STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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Daniel F. Caruso
Chairman

May 2, 2007

TO: Parties and Intervenors

FROM: S. Derek Phelps, Executive Director

RE: **DOCKET NO. 323** - MCF Communications bg, Inc. and Omnipoint Communications, Inc. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 12 Carpenter Road, Bolton, Connecticut.

As stated at the hearing in New Britain on March 14, 2007, 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 May 16, 2007.

SDP/laf

Enclosure

January 12, 2007

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	MCF Communications 668 Main Street Suite 114 Wilmington, MA 01887 Omipoint Communications Inc. 20 Cold Spring Harbor Rocky Hill, CT 06067	Julie Kohler, Esq. Carrie Larson, Esq. Cohen and Wolf, P.C. 1115 Broad Street Bridgeport, CT 06604
Intervenor *(approved on 1/4/07)*	Sprint Nextel Corporation	Thomas Regan Brown Rudnick Berlack Israels LLP City Place I, 185 Asylum Avenue Hartford, CT 06103-3402
Intervenor *(approved on 1/4/07)*	Cellco Partnership d/b/a Verizon Wireless	Kenneth C. Baldwin Robinson and Cole LLP 280 Trumbull Street Hartford, CT 06103-3597
Intervenor *(approved on 1/4/07)* *(Withdrew on 1/22/07)*	New Cingular Wireless PCS, LLC **~WITHDRAWN~**	Christopher B. Fisher, Esq. Cuddy and Feder LLP 445 Hamilton Avenue, 14th Floor White Plains, NY 10601

DOCKET NO. 323 - MCF Communications bg, Inc. and Omnipoint Communications, Inc. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 12 Carpenter Road, Bolton, Connecticut.	Connecticut Siting Council April 25, 2007

DRAFT Findings of Fact

Introduction

1. MCF Communications bg, Inc. (MCF) and Omnipoint Communications, Inc. a subsidiary of T-Mobile USA, Inc. (T-Mobile), collectively referred to as the "Applicants," in accordance with provisions of Connecticut General Statutes (CGS) § 16-50g through 16-50aa, applied to the Connecticut Siting Council (Council) on October 5, 2006 for the construction, operation, and maintenance of a wireless telecommunications facility at 12 Carpenter Road in Bolton, Connecticut. (Applicants 1, p. 1)

2. MCF Communications is a stock corporation organized under the laws of the Commonwealth of Massachusetts. MCF Communications bg, a subsidiary of MCF Communications, develops, owns, manages and markets communication sites in New England for wireless communication companies. (Applicants 1, p. 3)

3. T-Mobile is a Delaware Corporation and a federally licensed provider of wideband PCS services in the State of Connecticut and other areas. (Applicants 1, p. 3)

4. The parties in this proceeding are the Applicants. The intervenors in this proceeding are Sprint Nextel Corporation (Sprint) and Cellco Partnership d/b/a Verizon Wireless (Verizon). (Transcript 1, January 24, 2007, 3:00 p.m. [Tr. 1], pp. 5, 6; Transcript 2, January 24, 2007, 7:10 p.m. [Tr. 2], pp. 5, 6)

5. The purpose of the proposed facility is to provide service in the Towns of Bolton and Manchester along Interstate 384 (I-384) and surrounding areas. (Applicants 1, pp. 1, 5)

6. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a public hearing on January 24, 2007, beginning at 3:00 p.m. and continuing at 7:00 p.m. in the Community Room of the Bolton Town Hall, 222 Bolton Center Road, Bolton, Connecticut. The public hearing was continued at 10:00 a.m. on March 14, 2007 at the offices of the Connecticut Siting Council, Ten Franklin Square, New Britain, Connecticut. (Tr. 1., p. 3; Tr. 2, p. 3; Transcript 3, March 14, 2007, 10:10 a.m. [Tr. 3], p. 3)

7. The Council and its staff conducted an inspection of the proposed site on January 24, 2007, beginning at 2:00 p.m. During the field inspection, the Applicants flew a balloon at the proposed site to simulate the height of the proposed 140-foot tower. Weather conditions during the field review consisted of wind, which affected the height of the balloon. The balloon was aloft from 8:30 a.m. to 4:30 p.m. for the convenience of the public. (record; Applicants 5, Affidavit; Tr. 3, p. 8)

8. The Applicants flew a balloon on Sunday, January 21, 2007 to accommodate the nearby residents' request. The balloon was flown at the proposed site from 8:00 a.m. until approximately 1:00 p.m. Wind conditions caused the balloon to tangle in the surrounding trees. (Tr. 1, p. 30)

9. A four-foot by six-foot sign was located near the proposed access road to notify the public of the proposed project. The sign was installed on January 8, 2007. (Tr. 1, pp. 32, 35)

10. Pursuant to CGS § 16-50l (b), public notice of the application was published in the Hartford Courant on August 17, and August 19, 2006 and the Journal Inquirer on August 16, and August 18, 2006. (Applicants 1, p. 4; Affidavit of Publication dated November 13, 2006)

11. Pursuant to CGS § 16-50l(b), notice of the application was provided to all abutting property owners by certified mail. Notice was unclaimed by one adjacent landowner, Lidia Chathman of 17 Carpenter Road. Two additional certified mailings were sent to Ms. Chathman on October 2, 2006 and December 12, 2006. (Applicants 1, p. 5; Applicants 2, R. 27)

12. On December 2, 2006, MCF held an informational meeting with the residents in this area to discuss the proposed project. A certified mailing was sent to notify all abutting landowners of this meeting. (Applicants 2, R. 27)

13. Pursuant to CGS § 16-50l (b), the Applicants provided notice to all federal, state and local officials and agencies listed therein. (Applicants 1, p. 4)

State Agency Comments

14. Pursuant to CGS § 16-50j (h), on December 6, 2006, the following State agencies were solicited by the Council to submit written comments regarding the proposed facility; Department of Environmental Protection (DEP), Department of Public Health (DPH), Council on Environmental Quality (CEQ), Department of Public Utility Control (DPUC), Office of Policy and Management (OPM), Department of Economic and Community Development (DECD), and the Department of Transportation (DOT). (Record)

15. The Council received responses from the DOT's Bureau of Engineering and Highway Operations on January 17, 2007 stating that they have no comment. The DPH sent comments to the Council on February 7, 2007, which are listed in Finding of Fact number 66. (Council Admin. Notice 1, 2)

16. The following agencies did not respond with comment on the application: DEP, CEQ, DPUC, OPM, and the DECD. (Record)

Municipal Consultation

17. On June 8, 2006, MCF delivered a copy of the technical report to the Town of Bolton for a proposed 150-foot telecommunications tower. The Bolton Planning and Zoning Commission held a hearing on July 12, 2006 and continued on August 9, 2006 to receive comments from the public regarding the proposed facility. Concerns of the Planning and Zoning Commission include:
    - whether MCF has made enough of an effort to locate the proposed facility at another site that would be less intrusive to the residential neighborhood;
    - whether MCF has investigated the possibility of locating the tower closer to I-384 on state owned property, decreasing the height and modifying the appearance to blend in with the existing landscape; and
    - what will happen when a tower becomes obsolete and who will be responsible for its removal. The Planning and Zoning Commission recommends bonding for the removal of the tower.

    (Applicants 1, pp. 17, 18, Tab O)

18. MCF addressed the Town of Bolton's concerns about height and color of the proposed facility. The height proposed is currently 130 feet above ground level (agl) and the color of the structure would be left to the discretion of the Council. MCF would be willing to work with the Town of Bolton during the Development and Management Plan process to determine the towns preferred color of the structure. (Applicants 1, p. 18; Tr. 1, p. 32)

19. On June 8, 2006, MCF also delivered a copy of the technical report to the Town of Manchester because the proposed site is within 2,500 feet of the town boundary. The Town of Manchester provided comments to the Council in a letter dated March 6, 2007, which are listed in Finding of Fact number 66. (Applicants 1, p. 18; Admin. Notice (F) State Agency and Municipal comments, Town of Manchester comments, dated March 6, 2007)

20. MCF would provide space on the proposed tower for Bolton public safety communications antennas for no compensation. (Applicants 1, p. 9)

Public Need for Service

21. 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)

22. 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. T-Mobile is licensed by the Federal Communications Commission (FCC) to provide personal wireless communication service in the State of Connecticut. (Council Administrative Notice Item No. 7; Applicants 1, pp. 3, 5)

23. The Telecommunications Act of 1996 prohibits local and state entities from discriminating among providers of functionally equivalent services. (Council Administrative Notice Item No. 7)

24. The Telecommunications Act of 1996, a federal law passed by the United States Congress, prohibits any state or local entity 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 Item No. 7)

25. In an effort to ensure the benefits of wireless technologies to all Americans, Congress enacted the Wireless Communications and Public Safety Act of 1999 (the 911 Act). The purpose of this legislation was to promote public safety through the deployment of a seamless, nationwide emergency communications infrastructure that includes wireless communications services. (Applicants 1, p. 6)

26. The FCC mandated wireless carriers, such as T-Mobile, to provide enhanced 911 services (E911) as part of their communications networks. The E911 allows public safety dispatchers to identify a wireless caller's geographical location within several hundred feet. The proposed facility would become an integral component of T-Mobile's 911 network in that area of the state. (Applicants 1, p. 7)

Site Selection

27. T-Mobile first established a search ring in western Bolton in 1998. On approximately August 9, 2005, T-Mobile assigned the search ring to MCF. The search area equals approximately 262 acres encompassing the proposed site and extending to the south of the site. (Applicants 2, R. 1)

28. There are no existing structures or towers within approximately two miles of the proposed sites. The existing CL&P distribution poles on the host parcel are 40 feet agl and would not be tall enough for T-Mobile to connect with existing surrounding cell sites to fill in the gap in coverage in this area. (Applicants 1, p. 8; Tr. 1, p. 21)

29. The ground elevation of the CL&P distribution poles located on the host property range from 625 feet above mean sea level (amsl) at the northeastern end of the property, to 575 feet where the structures cross the brook on the property and back up to 665 feet at the southwestern boundary of the property. (Applicants 2, R. 31)

30. T-Mobile would require a minimum height of 135 feet agl to locate on a CL&P distribution pole on the host property due to a decrease in elevation between the proposed site and the CL&P right-of-way. (Applicants 2, R. 32)

31. MCF identified eight existing towers within approximately six miles of the site search area. MCF rejected the towers as a potential telecommunications site for the area because they would not provide adequate coverage. The locations of the eight existing towers are:
    a. 49 South Street, Bolton – T-Mobile is not located on this structure.
    b. 130 Vernon Road, Bolton – T-Mobile is located at 134 feet agl.
    c. 200 Boston Turnpike, Bolton – T-Mobile is not located on this structure.
    d. 230 Box Mountain, Bolton – T-Mobile is not located on this structure.
    e. 205 Spencer Street, Manchester – T-Mobile is located at 123 feet agl
    f. 266 Center Street, Manchester – T-Mobile is not located on this structure.
    g. 55 Slater Street, Manchester – T-Mobile is located at 133 feet agl
    h. 239 Middle Turnpike East, Manchester – T-Mobile is located at 163 feet agl.

    (Applicants 1, p. 8)

32. After determining that there were no suitable structures in the target area, MCF searched for larger, undeveloped parcels in the area to use existing vegetation as natural screening for the tower. Properties that were investigated for potential use for the construction of a telecommunications facility include:

a. Map 6/Block 27/Lot 5 – 25.8 acres of forest, farm and residential use; property owner (Jonathan Treat) was not interested in leasing parcel
b. Map 6/Block 27/Lot 5 – 5.28 acres of residential and outbuildings; property owner (Jonathan Treat) was not interested in leasing parcel
c. Map 6/Block 27/Lot 2 – 65 acres of farm and forest; property owner (Jonathan Treat) was not interested in leasing parcel
d. Map 6/Block 27/Lot 22 – 71.8 acres of forest, farm and open space; property owner (Town of Manchester) was not interested in leasing space for telecommunications use
e. Map 5/Block 28/Lot 2 – 1.5 acres of farm, forest and open space; property owner (Town of Manchester) was not interested in leasing space for telecommunications use

(Applicants 1, Tab H)

33. MCF sent a letter, return receipt requested, to the Manchester Water Department regarding the possibility of leasing a portion of Town of Manchester land for the proposed facility. A return receipt was received for this notice. After further pursuit of a response from the town, Manchester indicated that they were not interested in leasing land, and the land in question is in a restricted watershed, which would require a change of use for the property. (Applicants 2, R. 40)

34. During the hearing process, the T-Mobile, Sprint and Verizon investigated the feasibility of eight alternative sites from a radio frequency perspective. Potential alternative sites and the approximate heights above ground level required to provide coverage to the existing gap include:

Site	T-Mobile ht.	Sprint ht.	Verizon ht.
Liberty Candle	195 feet	175 feet	240 feet
Quarry North	230 feet	would not cover	<200 feet
Quarry West	185 feet	would not cover	<200 feet
Birch Mountain	187 feet	would not cover	already on facility
DOT Garage	155 feet	190 feet	240 feet
Box Mountain	187 feet	would not cover	<200 feet
Paggioli Farm	N/A (interference)	would not cover	<200 feet
Rockledge/Green Hill Water Tank	N/A (interference)	would not cover	<200 feet

(Applicants 7, R. 41, 42; Sprint 3, R. 13; Verizon 4, R. 12, 13; Tr. 3, pp. 58, 65)

35. For T-Mobile, a combination of a facility at the Birch Mountain property and the Liberty Candle or DOT property would provide approximately the same coverage footprint as the proposed facility; however, T-Mobile would not consider this option because it would create redundant coverage along I-384 and would result in network problems in the area. (Applicants 7, R. 43)

36. For Sprint, a combination of either the Liberty Candle site at 120 feet or the DOT Garage site at 190 feet with either the Green Hill property at 120 feet or the Birch Mountain property at 120 feet. (Sprint 3, R. 14; Tr. 3, p. 73)

37. For Verizon, a combination of a facility at the Liberty Candle site or the DOT Garage site in conjunction with the Rockledge Water Tank site may provide coverage similar to that of the proposed site. (Verizon 4, R. 14)

38. Microcells, repeaters and distributed antenna systems are not viable technological alternatives for providing to the identified coverage gap. Terrain variations and tree cover in Bolton and the surrounding area limit the use of these technologies. (Applicants 1, p. 7)

Verizon Proposed Change

39. On December 20, 2006, Verizon submitted supplemental information requesting that the Council consider a 140-foot tower at the proposed site, rather than the originally proposed 130-foot structure. The top three locations on the proposed 130-foot structure are reserved for T-Mobile with a centerline at the 127-foot level, Sprint Nextel with a centerline at the 117-foot level and Cingular with a centerline at the 107-foot level. Verizon would install antennas with a centerline at 137-feet. Verizon determined that it would not provide adequate coverage from the proposed site at the 97 feet agl centerline. (Verizon 1, p. 1)

40. The purpose of Verizon's proposed height increase is to provide adequate coverage to I-384 and Route 44/Route 6 with one telecommunications facility. (Tr. 3, pp. 60, 61)

41. On December 21 and 22, 2006, Verizon published a legal notice in the Hartford Courant and the Journal Inquirer, of its request to increase the height of the proposed tower from 130 feet agl to 140 feet agl. (Verizon 1, pp. 3, 4; Verizon 2, Tab 1)

42. On December 20, 2006, Verizon sent a copy of the supplemental information package to the First Selectman and the Land Use Department of the Town of Bolton and the General Manager's office and Planning and Economic Development Department of the Town of Manchester. (Verizon 1, p. 3)

43. The Towns of Bolton and Manchester have not commented on Verizon's proposed increase in height of the tower. (Verizon 2, R. 2)

44. On December 21, 2006, Verizon sent a notice via certified mail, return receipt requested, of its intent to increase the height of the proposed tower to landowners with property that abuts the host property and to the owner of the host parcel. (Verizon 1, p. 3)

45. Verizon has received return receipts from all but one abutting landowner, Pamela Cooney of 26 Carpenter Road. Verizon would notify Ms. Cooney via regular mail if her letter is returned. (Verizon 1, Tab 6; Verizon 2, R. 1)

46. Obstruction marking or lighting would not be required for a 140-foot structure at the proposed site. (Verizon 1, pp. 2, 3)

Site Description

47. The proposed site is located in the northeastern portion of an approximately 43-acre parcel at 12 Carpenter Road in Bolton. The property, owned by Terry (Labier) Veo, consists of forested land and an apartment building. The parcel is within the R-1 and R-2 Residential zoning district, with the proposed site located within the R-2 Residential zoning district. The proposed site is depicted in Figure 1 of this document. (Applicants 1, pp. 9, 10, Tab H)

48. The town's Wireless Telecommunications regulations are part of Section 17 of the Zoning Regulations. The Town of Bolton intends to encourage providers to co-locate equipment on a single tower, to site facilities below visually prominent ridgelines and to protect adjacent properties from potential damage from tower failure through engineering and siting of the structure. (Applicants 1, pp. 15, 16)

49. The elevation of the proposed site is approximately 620 feet amsl. Oak, maple, birch and pine trees dominate the site. The height of the tree canopy is approximately 65 feet agl. Tree density ranges from moderate to heavy. (Applicants 1, Tab A; Applicants 2, R. 5, R. 6)

50. The proposed site would consist of a 140-foot monopole within a 100-foot by 100-foot lease area. The monopole would be approximately 40 inches in diameter at the base tapering to 18 inches at the top. MCF would design the tower to accommodate the four wireless carriers that are currently active in Connecticut and Bolton emergency services antennas, if requested. The Bolton Fire Department would benefit from having antennas on the proposed structure. (Applicants 1, p. 9, Tab A; Applicants 2, R. 7, 34; Applicants 3, testimony of Rodney Bascom, P.E., p. 3; Tr. 3, p. 43)

51. T-Mobile proposes to install up to 12 panel antennas with a centerline at the 127-foot level of the monopole. Verizon would install 12 antennas (six cellular and six PCS) with a centerline at the 137-foot level. Sprint would install 12 panel antennas at the 117-foot level. (Applicants 1, p. 9; Verizon 2, R. 6; Sprint 1, R. 3, 10)

52. T-Mobile would consider the installation of cluster antenna mounts (antennas mounted very close to the monopole) with the ability to change to t-bars in the future as need for capacity increases. (Applicants 2, R. 8; Tr. 1, p. 63)

53. The proposed facility would be located within a 70-foot by 70-foot equipment compound enclosed by an eight-foot tall chain link security fence. T-Mobile would install equipment within a 12-foot by 20-foot equipment shelter. (Applicants 1, p. 9)

54. During a power failure, T-Mobile would rely on a battery back up. (Applicants 2, R. 9)

55. Verizon would require an emergency generator at the proposed site. (Verizon 2, R. 8)

56. During a power failure, Sprint would use a portable diesel generator in the event of prolonged outages. (Sprint 1, R. 6)

57. Development of the proposed site would require considerable grading due to the existing terrain near the proposed compound. A four percent grade is required across the compound and stabilized 2:1 slopes beyond all sides of the compound. Approximately 610 cubic yards would be removed to level the eastern side of the compound, which would be used to fill a portion of the 844 cubic yards of fill needed for the western portion of the proposed compound. (Applicants 2, R. 10)

58. Construction of the proposed access road would require 555 cubic yards of fill to reduce the existing 28 percent grade that exists leading up to the compound. The access road would be constructed at an 18 percent grade, which is suitable for off-road access vehicles. (Applicants 2, R. 10)

59. Access to the proposed site would extend from Carpenter Road along an existing 140-foot section of paved driveway then continuing along a new gravel access driveway for approximately 370 feet. Utilities would extend underground from Carpenter Road to the proposed site along the proposed access road. (Applicants 1, pp. 9, 10; Applicants 2, R. 11; Applicants 3; Tr. 1, p. 21)

60. The proposed monopole would be located 165 feet from the nearest property boundary to the east; therefore, the tower setback radius would not extend onto any adjacent property. (Applicants 1, p. 16, Tab A)

61. MCF would be willing to re-locate the proposed site farther to the southwest on the host property to provide greater distance from nearby properties; however; MCF would have to renegotiate the lease with the property owner to re-locate the proposed facility. Additionally, T-Mobile would have to assess the radio frequency propagation from a re-located site. (Applicants 2, R. 30)

62. There are 23 residences within a 1,000-foot radius of the proposed tower. The nearest residence is located at 9 Carpenter Road on property owned by Thomas F. Cleary, which is approximately 540 feet northwest of the proposed site. (Applicants 2, R. 12, 13)

63. The residence on the host property is located approximately 350 feet to the north of the proposed site. Two apartment buildings are located on the host property. One apartment building is located approximately 300 feet to the north of the proposed site and the other is located approximately 450 feet to the northwest. No notice was sent to the residents of the apartment buildings. (Applicants 2, R. 14, 15, 16)

64. Land use in the surrounding area is residential. (Applicants 1, pp. 16, 17)

65. The estimated construction cost of the proposed facility, not including antennas, adjustments or contingencies, is:

Tower and foundation (including installation)	$ 67,895
Site development	124,950
Utility installation	53,252
Total	$ 246,097

(Applicants 1, p. 20; Applicants 2, R. 17, 18)

Environmental Considerations

66. The proposed facility would have no effect on historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places. (Applicants 1, p. 12, Tab L)

67. The proposed site is near habitat of the wood turtle (*Glyptemys insculpta*), a State Species of Special Concern. An informal biological assessment done on the proposed site determined that wood turtle habitat does not occur within or near the proposed site, including the access road. The winter hibernation habitat does not occur on the property. (Applicants 1, Tab L; Applicants 7, R. 3F; Tr. 3, p. 35)

68. The proposed site is within the Porter Reservoir and Lydall Reservoir No. 2 Watershed Areas for the Town of Manchester Water Department. The site is also within the Aquifer Protection Area of the New Bolton Road Wellfield. Best Management Practices that should be followed during construction and operation of the proposed site include:

- Coordinate construction activities with the Town of Manchester Water Department;
- Write an emergency response plan the containment of accidental chemical or fuel spills occurring during construction. Spill response equipment should be available on-site at all times. Designate a person for spill response coordination to be available at all times. Notify the Manchester Water Department in the event of a spill;
- Avoid the cleaning of equipment, storage of fuel and refueling within the watershed and aquifer protection areas. Designate an area for parking vehicles, refueling and routine equipment maintenance, outside of the source areas and well away from exposed surfaces or storm drains. Perform major equipment repairs off-site.
- Keep pollutants off exposed surfaces. Do not bury stumps and construction debris at the proposed site. Install and maintain erosion and sedimentation controls. Use as little water as possible for dust control. Immediately clean any leaks, drips or other spills. Avoid hosing down contaminated pavement or surfaces where materials have spilled. Use dry cleanup methods when possible.
- Consider impacts to area prior to blasting, including the possible effects on ground water.
- Store in a secure area or remove paints, paint products and other hazardous materials from the proposed site during non-work hours.
- Avoid construction of slopes at 15 percent or greater. If construction of steep slopes cannot be avoided, an environmental consultant should be on site to ensure proper erosion and sedimentation controls and report to the Manchester Water Department.

(DPH comments, dated January 29, 2007; Town of Manchester comments, dated March 6, 2007)

69. Removal of approximately 127 trees that are six inches or greater in diameter would be required for the construction of the proposed site and access road. Tree removal includes 96 trees that are six to eight inches in diameter, 17 trees that are 10 to 12 inches in diameter and 14 trees that are larger than 14 inches in diameter. A tree buffer would remain around the proposed facility to screen the compound from adjacent properties. (Applicants 1, Tab A; Applicants 2, R. 35)

70. There are no wetlands or watercourses within the proposed site and access road. A stream is located approximately 280 feet west of the proposed site. Wetlands are in the area immediately surrounding the stream and are; therefore, slightly closer to the proposed site. Soil erosion and sediment control measures would be established and maintained throughout construction of the proposed facility. (Applicants 1, p. 17; Applicants 2, R. 20)

71. There are no airports within five miles of the proposed site. Obstruction marking and lighting of the proposed tower would not be required. (Applicants 1, p. 19, Tab P)

72. The cumulative maximum power density from the radio frequency emissions for the proposed T-Mobile, Verizon and Sprint antennas are calculated to be 20.65 % 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. (Applicants 1, Tab M; Verizon 2, R. 7; Sprint 1, R. 5)

Visibility

73. The proposed 130-foot tower would be visible year-round from 37 acres within a two-mile radius of the site, refer to Figure 1. The tower would be seasonally visible from approximately 88 acres within a two-mile radius of the site. (Applicants 1, p. 11, Tab K)

74. Visibility of the proposed 130-foot tower from roads within a two-mile radius of the site is presented in the table below:

Road	Length of Road Visibility (Seasonal)	Length of Road Visibility (Year-round)
Carpenter Road	800 feet	500 feet
I-384	850 feet	1,300 feet
Riga Lane	800 feet	-
Bolton Center Road	2,500 feet	-
Iroquois Trail	800 feet	-
Williams Road	300 feet	-

(Applicants 1, Tab K)

75. Visibility of a 130-foot tower located at the proposed site from specific locations within a two-mile radius of the site is presented in the table below:

Location	Visible	Approx. Portion of Tower Visible	Approx. Distance and Direction from Tower
Riga Lane	Yes	Through trees	1,060 feet north
Intersection of Williams Road and Route 85	Yes	Through trees	660 feet northeast
Exit 5 off ramp of I-384	Yes	Through trees	1,200 feet southeast
Carpenter Road	Yes	40 feet - unobstructed	550 feet north
Mt. Sumner Drive	No	-	3,400 feet east
Intersection of Notch Road and School House Road	No	-	6,400 feet east
Bolton Center Green (near Town Hall)	No	-	9,400 southeast
Herrick Park	No	-	10,400 feet southeast
Route 85 (east of Mt. Sumner Road)	No	-	2,900 feet southeast
I-384 (Wyllys Street overpass)	No	-	8,300 feet southwest
Vernon Street (Buckley Elementary School)	No	-	8,000 feet northwest
Finley Road	No	-	2,000 feet west
Quarry Road (near Bolton Notch State Park)	No	-	8,200 feet northeast
Notch Road	No	-	6,000 feet southeast
Intersection of West Street and Loomis Road	No	-	10,400 feet east

(Applicants 1, Tab K; Applicants 2, R. 22; Tr. 1, p. 20)

76. Land use with year-round visibility of the proposed tower consists of agricultural, forested land, and residential parcels. The proposed tower would be visible year-round from three residences along Carpenter Road and one residence along Bolton Center Road. The proposed tower would be seasonally visible from seven residences along Riga Lane, four residences along Iroquois Trail, six residences along Bolton Center Road, three residences along Carpenter Road and two residences along Williams Road. (Applicants 1, Tab K; Applicants 2, R. 24; Tr. 1, p. 20)

77. A 150-foot tower, which was the height originally contemplated by the Applicants prior to filing the application with the Council, at the proposed site would have similar visual impact as a 130-foot tower at that location. The difference would be an increased area of year-round visibility along I-384 with a 150-foot tower. (Tr. 1, p. 34)

78. Verizon's Viewshed Analysis shows that a 130-foot tower would be visible year-round from 27 acres within a two-mile radius of the proposed site, refer to Figure 2 of this document. The proposed ten-foot increase in height to 140 feet agl would result in visibility of the structure from approximately 30 acres within a two-mile radius of the proposed site. (Verizon 1, p. 3, Tab 5)

79. The Applicants' predicted year-round visibility of a 130-foot tower at the proposed site (37 acres) is ten acres more than Verizon's predicted year-round visibility of a 130-foot tower at the proposed site (27 acres). Verizon performed a visibility analysis to provide a comparison between the originally proposed 130-foot structure and the Verizon proposed 140-foot structure. Verizon's Viewshed Analysis relied completely on computer modeling of visibility while the Applicants' Viewshed Analysis was based on a computer model that was verified in the field with a balloon flight and photographs taken from sensitive visual receptors and major streets and residential areas. (Applicants 1, Tab K; Tr. 3, pp. 53, 54)

Existing and Proposed Wireless Coverage – T-Mobile

80. T-Mobile requires a minimum signal strength of -84 dBm in western Bolton. (Applicants 2, R. 25)

81. T-Mobile's existing coverage gap along I-384 is approximately 1.25 miles, as shown in Figure 3 of this document. (Applicants 2, R. 26)

82. At a 127-foot antenna centerline on the proposed structure, T-Mobile would close the existing coverage gap along I-384, as shown in Figure 4 of this document. (Applicants 1, Tab F)

83. T-Mobile currently has an average of 98 dropped calls per day in the target area. (Applicants 2, R. 29)

84. T-Mobile has proposed a site to the Council at 1027 Middle Turnpike East in Manchester, which is approximately 0.75 miles to the west. The proposed Manchester site would hand-off with the proposed Bolton site and T-Mobile maintains that both the proposed Manchester site and the proposed site in Bolton are exclusive of each other and are both needed. The proposed Manchester site would provide coverage along Route 44 into Manchester Center. (Tr. 1, pp. 56, 57; Tr. 2, p. 11)

85. The location of a telecommunications site centered between the proposed Manchester site and the proposed Bolton site would not be feasible. Property centered between the two proposed sites is owned by the Manchester Water Department, which responded to the Applicants that the property is not available because it is a protected watershed area. (Tr. 3, pp. 48, 49)

Existing and Proposed Wireless Coverage – Verizon

86. Verizon requires a minimum signal strength of -85 dBm, which is a threshold that is used by Verizon throughout the nation. Verizon is licensed to operate in both the cellular and PCS frequency bands in the Bolton area. (Verizon 2, R. 5)

87. Verizon currently has an approximately 1.1 mile coverage gap along I-384 and an approximately 1.6 mile coverage gap along Route 6/Route 44 at PCS frequencies (shown in Figure 5) and an approximately 0.95 mile coverage gap along Route 6/Route 44 at cellular frequencies (shown in Figure 6) in the area of the proposed site. (Verizon 1, p. 2)

88. At the 140-foot level on the proposed structure, Verizon would close the existing coverage gap along Route 6/Route 44 and would close the gap along I-384 west of the proposed site for both PCS and Cellular frequencies, as shown in Figures 7 and 8 of this document. Verizon is currently investigating additional sites to the southwest of the proposed site. (Verizon 4, R. 12, 13; Tr. 3, pp. 57, 58)

89. Verizon customers experience dropped calls at a rate of 1.4 times the system design objective and experience ineffective call attempts at a rate of 1.6 times the system design objectives. The system design objective is 99 percent reliability. (Verizon 2, R. 9)

Existing and Proposed Wireless Coverage – Sprint

90. Sprint requires a minimum signal level threshold of -81 dBm to provide adequate coverage to western Bolton. (Sprint 1, R. 2)

91. Sprint currently has inadequate service along sections of I-384, Route 6/Route 44 and the surrounding areas. Sprint currently has an approximately one mile coverage gap along I-384 and an approximately 0.5 mile coverage gap along Route 6/Route 44, as shown in Figure 9 of this document. (Sprint 1, R. 1, 9)

92. Sprint locating antennas at the 120-foot level of the proposed structure would meet the coverage objective and capacity along I-384 and Route 6/Route 44, as shown in Figure 10 of this document. At the 110-foot level on the proposed structure, Sprint would begin to have coverage and capacity issues in the area. (Sprint 1, R. 10; Tr. 3, p. 79)

93. The proposed site would offload calls from a site on Vernon Road. The Vernon Road site is currently overloaded and; therefore, creates interference for sites around the greater northeast Hartford area. The addition of the proposed site into the Sprint network would provide coverage to the Bolton area and would reduce the amount of interference to its sites in the greater northeastern Hartford area. (Sprint 1, R. 1)

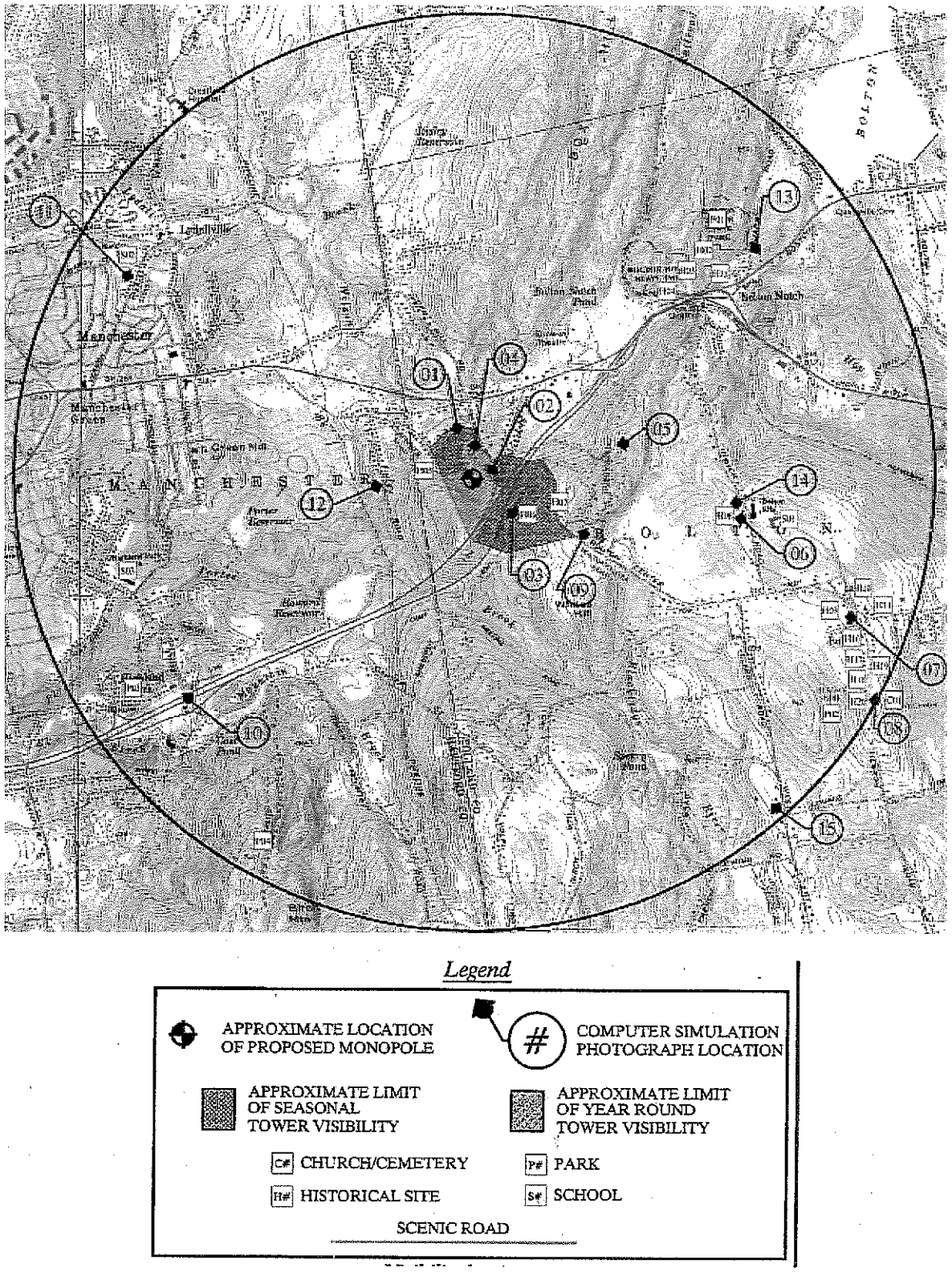

Figure 1. The Applicants' Viewshed Analysis of the originally proposed 130-foot tower. (Applicants 2; R. 21)

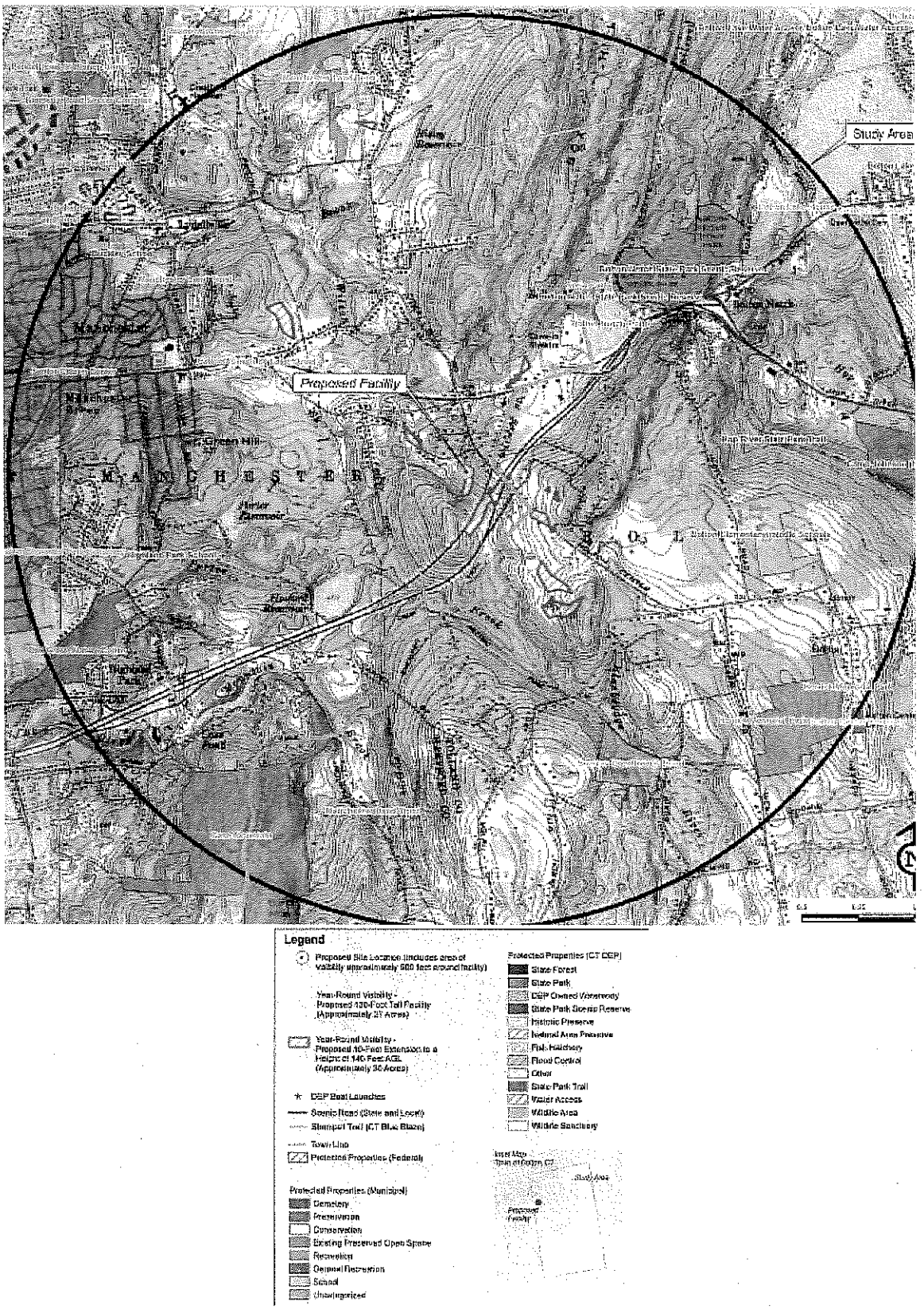

Figure 2. Verizon's Viewshed Analysis of the proposed 130 foot structure and the 10 foot extension proposed by Verizon for a total height of 140 feet agl. (Verizon 1, Tab 5)

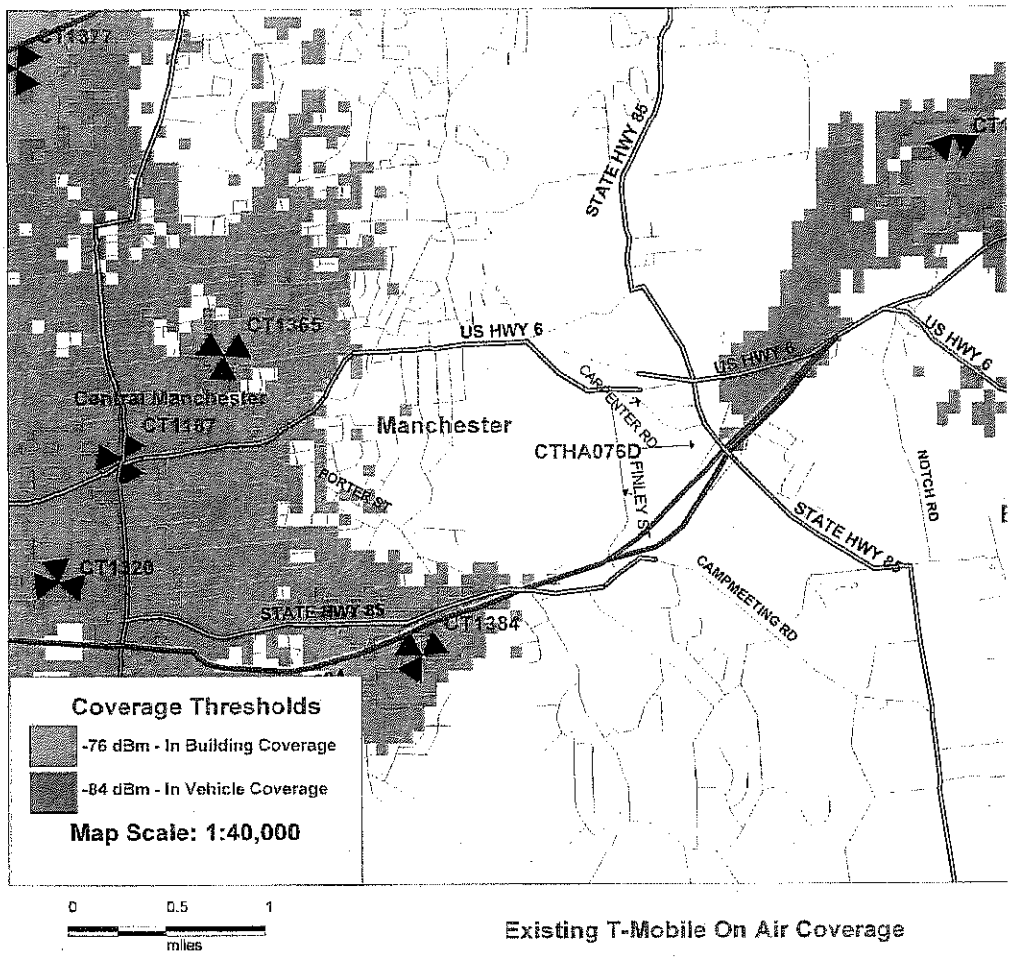

Figure 3. Existing T-Mobile coverage surrounding the proposed site. (Applicants 1, Tab F)

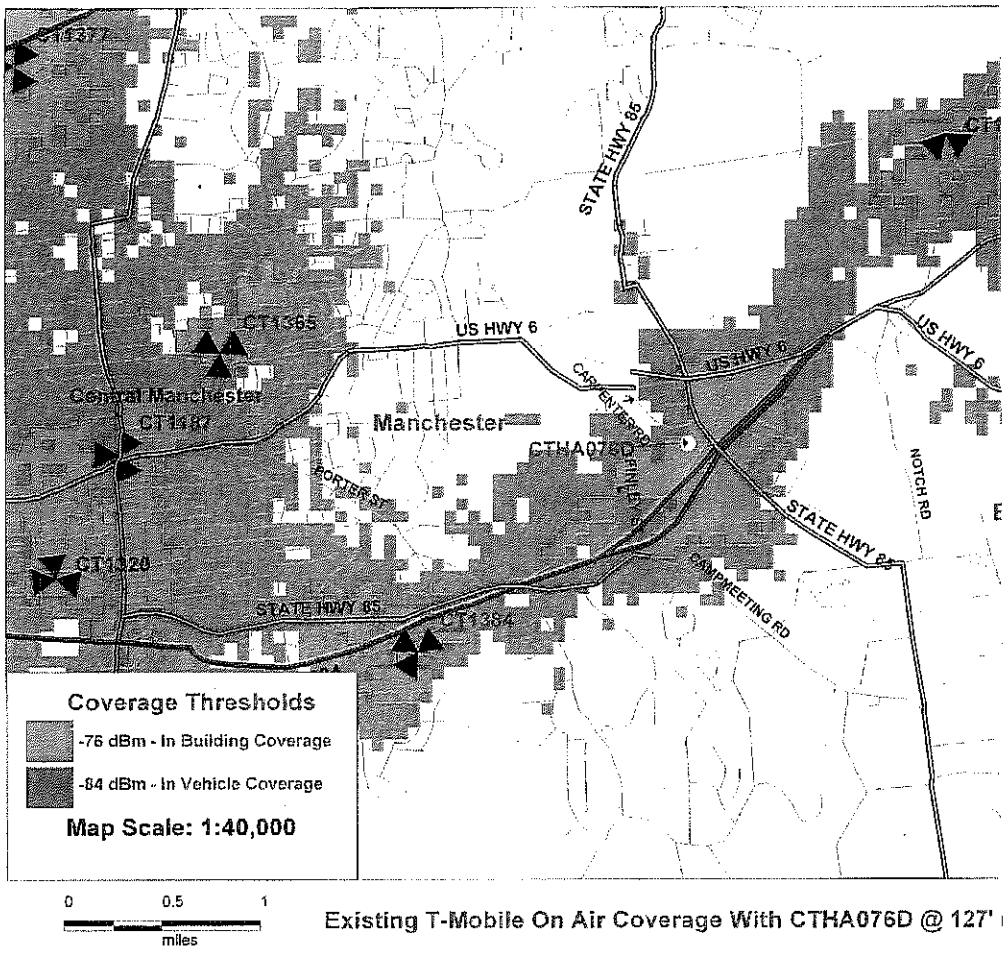

Figure 4. Coverage from existing T-Mobile sites and the proposed site at 127 feet agl. (Applicants 1, Tab F)

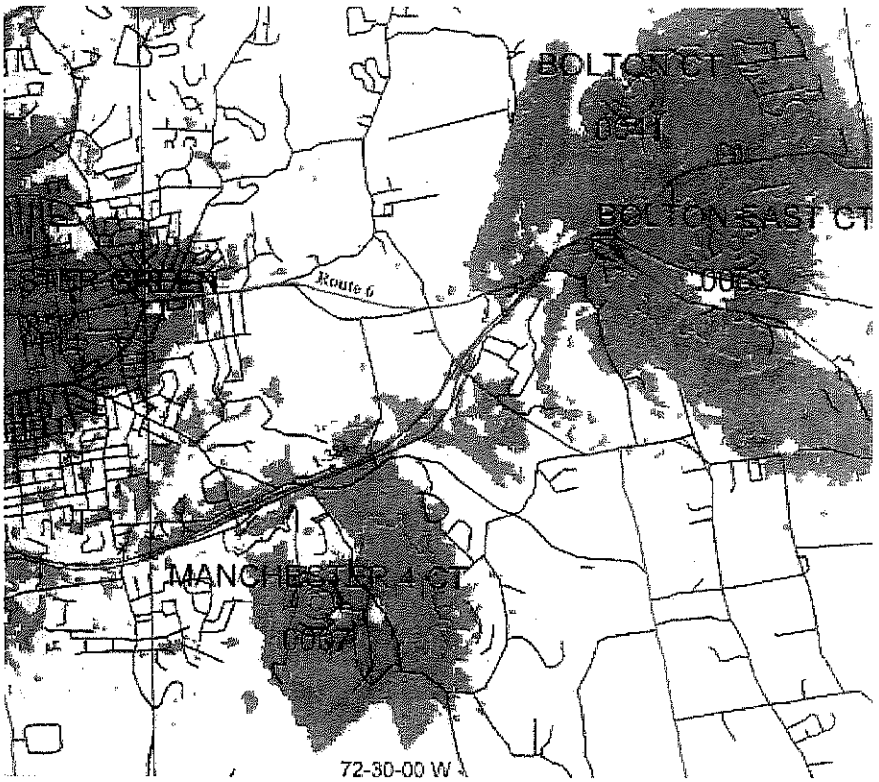

Figure 5. Verizon existing PCS coverage. Scale 1:50,000. (Verizon 4, R. 12)

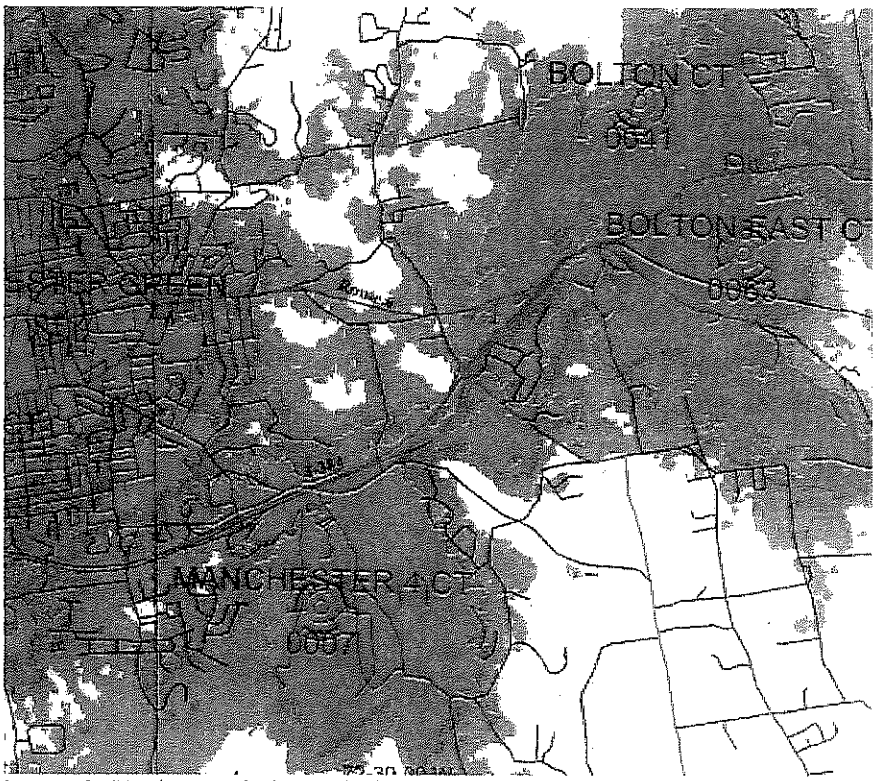

Figure 6. Verizon existing cellular coverage. Scale 1:50,000. (Verizon 4, R. 12)

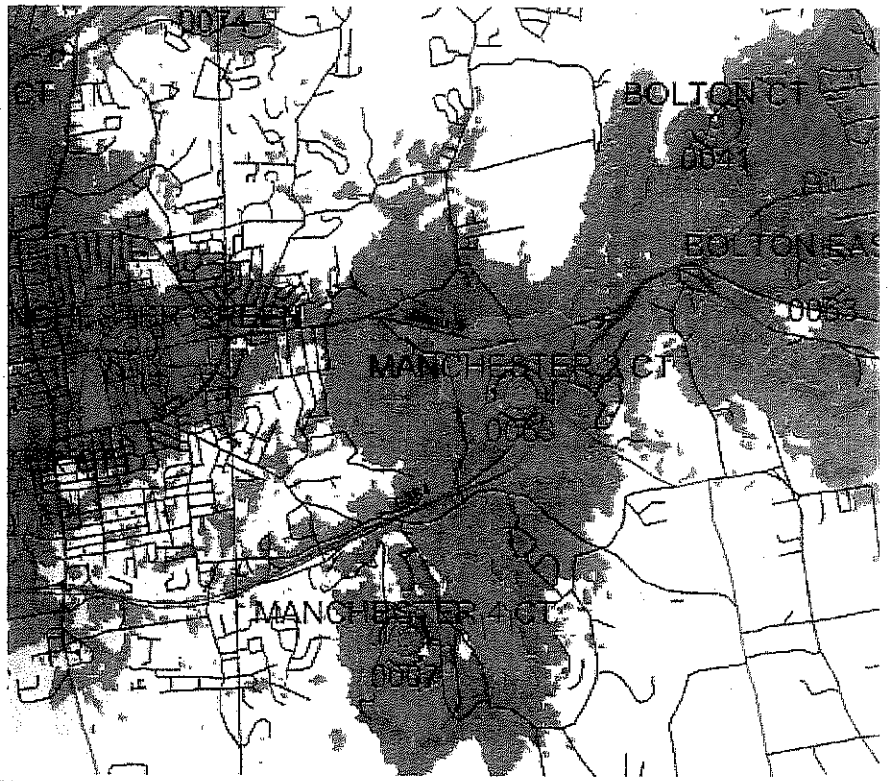

Figure 7. PCS coverage from existing Verizon sites and the proposed site at 140 feet agl. Scale 1:50,000. (Verizon 4, R. 12)

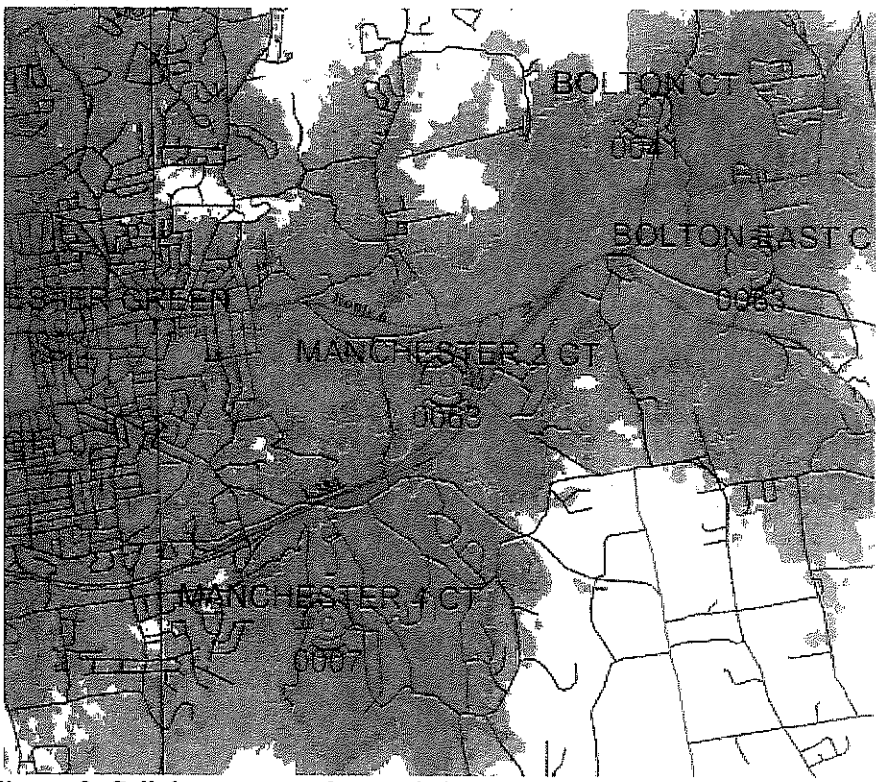

Figure 8. Cellular coverage from existing Verizon sites and the proposed site at 140 feet agl. Scale 1:50,000. (Verizon 4, R. 12)

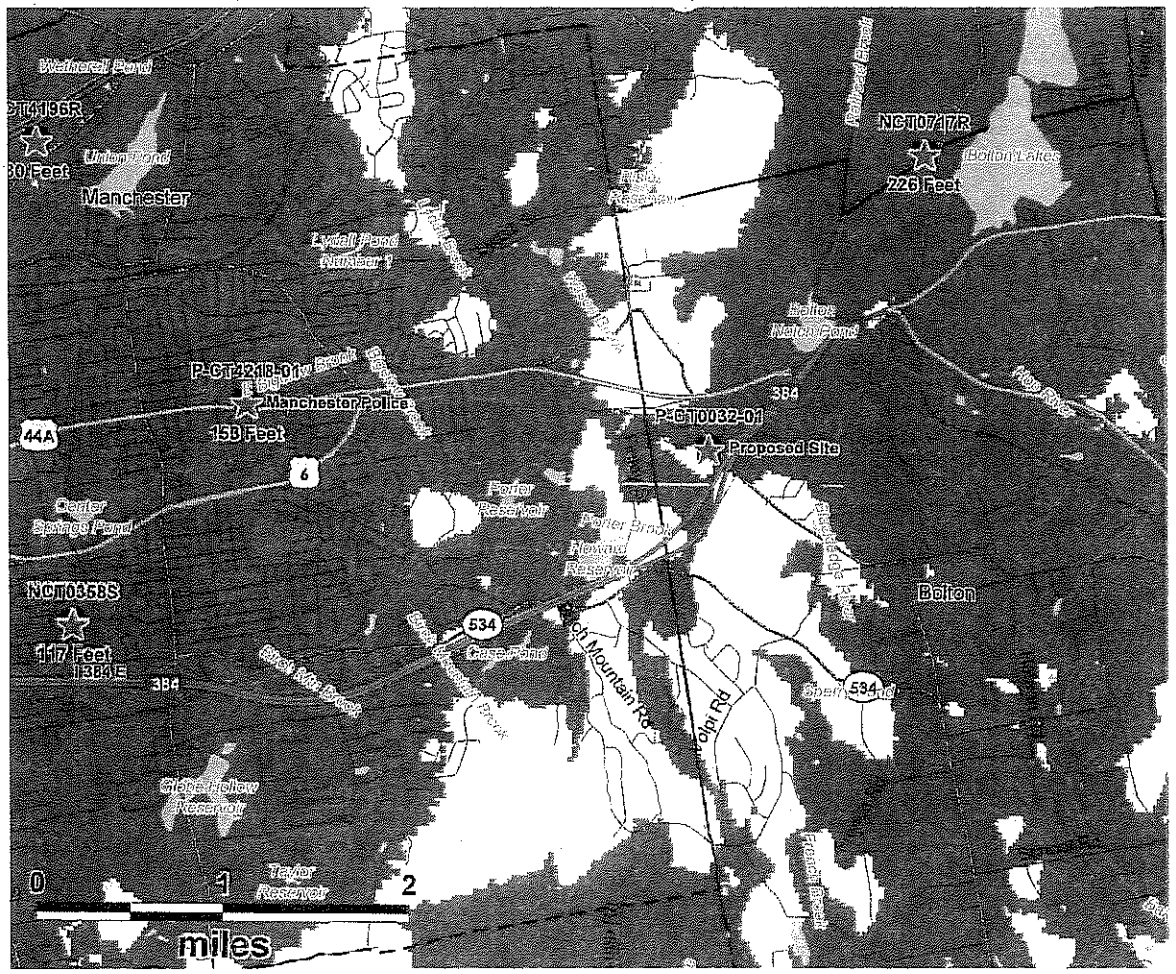

Figure 9. Existing Sprint coverage surrounding the proposed site. (Sprint 1, R. 9)

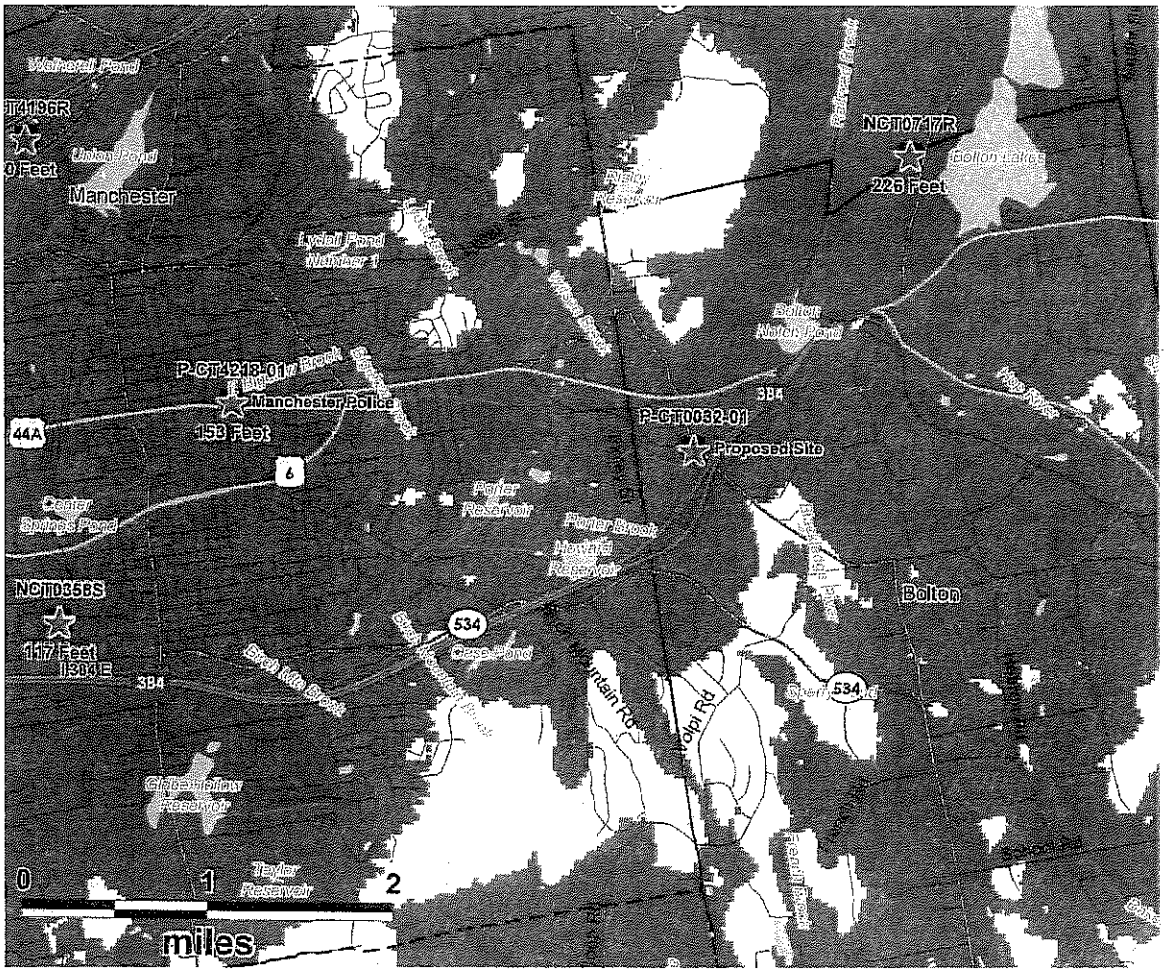

Figure 10. Coverage from existing Sprint sites and the proposed site at 120 feet agl. (Sprint 1, p. 10)