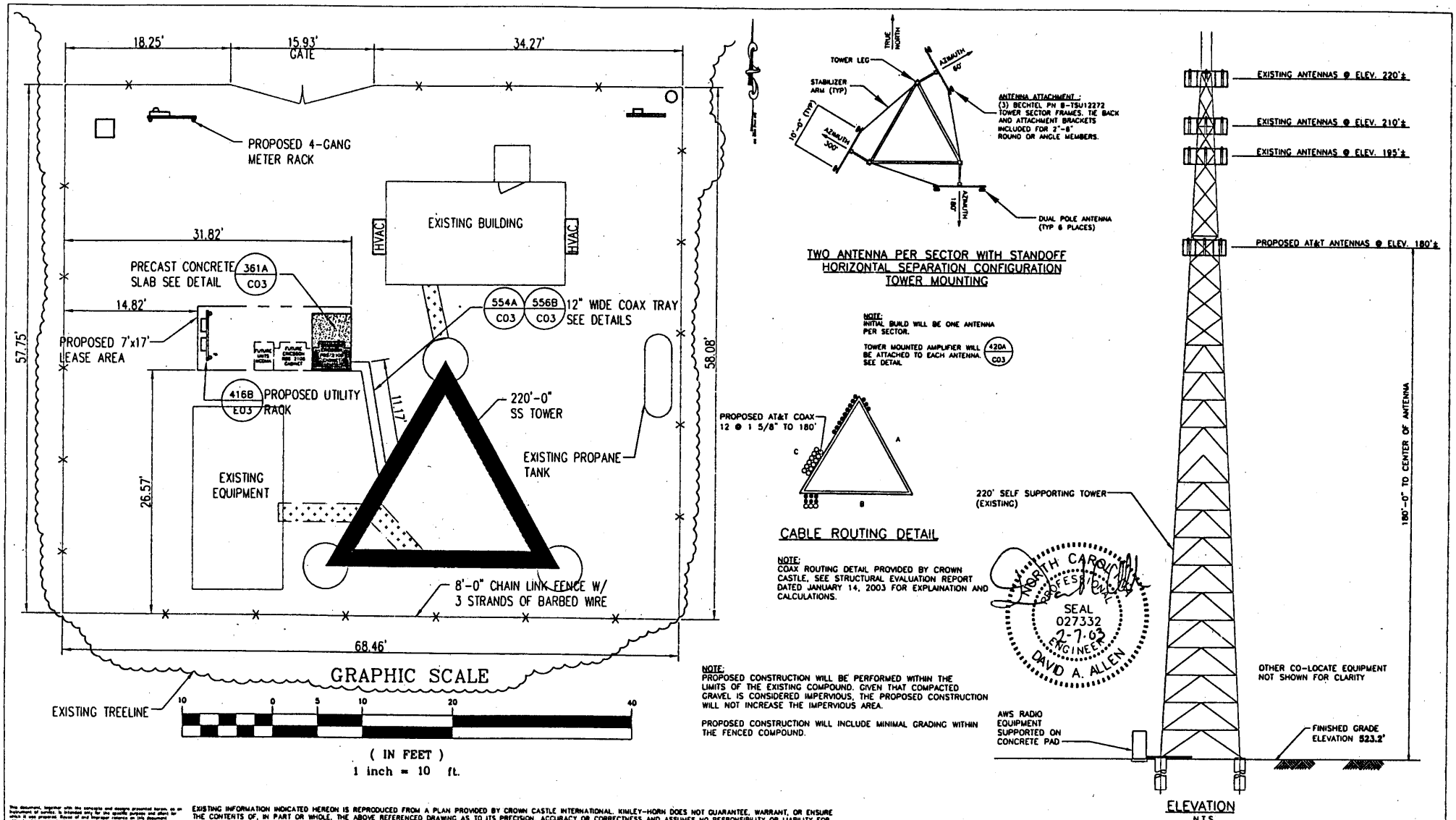
B	01/21/03	PER REVIEW			
A	01/17/03	PRELIMINARY			

TITLE SHEET

CO-LOCATION ON EXISTING TOWE

PROJECT No.	DRAWING No.
BU#: 814328	933-012-036A-T01

ATTACHMENT B



TWO ANTENNA PER SECTOR WITH STANDOFF HORIZONTAL SEPARATION CONFIGURATION TOWER MOUNTING

NOTE:
INITIAL BUILD WILL BE ONE ANTENNA PER SECTOR.

TOWER MOUNTED AMPLIFIER WILL BE ATTACHED TO EACH ANTENNA. SEE DETAIL 420A C03

CABLE ROUTING DETAIL

NOTE:
COAX ROUTING DETAIL PROVIDED BY CROWN CASTLE, SEE STRUCTURAL EVALUATION REPORT DATED JANUARY 14, 2003 FOR EXPLAINATION AND CALCULATIONS.

NOTE:
PROPOSED CONSTRUCTION WILL BE PERFORMED WITHIN THE LIMITS OF THE EXISTING COMPOUND. GIVEN THAT COMPACTED GRAVEL IS CONSIDERED IMPERVIOUS, THE PROPOSED CONSTRUCTION WILL NOT INCREASE THE IMPERVIOUS AREA.

PROPOSED CONSTRUCTION WILL INCLUDE MINIMAL GRADING WITHIN THE FENCED COMPOUND.

ELEVATION
N.T.S.

NORTH CAROLINA PROFESSIONAL SEAL 027332 2-7-03 ENGINEER DAVID A. ALLEN

EXISTING INFORMATION INDICATED HEREON IS REPRODUCED FROM A PLAN PROVIDED BY CROWN CASTLE INTERNATIONAL. KIMLEY-HORN DOES NOT GUARANTEE, WARRANT, OR ENSURE THE CONTENTS OF, IN PART OR WHOLE, THE ABOVE REFERENCED DRAWING AS TO ITS PRECISION, ACCURACY OR CORRECTNESS AND ASSUMES NO RESPONSIBILITY OR LIABILITY FOR DAMAGES, LOSS OF REVENUE, OR INJURY THAT MIGHT ARISE. THIS DRAWING INFORMATION WAS SUPPLIED BY THE CLIENT AND INCORPORATED FOR REFERENCE ONLY.

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SITE LAYOUT PLAN & ELEVATION VIEW

CO-LOCATION ON EXISTING TOWER

PROJECT No.	DRAWING No.	REV
BU#: 814328	933-012-036A-C01	0

B-2

GENERAL NOTES:

1. THIS PROPOSAL IS FOR AN UNMANNED TELECOMMUNICATIONS FACILITY CONSISTING OF COLOCATING ANTENNAS ON AN EXISTING TOWER AND THE PLACEMENT OF OUTDOOR EQUIPMENT CABINETS AT THE TOWER BASE.
2. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE.
3. THE PROPOSED FACILITY IS UNMANNED AND IS NOT FOR HUMAN HABITAT. (NO HANDICAP ACCESS IS REQUIRED).
4. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY AT&T TECHNICIANS.
5. NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS PROPOSAL.
6. OUTDOOR STORAGE AND SOLID WASTE CONTAINERS ARE NOT PROPOSED.
7. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
8. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY THE CONSTRUCTION OPERATION.
9. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTION REQUIRED FOR CONSTRUCTION.
10. SUBCONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
11. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND DRAWINGS PROVIDED BY THE SITE OWNER. SUBCONTRACTOR SHALL NOTIFY BECHTEL OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
12. NO WHITE STROBIC LIGHTS ARE PERMITTED. LIGHTING, IF REQUIRED, WILL MEET FAA STANDARDS AND REQUIREMENTS.
13. SUBCONTRACTOR SHALL CALL NC ONE CALL FOR UNDERGROUND UTILITY MARKING PRIOR TO CONSTRUCTION. 1-800-632-4949.
14. ALL SIGNS SHALL BE FURNISHED AND INSTALLED AT ALL AT&T WIRELESS SERVICES (AWS) IN ACCORDANCE WITH THE MOST CURRENT VERSION OF AT&T SPECIFICATIONS 24445-801-3PS-A002-00006.

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.
3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
6. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
7. THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF THE ENGINEER, OWNER AND/OR LOCAL UTILITIES.
9. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

SITE WORK GENERAL NOTES (300/C02)

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE MOST CURRENT VERSION OF THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE PROJECT SPECIFICATIONS.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE (UNO).
3. REINFORCING STEEL SHALL CONFORM TO THE MOST CURRENT VERSION OF ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO THE MOST CURRENT VERSION OF ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. 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 LARGER .....2 IN.
   #5 AND SMALLER & WWF.....1 1/2 IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL .....3/4 IN.
   BEAMS AND COLUMNS.....1 1/2 IN.
5. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH THE MOST CURRENT VERSION OF ACI 301 SECTION 4.2.4.
6. 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. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.

CONCRETE AND REINFORCING STEEL NOTES (302/C02)

NORTH CAROLINA PROFESSIONAL SEAL 027332 ENGINEER DAVID A. ALLEN 1-7-03

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CONSTRUCTION DETAILS

CO-LOCATION ON EXISTING TOWER

PROJECT No.	DRAWING No.	REV
BU#: 814328	933-012-036A- C02	0

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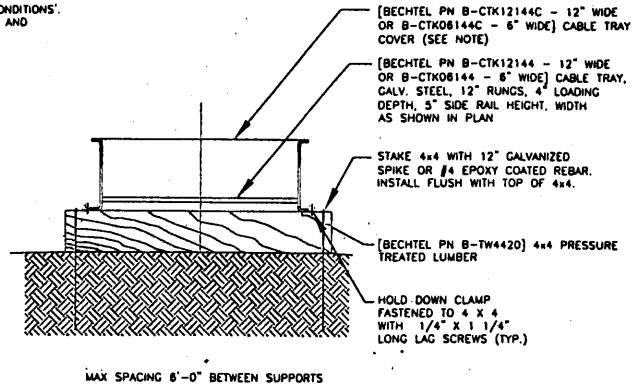
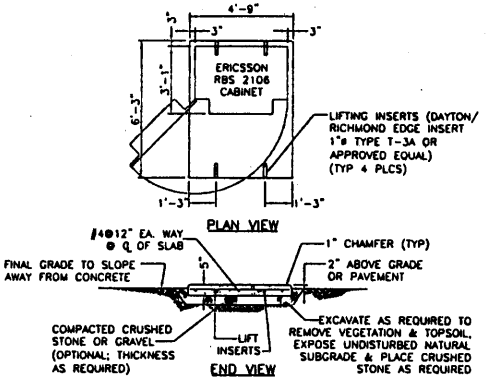
NOTE:
CABLE TRAY COVERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION PROCEDURES AND INSTRUCTIONS FOR 'HIGH WIND CONDITIONS'. THIS INCLUDES CONNECTOR TYPE AND SPACINGS.



MAX SPACING 6'-0" BETWEEN SUPPORTS

COAX CABLE TRAY OUTDOOR CABINETS

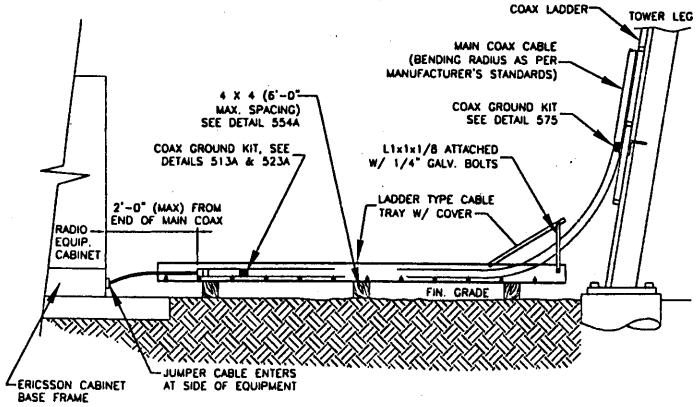
DETAIL NTS 554A C03



NOTES:
1. FOR CONCRETE NOTES SEE DETAIL 302 C03
2. GRAVEL SHALL BE NATURAL OR CRUSHED STONE WITH 100 PERCENT PASSING 1 INCH SIEVE.
3. ERICSSON CABINET SHALL BE PROVIDED WITH OPTIONAL ERICSSON BASE FRAME.

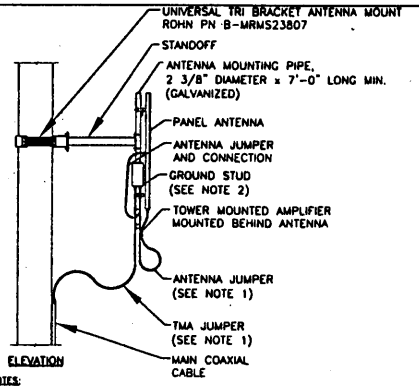
PRECAST CONCRETE PAD FOR SINGLE ERICSSON RBS 2106 CABINET

DETAIL NTS 361A C03



COAX CABLE AT SELF-SUPPORTING TOWER OUTDOOR CABINET

DETAIL NTS 556B C03



NOTES:
1) PROVIDE SUFFICIENT LENGTH OF JUMPER TO ALLOW FOR PROPER APPLICATION OF WEATHER PROOFING AT ANTENNA AND TMA CONNECTIONS.
2) BOND TMA GROUND STUD TO TOWER GROUND BAR WITH NO. 6 AWG GROUND WIRE.
3) BACKPLATE AND POLE CLAMPS FOR MOUNTING TO 2 3/8" DIA. ANTENNA MOUNTING PIPE PROVIDED WITH TMA.

ERICSSON MASTHEAD AMPLIFIER

DETAIL NTS 420A C03

NORTH CAROLINA PROFESSIONAL SEAL 027332 ENGINEER DAVID A. ALLEN 9-7-03

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CONSTRUCTION DETAILS

CO-LOCATION ON EXISTING TOWER

PROJECT No.	DRAWING No.	REV
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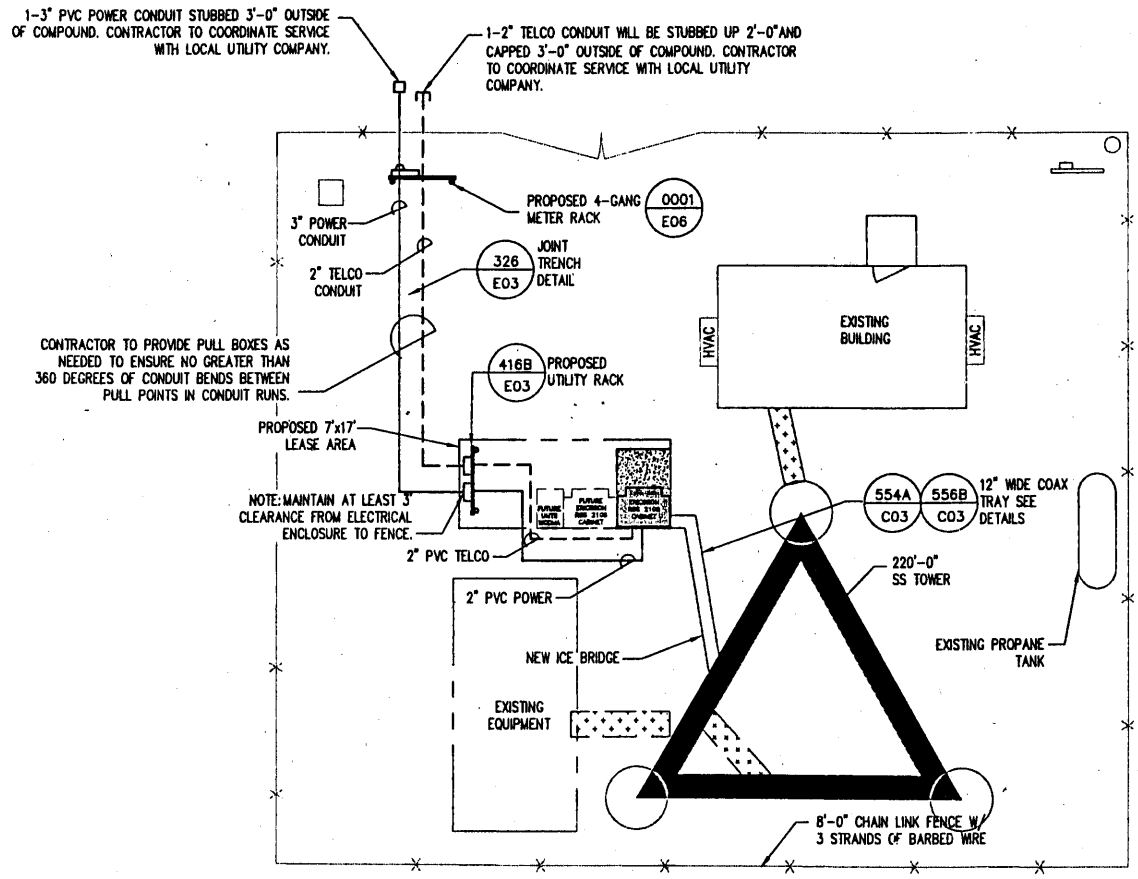
8-4



ABBREVIATIONS:

AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
DWG	DRAWING
EMT	ELECTRICAL METALLIC TUBING
GEN	GENERATOR
IGR	INTERIOR GROUND RING (HALO)
IMC	INTERMEDIATE METALLIC CONDUIT
MGB	MASTER GROUND BAR
PCS	PERSONAL COMMUNICATION SYSTEM
PTS	POWER TRANSFER SWITCH
PVC	RIGID (SCH. 40) POLYVINYL CHLORIDE CONDUIT
RGS	RIGID GALVANIZED STEEL
RWY	RACEWAY
TYP	TYPICAL

ELECTRICAL SYMBOLS:

- CHEMICAL GROUND ROD
- GROUND ROD
- DISCONNECT SWITCH
- METER
- CIRCUIT BREAKER
- CADWELD TYPE CONNECTION
- COMPRESSION TYPE CONNECTION
- GROUNDING WIRE
- XXX / XXX — REPRESENTS DETAIL NUMBER / REF. DRAWING NUMBER

NORTH CAROLINA PROFESSIONAL SEAL 20496 ENGINEER MICHAEL BEEZLEY 2/5/03

GRAPHIC SCALE

10 0 5 10 20

1 inch = 10 ft.

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RCS	JMB	JMB	2/05/03

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Apogee Consulting Group, P.A.
7330 Chapel Hill Road, Suite 202
Raleigh, North Carolina 27607
(919) 858-7420 fax (919) 858-7423

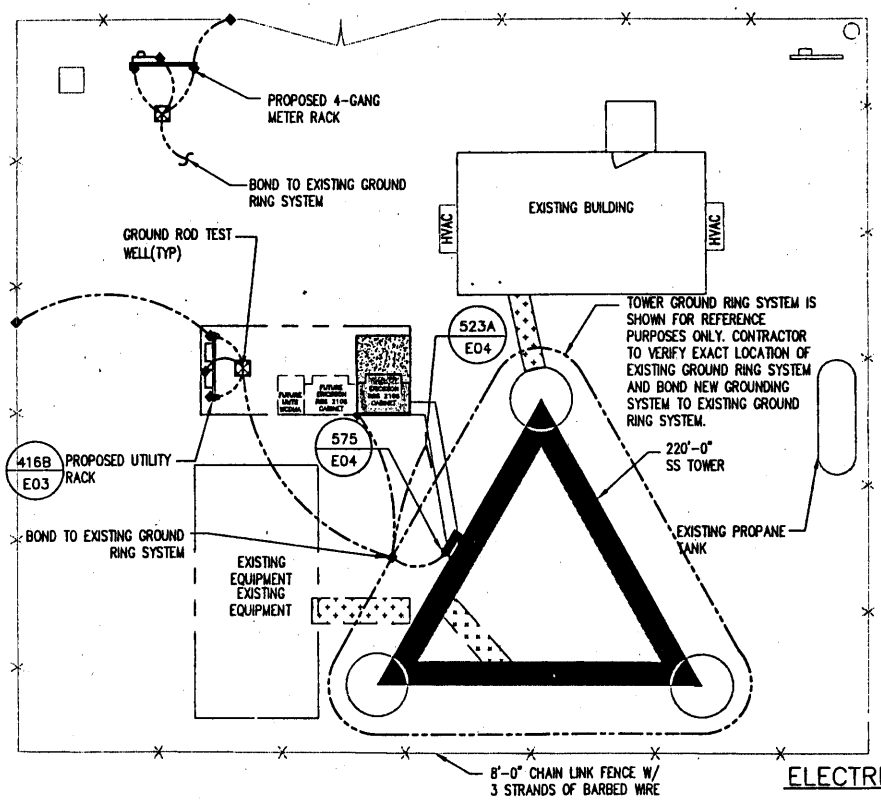
E01	ACG PROJ. No. 2003 013

BASIC SERVICES PLAN

CO-LOCATION ON EXISTING TOWER

PROJECT No.	DRAWING No.	REV
BU#: 814328	933-012-036A-E01	0

B-5



GRAPHIC SCALE

10 0 5 10 20

1 inch = 10 ft.

ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND ALL APPLICABLE LOCAL CODES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
3. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
4. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC (CADWELD) CONNECTIONS.
5. SERVICE TO EQUIPMENT CABINETS SHALL BE 120/240 VAC, 200 AMP, 1-PHASE.
6. ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADWELD).
7. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR & EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
8. ALL EXOTHERMIC CONNECTIONS TO THE GROUND RODS SHALL START AT THE TOP & HAVE A VERTICAL SEPARATION OF 6" FOR EVERY ADDITIONAL CONNECTION.
9. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
10. ALL EXTERIOR GROUND CONDUCTORS SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
11. GROUND RODS SHALL BE COPPER CLAD STEEL, 5/8"ø 10-FT. LONG, AND SHALL BE DRIVEN VERTICALLY WITH THEIR TOPS 30" BELOW FINAL GRADE.
12. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
13. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
14. MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED 5 OHMS. TESTING SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT SPECIFICATION FOR FACILITY GROUNDING, USING FALL OF POTENTIAL METHOD.

NORTH CAROLINA PROFESSIONAL SEAL 20496 ENGINEER JOHN MICHAEL BEEZLEY 2/5/03

ELECTRICAL SYMBOLS:

- CHEMICAL GROUND ROD
- GROUND ROD
- DISCONNECT SWITCH
- METER
- CIRCUIT BREAKER
- CADWELD TYPE CONNECTION
- COMPRESSION TYPE CONNECTION
- GROUNDING WIRE
- XXX / XXX — REPRESENTS DETAIL NUMBER / REF. DRAWING NUMBER

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7330 Chapel Hill Road, Suite 202
Raleigh, North Carolina 27607
(919) 858-7420 fax (919) 858-7423

E02	ACG PROJ. No. 2003 013

EXTERIOR GROUNDING PLAN

CO-LOCATION ON EXISTING TOWER

PROJECT No.	DRAWING No.	REV
BU#: 814328	933-012-036A-E02	0

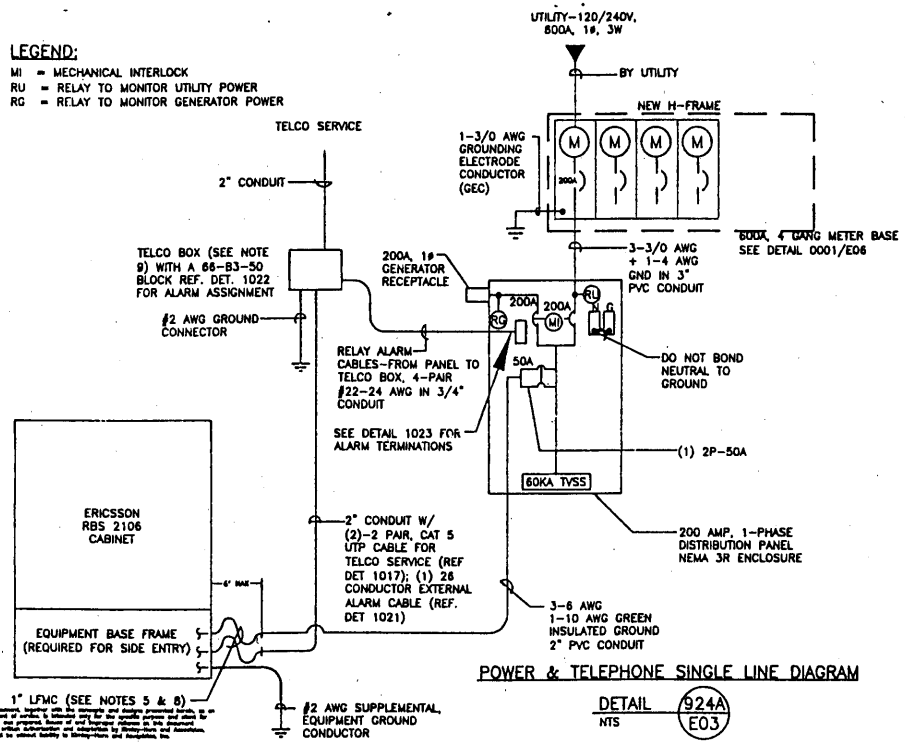
B-6

NOTES:

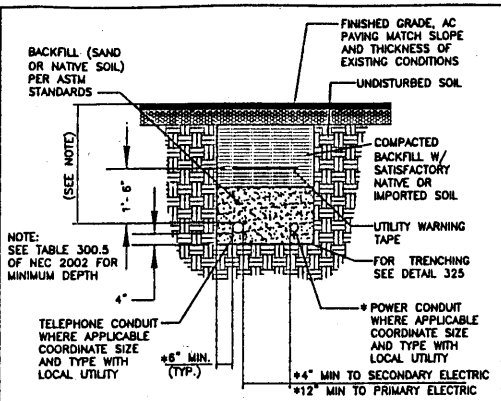
1. SUBCONTRACTOR SHALL PROVIDE 200AMP, SINGLE PHASE, 120/240 VAC, 60HZ SERVICE FOR AWS SITE.
2. SUBCONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY BEFORE THE START OF CONSTRUCTION. POWER AND TELEPHONE CONDUIT SHALL BE PROVIDED AND INSTALLED PER UTILITY REQUIREMENTS.
3. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT REFER TO DRAWINGS PROVIDED BY PANEL MANUFACTURER.
4. ALL SERVICE EQUIPMENT AND INSTALLATIONS SHALL COMPLY WITH THE N.E.C. AND UTILITY COMPANY AND LOCAL CODE REQUIREMENTS.
5. SUBCONTRACTOR SHALL INSTALL SUFFICIENT LENGTHS OF LFMC INCLUDING ALL CONDUIT FITTINGS (NUTS, REDUCING BUSHINGS, ELBOWS, COUPLINGS, ETC) NECESSARY FOR CONNECTION FROM IMC CONDUIT TO THE INTERIOR OF THE BTS CABINET.
6. SUBCONTRACTOR SHALL PROVIDE ELECTRICAL SERVICE EQUIPMENT WITH FAULT CURRENT RATINGS GREATER THAN THE AVAILABLE FAULT CURRENT FROM THE POWER UTILITY.
7. POWER, CONTROL AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#14 AWG AND LARGER), 600V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED.
8. CUT, COIL AND TAPE A 3 FOOT PIGTAIL FROM END OF LFMC FOR TERMINATING BY BTS EQUIPMENT MANUFACTURER.
9. SUBCONTRACTOR SHALL FURNISH AND INSTALL A NEMA 3R ENCLOSURE WITH INTERNAL 5/8" THICK PLYWOOD BACKBOARD. SUBCONTRACTOR SHALL COORDINATE WITH LOCAL TELCO UTILITY PRIOR TO PROCURING AND INSTALLATION OF ENCLOSURE AND COMPONENTS. SUBCONTRACTOR SHALL FURNISH AND INSTALL SURGE PROTECTION DEVICES (BY ATLANTIC SCIENTIFIC; ZONE BARRIER SERIES; PART NO. 90700 WITH MOUNTING DIN RAIL PART NO. 21607) BOND SURGE PROTECTION DEVICE DIN RAIL TO THE ENCLOSURE WITH #6 AWG INSULATED WIRE (REFERENCE STANDARD DETAIL 1015). BOND ENCLOSURE TO THE SITE GROUND RING OR BAR WITH #2 AWG COPPER WIRE.

LEGEND:

MI = MECHANICAL INTERLOCK
RU = RELAY TO MONITOR UTILITY POWER
RG = RELAY TO MONITOR GENERATOR POWER

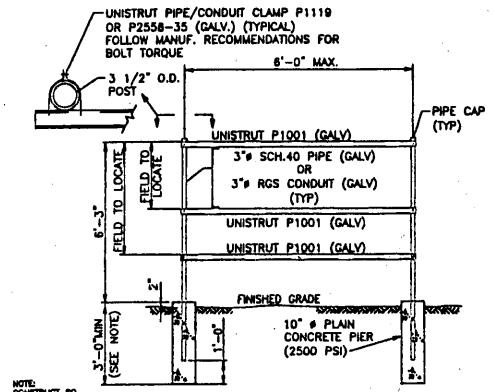


POWER & TELEPHONE SINGLE LINE DIAGRAM
DETAIL 924A / NTS E03

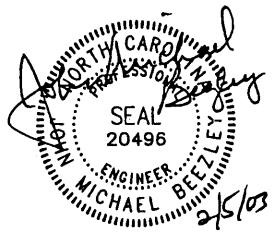


* SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS

JOINT SERVICE TRENCH BURIED CONDUIT ELECT/ TELEPHONE
DETAIL 326 / NTS E03



H-FRAME DISTRIBUTION PANEL AND TELCO DEMARC
DETAIL 416B / NTS E03



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(919) 858-7420 fax (919) 858-7423

E03 | ACG PROJ. No. 2003 013

SINGLE LINE DIAGRAM

CO-LOCATION ON EXISTING TOWER

Kimley-Horn and Associates, Inc.

4601 CHARLOTTE PARK DRIVE, SUITE 350 CHARLOTTE, NORTH CAROLINA 28217
TEL (704) 333-5131 FAX (704) 333-0845

Drawn by:	Check by:	Approved by:	Date:
RCS	JMB	JMB	2/05/03

CHAPEL HILL
RLGHNCR239
200 REDFOOT ROAD
CHAPEL HILL, NC 27516

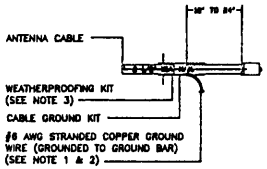
AT&T
AT&T WIRELESS SERVICES, INC.

REVISIONS — KHA NO.: 015408010

No.	DATE	DESCRIPTION	BY	CHK	APP'D
0	2/05/03	ISSUED FOR PERMIT/CONSTRUCTION	RCS	JMB	JMB
B	1/21/03	PER REVIEW	RAM	JMB	JMB
A	1/17/03	PRELIMINARY	RCS	JMB	JMB

PROJECT No. BU#: 814328 | DRAWING No. 933-012-036A-E03 | REV 0

8-7

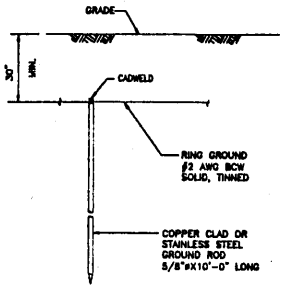


CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE

NOTES:

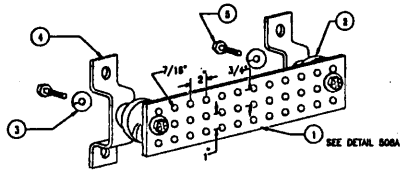
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

DETAIL NTS 513A E04



GROUNDING – STANDARD DETAIL GROUND ROD

DETAIL NTS 503 E04

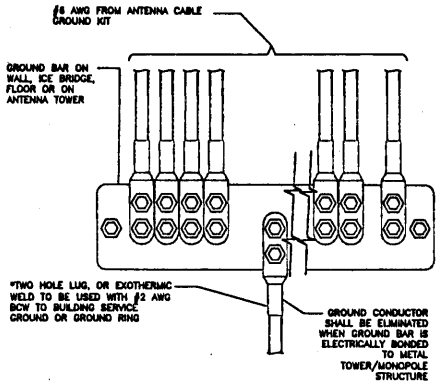


LEGEND

1– COPPER GROUND BAR, 1/4"X 4"X 20", NEWTON INSTRUMENT CO. CAT. NO. B-6142 OR EQUAL. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
2– INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
3– 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
4– WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056
5– 5/8-11 X 1" HHCS BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1
6– INSULATORS SHALL BE ELIMINATED WHEN BONDING DIRECTLY TO TOWER/MONOPOLE STRUCTURE. CONNECTION TO TOWER/MONOPOLE STRUCTURE SHALL BE PER MANUFACTURERS RECOMMENDATIONS

GROUNDING – STANDARD DETAIL GROUND BAR DETAIL

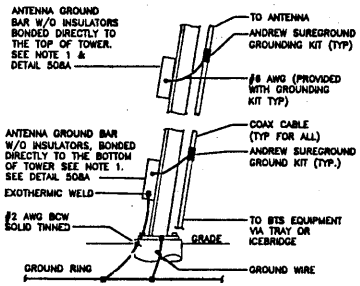
DETAIL NTS 509 E04



* GROUND BARS AT THE BOTTOM OF TOWERS/MONOPOLES SHALL ONLY USE EXOTHERMIC WELDS.

INSTALLATION OF GROUND WIRE TO GROUND BAR

DETAIL NTS 508A E04



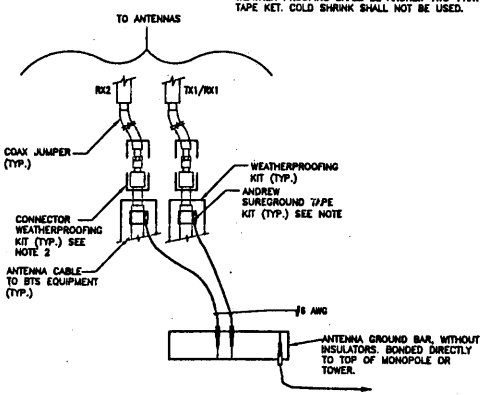
NOTE:
1. NUMBER OF GROUNDING BARS MAY VARY DEPENDS ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.

ANTENNA CABLE GROUNDING FOR TOWER

DETAIL NTS 575 E04

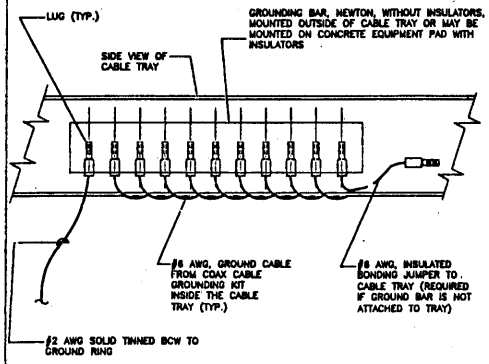
NOTE:
DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.

WEATHER PROOFING SHALL BE ANDREW TWO-PART TAPE KET. COLD SHRINK SHALL NOT BE USED.



CONNECTION OF GROUND WIRE TO GROUNDING BAR TOWER

DETAIL NTS 522C E04



GROUND BAR MOUNTED ON CABLE TRAY MONOPOLE OR SELF-SUPPORT TOWER SITE

DETAIL NTS 523A E04

NORTH CAROLINA PROFESSIONAL SEAL 20496 ENGINEER JOHN MICHAEL BEEZLEY 2/5/03

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E04 | ACG PROJ. No. 2003 013

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CHAPEL HILL, NC 27516

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KHA NO.: 015408010

REVISIONS					
No.	DATE	DESCRIPTION	BY	CHK	APP'D
0	2/05/03	ISSUED FOR PERMIT/CONSTRUCTION	RCS	JMB	JMB
B	1/21/03	PER REVIEW	RAM	JMB	JMB
A	1/17/03	PRELIMINARY	RCS	JMB	JMB

GROUNDING DETAILS

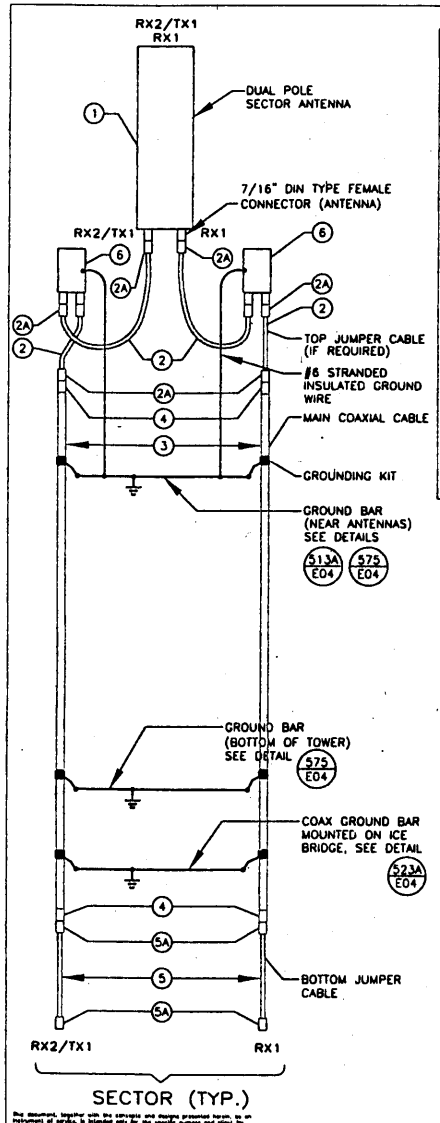
CO-LOCATION ON EXISTING TOWER

PROJECT No.	DRAWING No.	REV
BU#: 814328	933-012-036A-E04	0

6 5 4 3 2 1

A B C D

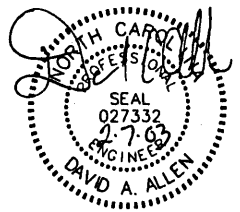
B-9



ITEM NO.	ITEM DESCRIPTION	SECTOR A AZIMUTH 60°		SECTOR B AZIMUTH 180°		SECTOR C AZIMUTH 300°		TOTAL QUANTITY (SEE NOTE 1)
		RX2 / TX1	RX1	RX2 / TX1	RX1	RX2 / TX1	RX1	
	COLOR CODE (SEE NOTE 5)	ONE RED	TWO RED	ONE BLUE	TWO BLUE	ONE GREEN	TWO GREEN	
1	ANTENNA (SEE NOTE 3 & 4) AS-BUILT SERIAL #	ALLGON 7262.02 GSM		ALLGON 7262.02 GSM		ALLGON 7262.02 GSM		3
	MECHANICAL DOWNTILT	0°		0°		0°		
2	ANTENNA JUMPER (COMMSCOPE) (LENGTH)	540DMDM-4 (4 FEET)	540DMDM-4 (4 FEET)	540DMDM-4 (4 FEET)	540DMDM-4 (4 FEET)	540DMDM-4 (4 FEET)	540DMDM-4 (4 FEET)	6
2A	ATTACHED MALE DIN CONNECTOR (COMMSCOPE)	INCLUDED W/ITEM #2	INCLUDED W/ITEM #2	INCLUDED W/ITEM #2	INCLUDED W/ITEM #2	INCLUDED W/ITEM #2	INCLUDED W/ITEM #2	
3	MAIN COAX (LENGTH) (COMMSCOPE)	1 5/8"ø (212 FT) CR50-1873PE	1 5/8"ø (212 FT) CR50-1873PE	1 5/8"ø (212 FT) CR50-1873PE	1 5/8"ø (212 FT) CR50-1873PE	1 5/8"ø (212 FT) CR50-1873PE	1 5/8"ø (212 FT) CR50-1873PE	1,272 FT
4	UNATTACHED FEMALE DIN CONNECTOR (COMMSCOPE)	(2) CR1873DF	(2) CR1873DF	(2) CR1873DF	(2) CR1873DF	(2) CR1873DF	(2) CR1873DF	12
5	ANTENNA JUMPER CABLE (COMMSCOPE) (LENGTH)	540DMDM-8 (8 FEET)	540DMDM-8 (8 FEET)	540DMDM-8 (8 FEET)	540DMDM-8 (8 FEET)	540DMDM-8 (8 FEET)	540DMDM-8 (8 FEET)	6
5A	ATTACHED MALE DIN CONNECTOR (COMMSCOPE)	INCLUDED W/ ITEM #5	INCLUDED W/ ITEM #5	INCLUDED W/ ITEM #5	INCLUDED W/ ITEM #5	INCLUDED W/ ITEM #5	INCLUDED W/ ITEM #5	0
6	TOWER MOUNTED AMPLIFIER (ERICSSON)	DUAL DUPLEX KRY 112 71/X	DUAL DUPLEX KRY 112 71/X	DUAL DUPLEX KRY 112 71/X	DUAL DUPLEX KRY 112 71/X	DUAL DUPLEX KRY 112 71/X	DUAL DUPLEX KRY 112 71/X	6

NOTES:

1. ALL MATERIALS ON THE ABOVE TABLE SHALL BE PROVIDED BY THE CONTRACTOR TO THE SUBCONTRACTOR FOR INSTALLATION.
2. THE SUBCONTRACTOR SHALL NOT EXCEED THE CABLE LENGTHS SHOWN ON THE DRAWING WITHOUT RF ENGINEERING APPROVAL.
3. CABLE LENGTHS LISTED ARE APPROXIMATE AND ARE NOT INTENDED TO BE USED FOR FABRICATION. SUBCONTRACTOR SHALL AS-BUILT CABLE LENGTHS AND PROVIDE ANTENNA SERIAL NUMBERS ON RED-LINED DRAWINGS.
4. ANTENNAS SHALL BE PROCURED AND INSTALLED WITH DOWNTILT BRACKETS AND HEAVY DUTY CLAMPS SUPPLIED BY ANTENNA MANUFACTURER.
5. COLOR CODE ALL MAIN CABLES AT TWO LOCATIONS:
   NEAR ANTENNAS
   NEAR EQUIPMENT
6. COAX GROUND KITS, COAX WEATHER PROOFING, SNAP-IN HANGER CLAMPS, AND HOISTING GRIPS SHALL BE PROVIDED BY THE CONTRACTOR TO THE SUBCONTRACTOR FOR INSTALLATION.
7. WEATHERPROOF CONNECTION PER MANUFACTURER'S SPECIFICATION.



THIS DRAWING INFORMATION WAS SUPPLIED BY THE CLIENT AND INCORPORATED FOR REFERENCE ONLY.

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Drawn by:	Check by:	Approved by:	Date:
HAM	JCT	DAA	02/05/03

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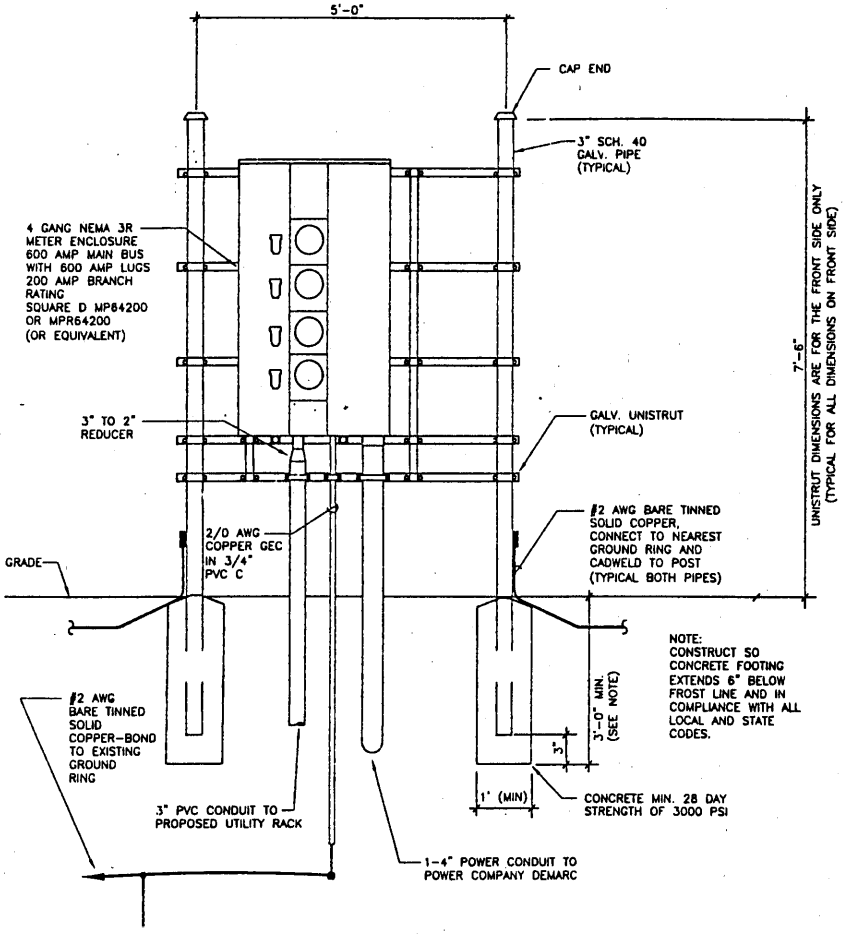
REVISIONS						KHA NO.: 015408010
No.	DATE	DESCRIPTION	BY	CHK	APP'D	
						ANTENNA SCHEMATIC & DETAILS
						CO-LOCATION ON EXISTING TOWER
0	02/05/03	ISSUE FOR CONSTRUCTION/PERMIT				
B	01/21/03	PER REVIEW				
A	01/17/03	PRELIMINARY				

PROJECT No.	DRAWING No.	REV
BU#: 814328	933-012-036A-E05	0



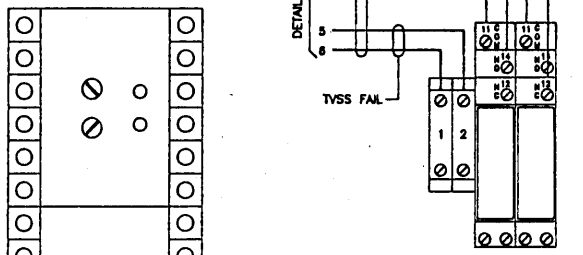
PROPOSED H-FRAME WITH 4 GANG METER BASE

DETAIL NTS 0001/E06

NOTES:
1. WIRE ALL CONTACTS TO PROVIDE CONTINUITY WHEN CIRCUIT IS NORMAL AND LOSS OF CONTINUITY WHEN CIRCUIT FAILS.
2. TERMINAL ASSIGNMENT ORDER ON MARCONI LABEL DOES NOT NECESSARILY REFLECT PHYSICAL ORDER OF CONTACTS
3. WIRE INSULATION MUST HAVE 300V OR GREATER RATING.
4. TAPE AND STORE ANY SPARE CONDUCTORS.

ALARM CONTACTS			
TVSS		COMMERCIAL	GENERATOR
1	2	11-COM	11-COM
		14-NO	14-NO
		12-NC	12-NC

SEE NOTE 2



MARCONI AC SVC ENTRANCE CABINET ALARM TERMINAL BLOCK ASSIGNMENTS

EAST COAST AC SVC ENTRANCE CABINET ALARM TERMINAL BLOCK ASSIGNMENTS

NORTH CAROLINA PROFESSIONAL SEAL 20496 ENGINEER MICHAEL BEEZLEY 2/5/03

AC SERVICE ENTRANCE CABINET ALARM ASSIGNMENTS

DETAIL NTS 1023/E06

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RCS	JMB	JMB	2/05/03

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B	1/21/03	PER REVIEW	RAM	JMB	JMB
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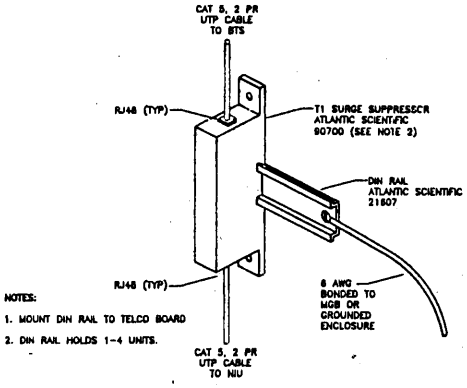
E06 | ACG PROJ. No. 2003 013

ELECTRICAL DETAILS

CO-LOCATION ON EXISTING TOWER

PROJECT No. BU#: 814328 | DRAWING No. 933-012-036A-E06 | REV 0

B-10

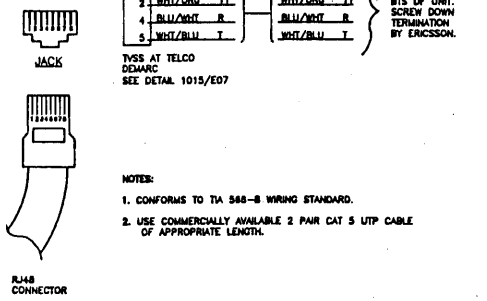


NOTES:

1. MOUNT DIN RAIL TO TELCO BOARD
2. DIN RAIL HOLDS 1-4 UNITS.

T1 SURGE SUPPRESSOR

DETAIL 1015/E07 (NTS)

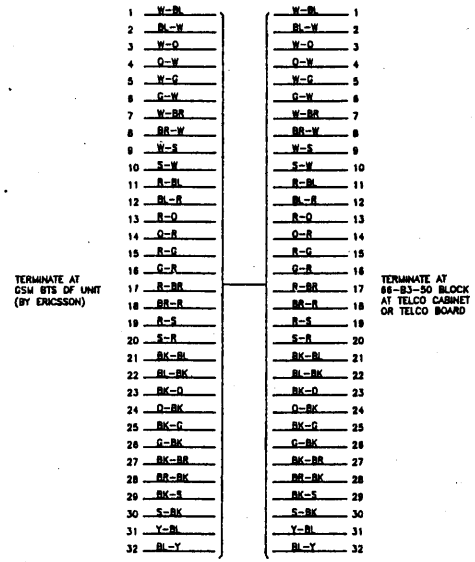


NOTES:

1. CONFORMS TO TIA 568-B WIRING STANDARD.
2. USE COMMERCIALLY AVAILABLE 2 PAIR CAT 5 UTP CABLE OF APPROPRIATE LENGTH.

T1 CABLE AND CONNECTOR PIN-OUT

DETAIL 1017/E07 (NTS)

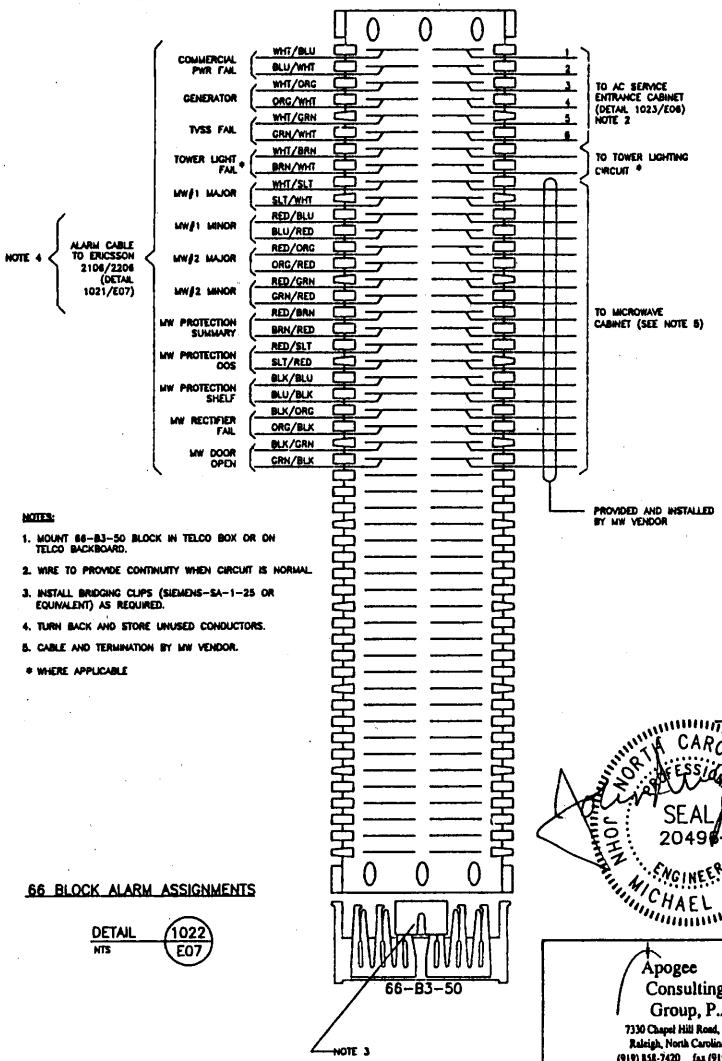


NOTES:

1. OBTAIN FROM CDS DATACOM INC (214-340-8199) PART NUMBER WR320124APOO-GE-XXX (XXX=LENGTH IN FT). ORDER IN 50' INCREMENTS.

EXTERNAL ALARM CABLE

DETAIL 1021/E07 (NTS)



NOTES:

1. MOUNT 66-B3-50 BLOCK IN TELCO BOX OR ON TELCO BACKBOARD.
2. WIRE TO PROVIDE CONTINUITY WHEN CIRCUIT IS NORMAL.
3. INSTALL BRIDGING CLIPS (SIEMENS-SA-1-25 OR EQUIVALENT) AS REQUIRED.
4. TURN BACK AND STORE UNUSED CONDUCTORS.
5. CABLE AND TERMINATION BY MW VENDOR.

* WHERE APPLICABLE

66 BLOCK ALARM ASSIGNMENTS

DETAIL 1022/E07 (NTS)

Apogee Consulting Group, P.A.
7330 Chapel Hill Road, Suite 202
Raleigh, North Carolina 27607
(919) 858-7420 fax (919) 858-7423

E07 | ACG PROJ. No. 2003 013

ELECTRICAL DETAILS

CO-LOCATION ON EXISTING TOWER

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TEL (704) 333-5131 FAX (704) 333-0648

Drawn by:	Check by:	Approved by:	Date:
RCS	JMB	JMB	2/05/03

CHAPEL HILL
RLGHNCR239
200 REDFOOT ROAD
CHAPEL HILL, NC 27516

AT&T
AT&T WIRELESS SERVICES, INC.

KHA NO.: 015408010

REVISIONS					
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A	1/17/03	PRELIMINARY	RCS	JMB	JMB

PROJECT No.	DRAWING No.	REV
BU#: 814328	933-012-036A-E07	0

B-11

ATTACHMENT "C"

AT&T Wireless Services
2000 Cross Beam Drive
Charlotte, NC 28217

AT&T Statement of non-interference

To,
Town of Carrboro Planning Department
Marty Roupe, Development Review Administrator
301 West Main Street
Carrboro, NC 27510

AT&T Wireless operates its wireless network in compliance with its FCC license and FCC rules and regulations concerning radio frequency emissions and/or radio frequency interference ("RFI"). While we cannot guarantee that the operation of our network will not cause harmful interference with other wireless users, the possibility of such interference, if any, is extremely remote. With regard to governmental users, this is especially true because of the significant differences in frequencies between our proposed installation (1900 MHz) and those frequencies used by local police, fire and EMS departments. In the unlikely event that interference does occur, AT&T Wireless agrees to abide by its existing policy of fully cooperating with the entity experiencing interference to identify and correct, to the extent reasonably possible, any issues caused by its installation. The FCC recognizes that both commercial and public safety parties affected by such interference need to collaborate and share responsibility for identifying the causes of interference, identifying mitigation alternatives, and developing joint planning and technical solutions for preventing interference. A working group entitled Project 39, consisting of FCC, public safety, and industry representatives, was formed in an ongoing effort to evaluate and mitigate potential interference concerns between commercial mobile radio service operators and public safety. AWS actively participates in Project 39.

Notwithstanding the foregoing, formal federal government procedures exist to protect the interests of local police, fire and EMS departments if they experience interference problems. The FCC has procedures in place to respond to interference complaints, and any RFI issues can be directed to the FCC's Consumer and Government Affairs Bureau for additional information.

Very truly yours,

Smitesh P. Shah

Smitesh Shah
RF Engineer
AT&T Wireless Services, Inc.
Date - 01/08/2003

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February 17, 2003

Ms. Jane L. Tuohey
Program Support Assistant II
Zoning Division
Town of Carrboro
301 West Main Street
Carrboro, North Carolina 27510

Re: Impact of Minor Modification CUP Plans - Co-location at LHF Cell Tower - on Electromagnetic Safety

Dear Ms. Tuohey:

I have received your letter of 02/10/03 and the materials submitted to me for review and comment. To determine the impact on electromagnetic safety of adding AT&T Wireless to present users on the tower (Sprint and Verizon), I have extracted the following information from the attachments that you included:
From Vikas Bonde's letter (01/15/03):

- Name and location of tower - 200 Redfoot Road, Chapel Hill, NC 27516.
- Height of antenna radiation center AGL - 180 feet.
- Antenna manufacturer and model number - Allgon 7262.02.
- User name - AT&T Wireless.

- Service - GSM
- Operating frequency band - 1930 to 1945 MHz.
- Number of channels per sector - 2.
- EIRP in watts per channel - 355.
- Vertical beamwidth between half-power (3-dB) points - 7.5 degrees.
  From David C. Pelfrey's letter (01/14/03):
- Addition of six (6) Allgon 7262.02 antennas and twelve (12) Ericcson tower mounted amplifiers on sectorized mounts with twelve (12) 1 5/8" feedlines at a radiation center of 180 feet.

From the above information it may be assumed that two transmitting channels per 120-degree sector will be added with an EIRP of 355 watts per channel. These transmitters would yield 710 watts of EIRP at a radiation center of 180 feet above ground level. Due to these transmitting antennas acting alone, the added ground-level power density would not be expected to exceed 0.001 milliwatts per square centimeter. When added to the existing ground-level power density, the total should be well below approved safety guidelines.

Sincerely,

William T. Joines

William T. Joines
Professor