

ORIGINAL

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

RECEIVED
JAN 17 2007
CONNECTICUT
SITING COUNCIL

In Re:

APPLICATION OF MCF COMMUNICATIONS bg, INC.)
AND OMNIPOINT COMMUNICATIONS, INC. FOR A)
CERTIFICATE OF ENVIRONMENTAL)
COMPATIBILITY AND PUBLIC NEED FOR THE)
CONSTRUCTION, MAINTENANCE, AND)
OPERATION OF A WIRELESS)
TELECOMMUNICATIONS FACILITY AT 12)
CARPENTER ROAD IN THE TOWN OF)
BOLTON, CONNECTICUT)

DOCKET NO. 323

JANUARY 16, 2007

RESPONSES OF NEW CINGULAR WIRELESS PCS, LLC
TO CONNECTICUT SITING COUNCIL PRE-HEARING INTERROGATORIES

Q1. Discuss Cingular's need for the proposed facility. Specifically, what level of coverage does Cingular currently have in this area, and in what ways would the proposed facility improve the existing level of service?

A1. A facility at the proposed MCF Communications bg, Inc. location ("MCF") would improve coverage along Routes 6, 85, 384 and 534. Cingular's network currently suffers from a lack of adequate coverage in the area with the average signal level along relevant portions of these Routes -91 dBm or below. Coverage in these areas would be dramatically improved with a facility at the proposed MCF site.

Q2. What is the operating frequency and minimum signal level threshold that Cingular is planning to use in this area?

A2. This facility will operate using FCC licensed spectrum in the 850 and 1900 Mhz bands. Cingular is seeking to provide at a minimum, -80 dBm in vehicle coverage in this area.

Q3. Provide antenna specifications, including type, make, size, model, number of channels, and maximum power output. Indicate the proposed antenna height, number of antennas and antenna mounting configuration planned for the site.

A3. Cingular is proposing to install six Powerwave 7770 antennas and was allotted the 107 foot centerline of the proposed tower facility by MCF. Each antenna is 55" tall, 11" wide, and 5" deep. Initially their will be four 850 Mhz and two 1900 Mhz channels deployed in all three sectors oriented at 60, 220, and 300 degrees. A copy of the manufacturer's specification sheet for the antennas is attached in Exhibit 1.

Q4. Within what frequencies does Cingular intend to operate at the proposed site?

A4. Cingular will operate Cellular b and PCS A, C, D, E frequency bands at this facility.

Q5. Provide a worst case power density analysis for radio frequency emissions for Cingular's antennas at the proposed height on the tower. Please use the following equation.

$$\frac{(1.64)(.64)(\# \text{ of channels})(\text{power in watts/channel})(1000\text{mW/W})}{3.14[(\text{distance from antenna to ground in feet})(30.49 \text{ cm/foot})]^2}$$

	Centerline Height above Ground (feet)	Frequency (MHz)	Number of Channels per Sector	Power Per Channel (Watts ERP)	Power Density (mW/cm ²)	Standard Regulatory Limits (mW/cm ²)	Percent of Regulatory Limit
Cingular / AT&T	107	880-894	4	296	0.0372	0.5867	6.34
Cingular / AT&T	107	1930-1935 1965-1970	2	427	0.0268	1.0000	2.68
Total							9.0%

Q6. Would Cingular require an emergency generator at the proposed site?

A6. No, battery backup will be employed with a portable diesel generator utilized in the event of prolonged outages.

Q7. Provide information on the number of dropped calls Cingular is experiencing in this area.

Cell ID	Lost Call %
10701	1.73
53071	0.78
54481	2.40
54482	3.11
10703	1.68
10931	32.04
10691	13.09
10692	8.35
58192	8.58
58603	7.61

Q8. At what signal level would Cingular drop a call?

A8. It depends based on the user's location (i.e., in-building, in-vehicle, outside), terrain, orientation to cell sites and other factors. As discussed in other Dockets, -102 dBm is the theoretical limit below which a call simply cannot be maintained on Cingular's network. In order to provide reliable in-vehicle coverage in this area, Cingular designs its network to -80 dBm.

Q9. Provide composite radio frequency propagation plots for Cingular's existing coverage in the area of the proposed site, at Cingular's minimum signal level threshold and at a scale of 1:50,000. Please provide separate plots for cellular and PCS frequencies.

A9. Attached in Exhibit 2 are two composite plots for Cingular's existing network at -75, -80 and -90 dBm intervals in cellular and PCS frequencies.

Q10. Provide composite propagation plots showing existing coverage and coverage from the proposed site at the height at which Cingular would locate antennas, at Cingular's minimum signal level threshold and at a scale of 1:50,000. Please provide separate plots for cellular and PCS frequencies.

A10. Attached in Exhibit 3 are composite plots for Cingular's existing network with the proposed site at 107' AGL at -75, -80, and -90 dBm intervals in cellular and PCS frequencies.

Q11. Provide composite propagation plots showing existing coverage and coverage from the proposed site at ten feet below the height at which Cingular would locate antennas, at Cingular's minimum signal level threshold and at a scale of 1:50,000. Please provide separate plots for cellular and PCS frequencies.

R11. Attached in Exhibit 4 are four composite plots for Cingular's existing network at -80 dBm with the proposed site at 107' and also at 97' AGL in both cellular and PCS frequencies.

CERTIFICATE OF SERVICE

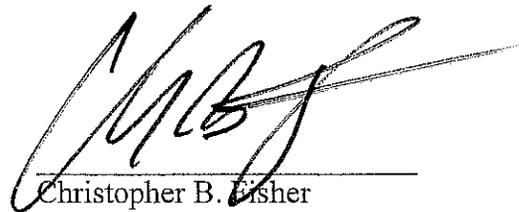
I hereby certify that on this day, an original and twenty one copies of Cingular's Responses to Interrogatories were served on the Connecticut Siting Council by overnight mail, with a copy by first class mail to:

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Dated: January 16, 2007



Christopher B. Fisher

cc: John Blevins, Cingular

Dual Band Antenna

90° 1.4 m MET Antenna

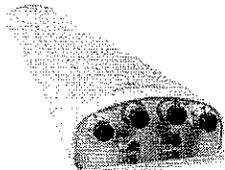
824-896/1850-1990 MHZ

Part Number:
7770.00

Horizontal Beamwidth: 90°
Gain: 14 / 15.5 dBi
11.9 / 13.4 dBd

Electrical Downtilt: Adjustable
Connector Type: 7/16 DIN female

The Powerwave dual band dual polarized broadband antenna has individual adjustable electrical downtilt per band (upgradeable to Remote Electrical Tilt (RET)). Four connector ports allow separate tilts on each frequency band and ensure the use of diversity concepts. The phase shifter technology, based on a patented sliding dielectric, minimizes intermodulation distortion and maximizes efficiency. The slant +/- 45° dual polarization system provides the independent fading signals needed for achieving top-quality coverage via diversity concepts. The Powerwave Broadband antenna design is based on a patented stacked aperture-coupled patch technology, which provides high isolation performance and a wide VSWR bandwidth. The antennas have superior radiation patterns due to a unique reflector design which provides a very small variation of the -3dB horizontal beam width over the frequency band as well as a high front-to-back ratio.



Key Benefits

- Excellent multi-band capabilities
- Polarization purity makes good diversity gain
- Excellent pattern performance and high gain over frequency
- High passive intermodulation performance
- Light, slim and robust design

ANTENNA
SYSTEMS

BASE STATION
SYSTEMS

COVERAGE
SYSTEMS

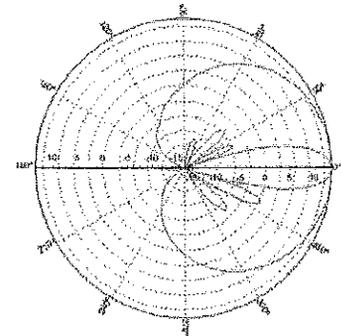
824-896/1850-1990 MHz

Dual Broadband Antenna

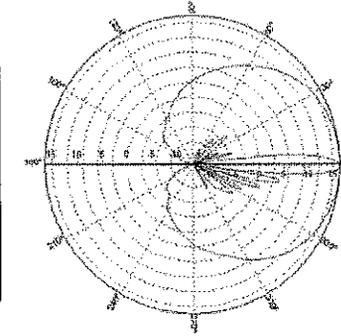
Electrical Specifications

Frequency band (MHz)	824-896	1850-1990
Gain, ± 0.5 (dBi)/(dBd)	14/11.9	15.5/13.4
Polarization	Dual linear ±45°	
Nominal Impedance (Ohm)	50	
VSWR, 824-960MHz	<1.5:1	
VSWR, 1710-2170MHz		<1.5:1
Isolation between inputs, 824-960MHz (dB)	>30	
Isolation between inputs, 1710-2170MHz (dB)		>30
Inter band isolation, MHz (dB)	>36	
Horizontal -3 dB beamwidth	82° ±3°	86° ±8°
Tracking, Horizontal plane, 824-896MHz, ±60°	<2dB	
Tracking, Horizontal plane, 1850-1990MHz, ±60°		<2dB
Electrical downtilt range (adjustable)	0° to 10°	0° to 8°
Vertical -3 dB beamwidth	15°	7°
Sidelobe suppression, Vertical 1 st upper (dB)	> 18 @0° MET	> 18 @0° MET
Vertical beam squint	1°	0.5°
Front-to-back ratio (dB)	> 25	>25
Front-to-back ratio, total power (dB)	>22	>21
Cross-polar discrimination (XPD) ±60° (dB)	>10	>10
IM3, @2x43dBm (dBc)	-153	
IM3, @2x43dBm (dBc)		-153
Power Handling, Average per input (W)	400	250
Power Handling, Average total (W)	800	500

All specifications are subject to change without notice.
Contact factory for complete performance data.



Typical Horizontal and Vertical
870 MHz Band Patterns



Typical Horizontal and Vertical
1920 MHz Band Patterns

Mechanical Specifications

Connector Type	7/16 DIN female
Connector Position	Bottom
Dimensions, H x W x D	1408 x 280 x 125mm (55 x 11" x 5")
Wind Load, Frontal, 42m/s Cd=1 (N)	435N (98 lbf)
Weight With Brackets	15.8 kg (35 lbs)
Survival Wind Speed	70m/s (156 mph)
Lightning Protection	DC grounded
Radome Material	GRP
Radome Color	Grey (RAL 7035 on all visible plastic part)
Packing Size	1550 x 355 x 255mm (61" x 14" x 10")
Mounting	Pre-mounted Standard Brackets

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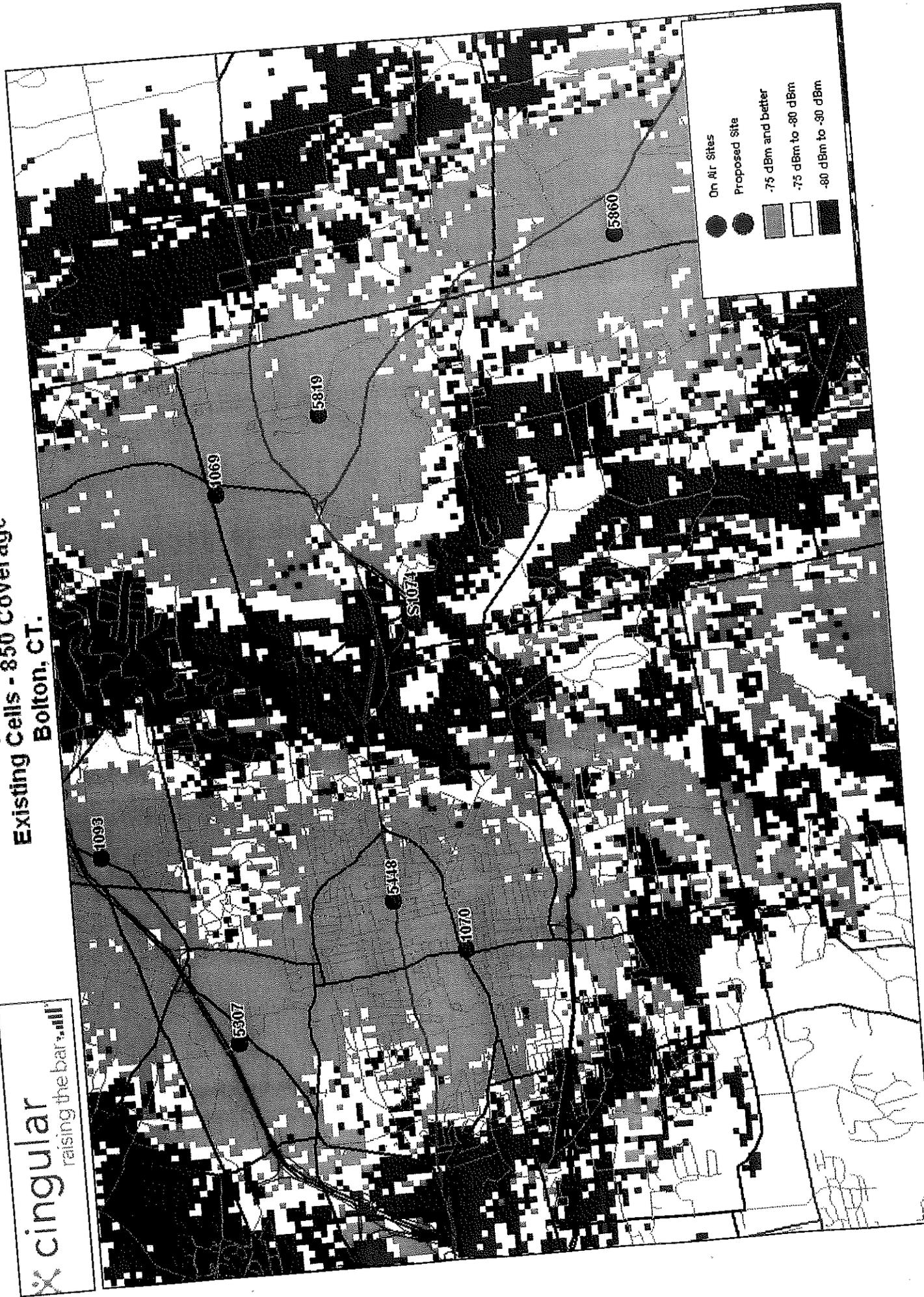


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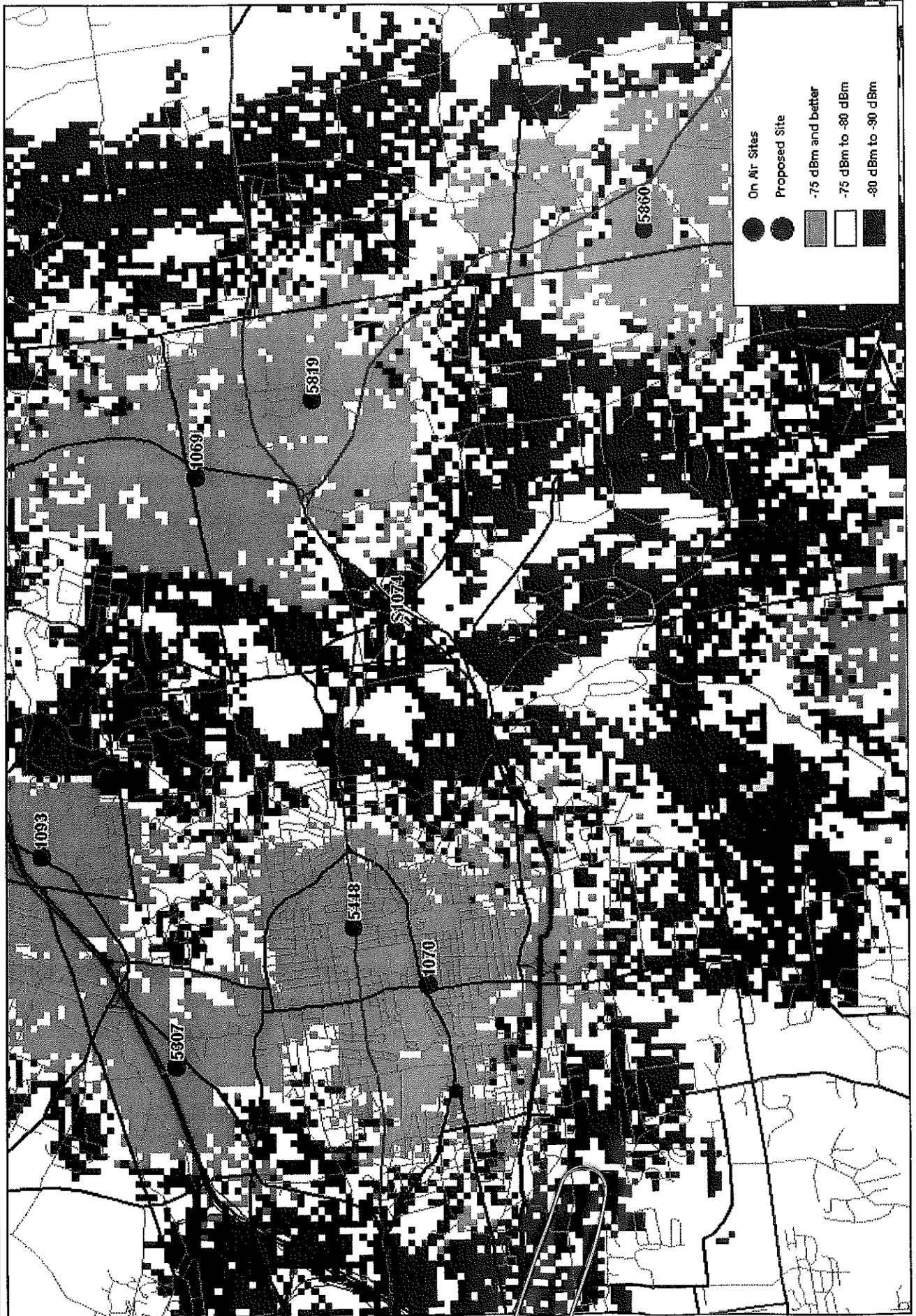


Cingular Wireless Existing Cells - 850 Coverage Bolton, CT.



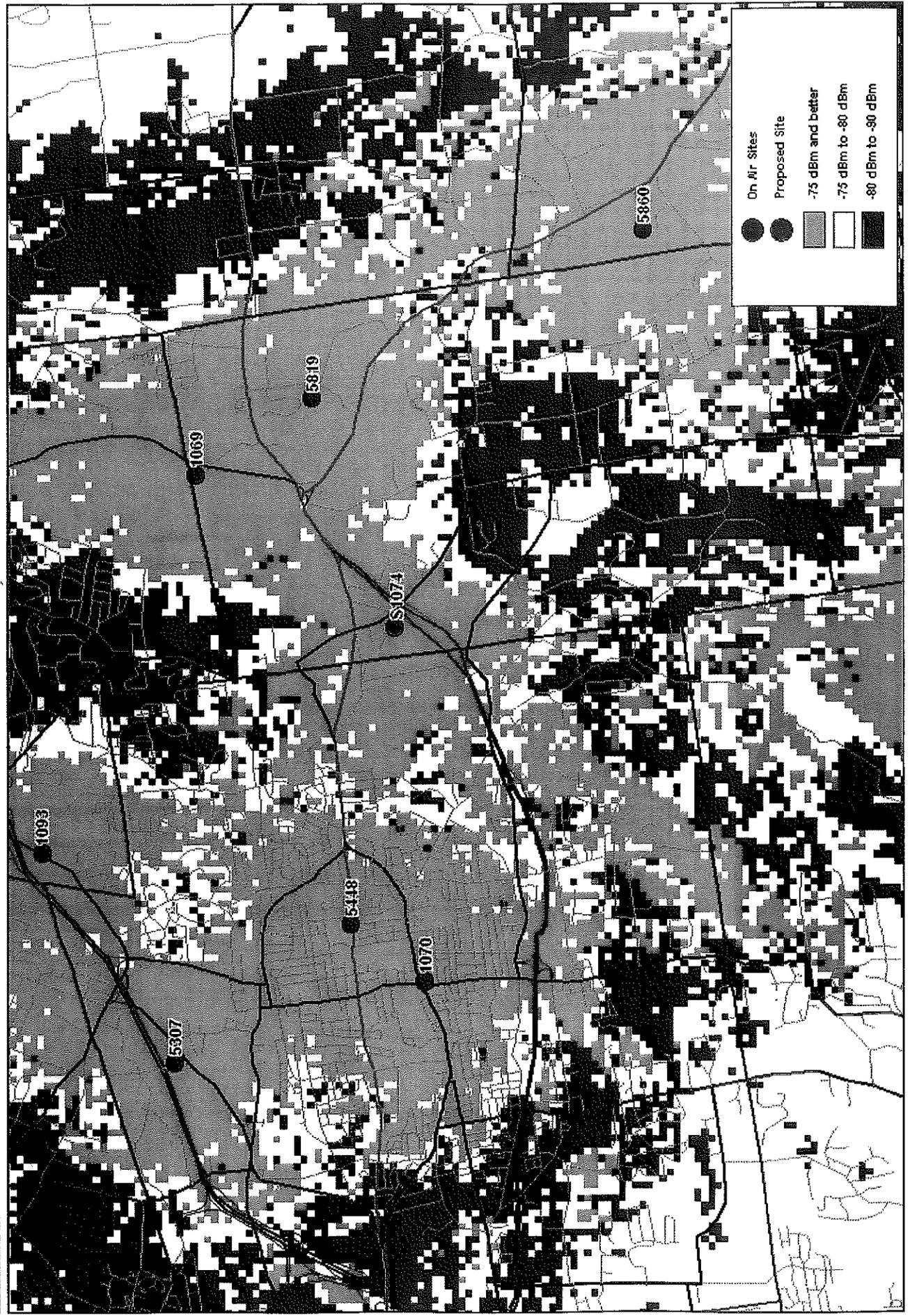


Cingular Wireless Existing Cells - 1900 Coverage Bolton, CT.



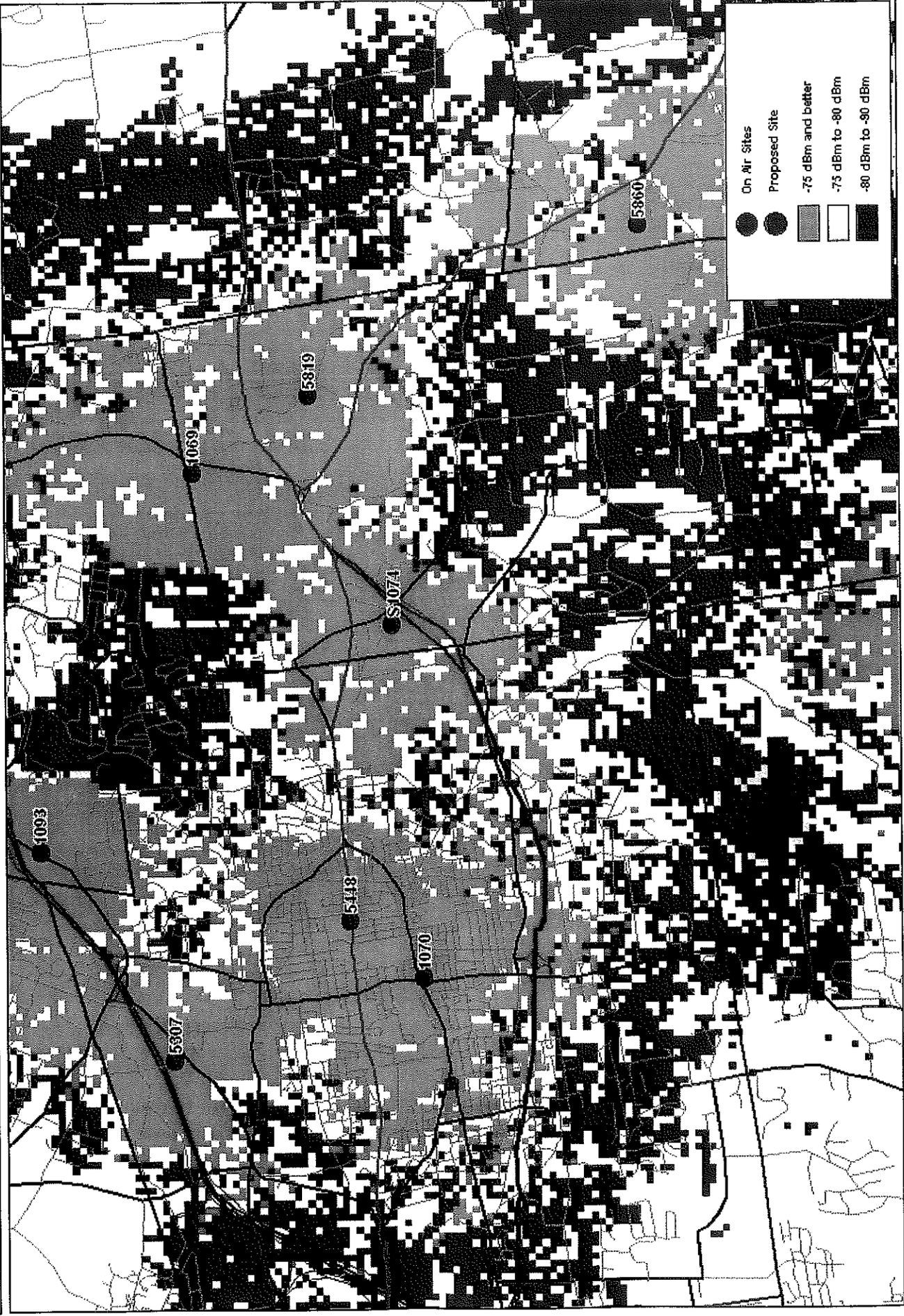


Cingular Wireless Proposed S1074 & Existing Cells - 850 Coverage Bolton, CT.





Cingular Wireless Proposed S1074 & Existing Cells - 1900 Coverage Bolton, CT.





Cingular Wireless Proposed S1074 & Existing Cells - 850 Coverage @ -80 dBm Bolton, CT.





Cingular Wireless
Proposed S1074 @ 97ft. & Existing Cells - 850 Coverage @ -80 dBm
Bolton, CT.





Cingular Wireless Proposed S1074 & Existing Cells - 1900 Coverage @ -80 dBm Bolton, CT.





Cingular Wireless
Proposed S1074 @ 97ft. & Existing Cells - 1900 Coverage @ -80 dBm
Bolton, CT.

