

DOCKET NO. 322 - Optasite, 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 Orchard Drive, }
Ledyard, Connecticut.

Connecticut
Siting
Council

February 27, 2007

Findings of Fact

Introduction

1. On September 25, 2006, Optasite Incorporated (Optasite) and Omnipoint Communications Incorporated (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) for the construction, operation, and maintenance of a wireless telecommunications facility at one of two locations at 12 Orchard Drive in Ledyard, Connecticut. (Applicants 1, p. 1)
2. Optasite is a Delaware corporation with an administrative office in Westborough, Massachusetts. Optasite would construct and maintain the facility. T-Mobile is a Delaware corporation with an administrative office in Bloomfield, Connecticut. T-Mobile would be a tenant on the Optasite tower. (Applicants 1, p. 3)
3. The parties in this proceeding are the Applicants. (Transcript 1 [Tr. 1], 4:00 p.m., p. 4)
4. The purpose of the proposed facility is to provide wireless service to coverage gaps along Route 12 and surrounding areas in northwest Ledyard and in the Gales Ferry area of Preston. (Applicants 1, p. 1)
5. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a public hearing on November 28, 2006, beginning at 4:00 p.m. and continuing at 7:00 p.m. at the Ledyard High School, 12 Orchard Drive, Ledyard, Connecticut. (Tr. 1, p. 2; Transcript 2 [Tr. 2], 7:00 p.m., p. 2)
6. The Council and its staff conducted an inspection of the proposed sites on November 28, 2006, beginning at 3:00 p.m. On the day of the field inspection, the Applicants flew balloons from 8:00 a.m. to 4:50 p.m. at the proposed sites to simulate the heights of the proposed towers. The Applicants flew a red balloon at proposed Site A and a black balloon at proposed Site B. (Council's Hearing Notice dated October 20, 2006; Applicants 6)
7. The Applicants placed a four-foot by six-foot sign on Orchard Drive that provided notice of the Council's public hearing. (Record)
8. Pursuant to CGS § 16-50l (b), public notice of the application was published on September 20 and September 22, 2006 in the Norwich Bulletin and on September 19 and September 21, 2006 in The Day. (Applicants Administrative Notice Item 1)
9. Pursuant to CGS § 16-50l(b), notice of the application was provided to all abutting property owners by certified mail. Notice was unclaimed by five abutters. The Applicants sent certified mailings of the notice on three occasions. (Applicants 2, Q. 1)

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

State Agency Comments

11. Pursuant to CGS § 16-50j (h), on November 1, 2006 and November 29, 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)
12. The DOT responded to the Council's solicitation with no comment. (DOT letter dated November 20, 2006)
13. Comments were received from the DEP Office of Long Island Sound Programs on November 28, 2006. (DEP letter of November 28, 2006)
14. The following agencies did not respond with comment on the application: CEQ, DPUC, OPM, DPH, and the DECD. (Record)

Municipal Consultation

15. T-Mobile submitted a technical report describing the proposed project to the First Selectman of the Town of Ledyard in October 2005. T-Mobile submitted a technical report to the First Selectman of the Town of Preston in early 2006. The Town of Preston is within 2,500 feet of the proposed sites. Both towns declined to conduct public hearings or comment on the application. (Applicants 1, p. 21)
16. A second notice of the proposal was sent to both towns on August 31, 2006. Neither town commented on the proposal. (Applicants 1, p. 21)
17. Optasite would provide space on the proposed tower for the Town's public safety antennas for no compensation. The Town may install a public safety antenna on the tower at a future date. (Applicants 1, p. 9; Tr. 1, p. 12)

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)
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. T-Mobile is licensed by the Federal Communications Commission (FCC) to provide personal wireless communication service in Connecticut. (Council Administrative Notice Item No. 7; Applicants 1, p. 3)
20. The Telecommunications Act of 1996 prohibits local and state entities from discriminating among providers of functionally equivalent services. (Council Administrative Notice Item No. 7)

21. The Telecommunications Act of 1996 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)
22. 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, pp. 6-7)
23. Following the 911 Act, the FCC mandated wireless carriers to provide enhanced 911 services to allow 911 public safety dispatchers to determine a wireless caller's geographical location within several hundred feet. The proposed facility would become a component of T-Mobile's 911 network in this area of the state. (Applicants 1, p. 7)

Site Selection

24. T-Mobile established a search area for the facility in 2003. (Applicants 1, Attachment I)
25. No suitable existing structures were within the search area. Structures that were examined and then rejected are as follows:
 - a. St. David's Church steeple, 284 Stoddards Wharf Road, Ledyard – inadequate coverage since antennas would have to be installed within the steeple at 35 feet above ground level (agl). The church was not interested in leasing land for a new tower;
 - b. Covanta Energy smokestack, 132 Military Highway, Preston – would provide partial coverage to area. Covanta was not interested in a lease arrangement; and
 - c. Water tank north of Holmberg property – antenna use prohibited by deed restriction.(Applicants 1, Attachment I; Applicants 2, Q. 2)

Property Description

26. The Applicants would construct the facility at one of two locations, referred to as Site A and Site B, at 12 Orchard Drive, in Ledyard, Connecticut. The sites are in the west central portion of the property. (Applicants 1, p. 2)
27. The 144-acre parcel is owned by Richard and Diane Holmberg and is used for agricultural purposes. The parcel is zoned residential, R-40. (Applicants 1, pp. 2, 10)
28. The site is developed with several farm-related structures, a residence, and an active orchard. (Applicants 1, Attachment A)
29. The parcel is on the west side of a hill located east of the Thames River and Route 12 and south of Poquetanuck Cove and Route 2A. (Applicants 1, Attachment A)
30. Land within a quarter mile of the site is zoned residential R-40. (Applicants 1, Attachment A)

31. Land use within a quarter mile of the site is agricultural, and some residential. Residential development exists along route 12 north and south of the site, and along the north side of Poquetanuck Cove. Conservation land abuts the site to the east. (Applicants 1, Attachment A)

Tower and Compound

32. The Applicants would construct a 150-foot monopole within a 75-foot by 75-foot lease area at either site. The tower would be designed to support four levels of antennas with a 10-foot center-to-center vertical separation. The tower would be approximately five feet wide at the base tapering to 1.5 feet at the top. (Applicants 1, Attachment A, Attachment B)
33. The proposed tower would have a galvanized non-reflective exterior finish. It would be constructed in accordance with the American National Standards Institute TIA/EIA-222-F “Structural Standards for Steel Antenna Towers and Antenna Support Structures,” and would have the ability to withstand pressures equivalent to 85 miles per hour or 74 miles per hour with one-half inch solid ice accumulation. (Applicants 1, Attachment A; Tr. 1, p. 21)
34. T-Mobile would initially install nine panel antennas on a platform at a centerline height of 147 feet agl. (Applicants 1, Attachment A, Attachment B)
35. At either site, a 50-foot by 50-foot compound would be established at the base of the tower. An eight-foot high chain link fence would enclose the compound. The compound would be able to accommodate the equipment of four wireless carriers. T-Mobile would install three equipment cabinets on a concrete pad within the compound. (Applicants 1, Attachment A, Attachment B)
36. Underground utilities to both sites would be installed from an existing utility pole on the property through open field areas and adjacent to existing farm roads and proposed access roads. (Applicants 1, Attachment A, Attachment B)
37. The estimated cost to develop a facility at the proposed sites is as follows:

	<u>Site A</u>	<u>Site B</u>
Tower and foundation	74,000	74,000
Site development	76,000	66,000
Utility installation	38,000	28,000
<u>T-Mobile antenna/equipment</u>	<u>122,000</u>	<u>122,000</u>
<u>Total</u>	<u>\$310,000</u>	<u>\$290,000</u>

(Applicants 1, p. 22)

38. Optasite and the property owner prefer to construct the facility at Site B. Either site would meet T-Mobile’s coverage requirements. (Tr. 2, pp. 8-9)

Site Description – Site A

39. Proposed Site A is located in a wooded area, 270 feet south of a large barn on the property and adjacent to an orchard. (Applicant 1, Attachment A)
40. The site slopes generally from northeast to southwest. Development would require significant grading. (Applicant 1, Attachment A)

41. The proposed tower is at a ground elevation of 155 feet above mean seal level (amsl). (Applicant 1, Attachment A)
42. The site is 283 feet east of the nearest property line (other Holmberg property). (Applicants 1, Attachment A)
43. The tower setback radius would be contained within the site parcel. (Applicants 1, Attachment A)
44. Access to the compound would be by a gravel drive of new construction extending 265 feet from an existing farm road. (Applicants 1, Attachment A)
45. Four residences are within 1,000 feet of the site, the nearest of which is 526 feet northwest of the site, owned by the lessor. (Applicant 1, p. 19, Attachment A; Applicant 2, Q. 3)

Site Description – Site B

46. Proposed Site B is in a partially wooded area uphill of Site A and approximately 400 feet southeast of the large barn on the property. (Applicants 1, Attachment B)
47. The compound site is generally flat, with a slight downward slope to the southwest. Site development would require minimal grading. (Applicants 1, Attachment B)
48. The proposed tower site is at a ground elevation of 189 feet amsl. (Applicants 1, Attachment B)
49. The site is 526 feet east of the nearest property line (other Holmberg property). (Applicants 1, Attachment B)
50. The tower setback radius would be contained within the site parcel. (Applicants 1, Attachment B)
51. Access to the compound would be from existing farm roads. No new road construction is necessary. (Applicants 1, Attachment B)
52. There are four residences within 1,000 feet of the site, the nearest of which is 268 feet northwest of the site, owned by the lessor. (Applicant 1, p. 19, Attachment B; Applicant 2, Q. 3)

Environmental Considerations

53. Construction of the proposed facilities would have no effect on archaeological resources. (Applicants 1, Attachment N)
54. There are no known extant populations of endangered, threatened or special concern species at either site. (Applicants 5)
55. Development of Site A would require the removal of three eight-inch diameter trees, three 12-inch diameter trees and one 36-inch diameter tree. (Applicants 1, Attachment A)
56. Development of Site B would require the removal of three 12-inch diameter trees and two 24-inch diameter trees. (Applicants 1, Attachment B)

57. No wetlands would be disturbed during development of either site. Wetlands are within 45 feet of the limit of work for Site A and within 135 feet of the limit of work for Site B. (Applicants 1, Attachment A, attachment B)
58. There are no airports within five miles of the sites. Aircraft hazard obstruction marking or lighting would not be required for either tower. (Applicants 1, Attachment R; Applicants 2, Q. 7)
59. The maximum power density from the radio frequency emissions of T-Mobile's proposed antennas would be 0.0295 mW/cm² or 2.95% of the standard for Maximum Permissible Exposure (MPE), as adopted by the FCC, at the base of the proposed 150-foot 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, Attachment O)

Visibility

60. The proposed Site A tower would be visible year-round from approximately 561 acres within a two-mile radius of the site (refer to Figure 1), including 479 acres from the Thames River and Poquetanuck Cove, 50 acres from the lessor's parcel, and 32 acres of off parcel land area. (Applicants 1, Attachment L)
61. The proposed Site B tower would be visible from approximately 524 acres within two miles of the site, including 460 acres of the Thames River and Poquetanuck Cove, 47 acres of the lessor's parcel and 17 acres of off parcel land area. (Applicants 1, Attachment L)
62. Both towers would be seasonally visible from an additional 57 acres within a two-mile radius of the site. Seasonal visibility is expected from the residentially developed Parker Street/Pequot Street and Cove Road areas, approximately 0.5 miles northwest of the sites, and from wooded areas on the lessor's parcel south of the sites. (Applicants 1, Attachment L)
63. Both sites would be visible year round from 13 residences located along the northwest side of Poquetanuck Cove. The residences are located on the following streets: one on Pequot Street, three on Point Street, three on Parker Street, three on Cove Road, and three on Route 12. (Applicants 1, Attachment L; Tr. 1, p. 9)
64. An additional 20 residences in the Parker Street/Pequot Street and Cove Road areas would have seasonal views of the tower. (Applicants 1, Attachment L)
65. Both towers would be visible from two 0.1-mile sections of Massapeag Side Road in Montville, approximately one mile west of the site. One residence would have year-round visibility from this area. (Applicants 1, Attachment L)

66. Visibility of the proposed Site A tower from select locations within a two-mile radius of the site is presented in the table below:

Location	Visible	Approx. Portion of Tower Visible	Approx. Distance from Tower
Route 12 north of Kendall Drive	Yes	90 feet	0.6 miles northwest
Pequot Street, adjacent to # 6	Yes	70 feet	0.5 miles northwest
Parker Street, adjacent to # 12	Yes	70 feet	0.5 miles northwest
Cove Road, adjacent to # 10	Yes	20 feet	0.5 miles northwest
Route 12 north of Ledyard-Preston town line	Yes	65 feet	0.5 miles northwest
Massapeag Side Road, adjacent to # 106	Yes	60 feet	1.0 mile west
Massapeag Side Road	Yes	40 feet	1.0 mile west

(Applicants 1, Attachment L)

67. Visibility of the proposed Site B tower from specific locations within a two-mile radius of the site is:

Location	Visible	Approx. Portion of Tower Visible	Approx. Distance to Tower
Route 12 north of Kendall Drive	Yes	110 feet	0.6 miles northwest
Pequot Street, adjacent to # 6	Yes	50 feet	0.5 miles northwest
Parker Street, adjacent to # 12	Yes	65 feet	0.5 miles northwest
Cove Road, adjacent to # 10	Yes	50 feet	0.5 miles northwest
Route 12 north of Ledyard-Preston town line	Yes	30 feet	0.5 miles northwest
Massapeag Side Road, adjacent to # 106	Yes	60 feet	1.0 mile west
Massapeag Side Road	Yes	30 feet	1.0 mile west

(Applicants 1, Attachment L)

68. Neither tower would be visible from Stoddard Hill State Park, approximately 0.5 miles southwest of the site, or the Poquetanuck Cove Preserve, a Nature Conservancy preserve abutting the site parcel to the east. (Applicants 1, Attachment L)
69. Both towers would be visible from DEP property located on the north side of Poquetanuck Cove, approximately one mile north of the sites. The 35-acre parcel is not developed for recreational use. (Applicants 8; Tr. 1, pp. 14, 16)
70. The DEP Office of Long Island Sound Programs is concerned about the visual impact of a tower to the DEP parcel and the waters of Poquetanuck Cove. The DEP considers views from the cove as a high quality scenic resource and recommends relocation of the tower, or in the alternative, construction of a tree tower. (DEP Comments of November 28, 2006)
71. Both towers have the same visibility from the cove. Approximately 25 to 50 percent of both towers would be visible from the cove, depending on the vantage point. . (Tr. 1, p. 26)
72. A tree tower in either location would appear out of context with its surroundings, due to the proposed 150-foot tower height, which would be much higher than the tree canopy in the area, measured at . approximately 65 feet. (Applicants 1, Attachment L; Tr. 1, p. 19)

73. After construction, a buffer of trees would remain around all sides of Site A. A tree buffer would remain on the south and west sides of Site B. (Applicants 1, Attachment A, Attachment B)

Existing and Proposed Wireless Coverage – T-Mobile

74. T-Mobile operates in the 1900 MHz frequencies, and is designing the site with a signal level threshold of -84 dBm, sufficient for in-vehicle coverage. T-Mobile's in-building signal level threshold is -76 dBm. (Applicants 4)
75. Signal levels below -84 dBm would cause unreliable voice and data service to T-Mobile customers, as well as unreliable E-911 services. (Applicants 4)
76. Using a signal level of -84 dBm, T-Mobile currently experiences an approximate 5.5-mile coverage gap on Route 12, primarily between Route 2A in Preston and Route 214 in Ledyard (refer to Figure 2). (Applicants 1, Attachment H)
77. T-Mobile's minimum antenna height to meet coverage objectives is 147 feet agl (refer to Figure 3). (Applicants 4)
78. Installing antennas at 137 feet agl would result in an approximate 0.06-mile coverage gap on Route 12 south of the site (refer to Figure 4). A T-Mobile user would likely experience poor service quality in this area. (Applicants 4)
79. Installing antennas at 127 feet agl would result in a 0.25-mile coverage gap on Route 12 south of the site. In addition to poor service quality, the frequency of dropped calls would increase. (Applicants 4)
80. Although Site B is 30 feet higher in elevation than Site A, a 150-foot tower would still be required to achieve coverage objectives. Coverage from a shorter tower would be blocked by the broad hillside the site is on and would not reach Route 12 along the base of the hill. (Tr. 1, pp. 24-25)

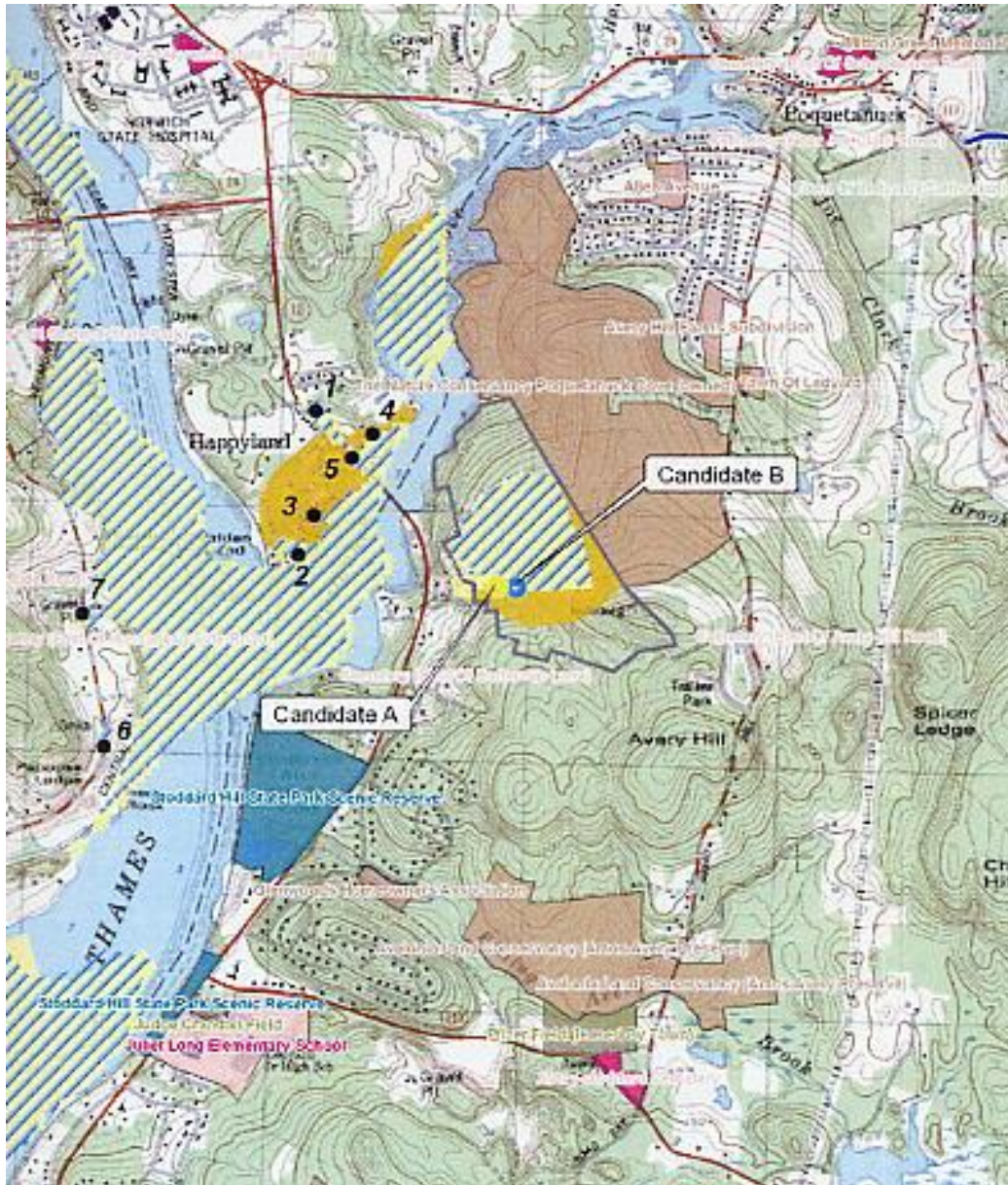


Figure 1. Location and projected visibility of the proposed towers.

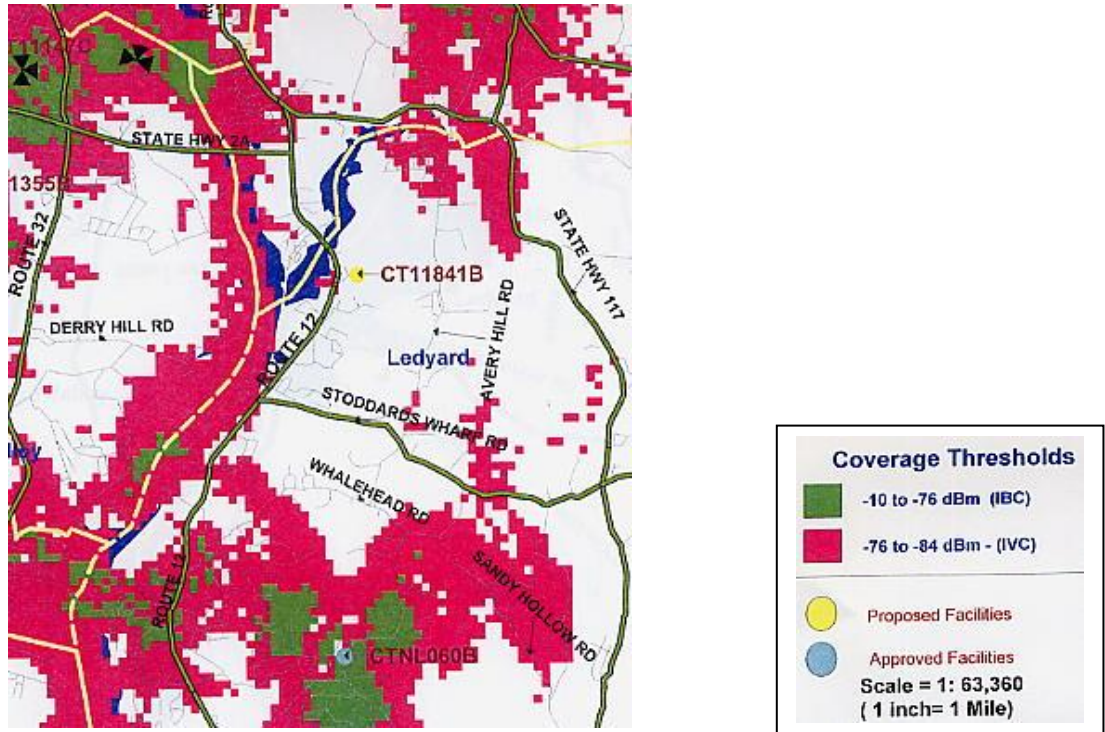


Figure 2. T-Mobile's existing PCS coverage in the Route 12 area.

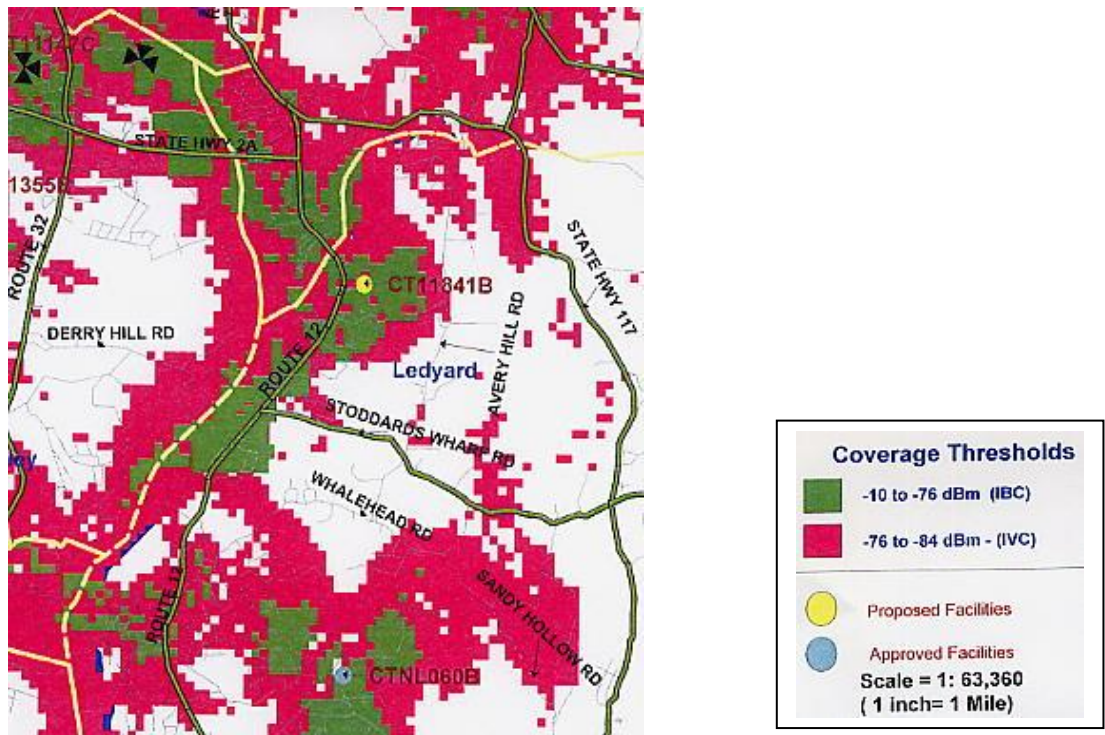


Figure 3. T-Mobile's existing and proposed PCS coverage in the Route 12 area with antennas at 147 feet agl. The coverage footprint for Site A and Site B are the same.



Figure 4. Drive test data showing expected coverage on Route 12 with antennas at 137 feet agl. The drive test shows 0.06-mile coverage gap (red arrow) south of the site (yellow X). The gap area would expand to 0.25 miles with antennas at 127 feet agl.