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February 18, 2010

TO: Parties and Intervenors

FROM: S. Derek Phelps, Executive Director

RE: **DOCKET NO. 387** – SBA Towers II, LLC application for a Certificate of Environmental Compatibility and Public need for the construction, maintenance and operation of a telecommunications facility located at 44 Gavitt Road, Barkhamsted, Connecticut.

As stated at the hearing in Barkhamsted on December 10, 2009, after the Council issues its draft findings of fact, parties and intervenors may identify errors or inconsistencies between the Council's draft findings of fact and the record; however, no new information, evidence, argument, or reply briefs will be considered by the Council.

Parties and Intervenors may file written comments with the Connecticut Siting Council on the Draft Findings of Fact issued on this docket by February 24, 2010.

SDP/CDM/jbw

Enclosure

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Document Service	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	<input type="checkbox"/> E-mail or <input checked="" type="checkbox"/> U.S. Mail	SBA Towers II, LLC	Carrie L. Larson, Esq. Pullman & Comley, LLC 90 State House Square Hartford, CT 06103-3702 (860) 424-4312 (860) 424-4370 fax clarson@pullcom.com
Intervenor (granted on 10/22/09)	<input type="checkbox"/> E-mail or <input checked="" type="checkbox"/> U.S. Mail	Cellco Partnership d/b/a Verizon Wireless	Joey Lee Miranda, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597 (860) 275-8200 (860) 275-8299 fax kbaldwin@rc.com
Party (granted on 10/22/09)	<input checked="" type="checkbox"/> E-mail or <input type="checkbox"/> U.S. Mail	Town of Barkhamsted	The Honorable Donald S. Stein First Selectman Town of Barkhamsted Town Hall 67 Ripley Hill Road Pleasant Valley, CT 06063 dstein@barkhamsted.us
Intervenor (granted on 11/19/09)	<input type="checkbox"/> E-mail or <input checked="" type="checkbox"/> U.S. Mail	New Cingular Wireless PCS, LLC (AT&T)	Christopher B Fisher, Esq. Daniel M. Laub, Esq. Cuddy & Feder LLP 445 Hamilton Avenue, 14 th Floor White Plains, NY 10601 (914) 761-1300 (914) 761-5372 fax cfisher@cuddyfeder.com dlaub@cuddyfeder.com

DOCKET NO. 387 – SBA Towers II, LLC application for a } Connecticut
Certificate of Environmental Compatibility and Public Need for }
the construction, maintenance and operation of a } Siting
telecommunications facility at 44 Gavitt Road, Barkhamsted, } Council
Connecticut. }

January 15, 2010

DRAFT

Findings of Fact

Introduction

1. Pursuant to Chapter 277a, Sections 16-50g et seq. of the Connecticut General Statutes (CGS), as amended, and Section 16-50j-1 et. seq. of the Regulations of Connecticut State Agencies (RCSA), SBA Towers II, LLC (SBA) applied to the Connecticut Siting Council (Council) on September 18, 2009 for the construction, operation, and maintenance of a telecommunications facility, which would include a 170-foot tall monopole tower, to be located at 44 Gavitt Road in the Town of Barkhamsted, Connecticut. (See Figures 1 and 2) (SBA 1, pp. 1-2)
2. SBA is a Delaware limited liability company and is a subsidiary of SBA Communications Corporation, a publicly traded company that owns and operates wireless infrastructure facilities nationwide. Its offices are at One Research Drive, Suite 200C, Westborough, Massachusetts. (SBA 1, p. 3)
3. The parties in this proceeding are SBA and the Town of Barkhamsted. Intervenors are New Cingular Wireless PCS, LLC (AT&T) and Cellco Partnership, Inc. d/b/a Verizon Wireless (Verizon). (Transcript, December 10, 2009, 3:00 p.m. [Tr. 1], pp. 6-7)
4. The purpose of the proposed facility is to provide service along Routes 219 and 179 in Barkhamsted as well as in adjacent areas. (SBA 1, p. 1)
5. Pursuant to CGS § 16-50/(b), notice of the applicant's intent to submit this application was published on September 9 and September 10, 2009 in the Hartford Courant. (SBA 1, p. 4, Exhibit E; SBA 2, Affidavit of Publication)
6. In accordance with CGS § 16-50/(b), SBA sent notice of its intent to file an application with the Council to each person appearing of record as owner of property abutting the property on which the site is located. (SBA 1, p. 4, Exhibit E)

7. SBA received return receipts from all but one abutting property owner, Pleasant Valley Company, located at 45 Gavitt Road. SBA sent a second letter, via both certified and regular mail, to this property on November 6, 2009. (SBA 3, A1)
8. Pursuant to CGS § 16-50l (b), SBA provided a copy of its application to all federal, state, regional, and local officials and agencies listed therein. (SBA 1, p. 4, Exhibit D)
9. On November 23, 2009, SBA posted a sign on the host property that provided notice of its pending application and the hearing scheduled on it. The sign also included information on how to contact the Council. (SBA 4, Q8.A.; Exhibit 1)
10. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a public hearing on December 10, 2009, beginning at 3:00 p.m. and continuing at 7:05 p.m. in the Barkhamsted Senior Center at 109 West River Road, Pleasant Valley, Connecticut. (Tr. 1, p. 3 ff.)
11. The Council and its staff conducted an inspection of the proposed site on December 10, 2009 beginning at 2:00 p.m. On the day of the field inspection SBA flew a balloon beginning at 7:00 a.m. until 4:30 p.m. at a height of approximately 170 feet. The weather conditions were not good for the balloon flight as wind speeds varied between 15 to 30 miles an hour. Several balloons were lost during the course of the day, and it was difficult to keep the balloons near the height of the proposed tower. The sky was slightly overcast, and visibility was adequate. (Tr. 1, pp. 21-22)

State Agency Comments

12. Pursuant to CGS § 16-50l, the Council solicited comments on this application on October 28, 2009 and December 16, 2009 from the following state departments and agencies: Department of Agriculture, Department of Environmental Protection (DEP), Department of Public Health, Council on Environmental Quality, Department of Public Utility Control, Office of Policy and Management, Department of Economic and Community Development, and the Department of Transportation. (CSC Hearing Package dated October 28, 2009; Letter to State Department Heads dated December 16, 2009)
13. The Council did not receive any comments from the state agencies from which comments were solicited. (Record)

Municipal Consultation

14. On June 30, 2009, SBA submitted a technical report to the First Selectman of Barkhamsted. The technical report contained specific information about SBA's proposed facility, the site selection process, and the environmental effects of the proposed facility. (SBA 1, p. 14)
15. On July 15, 2009, SBA representatives met with Mr. Donald Stein, First Selectman of Barkhamsted, and Debbie Brydon, of the Barkhamsted Building Department, along with other town officials to discuss its proposed facility. (SBA 1, pp. 14-15, Exhibit M)

16. SBA would provide space at the proposed facility for the Town of Barkhamsted's emergency services equipment free of charge. (SBA 1, p. 5)
17. The Barkhamsted Fire District is studying its communications system needs and may be interested in placing antennas on SBA's proposed tower. (SBA 3, Exhibit 1)

Public Need for Service

18. In 1996, the United States Congress recognized a nationwide need for high quality wireless telecommunications services, including cellular telephone service. Through the Federal Telecommunications Act of 1996, Congress seeks to promote competition, encourage technical innovations, and foster lower prices for telecommunications services. (Council Administrative Notice Item No. 7 - Telecommunications Act of 1996; SBA 1, p. 4)
19. In issuing cellular licenses, the Federal government has preempted the determination of public need for cellular service by the states, and has established design standards to ensure technical integrity and nationwide compatibility among all systems. (Council Administrative Notice Item No. 7 - Telecommunications Act of 1996)
20. The Telecommunications Act of 1996 prohibits local and state bodies from discriminating among providers of functionally equivalent services. (Council Administrative Notice No. 7 - Telecommunications Act of 1996)
21. The Telecommunications Act of 1996 prohibits any state or local agency from regulating telecommunications towers on the basis of the environmental effects of radio frequency emissions to the extent that such towers and equipment comply with FCC's regulations concerning such emissions. This Act also blocks the Council from prohibiting or acting with the effect of prohibiting the provision of personal wireless service. (Council Administrative Notice No. 7 - Telecommunications Act of 1996)
22. Congress enacted the Wireless Communications and Public Safety Act of 1999 (the 911 Act) in order to promote public safety through the deployment of a seamless, nationwide emergency communications infrastructure that includes wireless communications services. (SBA 1, p. 5)
23. The proposed facility would be an integral component of both AT&T's and Verizon's wireless networks in Litchfield County. Both of these networks have gaps in coverage in this area of Barkhamsted, specifically along Routes 219, 179, and in adjacent areas. (See Figures 4 and 6) (SBA 1, pp. 4-5; Verizon Post-Hearing Brief, pp. 1-2)
24. Verizon experiences gaps in coverage at both cellular and PCS frequencies between its existing Hartland, East Hartland, Southeast Hartland, Huggins Gorge, West Granby, North Canton, Barkhamsted West, Barkhamsted South, New Hartford North, and Collinsville cell sites. (Verizon 2, Responses 7 and 8; Verizon Post-Hearing Brief, pp. 2-3)

25. As an outgrowth of the 911 Act, the Federal Communications Commission has mandated that wireless carriers provide enhanced 911 services (E911) as part of their communications networks. (SBA 1, p. 6)
26. The proposed facility would be an integral component of the E911 network of both AT&T and Verizon. (SBA 1, p. 6)
27. The Town of Barkhamsted experiences a significant gap in cell service coverage in the area of town that would be served by the proposed facility. One of the town's fire departments, located one half mile south of the proposed facility, has difficulty communicating with other fire departments and emergency services. (Tr. 1, p. 8)
28. Youghiogheny Communications Northeast LLC (Pocket) submitted a letter indicating that it would seek to install antennas on SBA's proposed tower at the highest antenna centerline available. (Letter from Pullman & Comley on behalf of Pocket Wireless, dated November 20, 2009)

Site Selection

29. SBA began searching for a site in this area in November, 2008 and concentrated its efforts along Routes 219 and 179. (SBA 3, A7)
30. SBA's site search was the result of SBA staff's awareness of a lack of wireless coverage in this area of Barkhamsted. (SBA 3, A8)
31. SBA identified nine communications towers within approximately four miles of its proposed site. None of these towers was found to be adequate for AT&T's or Verizon's coverage purposes. The towers are listed in the table below.

Tower Location	Height and Type of Tower	Tower Owner	Approx. Distance and Direction
22 Welsh Road, Hartland	180' lattice tower	Town of Hartland	3.76 miles to N
350 Hartland Boulevard, Hartland	120' monopole	AT&T	2.46 miles to NE
Mountain Road, Hartland	110' lattice tower	Continental Cablevision	3.66 miles to N
Center Hill Road, Hartland	180' lattice tower	Town of Hartland	4.28 miles to N
30 Higley Road, Hartland	120' monopole	New Cingular (AT&T)	3.19 miles to NE
8 Upper Meadow Road, Granby	150' monopole	Verizon	4.23 miles to E
540 Cherry Brook Road, Canton	150' monopole	SBA	3.71 miles to S

Tower Location	Height and Type of Tower	Tower Owner	Approx. Distance and Direction
2 South Road, East Hartland	40' light weight lattice tower	Town of Hartland	3.56 miles to N
54 North Canton Road, Barkhamsted	25' light weight lattice tower	Barkhamsted FD	1.09 miles to S

(SBA 1, p. 7; Exhibit H; SBA 3, A12)

32. In addition to the towers identified in the table above, SBA found an additional tower on a subsequent field review. It is a 50-foot self-supporting lattice tower located on Beach Rock Road. (SBA 3, A12)
33. SBA investigated numerous properties in the area of its proposed location. Properties that were investigated include:
 - a. 21 Legeyt Road: SBA concluded that this property was not suitable for development due to its severe terrain and wetlands issues.
 - b. 74 Gavitt Road: The owner of this property did not respond to repeated inquiries from SBA.
 - c. 65-67 Gavitt Road: The owner of this property did not respond to repeated inquiries from SBA.
 - d. Legeyt Road (Assessor's Parcel 17&18-33-8): This property is owned by the State of Connecticut and is state forest land known as the Enders State Forest. It is, therefore, unavailable for development as a telecommunications facility.
 - e. 12 Legeyt Road: SBA concluded that this property was unsuitable due to its topography and its proximity to existing residences.
 - f. Saville Dam Road and East Hartland Road: This property is owned by the Metropolitan District Commission and encompasses the Barkhamsted reservoir. It is not available for development as a wireless facility.
 - g. East Hartland Road (Assessor's Parcel 17-30-3): – This property is owned by the State of Connecticut and is state forest land known as the Tunxis State Forest. It is, therefore, unavailable for development as a telecommunications facility.
 - h. Barkhamsted East Fire Department (54 North Canton Road, Barkhamsted): – SBA investigated this property at the request of the Town of Barkhamsted during the municipal consultation process. The site was rejected by both AT&T and Verizon radiofrequency engineers.

(SBA 1, Exhibit G)

34. The Metropolitan District Commission (MDC) owns land to the southwest of the intersection of Legeyt Road and Route 179 that could be suitable for development as a wireless telecommunications facility since it would likely be classified as Class III water company land and it is unencumbered by wetland resources. This area, however, is 40 to 50 feet higher in elevation than the location of SBA's proposed facility. A tower at this location would be more visible along Legeyt Road, including photo locations 1 and 2 (see Figure 8) of the Visual Resource Evaluation Report included in SBA's application as Exhibit I, as well as to several homes along Route 179. (SBA Late File Exhibit – Water Company Land Evaluation, dated January 7, 2010)
35. Repeaters, microcell transmitters, distributed antenna systems and other types of transmitting technologies would not be practicable or feasible means of providing service within the area AT&T and Verizon are seeking to cover from the proposed facility. Terrain variations and tree cover limit the use of such technologies as alternatives to the proposed facility. There are no equally effective and feasible technological alternatives to the construction of the proposed tower. (SBA 1, p. 6)

Site Description

36. The proposed facility would be located in the northeasterly portion of a 36-acre property at 44 Gavitt Road (Route 219). The property is owned by Karen and Richard Langer and is currently undeveloped. The site of the proposed facility is approximately 1,700 feet north of Route 219 and 1,400 feet east of Route 179. (SBA 1, p. 2; Exhibit B)
37. The Langer property is zoned RA-2, a residential zoning district that requires a 2 acre minimum lot size. Wireless telecommunications facilities are permitted in RA-2 zones as a special exception with site plan approval. (SBA 1, p. 9; Bulk Filing – Town of Barkhamsted Zoning Regulations)
38. The proposed facility would consist of a 170-foot monopole tower erected within a 70-foot by 70-foot compound in a 70-foot by 70-foot lease parcel. The compound would be enclosed by an eight-foot high chain link fence. AT&T's ground equipment would be housed in a 12-foot by 20-foot equipment shelter. Verizon's ground equipment would be housed in a 12-foot by 30-foot equipment shelter. (See Figure 3) (SBA 1, p. 8, Exhibit B – Compound Plan)
39. The proposed facility would be located at 41° 56' 45.9" north latitude and 72° 54' 41.3" west longitude. Its ground elevation would be 1,137 feet above mean sea level (amsl). (SBA 1, Exhibit N; Exhibit B, Sheet C02)
40. The proposed tower would be designed in accordance with the specifications of the Electronic Industries Association Standard ANSI/TIA-222-G "Structural Standards for Steel Antenna Towers and Antenna Support Structures" consistent with the International Building Code. The diameter of the tower would be approximately 24 inches at its top and approximately 60 inches at its base. The tower would be designed to accommodate the antennas of four wireless carriers and municipal public safety antennas. (SBA 1, p. 2; SBA 3, A2)

41. The proposed tower would be designed to be expandable to a height of 199 feet. (Tr. 1, pp. 17-18)
42. SBA has received Federal Aviation Administration (FAA) approval for a tower up to 175 feet tall. Any increase beyond this height would require an additional approval from the FAA. (Tr. 1, p. 59)
43. AT&T would install six panel antennas on a platform at a centerline height of 167 feet above ground level (AGL). (SBA 1, p. 8)
44. In the event of a power failure, AT&T would rely on batteries as well as a permanent diesel generator that would be located on a 4-foot by 11-foot concrete pad. (AT&T 2, A11)
45. Verizon would install 12 antennas on a low profile platform with a centerline height of 157 feet. These antennas would include three that operate on Verizon's licensed 700 MHz frequencies. (Tr. 1, pp. 61-62; Verizon Post-Hearing Brief p. 2)
46. Verizon would install a 12-foot by 30-foot shelter to house its ground equipment. (Verizon 2, Response 13)
47. For backup power, Verizon would use first a battery backup system, then a diesel-fueled generator. Both power sources would be installed in its equipment shelter. The generator would be in a separate 10-foot by 12-foot generator room. The batteries would be in the main equipment area. (Verizon 2, Response 14; Verizon Post-Hearing Brief, p. 2)
48. Verizon would use a tertiary containment system for its generator's fuel supply that would include a built up area in its equipment shelter capable of holding 125 percent of the capacity of the generator's fuel tank. (Tr. 1, pp. 62-63)
49. Development of the proposed facility would require approximately 500 cubic yards of fill and 1,100 cubic yards of cut. (SBA 3, A3)
50. Vehicular access to the proposed facility would extend from Gavitt Road over a gravel drive approximately 1,700 feet to the equipment compound. The gravel road would mostly follow an existing dirt road. (SBA 1, p. 8, Exhibit B – Drawing C02)
51. Utility service to the proposed facility compound would extend from an existing pole on Gavitt Road to a new riser pole to be installed near the entrance of the access drive and then extend underground to the proposed facility closely following the gravel drive. (SBA 1, p. 8, Exhibit B – Drawing C02; Tr. 1, p. 41)
52. SBA would conduct a geotechnical investigation to determine if there is ledge present at the location of the proposed facility. If ledge is present, chipping would be preferred to blasting as the way for its removal. (SBA 3, A4)
53. The proposed tower's setback radius would be contained within the host property. (SBA 1, Exhibit B)

54. The nearest property boundary to the proposed facility is approximately 174 feet to the east. The adjacent property is owned by Thomas Perez of 21 Legeyt Road. (SBA 1, Exhibit B)
55. There is one residence located within 1,000 feet of the proposed facility. It is located 940 feet to the southeast at 64 Gavitt Road and is owned by Peter and Kathleen Van Gelder. (SBA 1, p. 13, Exhibit B)
56. Land use in the vicinity surrounding the proposed facility consists largely of forest, much of which is owned by the MDC, or developed for low-density residential uses. (SBA 1, p. 13; Exhibit I, p. 1)
57. The estimated cost of the proposed facility, not including antennas and related equipment, is:
- | | |
|---|---------------|
| Tower and foundation costs | \$ 77,000 |
| Site development costs | 97,000 |
| <u>Utility installation costs</u> | <u>53,300</u> |
| Total estimated costs
(SBA 1, p. 16) | \$ 227,300 |
58. The estimated cost of Verizon's antennas and related equipment would be approximately \$600,000. (Verizon 2, Response 12)
59. The estimated cost of AT&T's antennas and related equipment would be approximately \$250,000. (AT&T 2, A10)

Environmental Considerations

60. The proposed facility would have no effect on historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places. (SBA 1, Exhibit K – Letter from Deputy State Historic Preservation Officer, dated August 26, 2009)
61. The site of the proposed facility is in the vicinity of habitat for a state threatened species, the Northern Spring Salamander (*Gyrinophilus prophyriticus*). (SBA 1, Exhibit K – Letter from DEP, dated August 17, 2009)
62. An investigation into the Northern Spring Salamander and its habitat in the vicinity of the proposed facility revealed that the salamander's habitat on the site was very marginal and that the proposed facility would not adversely impact it. The final report was submitted to DEP for its review on or about December 10, 2009. SBA would comply with any recommendations made by DEP based on the habitat report. (SBA 3, A10; SBA 8, pp. 1-3; Tr. 1, pp. 20-21)
63. Vegetation in the vicinity of the proposed compound is characterized by wooded areas consisting of mature, mixed hardwood species interspersed with mature evergreen species. The average height of the trees in the vicinity of the proposed site is 65 feet. (SBA 1, p. 10, Exhibit I, p. 1)

64. There is a wetland system associated with an intermittent watercourse in the southerly portion of the Langer property. This system encompasses three small, man-made pools that provide habitat for species (Spotted salamander and wood frog) commonly associated with vernal pools. The wetlands system is located approximately 1,000 feet south of the proposed facility's compound. However, the access drive would require regrading activities that would occur within close proximity to the wetland system—approximately seven feet in one location—and to the man-made pool identified as Pool #2. The intermittent watercourse crosses under the existing dirt road that would be used as the proposed facility's access drive through an existing, 24-inch corrugated plastic pipe. (SBA 1, Exhibit J)
65. SBA would be willing to accept a seasonal restriction to conduct construction activities during a time that would minimize impact on vernal pools during the critical breeding season. Such a restriction would require SBA to begin construction after May 15. (Tr. 1, pp. 19-20)
66. As part of its development and management plan, SBA would prepare a detailed erosion and sedimentation control plan and would hire an independent environmental inspector to monitor construction activities and look for amphibians. (SBA 3, A11)
67. SBA would establish and maintain appropriate soil erosion and sedimentation control measures, in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended, established by the Connecticut Council for Soil and Water Conservation, in cooperation with the Connecticut Department of Environmental Protection, throughout the construction period of the proposed facility. (SBA 1, p. 14)
68. Development of the proposed facility would require the removal of 25 trees with a diameter at breast height of six inches or more. (SBA 1, Exhibit B)
69. SBA has received a determination from the FAA that the proposed facility would not be a hazard to air navigation and that marking and lighting of the tower would not be necessary. (SBA 1, p. 15, Exhibit N)
70. The cumulative worst-case maximum power density from the radio frequency emissions of the proposed AT&T and Verizon antennas is calculated to be 0.2027cm^2 or 26.86% of the standard for Maximum Permissible Exposure, as adopted by the FCC, at the base of the proposed tower. This calculation was based on methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997) that assumes all antennas would be pointed at the base of the tower and all channels would be operating simultaneously, which creates the highest possible power density levels. Under normal operation, the antennas would be oriented outward, directing radio frequency emissions away from the tower, thus resulting in significantly lower power density levels in areas around the tower. (SBA 1, Exhibit L; Verizon 2, Response 9)

Visibility

71. The proposed tower would be visible above the tree canopy from approximately 13 acres within a two-mile radius. Areas of visibility are small, isolated areas spread out among several locations. These areas include select portions of Legeyt Road to the northeast of the proposed facility; Shannon Drive located to the southwest; and several smaller areas located to the south, southeast, and southwest. Year round visibility is minimized by the abundance of mature trees in the vicinity and intervening topography. (See Figure 8) (SBA 1, Exhibit I, p. 5)
72. The visibility of the proposed tower from selected locations in the surrounding vicinity is summarized in the table below (See Figure 8).

Location	Visible	Approx. Portion of (170') Tower Visible (ft.)	Approx. Distance and Direction to Tower
1 – 21 Legeyt Road	Yes	100'	2,600 feet; SW
2 – Legeyt Road	Yes	30'	5,700 feet; SW
3 – 8 Shannon Drive	Yes	80'	4,200 feet; NE
4 – South Road at Laurel Lane	No	n/a	3,300 feet; NW
5 – Route 219 at Route 179	No	n/a	3,200 feet; SE
6 – 93 Gavitt Road (Route 219)	No	n/a	2,600 feet; NW
7 – 131 Case Street (in Granby)	No	n/a	6,800 feet; NW
8 – Hayes Road	No	n/a	8,600 feet; S
9 – Tunxis Trail, Summit of Pine Mountain	No	n/a	10,000 feet; SE

(SBA 1, Exhibit I)

73. The proposed tower would be at least partially visible year-round from approximately four residential properties. Two of these properties are located along Legeyt Road. One property is located on Shannon Drive, and one property is located on Case Road in Barkhamsted. (SBA 1, Exhibit I, p. 5)
74. No views of the proposed tower are anticipated from the Tunxis Trail, located between one and two miles west of the proposed facility. (SBA 1, Exhibit I, p. 5)
75. The proposed tower would be seasonally visible from an additional 15 acres. The areas of seasonal visibility are generally located on the host property and adjacent to several of the areas of where year-round visibility would be anticipated. (SBA 1, Exhibit I, p. 5)
76. Two additional residential properties in Barkhamsted—one on Gavitt Road and the other on Case Road—may have seasonal views of the proposed tower. (SBA 1, Exhibit I, p. 5)
77. The proposed tower would not have any significant visual impact on any hiking or recreational sites, scenic highways, or historic sites. (SBA 1, p. 11)

Existing and Proposed Wireless Coverage

AT&T

78. AT&T's licensed operating frequencies in this part of the state include the 850 MHz (cellular) band, specifically 880-894 MHz, and the 1900 MHz (PCS) band. At the proposed facility, AT&T would initially install 850 MHz cellular service and expand to the 1900 MHz PCS service to provide additional capacity as needed. (AT&T 2, A1)
79. AT&T designs its system for signal strengths of -82 dBm for in-vehicle coverage and -74 dBm for in-building coverage. (AT&T 2, A2)
80. AT&T's existing signal strength in the area that would be covered from the proposed facility varies between -90 and -105 dBm. From the proposed facility, AT&T would improve its service along Routes 179 and 214, as well as on other local roads and the surrounding area. (AT&T 2, A3)
81. AT&T experiences a coverage gap of 3.8 miles on Route 219 and a gap of 3.3 miles on Route 179. (AT&T 2, A5)
82. At a signal strength of -82 dBm, AT&T would be able to cover approximately 2.48 miles along Route 219 and 2.6 miles on Route 179. (AT&T 2, A6)
83. The total area AT&T could cover from the proposed facility, with its antennas at a centerline height of 167 feet, is 6.9 square miles at -82 dBm. (AT&T 2, A4)
84. From the proposed facility, AT&T's antennas would hand off signals to adjacent sites located at 350 Hartland Boulevard in Hartland (Docket 312) and 30 Higley Road in Granby (Docket 263). (AT&T 2, A7)
85. The minimum height at which AT&T could achieve its coverage objectives from the proposed facility is 157 feet agl. At this height, however, AT&T's coverage would be .23 square miles less than with its antennas at the proposed height of 167 feet agl. (AT&T 2, A8)

Verizon

86. Verizon is licensed to operate in the cellular (850 MHz), personal communications service (PCS) (1900 MHz), and LTE (700 MHz) frequency bands throughout the State of Connecticut. (Verizon 2, Response 1)
87. The signal strengths for Verizon's minimum coverage thresholds are -75 dBm for reliable in-building service and -85 dBm for reliable in-vehicle service. (Verizon 2, Response 2)
88. Verizon's existing signal strength in the area to be served by the proposed facility ranges from -86 dBm to -110 dBm at cellular frequencies and from -86 dBm to -128 dBm at PCS frequencies. (Verizon 2, Response 3)

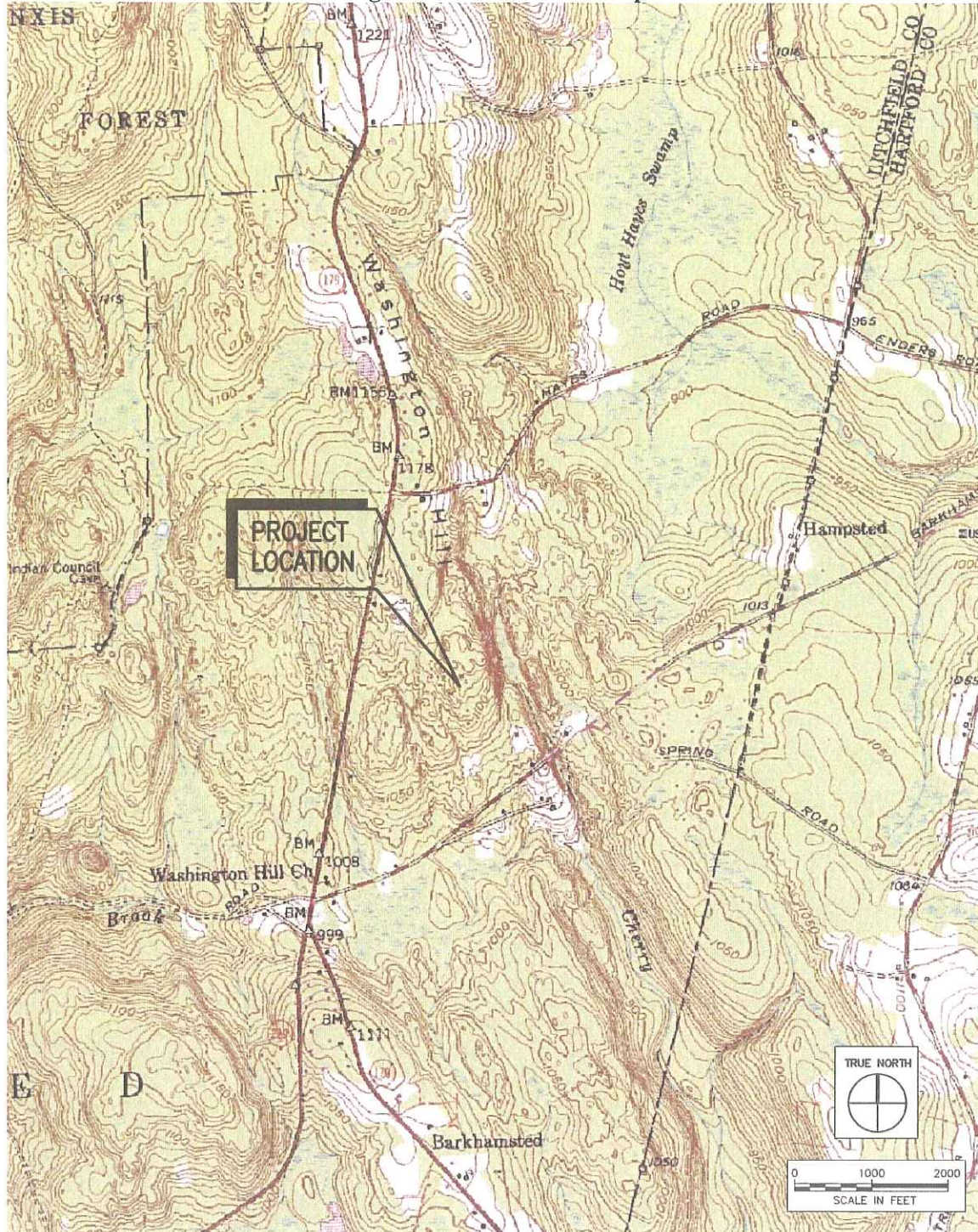
89. Verizon experiences a dropped call rate of 3.25 percent in the area that would be covered by the proposed facility. Verizon seeks to achieve a dropped call rate no greater than one percent. (Tr. 1, pp. 73-74)
90. Verizon experiences a 4.52 mile gap at cellular frequencies and a 6.4 mile gap at PCS frequencies along Route 219. It experiences a 2.34 mile gap at cellular frequencies and a 5.9 mile gap at PCS frequencies along Route 179 in the vicinity of the proposed facility. (Verizon 2, Response 5)
91. With its antennas at the 157-foot level of the proposed tower, Verizon would cover 3.2 miles on Route 219 at cellular frequencies, 2.25 miles at PCS frequencies, and 3.36 miles of coverage at LTE frequencies. It would provide 4.02 miles of coverage on Route 179 at cellular frequencies, 2.59 miles of coverage at PCS frequencies, and 3.77 miles of coverage at LTE frequencies. (Verizon 2, Response 6)
92. With its antennas at the 157-foot level of the proposed tower, Verizon would cover approximately 12.6 square miles at cellular frequencies, 4.67 square miles at PCS frequencies, and 12.24 square miles at LTE frequencies. (Verizon 2, Response 4)
93. From the proposed facility, Verizon's antennas would hand off signals with adjacent facilities identified in the table below.

Location of tower	Ht. & Type of Tower	Vzn Ant. Ht.	Distance & Direction
350 Hartland Blvd, Hartland	120' monopole	110'	2.45 mi. to NE
307 Center Hill Rd, West Hartland	180' monopole	170'	4.27 mi. to NW
22 Welsh Road, East Hartland	180' monopole	170'	3.75 mi. to NE
8 Upper Meadow Rd, West Granby	150' monopole	137'	4.25 mi. to E
30 Higley Road, West Granby	120' monopole	97'	3.21 mi. to NE
540 Cherry Brook Road, Canton	150' monopole	150'	3.71 mi. to SE
5 Old Farm Road, Barkhamsted	145' monopole	145'	6.1 mi. to SW
127 New Hartford Road, Barkhamsted	144' monopole	127.5'	5.69 mi. to SW
115 Greenwoods Industrial Park, New Hartford	160' monopole	147'	5.02 mi. to SW

(Verizon 2, Response 8)

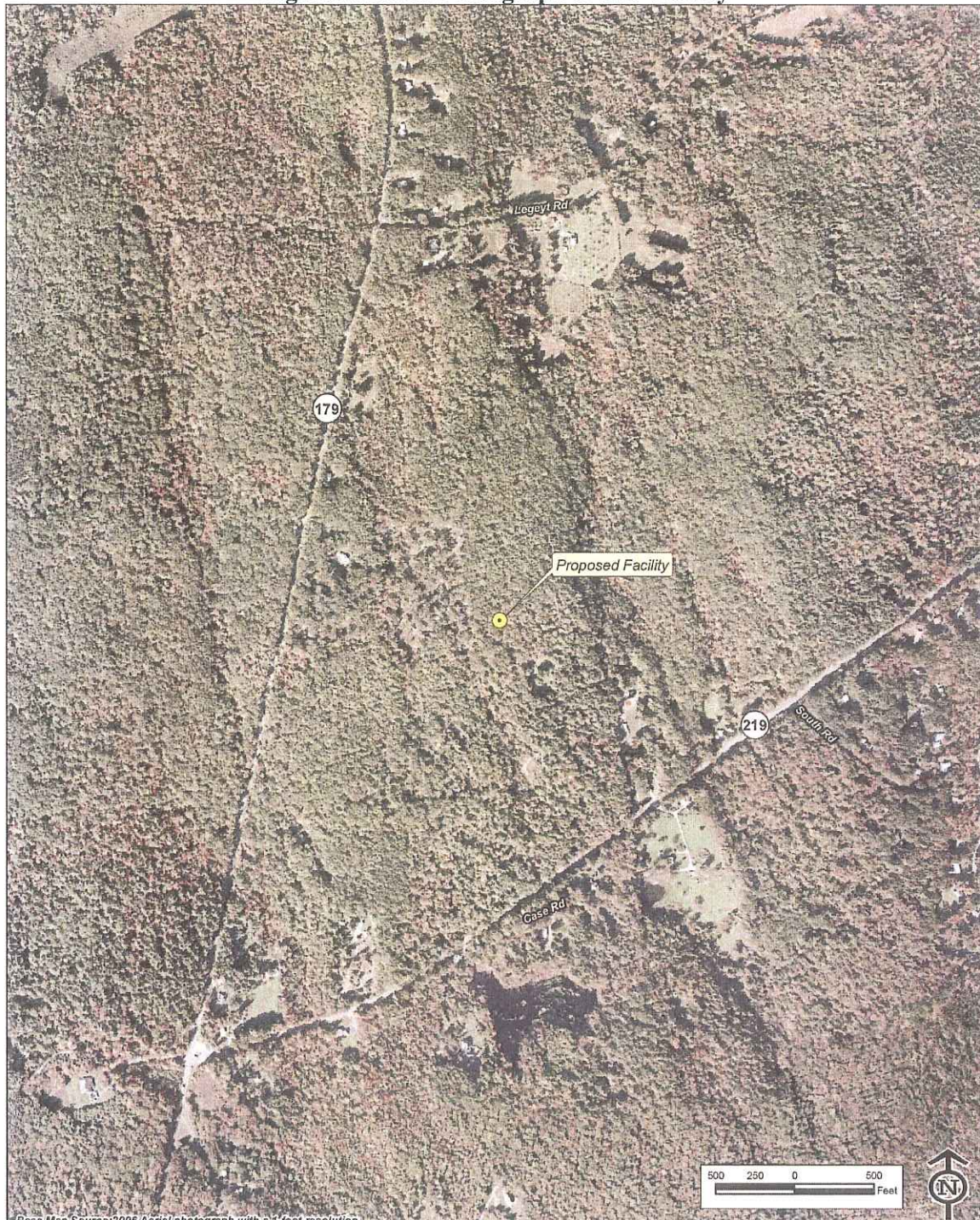
94. The minimum antenna height at which Verizon could achieve its target objectives at the proposed facility would be 157 feet. (Verizon 2, Response 10)
95. Verizon has a search ring along Route 219, to the northeast of the proposed site, to help it cover remaining coverage gaps in the area. (Tr. 1, p. 62)

Figure 1: Site Location Map



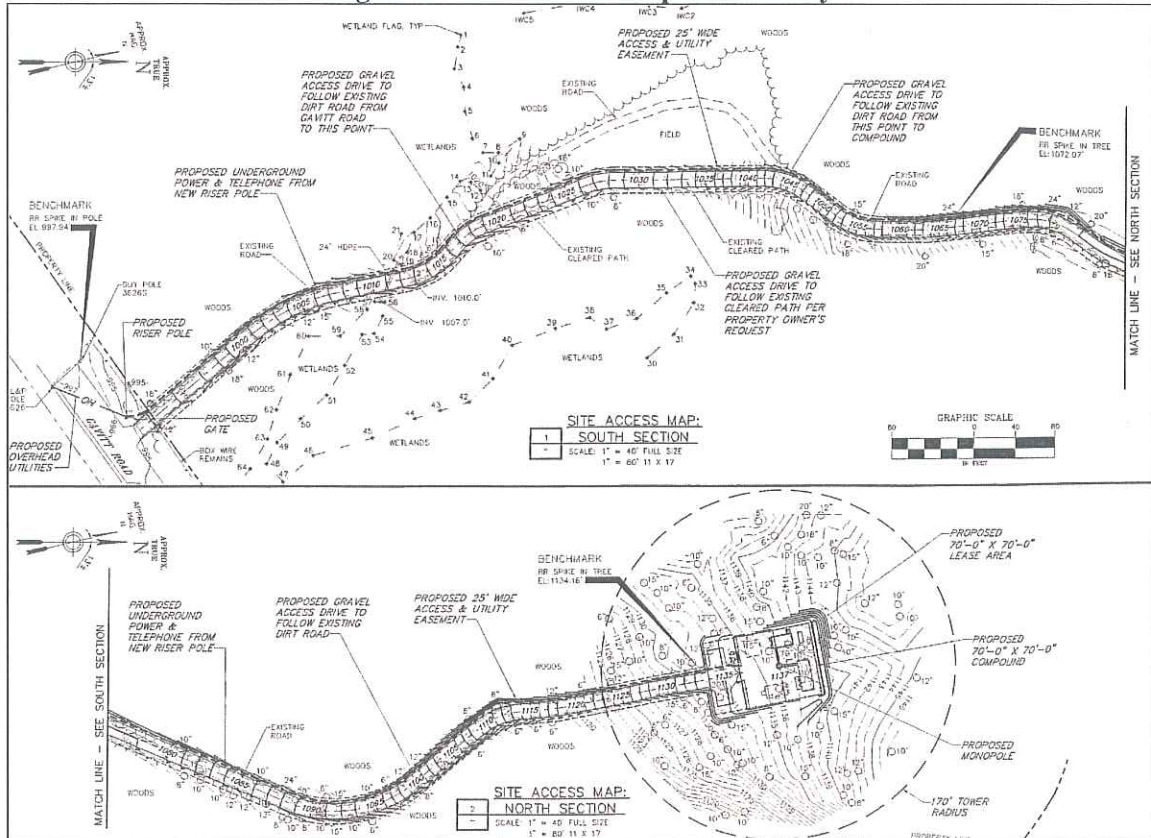
(SBA 1, Exhibit B)

Figure 2: Aerial Photograph of Site Vicinity



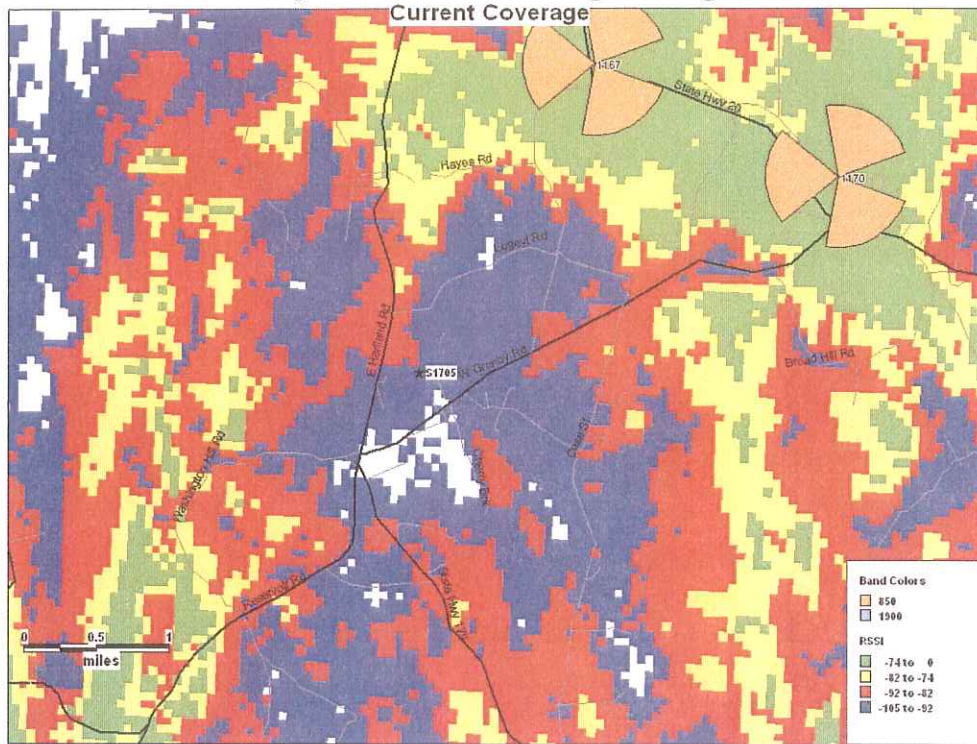
Base Map Source: 2006 Aerial Photograph with 2-foot resolution
(SBA 3, Exhibit 2)

Figure 3: Site Plan for Proposed Facility



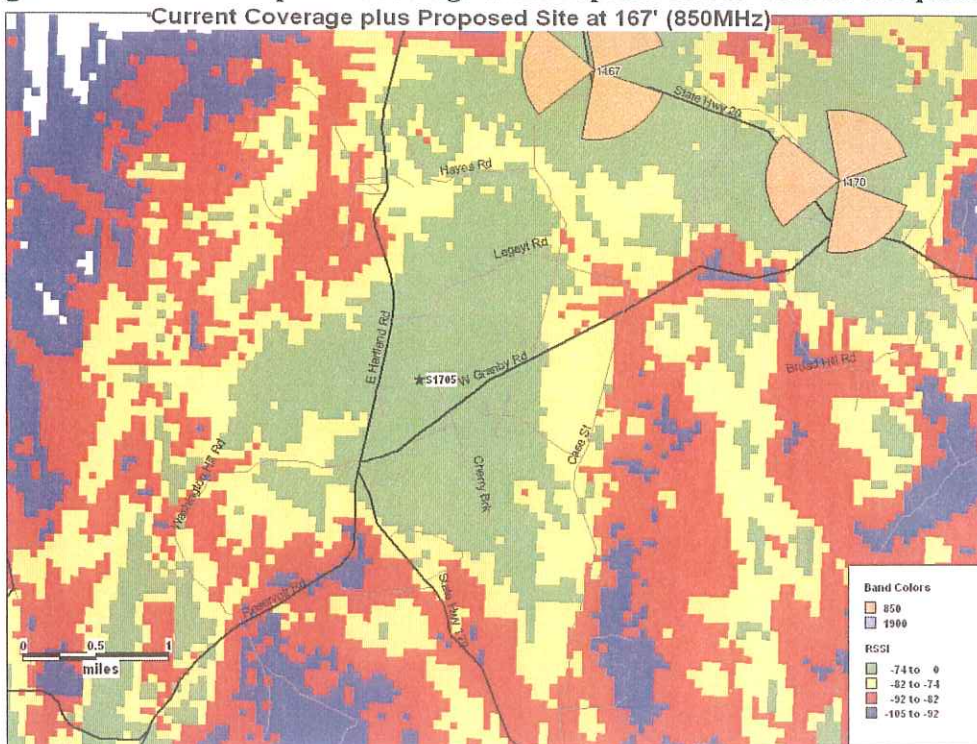
(SBA 1, Exhibit B, Sheet C02)

Figure 4: AT&T's Existing Coverage



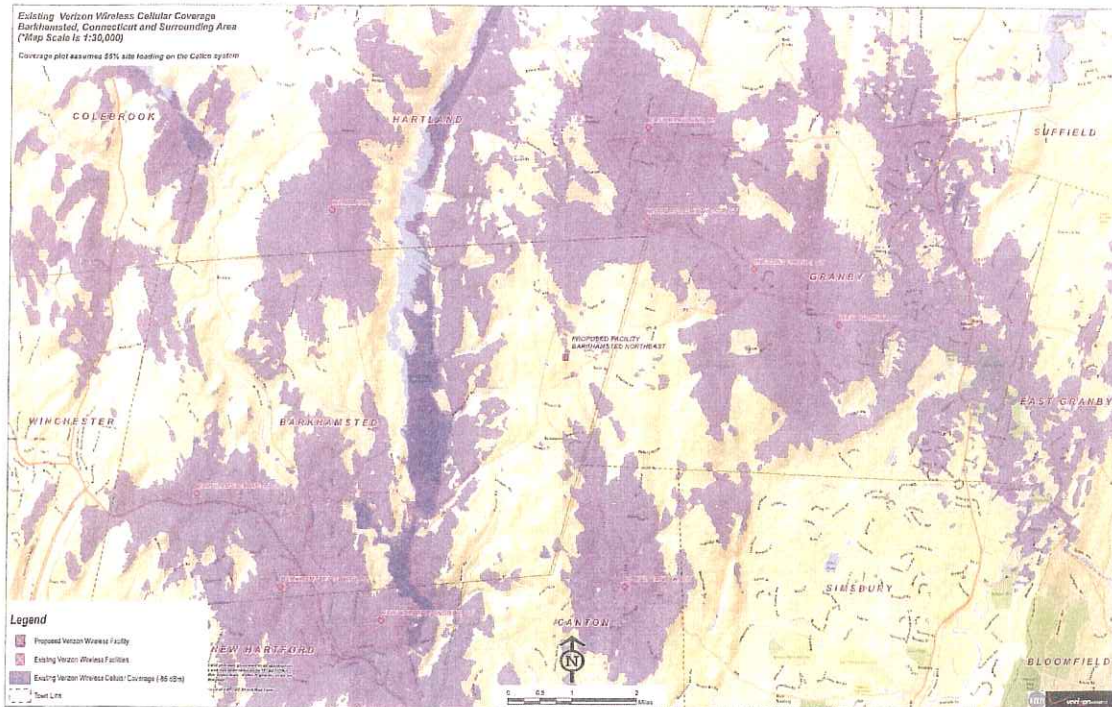
(SBA 1, Exhibit F)

Figure 5: AT&T's Composite Coverage with Proposed Site at Cellular Frequencies



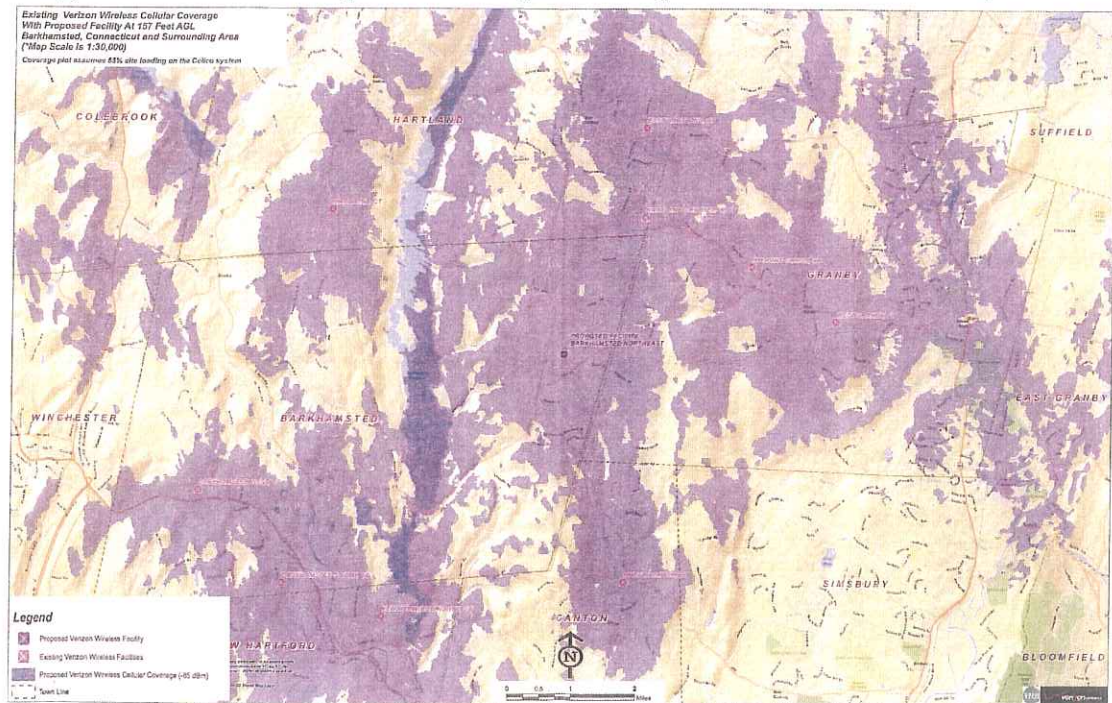
(SBA 1, Exhibit F)

Figure 6: Verizon's Existing Coverage at Cellular Frequencies



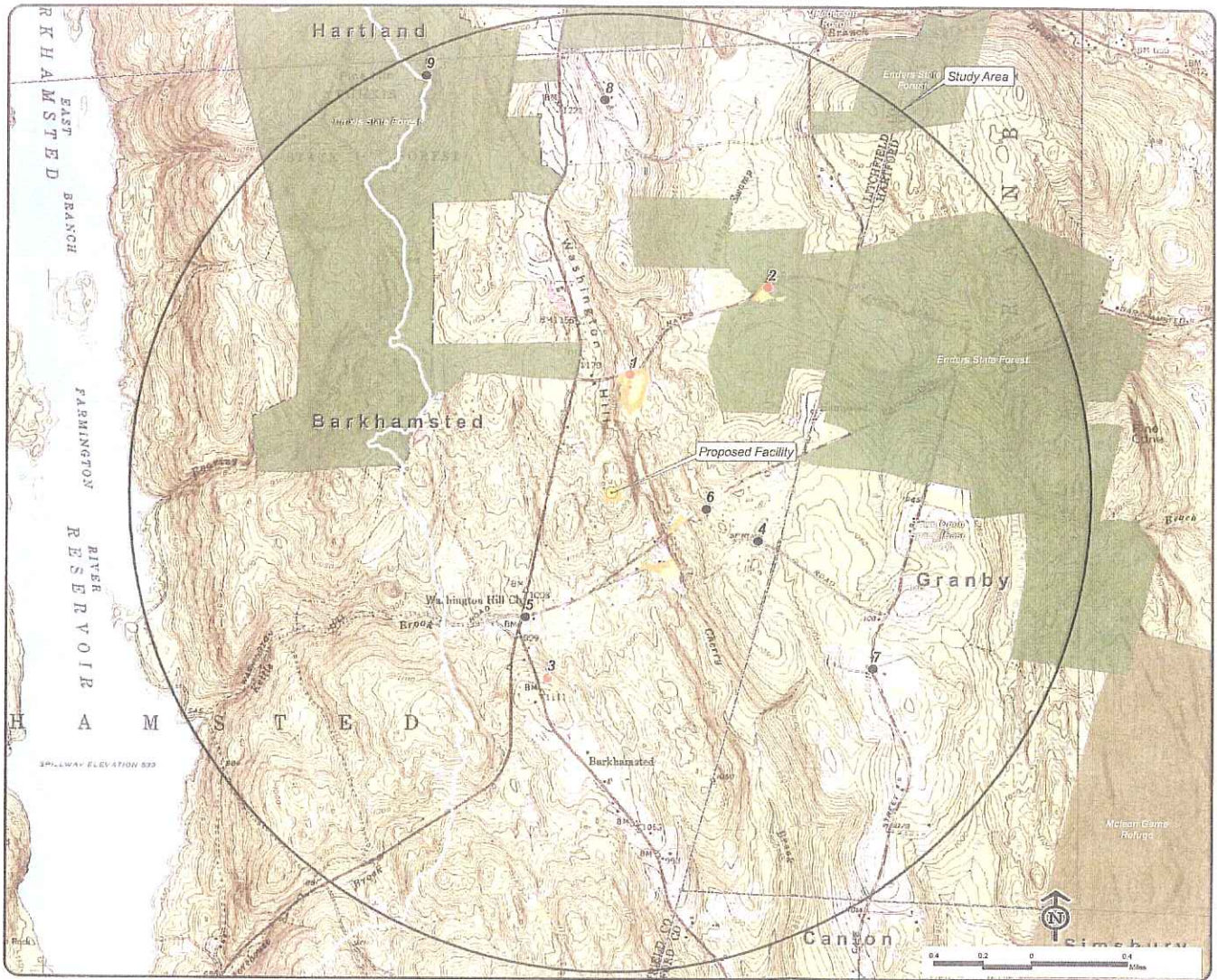
(Verizon 2, Attachment A)

Figure 7: Verizon's Composite Coverage with Proposed Site at Cellular Frequencies



(Verizon 2, Attachment A)

Figure 8: Visual Analysis of Proposed Tower



Legend	
⊙ Proposed Site Location	■ CT DEP Protector Properties (2007)
Photographs - July 28, 2009	■ State Forest
● Balcon is not visible	■ State Park
● Balcon visible above trees	■ DEP Channel Waterbody
■ Seasonal Visibility (Approximately 13 acres)	■ State Park Scenic Reserve
■ Year-Round Visibility (Approximately 13 acres)	■ Historic Preserve
■ Protected Municipal and Private Open Space Properties (1997)	■ Natural Area Preserve
■ Cemetery	■ Fish Hatchery
■ Preservation	■ Flood Control
■ Conservation	■ Other
■ Existing Preserved Open Space	■ State Park Trail
■ Recreation	■ Water Access
■ General Recreation	■ Wildlife Area
■ School	■ Wildlife Sanctuary
■ Uncategorized	□ Federal Protected Properties (1997)
	★ CT DEP Boat Launches (1994)
	— Soricnic Road (State and Local)
	— Tunxis Trail (CT Blue Blaze)
	— Town Line

(SBA 1, Exhibit I – Viewshed Analysis)