

DOCKET NO. 147 - An application of Springwich Cellular Limited Partnership for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a cellular telephone tower and associated equipment in the Town of Clinton, Connecticut. The proposed site is located at 113 Nod Road and the alternate site is at 46 Nod Road.

Connecticut

Siting

Council

May 5, 1992

## FINDINGS OF FACT

### Introduction

1. Springwich Cellular Limited Partnership (Springwich), in accordance with provisions of sections 16-50g through 16-50z of the Connecticut General Statutes (CGS) applied to the Connecticut Siting Council (Council) on December 13, 1991, for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, operation, and maintenance of a telecommunications facility in the Town of Clinton, Connecticut, to expand and improve cellular service in Middlesex County within the Hartford New England County Metropolitan Area (NECMA). (Springwich I, p. 1)
2. Public notice of the application, as required by CGS section 16-501(b) was published in the New Haven Register on November 29 and November 30, 1991, and in the Clinton Register on November 26 and November 30, 1991. (Springwich I, p. 5)
3. Pursuant to CGS section 16-50m, the Council, after giving due notice thereof, held a public hearing on the application on February 19, 1992, beginning at 3:00 P.M., and reconvening at 7:00 P.M., in the Clinton Town Hall, 54 East Main Street, Clinton, Connecticut. (Hearing Notice, p. 1)
4. The Council and its staff made inspections of the proposed prime and alternate sites in Clinton, Connecticut, on February 19, and February 20, 1992. During the field inspection, Springwich flew balloons at the proposed prime and alternate sites in order to simulate the heights of the proposed prime and alternate towers. (Tr. 2/19/92, 3:00 P.M., p. 29)
5. On December 21, 1984, the Southern New England Telephone Company (SNET) received an operating license (Radio Station Authorization) from the Federal Communications

Commission (FCC) to construct and operate the Hartford NECMA cellular radio telecommunications sites within which the Town of Clinton is located. This license has subsequently been transferred to Springwich. (Springwich I, Section VI, p. 29)

6. Radio station authorization for the cell site in this application will be applied for from the FCC if a Certificate is granted in this application by the Council. (Springwich I, Section I, p. 3)
7. The FCC has determined that there is a general public need for cellular service. Applicants for cellular licenses are not required to demonstrate a general public need for cellular service to State regulators. (Springwich I, p. 3; Springwich I, Section III, pp. 3-4)
8. The FCC has preempted State regulation of cellular telephone service in the areas of technical standards, market structure, and state certification prior to federal filing. (Springwich I, Section III, p. 4)
9. Cellular service consists of low power transmitter/receiver stations known as cell sites. Cell sites cover a geographic area typically two to ten miles in diameter, called a cell. The cellular service system design allows for the configuration of cell sites so that the same frequencies can be used at the same time in different cells (frequency reuse) and to provide uninterrupted service throughout a service area (hand-off). (Springwich I, pp. 2-3; Springwich I, Section II, pp. 2-3)
10. The FCC designates certain frequencies for wireline and non-wireline carrier use. Springwich, the wireline carrier, and the non-wireline carriers have each been allocated 25 MHz of frequency spectrum. The 25 MHz of spectrum provides 416 two-way radio channels for each carrier. (Springwich I, p. 3; Springwich I, Section III, p. 3)
11. Springwich submitted a notice of Proposed Construction or Alteration to the Federal Aviation Administration (FAA) on November 4, 1991, for approval of structures with a total height of 200 feet above ground level including all appurtenances, for the proposed prime and alternate Clinton sites. (Springwich I, Section VI, p. 30; Springwich I, Section VII, p. 13)
12. On February 10, 1992, the FAA determined that the proposed prime Clinton tower is identified as an obstruction, and should be obstruction marked and lighted under FAA regulations. (Springwich VI)

13. Springwich prefers the use of strobe lighting, which would require less maintenance than tower painting. (Tr. 2/19/92, 3:00 P.M., p. 25)
14. Springwich has not yet received a written determination from the FAA regarding obstruction marking and lighting of the alternate Clinton tower. The FAA verbally advised Springwich on March 3, 1992, that the alternate tower would be within horizontal and vertical airplane approach space and that the tower would not be permitted to be constructed as proposed. (Tr., 2/19/92, 3:00 P.M., p. 25; Springwich VI)
15. Construction of the proposed prime or alternate tower sites in Clinton would have no effect on Federally Endangered and Threatened Species or Connecticut Species of Special Concern. (Springwich II, Q. 7)
16. Construction of the proposed prime or alternate tower sites in Clinton would have no effect on any sites having historical significance in the area. (Springwich II, Q. 8)
17. Construction of the proposed prime or alternate tower sites in Clinton would have no effect on any State park or forest programs. Both the proposed prime and alternate sites are within Connecticut's Coastal Management Zone, but construction of the proposed towers would be consistent with the Connecticut Coastal Management Act. (DEP Comments, 2/5/92; Springwich II, Q. 1, Q. 7).

Need

18. The proposed or alternate tower sites in Clinton would provide improved coverage to Interstate 95 (I-95), Routes 1, 81, 79, and 145 and commercial areas of Clinton, Westbrook, and Madison. I-95 presently has six miles of uncovered or poorly covered roadway in the Clinton area. The proposed or alternate sites would connect the existing cellular service areas in Guilford, Killingworth, and Old Saybrook to provide hand-off and coverage to locations not presently served. (Springwich I, Section VI, p. 1; p. 33)
19. Springwich has experienced numerous customer complaints regarding cellular service in the Clinton area, including static and dropped calls. (Tr. 2/19/92, 3:00 P.M. pp. 40-42, p. 47)
20. The three existing Springwich cell sites in the Towns of Guilford, Killingworth, and Old Saybrook are too distant to provide adequate coverage to I-95 in Clinton, or to downtown and shoreline areas of Clinton. (Springwich III, Q. 15, Q. 18)

21. Adding 20 feet to either the Guilford or Old Saybrook towers or both would not be sufficient to provide the required coverage to the Clinton area. The Guilford site would require a 240-foot replacement tower and the Old Saybrook site a 260-foot tower to cover the Clinton area. Raising the towers to these heights would, however, cause undesirable coverage outside of the designed cells and increase the probability of frequency interference in adjacent cells or other cells using the same frequencies. (Springwich III, Q. 19)
22. In its search for a tower site in the Clinton area, Springwich identified 11 sites which it considered but rejected. Reasons for rejecting these sites included proximity to nearby residences, presence of a tower which was too short or structurally insufficient to support additional antennas, low elevation, and two sites which were acceptable but already under option to lease by Metro Mobile CTS of Hartford, Inc. (Springwich I, Section II, pp. 3-6)
23. The search area for Clinton was developed by using the three existing Springwich sites in Guilford, Killingworth, and Old Saybrook, plus an imaginary site in Long Island Sound. The imaginary site was determined by blending the Springwich and NYNEX mobile cellular networks. Frequency coordination with NYNEX mobile is a critical factor affecting system performance in the area. (Springwich II, Q. 13)
24. The proposed Clinton facility would be equipped with 27 channels and would have the capacity to handle a maximum of 648 calls per hour. It is estimated that the initial call-handling capacity of the Clinton facility would be exceeded in approximately three years. (Springwich III, Q. 17)

#### Proposed Prime Clinton Site

25. The proposed prime tower site is located at 113 Nod Road, Clinton, on property owned by M.J.M. Industrial and Commercial Properties. The proposed site contains a multi-unit self-storage building plus a parcel of land 25 feet by 40 feet which would be used for the tower and vehicle parking. An existing paved road and driveway would provide access to the tower site. (Springwich I, Section VI, p. 1, p. 3)
26. The proposed site, approximately 100 feet north of Nod Road, is a grassed area at the top of a 15-foot bank which descends a steep slope to a shrub swamp. The lease area of 25 feet by 40 feet occupies all of the ground between the multi-unit self-storage building and the

bank. With the proposed tower foundation measuring 18 feet by 18 feet, there would be little working area for excavation, construction equipment, a buffer area, or sedimentation control. (DEP Comments, 2/5/92; Springwiche I, Section VI, p. 17; Tr., 2/19/92, 3:00 P.M., p. 55)

27. The proposed site is zoned IP, Industrial Park. Adjacent properties include a machine company, a multi-unit self-storage building, the Town of Clinton landfill, and one residence. The existing adjacent storage building would be the only structure within the fall zone of the proposed tower. (Springwiche I, Section VI, pp. 16-17; Springwiche II, Q. 4)
28. There are nine residences within a 1000-foot radius of the proposed tower site, the nearest of which is 270 feet away. (Springwiche II, Q. 6)
29. The proposed site has an elevation of 30.5 feet above mean sea level (AMSL). Utilities would be brought in overhead. (Springwiche III, Q. 14; Springwiche I, Section VI, p. 16)
30. The wetlands adjacent to the proposed site would not be directly impacted by tower construction. However, the proposed site is not level in its southeastern corner, and Springwiche would add fill to within approximately 60 feet of the wetlands boundary. The Town of Clinton wetland regulations provide for a 25-foot setback from wetlands. The Town of Clinton regulates any area within 100 feet of wetlands and watercourses. Springwiche proposes to install sediment controls outside of the construction area. (Tr., 2/19/92; 3:00 P.M., p. 51, pp. 53-54, p. 57; Tr. 2/19/92, 7:00 P.M., pp. 13-15; Town of Clinton Late File I)
31. A lattice tower would not be feasible at the proposed site, due to a lack of adequate space for such a tower's configuration. A concrete retaining wall and substantial fill would be required to provide enough space. (Tr., 2/19/92, 3:00 P.M., pp. 50-51, p. 64)
32. The associated radio equipment needed for the proposed site would be placed within the end unit of the existing multi-unit self-storage building adjacent to the proposed site. A security fence would be constructed around the tower. (Springwiche I, Section VI, p. 1, p. 34)
33. The proposed prime site tower would be fully visible from the intersection of Old Nod Road and Nod Road; partially visible through trees at the intersection of East Shore Drive and Nod Road; and partially visible through trees from the intersection of Nod Place and Nod Road. The tower would not be visible from the intersection of

Nod Road and Sunnybrook Lane or from the entrance of Hammonasset State Park. (Springwich II, Q. 5)

34. The total estimated costs for the construction of the proposed prime Clinton tower site would be as follows:

Radio equipment	\$ 179,515
Antennas and Tower	70,000
Power and Common Equipment	170,670
Land and Building	175,000
Miscellaneous	<u>70,000</u>
TOTAL	\$665,185

(Springwich I, Section VI, p. 26)

Proposed Clinton Alternate Site

35. The proposed Clinton alternate site would be located at 46 Nod Road, Clinton, on a 138-foot by 175-foot rear portion of a 2.05-acre parcel of land. The alternate site is zoned Industrial District 2 (I-2), and is approximately one half-mile southeast of the proposed prime site. The alternate site is owned by William T. and Carol D. Walter. (Springwich I, Section VII, p. 1)
36. The alternate site is adjacent to AMTRAK railroad tracks, and across the tracks from the Bostich Corporation industrial building. The alternate site is approximately 550 feet south of Nod Road. Eighteen residences are within a 1000-foot radius of the alternate site, the nearest of which is approximately 420 feet distant. (Springwich I, Section VII, p. 7; Springwich II, Q. 6)
37. Approximately 1500 cubic yards of material have been previously removed from the alternate site, which is consequently approximately five feet lower in elevation than surrounding properties. The elevation of the alternate site is 14.2 feet AMSL. (Springwich III, Q. 14, Q. 16)
38. Little or no clearing would be required at the alternate site. A row of six 10-foot spruce trees line the fence adjacent to the AMTRAK property. (DEP Comments, 2/5/92; Springwich I, Section VII, p. 7)
39. There are no wetlands on the alternate site. (Springwich II, Q. 4)
40. Utilities would be brought into the alternate site underground adjacent to an existing access road. The fall zone of the tower would extend onto vacant areas of adjacent properties including the AMTRAK railroad tracks. (Springwich I, Section VII, p. 7; Springwich II, Q.4)

41. Springwich would construct a single-story 12-foot by 26-foot equipment building at the alternate site. Landscaping would include the placement of shrubs to reduce the visual impact of this building. A security fence would be constructed around the equipment building and tower. (Springwich I, Section V, pp. 1-2)
42. The tower proposed for the alternate tower site would not be visible from the intersection of Old Nod Road and Nod Road, from the intersection of East Shore Drive and Nod Road, or from the entrance of Hammonasset State Park. The top portion of the tower might be partially visible through trees from the intersection of Nod Place and Nod Road and from the intersection of Nod Road and Sunnybrook Lane. (Springwich II, Q. 5)
43. The total estimated costs for the construction of the alternate Clinton tower site would be as follows:

Radio equipment	\$179,515
Antennas and Tower	70,000
Power and Common Equipment	170,670
Land and Building	250,000
Miscellaneous	<u>70,000</u>
TOTAL	\$740,185

(Springwich I, Section VII, p. 9)

Tower and Antennas

44. Springwich would construct a 180-foot monopole tower at either the proposed prime or alternate Clinton tower site. The monopole would support a triangular antenna platform at its top to hold cellular antennas. The antenna platform would be 10 feet in width. The monopole would be painted a mixed blue-gray color. (Springwich I, Section V, pp. 3-4)
45. The monopole tower would be designed to withstand 125 mile an hour winds with two inches of radial ice. (Springwich I, Section V, p. 4)
46. Springwich would mount a minimum of four and a maximum of six omnidirectional antennas at the corners of the triangular antenna support structure. The antennas would be vertical whips approximately 13 feet in length and three inches in diameter. The antennas and antenna support structure would add 17 feet to the overall height of the tower. One paging antenna would be installed by SNET Paging, Inc., for a total tower height of 200 feet, including antennas. (Springwich I, Section V, p. 5)

Power Densities

47. Based on conservative assumptions, with the proposed cell site transmitting at maximum power on 45 channels and a single paging channel simultaneously, the electromagnetic radio frequency power density level is calculated to be  $0.09330 \text{ mW/cm}^2$  at the base of the proposed prime or alternate tower. The current Connecticut power density standard for the frequencies used by cellular telephone service and paging service is  $2.933 \text{ mW/cm}^2$ . (Springwich I, Section VI, p. 25, Section VII, p. 8)

Tower Site Search Process

48. Springwich investigated a site in an industrial area at 56 Nod Place, Clinton. Springwich determined that a 180-foot tower at this location would not provide adequate coverage to all uncovered or poorly covered areas along I-95. To provide adequate coverage along I-95, a 210-foot tower would be required. This site is 2000 feet west of the proposed prime site and is owned by the same party as the proposed prime site. (DEP Comments, 2/5/92; Springwich I, Section VI, p. 5; Springwich VIII)
49. Over a period of several months, both Springwich and Metro Mobile CTS of Hartford, Inc., (Metro Mobile) attempted to negotiate a mutually satisfactory agreement on the sharing of a tower site in Clinton. Due to differing business practices, the two companies were unable to finalize an agreement, and both carriers filed separate applications for Clinton tower sites with the Council in December 1991. However, at the urging of the Clinton First Selectman, both companies agreed to make another attempt at tower sharing. (Springwich II, Q. 11; Springwich IV, p. 1)
50. On February 11, 1992, Springwich co-signed a sublease with Metro Mobile to share Metro Mobile's proposed prime or alternate Clinton tower site as proposed to the Council in Docket No. 148. The option is for a period of one year. (Springwich V, Attachment B; Tr., 2/19/92, 3:00 P.M., p. 12)
51. Springwich has determined it could locate its antennas on Metro Mobile's proposed or alternate Clinton tower below the antennas of Metro Mobile without requiring any change in the tower's design, height, or structure. The Springwich antennas would be sufficiently separated from those of Metro Mobile to prevent interference. (Tr., 2/19/92, 7:00 P.M., p. 30; p. 39)



52. The antenna space leased to Springwich on the Metro Mobile prime or alternate Clinton tower would be of sufficient elevation at the proposed tower heights of 160 feet or 210 feet respectively, to meet Springwich's coverage objectives in the Clinton area. (Tr., 2/19/92, 3:00 P.M., p. 59)
53. At Metro Mobile's proposed prime 160-foot lattice tower off of Glenwood Road in Clinton, Springwich would attach one transmit antenna at the 160-foot level; two side-mounted receive antennas between the 123-foot and 134-foot levels; and nine transmit/receive antennas side-mounted between the 137-foot and 141-foot levels of the proposed tower. (Springwich V, Attachment B)
54. At Metro Mobile's proposed alternate 210-foot lattice tower off of Cow Hill Road in Clinton, Springwich would attach one transmit antenna at the 210-foot level and two side-mounted receive antennas between the 173-foot and 184-foot levels; and nine transmit/receive antennas side-mounted between the 187-foot and 191-foot levels of this proposed tower. (Springwich V, Attachment B)
55. Springwich offered to share its proposed prime and alternate sites with Metro Mobile, but Metro Mobile determined that these proposed facilities would not meet the coverage objectives of the Metro Mobile cellular systems. Springwich's order of preference for a tower site in Clinton is the proposed Metro Mobile prime site off of Glenwood Road, the proposed Metro Mobile alternate site off of Cow Hill Road, the Springwich proposed prime site at 113 Nod Road, and the Springwich alternate site at 46 Nod Road. (Tr., 2/19/92, 3:00 p.m., p. 26; Tr., 2/19/92, 7:00 P.M., p. 29)