

DOCKET NO. 126 - AN APPLICATION OF : Connecticut Siting
METRO MOBILE CTS OF HARTFORD, INC., : Council
FOR A CERTIFICATE OF ENVIRONMENTAL :
COMPATIBILITY AND PUBLIC NEED FOR : April 9, 1990
THE CONSTRUCTION, OPERATION, AND :
MAINTENANCE OF A CELLULAR TELEPHONE
TOWER AND ASSOCIATED EQUIPMENT IN
THE CITY OF HARTFORD, CONNECTICUT.

F I N D I N G S O F F A C T

1. Metro Mobile CTS of Hartford, Inc., in accordance with provisions of sections 16-50g to 16-50z of the Connecticut General Statutes (CGS), applied to the Connecticut Siting Council (Council) on September 28, 1989, for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of a telecommunications tower, associated equipment, and building to provide Domestic Public Cellular Radio Telecommunications Service (cellular service) in the City of Hartford within the Hartford, Connecticut, New England County Metropolitan Area (Hartford NECMA). (Record)
2. The application was accompanied by proof of service as required by section 16-50l of the CGS. (Record)
3. Affidavit of newspaper notice as required by section 16-50l of the CGS was supplied by the applicant. Newspaper notice of this application was published twice by the applicant in The Hartford Courant. (Metro Mobile 1, p.5, Exhibit 5)
4. The Council and its staff made an inspection of the proposed and alternate Hartford sites on January 4, 1990. During the field review, Metro Mobile flew a balloon at both the proposed and alternate sites to simulate the height of the towers. (Record)
5. Pursuant to section 16-50m of the CGS, the Council, after giving due notice thereof, held a public hearing on this application on January 4, 1990, at 4:00 P.M., and 7:00 P.M., at the Hartford Municipal Building, 550 Main Street, Hartford, Connecticut. (Record)
6. The parties to the proceeding are the applicant and those persons and organizations whose names are listed in the Decision and Order which accompanies these Findings. (Record)
7. The Department of Environmental Protection (DEP) filed written comments with the Council pursuant to section 16-50j of the CGS. (Record)

8. In 1981, the Federal Communications Commission (FCC) recognized a national need for technical improvement, wide-area coverage, high quality service, and competitive pricing in mobile telephone service. (Metro Mobile 1, p.6; Docket 107, Finding of Fact 10)
9. The FCC has pre-empted State regulation in determining that a public need currently exists for cellular service, setting technical standards for that service, and establishing a competitive market. (Metro Mobile 1, p.7; Docket 107, Finding of Fact 12)
10. The FCC has determined that the public interest requires two licenses for cellular service be made available in each market area or NECMA to provide competition. One license is awarded to a wireline company, the other to a non-wireline company. (Metro Mobile 1, pp.6, 9-10; Docket 107, Finding of Fact 11)
11. Conventional mobile telephone service has been limited by insufficient frequency availability, inefficient frequency use, and poor quality of service. These limitations have resulted in congestion, blocking of transmission, interference, lack of coverage, and high costs. (Metro Mobile 1, pp.5-6; Docket 107, Finding of Fact 9)
12. Cellular service consists of small, overlapping broadcast regions. These regions or cells are limited in coverage by the FCC's technical standards governing transmitting power. The system design provides frequency reuse and hand-off and would be capable of an orderly and compatible expansion. (Metro Mobile 1, p.13, Exhibit 11, p.6)
13. Presently, the proposed cellular system represents state-of-the-art technology and Metro Mobile is aware of no viable alternatives. A mobile satellite service has been under consideration by the FCC and may become available in the distant future. (Metro Mobile 1, p.18)
14. In selecting a site for the cell, Metro Mobile found no existing structures of adequate height, structural strength, or space availability in or near the search area. (Metro Mobile 1, Exhibit 11, pp.8-9 and Site Search Summary; Metro Mobile 3, Q.9; Metro Mobile 4, Q.18)

15. Six sites were considered by Metro Mobile within the search area. All six of the sites were rejected. One site at the University of Connecticut, 1808 Asylum Avenue, West Hartford, was rejected because the Vice President of Operations was opposed to the placement of a tower on University property. A second site at St. Joseph's College, 1678 Asylum Avenue, West Hartford, was rejected because the owner was not willing to negotiate. A third site at Mercyknoll, 243 Steele Road, West Hartford, was rejected because the owner was not willing to negotiate. A fourth site at St. Mary's Convalescent Home, 291 Steele Road, West Hartford, was rejected because the owner was not willing to negotiate. A fifth area north of Albany Avenue was rejected due to dense residential development. The sixth site at the Hartford Golf Club, Simsbury Road, West Hartford, was rejected because the owner was not willing to negotiate. (Metro Mobile 1, Exhibit 1, pp.8-9 and Site Search Summary; Metro Mobile 4, Q.18)

16. Eleven sites were considered by Metro Mobile outside of the search area. Nine sites were rejected because of any one of the following reasons:

- a) owners required the right to terminate the lease on 90 days notice;
- b) owners were not willing to negotiate;
- c) property at one site was under a condition that would preclude the construction of a communications tower;
- d) lack of space for tower and equipment building; and
- e) halting of negotiation due to successful negotiations for the proposed and alternate sites.

The proposed and alternate sites would be approximately 7/8 mile and approximately 13/16 mile east of the search area boundary respectively.

(Metro Mobile 1, Exhibit 1, p.2, Exhibit 2, p.2, Exhibit 11, pp.8-9 and Site Search Summary)

17. Building owners contacted for possible use as antenna locations within 1.2 miles outside of the search area included:

- a) Konover & Associates, Inc., three buildings in West Hartford.
- b) May Corporation, one building in West Hartford.
- c) Hebrew Home and Hospital, one building in West Hartford.

None of these locations were proposed by Metro Mobile. (Metro Mobile 3, Q.9; Metro Mobile 4, Q.18)

18. Both the proposed and alternate sites would primarily provide additional cellular traffic handling capacity, as opposed to providing coverage to an area otherwise unserved. (Metro Mobile 1, p.10)

19. The proposed and alternate sites would also provide some additional coverage to a gap in the West Hartford area running from South Main Street up to Mountain Road. (Tr. 1/4/90, pp.30-32)
20. The proposed tower would be a six sector (sectorized) site primarily intended to provide "off-loading" of calls from existing sites in Hartford, Bloomfield, and Windsor and improve coverage to the Hartford area. (Metro Mobile 1, pp.10, 15, Exhibit 8, Exhibit 11, pp.10-11; Metro Mobile 3, Q.6)
21. The maximum call handling capacity of the existing Bloomfield and Windsor omnidirectional sites is approximately 1,200 calls per hour per site. The maximum call handling capacity of the existing Hartford sectorized site is approximately 3,600 calls per hour with each of the six sectors able to accommodate 12 to 15 channels and approximately 600 calls per hour. (Metro Mobile 3, Q.2)
22. At the time of installation of the proposed site, the existing Hartford and Windsor sites would be fully sectorized, having the capacity to accommodate approximately 12 to 15 channels and approximately 600 calls during the peak hour in each of the six sectors per site. The Bloomfield site would remain omnidirectional and could accommodate approximately 45 channels and 1,200 calls during the peak hour. (Metro Mobile 3, Q.6, Q.10; Tr. 1/4/90, p.24)
23. Sectorization provides for maximum call handling capacity for a cell by dividing the geographic service area into six sectors, allowing for additional frequency reuse through the use of directional antennas for call handling. (Metro Mobile 3, Q.10)
24. Potential interference problems from other cell sites with the addition of the proposed site would be limited by reassignment of frequencies to all the sites recognizing their coverage areas and overlap. (Metro Mobile 3, Q.7)
25. The Windsor site currently handles approximately 425 calls during the peak hours and approximately 350 calls per hour averaged over a 12-hour business day from 7:00 a.m., to 7:00 p.m. The peak hour is during weekday afternoons. (Metro Mobile 3, Q.12)
26. The Windsor site has been in operation since October 1987. (Tr. 1/4/90, p.24)

27. The existing Hartford site currently handles approximately 2,225 calls during the peak hours from all six sectors and approximately 1,600 calls per hour averaged over a 12-hour business day from 7:00 a.m., to 7:00 p.m. The peak hour is during weekday afternoons. (Metro Mobile 3, Q.12, Q.13)
28. The existing Hartford site has been in operation since October 1987. (Tr. 1/4/90, p.23)
29. No call handling data was available for the Bloomfield cell site as it only went into service in November 1989. (Metro Mobile 3, Q.12, Q.13)
30. Sector three of the existing Hartford site which covers parts of Hartford, East Hartford, and Glastonbury, is currently exceeding its call handling capacity during the peak hour. Without relief from the proposed site, additional Hartford site sectors and the existing Windsor cell would begin to exceed their maximum call handling capacity during 1990. The remaining five Hartford sectors currently handle between 250 and 350 calls during the peak hour. No call projection data was provided. A sector is the area within a 60 degree arc with sector one being between a vector starting at zero degrees and ending at 60 degrees, sector two between 60 degrees and 120 degrees, sector three between 120 degrees and 180 degrees, sector four between 180 degrees and 240 degrees, sector five between 240 degrees and 300 degrees, and sector six between 300 degrees and 360 degrees. (Metro Mobile 3, Q.13; Metro Mobile 4, Q.16; Tr. 1/4/90, p.23; Record)
31. The sectorized channel plan for the existing Hartford site does not permit frequencies from lesser used sectors to be reassigned to the busiest sectors of a cell. (Metro Mobile 4, Q.16)
32. Call handling capacity at the existing cells would be neither increased nor decreased as a result of the addition of the proposed cell. Instead, the addition of the proposed site would increase the total capacity of the system to handle approximately 3,600 calls per hour in the greater Hartford area by the addition of approximately 12 to 15 channels in each of six sectors. (Metro Mobile 4, Q.17)
33. The proposed cell site would relieve sector 6 of the existing Hartford site and sectors 4 and 5 of the to be sectorized Windsor site. (Tr. 1/4/90, pp.22B-23)

34. The proposed cellular site is a rectangular 60-foot by 35-foot parcel of land located along the north-western boundary of a larger 1.83-acre lot at 439-455 Homestead Avenue, Hartford, Connecticut. The remainder of the lot is used for commercial activities. The proposed tower would be located approximately 195 feet west of Homestead Avenue; approximately 46 feet south of an abutting property owned by Philip Socci, which has a car wash business on site; approximately 10 feet east of a CL&P right-of-way which has 115-kV electric utility lines; approximately 15 feet east of property owned by the Connecticut DOT; and approximately 390 feet north of property owned by the Steel Sales Realty Company. (Metro Mobile 1, Exhibit 1, pp.1, 7; Metro Mobile 3, Q.5; Metro Mobile 7; Tr. 1/4/90, pp.13, 17-18; DEP Comments of 12/12/89)
35. Commercial activities on the lessor's lot (Hudson Associates) include an industrial laundry and other commercial businesses. (Metro Mobile 1, Exhibit 1, p.7)
36. The proposed site is surrounded by commercial land uses in the immediate area, with industrial uses intermixed southward, and residential uses found beyond the commercial zone to the north. (DEP Comments of 12/12/89)
37. Access to the proposed site would be over an existing driveway on land of the lessor. (Metro Mobile 1, Exhibit 1, p.1)
38. Metro Mobile proposed to construct a 140-foot self-supporting monopole tower. Two 15-foot call-processing transmit antennas would be base mounted at 138 feet with six 11 1/2-foot directional transmit/receive antennas side mounted at 131 feet. The total height of the tower with antennas would be 153 feet above ground level. (Metro Mobile 1, p.8, Exhibit 1, p.8)
39. The ground elevation of the proposed site is 62 feet AMSL, making the total height of the tower and antennas 215 feet AMSL. (Metro Mobile 1, Exhibit 1, pp.2, 6; Tr. 1/4/90, pp.12, 13)
40. A 20-foot by 30-foot by 10-foot, prefabricated equipment building would be constructed on the proposed site. (Metro Mobile 1, p.9)

41. The alternate site is a rectangular 40-foot by 60-foot parcel of land located along the western boundary of a larger 1.63-acre lot at 45 Granby Street, Hartford, Connecticut. The remainder of the lessor's lot is used for religious purposes and is the site of The Way of the Cross Church of Christ H.C. Brooks Memorial Chapel, Inc. The proposed tower would be approximately 150 feet west of Granby Street; approximately 213 feet south of property owned by Simon McCrae and Dolores L. McCrae; approximately 30 feet east of property owned by the Connecticut DOT; approximately 70 feet east of a CL&P right-of-way with 115-kV electric lines; approximately 68-feet north of a church building owned by the lessor; and approximately 205 feet north of property owned by Michelle J. Neiditz. (Metro Mobile 1, Exhibit 2, p.1; Metro Mobile 3, Q.5; Metro Mobile 7; Tr. 1/4/90, pp.13, 17-18; DEP Comments of 12/12/89)
42. The immediate area surrounding the alternate site includes an abandoned rail line owned by the DOT, a church parking lot, a church and some vacant property upon which several houses or small commercial buildings formerly were located. Two electric transmission lines also border the site, one on each side of the rail line. Residential areas including Westbrook Village to the west and Granby Street-Westbourne Parkway neighborhood to the east are located in the vicinity of the site. (DEP Comments of 12/12/89)
43. Access to the alternate site would be over an existing 135-foot long gravel road from Granby Street on a proposed 25-foot wide access easement through land of the lessor. (Metro Mobile 1, Exhibit 2, pp.1, 7; Metro Mobile 3, Q.5)
44. At the alternate site Metro Mobile would construct a 140-foot self-supporting monopole tower. Two 15-foot call-processing transmit antennas would be base mounted at 138 feet with six 11 1/2-foot directional transmit/receive antennas side mounted at 131 feet. The total height of the tower with antennas would be 153 feet above ground level. (Metro Mobile 1, p.8, Exhibit 2, p.8)
45. The ground elevation of the alternate site is 58 feet AMSL, making the total height of the tower and antennas 211 feet AMSL. (Metro Mobile 1, Exhibit 2, pp.2,6; Tr. 1/4/90, p.13)
46. A 20-foot by 30-foot by 10-foot, prefabricated equipment building would be constructed on the alternate site. (Metro Mobile 1, p.9)
47. The Connecticut DOT has no future plans for the property they own abutting both sites. (Metro Mobile 7; Tr. 1/4/90, p.19)

48. No site clearing or backfilling would be required at the proposed site. Some clearing of small shrubs and no backfilling would be required at the alternate site. (Metro Mobile 1, Exhibit 1, p.7, Exhibit 2, p.7)
49. Utilities for the proposed site would be routed overhead from the existing lines along the western boundary of the lessor's property, a distance of approximately 10 feet. Utilities for the alternate site would be routed overhead from Granby Street to the cell site, a distance of approximately 175 feet. (Metro Mobile 1, Exhibit 1, p.1, Exhibit 2, p.1, Exhibit 9, pp.1, 10)
50. The fall zones would not be totally within the lessors' properties. The commercial laundry building on the lessor's property, CL&P transmission lines, and a car wash on abutting property to the north of the lessor's property would be within the fall zone of the proposed site. The lessor's church and CL&P transmission lines would be within the fall zone of the alternate site. (Metro Mobile 3, Q.5; Metro Mobile 5; Tr. 1/4/90, p.17)
51. The zoning of the proposed site is I-2, Industrial District. The zoning of the alternate site is C-1, Commercial District. According to Chapter 35, Zoning of the Code of Ordinances of the City of Hartford, Section 35-3.31, "commercial radio, television, and other transmitting or relay antenna towers, when permitted, shall sit back from all abutting streets and adjacent property a distance of not less than one and one-half (1 1/2) times the height of the tower." (Metro Mobile 1, Exhibit 11, Site Search Summary; Metro Mobile 3, Q.4)
52. There are approximately 95 single- and multi-family buildings located within a 1,000-foot radius of the proposed cell site with the closest residence being approximately 500 feet to the northeast. There are approximately 103 single- and two-family residences and 41 apartment buildings containing approximately 250 apartments located within a 1,000-foot radius of the alternate cell site with the closest residence being approximately 165 feet to the west. (Metro Mobile 1, Exhibit 1, p.7, Exhibit 2, p.7, Exhibit 9, pp.2, 11; Tr.1/4/90, pp.13-14)
53. The electromagnetic radio frequency power density at the proposed and alternate sites, assuming all channels operating simultaneously at maximum allowable power and broadcasting from the lowest set of antennas, would be 0.0737 milliwatts per square centimeter (mW/cm^2). This would be well below the American National Standards Institute standard of $2.92mW/cm^2$. (Metro Mobile 1, pp.11-12, Exhibit 9, pp.2, 11)

54. Both the proposed and alternate tower would be designed to withstand a pressure equivalent to 90 mph wind with a 1/2-inch solid ice accumulation in accordance with Electronic Industries Association standard RS-222-D. (Metro Mobile 1, Exhibit 12; Metro Mobile 9; Tr. 1/4/90, p.47)
55. The base of the tower would be designed to conform to a strength of 1 1/2 times the overturning moment, which has a marginal safety factor of 50 percent. (Tr. 1/4/90, pp.45-46, 50)
56. The antennas would be designed to withstand 125 mph winds with a 1/2-inch radial ice. (Tr. 1/4/90, pp.47-48)
57. According to the Connecticut Historical Commission "the project will have no impact with respect to historic, architectural, or archaeological resources listed on or eligible for the National or State Register of Historic Places." (Metro Mobile 3, Q.1)
58. There are no known extant populations of Connecticut "Species of Special Concern" or Federal Endangered and Threatened Species that occur at the site in question. (Metro Mobile 3, Q.1)
59. There are no vulnerable environmental resources at either the proposed or alternate sites. (DEP Comments of 12/12/89)
60. The estimated cost of the 140-foot monopole tower would be approximately \$24,000. The estimated cost of a 140-foot monopole tower designed for 125 mph winds with two-inch radial ice would be approximately \$36,000. The tower designed to withstand 125 mph winds would be approximately three to four inches larger in diameter than the proposed tower. (Metro Mobile 9)
61. The total estimated cost of construction for the proposed site is as follows:
- | | |
|-------------------------------------|-------------|
| Radio equipment | \$ 586,100 |
| Tower and antennas | 41,280 |
| Power system | 18,000 |
| Building | 68,300 |
| Miscellaneous | 134,600 |
| (Site preparation and installation) | |
| TOTAL | \$ 848,280. |
- (Metro Mobile 1, p.16, Exhibit 1, p.9)

62. The total estimated cost of construction for the alternate site is as follows:
- | | |
|-------------------------------------|-------------|
| Radio equipment | \$ 586,100 |
| Tower and antennas | 41,280 |
| Power system | 18,000 |
| Building | 68,300 |
| Miscellaneous | 134,600 |
| (Site preparation and installation) | |
| TOTAL | \$ 848,280. |
- (Metro Mobile 1, pp.16-17, Exhibit 2, p.9)

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