DOCKET NO. 156 - An application of Litchfield County Cellular, Inc., for a Certificate of Environmental Compatibility and Public Need for the construction, operation, and maintenance of cellular telecommunications towers and equipment on Pine Hill west of South Street, Plymouth; on Wallens Hill north of Oakdale Avenue, Winchester (Winsted); east of Loon Meadow Drive, Norfolk; north of Sunnyside Avenue, Watertown; and on Town Hill south of Legion Road, New Milford, Connecticut. : Connecticut : Siting : Council : March 16, 1993

FINDINGS OF FACT

Introduction

1. Litchfield County Cellular, Inc. (LCC), pursuant to sections 16-50g to 16-50z of the Connecticut General Statutes (CGS), applied to the Connecticut Siting Council (Council) on September 18, 1992, for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, operation, and maintenance of cellular telecommunications towers and equipment on Pine Hill west of South Street, Plymouth; on Wallens Hill north of Oakdale Avenue, Winchester; east of Loon Meadow Drive, Norfolk; north of Sunnyside Avenue, Watertown; and on Town Hill south of Legion Road, New Milford, Connecticut. (LCC 1, p. 5, Chapters I to V)

2. Pursuant to CGS section 16-501(b), public notice of the LCC application for a Certificate was published in the following newspapers serving Litchfield County:

   The Hartford Courant, on September 16, 1992;
   Waterbury Republican American, on September 16, 1992;
   Bristol Press, on September 17, 1992;
   The New Milford Times, on September 17, 1992;
   Town Times, on September 17, 1992; and
   The Litchfield County Times, on September 18, 1992.

   (LCC 1, pp. 41, 42; LCC 5, Q-7; LCC 8, Q-7)

3. Pursuant to CGS section 16-50m, the Council, after giving due notice thereof, held public hearings concerning the proposed facilities at the following places: Winchester Town Hall, 338 Main Street, Winchester, on December 1, 1992, beginning at 2:00 P.M. and continuing at 7:00 P.M.; Plymouth Town Hall, 19 East Main Street, Terryville, on

December 7, 1992, beginning at 3:00 P.M. and continuing at 7:00 P.M.; New Milford Town Hall, 10 Main Street, New Milford, on December 10, 1992, beginning at 3:00 P.M. and continuing at 7:00 P.M.; and Watertown Library, 470 Main Street, Watertown, Connecticut, on January 7, 1993, beginning at 10:00 A.M. and continuing to 5:00 P.M. (December 1, 1992, Transcript (Tr. 1); December 7, 1992, Transcript (Tr. 2); December 10, 1992, Transcript (Tr. 3); January 7, 1993, Transcript (Tr. 4); Council Hearing Notice, October 20, 1992; Council Hearing Notice, December 29, 1992, Notice to Council Members, Parties and Intervenors)

4. At all hearings, the Applicant and all parties and intervenors were provided an opportunity to submit oral and written testimony and to cross examine submitted testimony. The general public was provided the opportunity to make oral and submit written statements for the record. (Tr. 1; Tr. 2; Tr. 3; Tr. 4)

5. LCC flew balloons at least three feet in diameter to approximate the heights of proposed and alternate towers, on the following dates at the following sites: December 1, 1992, at the Winchester and Norfolk sites; December 7, 1992, at the Plymouth and Watertown sites; and December 10, 1992, at the New Milford sites. (LCC 1, p. 39; Council Hearing Notice; Tr. 1, p. 30; Tr. 2, p. 42; Tr. 3, p. 77)

Need

6. In 1981, the Federal Communications Commission (FCC) declared a national need for technical improvement, wide area coverage, high quality service, and competitive pricing for mobile telephone service. (LCC 1, p. 32; Council Administrative Notice No. 8, Findings of Fact (Finding) No. 9)

7. In establishing regulations for cellular service, the FCC has pre-empted state regulation in determining public need for cellular service, setting technical standards for that service, and establishing a competitive market. (LCC 1, pp. 28, 31, 32; Council Administrative Notice No. 8, Finding No. 11)

8. To establish a competitive market to serve the public interest, the FCC has determined that the public interest requires two licenses for cellular service for each market area or Rural Service Area (RSA). One license is awarded to a wireline company, the other to a non-wireline company. (LCC 1, pp. 31, 32; Council Administrative Notice No. 8, Finding No. 12)

LCC Organization

9. In August 1990, the FCC granted Pikeville Cellular Partnership (Pikeville) the non-wireline service authorization to construct and operate a cellular facility for the Litchfield County RSA. (LCC 1, General Exhibit No. 5, Pre-Application Filing to the Town of Plymouth, Part 3, p. 3; Council Administrative Notice No. 8, Finding No. 16)

10. On December 28, 1990, Pikeville was reorganized as Litchfield County Cellular, Inc. On January 8, 1991, the FCC granted to LCC, the Radio Station Authorization (license) to construct and operate a cellular telephone system for the Litchfield County RSA. Licenses for construction and operation of additional sites were granted on March 26, 1991, and November 15, 1991. The expiration date of the current license is October 1, 2001. (LCC 1, General Exhibit 1, pp. 57, 58; LCC 1, General Exhibit 5, Pre-Application Filing to Plymouth, Appendix I-A; Tr. 1, p. 31)

11. The FCC required LCC to have one cell site operational by February 13, 1992. LCC's Torrington facility became commercially operational on November 22, 1991. Seventy-five percent of LCC's Cellular Geographic Service Area (CGSA) is required to have cellular coverage by five years after the FCC license grant date. This date is August 13, 1995. Propagation maps for the proposed facilities and the existing Torrington facility indicate coverage would be 75 percent of the geographical service area. (LCC 13; LCC 21, Q-16, Map Overlays; Tr. 1, pp. 34, 35)

12. The Department of Public Utility Control approved LCC's wholesale cellular mobile telephone service tariff on November 7, 1991. (LCC 8, Q-9)

13. LCC entered into a cellular system financing agreement with Motorola Nor Tel Finance Corporation (Nor Tel) on November 8, 1991, for $4.6 million to finance cell site equipment, construction, and installation. LCC is required by its agreement with Nor Tel to use equipment manufactured by Motorola, Inc. The cost to construct the five proposed facilities is estimated at $2,440,430.00. (LCC 8, Q-51, Amendment to Pre-Hearing Questions (Amendment) received December 7, 1992; LCC 9, Q-62; Tr. 1, pp. 111, 112)

14. LCC secured liability insurance from the Travelers Insurance Group through the Ballentino Insurance Agency in Torrington. This insurance covers the existing Torrington facility and any future facilities constructed elsewhere in the State. The limit of the insurance policy is one million dollars per site. Insurance coverage was required by Motorola as part of LCC's financial agreement. (Tr. 1, p. 32; Tr. 4, pp. 126 to 128)

Cellular Service

15. Cellular service consists of small, overlapping radio broadcast regions, two to ten miles in diameter, known as cells. The FCC limits each RSA cell to 500 watts effective radiated power (ERP) per channel. LCC would not operate any of the cell sites at an ERP greater than 100 watts per channel. The proposed Norfolk site would operate at 50 watts ERP and the proposed Watertown site would operate between 90 and 100 watts. (LCC 8, Q-17, Q-26; Council Administrative Notice No. 8, Finding No. 17; Tr. 4, pp. 147, 148)

Proposed System Design

16. LCC's system design is planned to cover Litchfield County. Coverage has been targeted for major highways and population centers. Unspecified sites in Kent, Cornwall, and North Canaan would complete LCC's planned coverage in Litchfield County. (LCC 1, p. 33; LCC 1, General Exhibit 3; LCC 8, Q-21; Tr. 1, p. 96)

17. LCC would use 0.8 watt point-to-point microwave pathways to interconnect the proposed Watertown, Plymouth, Winchester, and Norfolk facilities with the existing Torrington facility. The proposed New Milford facility would be interconnected by microwave or by a landline. (LCC 1, pp. 22 to 24, 60, I-18, II-17, III-18, IV-18, V-17)

18. On July 16, 1991, the Council approved construction of LCC's Torrington facility as an exempt modification to an existing privately-owned tower. This LCC facility has been operational since November 22, 1991, and would be the Mobile Telephone Switching Office (MTSO) serving as the central processor of cellular calls. (LCC 1, pp. 2, 22, 23; Council Administrative Notice No. 7; Tr. 1, pp. 35, 91)

19. LCC provides daily services to local and roamer subscribers and is a reseller of SNET Cellular service from their Torrington facility. (Tr. 1, pp. 34, 35, 91; Tr. 4, pp. 155, 156)

20. LCC has negotiated a reciprocal roamer agreement with Bell Atlantic Metro Mobile (BAMM) and would negotiate agreements with other non-wireline cellular carriers to allow continuous communications while traveling in and out of Litchfield County. (LCC 1, p. 29; Tr. 1, p. 35)

21. LCC's call handling design would initially use 30 channels at each site. In the future, the proposed cells could accommodate an expansion to 57 channels. (LCC 1, pp. I-18, II-17, III-18, IV-18, V-17)

22. LCC would coordinate exact channel assignments between the proposed cell sites and adjacent non-wireline cellular systems following construction. Such coordination is required by the FCC prior to the commencement of operation to avoid signal intermodulation interference between adjacent cellular systems. (LCC 1, p. I-18; LCC 8, Q-15; Tr. 1, pp. 36, 37)

23. LCC rejected a system using more numerous and shorter towers because LCC intended to minimize the number of towers and the costs to develop additional facilities. Use of more numerous and shorter towers could provide additional coverage to the proposed system. (LCC 8, Q-19; Tr. 1, pp. 37 to 39; Tr. 4, p. 155)

24. Litchfield County is currently served by Springwich Cellular with five towers ranging from 150 feet to 180 feet in height. LCC proposed to offer superior service to that of Springwich Cellular Limited Partnership (Springwich) in Litchfield County. (Springwich 2; Tr. 4, p. 158)

General Site Development

25. At each site, LCC would construct a galvanized, tubular steel monopole tower ranging from 193 feet to 250 feet above ground level (AGL), a 16-foot long by 12-foot wide by 10-foot high pre-cast concrete equipment building, an eight-foot high security fence, and an accessway. (LCC 1, pp. 24, 25, 38; LCC 1, General Exhibit 4)

26. Towers would be designed to withstand wind loads of 90 miles per hour (mph) without radial ice. The minimum windloads for Litchfield County for towers without ice loads, as specified by the Electronic Industries Association (EIA) Standard 222E, is 80 mph and is 78 mph with one half-inch radial ice. If required, LCC could construct towers to withstand stronger winds and heavier ice. (LCC 1, p. I-7; LCC 8, Q-13; LCC 9, Q-52, pp. 28, 59, 60, 103; Tr. 1, pp. 84, 85, 135 to 139)

27. LCC would design specific towers and tower foundations for all sites based on the results of soil borings by the tower vender. Individual tower specifications and foundation designs for each site were not provided in the application. (LCC 1, pp. 24, I-5, II-5, II-6, III-5, III-6, IV-5, IV-6, V-5, V-6; LCC 8, Q-14)

28. Each equipment building would contain two wall-mounted cooling/heating units designed to regulate the temperature inside the building. Each building would also contain a battery powered backup system to maintain electrical service during power outages. (LCC 1, pp. 25, 38)

29. LCC would attempt to convey utility lines underground to all sites. (Tr. 1, p. 65)

Environmental

30. No noise would be emitted for any facility except for air conditioning and infrequent use of an emergency generator. A portable gasoline powered electrical generator would be brought to a site to supply emergency electricity during extended power failures. (LCC 1, pp. 38, I-34 to I-36, II-30 to II-32, III-34 to III-36, IV-33 to IV-35, V-33 to V-35)

31. During construction, LCC would use erosion and sedimentation control measures at all sites, as specified by the Connecticut Guidelines for Erosion and Sediment Control. (LCC 1, pp. I-33, II-29, III-32, IV-32, IV-33, V-32; Tr. 1, pp. 80, 81)

32. None of the facilities would regularly discharge any wastes. No water supply or sanitary facilities are proposed for any site. No air emission pollutants would be generated during normal operation. LCC would make weekly maintenance visits to all sites. (LCC 1, pp. I-33, I-34, II-30, II-31, III-33, III-34, IV-33, IV-34, V-32, V-33)

33. No wetlands or water bodies exist within any of the proposed and alternate sites or accessways. No site lies within any public water supply watershed of any town. (LCC 1, pp. I-23, II-20, II-21, III-22, IV-21, V-21; DEP Letter received November 17, 1992)

34. No national radio frequency exposure standards governing cellular telephone transmissions have been adopted by the U.S. Environmental Protection Agency. Pursuant to CGS section 22a-162, the Connecticut Department of Environmental Protection (DEP) adopted the American National Standards Institute (ANSI) standard C95.1-1982, for regulating nonionizing radio frequency telecommunication exposure. (LCC 1, p. 36; LCC 22)

35. Based on conservative assumptions with a maximum of 30 cellular channels operating simultaneously at maximum power output (worst case), the power density levels at the base of the tower, at the nearest property line, and at the nearest off-site residence at all sites would not exceed the current Connecticut accepted ANSI standard of 2.883 milliwatts per square centimeter (mW/cm^2) for cellular telephone operation. (LCC 1, pp. 36, 37, 75 to 79, I-9 to I-17, II-8 to II-16, III-7 to III-17, IV-9 to IV-17, V-7 to V-17)

36. Based on worst case conditions, point-to-point microwave power density levels at the base of the tower, at the nearest property line, and at the nearest off-site residence at all sites would not exceed the current Connecticut accepted ANSI standard of 5.00 mW/cm^2 for point-to-point microwave transmissions. (LCC 1, pp. 75 to 79, I-10 to I-15, II-9 to II-14, III-10 to III-15, IV-10 to IV-15, V-9 to V-14)

37. Based on worst case conditions, no site would exceed 12.2 percent of the Institute of Electrical and Electronics Engineers 1991 revised power density guidelines currently being considered for acceptance by ANSI as a revision of ANSI standard C95.1-1982. (LCC 22, Attachment)

38. The DEP Bureau of Parks and Forests stated that the proposed project areas in Plymouth, Winchester, Norfolk, and Watertown would not be of concern to the State Park and Recreation program. The application contained no such analysis for the New Milford proposed tower site. (LCC 1, pp. I-78, II-69, III-39, IV-39, IV-73, V-37, V-38)

39. The DEP Natural Resources Center stated that no records of Federally Endangered and Threatened species occurring in Connecticut or species proposed for State Endangered, Threatened or Special Concern status occur in proposed project areas of any town. (LCC, pp. I-75, I-76, II-70 to II-73, III-73, IV-36, IV-37, IV-73, V-36, V-75)

40. The Connecticut Historical Commission has determined that the proposed facilities would have no effect on historic, architectural, archaeological, or cultural resources. (LCC 1, pp. I-39, I-74, II-35, II-73, III-38, III-74, IV-38, IV-75, V-37, V-76)

41. The Federal Aviation Administration (FAA) has determined that all tower structures over 200 feet AGL, including antennas, should be marked with flashing white lights or be painted in alternating bands of aviation orange and white and marked with flashing red and/or white lights. (LCC 1, pp. I-3, II-62, III-66, IV-67, V-68; LCC 8, Q-4 Attachment; LCC 15; Tr. 1, pp. 83, 84; Tr. 2, pp. 49 to 51; Tr. 3, p. 80; Tr. 4, p. 260)

42. Tower structures, including antennas and appurtenances, below 200 feet AGL would generally not require FAA lighting and marking. LCC would be willing to reduce the height of the Plymouth tower to avoid FAA obstruction marking and lighting requirements. (LCC 22; Tr. 2, p. 53)

43. LCC estimates that construction for each site including site engineering, preparation, construction of building and tower, installation of equipment, system integration, and testing to commercial service would take 21 days. (LCC 1, pp. I-25, II-22, III-24, IV-24, V-23)

44. LCC would offer municipal officials tower space for local public safety agency antennas at no expense to the town. (LCC 8, Q-29; Tr. 4, pp. 285, 286)

PLYMOUTH

General Information

45. LCC would construct a 193-foot monopole tower with an attached antenna structure extending to 207 feet AGL on the proposed site, or a 191-foot cellular tower with an antenna structure extending to 205 feet AGL on the alternate site. An equipment building and a 46-foot wide by 64-foot long security fence would be constructed on either site. (LCC 1, pp. I-3, I-6, I-32, I-37; LCC 30, Plymouth No. 2, No. 3)

46. LCC would place two directional transmitting and two directional receiving antennas, approximately 14 feet high by 6.23 inches in diameter, on a triangular-shaped antenna platform at the top of the tower, and three, six-foot in diameter microwave dishes on the tower. The cellular antennas would extend about 14 feet above the top of the tower. (LCC 1, pp. I-7, I-45; LCC 5, Q-22; LCC 8, Q-15)

47. The proposed Plymouth cell site on Pine Hill is planned to overlap coverage from LCC's existing Torrington facility and proposed Watertown site. The facility would provide cellular service to populated centers of Plymouth, Thomaston, East Morris, Litchfield, and southern Torrington, and coverage to sections of Routes 4, 6, 8, 63, 109, 118, and 262. (LCC 1, pp. I-27, I-28, I-69, Figure I-H)

48. LCC considered four potential cell sites in the Plymouth search area, including an existing Springwich facility, before selecting the proposed and alternate sites. There are 26 existing tower sites within a 10-mile radius of the proposed tower site. (LCC 1, pp. I-27 to I-30, I-49, I-66, I-67)

49. Existing land use of Pine Hill is characterized as vacant space. The Town of Plymouth has proposed Pine Hill as an Area of Special Value. Such areas are proposed for their inherent qualities including but not limited to environmental, aesthetic, cultural, and historic values. Moderate density senior citizen residences and construction of a 52-foot high water tank by the Connecticut Water Company have been proposed as future land uses. (LCC 1, General Exhibit 5, Pre-Application filing for the Town of Plymouth, Attachment Letter dated July 22, 1992; LCC 5, Q-1, Plymouth Existing Land Use Map, Q-10, Q-32; Revised Draft Plymouth Plan of Development, August 1992, p. 75; Plymouth Future Land Use Map; Tr. 2, pp. 47 to 49, 55 to 62, 129 to 131, 136, 137)

50. Access to both sites is available by using about 2,000 feet of an existing gravel logging road originating from South Street. New accessway would be needed for about 500 feet through a wooded area before merging with an existing maintenance road on a Connecticut Light and Power Company (CL&P) transmission line right-of-way (ROW). The accessway would use 500 feet of the CL&P ROW and then require new access through a forested area to the site for about 200 feet to the proposed site or 440 feet to the alternate site. A proposed underground utility line would be constructed from South Street along the ROW. The distance to the proposed site for a utility connection would be about 950 feet, including 750 feet of the ROW. The slope of the ROW off South Street would average approximately 19 percent with the steepest area approximately 40 percent. (LCC 1, pp. I-1, I-20, I-33, I-43, I-44, I-53; LCC 30, Plymouth No. 2, No. 3, No. 4, No. 5; Tr. 2, pp. 64 to 73; 91 to 93)

51. LCC would improve access along the ROW by constructing a drainage culvert, clearing vegetation, and blasting 80 feet of ledge rock, thereby creating a more uniform grade over the 17 percent steep slope. No defoliants would be used to clear vegetation. (LCC 1, pp. I-19, I-34, I-40, I-53; LCC 8, Q-33; LCC 30, Plymouth No. 2)

52. Canopy vegetation in the area of the proposed and alternate hilltop sites is comprised of gray birch, black and chestnut oak, quaking aspen, and red maple. Vegetation in the second growth hardwood forest traversed by the proposed accessway includes red and black oaks, pignut and shagbark hickory, white pine, red maple, and gray and black birch. Nut bearing chestnut trees have been found on Pine Hill. (LCC 1, pp. I-21, I-22; Tr. 2, pp. 171, 172)

53. The principal aesthetic impact of the proposed or alternate tower structure would be visibility at intermediate and distant ranges, particularly from residences along South Street, Hillside Avenue, and Plymouth Center, the Town's Historic District. (LCC 1, pp. I-60 to I-65; Department of Environmental Protection (DEP) Letter received November 27, 1992; Tr. 2, pp. 131, 132, 136)

Proposed Site

54. On the proposed tower, LCC would install the two microwave dishes at 85 feet AGL aimed to interconnect with the proposed Watertown facility and at 65 feet AGL aimed to interconnect with the existing Torrington facility. A third dish reserved for a future undetermined interconnection would be mounted at 140 feet AGL. (LCC 1, pp. I-7, I-18, I-45, I-49; LCC 9, Q-53)

55. The proposed Plymouth site would be located on an 80-foot by 80-foot section within the interior of a 12-acre wooded parcel owned by Susan and Walter MacDonald. The tower site would be located approximately 750 feet west of South Street and 185 feet north of the CL&P transmission line ROW. (LCC 1, pp. I-1, I-31, I-32, I-41 to I-44; LCC 8, Q-3; LCC 30, Plymouth No. 1, No. 2, and No. 4)

56. The elevation of the proposed tower site varies from 985 feet to 989 feet AMSL. The ground elevation of the tower site would be 988 feet AMSL. The top of the 207-foot tower structure would be 1195 feet AMSL. (LCC 1, pp. 5, I-9, I-50, I-73; LCC 9, Q-53; LCC 30, Plymouth No. 2)

57. Development of the proposed tower site would require removal of vegetation and a soil disturbance over an approximately 8,000 square foot land area not including additional disturbance for a utility line from South Street. Approximately 33 trees, six inches or greater in diameter, would be removed from the site and along the access road. The site would be leveled and graded. (LCC 1, pp. I-19, I-33; LCC 8, Q-30; LCC 30, Plymouth No. 2)

58. The proposed site and abutting properties are zoned residential. The nearest property boundary, to land controlled by Cooks Common Realty Corporation, is approximately 85 feet north of the proposed tower site. The nearest off-property residence would be located 785 feet east of the proposed site. There are six residences located within a 1,000 foot radius from the tower base. (LCC 1, pp. I-1, I-4, I-42 to I-44; LCC 5, Q-30, Q-31; LCC 8, Q-2, Plymouth Zoning Map)

59. The fall zone of the proposed tower would extend about 110 feet north onto the Cooks Common Realty Corporation property, of which Susan MacDonald is a principal, and 10 feet south onto CL&P's ROW easement. (LCC 9, Q-55; LCC 30, Plymouth No. 1, No. 2; Tr. 1, pp. 130, 131; Tr. 2, p. 190)

60. The maximum combined RF power density for all cellular and microwave point-to-point transmitters would be 2.406 percent of the ANSI standards at the tower base, and 0.096 percent at the nearest off-property residence. (LCC 1, p. I-11)

Alternate Site

61. LCC would construct a facility similar to the proposed facility with a 191-foot monopole tower. The ground elevation of the site averages 990 feet AMSL. The 205-foot tower structure, with antennas, would be 1,195 feet AMSL. Microwave dishes would be mounted 140 feet AGL, 85 feet AGL, and 65 feet AGL. (LCC 1, pp. I-5, I-8; LCC 30, Plymouth 3)

62. The alternate site would be located within a 64-acre parcel adjacent to the proposed site and owned by Cooks Common Realty Corporation. The alternate site would be located about 120 feet north of the proposed site and 620 feet west of South Street. The alternate tower base would be located about 180 feet from the proposed tower base. (LCC 1, pp. I-1, I-41, I-44; LCC 8, Q-3; LCC 30, Plymouth No. 1, No. 3, No. 4, No. 5)

63. The alternate site lies within a residentially zoned area. Seven residences would be located within a 1,000-foot radius from the tower base. The nearest on-property residence, owned by Susan MacDonald, would be 780 feet north of the site. The nearest off-property residence would be located 735 feet east of the alternate site. (LCC 1, General Exhibit 5, Plymouth Zoning Regulations; LCC 1, pp. I-1, I-4, I-42 to I-44; LCC 8, Q-30, Q-31; LCC 30, Plymouth No. 1; Tr. 2, p. 190)

64. Development of the alternate tower site and accessway, not including additional disturbance for a utility line from South Street, would require removal of vegetation and a soil disturbance over approximately 12,000 square feet of land area. Approximately 33 trees, six inches or greater in diameter, would be removed to clear the site and accessway. (LCC 1, p. I-33; LCC 8, Q-30; LCC 30, Plymouth No. 3)

65. The fall zone of the alternate tower would extend about 95 feet south onto the land of Susan and Walter MacDonald. (LCC 30, Plymouth No. 1, No. 3)

66. The maximum combined RF power density for all cellular and microwave point-to-point transmitters would be 2.436 percent of the ANSI standards at the tower base, and 0.108 percent at the nearest off-property residence. (LCC 1, pp. I-15, I-16)

Propagation

67. Coverage for the proposed Plymouth site was modeled at a tower height of 207 feet with antenna centerline at 200 feet AGL. (Tr. 4, p. 207)

68. At the proposed height, coverage gaps occur at the following locations:

Location	Loss Size
1. Route 8 south of Plymouth	0.8 miles
2. Route 8 north of Plymouth	3.0 miles intermittent loss
3. South of US 6 in Pequabuck	1.0 mile area loss
4. Route 254 north of Guernsey Hill, Thomaston	2.0 miles
5. Route 72 north of US 6	1.5 miles

The Torrington facility would cover all but two holes on Route 8, each about 0.3 miles long. The proposed Watertown facility would cover all but 0.7 miles of Route 8 located north of Interchange 33. (LCC 21, Q-16, Torrington, Plymouth and Watertown Map Overlays; Tr. 4, pp. 206 to 208, 252 to 258)

69. At a reduced tower height of 157 feet, coverage gaps occur at the following locations:

Location	Loss Size
1. Route 8 south of Plymouth	2.0 miles
2. Route 8 north of Plymouth	4.3 miles intermittent loss
3. US 6 in Terryville	1.3 miles
4. South of US 6 in Pequabuck	General area loss including Fall Mountain
5. Route 254 north of Guernsey Hill, Thomaston	2.5 miles
6. Route 254 south of Guernsey Hill, Thomaston	2.0 miles
7. Route 72 north of US 6	4.0 miles

The Torrington facility would cover all but two holes on Route 8, each about 0.3 miles long. The proposed Watertown facility would cover all but 0.7 miles of Route 8 located north of Interchange 33. (LCC 21, Q-16, Torrington, Plymouth and Watertown Map Overlays; Tr. 4, pp. 207, 208, 252 to 258)

70. A reduction in the proposed Plymouth tower height of five to seven feet would produce a negligible loss in coverage. (Tr. 2, pp. 53; Tr. 4, pp. 161 to 165)

Costs

71. The estimated construction costs for the Plymouth site would be $476,156.00. (LCC 1, p. I-24; LCC 8, Q-51, Amendment to Q-51 received December 7, 1992)

WINCHESTER (WINSTED)

General Information

72. On the proposed or alternative site, LCC would construct a 250-foot monopole tower with an attached antenna structure extending above the tower to 264 feet AGL. LCC would place two directional receiving and two directional transmitting antennas, about 14 feet high by 6.23 inches in diameter, on a triangular shaped platform at the top of the tower. One six-foot in diameter microwave dish antenna would be installed 200 feet AGL. An equipment building and a 35-foot by 50-foot security fence would also be constructed on either site. (LCC 1, pp. 5, 43, II-3, II-7, II-17, II-18, II-40, II-45, II-67)

73. The Winchester cell site is planned to overlap coverage areas from LCC's proposed Norfolk cell site and the existing Torrington facility. The facility would provide cellular coverage to populated areas of Winchester, New Hartford, and Colebrook, and to US 44, Route 8, Route 20, Route 182, Route 183, and Route 263. (LCC 1, pp. II-24, II-43, II-61; LCC 21, Q-16, Winchester Map Overlay)

74. LCC considered three potential cell site locations in the Winchester search area, including two existing tower sites, before selecting the proposed and alternate sites. There are 18 existing tower sites located within a 10-mile radius of the proposed and alternate sites. (LCC pp. II-24 to II-28, II-44, II-58, II-59)

75. The proposed or alternate Winchester site would consist of a 35-foot by 50-foot fenced enclosure within the interior of a 48-acre wooded parcel owned by William and Richard Stowe. The sites lie on a southwest facing hillside with slopes ranging from 10 to 20 percent. LCC negotiated a leasing option agreement with the landowners for a 100-foot by 100-foot plot with a 25-foot utility and access easement. Both the proposed and alternate sites are located on the same property and would be located adjacent to an existing Springwich tower 180 feet in height. (LCC 1, pp. II-1, II-4, II-18, II-37, to II-39; LCC 8, Q-3, Attachment; LCC 30, Winchester No. 1, No. 2, No. 3; Tr. 1, p. 51)

76. The Winchester site and surrounding parcels of land are zoned for residential use. (LCC 1, pp. II-4, II-37; LCC 8, Q-2, Attachment, Winchester Zoning Map No. 2)

77. Access to the proposed or alternate sites would come from Oakdale Avenue by using an existing 170-foot long gravel driveway serving the Springwich facility. (LCC 1, pp. II-1, II-18, II-45; LCC 30, Winchester No. 2, No. 3)

78. Utilities would be brought underground from Oakdale Avenue along the existing driveway, crossing over a Tennessee Gas Company (Tenneco) underground gas transmission line and proceeding along a new accessway extension to either site. LCC would be willing to place the utility lines into the existing underground trench serving the Springwich facility. (LCC 1, p. II-1; LCC 30, Winchester No. 2, No. 3; Council Administrative Notice No. 8, Finding 141; Tr. 1, pp. 65, 67, 68)

79. The proposed and alternate sites are vegetated by a well developed second growth forest canopy 60 to 70 feet high, comprised of red maple, American beech, red and black oak, ash, and hemlock. The understory vegetation is sparse. (LCC 1, p. II-20; DEP Letter, received November 27, 1992)

80. The proposed tower would be visible above the treeline from sections of Old North Road, from Route 8 northbound approaching Winchester, Main Street (US 44), Baker Street, Holabird Avenue, Wallens Street, and Route 103. Visibility of the proposed or alternate tower from the center of Winchester would be greater than visibility of the existing Springwich tower because the tower would be taller than the existing Springwich tower and because of aviation beacons and painting configuration required by the FAA. (LCC 1, pp. II-48 to II-54; DEP Letter received November 27, 1992; Tr. 1, p. 84)

Proposed Site

81. The proposed tower site would be located approximately 310 feet northeast of Oakdale Avenue and about 90 feet north of the existing Springwich cellular tower site. (LCC 1, pp. 43, II-1, II-4; LCC 30, Winchester No. 1, No. 2)

82. The proposed site has an elevation of 1,066 feet AMSL at the beginning of a proposed accessway and a high elevation of 1,099 feet AMSL. The tower base would be located at 1,097 feet AMSL. The top of the 264-foot tower and antenna structure would be 1,361 feet AMSL. (LCC 1, pp. 5, II-18, II-45, II-67; LCC 30, Winchester No. 2)

83. The nearest property boundary is 200 feet west of the proposed site. The closest off-site residence is located 370 feet south of the proposed site. There are 32 residences located within a 1,000-foot radius from the proposed tower base. (LCC 1, pp. II-37, II-38; LCC 8, Q-30; LCC 30, Winchester No. 1)

84. A new approximately 185-foot long by 12-foot wide gravel extension to the existing driveway, with a turnaround, would be constructed from the existing Springwich facility access road to the site. (LCC 1, pp. II-1, II-12, II-45; LCC 30, Winchester No. 2)

85. Construction of the proposed site and accessway would require removal of vegetation, including 32 trees at least six inches in diameter, and a disturbance to approximately 5,300 square feet of land area. (LCC 1, pp. II-29, II-33; LCC 8, Q-30)

86. The fall zone of the proposed tower would include the existing Springwich facility, part of the Tenneco gas transmission line ROW, and would extend about 50 feet onto the abutting properties to the west and northwest. LCC has latitude in repositioning the site and tower location to have the tower's fall zone lie entirely within the landowner's property. (LCC 1, pp. II-37, II-38; LCC 30, Winchester No. 1; Tr. 1, pp. 130, 131)

87. The maximum combined RF power density for all cellular and microwave point-to-point transmitters would be 0.919 percent of the ANSI standards at the tower base, and 0.296 percent at the nearest off-property residence. (LCC 1, p. II-10)

Alternate Site

88. On the alternate site, LCC would construct a facility similar to the proposed facility. The tower site would be located about 240 feet northeast of Oakdale Avenue and 55 feet east of the existing Springwich tower. The alternate site would be located about 40 feet from the proposed site. The distance between the alternate and proposed tower bases would be approximately 105 feet. The alternate site would be accessed by a 100-foot gravel road off the existing Springwich driveway. (LCC 1, pp. 43, II-45; LCC 30, Winchester No. 2, No. 3)

89. The elevation of the alternate site varies from 1,078 feet AMSL to 1,085 feet AMSL. The alternate tower base would be 1,082 feet AMSL. The top of the alternate 264 tower structure would be 1,346 feet AMSL. The alternate tower would be 15 feet AMSL lower than the proposed tower. (LCC 1, pp. II-5, II-17 to II-19, II-40, II-46; LCC 30, Winchester No. 3)

90. The nearest property boundary would be located about 209 feet south of the alternate site. The closest residence would be situated about 280 feet south of the tower site. There would be 31 residences located within a 1,000-foot radius from the alternate tower base. (LCC 1, pp. II-8, II-12, II-37, II-39, II-46; LCC 8, Q-31; LCC 30, Winchester No. 1, No. 2)

91. Construction of the alternate site and accessway would require removal of vegetation including 14 trees, six inches or more in diameter and a disturbance to approximately 3,500 square feet of land area. (LCC 1, pp. II-29; LCC 8, Q-30)

92. The fall zone of the alternate tower would include the existing Springwich facility, part of the Tenneco gasline ROW, part of Oakdale Avenue, and would extend 40 feet onto an abutting property to the south. LCC has latitude in repositioning the site and tower location to have the tower's fall zone lie entirely within the landowner's property. (LCC I, pp. II-37, II-39; LCC 9, Q-55; LCC 30, Winchester No. 1, No. 3; Tr. 1, pp. 130, 131)

93. The maximum combined RF power density for all cellular and microwave point to point transmitters would be 0.919 percent of the ANSI standards at the base of the tower, and 0.416 percent at the nearest off-property residence. (LCC 1, pp. II-14)

Springwich Alternative Facility

94. LCC and Springwich Cellular negotiated a preliminary generic tower-sharing agreement for a mutual exchange of facility space on a one-for-one basis. LCC could co-locate on Springwich's existing Winchester facility and Springwich could be able to co-locate on a future LCC facility. This preliminary agreement was reached on September 9, 1992. No final agreement has been reached with Springwich for LCC to co-locate on the existing Winchester tower. (LCC 1, p. 30; LCC 8, Q-11; Springwich 2, Tr. 1, pp. 60; Tr. 2, p. 109, Tr. 4, p. 286)

95. Springwich would not accept payment from a competitor to allow co-location on a Springwich tower. (Tr. 2, pp. 109, 110)

96. Wireline and non-wireline cellular operators can occupy the same tower provided that antennas for each company are separated to avoid potential frequency interference. There would be no technical preclusions for LCC to place its antennas at the 130-foot level of this tower, 50 feet below the existing Springwich antennas. (Tr. 1, pp. 50, 51)

Propagation

97. Coverage for the proposed Winchester site was modeled at a tower height of 264 feet AGL with an antenna centerline of 257 feet AGL. (LCC 21, Q-16, Winchester Map Overlay)

98. At the proposed height, coverage gaps occur at the following locations:

Location	Loss Size
1. US 44 east of Winchester	3.0 miles intermittent loss through Pine Meadow and New Hartford
2. US 44 west of Winchester	0.3 miles in Mill Brook
3. Old Route 8 south of Winchester (Route 800)	0.7 miles in Burrville
4. Route 8 north of Winchester	2.5 miles from Eno Hill, Colebrook
5. Route 263 south of Winchester	2.5 miles intermittent loss west of Winchester Center

The hole in coverage on US 44 in Mill Brook west of Winchester would be covered by the proposed Norfolk facility. (LCC 21, Q-16, Winchester and Norfolk Map Overlays; Tr. 4, pp. 221 to 228)

99. At a reduced tower height of 157 feet AGL, coverage gaps occur at the following locations:

Location	Loss Size
1. US 44 east of Winchester	3.5 miles through Pine Meadow and New Hartford
2. US 44 west of Winchester	0.7 miles in Mill Brook
3. Old Route 8 south of Winchester (Route 800)	1.5 miles of intermittent or marginal coverage in Burrville
4. Route 8 north of Winchester	3.0 miles from Eno Hill, Colebrook
5. Route 263 south of Winchester	2.7 miles in and west of Winchester Center

The hole in coverage on US 44 in Mill Brook west of Winchester would be covered by the proposed Norfolk facility. (LCC 27, Q-16, Winchester and Norfolk Map Overlays)

100. At a reduced tower height of 107 feet AGL, coverage gaps occur at the following locations:

Location	Loss Size
1. US 44 east of Winchester	5.0 miles through Pleasant Valley, Pine Meadow and New Hartford
2. US 44 west of Winchester	1.0 miles in Mill Brook near the Mad River Dam
3. Old Route 8 south of Winchester(Route 800)	2.5 miles of intermittent then total loss of coverage in northern Torrington
4. Route 8 north of Winchester	3.5 miles from Eno Hill, Colebrook
5. Route 283	3.3 miles in and west of Winchester Center

The hole in coverage on US 44 in Mill Brook west of Winchester would be covered by the proposed Norfolk facility. (LCC 21, Q-16, Winchester and Norfolk Map Overlays; Tr. 4, pp. 226 to 228)

101. Propagation coverage at 157 feet, would approximate the coverage LCC could obtain if the LCC antennas were placed on the Springwich tower at 150 feet AGL. (Tr. 4, pp. 229, 239, 240)

Costs

102. The estimated construction costs for the Winchester site would be $434,874.00. (LCC 1, Chapter II, pp. II-21, II-22; LCC 8, Q-51, Amendment to Q-51 received December 7, 1992)

NORFOLK

General Information

103. On the proposed or alternate site, LCC would construct a 250-foot tower with an attached antenna structure extending above the top of the tower to 265 feet AGL. LCC would place two directional transmitting and two directional receiving antennas, about 14 feet high by 6.23 inches in diameter, on a triangular-shaped platform at the top of the tower. Three, six-foot in diameter microwave antennas would be installed on the tower. An equipment building and a 42-foot by 65-foot security fence would also be constructed on either site. (LCC 1, pp. 43, III-3, III-5, III-7, III-20, III-48)

104. The Norfolk cell site is planned to overlap coverage areas from LCC's proposed Winchester facility, the existing Torrington facility, and a potential future site in North Canaan. This facility would provide coverage to the population center of Norfolk and to parts of Colebrook, sections of US 44, and Route 182, Route 183, and Route 272. (LCC 1, pp. III-26, III-40, III-47, III-65; LCC 8, Amendment received December 7, 1992, Q-16 Attachment)

105. LCC considered eight potential cell sites in the Norfolk search area, including an existing Southern New England Telephone Company (SNETCO) tower off Loon Meadow Road, upon which Springwich leases space for its cellular antennas, before selecting the proposed and alternate sites. There are 15 existing tower sites within a 10-mile radius of the proposed tower site. (LCC pp. III-25, III-26 to III 28, III-60 to III-63)

106. The proposed or alternate site would be a 50-foot by 50-foot leased section within a 3.1 acre wooded parcel under the control of Harold and Francis Greenhalgh. The proposed and alternate sites are located on the same property. (LCC 1, pp. III-1, III-4, III-41 to III-43, III-49, III-56; LCC 5, Q-3; LCC 11; LCC 30, Norfolk)

107. The landowner's property and surrounding parcels of land are zoned for residential use. (LCC 1, pp. III-4, III-41; LCC 8, Q-2 Attachment, Norfolk Zoning Map)

108. The proposed and alternate sites and access roads are situated on a hilltop north of the juncture of Loon Meadow Drive and Route 182. To access the proposed site, LCC would construct an approximately 335-foot long new gravel extension and turnaround at the end of an existing 660-foot long, unimproved gravel driveway. To access the alternate site, LCC would construct a new 140-foot long gravel accessway and turnaround from the existing driveway about 480 feet from Loon Meadow Drive. (LCC 1, pp. III-1, III-19, III-20, III-37, III-42; LCC 11; LCC 30, Norfolk No. 2,; Tr. 1, p. 79)

109. Utilities would be brought underground to either site from Loon Meadow Drive along the existing and new accessway. (LCC 5, Q-3; LCC 11; LCC 30, Norfolk No. 2; Tr. 1, p. 65)

110. Noise from one of two air conditioners operating at maximum load would be between 54 and 56 dBA when corrected for ambient and background sound at the nearest property line 44 feet away. No information was provided for the noise levels of two air conditioners operating at maximum loads. (LCC 1, pp. 98, 99, 102, III-25, III-35, III-36; Tr. 3, pp. 87 to 89; Tr. 4, pp. 284, 285)

111. The current DEP standard for a Class B noise emitter, which includes communications, to a Class A (residential) receptor area during the nighttime is 45 dBA as measured at the nearest property line. LCC would take measures to ensure noise standards would not be exceeded. (Council Administrative Notice No. 11, Section 22a-69-2.3 and 2.4, and Section 22a-69-3.5; Tr. 4, p. 285)

112. Vegetation on the proposed and alternate sites is typical of an old abandoned pasture with some clusters of 30- to 40-foot tall white pines surrounding the proposed site and mature white pines 60 to 70 feet tall surrounding the alternate site. (LCC 1, pp. III-21, III-22)

113. The lower portions of either tower would be well screened. Most of the tower would be visible above the surrounding trees when seen from any higher elevation or cleared area. (DEP Letter, received November 27, 1992)

Proposed Site

114. On the proposed tower, LCC would install three microwave dish antennas, at 180 feet AGL aimed to interconnect with the proposed Winchester site, at 140 feet AGL aimed to interconnect with the Torrington site, and at 55 feet AGL aimed to interconnect with a future North Canaan site. (LCC 1, pp. III-7, III-44, III-48)

115. The elevation of the proposed tower site varies from 1,589 feet AMSL to 1,594 feet AMSL. The tower site would be graded to 1,590 feet AMSL. The top of the approximately 265-foot AGL tower structure would be 1,855 feet AMSL. (LCC 1, pp.5, III-20, III-49; LCC 30, Norfolk No. 2)

116. The proposed facility site would be located approximately 1,700 feet northeast of the intersection of US 44 and Route 182, and 1,000 feet north of Route 182. (LCC 1, pp. 43, III-51, III-64; LCC 11; LCC 30, Norfolk No. 1)

117. The nearest property boundaries are located 44 feet south, 75 feet east, and 50 feet west of the proposed tower site. The closest off-property residence is located 540 feet to the west. There are nine residences located within a 1,000-foot radius of the proposed tower site. (LCC 1, pp. III-9, III-12, III-34, III-41; LCC 8, Q-30; LCC 11; LCC 16; LCC 30, Norfolk No. 1, No. 2)

118. Construction of the proposed site and accessway would require removal of vegetation including four to six trees at least six inches in diameter, and a soil disturbance of 9,700 square feet land area. (LCC 1, pp. III-32, III-37; LCC 8, Q-30)

119. The fall zone of the proposed tower would extend about 175 feet onto the abutting property to the east, about 206 feet onto another abutting property to the south, and about 115 feet onto a third abutting property to the west. At the proposed height, the tower site could not be repositioned to avoid the tower's fall zone from extending onto abutting properties. (LCC 16; LCC 30, Norfolk No. 1, No. 2)

120. The maximum combined RF power density for all cellular and microwave point-to-point transmitters would be 2.204 percent of the ANSI standards at the tower base, 1.664 percent at the nearest boundary, and 0.183 percent at the nearest off-property residence. (LCC 1, pp. III-11, III-12).

Alternate Site

121. On the alternate tower, LCC would install the three six-foot in diameter microwave dish antennas at heights of 200 feet, 160 feet, and 75 feet AGL, placed 20 feet higher than the antennas on the proposed tower due to the difference in site elevations. (LCC 1, pp. III-8, III-44, III-48)

122. The elevation of the alternate sites varies from 1,564 feet AMSL to 1,570 feet AMSL. The tower site would be 1,568 feet AMSL or about 22 feet lower than the proposed site. The top of the alternate 265-foot tower structure would be 1,833 feet AMSL. (LCC 1, pp. 1, III-8, III-49; LCC 11)

123. The alternate tower site would be located approximately 1,500 feet east of the intersection of Loon Meadow Road and Route 182 and 1,500 feet north of Route 182. The alternate site would be located about 400 feet north of the proposed site. The distance between the alternate and proposed tower bases would be approximately 520 feet. (LCC 1, pp. 43, III-20, III-50; LCC 11; LCC 30, Norfolk No. 2)

124. The nearest property boundary would be about 44 feet to the east. The closest off-site residence would be located about 220 feet northwest of the alternate tower site. There are seven residences located within a 1,000-foot radius from the alternate tower base. (LCC 1, pp. III-13, III-16, III-34; LCC 8, Q-31; LCC 11; LCC 30, Norfolk No. 1)

125. Construction of the alternate site and accessway would require removal of vegetation including four to six trees six inches or more in diameter and a soil disturbance of approximately 10,300 square feet of land area. (LCC 1, pp. III-32, III-33; LCC 8, Q-30)

126. The fall zone of the alternate tower would extend about 200 feet onto the abutting property to the east, about 160 feet onto another abutting property to the north, and about 120 feet onto a third abutting property to the southwest. The nearest off-property residence would lie within the fall zone of the alternate tower. At the proposed height, the tower site could not be repositioned to avoid the tower's fall zone from extending onto abutting properties. (LCC 8, Q-30; LCC 11; Fraiman 4)

127. The maximum combined RF power density for all cellular and microwave point-to-point transmitters would be 1.595 percent of the ANSI standards at the tower base, 1.388 percent at the nearest boundary, and 0.585 percent at the nearest off-property residence. (LCC 1, pp. III-15, III-16)

SNETCO Alternative Site

128. LCC initially investigated and rejected the location of an existing SNETCO tower facility off Loon Meadow Road as a potential cell site. LCC concluded that the SNETCO tower was structurally insufficient to support LCC's antennas and apparently loaded to capacity. (LCC 1, pp. III-28, III-29)

129. The SNETCO tower is 160 feet AGL and is located on an approximately 100 acre site. The elevation of the SNETCO tower site is approximately 1,660 feet AMSL and would be about 70 feet AMSL higher than the 1590 AMSL of the proposed site and about 92 feet AMSL higher than the 1568 feet AMSL of the alternate site. The SNETCO site is about 1.4 miles northwest of the proposed site. (LCC 1, pp. III-40, III-49, III-63, III-64; LCC 9, Q-61; Tr. 4, p. 20)

130. SNETCO would consider construction of a replacement tower or a 60-foot tower extension on the existing tower with costs borne by LCC. SNETCO would own the new tower and equipment placed on it and would perform all tower maintenance. LCC could own and operate their own equipment within a new equipment building constructed by

SNETCO at the base of the tower and leased by LCC from SNETCO. (LCC 9, Q-61, Q-66 Attachment, Letter dated August 24, 1992; SNETCO 1; Tr. 4, pp. 16, 17, 19, 20 to 26, 38, 39, 46, 47)

131. LCC would not accept SNETCO's offer regarding SNETCO's ownership, installation, and maintenance of LCC equipment placed on the existing tower or replacement tower. LCC could accept SNETCO's offer provided LCC retained control of its own cellular equipment, antennas, and access. (LCC 9, Q-61; LCC 15, pp. 4, 5; Tr. 1, pp. 58, 92, 112, 113)

Propagation

132. Coverage for the proposed Norfolk site was modeled at a tower height of 265 feet AGL with an antenna centerline of 257 feet AGL. (LCC 21, Q-16, Norfolk Map Overlay)

133. At the proposed height, coverage gaps occur at the following locations:

Location	Loss Size
1. US 44 west of Norfolk	2.0 miles intermittent loss
2. US 44 east of Norfolk	2.0 miles intermittent loss
3. Route 272 south of Norfolk	1.5 miles intermittent loss from Dennis Hill until total loss in South Norfolk
4. Route 183 north of Colebrook	1.3 miles intermittent loss in North Colebrook

Losses on US 44 east of Norfolk would be picked up by the proposed Winchester site. Some intermittent losses of coverage along Route 272 south of Norfolk would be picked up by the Torrington facility. (LCC 21, Q-16, Norfolk, Winchester, and Torrington Map Overlays; Tr. 4, pp. 234 to 238)

134. At a reduced tower height of 207 feet AGL, coverage gaps occur at the following locations:

Location	Loss Size
1. US 44 west of Norfolk	2.5 miles
2. US 44 east of Norfolk	2.0 miles intermittent loss
3. Route 272 south of Norfolk	1.5 miles intermittent loss from Dennis Hill south through South Norfolk where all coverage is lost
4. Route 183 north of Colebrook	1.5 miles intermittent loss in North Colebrook

Losses on US 44 east of Norfolk would be picked up by the proposed Winchester site. Some intermittent losses of coverage along Route 272 south of Norfolk would be picked up by the Torrington Facility. (LCC 21, Q-16, Norfolk, Winchester, and Torrington Map Overlays)

135. At a reduced tower height of 157 feet AGL, coverage gaps occur at the following locations:

Location	Loss Size
1. US 44 west of Norfolk	2.7 miles in West Norfolk
2. US 44 east of Norfolk	2.7 miles total loss approaching Winchester
3. Route 272 south of Norfolk	Total loss south from Dennis Hill through South Norfolk
4. Route 183 north of Colebrook	1.7 miles intermittent loss in North Colebrook

Losses on US 44 east of Norfolk would be picked up by the proposed Winchester site. Some intermittent losses along Route 272 south of Norfolk and in Winchester Center would be picked up by the Torrington facility. (LCC 1, p. III-61; LCC 21, Q-16, Norfolk, Winchester, and Torrington Map Overlays; Tr. 4, pp. 234 to 237)

136. At a reduced tower height of 107 feet AGL, coverage gaps occur at the following locations:

Location	Loss Size
1. US 44 west of Norfolk	3.5 miles
2. US 44 east of Norfolk	2.7 miles total loss approaching Winchester
3. Route 272 south of Norfolk	Total loss south from Dennis Hill through South Norfolk
4. Route 183 north of Colebrook	2.0 miles intermittent loss in North Colebrook

Losses on US 44 east of Norfolk would be picked up by the proposed Winchester site. Some intermittent losses along Route 272 south of Norfolk and Winchester Center would be picked up by the Torrington facility. (LCC 21, Q-16, Norfolk, Winchester, and Torrington Map Overlays; Tr. 4, pp. 234 to 237)

137. Many of the holes in coverage at tower heights ranging from 107 feet to 257 feet high within the Norfolk service area would occur along rural roads and outside of population centers. (LCC 21, Q-16, Norfolk Map Overlay; Tr. 4, pp. 241, 242)

138. Propagation coverage from the SNETCO Norfolk facility location from a new 250-foot tower with a 257-foot antenna centerline height would be similar to the coverage from the proposed site with some differences along Route US 44. (Tr. 4, pp. 238, 239)

Costs

139. The estimated construction costs for the Norfolk site would be $552,298.00. (LCC 1, p. III-23; LCC 8, Q-51, Amendment received December 7, 1992)

WATERTOWN

General Information

140. On the proposed or alternate Watertown cell site, LCC would construct a 250-foot monopole tower with 3.3-foot high by 1.6-foot wide panel antennas placed on a triangular-shaped platform mounted at the top of the tower. The two directional (sectorized) transmitting and two directional (sectorized) receiving panel antennas would extend six feet above the tower. The total height of the tower structure with antennas would be 256 feet AGL. One, six-foot in diameter microwave dish would be mounted on the tower, aimed to interconnect with the proposed Plymouth site. LCC would also construct an equipment building and a 42-foot by 65-foot security fence on either site. (LCC 1, pp. 5, IV-3, IV-7, IV-19, IV-44, IV-47, IV-48, IV-71; LCC 30, Watertown No. 2, No. 3)

141. The facility would provide coverage to the population centers of Watertown and Oakville and to major roadways US 6, Route 8, Route 63, and Route 73. (LCC 1, pp. IV-26, IV-46, IV-66, Figure I-H)

142. LCC considered four potential cell sites before selecting the proposed and alternate sites. There are 25 existing tower sites within a 10-mile radius of the proposed tower site. (LCC 1, pp. IV-25 to IV-30, IV-63 to IV-64)

143. The proposed or alternate Watertown site would be a 50-foot by 50-foot leased section on a 12.7 acre parcel off 375 Sunnyside Avenue, Watertown. The property is under the control of Warren Shaw, Todd N. Shaw, and Jonathon S. Andrew. The proposed and alternate sites are located on the same property. (LCC 1, pp. IV-1, IV-4, IV-36, IV-39 to IV-42; LCC 8, Q-3; LCC 30, Watertown No. 1, No. 2, No. 3)

144. The landowner's property and surrounding parcels of land are zoned for residential use. (LCC 1, pp. IV-4, IV-40 to IV-42; Watertown 7, Watertown 8, Watertown 9)

145. A housing development area named Meadow Crest, containing 60 residential properties including unoccupied houses, is located across Sunnyside Avenue and south of the landowner's parcel along Sunnyside Avenue, Hilltop Road, Shaw Farm Road, and Caroline Circle. The major impact of the proposed project would be visibility of the tower from Meadow Crest residences and from areas along

Ridgeway Avenue, North Street, Botelle Street, Sylvan Lake Road, Franklin Street, Sunnyside Avenue, and Old Colonial Road. From greater distances, the tower would be viewed from Buckingham Street, Echo Lake Road, and from Oakville. The proposed facility would be prominent due to the minor amount of available screening. (LCC 1, pp. IV-51 to IV-62; LCC 30, No. 1; Watertown 9; DEP Letter, received November 27, 1992)

146. Access to the proposed and alternate sites would come from an existing bituminous and gravel driveway off Sunnyside Avenue serving the property. Construction of a new 150-foot gravel extension from the existing driveway, and a turnaround, would be needed to serve the proposed site. About 450 feet of new driveway would be needed to reach the alternate site. (LCC 1, pp. IV-1, IV-19, IV-20; LCC 30, Watertown No. 2, No. 3)

147. Telephone and electric utilities serve the existing residence located on the landowner's parcel. Utilities would be conveyed underground to the proposed or underground sites. (LCC 1, p. IV-1; Tr. 1, p. 65)

148. The sites are vegetated with field grasses and no trees are located on either site. (LCC 1, pp. IV-20, IV-21; LCC 8, Q-30; DEP Letter, received November 27, 1992)

149. LCC has received a request from Bell Atlantic Metro Mobile (BAMM) to provide antenna space on LCC's proposed Watertown tower and has considered sharing an equipment building which would be approximately 25 feet wide by 35 feet long. (LCC 1, pp. 31, IV-29; LCC 8, Q-29, Q-50; Tr. 4, pp. 51, 54)

150. In order to avoid interference between the radio frequencies used by each system, LCC would use directional sectorized antennas aimed towards the north and west over a 240 degree arc. BAMM would use directional sectorized antennas aimed towards the east and south towards Waterbury over a 120 degree arc. (LCC 8, Q-29, Q-50; Tr. 4, pp. 51, 54)

Proposed Site

151. The proposed tower site would be located approximately 1500 feet east of the intersection of Franklin Avenue and Sunnyside Avenue, and about 450 feet north of Sunnyside Avenue. The site would be about 700 feet west of an existing CL&P electric transmission line and 700 feet northwest of a CL&P electric substation. (LCC 1, p. IV-39; LCC 30, Watertown No. 1; Watertown 3; Watertown 6; Watertown 9)

152. The proposed site is essentially flat and has an elevation of 592 feet AMSL. The top of the 256-foot tower structure would be 848 feet AMSL. One microwave antenna would be mounted on the tower at 70 feet AGL. (LCC 1, pp. 5, IV-5, IV-43, IV-47, IV-71; LCC 30, Watertown No. 2)

153. The nearest property boundary is 200 feet east of the proposed tower site. The closest off-property residence would be located 490 feet west of the proposed site. There are 28 residences located within a 1,000-foot radius from the proposed tower base. (LCC 1, pp. IV-9, IV-40; LCC 8, Q-30; LCC 30, Watertown No. 1; Watertown 9)

154. Construction of the proposed site and accessway would require removal of vegetation and disturbance to approximately 8,700 square feet of land area. (LCC 1, p. IV-32; LCC 8, Q-31)

155. The fall zone of the proposed tower would extend about 50 feet onto an abutting property to the east. LCC has latitude in repositioning the site and tower location to have the tower's fall zone lie entirely within the landowner's property. (LCC 9, Q-55; LCC 30, Watertown No. 1, No. 2; Tr. 1, pp. 130, 131)

156. The maximum combined RF power density for all cellular and microwave point-to-point transmitters would be 1.171 percent of the ANSI standards at the tower base, 0.586 percent at the nearest boundary, and 0.197 percent at the nearest off-property residence. (LCC 1, p. IV-11)

Alternate Site

157. The alternate Watertown tower site would be located about 1450 feet east of the intersection of Franklin Avenue and Sunnyside Avenue, and approximately 750 feet north of Sunnyside Avenue. The alternate tower site would be positioned approximately 270 feet north of the proposed tower site. The distance between the alternate and proposed tower bases would be about 310 feet. (LCC 1, pp. 44; LCC 30, Watertown No. 1, No. 2, No. 3)

158. The ground elevation of the alternate Watertown site varies from 575 feet AMSL to 578 AMSL. The tower base would be 577 feet AMSL, 15 feet lower in elevation than the proposed site. The top of the alternate 256-foot tower structure would be 833 feet AMSL. The height of the microwave antenna placed on the tower would be 85 feet AGL. (LCC 1, pp. IV-5, IV-14, IV-43; LCC 30, Watertown No. 3; Watertown No. 7)

159. The nearest property boundary would be about 212 feet northwest of the alternate site. The closest off-site residence would be located about 465 feet northeast of the alternate site. There would be 24 residences situated within a 1,000-foot radius from the alternate tower base. (LCC 1, pp. IV-13, IV-16, IV-34; LCC 8, Q-31; LCC 30, Watertown No. 1, No. 3)

160. Construction of the alternate site and accessway would require removal of vegetation and a disturbance to approximately 22,700 square feet of land area. (LCC 1, p. IV-32; LCC 8, Q-30)

161. The fall zone of the alternate tower would extend about 50 feet onto the Cercemaggiore Community Club property to the north and about 35 feet onto an abutting property to the west. LCC has latitude in repositioning the site and tower location to have the tower's fall zone lie entirely within the landowner's property. (LCC 1, p. IV-40; LCC 9, Q-55; LCC 30, Watertown No. 1, No. 3; Tr. 1, pp. 130, 131)

162. The maximum RF power density from all cellular and microwave point-to-point transmissions would be 1.083 percent of the ANSI standards at the tower base, 0.557 percent at the nearest boundary, and 0.214 percent at the nearest off-property residence. (LCC 1, p. IV-15)

Propagation

163. Coverage for the proposed Watertown site was modeled at a tower height of 256 feet AGL with an antenna centerline of 254 feet AGL. (LCC 21, Q-16, Watertown Map Overlay)

164. At the proposed height, coverage gaps occur at the following locations:

Location	Loss Size
1. Route 8 north of Watertown	1.7 miles near Mattatuck State Forest
2. Route 63 north of Thomaston	0.7 miles north towards East Morris from French Mountain
3. Route 109, northwest of Thomaston	1.5 miles towards East Morris
4. Route 254 north of Thomaston	4.7 miles intermittent loss near Guernsey Hill, Thomaston
5. US 6 Watertown	0.5 miles in Watertown

The proposed Plymouth site would cover losses along Route 8, along Route 63, along Route 109, and along Route 254 for about 3.7 miles south of Guernsey Hill to Thomaston. (LCC 21, Q-16, Watertown and Plymouth Map Overlays; Tr. 4, pp. 183 to 202)

165. At a reduced tower height of 154 feet, coverage gaps occur at the following locations:

Location	Loss Size
1. Route 8 north of Watertown	3.0 miles south from Interchange 38
2. Route 63 north of Thomaston	2.5 miles north of French Mountain
3. Route 109 northwest of Thomaston	Total loss from East Morris to Thomaston, about 5.0 miles
4. Route 254 north of Thomaston	7.0 miles, except for 0.3 miles at Guernsey Hill, is lost
5. US 6 Watertown	0.5 miles in Watertown

The proposed Plymouth site would cover losses along Route 8, along Route 63, along Route 109 for 4.0 miles, and along Route 254 about 4.0 miles, south of Guernsey Hill to Thomaston. (LCC 21, Q-16, Watertown and Plymouth Map Overlays; Tr. 4, pp. 183 to 202)

166. Approximately 80 percent of the area covered by the Watertown facility would be covered by the proposed Plymouth site and the Torrington site. (LCC 21, Q-16, Plymouth, Watertown, and Torrington Map Overlays, Q-37)

Alternative sites

167. LCC initially considered and rejected the location of a water tank property on the corner of Buckingham Street and Callendar Road for attachment of cellular antennas on the water tank. This property is located about 1.7 miles northwest of the proposed site at an elevation of 810 feet, about 218 feet higher than the proposed tower site. Due to intervening terrain, LCC predicted coverage along Route 8 would be diminished and degraded. (LCC 1, pp. IV-30, IV-64, IV-65; Watertown 3)

168. The Town of Watertown offered to LCC a parcel off Buckingham Street containing a town-owned water tower for development of a cellular facility. The ground elevation of the Watertown water tower site is about 860 feet AMSL, about 268 feet AMSL higher than the proposed site. The property is zoned for industrial use. Final approval for a LCC facility would be needed from the Watertown Town Council. (LCC 1, p. IV-64; Watertown 3, Watertown 7; Tr. 2, pp. 93 to 95; Tr. 3, pp. 30, 34 to 37)

169. LCC considered the Watertown water tower location off Buckingham Street for a 250-foot tower and rejected the location because propagation modeling predicted a coverage hole of about 4.2 miles would occur along Route 8. Some of this hole would be covered by the proposed Plymouth site, leaving a hole about one-third of a mile

long at the county line, fringe coverage from one mile north of that point, and a hole one-half mile long north of that area. This site would add coverage in Watertown north and west towards Woodbury and Bethlehem that would not be covered by the proposed site. (LCC 9, Q-57; LCC 21, Q-16, Watertown and Plymouth Map Overlays; Tr. 2, pp. 95 to 97; Tr. 4, pp. 204 to 208, 218)

170. It would be possible for LCC to use cell enhancers to cover holes in coverage along Route 8, if the facility is located at the Town of Watertown water tower location. (Tr. 4, pp. 214, 215)

Costs

171. The estimated construction costs for the Watertown site would be $438,590.00. (LCC 1, p. IV-23; LCC 8, Q-51, Amendment to Q-51 received 12-7-92)

NEW MILFORD

General Information

172. On the proposed or alternate site, LCC would construct a 250-foot monopole tower with an attached antenna structure extending above the top of the tower for a total structure height of 265 feet AGL. LCC would place two directional transmitting and two directional receiving antennas, about 14 feet high by 6.23 inches in diameter, on a triangular-shaped platform at the top of the tower. An equipment building and a 45-foot by 65-foot security fence would also be constructed on either site. (LCC 1, pp. 44, V-5, V-7, V-18; LCC 30, New Milford No. 2, No. 3)

173. The proposed or alternate cell site would provide coverage to populated areas of New Milford and Bridgewater and roadways in the southwest portion of Litchfield County, including US 7 from the southern county boundary north along the Housatonic River, Route 202, Route 133, Route 109, and Route 67. Areas served would include Northville, Lanesville, Wallsville, Park Lane, and Fort Mountain. (LCC 1, Figure I-H, pp. V-25, V-46, V-67)

174. LCC designed the proposed facility to prevent spill-over coverage beyond the county border southward into Fairfield county, currently serviced by BAMM, a non-wireline service provider, and westward into Dutchess County, New York, currently serviced by United States Cellular Corporation. (LCC 1, p. V-25; LCC 8, Q-25, Q-27)

175. LCC considered four potential cell sites including two existing tower sites before selecting the proposed and alternate sites. There are 11 existing tower sites, including a Springwich Cellular facility in New Milford, within a 10-mile radius of the proposed tower site. (LCC 1, V-24 to V-26, V-28 to V-30, V-63 to V-66)

176. LCC and BAMM have discussed a microwave interconnection between the proposed site and BAMM's existing facility on Danbury Hospital. If agreed, LCC would mount one, six-foot in diameter microwave dish on the proposed tower 200 feet AGL. (LCC 1, pp. V-7, V-17, V-43, V-17; Tr. 3, pp. 110 to 113; Tr. 4, pp. 51, 52)

177. The proposed or alternate New Milford site would be a leased 50-foot by 50-foot section on a 16.6 acre parcel located off 66 Legion Road. The sites are located on a north-south aligned ridgetop overlooking the Housatonic Valley to the southwest. The property is under the control of Richard W. Anderson. The proposed and alternate sites are located on the same property. (LCC 1, pp. V-1, V-4, V-19, V-30, V-35, V-39 to V-32; LCC 8, Q-3; LCC 30, New Milford No. 2, No. 3)

178. The landowner's property and surrounding parcels of land are zoned for residential use. (LCC 1, pp. V-1, V-4, V-40; LCC 5, Q-2, New Milford Zoning Map; Tr. 4, p. 82)

179. Access to the proposed and alternate sites would come from an existing gravel section of Legion Road. Construction of a new, 100-foot gravel driveway with a turnaround would be needed to access the proposed site. The alternate site would require a new 140-foot gravel driveway. (LCC 1, V-1, V-18, V-19; LCC 30, New Milford No. 2, No. 3)

180. The proposed and alternate sites are vegetated typically for an abandoned pasture with scattered groups of red cedar, wild flowers, forbs, multiflora rose, barberry, and grasses. (LCC 1, p. V-20; DEP Letter, received November 27, 1992)

181. The New Milford Inland Wetland Regulations designate all areas within 75 feet of any inland wetland as a regulated inland wetland. A wetland containing wet meadow vegetation including purple loosestrife, shrubbery cinquefoil, reed canary grass, irises, rushes, sedges, and mountain mint is within 50 feet of the proposed site and 20 feet of the alternate site. (LCC 1, p. V-21; LCC 5, Q-1e, Town of New Milford Inland Wetlands and Watercourse Regulations; LCC 30, New Milford No. 2, No. 3; Tr. 4, pp. 87 to 95, 104, 105)

182. Portions of the proposed or alternate tower would be visible from sections of Route 202 and Route 67, Taylor Road, Town Farm Road, Guarding Mountain, Wolf Pit Mountain, and parts of the Connecticut Blue Trail. (LCC, pp. V-50 to V-62; Weantinoge 7; Tr. 3, pp. 139 to 141)

183. LCC met with New Milford Town officials as follows: the Mayor on May 22, 1992; the Zoning Commission at a public meeting on June 9, 1992; the Inland Wetlands Commission on June 11, 1992; and the Planning Commission on June 18, 1992. No New Milford Town Official informed LCC that the Town Hill area was characterized as a special interest, historical, archaeological, scenic, or recreational area. (LCC 1, p. V-2; Tr. 3, pp. 83, 84; Tr. 4, pp. 112, 113)

184. The Town of New Milford submitted documentation stating that an unpaved section of Legion Road, about 3,115 feet long, off which the proposed and alternate sites would be situated, had been designated as a Scenic Road pursuant to CGS Chapter 98 section 7-149a and a Town of New Milford Scenic Road ordinance. The New Milford Town Council passed an ordinance amendment that designated Legion Road as a Scenic Road on April 11, 1988. Legal Notice dated April 18, 1988, stated that the ordinance amendment was published and would become effective on May 12, 1988. Verification of actual publication in a newspaper was not submitted. Legion Road has not been posted as a Scenic Road as required by Town Ordinances. (New Milford 2; New Milford 3; Tr. 4, pp. 77 to 80, 98, 99, 106, 110, 111)

185. As defined in CGS Chapter 98, section 7-149a and the Town of New Milford Ordinances Chapter 17A, criteria for Scenic Road designation require that no highway or portion of a highway can be so designated if abutting property contains intensive commercial development; the highway can not have intensive vehicular traffic; the highway must be at least one-half mile in length, or if less than one-half mile in length, abut onto a scenic highway; and one of the following criteria must be met:

1. The highway is unpaved;
2. The highway is bordered by mature trees and stone walls;
3. The traveled portion of the highway is not greater than 20 feet wide;
4. The highway offers scenic views;
5. The highway blends naturally into the surrounding terrain; or
6. The highway parallels or crosses over brooks, streams, and lakes, or ponds.

(New Milford 2)

186. The Town of New Milford testified that under Town of New Milford's Ordinances and Plan of Development any nonresidential activity in the residential zone of Legion Road, except uses allowed by special permit, would conflict with the land uses along the scenic road. Construction of a cellular tower would not be a use permitted by special permit. (Tr. 4, pp. 81 to 86)

187. The proposed New Milford tower site would be located approximately 1,850 feet southwest of the intersection of Lillis Road and Legion Road and about 150 feet south of the unpaved section of Legion Road. (LCC 1, pp. 44, V-39, V-41; LCC 30, New Milford No. 1, No. 2; Tr. 4, pp. 84, 85)

Proposed Site

188. The proposed site has an elevation ranging from 632 feet AMSL to 636 feet AMSL. The tower site would be 635 feet AMSL. The top of the 265-foot AGL tower structure would be 900 feet AMSL. (LCC pp. V-5, V-71; LCC 8, Q-15; LCC 30, New Milford No. 2)

189. The nearest property boundary is 138 feet north of the proposed site at Legion Road. The closest off-property residence would be located 555 feet west of the proposed tower site. There are eight residences located within a 1000-foot radius from the proposed tower base. (LCC 1, pp. V-8, V-39; LCC 8, Q-30; LCC 30, New Milford No. 1)

190. Construction of the proposed site and accessway would require removal of vegetation including the removal of five trees, six inches or greater in diameter and a disturbance to approximately 8,700 square feet of land area. (LCC 1, pp. V-31)

191. The fall zone of the proposed tower would extend across Legion Road and lie about 85 feet onto the abutting property north of Legion Road. LCC has latitude in repositioning the site and tower location to have the tower's fall zone lie entirely within the landowner's property but would result in an encroachment on the inland wetland located south of the site. (LCC 8, Q-49; LCC 9, Q-55; LCC 30, New Milford No. 1, No. 2; Tr. 1, pp. 130, 131)

192. The maximum combined RF power density for all cellular and microwave point-to-point transmitters would be 0.919 percent of the ANSI standards at the tower base, 0.710 percent at the nearest boundary, and 0.160 percent at the nearest off-property residence. (LCC 1, p. IV-14, V-15)

Alternate Site

193. On the alternate site, LCC would construct a facility similar to the proposed facility. The ground elevation of the alternate New Milford site varies from 628 feet AMSL to 631 feet AMSL. The elevation of the tower site would be about 629 feet AMSL. The top of the alternate 265-foot tower would be 894 feet AMSL, about six feet lower than the proposed site. (LCC 1, pp. V-5, V-17 to V-19, V-43, V-49; LCC 30, New Milford No. 3)

194. The alternate New Milford tower site would be located about 1,650 feet southwest of the intersection of Lillis Road and Legion Road and 190 feet south of Legion Road. The alternate tower site would be positioned approximately 200 feet east of the proposed site. The distance between the alternate and proposed tower bases would be about 100 feet. (LCC 1, pp. 44, V-39; LCC 8, Q-2, New Milford Zoning Map; LCC 30, New Milford No. 1, No. 2, No. 3)

195. The nearest property boundary would be about 163 feet north of the alternate site at Legion Road. The closest off-site residence would be located 540 feet north of the site. There would be five residences situated within a 1,000-foot radius from the alternate tower base. (LCC 1, pp. V-12, V-15; LCC 8, Q-31; LCC 30, New Milford No. 1, No. 3)

196. The fall zone of the alternate tower would extend across Legion Road and lie about 45 feet onto the abutting property north of Legion road. LCC has latitude in repositioning the site and tower location to have the tower's fall zone lie entirely within the landowner's property but would result in an encroachment on the inland wetland located south of the site. (LCC 8, Q-49; LCC 9, Q-55; LCC 30, New Milford No. 1, No. 2; Tr. 1, pp. 130, 131)

197. Construction of the alternate site and accessway would require removal of vegetation including eight to ten trees six inches or greater in diameter, and a soil disturbance of approximately 9,400 square feet of land area. (LCC 1, pp. V-31, V-32)

198. The maximum combined RF power density for all cellular and microwave point to point transmitters would be 0.919 percent of the ANSI standards at the tower base, 0.651 percent at the nearest boundary, and 0.168 at the nearest off-property residence. (LCC 1, p. V-15)

Propagation

199. Coverage for the proposed New Milford site was modeled at a tower height of 265 feet AGL with an antenna centerline at 257 feet AGL. (LCC 21, Q-16, New Milford Map Overlay)

200. At the proposed height, coverage gaps occur at the following locations:

Location	Loss Size
1. US 7 north of New Milford	0.5 miles north of Boardman Bridge
2. Route 133 south of New Milford	1.0 miles intermittent loss in Bridgewater and 2.5 miles south of Kinney's Corners
3. Route 67 east of New Milford	4.0 miles east from Second Hill to Roxbury
4. Route 109 northeast of New Milford	2.5 miles intermittent loss west of Washington Depot
5. US 202 northeast of New Milford	0.3 miles south of Marble Dale and all coverage northeast of Marble Dale

Along Route 47, Route 67, Route 199, and Route 317 in Roxbury and Woodbury, coverage losses would be intermittent, and calls would be dropped. (LCC 21, Q-16, New Milford Map Overlay; Tr. 4, pp. 247 to 249)

201. At a reduced tower height of 207 feet AGL, coverage gaps occur at the following locations:

Location	Loss Size
1. US 7 north of New Milford	1.0 miles north of Boardman Bridge
2. Route 133 south of New Milford	1.3 miles intermittent loss in Bridgewater and 2.5 miles south of Kinney's Corners
3. Route 67 east of New Milford	4.0 miles east from Second Hill to Roxbury
4. Route 109 northeast of New Milford	3.0 miles intermittent loss west of Washington Depot
5. US 202 northeast of New Milford	1.0 miles south of Marble Dale and all coverage northeast of Marble Dale

Along Route 47, Route 67, Route 199, and Route 317 in Roxbury and Woodbury, coverage losses would increase and become increasingly intermittent. (LCC 21, Q-16, New Milford Map Overlay; Tr. 4, pp. 246 to 252)

202. At a reduced tower height of 157 feet AGL, coverage gaps occur at the following locations:

Location	Loss Size
1. US 7 north of New Milford	1.3 miles north of a CL&P substation near Boardman Bridge
2. Route 133 south of New Milford	1.7 miles intermittent loss in Bridgewater and 2.5 miles south of Kinney's Corners.
3. Route 67 east of New Milford	5.0 miles from west of Second Hill, east to Roxbury
4. Route 109 northeast of New Milford	3.7 miles intermittent loss west of Washington Depot
5. US 202 northeast of New Milford	1.7 miles south of Marble Dale and all coverage northeast of Marble Dale

Along Route 47 in Washington, coverage losses increase. Along Route 67, Route 199, and Route 317 in Roxbury and Woodbury, coverage would be lost. (LCC 21, Q-16, New Milford Map Overlay; Tr. 4, pp. 246 to 252)

203. Large areas in Woodbury, Bethlehem, and Roxbury are not covered by the proposed Watertown and New Milford sites. LCC has no current plans to develop additional cell sites to cover these areas. (Tr. 4, p. 252)

204. LCC investigated an existing tower site owned by the Housatonic Cablevision Company located about 1.8 miles northeast of the proposed site at an elevation of approximately 910 feet AMSL, about 275 feet AMSL higher than the proposed site. Propagation models for a tower 250 feet high at this site projected holes in coverage in New Milford and along Route 202 north of New Milford. (LCC 1, pp. V-24, V-66; Tr. 3, pp. 92 to 99)

Costs

205. The estimated construction cost for the New Milford site would be $538,525.00. (LCC 1, Chapter V, p. V-22; LCC 8, Q-51, Amendment to Q-51 received December 7, 1992)