STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:	:	
	:	
APPLICATION OF FLORIDA TOWER PARTNERS LLC D/B/A NORTH ATLANTIC TOWERS FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE, AND OPERATION, OF A TELECOMMUNICATIONS FACILITY AT 62-64 CODFISH HILL ROAD, BETHEL, CONNECTICUT	:	DOCKET NO. 458
	:	JULY 7, 2015

SUPPLEMENTAL RESPONSES OF INTERVENOR,
CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS
TO CONNECTICUT SITING COUNCIL PRE-HEARING QUESTIONS

On May 26, 2015, Cellco Partnership d/b/a Verizon Wireless ("Cellco"), an intervenor in Docket No. 458, responded to certain pre-hearing questions from the Siting Council ("Council") regarding its plans to share either the proposed Site 1 or Site 2 tower at 62-64 Codfish Hill Road in Bethel. In light of the recent withdrawal from this proceeding by AT&T, Cellco offers the following supplemental/modified responses to Council Question Nos. 5, 6 and 13.

Question No. 5

Please describe Cellco's need for the facility in regards to coverage and/or capacity. Include coverage modeling and/or capacity information that demonstrates existing and proposed service.

Supplemental Response

Cellco identifies the proposed cell site as its "Bethel East" cell site. The minimum antenna height required for Cellco to satisfy its wireless service objectives in the area is 120 feet

above ground level ("AGL") at the Site 1 location and 150 feet AGL at the Site 2 location.

Cellco needs the proposed Bethel East cell site to fill significant gaps in service along portions of Routes 302 and 58 in Bethel and portions of western Newtown and northern Redding. The proposed Bethel East cell site will also provide capacity relief to Cellco's surrounding cell sites, particularly, its existing Bethel CT cell site.

Included in Attachment 1 of these Supplemental Responses are revised coverage maps showing the service that Cellco would realize from the proposed Site 1 Facility with antennas at 120' AGL (Supplemental Maps 5 – 8) and the Site 2 Facility with antennas at 150' AGL (Supplemental Maps 9 – 12).

Question No. 6

What is the predicted coverage footprint for each frequency used at the proposed site (in square miles)?

Supplemental Response

Site 1 – Cellco Antennas at 120' AGL

Frequency (MHz)	Cover Footprint (Sq. Miles)
700	15.22
850	8.07
1900	7.23
2100	6.73

Site 2 – Cellco Antennas at 150' AGL

Frequency (MHz)	Cover Footprint (Sq. Miles)
700	15.87
850	8.14
1900	7.09
2100	6.97

Question No. 13

Provide a power density analysis according to the methodology prescribed in the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997) assuming all Cellco antennas are directed at the base of the tower and all channels are operating simultaneously.

Supplemental Response

Worst-case General Power Density calculations for Cellco's antennas at the 120-foot level on the Site 1 tower and the 150-foot level on Site 2 tower are included in Attachment 2 of these Supplemental Responses.

Respectfully submitted,

CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

By _____

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CERTIFICATE OF SERVICE

I hereby certify that on the 7th day of July, 2015, a copy of the foregoing was sent, via electronic mail, to:

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ATTACHMENT 1

Supplemental Response Q.5.
Existing and Proposed Coverage
Site 1 @ 120' Antenna Height

Supplemental Map 5

Proposed Verizon Wireless 700 MHz Coverage
Bethel, Connecticut and Surrounding Area
(*Map Scale is 1:25,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss

DANBURY
NEW-TOWN
BROOKFIELD
HAWLEYVILLE CT
BETHEL NORTH CT
GERMANTOWN CT
NEWTOWN WEST CT
BETHEL EAST CT
SITE 1 AT 120' AGL
BETHEL
BETHEL CT
RIDGEFIELD
REDDING
EASTON
MONROE

Legend

- Proposed Verizon Wireless Facility
- Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 700 MHz Coverage
- Proposed Facility Wireless 700 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

ALL-POINTS TECHNOLOGY CORPORATION

verizon

Map Notes:
This map was prepared at a map scale of 1:25,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTECO hillshade (2006)

0 0.5 1 Miles

Proposed Verizon Wireless 850 MHz Coverage
Bethel, Connecticut and Surrounding Area
(*Map Scale is 1:25,000)

Coverage plot assumes 55% site loading on the Cellco system.
Coverage is depicted at a signal threshold of -85 dBm.

Supplemental Response Q.5.
Existing and Proposed Coverage
Site 1 @ 120' Antenna Height

Supplemental Map 6

DANBURY
BROOKFIELD
NEW-TOWN
HAWLEYVILLE CT
BETHEL NORTH CT
GERMANTOWN CT
NEWTOWN WEST CT
BETHEL EAST CT
SITE 1 AT 120' AGL
BETHEL CT
BETHEL
REDDING
RIDGEFIELD
EASTON
MONROE

Legend

- Proposed Verizon Wireless Facility
- Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 850 MHz Coverage
- Proposed Facility Wireless 850 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

ALL-POINTS TECHNOLOGY CORPORATION

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Base map: CTECO Hillshade (2000)

0 0.5 1 Miles

Supplemental Response Q.5.
Existing and Proposed Coverage
Site 1 @ 120' Antenna Height

Supplemental Map 7

Proposed Verizon Wireless 1900 MHz Coverage
Bethel, Connecticut and Surrounding Area
(*Map Scale is 1:25,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss

DANBURY
BROOKFIELD
NEWTOWN
HAWLEYVILLE CT
BETHEL NORTH CT
GERMANTOWN CT
NEWTOWN WEST CT
BETHEL EAST CT
SITE 1 AT 120' AGL
BETHEL
BETHEL CT
RIDGEFIELD
REDDING
EASTON
MONROE

Legend

- Proposed Verizon Wireless Facility
- Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 1900 MHz Coverage
- Proposed Facility Wireless 1900 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

ALL-POINTS TECHNOLOGY CORPORATION

verizon

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Base map: CTECO Hillshade (2000)

0 0.5 1 Miles

Supplemental Response Q.5.
Existing and Proposed Coverage
Site 1 @ 120' Antenna Height

Supplemental Map 8

Proposed Verizon Wireless 2100 MHz Coverage
Bethel, Connecticut and Surrounding Area
(*Map Scale is 1:25,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss

DANBURY
NEWTOWN
BROOKFIELD
HAWLEYVILLE CT
BETHEL NORTH CT
GERMANTOWN CT
NEWTOWN WEST CT
BETHEL EAST CT
SITE 1 AT 120' AGL
BETHEL
BETHEL CT
RIDGEFIELD
REDDING
EASTON
MONROE

Legend

- Proposed Verizon Wireless Facility
- Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 2100 MHz Coverage
- Proposed Facility Wireless 2100 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

ALL-POINTS TECHNOLOGY CORPORATION

Map Notes:
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Base map: CTECO Hillshade (2006)

0 0.5 1 Miles

C:\GIS\Projects\Verizon\Bethel,Exp CT\mxds\Bethel_Prop_2100MHz_Proposed.mxd

Proposed Verizon Wireless 700 MHz Coverage
Bethel, Connecticut and Surrounding Area
(*Map Scale is 1:25,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss

Supplemental Response Q.5.
Existing and Proposed Coverage
Site 2 @ 150' Antenna Height

Supplemental Map 9

DANBURY
BROOKFIELD
NEW-TOWN
BETHEL
RIDGEFIELD
REDDING
EASTON
MONROE

HAWLEYVILLE CT
BETHEL NORTH CT
GERMANTOWN CT
NEWTOWN WEST CT
BETHEL EAST CT
SITE 2 AT 150' AGL
BETHEL CT

Legend

- Proposed Verizon Wireless Facility
- Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 700 MHz Coverage
- Proposed Facility Wireless 700 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

ALL-POINTS TECHNOLOGY CORPORATION

verizon

Map Notes:
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Base map: CTECO Hillshade (2000)

0 0.5 1 Miles

Proposed Verizon Wireless 850 MHz Coverage
Bethel, Connecticut and Surrounding Area
(*Map Scale is 1:25,000)

Coverage plot assumes 55% site loading on the Cellco system.
Coverage is depicted at a signal threshold of -85 dBm.

Supplemental Response Q.5.
Existing and Proposed Coverage
Site 2 @ 150' Antenna Height

Supplemental Map 10

DANBURY
BROOKFIELD
NEW TOWN
HAWLEYVILLE CT
BETHEL NORTH CT
GERMANTOWN CT
NEWTOWN WEST CT
BETHEL EAST CT
SITE 2 AT 150' AGL
BETHEL CT
BETHEL
REDDING
RIDGEFIELD
MONROE
EASTON

Legend

- Proposed Verizon Wireless Facility
- Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 850 MHz Coverage
- Proposed Facility Wireless 850 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

ALL-POINTS TECHNOLOGY CORPORATION

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Base map: CTECO hillshade (2000)

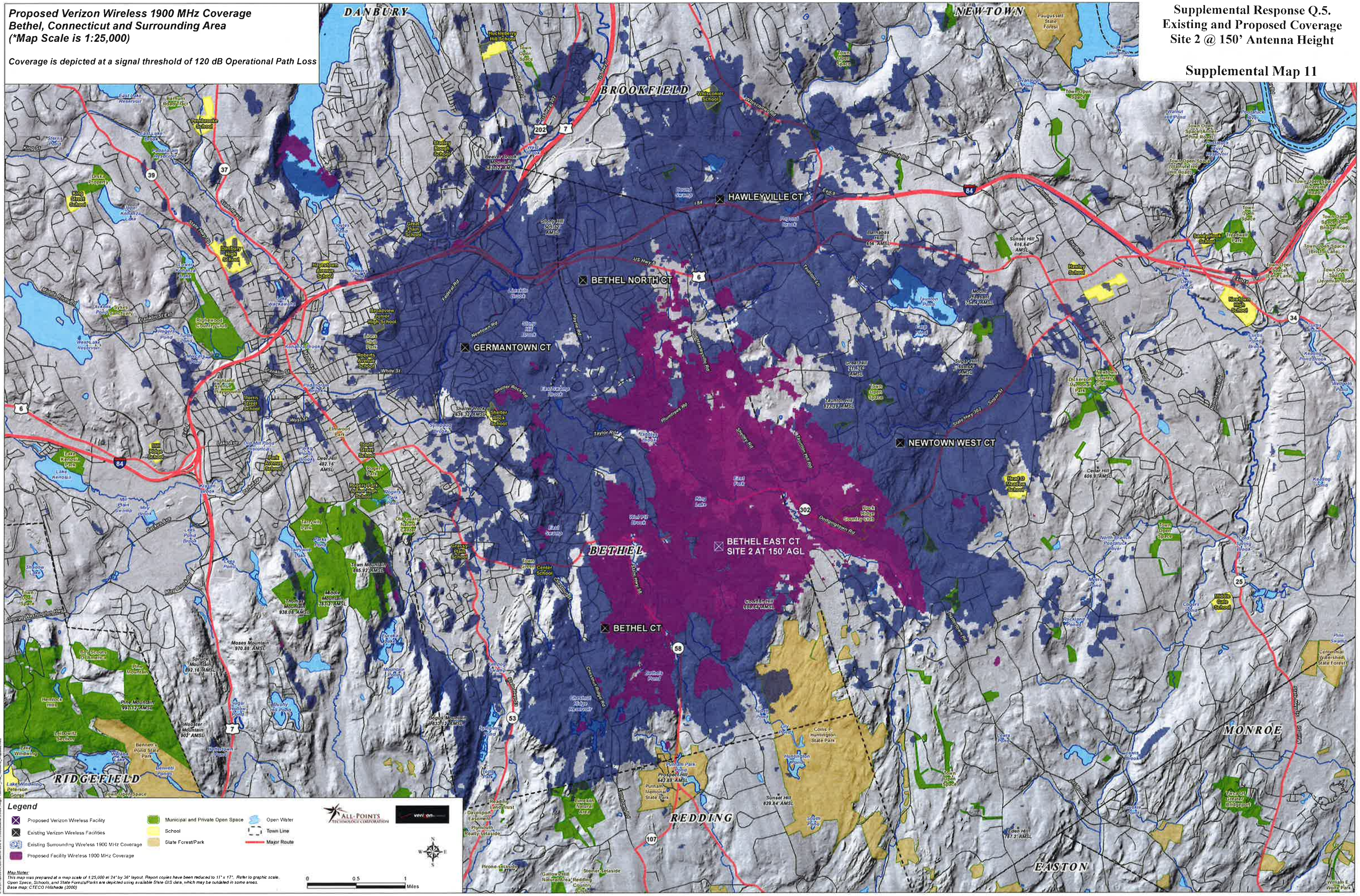
0 0.5 1 Miles

Supplemental Response Q.5.
Existing and Proposed Coverage
Site 2 @ 150' Antenna Height

Supplemental Map 11

Proposed Verizon Wireless 1900 MHz Coverage
Bethel, Connecticut and Surrounding Area
(*Map Scale is 1:25,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss



Legend

- Proposed Verizon Wireless Facility
- Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 1900 MHz Coverage
- Proposed Facility Wireless 1900 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

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Base map: CTECO Hillshade (2000)

0 0.5 1 Miles

Supplemental Response Q.5.
Existing and Proposed Coverage
Site 2 @ 150' Antenna Height

Supplemental Map 12

Proposed Verizon Wireless 2100 MHz Coverage
Bethel, Connecticut and Surrounding Area
(*Map Scale is 1:25,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss

DANBURY
BROOKFIELD
NEWTOWN
HAWLEYVILLE CT
BETHEL NORTH CT
GERMANTOWN CT
NEWTOWN WEST CT
BETHEL EAST CT
SITE 2 AT 150' AGL
BETHEL
BETHEL CT
RIDGEFIELD
REDDING
EASTON
MONROE

Legend

- Proposed Verizon Wireless Facility
- Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 2100 MHz Coverage
- Proposed Facility Wireless 2100 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

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Base map: CTECO Hillshade (2000)

0 0.5 1 Miles

ATTACHMENT 2

General Power Density

SITE 1

Site Name: BETHEL EAST, CT
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissable Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW PCS	1970	1	2393	2393	120	0.0598	1.0	5.98%
VZW Cellular	869	9	441	3969	120	0.0991	0.579333333	17.11%
VZW AWS	2145	1	940	940	120	0.0235	1.0	2.35%
VZW 700	746	1	1750	1750	120	0.0437	0.497333333	8.79%
Total Percentage of Maximum Permissible Exposure								34.22%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case maximum values used.

General Power Density

SITE 2

Site Name: BETHEL EAST, CT
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissable Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW PCS	1970	1	2393	2393	150	0.0382	1.0	3.82%
VZW Cellular	869	9	261	2349	150	0.0375	0.579333333	6.48%
VZW AWS	2145	1	940	940	150	0.0150	1.0	1.50%
VZW 700	746	1	1750	1750	150	0.0280	0.497333333	5.62%
Total Percentage of Maximum Permissible Exposure								17.43%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case maximum values used.