



STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

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July 19, 2011

TO: Parties and Intervenors

FROM: Linda Roberts, Executive Director

RE: **DOCKET NO. 414** - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 36 Ritch Avenue, Greenwich, Connecticut.

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By its Decision and Order dated July 14, 2011, the Connecticut Siting Council granted a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 36 Ritch Avenue, Greenwich, Connecticut

Enclosed are the Council's Findings of Fact, Opinion, and Decision and Order.

LR/RDM/laf

Enclosures (3)

c: State Documents Librarian

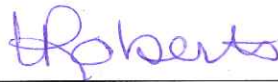
STATE OF CONNECTICUT )

ss. New Britain, Connecticut :

COUNTY OF HARTFORD )

I hereby certify that the foregoing is a true and correct copy of the Findings of Fact, Opinion, and Decision and Order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:

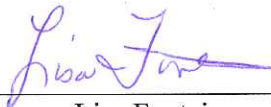


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Linda Roberts  
Executive Director  
Connecticut Siting Council

I certify that a copy of the Findings of Fact, Opinion, and Decision and Order in Docket No. 414 has been forwarded by Certified First Class Return Receipt Requested mail, on July 19, 2011, to all parties and intervenors of record as listed on the attached service list, dated February 9, 2011.

ATTEST:



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Lisa Fontaine  
Fiscal Administrative Officer  
Connecticut Siting Council



**DOCKET NO. 414** - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 36 Ritch Avenue, Greenwich, Connecticut.

Connecticut

Siting

Council

July 14, 2011

## Findings of Fact

### Introduction

1. Cellco Partnership d/b/a Verizon Wireless (Cellco), in accordance with the provisions of Connecticut General Statutes (CGS) §§ 16-50g through 16-50aa, applied to the Connecticut Siting Council (Council) on December 15, 2010, for the construction, maintenance, and operation of a 77-foot wireless telecommunications facility located at 36 Ritch Avenue in Greenwich, Connecticut (refer to Figure 1). (Cellco 1, pp. 1-2)
2. Cellco is a Delaware corporation with an office in East Hartford, Connecticut. Cellco is licensed by the Federal Communications Commission (FCC) to construct and operate a personal wireless service system in Connecticut. (Cellco 1, p. 4)
3. The purpose of the proposed facility is to provide wireless service for Cellco in the southwest section of Greenwich. (AT&T 1, pp. 6-7)
4. The parties in the proceeding are the applicant and John Hartwell. The intervenor in the proceeding is T-Mobile Northeast LLC (T-Mobile). (Record)
5. Pursuant to CGS § 16-50m, the Council, held a public hearing on March 29, 2011, beginning at 3:10 p.m. and continuing at 7:10 p.m. at the Greenwich Public Library, 101 West Putnam Avenue, Greenwich, Connecticut. The evidentiary hearing was continued on May 9, 2011 at the office of the Connecticut Siting Council, 10 Franklin Square, New Britain, Connecticut. (Transcript 1 – 03/29/11, 3:10 p.m. [Tr. 1], Tr. 1, p. 3; Transcript 2 – 03/29/11, 7:10 p.m. [Tr. 2], p. 3; Transcript 3 – 05/09/11, 1:10 p.m. [Tr. 3], p. 3)
6. The Council and its staff conducted an inspection of the proposed site on March 29, 2011, beginning at 2:00 p.m. The applicant attempted to fly a balloon at the proposed site to simulate the height of the proposed facility but windy conditions prevented a balloon fly. (Tr. 2, p. 5)
7. Notice of the application was sent to all four abutting property owners by certified mail. Two return receipts (Dorethea Meilinggard and Albert Primo) were not received. Cellco re-sent notice to these two abutters by first class mail. (Cellco 4, R. 1)
8. Public notice of the application was published in The Advocate on December 9 & 10, 2010. (Cellco 2)
9. Cellco installed a four-foot by six-foot sign at the entrance to the property along Ritch Avenue on March 11, 2011. The sign presented information regarding the proposed project and Council's public hearing. (Cellco 5)
10. Pursuant to CGS § 16-50l(b), Cellco provided notice to all federal, state and local officials and agencies listed therein. (Cellco 1, Tab 2)

### State Agency Comment

11. Pursuant to CGS § 16-50j(h), on February 10, 2011 and May 10, 2011, the following State agencies were solicited to submit written comments regarding the proposed facility: Department of Environmental Protection (DEP), Department of Public Health, Council on Environmental Quality, Department of Public Utility Control, Office of Policy and Management, Department of Economic and Community Development, the Department of Transportation (DOT), Department of Emergency Management and Homeland Security and the Department of Agriculture. (Record)
12. The Council received a written "no comment" letter from the DOT. No other response was received. (Record)

### Municipal Consultation

13. On August 19, 2010, Cellco met with Town of Greenwich representatives, including First Selectman Peter Tesei, to formally commence the municipal consultation process regarding this application. During the pre-application process, the Town suggested a tower designed as a simulated pine tree would be appropriate for the site. (Cellco 1, p. 19; Tr. 3, pp. 28-29)
14. On October 26 and November 9, 2010, the Greenwich Planning and Zoning Commission (Greenwich P&Z) conducted a public information hearing regarding the proposal. (Cellco 1, p. 19)
15. The Town submitted comments to the Council on November 22, 2010, requesting that information regarding various aspects of the project be included in the record. (Town of Greenwich comments of November 22, 2010)
16. The Town submitted additional comments to the Council on January 12, 2011 that provided information regarding the approval of the current AT&T facility on the site property. (Town of Greenwich comments of January 12, 2011)

### Public Need for Service

17. In 1996, the United States Congress recognized a nationwide need for high quality wireless telecommunications services, including cellular telephone service. Through the Federal Telecommunications Act of 1996, Congress seeks to promote competition, encourage technical innovations, and foster lower prices for telecommunications services. (Council Administrative Notice No. 8)
18. In issuing cellular licenses, the Federal government has preempted the determination of public need for cellular service by the states, and has established design standards to ensure technical integrity and nationwide compatibility among all systems. Cellco is licensed by the Federal Communications Commission (FCC) to provide wireless service to Fairfield County. (Council Administrative Notice No. 8; Cellco 1, p. 8)
19. The Telecommunications Act of 1996, a Federal law passed by the United States Congress, prohibits any state or local entity from regulating telecommunications towers based on the environmental effects of radio frequency emissions to the extent that such towers and equipment comply with FCC's regulations concerning such emissions. This Act also blocks the Council from prohibiting or acting with the effect of prohibiting the provision of personal wireless service. (Council Administrative Notice No. 8)

20. In an effort to ensure the benefits of wireless technologies to all Americans, Congress enacted the Wireless Communications and Public Safety Act of 1999. The purpose of this legislation was to promote public safety through the deployment of a seamless, nationwide emergency communications infrastructure that includes wireless communications services. Congress further enacted the Enhanced 911 Act to facilitate emergency response capabilities. (Council Administrative Notice No. 9 & 10; Cellco 1, pp. 7-8)

#### **Cellco - Existing and Proposed Wireless Coverage**

21. Cellco proposes to operate cellular (800 MHz) and personal communication service (1900 MHz or PCS) equipment at the site. Long-term evolution (700 MHz or LTE) equipment would be installed in the future. (Cellco 4, R. 5)
22. Cellco designs and operates its network at the following signal-level thresholds: in-vehicle service is -85 dBm and in-building service is -75 dBm. (Cellco 4, R. 4)
23. Cellco seeks to enhance its coverage in the southwest portion of Greenwich, including Interstate 95, Route 1 and surrounding local roads in the Byram and Belle Haven sections of town. Land use in the proposed service area includes commercial, industrial, municipal, residential and recreational. (Cellco 1, p. ii, p. 10, Tab 6)
24. The existing PCS and cellular signal-level in the proposed service area ranges from -86 dBm to -98 dBm, with dropped calls averaging 2.5 percent and ineffective attempts averaging 1.4 percent. Cellco seeks to achieve a dropped call and ineffective attempt rate of less than one percent. (Cellco 4, R. 5, R. 6)
25. Existing Cellco facilities at 411 West Putnam Ave and 1 Greenwich Plaza, approximately 1.2 miles and 1.7 miles northeast of the site, respectively, cannot provide adequate coverage to the proposed service area (refer to Figures 2 & 4). (Cellco 1, Tab 6, Tab 8)
26. Installing antennas at the 57-foot level of the facility would provide reliable PCS, cellular, and LTE coverage to the proposed service area. The site would provide a PCS coverage footprint of approximately 4.0 square miles (refer to Figure 5) and a cellular coverage footprint of 5.6 square miles (refer to Figure 3). LTE coverage is similar to that of cellular. (Cellco 1, p. 3, Tab 6)
27. Cellco's FCC license does not allow Cellco to transmit from a base station in New York into Connecticut at the cellular frequencies. This restriction does not apply to Cellco at the PCS and LTE frequencies. (Cellco 4, R. 10)
28. A Distributed Antenna System (DAS) would not be a viable alternative for Cellco to meet coverage objectives. In terms of radio frequency a DAS is not effective in providing coverage and capacity to a large area, especially where tree cover is heavy and the terrain is not flat. Since DAS requires a relatively large number of nodes connected by fiber optic cable to provide coverage, impediments to the deployment of a DAS include lack of utility poles in certain areas to support nodes, limitations on existing utility pole access, and the need to obtain property rights for deployment. (Cellco 7, R. 7)

#### **T-Mobile - Existing and Proposed Coverage**

29. T-Mobile is licensed by the FCC to provide PCS service and Advanced Wireless Services (2100 MHz). (T-Mobile 4b)

30. T-Mobile designs and operates its network at the following signal-level thresholds: in-vehicle service is -84 dBm and in-building service is -76 dBm. (T-Mobile 4b)
31. T-Mobile seeks to provide sufficient coverage to the Interstate 95, Hamilton Avenue, Byram Road, Ritch Avenue and Delavan Avenue areas. (T-Mobile 2, R. 1; T-Mobile 4b)
32. T-Mobile currently experiences a dropped call rate of up to five percent depending on which nearby cell is handing off traffic to another cell. T-Mobile designs its network with a dropped call rate of less than two percent. (Tr. 3, p. 41)
33. Existing T-Mobile facilities in Greenwich and New York cannot provide adequate coverage to the proposed service area. The nearest T-Mobile facility is a rooftop mount at 167-169 Terrace Avenue in Port Chester, New York (refer to Figure 6). (T-Mobile 2, Attachments A & C)
34. Installing antennas at the 77-foot level of the facility would meet T-Mobile's coverage objectives (refer to Figure 7). (T-Mobile 2, Attachment A; T-Mobile 4b)
35. Installing antennas below 77 feet would cause coverage to degrade below the -84 dBm threshold. (T-Mobile 4b, R. 8)
36. T-Mobile has had an active search ring in the areas since 2008, examining numerous properties. T-Mobile does have a lease to use a residential property at 44 Talbot Lane, but the site is in a dense residential area. T-Mobile decided to proceed with the proposed site once it determined that the site is viable. (T-Mobile 2, R. 7; T-Mobile 3, R. 3; Tr. 3, pp. 41- 43, 47-52)
37. T-Mobile would not consider a DAS in this area of Greenwich because they seek to provide coverage to a larger area than a DAS can provide. In T-Mobile's experience, exterior DAS is limited to specific locations like a small college campus or for small capacity off-loads, rather than for large coverage areas exceeding a half-mile in radius. (T-Mobile 3, R. 5; Tr. 3, pp. 53-58)

#### Site Selection

38. Cellco established a search ring for the proposed service area in 2004. (Cellco 1, Tab 8)
39. Cellco focused on the proposed site because it is already developed with a telecommunications facility owned by AT&T (refer to Figure 9). The existing tower has limited capacity and can only support AT&T. The Greenwich P&Z approved it in 2002 before the Council had jurisdiction over towers providing services beyond cellular (800 MHz). That decision specified a 70-foot flagpole tower for use only by AT&T, and did not allow other structures on the property, requiring that any changes to that decision would require additional filings to, and approval by, the Greenwich P&Z, under the assumption that the Town retained jurisdiction. (Cellco 1, p.17, Tab 6; Town of Greenwich comments of January 12, 2011)
40. Cellco also investigated three other locations and rejected them, as follows:
  - a. 104/124 Ritch Ave – potential rooftop structure. Discussion with landowner did not result in an agreement.
  - b. 10 Hamilton Ave - potential rooftop structure. Discussion with landowner did not result in an agreement.
  - c. Byram Park – Cellco dismissed the park as an option after determining a 150-foot facility would be required.

- d. 56 Ritch Ave – Cellco rejected this location after determining a 120-foot flagpole would be required on the front lawn of this property.  
 (Cellco 1, Tab 8; Cellco 4, Q. 7)

**Facility Description**

41. The proposed facility would be located on a 0.26-acre residentially-zoned (R-7) parcel owned by Ritch Avenue LLC. (Cellco 1, Tab 1)
42. The parcel is a flag lot and is located behind two residentially developed parcels at 42 and 48 Ritch Avenue (refer to Figure 8). The access drive is located on the narrow portion of the lot between 32 Ritch Avenue and 42 Ritch Avenue, both of which contain residences. Another residentially developed parcel is located to the east (52 Ritch Avenue) and a narrow undeveloped parcel is located to the north, beyond which is the on-ramp to Interstate 95 southbound. (Cellco 1, pp. 2-3, Tab 1)
43. The proposed tower site is located approximately 15 feet northeast of the existing AT&T tower. (Cellco 7, R. 13)
44. The existing 70-foot AT&T tower would be removed by Cellco after the proposed Cellco tower is constructed and AT&T's equipment is installed on the new tower. (Cellco 1, Tab 14; Tr. 3, pp. 73-74)
45. The proposed tower site is located at an elevation of 54 feet above mean sea level (amsl) at 41° 00' 18.08" north latitude and 73° 38' 53.93" west longitude. (Cellco 1, Tab 1)
46. With respect to the abutting property lines, the proposed tower site is located as follows:

<b>Abutting Property - address and owner</b>	<b>Approximate Distance (feet) /Direction from tower</b>
52 Ritch Avenue (Meilinggaard)	52 feet to northeast
48 Ritch Avenue (Primo)	59 feet to east
42 Ritch Avenue (Hartwell)	32 feet to southwest
32 Ritch Avenue (Lynn Jr.)	122 feet to southwest
No address (Catalano Park & Playground)	18 feet to west

(Cellco 1, Tab 1)

47. The Catalano Park & Playground parcel is a narrow, undeveloped, and non-taxable property located between the site parcel and Interstate 95. (Cellco 1, p. iii; Cellco 8, R. 1)
48. The nearest residence to the proposed tower site is approximately 59 feet to the east (Meilinggaard residence). (Cellco 1, Tab 1)
49. There are 92 single-family and multi-family dwellings within 1,000 feet of the proposed tower site. (Cellco 1, p. 14)



50. Cellco proposes to construct a 77-foot monopole designed as a simulated pine tree (monopine). The overall height of the monopine would be approximately 84 feet, including the simulated branches that would extend above the monopole. Simulated branches would be installed from the top of the tower down to a height of 16 feet above ground level. The branches would have a diameter of approximately 20 feet for most of the tower's height, tapering near the top to give it a natural appearance. The 84-foot height of the branches is necessary for the tapering effect. (Cellco 1, Tab 1; Tr. 1, pp. 19-20; Tr. 3, pp. 22-23, 31)
51. The tower would be designed to support three levels of T-arm mounted antennas, as well as whip antennas and a dish antenna at the top. The T-arm mounts would have a length of 12 feet. (Cellco 1, Tab 1)
52. Cellco proposes to install 15 antennas on T-arm mounts at the 57-foot elevation of the tower. AT&T would locate at the 67-foot level. T-Mobile would install three antennas at the 77-foot level of the tower. (Cellco 1, p. i; T-Mobile 1, R. 3)
53. The Town of Greenwich would reserve space on the tower for the town's emergency communication system, although the Town has not yet completed communication studies to specify exact needs. The Town may install two 12-foot whip antennas on top of the monopole and a 2.5-foot diameter microwave dish attached to a three-foot pipe mast mounted on top of the monopole. If the town placed their equipment on the tower, the overall height of the facility with whip antennas would be approximately 89 feet above ground level, extending five feet above the simulated branches. The microwave dish and pipe mast would be concealed within the simulated branches. (Cellco 9, R. 3; Tr. 3, pp. 25, 28)
54. Cellco would construct a 2,930 square-foot equipment compound at the site. (Cellco 1, Tab 1)
55. A single 965-square-foot equipment building would be constructed within the compound. The building would be compartmentalized to accommodate each carrier and the town. It would resemble a wood-frame structure and would have a pitched roof. A concrete pad located near the compound access gate would support air-conditioning condensers. (Cellco 1, Tab 1)
56. An eight-foot high vinyl fence would enclose the compound. (Cellco 1, Tab 1)
57. Cellco could eliminate the fence on the north, east and part of the west side and keep the fence on the south side to maintain site security, thus providing more space on the parcel. (Tr. 1, pp. 28-33)
58. Access to the compound would be from an existing driveway extending from Ritch Avenue. The existing driveway would be re-constructed and re-oriented to keep it on the lessor's property. Currently, the existing access drive encumbers a portion of the Lynn property. Cellco was unable to reach an easement agreement with Mr. Lynn to allow for the current driveway alignment. (Cellco 1, Tab 1; Tr. 1, p. 16)
59. An existing retaining wall along the property line with Mr. Hartwell's property would be reinforced and extended as part of the driveway reconstruction. A 42-inch high safety railing with spindles would be placed on top of the retaining wall. All construction related to the wall could be done without a need to access Mr. Hartwell's property. (Cellco 1, Tab 1, Tr. 1, pp. 17-19, 79, 88-89; Tr. 3, pp. 70-71)

60. The drainage system for the driveway would be improved by removing the existing tie-in on Mr. Hartwell's property, backfilling and repaving. This would eliminate the ruts in the existing driveway and poor drainage at the bottom of the driveway that flows onto Mr. Hartwell's property. Cellco would prefer to go onto Mr. Hartwell's property to cap the existing drainage system tie-in and eliminate the ruts. If Cellco cannot obtain access to Mr. Hartwell's property, Cellco could cap the tie-in on the site property and leave the ruts unrepaired. (Tr. 3, pp. 13-15, 69-72)
61. Cellco would be willing to host a pre-construction meeting with Mr. Hartwell to discuss specific details related to the reconstruction of the driveway. (Tr. 3, pp. 69-72)
62. The driveway would have grades of 3 to 10 percent for the first 30 feet, reaching a maximum of 22 percent before leveling off near the top. The average grade would be 16 percent. (Tr. 1, pp. 87-89)
63. Approximately 191 cubic yards of cut and seven cubic yards of fill would be required for the project. (Cellco 4, R. 3)
64. The proposed site would be serviced by underground utilities. Existing wood utility poles that provide service to the existing AT&T facility would be removed. (Tr. 2, pp. 71-72)
65. The estimated construction cost of the facility, not including AT&T's and T-Mobiles equipment, is:

Radio equipment	\$450,000.
Site development/installation	205,000.
Tower and antennas	150,000.
Equipment building	120,000.
<u>Power systems</u>	<u>20,000.</u>
<u>Total estimated cost</u>	<u>\$945,000.</u>

(Cellco 1, p. 21)

#### **Environmental Concerns**

66. The site is not within any designated area indicating the presence of Federally threatened or endangered species or State endangered, threatened or special concern species. (Cellco 1, p. 20)
67. The proposed site would be located approximately two miles northwest of Great Captains Island, a 17-acre island in Long Island Sound identified by the Connecticut Audubon Society as an Important Bird Area (IBA) because it serves as a rookery for shore birds. The island's value as a migratory stopover for land birds is not documented. A second IBA, Greenwich Point Park, is approximately 3.3 miles east of the proposed tower and has been identified as a land bird migratory stopover. The proposed tower would not have a substantial effect on migratory species due to its low height and location near Interstate 95. (Council Administrative Notice No. 29; Tr. 1, pp. 57-58)
68. The proposed tower would comply with recommended guidelines of the United States Fish and Wildlife Service for minimizing potential impact to bird species. The guidelines recommend that towers be less than 199 feet tall, avoid the use of aviation lighting, and avoid guy wires as tower supports. (Council Administrative Notice No. 38)
69. The site is within the coastal boundary as defined by the Connecticut Coastal Management Act, an act implemented to protect coastal resources. The proposed project would not alter the natural characteristics of coastal resources. (Cellco 1, Tab 14)

70. No trees greater than four inches in diameter would be removed to develop the site. (Cellco 1, Tab 1; Tr. 1, pp. 47-48)
71. There are no wetlands or watercourses on the site. A watercourse is located approximately 750 feet east of the site. (Tr. 1, p. 58)
72. The site is not located within a 100-year or 500-year floodplain. (Cellco 1, Tab 13)
73. Soils at the site are thin, with approximately four to eight feet of soil above the underlying bedrock. Blasting is not anticipated at the site. Small intrusions of ledge could be removed by chipping. (Tr. 1, pp. 25-26, 43-48)
74. A rain garden would be developed east of the compound along the top of a rock face. Abutting properties are located below the rock face. The rain garden would slow the water down, allowing for some infiltration, but would not alter the existing drainage patterns. (Tr. 1, pp. 43-48, 59-60)
75. Drainage along the access drive would be improved by adding two or three catch basins along the slope of the driveway and a gutter on the west side of the driveway to direct water flows. (Cellco 1, Tab 1; Tr. 1, pp. 41-42)
76. Erosion and sedimentation controls and other best management practices would be established and maintained for the duration of site construction. (Cellco 1, p. 18)
77. The State Historic Preservation Office reviewed the proposal and determined that the project would have no effect on historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places. (Cellco 1, Tab 11)
78. Aircraft hazard obstruction marking or lighting of the tower is not required or proposed. (Cellco 1, p. 20)
79. The cumulative worst-case maximum power density from the radio frequency emissions from the operation of the proposed AT&T, T-Mobile and Cellco antennas is calculated to be 4.8% of the standard for Maximum Permissible Exposure, as adopted by the FCC, at a distance of 314 feet from the tower. This value is based on the worst case parameters including all antennas are operating at full capacity, all antennas channels are transmitting simultaneously, and radio transmitters are operating at full power. Power density levels closer or farther than 314 feet would be less. This calculation was based on methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997). Under normal operation, the antennas would be oriented outward, directing radio frequency emissions away from the tower, thus resulting in significantly lower power density levels in areas around the tower base. (Cellco 1, Tab 10)

#### Visibility

80. The proposed tower would be visible year-round from approximately seven acres of land area within a quarter mile of the site. Approximately 32 acres of land area within a quarter mile of the site would have visibility of the proposed tower during "leaf-off" conditions (refer to Figure 10). (Cellco, Tab 9)
81. Approximately five residential properties along Ritch Avenue would have year-round views of the tower. These properties currently have a view of the existing facility (refer to Figures 11- 16). (Cellco 1, Tab 9)

82. Approximately nine residential properties would have views of the tower during “leaf-off” conditions, including six properties on Ritch Avenue, one property on Louden Street, and two properties on Ocean View Avenue. These properties also have a “leaf-off” view of the existing tower. (Cellco 1, Tab 9)
83. Visibility of the proposed tower from specific locations within a quarter-mile radius of the site is as follows:

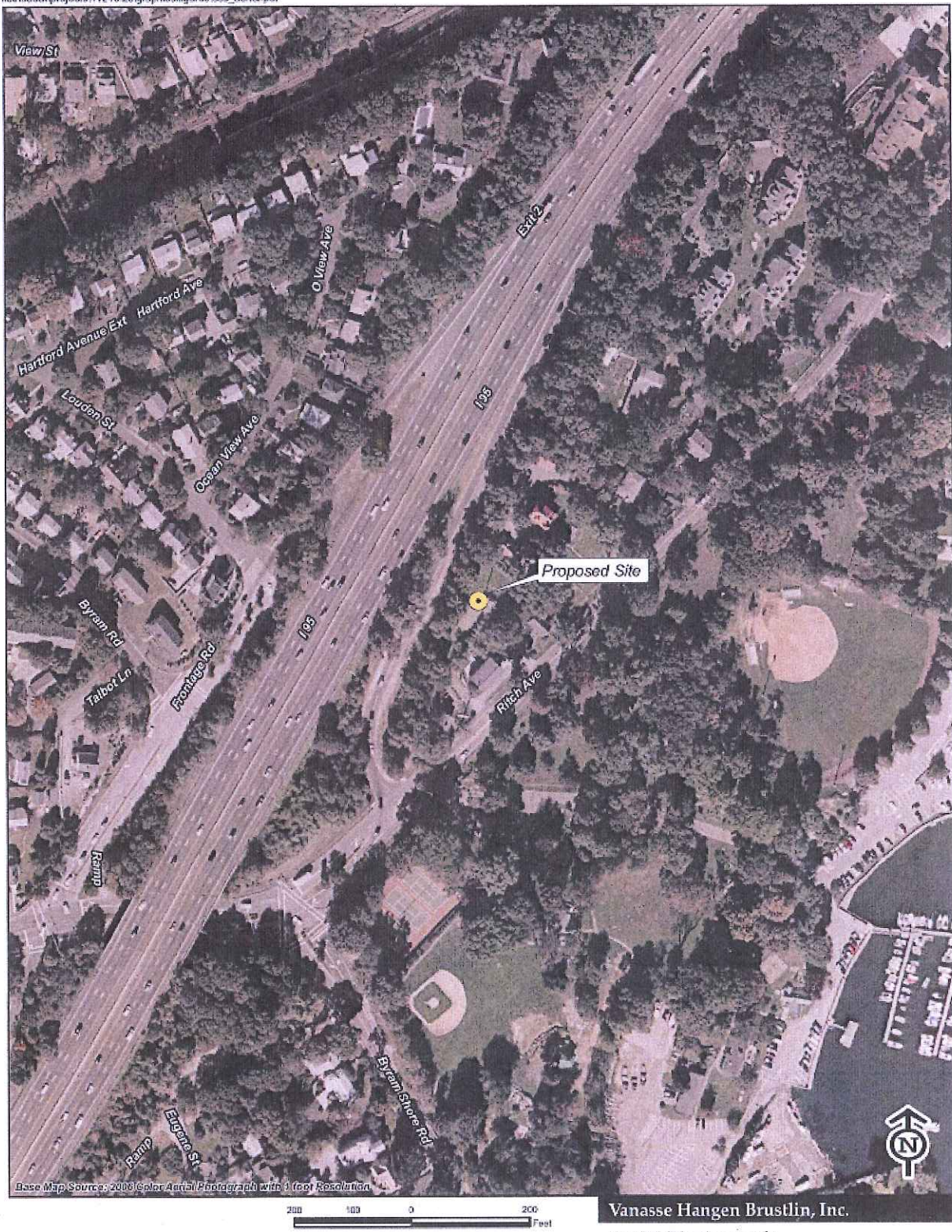
Specific Location	Visible	Approximate Portion of Tower Visible (from top)	Approx. Distance to Tower
Byram Park near baseball field	Yes	40 feet – through trees	844 feet northwest
Byram Park near pavilion	Yes	45 feet – above trees	686 feet northwest
Byram Park by entrance- 2 homes near location	Yes	45 feet – above trees Additional 20 feet during “leaf-off”	370 feet north
Frontage Road	Yes	65 feet –through trees	370 feet east
56 Ritch Avenue rear parking area	Yes	45 feet - above adjacent residence	165 feet southwest
56 Ritch Avenue second floor window	Yes	65 feet – above adjacent residence	185 feet southwest
Intersection of Rich Avenue and Our Drive	Yes	70 feet – through sparse trees	275 feet west

(Cellco 1, Tab 9; Cellco 4, Tab 3; Tr. 1, pp. 48-49, 77)

84. The proposed tree-tower would be visible year-round from approximately 1550 acres of Long Island Sound within two miles of the site - mostly the very top of the tower. The proposed tree-tower would blend in with the surrounding scenery when viewed from the open water areas. The nearest portion of Long Island Sound from the tower site is approximately 850 feet to the south, in Byram Park. (Cellco 1, Tab 9; Tr. 1, pp. 54-55)
85. The proposed monopine would be about the same height as a typical white pine in Connecticut and existing scattered conifers located within 500 feet of the site. (Cellco 1, Tab 9; Tr. 1, pp. 50-51, 55-56)
86. If a flagpole-style tower were specified at the site, the tower would have to be 122 feet tall to accommodate multiple levels of flush-mounted antennas. This would be approximately 40 to 50 feet taller than the proposed tree-tower, therefore increasing views of the facility. (Tr. 1, pp. 49-53)
87. Whip antennas mounted on top of the tower would be visible from near-range views. (Tr. 1, pp. 77-79)
88. The tower would not be visible from any known hiking trails maintained by the DEP or the Connecticut Forest and Parks Association. (Council Administrative Notice 34)
89. There are no local or state scenic roads within two miles of the site. (Cellco 1 Tab 9)



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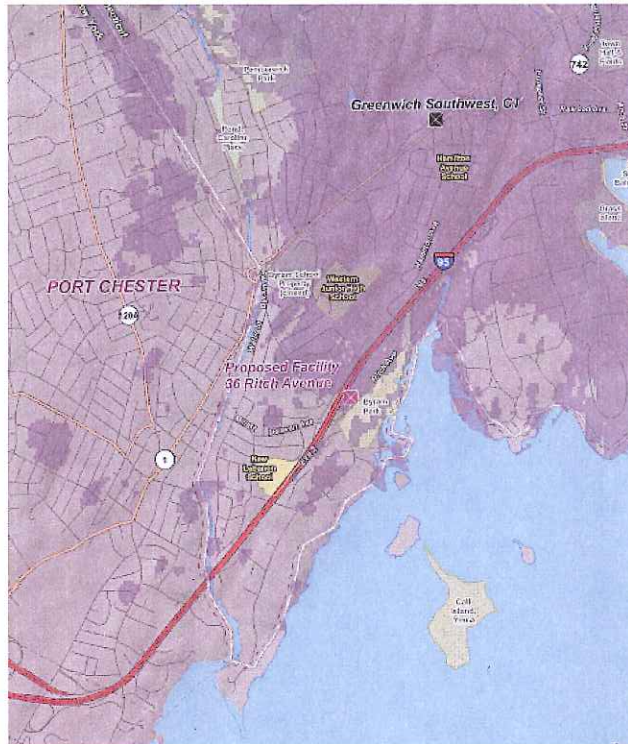


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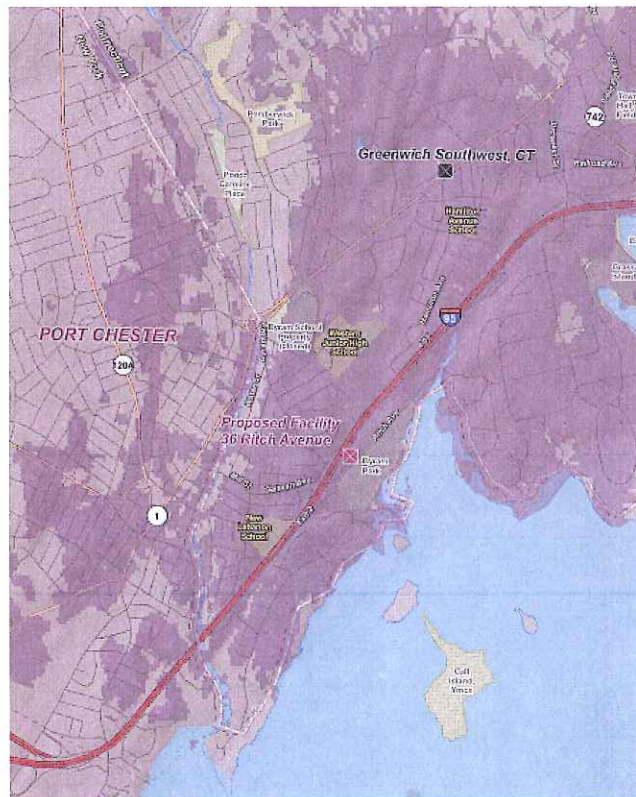
Aerial Photograph

Figure 1: Site location at 36 Ritch Avenue, Greenwich. (Cellco 1, p.iii)

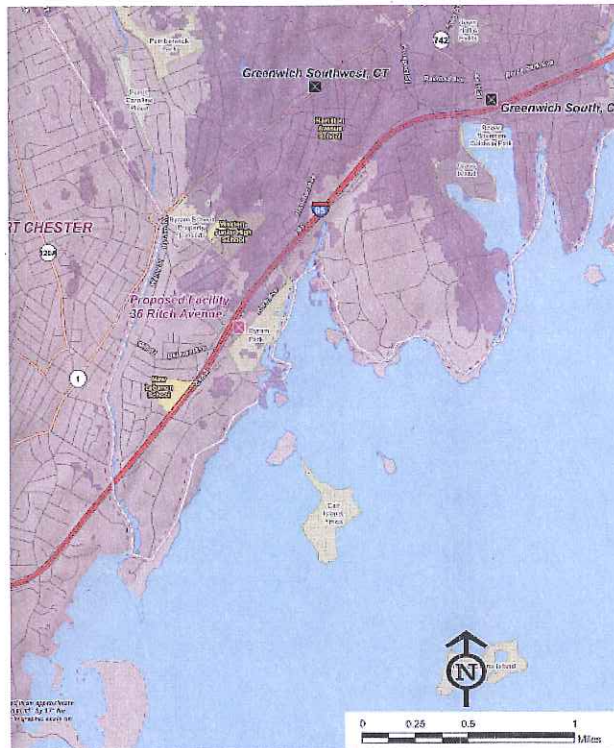




**Figure 2:** Cellco existing cellular coverage at -85 dBm.  
(Cellco 1, Tab 6; Cellco 4, R. 4)



**Figure 3:** Cellco existing and proposed cellular coverage at -85 dBm. (Cellco 1, Tab 6; Cellco 4, R. 4)



**Figure 4:** Cellco existing PCS coverage at -85 dBm.  
(Cellco 1, Tab 6; Cellco 4, R. 4)



**Figure 5:** Cellco existing and proposed PCS coverage at -85 dBm.  
(Cellco 1, Tab 6; Cellco 4, R. 4)



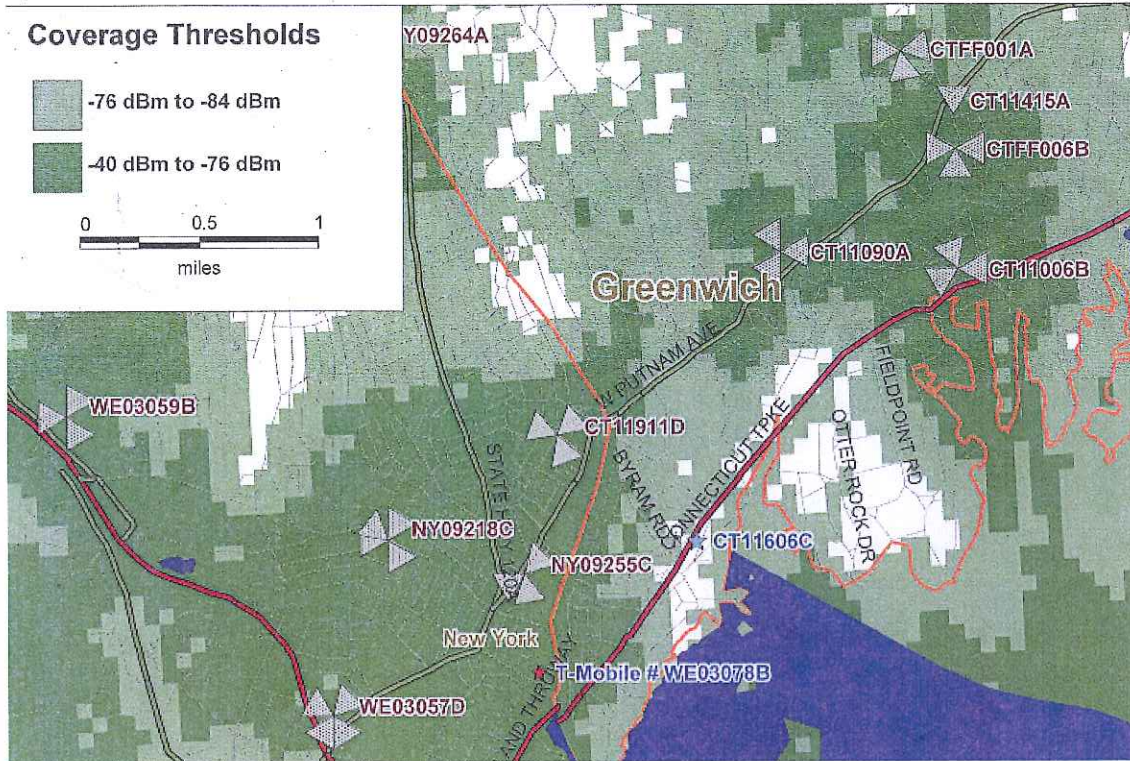


Figure 6: T-Mobile existing PCS coverage. (T-Mobile 1)

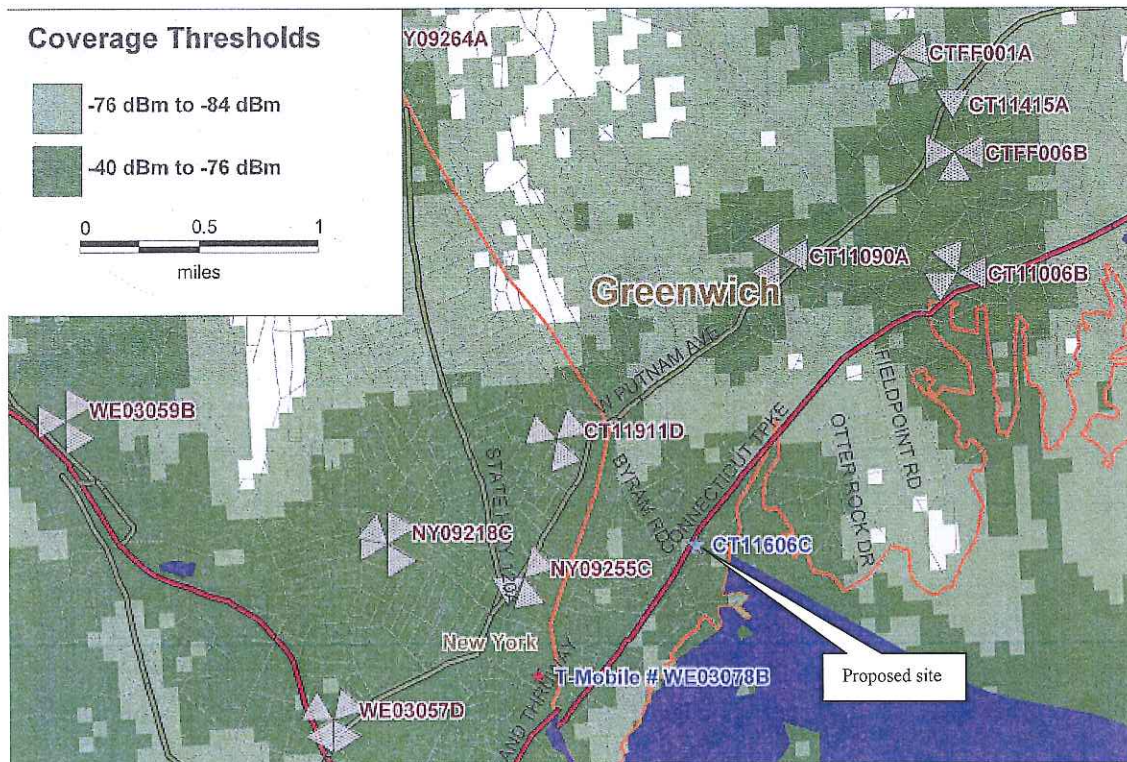


Figure 7: T-Mobile existing and proposed PCS coverage. (T-Mobile 1)



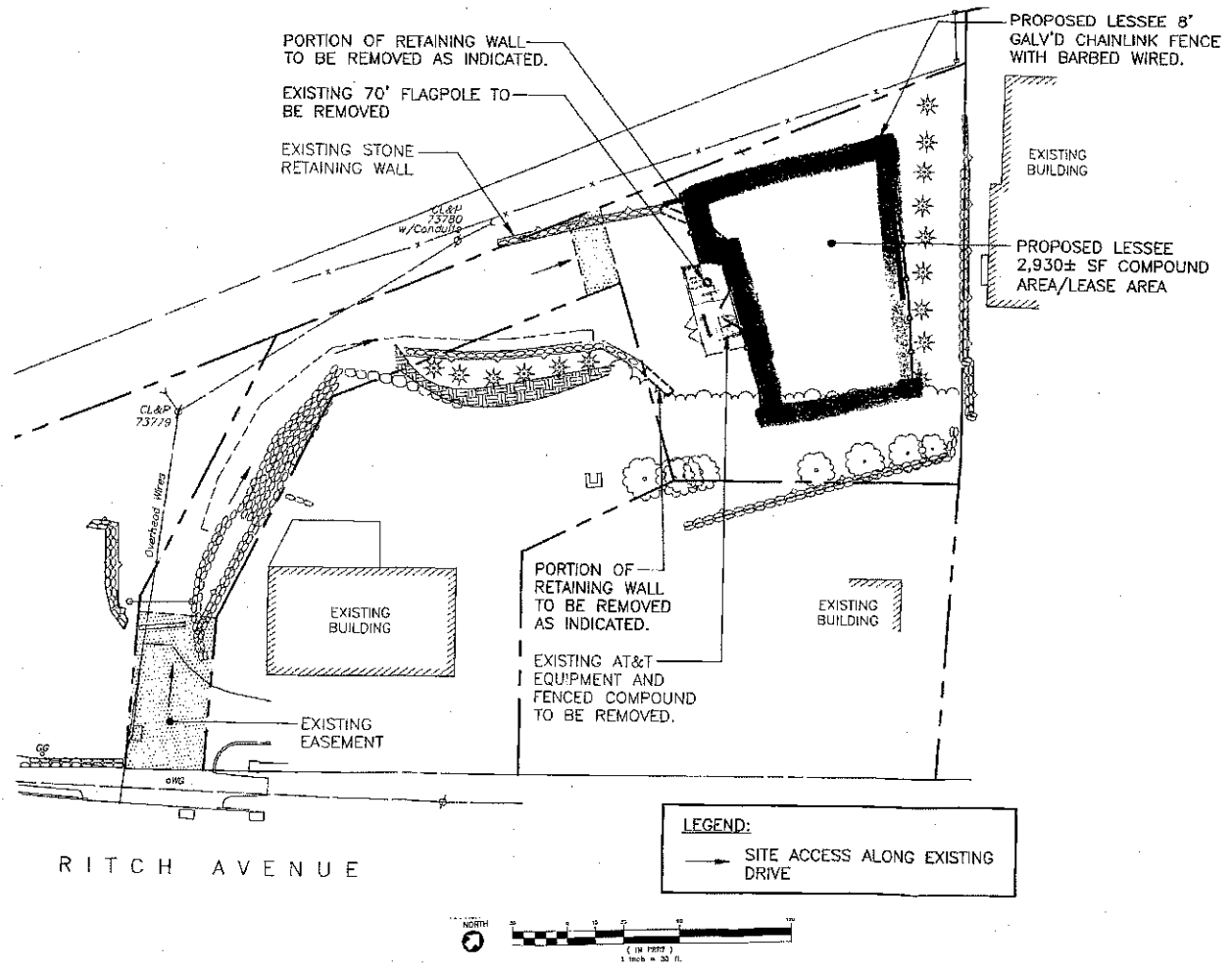
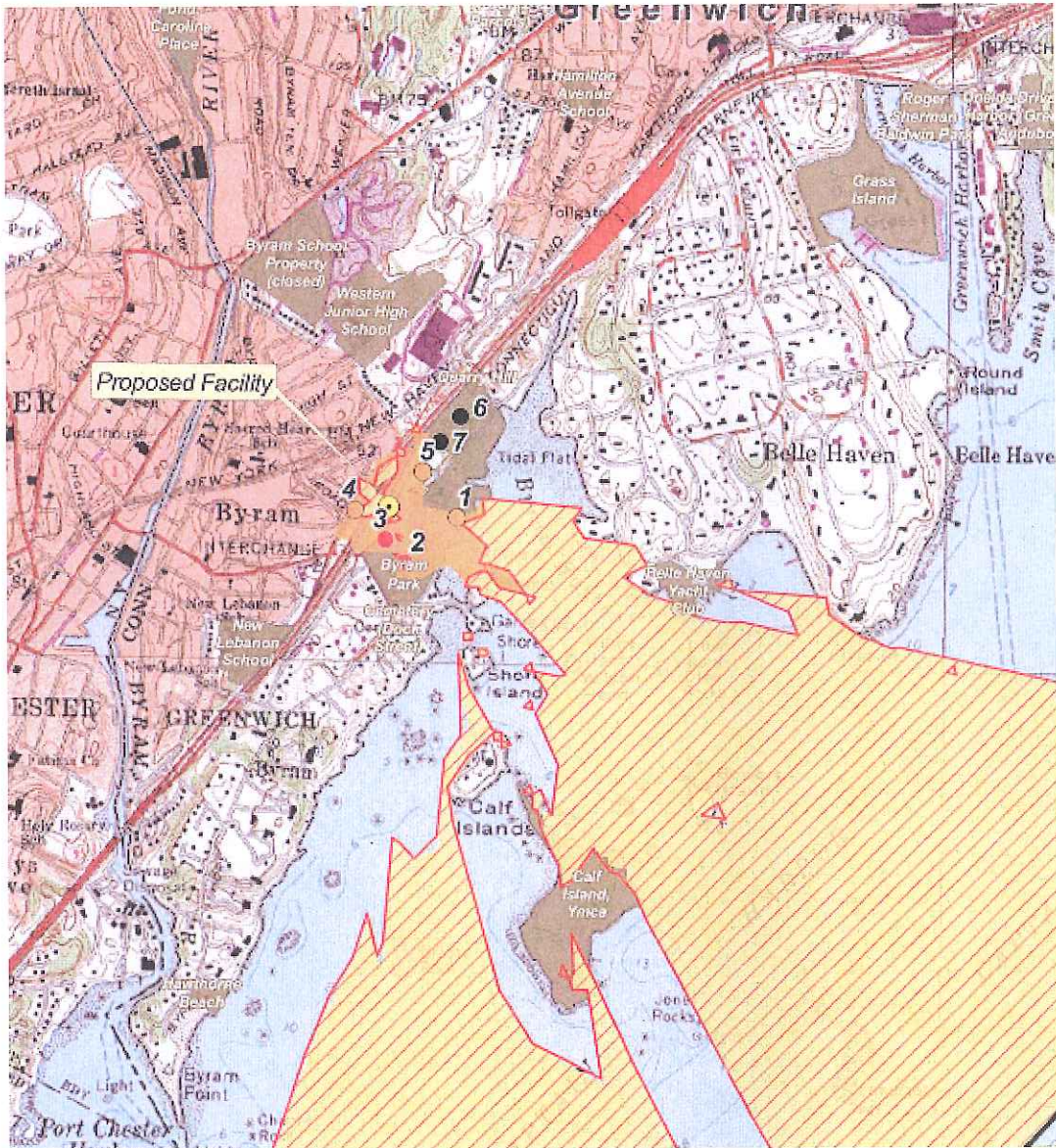


Figure 8: Proposed Site plan. (Cellco 9)



**Figure 9:** Site location showing existing AT&T tower. (Cellco 4, Attachment 1)





**Legend**

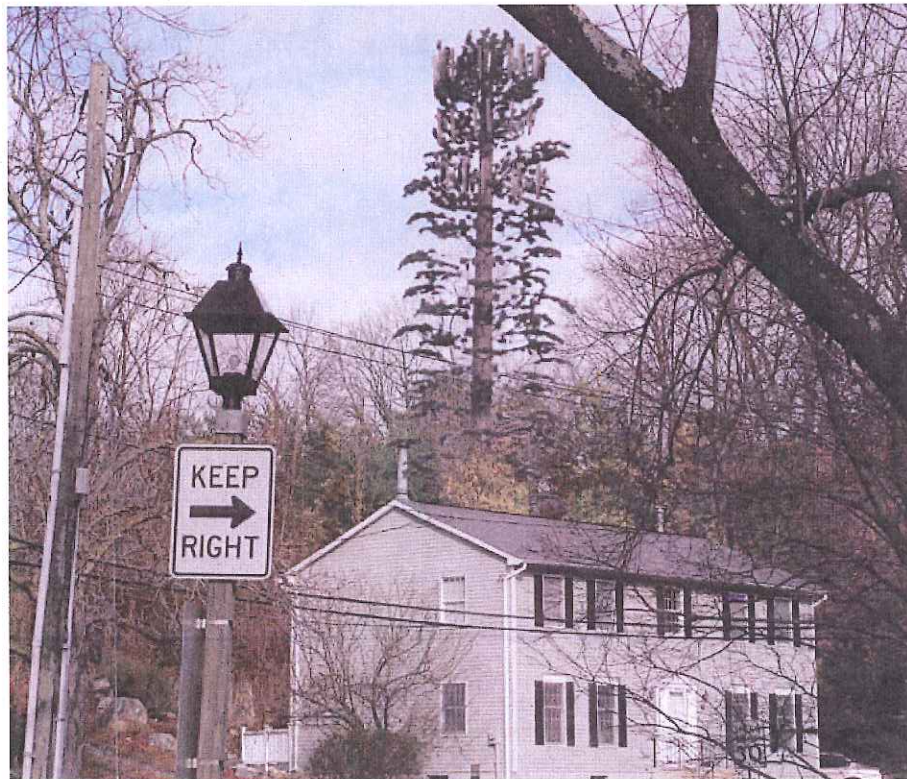
- ⊙ Location of Existing and Proposed Facilities
- Photographic Locations - December 1, 2009, September 16, 2010 and November 22, 2010
- Existing Facility Not Visible
- Existing Facility Visible Through Trees
- Existing Facility Visible Above Trees
- ▨ Seasonal Visibility, Existing and Proposed Facilities (Approximately 32 acres)
- Year-Round Visibility of Existing 70-Foot Tall Facility (Approximately 1,559 acres)
- ▨ Year-Round Visibility of Proposed 80-Foot Tall Facility (Approximately 1,567 acres)

**Figure 10:** Projected visibility of proposed site. (Cellco 1, Tab 9)



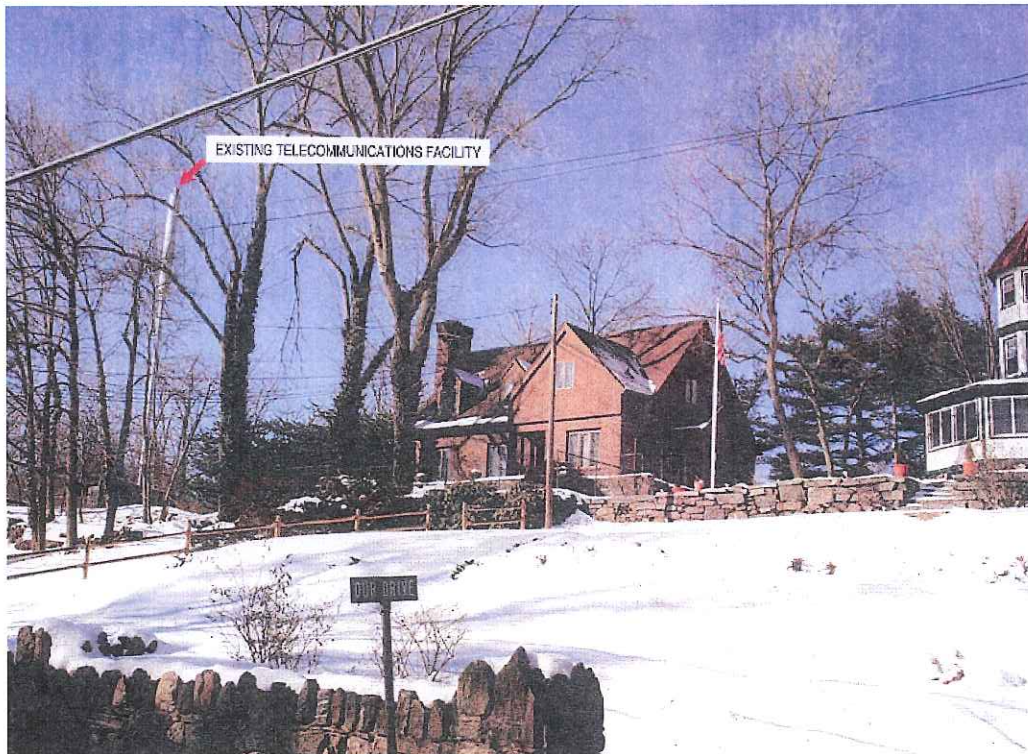


**Figure 11:** Photo of existing AT&T tower from Ritch Ave west of Byram Park entrance.



**Figure 12:** Photo-simulation of proposed "tree-tower" tower from Ritch Ave west of Byram Park entrance. (Cellco 1, Tab 9)





**Figure 13:** Existing AT&T tower from Ritch Ave in front of #56. (Cellco 4, Tab 2)



**Figure 14:** Proposed Cellco "tree-tower" tower from Ritch Ave in front of #56. (Cellco 4, Tab 2)





**Figure 15:** Photo of existing AT&T tower from second floor of 56 Ritch Ave.



**Figure 16:** Photosimulation of proposed Cellco “tree-tower” from second floor of 56 Ritch Ave. (Cellco 4)



**Figure 17:** Photo of existing AT&T tower from Byram Park. (Cellco 1)



**Figure 18:** Photosimulation of proposed "tree-tower" from Byram Park. (Cellco 1)



**DOCKET NO. 414** - Cellco Partnership d/b/a Verizon Wireless } Connecticut  
application for a Certificate of Environmental Compatibility and }  
Public Need for the construction, maintenance and operation of a } Siting  
telecommunications facility located at 36 Ritch Avenue, }  
Greenwich, Connecticut. } Council

July 14, 2011

### Opinion

On December 15, 2010, Cellco Partnership d/b/a Verizon Wireless (Cellco) applied to the Connecticut Siting Council (Council) for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance and operation of a wireless telecommunications facility located at 36 Ritch Avenue in Greenwich, Connecticut. The proposed facility would provide Cellco with wireless service to the southwest portion of Greenwich, including Interstate 95, Route 1 and surrounding local roads in the Byram and Belle Haven areas of town.

Cellco proposes to construct a 77-foot monopole designed as a pine tree on a 0.26-acre parcel owned by Ritch Avenue LLC. The parcel consists of a flag lot abutting several residential properties and is near the Interstate 95 Exit 2 northbound on-ramp. The parcel contains an existing 70-foot flagpole tower owned by AT&T, approved by the Greenwich Planning and Zoning Department in 2002. This existing tower has limited capacity and cannot support additional antennas. The proposed Cellco tower would be near the existing tower, approximately 32 feet north of the property line at 42 Ritch Avenue, (Hartwell property) and approximately 59 feet southwest of the nearest residence at 52 Ritch Avenue (Meilinggaard residence). It would replace the existing tower, which would be removed.

The tower site would be accessed from an existing driveway that extends between the residential properties at 32 and 42 Ritch Avenue. The existing driveway would be rebuilt and repaved with a new drainage system to alleviate existing run-off and ruts on a paved portion of the adjacent 42 Ritch Avenue property. A retaining wall on the property line with the 42 Ritch Avenue would be reconstructed, and a railing installed on top to provide a safety barrier. Utility lines would be installed underground in the access road. An existing overhead utility line and associated wood poles serving the existing tower would be removed.

The proposed tower would support Cellco at the 57-foot level and T-Mobile Northeast LLC (T-Mobile) at the 77-foot level. AT&T's equipment would be relocated to the proposed site, with antennas being installed at the 67-foot level of the proposed tower, and ground equipment installed within the proposed compound building. The town expressed interest in placing two emergency communication whip antennas and a 2.5-foot diameter dish antenna on top of the tower but no formal installation plan has yet been presented.

The 77-foot monopole tower would be designed as a pine tree with simulated branches extending from the compound roof-line up to a height of 84 feet. The simulated branches at the top seven feet would taper to simulate a native pine tree.

All radio equipment would be located inside a single building designed to resemble a wood-framed structure with a pitched roof. The building would be surrounded by a eight-foot high vinyl fence. Site drainage around the compound area would feature a rain garden on the east side to slow runoff from the site and grading on the west side to direct water into a catch basin along the driveway.



Cellco proposes to operate 800 MHz (cellular) and 1900 MHz (PCS) equipment at the site. Cellco is also licensed to operate in the 700 MHz frequency band (LTE) and would deploy this system in the future. Cellco currently has unreliable service in the area, with dropped calls averaging 2.5 percent and ineffective attempts averaging 1.4 percent. Cellco is seeking to reduce the dropped call rate and ineffective attempt rate to less than 1 percent. The proposed site would provide reliable coverage of 5.6 square miles for cellular and 4.0 square miles for PCS.

T-Mobile has also demonstrated a need for coverage in the area. T-Mobile currently experiences a dropped call rate of up to 5 percent. T-Mobile designs its network with a dropped call rate of less than 2 percent.

Based on an examination of coverage models for Cellco and T-Mobile, the Council finds a need for a new tower. Additionally, AT&T would relocate from the existing tower and, the Town may wish to locate on top of the proposed tower to enhance emergency communication coverage in the area.

Development of the site would not require the removal of any significant trees or impact any wetland resources. The site is not within any known habitat of federally threatened or endangered species or State endangered, threatened or special concern species. The proposed tower would have no effect on historical, cultural or coastal resources.

Views of the tower would be primarily from areas within close proximity to the site, including, but not limited to, the abutting properties, the second-floor windows and exterior areas of 52 Ritch Avenue, Byram Park, Interstate 95, and Ritch Avenue. Most of these locations already have a view of the existing tower. Although the width of the monopine would be wider than a traditional monopole, the Council finds a pine tree design would not be inconsistent with the vegetation in the area. The height of the monopine is within the height range of native pine trees in Connecticut. If a flagpole tower were used at the site, the limited capacity at each antenna mounting level would mean co-located carriers would require more than one tower level: specifically, the height of a flagpole tower at this site would need to be 122 feet, approximately 35 feet higher than the proposed monopine, and significantly more visible.

The Telecommunications Act of 1996 prohibits any state or local agency from regulating telecommunications towers on the basis of the environmental effects of radio frequency emissions to the extent that such towers and equipment comply with FCC's regulations concerning such emissions. According to methodology prescribed by the Federal Communications Commission (FCC) Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997), the combined power density levels of Cellco's, AT&T's and T-Mobile's proposed antennas, assuming the antennas are mounted on the tower at the height and in the orientation that they will be used, would be highest approximately 314 feet from the base of the tower, where they would equal 4.8 percent of the FCC's Maximum Permissible Exposure. Power density levels closer or farther than 314 feet would be less. Even the highest calculated value of 4.8 percent, however, is considerably below the federal and state standard. Given the proximity of abutting properties to the tower, the Council will document compliance with the FCC standard further by requiring, as part of the Development and Management Plan, that the power density values be provided for the nearest property line of each abutter, using worst-case assumptions. In the future, if federal or state standards change, the Council will require that the tower be brought into compliance with such changes.

The Councils finds the site suitable for the proposed tower because it would provide adequate coverage to the area, offers co-location opportunities, is located on a property developed with an existing telecommunications facility, would have no impact on natural or cultural resources, and would not significantly increase visibility when compared to the visibility of the existing tower. The Council finds that if a new tower were developed elsewhere in the area to serve Celco and T-Mobile, while the existing AT&T site is maintained, it would result in the unnecessary proliferation of towers in the area and would contravene the tower sharing policy under C.G.S. §16-50aa.

Based on the record in this proceeding, the Council finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility at the proposed site, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with policies of the State concerning such effects, and are not sufficient reason to deny this application. Therefore, the Council will issue a Certificate for the construction, operation, and maintenance of a 77-foot monopole telecommunications facility designed as a simulated pine tree at 36 Ritch Avenue in Greenwich, Connecticut.

<p><b>DOCKET NO. 414</b> - Cellco Partnership d/b/a Verizon Wireless }          application for a Certificate of Environmental Compatibility and }          Public Need for the construction, maintenance and operation of a }          telecommunications facility located at 36 Ritch Avenue, }          Greenwich, Connecticut. }</p>	<p>Connecticut          Siting          Council          July 14, 2011</p>
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**Decision and Order**

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Cellco Partnership d/b/a Verizon Wireless, hereinafter referred to as the Certificate Holder, for a telecommunications facility at 36 Ritch Avenue in Greenwich, Connecticut.

Unless otherwise approved by the Council, the facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a 77-foot monopole, designed as a simulated pine tree. Simulated branches shall not extend higher than 84 feet above ground level. The tower shall be no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Cellco, T-Mobile, AT&T and other entities, both public and private.
2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Greenwich for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
  - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
  - b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
  - c) simulated pine tree tower designs and photographs of actual installations from various manufacturers.
  - d) construction schedule.
3. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, and at the nearest point of abutting property lines consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. Additionally, the Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Greenwich public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.
8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Greenwich. Any proposed modifications to this Decision and Order shall likewise be so served.
9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
10. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.
11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.
12. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.

13. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.
14. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.
15. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the *Greenwich Time*.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

**Applicant**

Cellco Partnership d/b/a  
Verizon Wireless

**Its Representative**

Kenneth C. Baldwin, Esq.  
Robinson & Cole LLP  
280 Trumbull Street  
Hartford, CT 06103-3597

Alexandria Carter  
Regulatory Manager  
Verizon Wireless  
99 East River Drive  
East Hartford, CT 06108

**Party**

John Hartwell  
42 Ritch Avenue W.  
Greenwich, CT 06830

**Intervenor**

T-Mobile Northeast LLC

**Its Representative**

Julie D. Kohler, Esq.  
Cohen and Wolf, P.C.  
1115 Broad Street  
Bridgeport, CT 06604

**CERTIFICATION**

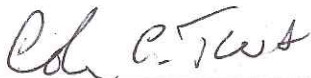
The undersigned members of the Connecticut Siting Council (Council) hereby certify that they have heard this case, or read the record thereof, in **DOCKET NO. 414** - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 36 Ritch Avenue, Greenwich, Connecticut, and voted as follows to approve the proposed telecommunications facility:

**Council Members**

**Vote Cast**

  
\_\_\_\_\_  
Robert Stein, Chairman


Yes

  
\_\_\_\_\_  
Colin C. Tait, Vice Chairman

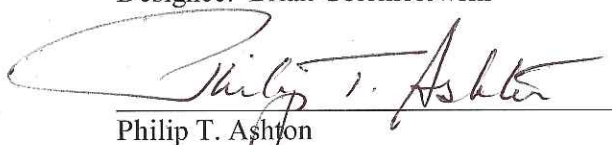
Yes

\_\_\_\_\_  
Commissioner Kevin M. DelGobbo  
Designee: Larry P. Levesque

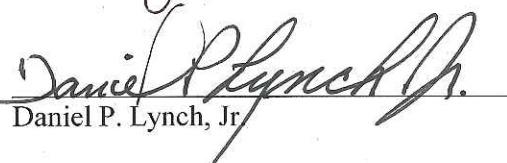
Absent

  
\_\_\_\_\_  
Commissioner Dan Esty  
Designee: Brian Golembiewski


Yes

  
\_\_\_\_\_  
Philip T. Ashton

Yes

  
\_\_\_\_\_  
Daniel P. Lynch, Jr.

Yes

  
\_\_\_\_\_  
James J. Murphy, Jr.

Yes

  
\_\_\_\_\_  
Dr. Barbara Currier Bell

Yes

  
\_\_\_\_\_  
Edward S. Wilensky

Yes

Dated at New Britain, Connecticut, July 14, 2011



STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

[www.ct.gov/csc](http://www.ct.gov/csc)

July 19, 2011

Sandy Carter  
Regulatory Manager  
Verizon Wireless  
99 East River Drive  
East Hartford, CT 06108

RE: **DOCKET NO. 414** - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 36 Ritch Avenue, Greenwich, Connecticut.

Dear Ms. Carter:

By its Decision and Order dated July 14, 2011, the Connecticut Siting Council (Council) granted a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance and operation of a telecommunications facility located at 36 Ritch Avenue, Greenwich, Connecticut.

Enclosed are the Council's Certificate, Findings of Fact, Opinion, and Decision and Order.

Very truly yours,

Linda Roberts  
Executive Director

LR/RDM/laf

Enclosures (4)

C: Kenneth C. Baldwin, Esq., Robinson & Cole LLP



STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

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[www.ct.gov/csc](http://www.ct.gov/csc)

**CERTIFICATE  
OF  
ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED  
DOCKET NO. 414**

Pursuant to General Statutes § 16-50k, as amended, the Connecticut Siting Council hereby issues a Certificate of Environmental Compatibility and Public Need to Cellco Partnership d/b/a Verizon Wireless for the construction, maintenance and operation of a telecommunications facility located at 36 Ritch Avenue, Greenwich, Connecticut. This Certificate is issued in accordance with and subject to the terms and conditions set forth in the Decision and Order of the Council on July 14, 2011.

By order of the Council,

  
\_\_\_\_\_  
Robert Stein, Chairman

July 14, 2011





STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051  
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[www.ct.gov/csc](http://www.ct.gov/csc)

July 19, 2011

TO: Classified/Legal Supervisor  
**414110329**  
Greenwich Time  
Southern Connecticut Newspapers  
20 East Elm Street  
Greenwich, CT 06830

FROM: Lisa A. Fontaine, Fiscal Administrative Officer

RE: **DOCKET NO. 414** - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 36 Ritch Avenue, Greenwich, Connecticut.

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Please publish the attached notice as soon as possible, but not on Saturday, Sunday, or a holiday.

Please send an affidavit of publication and invoice to my attention.

Thank you.

LAF



STATE OF CONNECTICUT  
*CONNECTICUT SITING COUNCIL*

Ten Franklin Square, New Britain, CT 06051

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[www.ct.gov/csc](http://www.ct.gov/csc)

NOTICE

Pursuant to General Statutes § 16-50p (e), the Connecticut Siting Council (Council) announces that, on July 14, 2011, the Council issued Findings of Fact, an Opinion, and a Decision and Order approving an application from Cellco Partnership d/b/a Verizon Wireless for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 36 Ritch Avenue, Greenwich, Connecticut. This application record is available for public inspection in the Council's office, Ten Franklin Square, New Britain, Connecticut.