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Chairman

# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

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October 22, 2010

TO: Parties and Intervenors

FROM: Linda Roberts, Executive Director 

RE: **DOCKET NO. 391** - T-Mobile Northeast, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 232 Shore Road, Old Lyme, Connecticut.

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By its Decision and Order dated September 23, 2010, 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 232 Shore Road, Old Lyme, Connecticut.

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

LR/jbw

Enclosures (3)

c: State Documents Librarian

**LIST OF PARTIES AND INTERVENORS**  
**SERVICE LIST**

Status Granted	Document Service	Status Holder (name, address & phone number)	Representative (name, address & phone number)
<b>Applicant</b>	<input checked="" type="checkbox"/> U.S. Mail	T-Mobile Northeast, LLC	Julie D. Kohler, Esq. Monte E. Frank, Esq. Jesse A. Langer, Esq. Cohen and Wolf, P.C. 1115 Broad Street Bridgeport, CT 06604 (203) 368-0211 (203) 394-9901 fax <a href="mailto:jkohler@cohenandwolf.com">jkohler@cohenandwolf.com</a> <a href="mailto:mfrank@cohenandwolf.com">mfrank@cohenandwolf.com</a> <a href="mailto:jlanger@cohenandwolf.com">jlanger@cohenandwolf.com</a>
<b>Intervenor</b> <i>(granted on December 18, 2009)</i>	<input checked="" type="checkbox"/> U.S. Mail	Cellco Partnership d/b/a Verizon Wireless	Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597 (860) 275-8200 (860) 275-8299 fax <a href="mailto:kbaldwin@rc.com">kbaldwin@rc.com</a>
<b>Intervenor</b> <i>(granted on December 18, 2009)</i>	<input checked="" type="checkbox"/> U.S. Mail	New Cingular Wireless PCS, LLC (AT&T)	Christopher B Fisher, Esq. Daniel M. Laub, Esq. Cuddy & Feder LLP 445 Hamilton Avenue, 14 <sup>th</sup> Floor White Plains, NY 10601 (914) 761-1300 (914) 761-5372 fax <a href="mailto:cfisher@cuddyfeder.com">cfisher@cuddyfeder.com</a> <a href="mailto:dlaub@cuddyfeder.com">dlaub@cuddyfeder.com</a>
<b>Party</b> <i>(granted on December 18, 2009)</i>	<input checked="" type="checkbox"/> U.S. Mail	Town of Old Lyme	The Honorable Timothy C. Griswold Office of the Selectmen Town of Old Lyme 52 Lyme Street Old Lyme, CT 06371 <a href="mailto:firstselectman@oldlyme-ct.gov">firstselectman@oldlyme-ct.gov</a>

<p><b>DOCKET NO. 391</b> - T-Mobile Northeast, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located 232 Shore Drive, Old Lyme, Connecticut.</p>	<p>} } }</p>	<p>Connecticut  Siting  Council</p>
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September 23, 2010

**Findings of Fact**

**Introduction**

1. Pursuant to Chapter 277a, Sections 16-50g et seq. of the Connecticut General Statutes (CGS), as amended, and Section 16-50j-1 et. Seq. of the Regulations of Connecticut State Agencies (RCSA), T-Mobile Northeast, LLC (T-Mobile) applied to the Connecticut Siting Council (Council) on October 15, 2009 for the construction, maintenance, and operation of a telecommunications facility, which would include a 100-foot monopole tower, located at 232 Shore Road in the Town of Old Lyme, Connecticut. (See Figures 1, 2, and 3) (T-Mobile 1, p. 1)
2. T-Mobile is a limited liability company, organized under the laws of Delaware, with a Connecticut office at 35 Griffin Road South, Bloomfield, Connecticut. The company and its affiliated entities are licensed by the Federal Communications Commission (FCC) to construct and operate a personal wireless services system in Connecticut. (T-Mobile 1, p. 2)
3. The parties in this proceeding are T-Mobile and the Town of Old Lyme (Town). Cellco Partnership d/b/a Verizon Wireless (Cellco) and New Cingular Wireless PCS, LLC (AT&T) are intervenors. (Transcript 1 – February 4, 2010, 3:05 p.m. [Tr. 1], p. 7)
4. T-Mobile’s proposed facility would provide coverage to Route 156, Mill Creek Road, Hawks Nest Road, and Cross Lane just south of Interstate 95, residential areas in the vicinity, and the Amtrak rail line that passes through the area. (T-Mobile 1, p. 1)
5. Pursuant to CGS § 16-50/(b), notice of the applicant’s intent to submit this application was published on July 23 and 25, 2009 in the New London Day. (T-Mobile 1, pp. 3-4 and Tab F)
6. Pursuant to CGS § 16-50/(b), T-Mobile sent notice of its intent to file an application with the Council to each person appearing of record as owner of property abutting the property on which the site is located. Notices were sent on July 21, 2009. T-Mobile received return receipts from all of the property owners to whom it sent notices except for Capital Holding of CT, Inc. of 230 Shore Road and Michele M. Johnson of 1 Hawks Nest Road. On October 29, 2009, T-Mobile issued a second notice to these abutters and both were returned unable to forward. (T-Mobile 1, p. 4 and Tab G; T-Mobile 2, response 5)
7. Pursuant to CGS § 16-50/ (b), T-Mobile provided a copy of its application to all federal, state, regional, and local officials and agencies listed therein. (T-Mobile 1, p. 3 and Tab E)

8. On or about January 20, 2010, T-Mobile posted a sign giving public notice of T-Mobile's pending application for the proposed tower at 232 Shore Drive and the public hearing scheduled for it. Per Council request, the sign was posted along Shore Road, on the host property, so that the public could see it more easily. (T-Mobile 5, Pre-Filed Testimony of Raymond Vergati, response 11 and Attachment A)
9. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a public hearing on February 4, 2010, beginning at 3:00 p.m. and continuing at 7:00 p.m. in the Old Lyme Meeting Hall, Town Hall, 52 Lyme Street, Old Lyme, Connecticut. This was a consolidated hearing for three T-Mobile tower applications in Old Lyme: Docket No. 391 – 232 Shore Road (Self-storage Site); Docket No. 392 – 387 Shore Road (Laundromat Site); and 61-1 Buttonball Road (Commercial Complex Site). The 3:00 p.m. hearing session began with Docket No. 391. The 7:00 p.m. public comment hearing session included all three dockets. (Council's Hearing Notice dated December 23, 2009; Tr. 1, pp. 3-4, 8; Transcript 2 – 7:00 p.m. [Tr. 2], pp. 3, 13)
10. The Council and its staff conducted an inspection of three proposed sites on February 4, 2010, beginning at 1:00 p.m. at the Laundromat Site and continuing to the Self-storage Site, and then the Commercial Complex Site. On the day of the field inspection, T-Mobile flew a red balloon with a diameter of four feet to simulate the height of the proposed tower at the Self-storage Site beginning at approximately 7:00 a.m. and continuing to 10:00 a.m. The balloon was flown again beginning at 12:30 p.m. At approximately 2:20 p.m., T-Mobile was approached by Amtrak personnel requiring that the balloon float be abandoned because the balloon might cross Amtrak's right of way. By approximately 2:30 p.m., the balloon was taken down. During the balloon float, the weather conditions were not favorable, due to a fairly sustained 10 miles per hour wind. Overall, the balloon did not reach its proposed height of 100 feet above ground level (agl). (Council Field Review Notice dated January 27, 2010; Tr. 1, p. 4, 24-28; Tr. 4, p. 32)
11. The Council held continued hearings in New Britain on March 2, April 20, and June 23, 2010. (Transcript 3 – 11:15 a.m. [Tr. 3], p. 3; Transcript 4 – 1:15 p.m. [Tr. 4], p. 3; Transcript 5 – 1:10 p.m. [Tr. 5], p. 4)

#### State Agency Comments

12. Pursuant to CGS § 16-50l, the Council solicited comments on this application on December 23, 2009 from the following state departments and agencies: Department of Agriculture, Department of Environmental Protection (DEP), Department of Public Health, Council on Environmental Quality (CEQ), Department of Public Utility Control, Office of Policy and Management, Department of Economic and Community Development, and the Department of Transportation (ConnDOT). (CSC Hearing Package dated December 23, 2009)
13. Pursuant to CGS § 16-50l, the Council solicited additional comments on this application on July 24, 2010 from the following state departments and agencies: Department of Agriculture, DEP, Department of Public Health, CEQ, Department of Public Utility Control, Office of Policy and Management, Department of Economic and Community Development, Department of Transportation, and the Department of Emergency Management and Homeland Security. (Letter to State Department Heads dated June 24, 2010)

14. The Council on Environmental Quality (CEQ) responded to the Council's solicitation with comments. The CEQ notes that the visual impact of towers that are very close to the Long Island Sound shoreline cannot be fully assessed without a virtual simulation of their appearance from the waters of this major recreational resource. CEQ is also concerned that the proximity of multiple tall structures to preserved lands, refuges and coastal marshes raises the issues of possible impacts on resident and transient bird populations. (CEQ Comments dated January 27, 2009)
15. Except for CEQ, no state agencies submitted comments in response to the Council's solicitation. (Record)

#### Municipal Consultation

16. On May 28, 2009, T-Mobile submitted a technical report on its proposed facility to Old Lyme's First Selectman, Timothy Griswold. (T-Mobile 1, p. 17; T-Mobile 1, Exhibit R)
17. On June 25, 2009, T-Mobile met with the First Selectman Griswold and the Zoning and Inlands Wetlands Enforcement Officer to discuss the proposed facility. (T-Mobile 1, p. 17)
18. By letter dated October 21, 2009, First Selectman Griswold indicated that the Town had executed a lease with SBA Towers II, LLC for the development of a telecommunications facility at 14 Cross Lane, Old Lyme. The tower was proposed as 170 feet tall, and, since it would be centrally located, the Town believed T-Mobile would not need additional sites in Old Lyme; thus, a Cross Lane site would avoid the proliferation of towers in Connecticut. The Town believes that a one-site solution would be beneficial to the Town and the wireless customers who reside in or visit Old Lyme. (Town Comment Letter dated October 21, 2009)
19. In January 2010, the Cross Lane site was brought before a Town meeting and was defeated due to various citizen concerns, including the site's proximity to a school. The Cross Lane site is no longer available for consideration. (Tr. 1, pp. 10-11)
20. At both February 4, 2010 hearing sessions, First Selectman Griswold made a statement on behalf of the Board of Selectman and residents in Old Lyme indicating an interest in improving cell reception in Old Lyme, particularly the beach area. (Tr. 1, pp. 9-11; Tr. 2, pp. 12-13)
21. First Selectman Griswold also stated that the Town requested tower space for its emergency services communications. The equipment would require approximately a height of 160 feet on any one of the proposed towers. However, the Town has only expressed an interest in the proposed tower at the proposed site. (Tr. 1, p. 11; Tr. 2, pp. 12-13)
22. T-Mobile would make space on its proposed tower available for the Town's public safety communications free of charge. (T-Mobile 5, Pre-Filed Testimony of Raymond Vergati, response 10)
23. T-Mobile provided additional notice for up to a 170-foot tower to take into account the Town's request. (Tr. 4, p. 31)

24. The Town has not yet allocated the funds necessary to procure its equipment for the proposed facility. However, T-Mobile is willing to initially construct a 110-foot facility that is capable of being expanded to 160-feet in the future. (Tr. 4, pp. 85-86; Tr. 5, p. 107)

#### **Federal Designation for Public Need**

25. In 1996, the United States Congress recognized a nationwide need for high quality wireless telecommunications services, including cellular telephone service. Through the Federal Telecommunications Act of 1996, Congress seeks to promote competition, encourage technical innovations, and foster lower prices for telecommunications services. (Council Administrative Notice Item No. 7 – Telecommunications Act of 1996; T-Mobile 1, p. 4)
26. 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. (Council Administrative Notice Item No. 7 – Telecommunications Act of 1996)
27. The Telecommunications Act of 1996 prohibits local and state bodies from discriminating among providers of functionally equivalent services. (Council Administrative Notice No. 7 – Telecommunications Act of 1996)
28. The Telecommunications Act of 1996 prohibits any state or local agency from regulating telecommunications towers on the basis of the environmental effects, which include human health 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. 7 – Telecommunications Act of 1996; T-Mobile 1, p. 4)
29. Congress enacted the Wireless Communications and Public Safety Act of 1999 (the 911 Act) in order to promote public safety through the deployment of a seamless, nationwide emergency communications infrastructure that includes wireless communications services. (T-Mobile 1, pp. 5-6)
30. As an outgrowth of the 911 Act, the FCC has mandated that wireless carriers provide enhanced 911 services (E911) as part of their communications networks. (T-Mobile 1, p. 6)
31. The proposed facility would be an integral component of T-Mobile's E911 network in southeastern Connecticut and would comply with FCC's E911 requirements. (T-Mobile 1, p. 6)

#### **Existing and Proposed Wireless Coverage**

##### T-Mobile

32. T-Mobile experiences a coverage gap in the area around the proposed facility, specifically along the shore line and the Amtrak rail line, as well as on Route 156, Mill Creek Road, Hawks Nest Road, and Cross Lane just south of Interstate 95. (T-Mobile 1, pp. 4-5)

33. The proposed facility would provide service in the area of T-Mobile's coverage gap. (T-Mobile 1, p. 5)
34. T-Mobile utilizes Personal Communications Services (PCS) in this area of the state through the deployment of wireless transmitting sites. Its licensed operating frequencies in the New London Basic Trading Area include 1935 to 1944.8 MHz, 1983 to 1984 MHz, and 2140 to 2145 MHz. (T-Mobile 1, p. 6 and Tab P)
35. T-Mobile's minimum design signal strength for in-vehicle coverage is -84 dBm. For in-building coverage, it is -76 dBm. (T-Mobile 2, responses 2 and 3)
36. T-Mobile's existing signal strengths in the area that would be covered by the proposed facility range from -84 dBm to below -110 dBm. (T-Mobile 2, response 1)
37. T-Mobile also investigated the ratio of dropped calls to successful calls from cell sites surrounding the proposed coverage area. The average of all of the sites is 3.81 percent which exceeds T-Mobile's target maximum of two percent. The maximum dropped call rate is about 10 percent. (Tr. 1, p. 88)
38. T-Mobile could best achieve its coverage objectives with its antennas located at the proposed minimum centerline height of 100 feet agl. (T-Mobile 1, p. 9 and Tab H; Tr. 1, p. 33)
39. The lengths of the coverage gaps T-Mobile experiences on the major arteries within the proposed coverage area are listed in the following table.

<b>Transportation Artery</b>	<b>Coverage Gap</b>	<b>Distance Covered at Proposed Antenna Height of 100 feet</b>
Route 156	3.36 miles	1.58 miles
Mile Creek Road	1.15 miles	0.39 miles
Cross Lane	0.35 miles	0.37 miles
Amtrak Rail Line	4.62 miles	1.22 miles

(T-Mobile 2, responses 15 and 16)

40. The total area T-Mobile could cover from the proposed site with antennas at a height of 100 feet would be approximately 1.50 square miles. (T-Mobile 2, response 17)
41. The lengths of T-Mobile's coverage areas on the major arteries at lower antenna heights are listed below.

<b>Transportation Artery</b>	<b>Distance Covered at Antenna Height of 90 feet</b>	<b>Distance Covered at Antenna Height of 80 feet</b>
Route 156	1.45 miles	1.38 miles
Mile Creek Road	0.22 miles	0.12 miles
Cross Lane	0.37 miles	0.37 miles
Amtrak Rail Line	1.22 miles	1.02 miles

(T-Mobile 2, response 16)

- 42. The total area T-Mobile could cover from the proposed site at the lower antenna heights of 90 feet and 80 feet would be 1.29 square miles and 1.10 square miles, respectively. (T-Mobile 2, response 17)
- 43. T-Mobile’s antennas at the proposed facility would hand off signals to the existing sites identified in the following table.

Site Address	Facility Type	Structure Height	T-Mobile’s Antenna Height	Distance & Direction to proposed facility
125 Mile Creek Road, Old Lyme	Monopole	160 feet	160 feet	1.18 miles SE
72 Boggy Hole Road, Old Lyme	Monopole	175 feet	175 feet	2.41 miles SE
38 Hatchetts Hill Road, Old Lyme	Monopole	190 feet	187 feet	2.01 miles SW
93 Roxbury Road, Old Lyme	Self-supporting Tower	160 feet	103 feet	4.51 miles SW
8 Old Bridge Road, Old Lyme	Utility Pole	175 feet	181 feet	3.63 miles SE
44 Ford Drive, Old Saybrook	Monopole	150 feet	150 feet	4.62 miles SE

(T-Mobile 2, response 9)

- 44. An antenna height up to 160 feet would not be problem from a purely radio frequency perspective and would likely increase coverage to secondary roads to the north of the proposed site location as well as to the east. (Tr. 1, pp. 33, 39-40)

AT&T

- 45. AT&T experiences a coverage gap in the area around the proposed facility, specifically along Route 156. (AT&T 2, response 9)
- 46. The proposed facility would provide service in the area of AT&T’s coverage gap. (AT&T 2, response 10)
- 47. AT&T’s licensed operating frequencies in this part of the state include the 850 MHz (cellular) band, specifically 880 to 894 MHz, as well as the 1900 MHz (PCS) band. Initially, AT&T would provide cellular service; expansion to PCS service would provide additional capacity as needed. (AT&T 2, response 7)
- 48. AT&T’s minimum design signal strength for in-vehicle coverage is -82 dBm. For in-building coverage, it is -74 dBm. (AT&T 2, response 3)
- 49. AT&T’s existing signal strengths in the area that would be covered by the proposed facility vary from -82 dBm to the mid -90 dBm range. (AT&T 2, response 1)



50. AT&T could best achieve its coverage objectives with a minimum antenna centerline height of 90 feet, but the 90-foot level of the tower is reserved for Cellco and 100 feet is reserved for T-Mobile. Thus, AT&T would require a minimum centerline height of 110 feet necessitating a tower ten feet taller than originally proposed. (AT&T 2, response 4; Tr. 2, pp. 88, 91)
51. The lengths of AT&T's coverage gap and proposed coverage area on a major artery are listed in the following table.

<b>Transportation Artery</b>	<b>Coverage Gap</b>	<b>Distance Covered at Proposed Antenna Height of 110 feet</b>
Route 156	2.5 miles	2.3 miles

(AT&T 2, responses 9 and 10)

52. Based on a target signal level of -74 dBm, the total area AT&T could cover from the proposed site at an antenna height of 110 feet would be approximately 8.4 square miles. (AT&T 2, response 11)
53. The lengths of AT&T's coverage areas on the major artery at lower antenna heights are listed below.

<b>Transportation Artery</b>	<b>Distance Covered at Antenna Height of 90 feet</b>	<b>Distance Covered at Antenna Height of 80 feet</b>
Route 156	1.45 miles	1.38 miles

(AT&T 2, response 8)

54. Based on a target signal level of -74 dBm, the total area AT&T could cover from the proposed site and at the lower antenna heights of 90 feet and 80 feet would be 4.1 square miles and 2.8 square miles, respectively. (AT&T 2, response 11)
55. AT&T's antennas at the proposed facility would hand off signals to the existing sites identified in the following table.

<b>Site Address</b>	<b>Facility Type</b>	<b>Structure Height</b>	<b>AT&amp;T's Antenna Height</b>	<b>Distance &amp; Direction to proposed facility</b>
125 Mile Creek Road, Old Lyme	monopole	170 feet	136 feet	1.2 miles SE
38 Hatchetts Hill Road, Old Lyme	monopole	190 feet	165 feet	1.8 miles SE
15 Liberty Way, East Lyme	rooftop	unknown	62 feet	2.6 miles SW
49 Brainerd Road, East Lyme	monopole	170 feet	170 feet	3.2 miles WSW

(AT&T 2, response 5; Tr. 1, p. 90)

56. An antenna height up to 140 feet would not be a problem from a purely radio frequency perspective and would like increase coverage in outlying areas. (Tr. 2, p. 93)
57. A 170-foot tower is proposed by SBA Towers II, LLC in East Lyme. Whether the East Lyme facility is approved or denied would not significantly affect AT&T's tower co-location at the Self-Storage Site because both towers are very isolated in terms of distance. (Tr. 2, p. 93-94)

Overview of Three Tower Configuration

58. If approved, this tower will not eliminated the need for the other two towers proposed as Docket Nos. 392 and 393. (Tr. 3, pp. 246-247)
59. Increasing the height of any of the proposed facilities (i.e. Docket Nos. 391 through 393) would not obviate the need for any of the facilities or allow T-Mobile to reduce the height of any of the facilities. (Tr. 3, pp. 246-247)

Cellco

60. Cellco experiences a coverage gap in the area around the proposed facility, specifically along Route 156, the southerly portion of Old Lyme, and the Amtrak rail line. (Cellco 2, response 9)
61. The proposed facility would provide service in the area of Cellco's coverage gap. (Cellco 2, response 10)
62. Cellco maintains FCC licenses to operate its wireless system in the cellular (850 MHz), PCS (1900 MHz), and 700 MHz Long Term Evolution (LTE) frequency ranges. (Cellco 2, Response 6)
63. At both PCS and cellular frequencies, Cellco's coverage thresholds are -85 dBm for in-vehicle service and -75 dBm for in-building service. (Cellco 2, Responses 2 and 3)
64. Cellco's existing signal strength within the area that would be served from the proposed facility ranges from -87 dBm to -98 dBm. (Cellco 2, Response 1)
65. Cellco could best achieve its coverage objectives with its antennas located at the proposed minimum centerline height of 90 feet above grade level. (Cellco 2, response 10; Tr. 2, p. 85)
66. The lengths of the coverage gaps Cellco experiences on the major arteries are listed in the following table.

<b>Transportation Artery</b>	<b>Cellular Coverage Gap</b>	<b>PCS Coverage Gap</b>
Route 156	1.0 miles	2.4 miles
Amtrak Rail Line	0.7 miles	1.7 miles

(Cellco 2, response 9)

67. The lengths of Cellco's coverage on the major arteries at the proposed antenna height are listed below:

<b>Transportation Artery</b>	<b>Cellular Distance Covered at Antenna Height of 90 feet</b>	<b>PCS Distance Covered at Antenna Height of 90 feet</b>
Route 156	2.41 miles	2.34 miles
Amtrak Rail Line	2.94 miles	2.10 miles

(Cellco 2, response 10)

68. The lengths of Cellco's coverage areas on the major arteries at an 80-foot antenna height are listed below:

<b>Transportation Artery</b>	<b>Cellular Distance Covered at Antenna Height of 80 feet</b>	<b>PCS Distance Covered at Antenna Height of 80 feet</b>
Route 156	2.33 miles	2.17 miles
Amtrak Rail Line	2.78 miles	1.85 miles

(Cellco 2, response 10)

69. The lengths of Cellco's coverage areas on the major arteries at a 70-foot antenna height are listed below:

<b>Transportation Artery</b>	<b>Cellular Distance Covered at Antenna Height of 70 feet</b>	<b>PCS Distance Covered at Antenna Height of 70 feet</b>
Route 156	2.20 miles	1.86 miles
Amtrak Rail Line	2.61 miles	1.59 miles

(Cellco 2, response 10)

70. The total area Cellco could cover from the proposed site at antenna height of 90 feet would be approximately 17.45 square miles for cellular service and 8.80 square miles for PCS service. (Cellco 2, response 11)

71. The total area Cellco could cover from the proposed site at the lower antenna heights of 80 feet would be 14.45 square miles for cellular service and 7.49 square miles for PCS service. At 70 feet, these coverage areas would be 12.24 square miles for cellular service and 6.72 square miles for PCS service. (Cellco 2, response 11)

72. From the proposed facility, Cellco's antennas would hand off signals with the adjacent facilities identified in the following table.

<b>Site Address</b>	<b>Facility Type</b>	<b>Structure Height</b>	<b>Distance &amp; Direction to proposed facility</b>
125 Mile Creek Road, Old Lyme	monopole	160 feet	1.1 miles NW
36 Hatchetts Hill Road, Old Lyme	monopole	143 feet	2.0 miles NE

(Cellco 2, Response 5; T-Mobile 1, Tab I)

**Site Selection**

73. T-Mobile initiated its search for a site in this vicinity on or about July 17, 2008. (T-Mobile 2, response 4)
74. T-Mobile's site search was centered at the intersection of Cross Lane and the Amtrak rail line. The radius of the search area was approximately 0.2 miles. (T-Mobile 2, response 4)
75. T-Mobile identified six telecommunications towers within approximately four miles of its proposed site. The towers are listed in the table below.

<b>Tower Location</b>	<b>Height and Type Of Tower</b>	<b>Tower Owner</b>	<b>Approx. Distance and Direction from Proposed Tower Location</b>
2 Ferry Place, Old Saybrook	110-foot smokestack	Geoffry Etherington	3.74 miles NW
132 Whippoorwill Road, Old Lyme	100-foot guyed lattice tower	Mr. and Mrs. Andrew Pfeiffer	2.55 miles N
62-1 Boggy Hill Road, Old Lyme	175-foot monopole	Wireless Solutions	2.29 miles NW
38 Hatchetts Hill Road, Old Lyme	190-foot monopole	T-Mobile	2.04 miles NE
30 Short Hills Road, Old Lyme	180-foot monopole	Sprint	1.86 miles NE
125 Mile Creek Road, Old Lyme	160-foot monopole	Cellco	1.10 miles NW

(T-Mobile 1, Exhibits I; T-Mobile 3, response 4)

76. Three of the existing telecommunications towers within a four-mile radius are too far away to meet T-Mobile's coverage objectives. These towers are located at 2 Ferry Place, Old Saybrook; 132 Whippoorwill Road, Old Lyme; and 30 Short Hills Road, Old Lyme. (T-Mobile 3, response 4)

77. The remaining three existing telecommunications towers within a four-mile radius already have T-Mobile co-located on them. These towers are 62-1 Boggy Hill Road, Old Lyme; 38 Hatchetts Hill Road, Old Lyme; and 125 Mile Creek Road, Old Lyme. (T-Mobile 3, response 4)
78. T-Mobile investigated several different properties in the area of its proposed site. Properties that were investigated include:
- a. Vacant church, 287 Shore Road at the corner of Shore Road and Swan Avenue: This property hosts a vacant church, with a flat roof steeple that is approximately 35 feet tall. T-Mobile's radio frequency engineers determined that the rooftop is too low to meet the coverage objectives.
  - b. Existing water tank, Cross Lane: This site hosts a water tank with a height of approximately 25 feet. T-Mobile's radio frequency engineers determined that the water tank is too low to meet the coverage objectives. Also, the property owner was not amenable to having a new stand-alone tower installed on the property.
  - c. Old Lyme Self Storage, 240-1 Shore Road: This is another self-storage site. However, this site is closer to residential homes than the proposed site. Also, the property owner was not interested in having a tower installed on the property.
  - d. 234 Shore Road: This site hosts an approximately 30-foot tall office building. T-Mobile's radio frequency engineers determined that the building is too low to meet the coverage objectives.

(T-Mobile 1, Exhibit J; Tr. 1, p. 52)

79. During this proceeding, another alternative site at 14 Cross Lane, Old Lyme was explored. This is the site of a proposed SBA tower on Town property. This tower could provide adequate coverage to T-Mobile, AT&T, and Cellco. However, the site is no longer available. (AT&T 2, response 13; Cellco 2, response 13; T-Mobile 2, response 18)
80. An outdoor Distributed Antenna System (DAS) would not be a feasible alternative to a tower because of the following reasons:
- a) The unavailability of a sufficient number of existing utility poles on which to string fiber-optic cable and install DAS nodes in the coverage area;
  - b) The existing utility poles are generally low in height;
  - c) The existing uneven terrain and mature vegetation would prevent DAS nodes from providing reliable coverage throughout the target area;
  - d) The unavailability of unused fiber-optic cables to serve as the backbone of the DAS network in the area; and
  - e) There would be a need to enter into access easements, enter into pole attachment agreements, etc. which would be compounded by the large amount (roughly 45) of DAS nodes required to cover the total area to be served by the three towers proposed in Docket Nos. 391, 392, and 393. (T-Mobile 24)

81. Repeaters, microcell transmitters, and other types of transmitting technologies are not practicable or feasible means to provide service within the coverage area that T-Mobile is seeking to serve due to significant terrain variations and tree cover, the relatively large size of the coverage area compared with the devices' limited transmission range, and other practical considerations. (T-Mobile 1, p. 7)

Amtrak

82. T-Mobile does not have a specific agreement with Amtrak to provide coverage to its corridor, but seeks to provide coverage to the shoreline which includes Amtrak's corridor. However, T-Mobile would still seek to construct the tower even without the presence of Amtrak's corridor. (Tr. 1, pp. 34-35)
83. Amtrak does not allow telecommunications co-locations on their catenary structures. (Tr. 4, p. 32)

Facility Description

84. The proposed facility would be located at 232 Shore Road on a 5-acre parcel owned by South Shore Landing Self Storage (the South Shore property) and used as a self-storage business. The Amtrak rail line right-of-way abuts the South Shore property to the north. (See Figures 1 and 2) (T-Mobile 1, pp. 1, 10 and Exhibit B)
85. The South Shore property is zoned Light Industry (LI-80). Telecommunications towers are allowed in a LI-80 zoning district with a special permit. (T-Mobile 1, p. 9; T-Mobile 1b – Town of Old Lyme Zoning Regulations)
86. The proposed facility would be located near the northwest corner of the host property. (T-Mobile 1, Exhibit B)
87. For its proposed facility, T-Mobile would lease a 2,100 square foot area (30 feet by 70 feet). The facility, as proposed, would include a 100-foot tall steel monopole tower within a 30-foot by 60-foot (1,800 square feet) compound. The compound would be enclosed by an eight-foot high chain link fence. (See Figure 3) (T-Mobile 1, p. 9; Exhibit B)
88. T-Mobile would install anti-climbing weave mesh on the compound fence. T-Mobile could also install a standard chain-link fence with barbed wire if required by the Council. (T-Mobile 2, response 20)
89. A 12-foot sliding gate on the fenced storage area would allow access to the tower compound area. (Tr. 1, p. 31)
90. The proposed tower would be located at 41° 17' 30.18" north latitude and 72° 17' 13.18" west longitude. Its ground elevation would be 30 feet above mean sea level (amsl). (T-Mobile 1, Tab B)

91. The proposed tower would be designed as a monopole in accordance with the 2005 Connecticut State Building Code and the Electronic Industries Association Standard ANSI/TIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Support Structures" for New London County. The tower would be designed to accommodate the antennas of four wireless carriers. (T-Mobile 1, Tab B)
92. T-Mobile would initially install nine panel antennas (three per sector) at a centerline height of 100 feet agl on T-arm mounts. (T-Mobile 1, p. 9 and Tab B; T-Mobile 2, response 10)
93. The top of T-Mobile's antennas would reach 102-feet 3-inches agl. (Tr. 1, p. 35)
94. T-Mobile could utilize flush-mounted antennas, but that configuration would require T-Mobile to occupy two levels instead of one, with the second 10 feet higher. (T-Mobile 2, response 11; Tr. 1, p. 49)
95. T-Mobile did not consider alternative or stealth tower designs. (Tr. 1, p. 33)
96. T-Mobile would install two radio equipment cabinets on a concrete pad within the fenced compound. (Tr. 1, p. 32)
97. T-Mobile would use battery backup power for its proposed facility. The battery power system could operate for 4 to 12 hours. (T-Mobile 2, response 21)
98. AT&T would initially install six panel antennas on a low-profile platform at the 110-foot level of the tower, necessitating that the tower be 10 feet higher than originally proposed. In the near future, AT&T would need to increase to nine antennas. (AT&T 2, response 4; Tr. 2, p. 96)
99. AT&T could utilize flush-mounted antennas, but that configuration would require T-Mobile to occupy two levels instead of one, with the second 10 feet higher. (AT&T 2, response 6)
100. AT&T would install a 12-foot by 20-foot equipment shelter to house its antenna-related ground equipment. (AT&T 2, response 14)
101. AT&T would utilize battery backup and a mobile diesel generator to provide backup power. (AT&T 2, response 15)
102. The diesel fuel tank would be double-walled to protect against leakage. (Tr. 2, p. 92)
103. AT&T's battery backup would provide about eight hours of run time. The mobile generator would provide about five days worth backup power. (Tr. 2, pp. 91-92)
104. Cellco would install 12 antennas at a centerline height of 90 feet AGL. Cellco would prefer to attach its antennas to a low-profile platform for ease of maintenance, but could use T-arms if required by the Council. (Cellco 2, response 4)
105. Cellco could utilize a flush-mounted antenna configuration, but it would require three antenna array locations spaced 10 feet apart center to center. Such locations would be the 100-foot, 90-foot, and 80-foot levels of the tower. (Cellco 2, response 6)

106. Cellco would install a 12-foot by 30-foot equipment shelter to house its antenna-related ground equipment. (Cellco 2, response 15)
107. Cellco would install a 60-kilowatt propane-fueled generator for backup power. The generator would be located inside the proposed 12-foot by 30-foot equipment shelter. (Cellco 2, response 15; Tr. 2, p. 82)
108. Cellco would also install a 1,000-gallon propane tank within the fenced compound to provide up to 75 hours of run time. (Tr. 2, p. 82)
109. The generator would also run approximately 20 minutes per week as an exercise to maintain it proper working condition. The time could be scheduled to accommodate the neighbors. (Tr. 1, p. 83)
110. Other than AT&T and Cellco, no other wireless carriers have expressed an interested in co-locating on the proposed tower. (Tr. 1, p. 34)
111. Construction of the proposed facility would require 230 cubic yards of cut and 264 cubic yards of fill. (T-Mobile 2, response 19)
112. Vehicular access to the proposed facility would extend from Shore Road over an existing paved driveway for a distance of approximately 420 feet and then continue over an existing gravel parking lot for approximately 600 feet to the proposed compound. (T-Mobile 1, p. 9; T-Mobile 1, Tab B)
113. Utility service would be extended underground approximately 770 feet to the proposed facility from an existing transformer on the host property. (T-Mobile 1, p. 9 and Tab B)
114. The tower's setback radius would extend approximately 48 feet onto the Amtrak rail line right-of-way. (T-Mobile 1, Exhibit B)
115. To reduce the tower's setback radius, T-Mobile would incorporate a yield point, or hinge point, into the design of the tower at approximately 48 feet agl. (T-Mobile 1, Exhibit B; Tr. 1, p. 30)
116. The nearest adjacent properties are the Amtrak right-of-way, which is located approximately 52 feet to the north of the proposed tower, and another parcel owned by Garvin Family Corp., Inc., which is located approximately 110 feet to the west of the proposed tower location. (T-Mobile 1, Exhibit B)
117. There are 14 residences within 1,000 feet of the proposed facility. (T-Mobile 1, Exhibit L)
118. The nearest single family residence not on the host property is located 567 feet away at 226 Shore Road and is owned by Garvin Family Corp., Inc. (T-Mobile 1, Tabs L and B)
119. Land use in the vicinity of the proposed facility consists of Amtrak right of way to the north, commercial office uses to the south, residential and commercial/warehouse uses to the east, and vacant land to the west. (T-Mobile 2, response 6)



120. The estimated cost of the proposed facility is the following:

Tower and foundation costs	\$ 81,000
Site development costs	77,000
Utility installation costs	55,000
T-Mobile equipment cabinets	30,000
<u>T-Mobile RF components e.g. antennas and cable</u>	<u>15,000</u>
Total estimated costs	\$258,000

(T-Mobile 1, pp. 19; T-Mobile 3, response 1)

### Environmental Considerations

121. The proposed facility at 100 or 110 feet agl would have no effect on historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places. (T-Mobile 1, Exhibit O, Letter from SHPO dated December 23, 2008; Tr. 4, p. 34)
122. The proposed facility would not affect any threatened or endangered species or designated critical habitats. (T-Mobile 1, p. 13)
123. The proposed facility would not affect any of the “listed” categories of the National Environmental Policy Act (NEPA): wilderness preserves; endangered or threatened species; critical habitats; National Register historic districts, sites, buildings, structures or objects; Indian religious sites; flood plains; or federal wetlands. (T-Mobile 1, p. 16; Tab Q)
124. The proposed facility is not located with the 100-year or 500-year floodplain. (T-Mobile 1, Tab Q)
125. Development of the proposed facility would require the removal of approximately eight trees with a diameter of breast height of at least six inches. (T-Mobile 1, Tabs B and M)
126. The maximum tower height that would not require notice to the Federal Aviation Administration or marking or lighting is 200 feet agl. (T-Mobile 1, Tab S)
127. The nearest wetlands are located 24 feet west of the proposed compound and 5 feet east of the proposed underground utilities. The entire facility would be located within the 100-foot Upland Review Area. However, no direct wetland impacts are expected to occur. Silt fence will be installed and maintained to protect the wetlands during construction. Thus, adverse impacts to the wetlands are not expected. (T-Mobile 1, Exhibit J; Tr. 1, pp. 57-58)
128. If the tower location were shifted 20 feet to the north, the wetland buffer would increase to 38 feet, resulting in even less wetland impacts. (Tr. 1 p. 61; T-Mobile 23)
129. Shifting the tower 20 feet to the north would require the removal of two large black oaks that have diameters of 33 and 22 inches at breast height. These two trees were examined by a certified forester and found to be in declining health with recommendations for removal. (T-Mobile 23)

130. Shifting the tower 300 feet to the east would result in a wetland boundary of 40 to 50 feet and no likely adverse impacts to wetlands. (T-Mobile 23)
131. T-Mobile would establish and maintain appropriate soil erosion and sedimentation control measures, in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control established by the Connecticut Council for Soil and Water Conservation, in cooperation with the Connecticut Department of Environmental Protection, throughout the construction period of the proposed facility. (T-Mobile 1, p. 17)
132. The entire Atlantic seaboard is a migratory bird flyway. However, towers less than 200 feet agl generally do not have a significant adverse effect on birds or result in increased bird strikes. (Tr. 1, p. 62)
133. There are no important bird areas which are designated by the Audubon Society in Old Lyme as important bird concentration areas for bird breeding, stopovers, etc. (Tr. 1, p. 63)
134. Cellco's and AT&T's backup generators would meet all applicable noise standards. (AT&T 2, response 16; Cellco 2, response 16)
135. The total cumulative worst-case maximum power density from the radio frequency emissions of the proposed T-Mobile, AT&T, and Cellco antennas is calculated to be 63.84 percent of the standard for Maximum Permissible Exposure, as adopted by the FCC, at the base of the proposed tower. This calculation was based on methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997) that assumes all antennas would be pointed at the base of the tower and all channels would be operating simultaneously, which creates the highest possible power density levels. 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. (T-Mobile 1, p. 13)

### Visibility

#### *Height of 100 feet as Originally Proposed*

136. The majority of the year-round visibility of the tower is over open water. Approximately 1,773 acres, or over 97 percent of the 1,817 acres of year-round visibility, is over open water on Long Island Sound to the south at a distance from 0.80 miles to 1.14 miles. (T-Mobile 1, Tab N)
137. The tower would be visible year-round on land from approximately 44 acres within a two-mile radius of the site. The tower would be seasonally visible from approximately 55 acres on land within a two-mile radius of the site. (T-Mobile 1, Tab N)
138. Specific areas of year-round visibility of the tower on land include areas within a 0.25 mile radius of the tower: select portions of Shore Road, Otter Rock Road, Hawks Nest Road, and Washington Avenue. Specific areas of limited year-round visibility also include portions of Pond Road and Corsino Avenue located further to the southeast. (T-Mobile 1, Tab N)

139. Approximately 21 residences would have year-round visibility of the proposed tower including three residences on Otter Rock Road; three residences along Hawks Nest Road; six residences along Washington Avenue; four residences along Shore Road (Route 156); two residences along Corsino Avenue; and three residences along Pond Road. (T-Mobile 1, Tab N)
140. A total of approximately 14 additional homes located on select portions of Center Beach Road, Hawks Nest Road, Washington Avenue, and Columbus Avenue would have seasonal views of the proposed tower. (T-Mobile 1, Tab N)
141. The ground elevation increases to the north of the proposed tower, from 28 feet AMSL to as high as 180 feet. Thus, the view from Long Island Sound will include rising topography in the background, not simply a tower with blue skies behind it. (Tr. 1, p. 65)
142. Visibility of the tower at the originally proposed height of 100 feet from specific locations in the surrounding area is summarized in the table below.

<b>Location</b>	<b>Visible</b>	<b>Approx. Portion of 100' Tower Visible (ft.)</b>	<b>Approx. Distance and Direction to Tower</b>
1 – Otter Rock Road adjacent to house #14, looking east	Yes	9 feet – above tree line	0.28 miles E
2 – Route 156 (Shore Road) at Dogwood Drive, looking northeast	Yes	25 feet – above tree line	0.29 miles NE
3 – Route 156 (Shore Road) at Hawks Nest Road, looking northwest	Yes	28 feet – partially obstructed by trees	0.17 miles NW
4 – Hawks Nest Road adjacent to house #10, looking northwest	Yes	20 feet – above tree line	0.17 miles NW
5 – Center Beach Avenue adjacent to house #14, looking north	Yes	8 feet – above tree line	0.26 miles N
6 – Liberty Street at Corsino Avenue, looking northwest	Yes	10 feet – above tree line	0.51 miles NW
7 – Pond Road adjacent to house #18A, looking northwest	Yes	10 feet – through trees	0.65 miles NW
8 – Washington Avenue adjacent to house #14, looking northwest	No	n/a	0.27 miles NW
9 – Hawks Nest Road north of Avenue A, looking northwest	No	n/a	0.59 miles NW
10 – West End Drive adjacent to house #82, looking northeast	No	n/a	0.76 miles NE
11 – Center Beach Avenue adjacent to house #40, looking northwest	No	n/a	0.40 miles NW
12 – Hartford Avenue north of Pond Road, looking northwest	No	n/a	0.67 miles NW

(T-Mobile 1, Exhibit N)

Revised Height of 110 feet to accommodate AT&T

143. The total acreage of year-round visibility for a 110-foot tower would increase about three percent from 1,817 acres (for a 100-foot tower) to 1,876 acres. The visibility area would be mostly over open water, at a distance ranging from approximately 0.80 miles to 1.14 miles. (AT&T 4)
144. The views of the proposed facility would not change significantly if the height of the facility were increased from 100 feet to 110 feet. (T-Mobile 21)
145. The number of homes with visibility of the tower is not expected to change if the tower height was increased from 100 feet to 110 feet. (Tr. 5, p. 34)
146. Visibility of the tower at the revised height of 110 feet from specific locations in the surrounding area is summarized in the table below.

<b>Location</b>	<b>Visible</b>	<b>Approx. Portion of 110' Tower Visible (ft.)</b>	<b>Approx. Distance and Direction to Tower</b>
1 – Otter Rock Road adjacent to house #14, looking east	Yes	19 feet – above tree line	0.28 miles E
2 – Route 156 (Shore Road) at Dogwood Drive, looking northeast	Yes	35 feet – above tree line	0.29 miles NE
3 – Route 156 (Shore Road) at Hawks Nest Road, looking northwest	Yes	38 feet – partially obstructed by trees	0.17 miles NW
4 – Hawks Nest Road adjacent to house #10, looking northwest	Yes	30 feet – above tree line	0.17 miles NW
5 – Center Beach Avenue adjacent to house #14, looking north	Yes	18 feet – above tree line	0.26 miles N
6 – Liberty Street at Corsino Avenue, looking northwest	Yes	20 feet – above tree line	0.51 miles NW

(AT&T 4)

Alternative Location to the 20 feet to the north with a tower height of 110 feet

147. There would be no material difference in visibility from this location versus the proposed site. (Tr. 4, p. 37)

Alternative Location approximately 300 feet to the east with a tower height of 110 feet

148. This location would shift the visibility to the east and increase visibility of the tower at a nearby elementary school and its ball field. There would be a direct line of sight to the tower from the ball field, especially during leaf-off conditions. (Tr. 4, p. 36)

Coastal Management Act

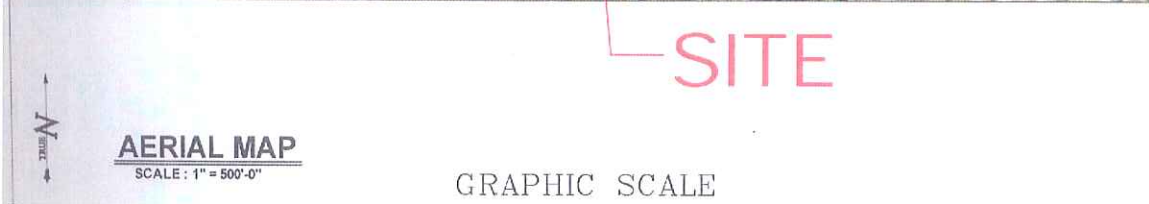
149. The tower would be located approximately 0.8 miles to the north of Long Island Sound. (T-Mobile 1, Tab N).
150. Although the proposed facility is located within the Connecticut Coastal Management Act's (CCMA) coastal boundary, there are no coastal resources on the subject property. The nearest coastal resources are tidal wetlands associated with Mile Creek, which is located approximately 800 feet west of the proposed tower. No coastal resources, as defined in the CCMA, would be adversely affected by the proposed tower at either 100 or 110 feet tall agl. (T-Mobile 1, p. 14 and Tab O; Tr. 4, pp. 33-34)
151. Views of the tower from Long Island Sound would be distant and rising topography to the north provides the backdrop of the view. (T-Mobile 21)

Figure 1: Location Map of Proposed Site



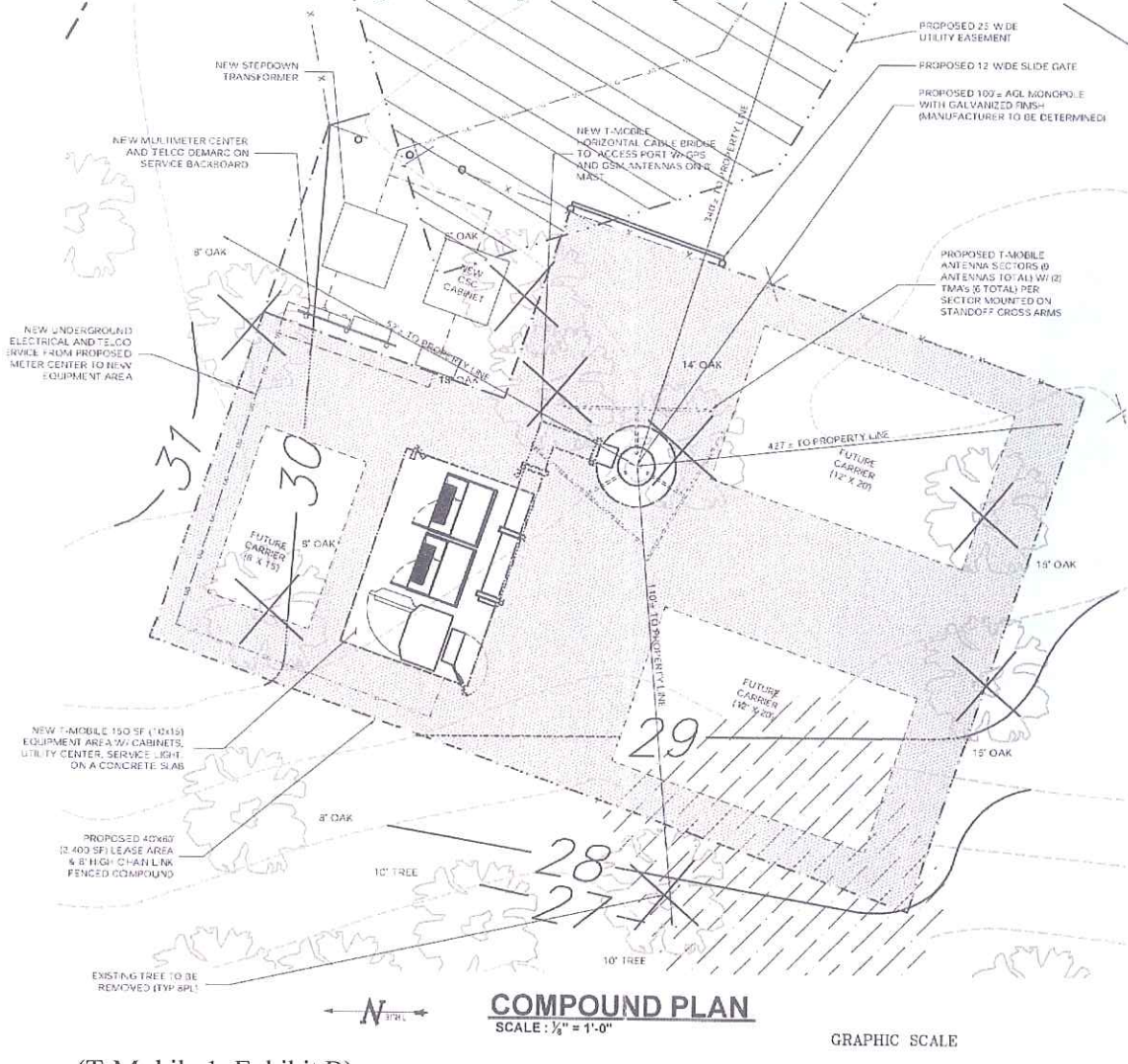
(T-Mobile 1, Tab C)

**Figure 2: Aerial Photograph of Proposed Site Location**



(T-Mobile 1, Tab B)

**Figure 3: Proposed Facility Site Plan**



(T-Mobile 1, Exhibit B)

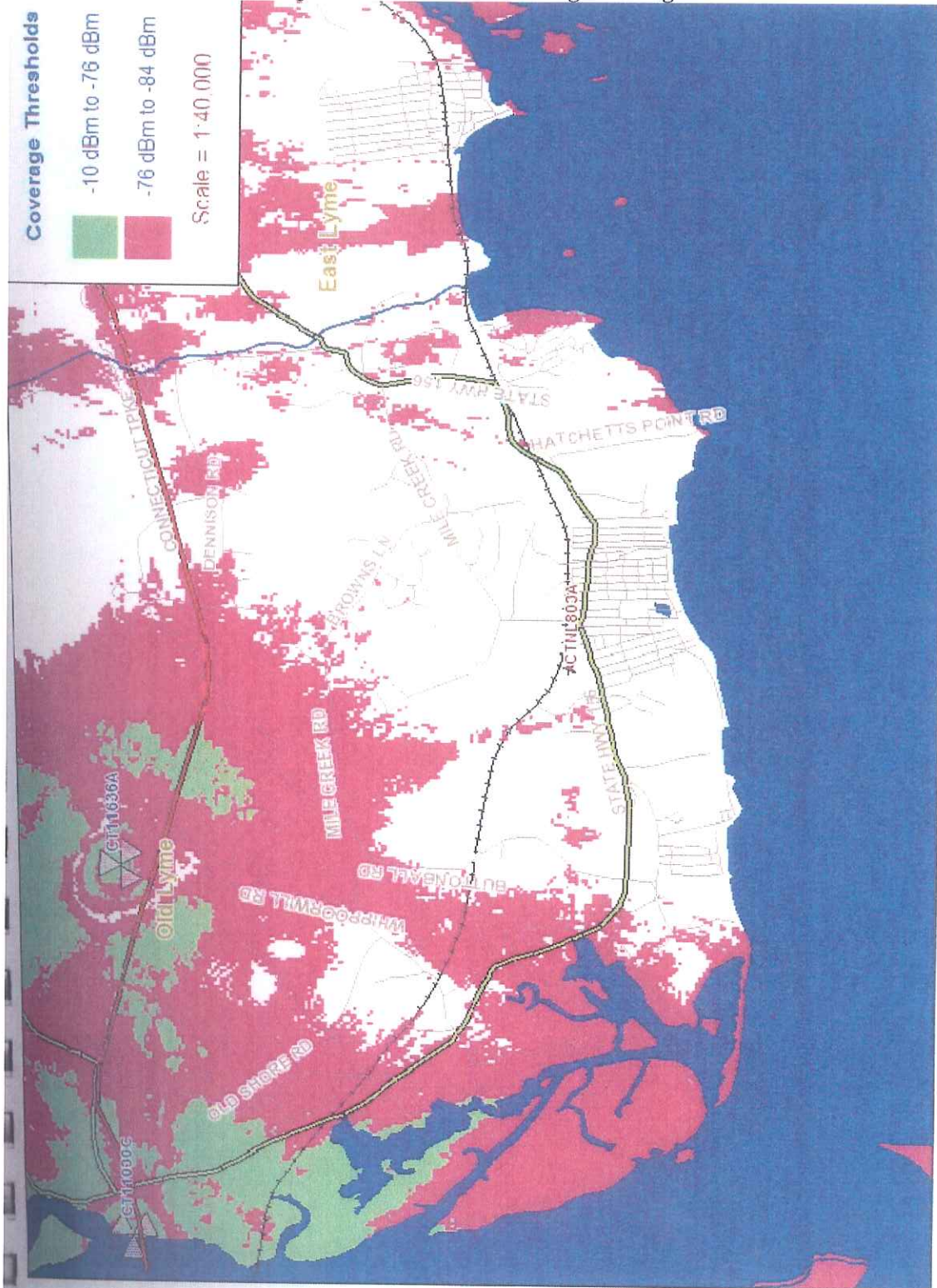


**Figure 4: Alternative Site Locations on Subject Property**



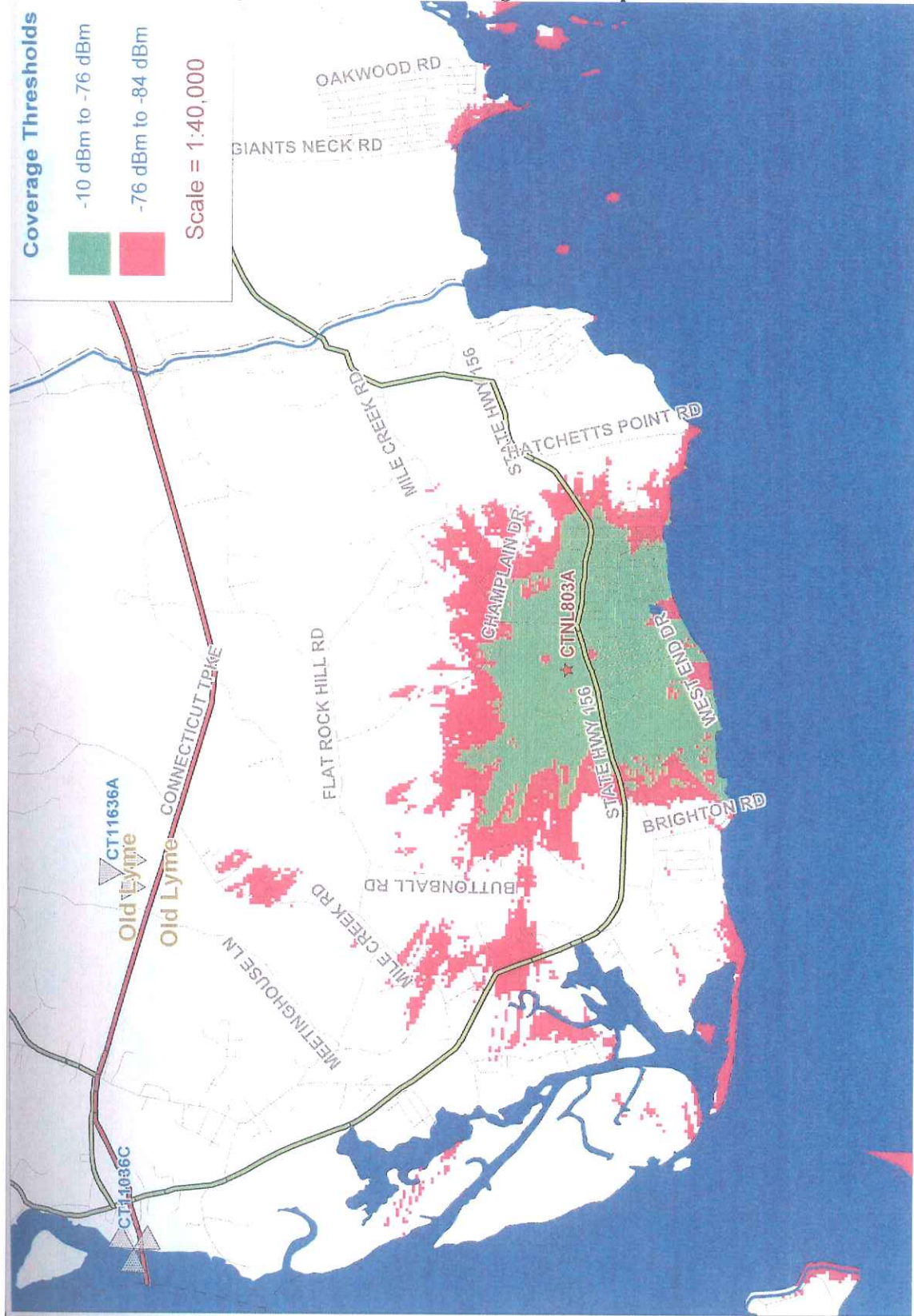
(T-Mobile 23)

Figure 5: T-Mobile's Existing Coverage



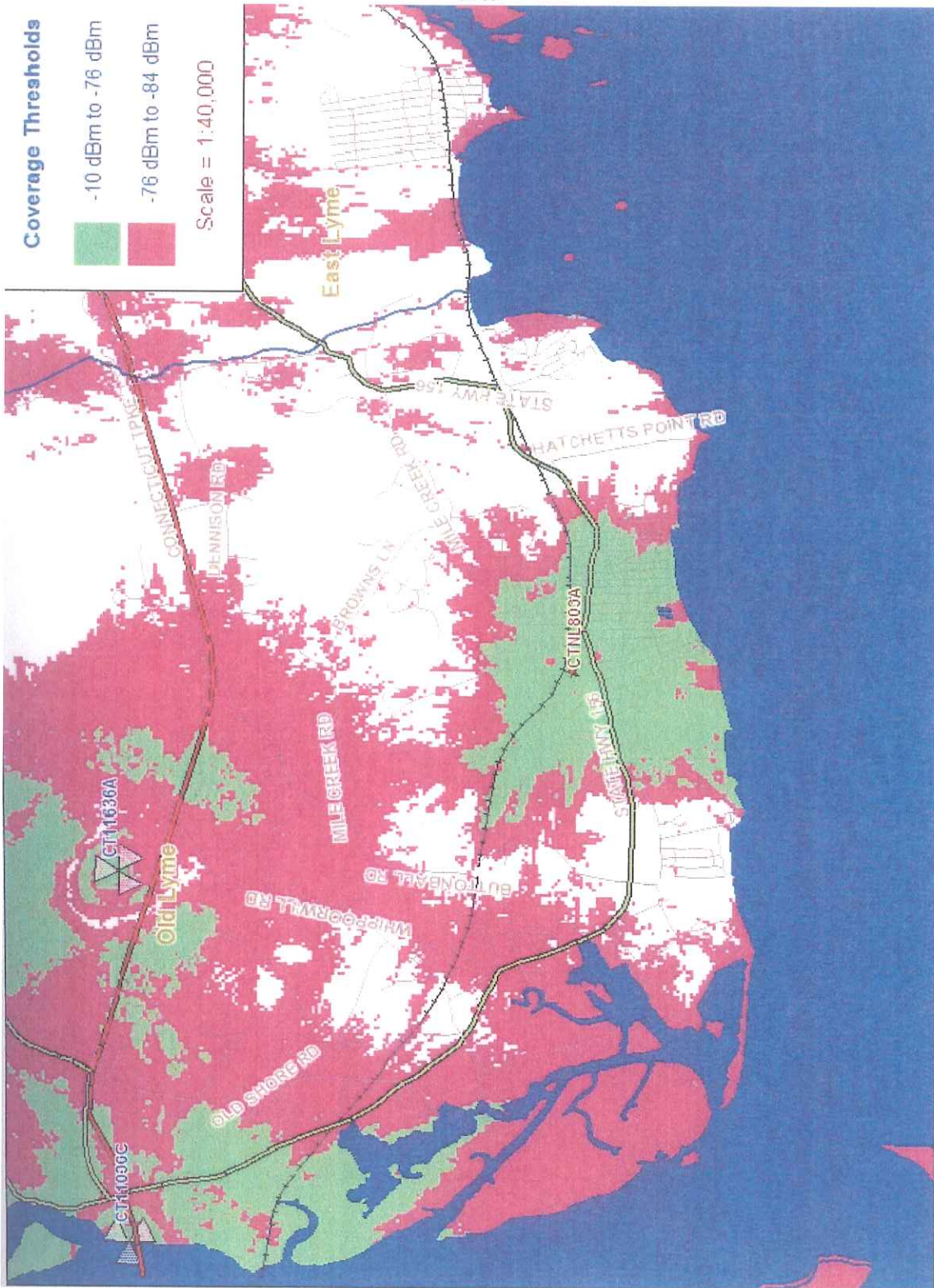
(T-Mobile I, Exhibit H)

Figure 6: T-Mobile's Coverage from Proposed Site



(T-Mobile 1, Exhibit H)

Figure 7: T-Mobile's Existing Coverage with Proposed Site



(T-Mobile 1, Exhibit H)

Figure 8: T-Mobile's Existing and Proposed Coverage with Three Proposed Towers (Dockets 391-393)

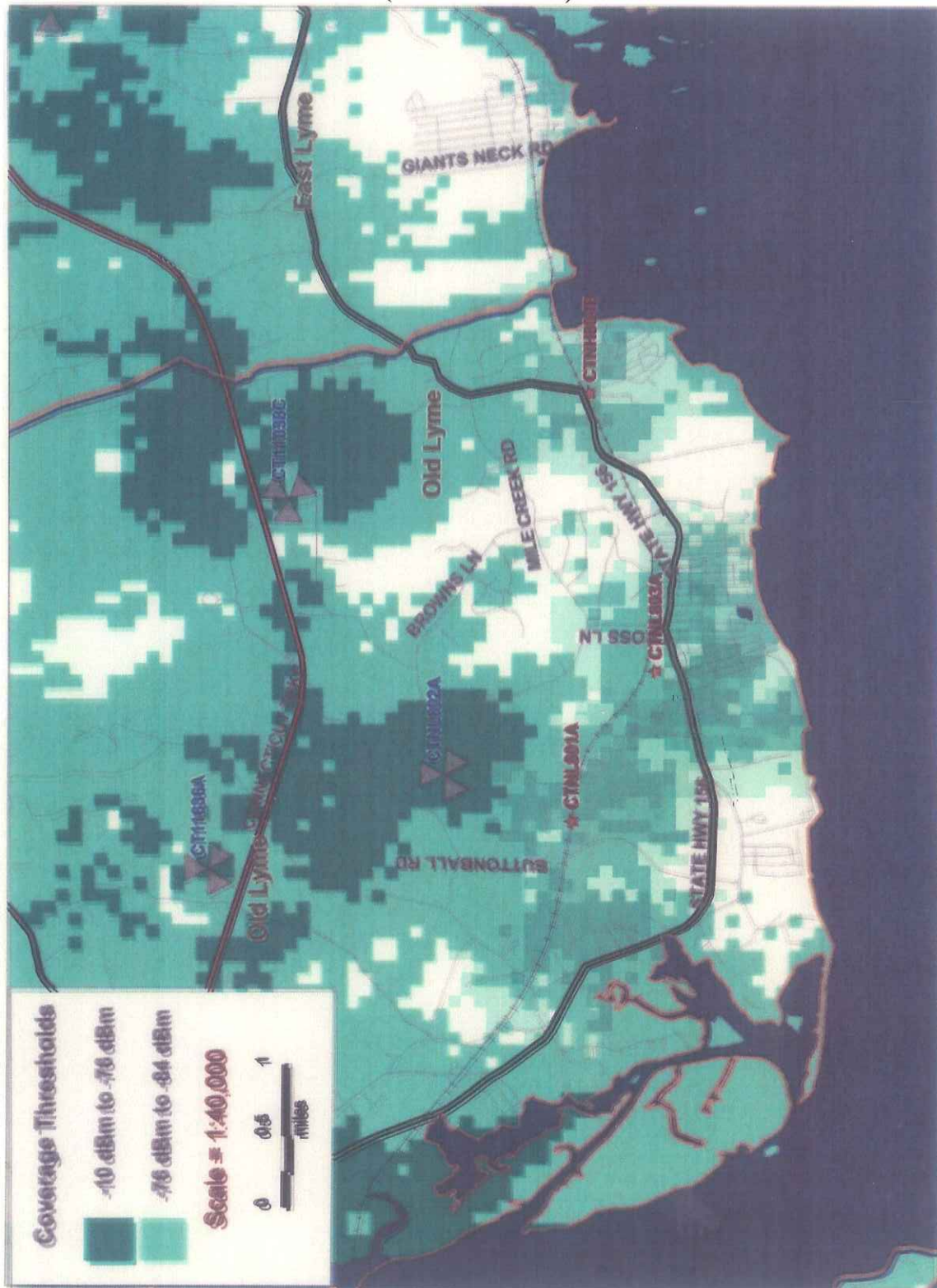
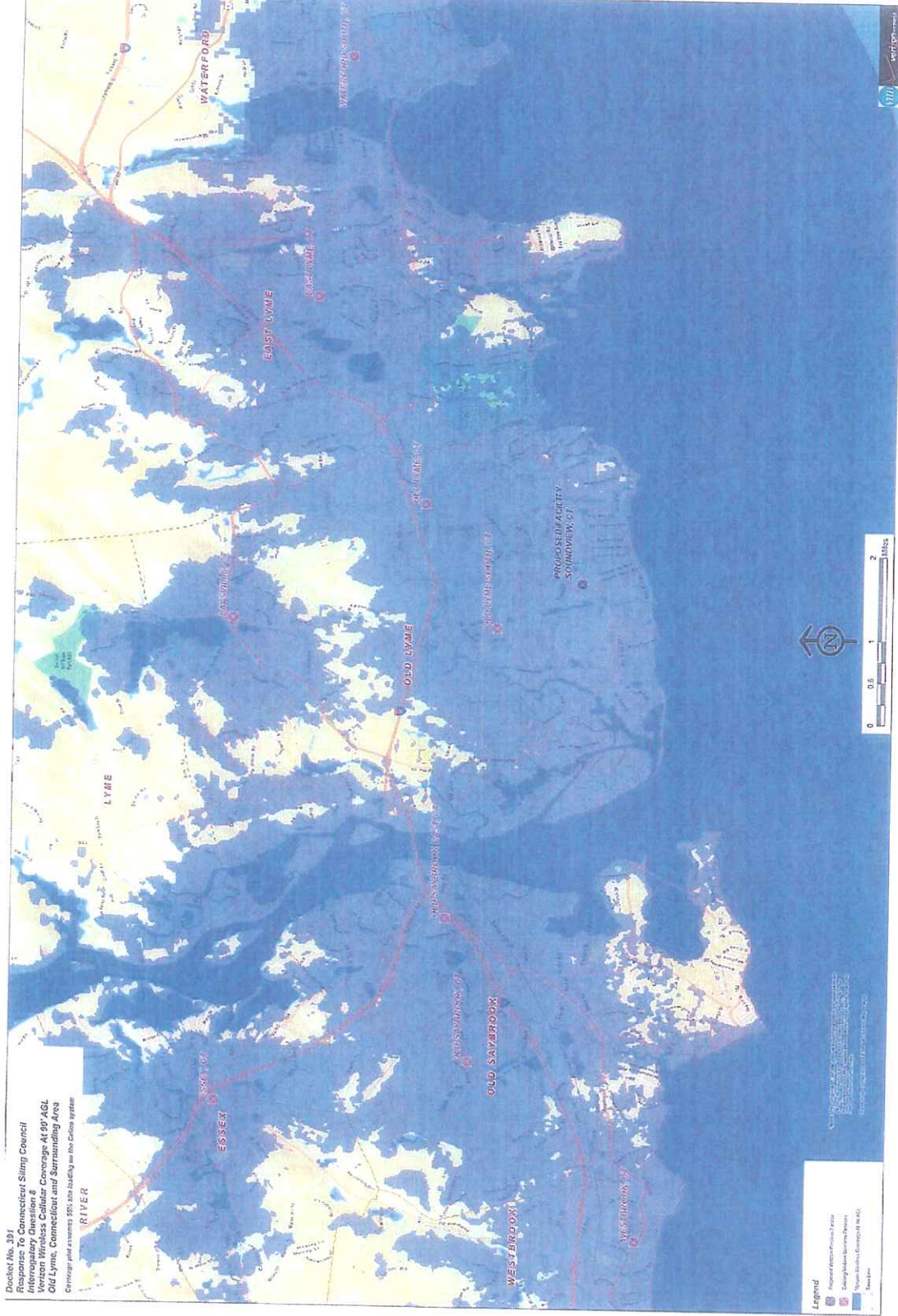


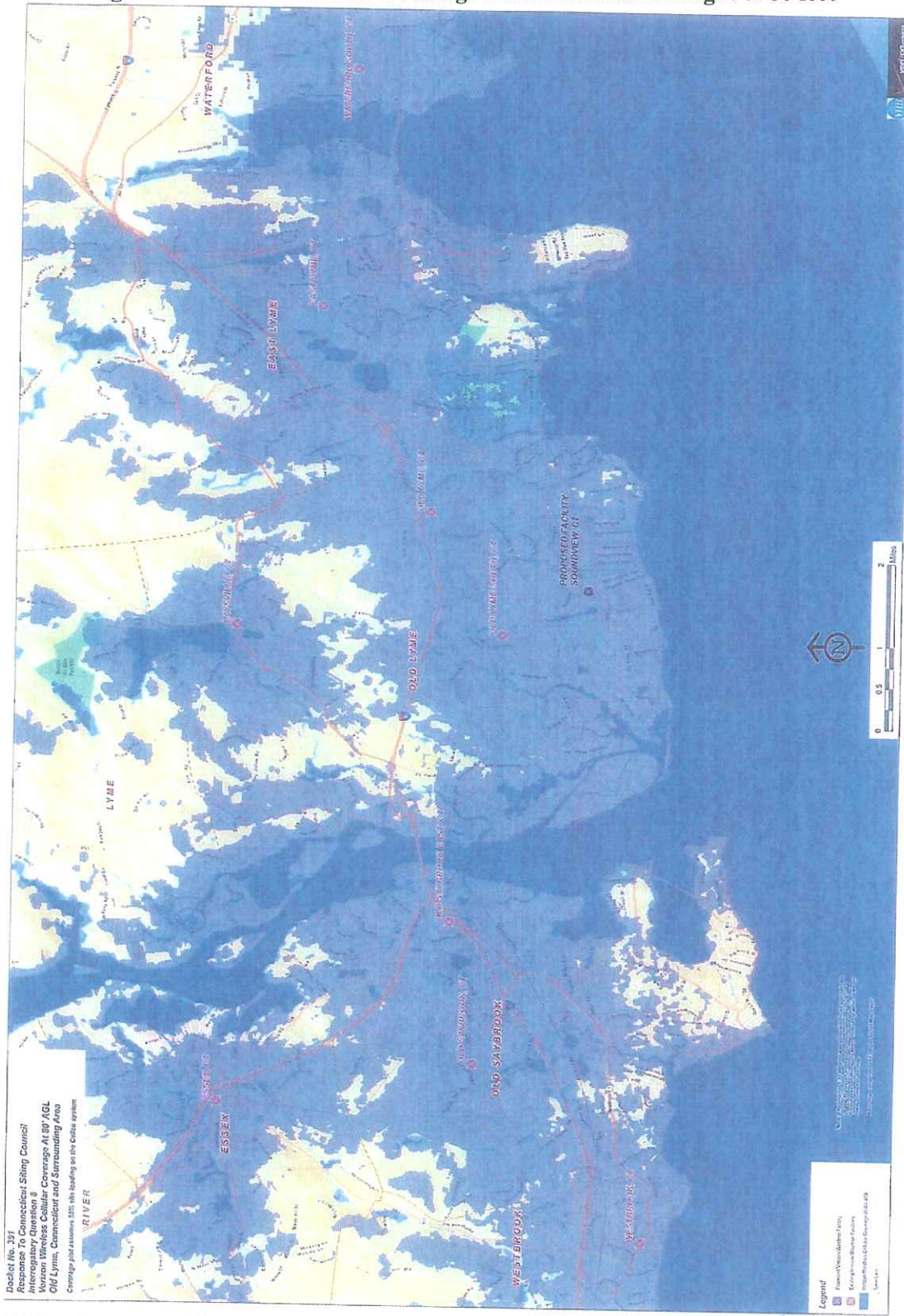


Figure 10: Cellco's Cellular Coverage with Antennas at Proposed Height of 90 feet



(Cellco 2, response 8)

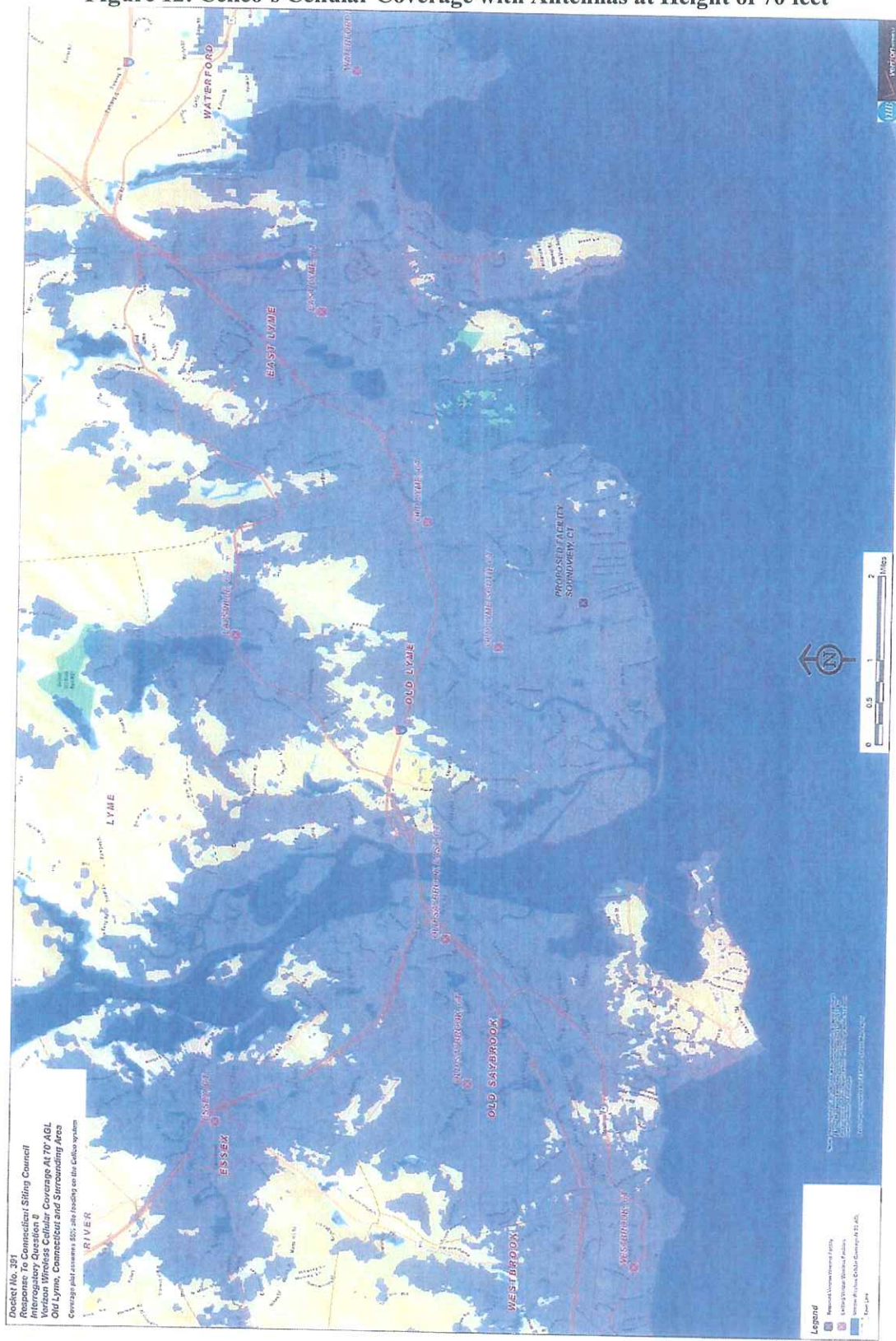
Figure 11: Cellco's Cellular Coverage with Antennas at Height of 80 feet



(Cellco 2, response 8)



Figure 12: Cellco's Cellular Coverage with Antennas at Height of 70 feet



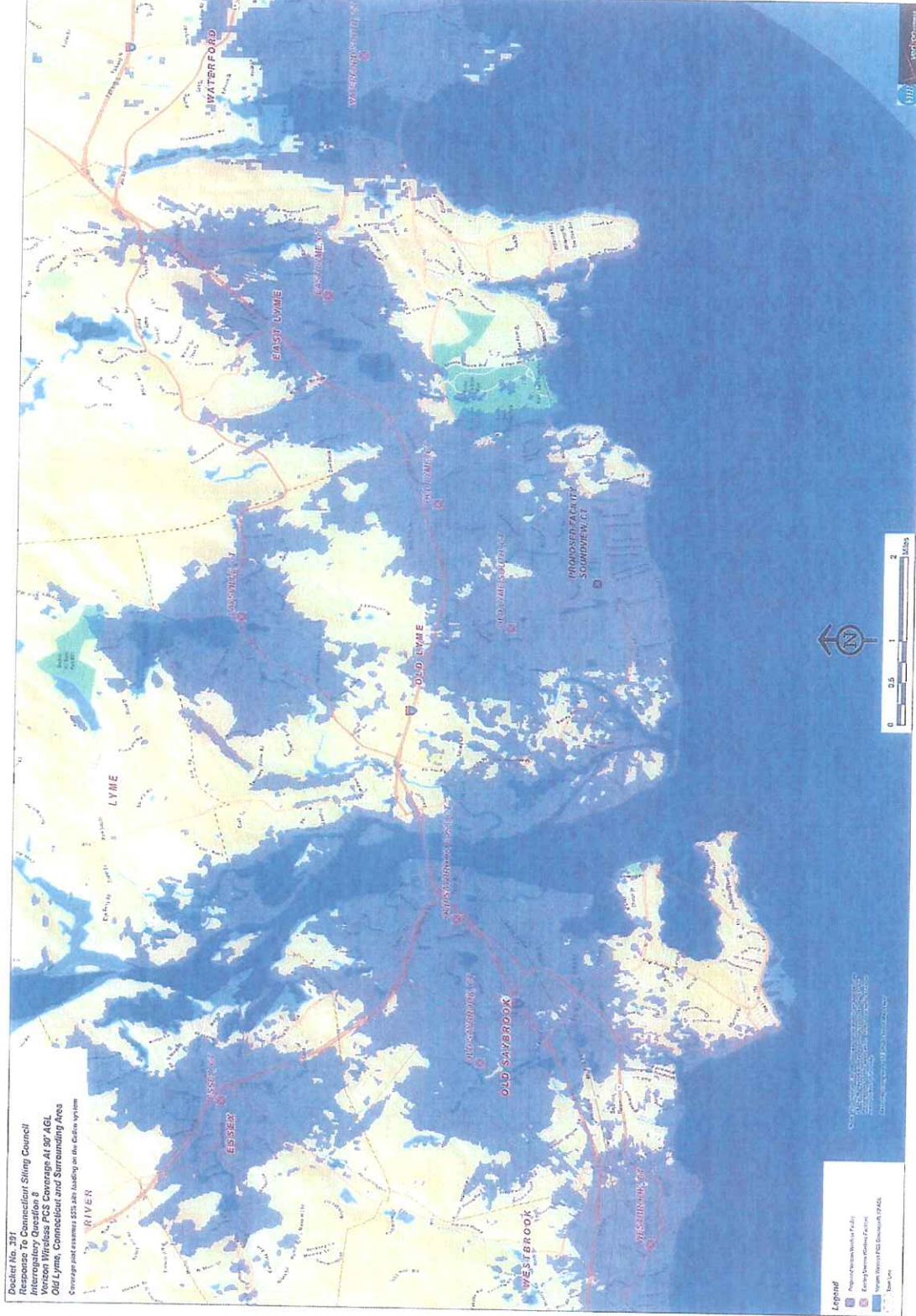
(Cellco 2, response 8)

Figure 13: Cellco's Existing Coverage at PCS Frequencies



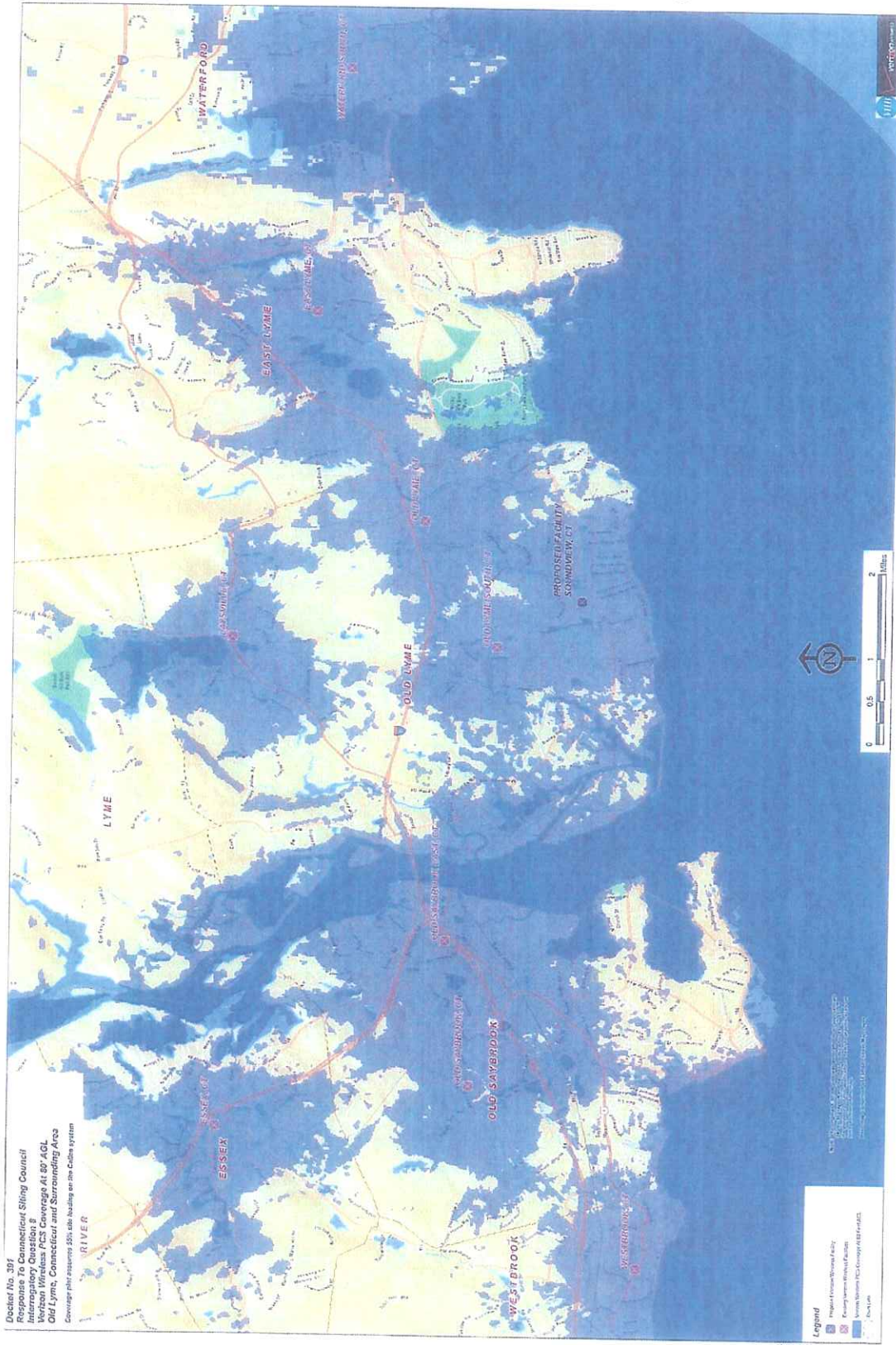
(Cellco 2, response 8)

Figure 14: Cellco's PCS Coverage with Antennas at Proposed Height of 90 feet



(Cellco 2, response 8)

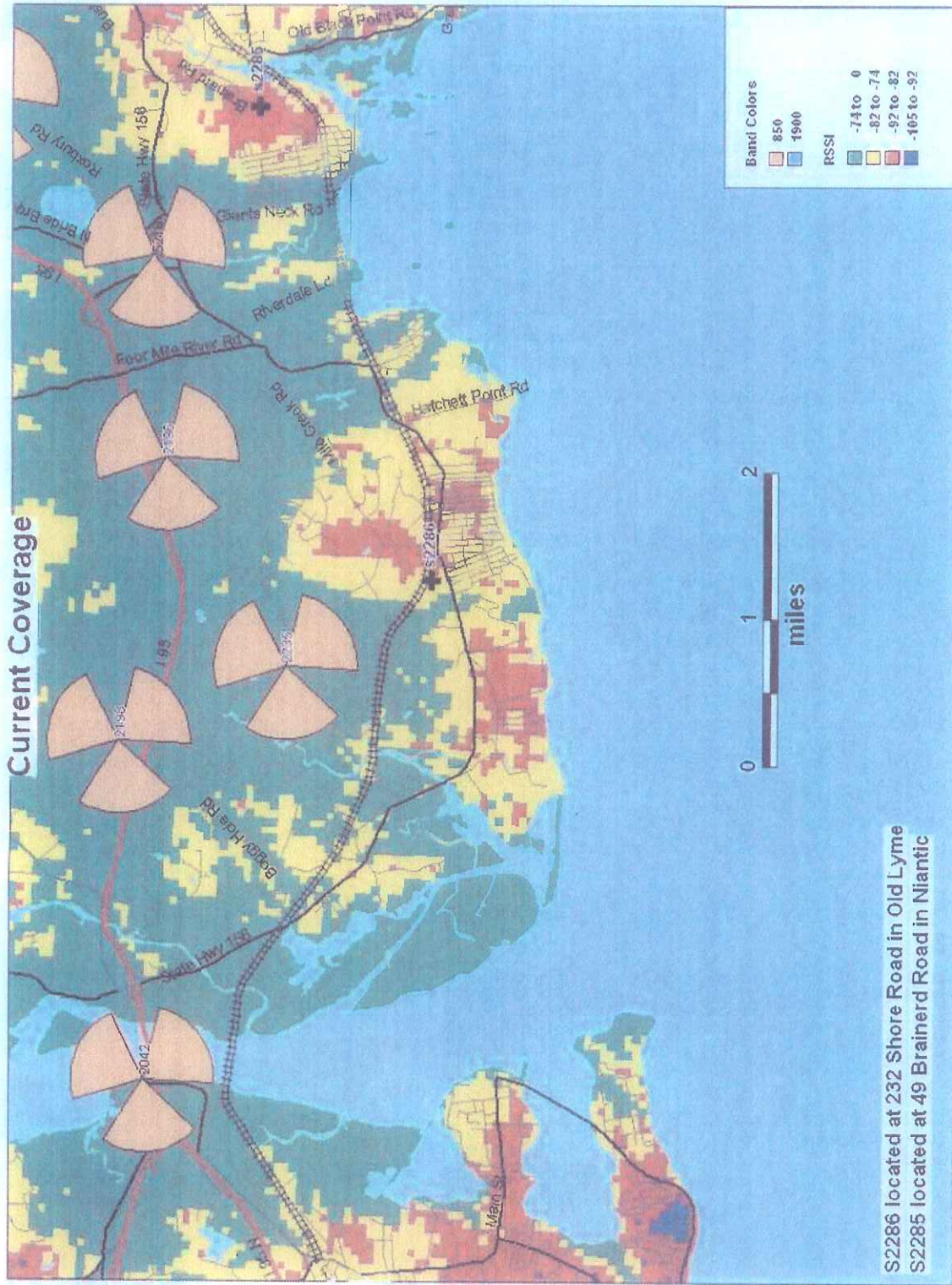
Figure 15: Cellco's PCS Coverage with Antennas at Height of 80 feet



(Cellco 2, response 8)

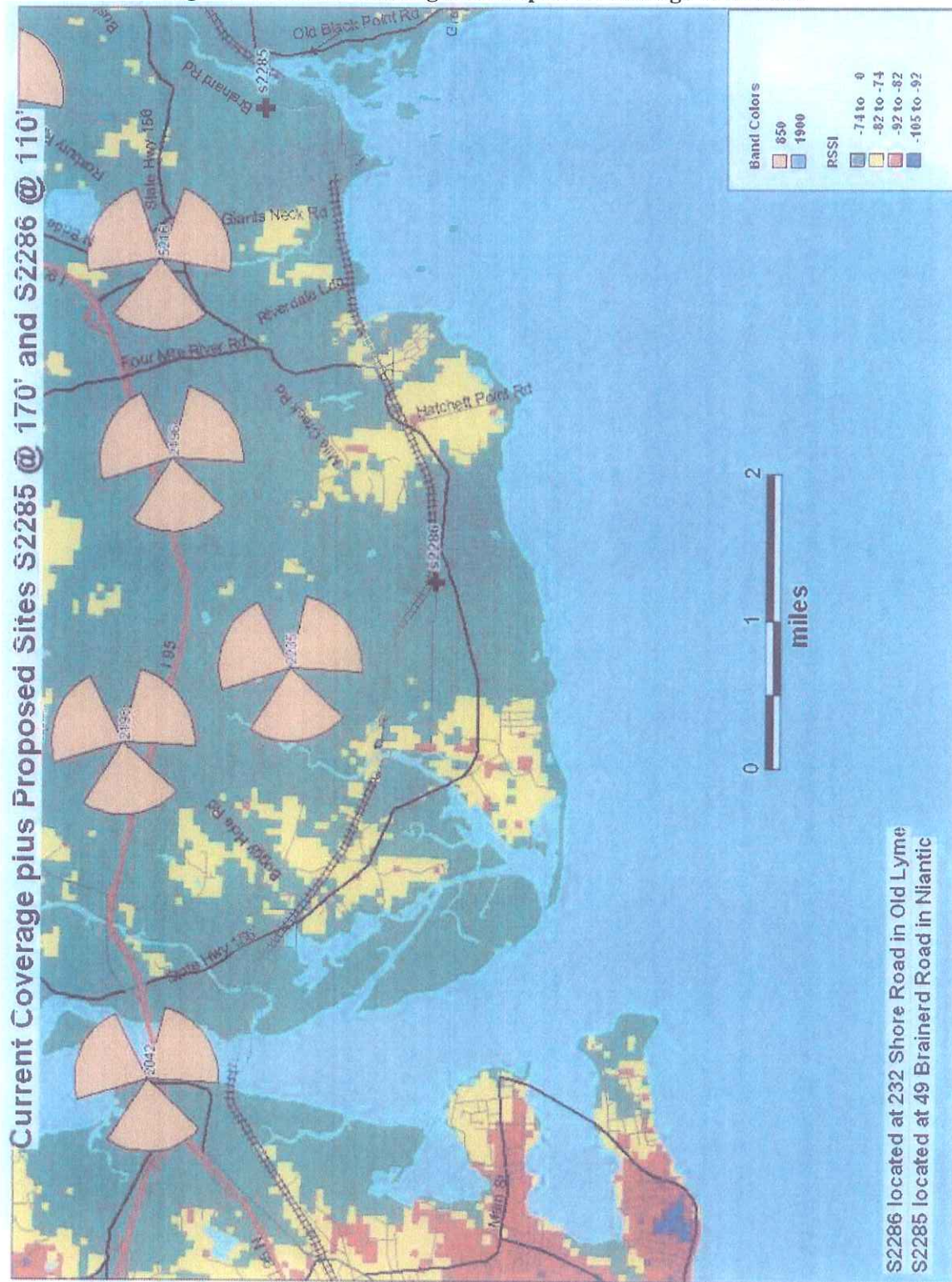


Figure 17: AT&T Existing Coverage



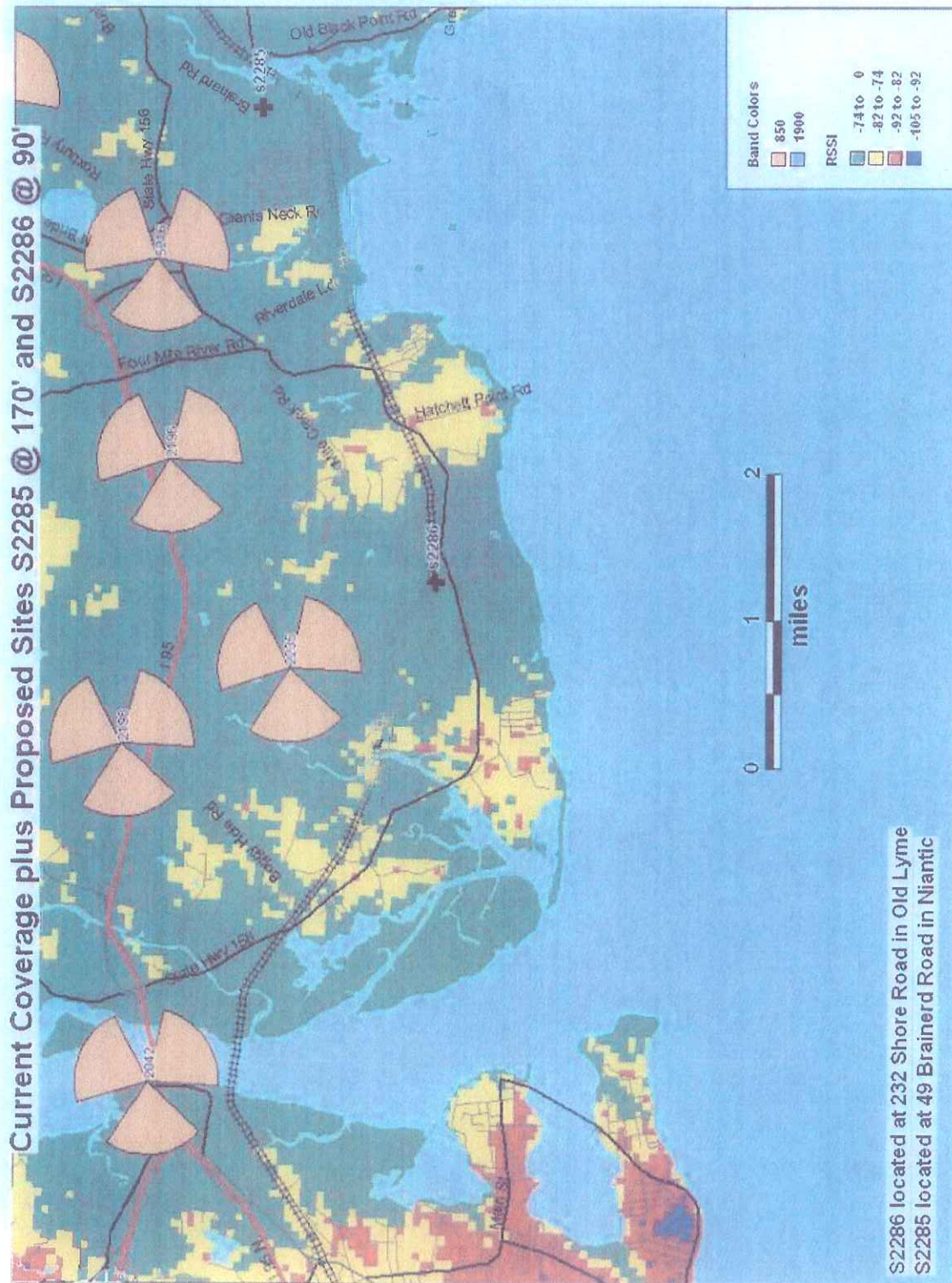
(AT&T 2, response 8)

Figure 19: AT&T Existing and Proposed Coverage at 110 feet



(AT&T 2, response 8)

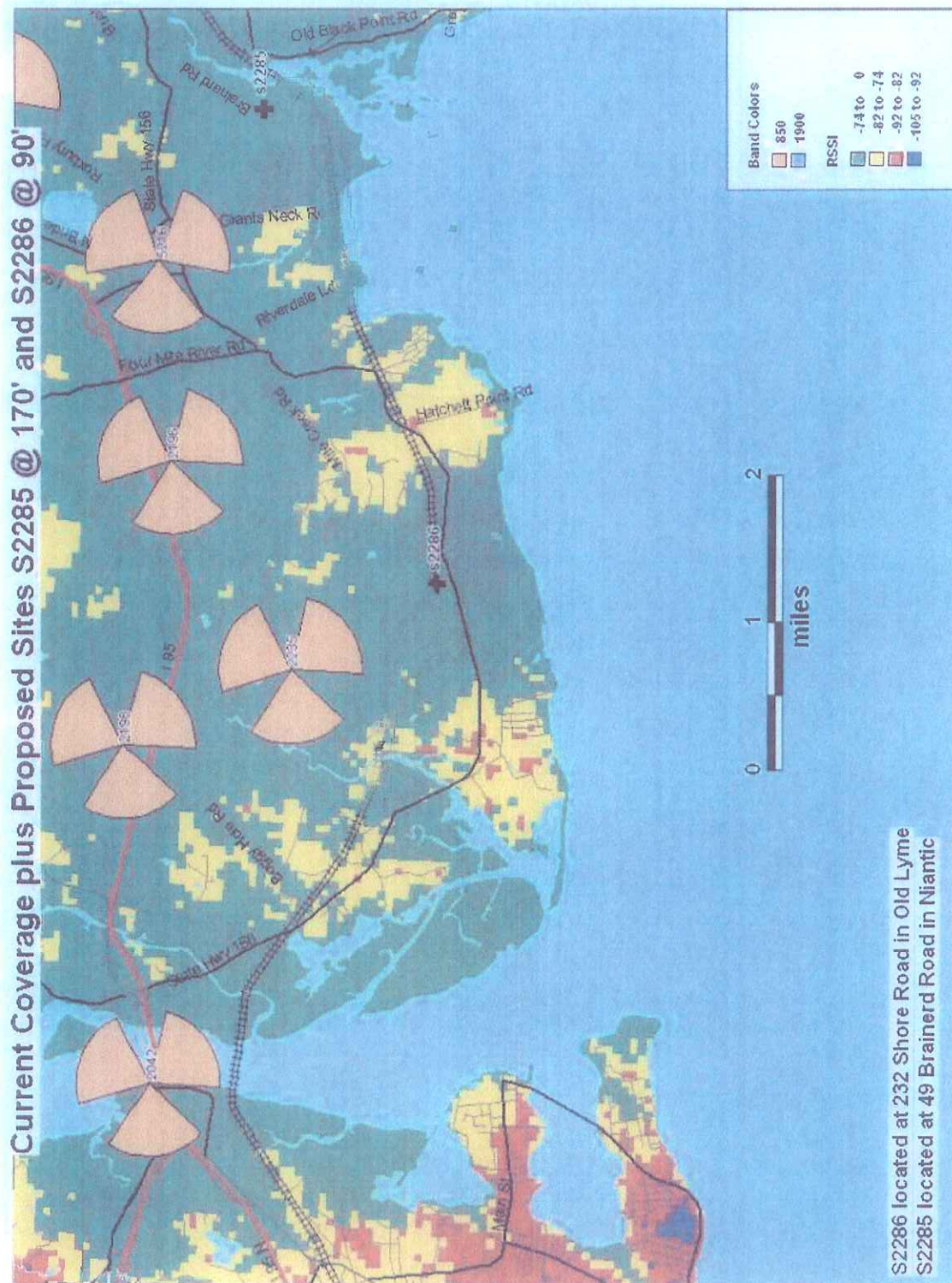
Figure 18: AT&T Existing and Proposed Coverage at 90 feet



(AT&T 2, response 8)

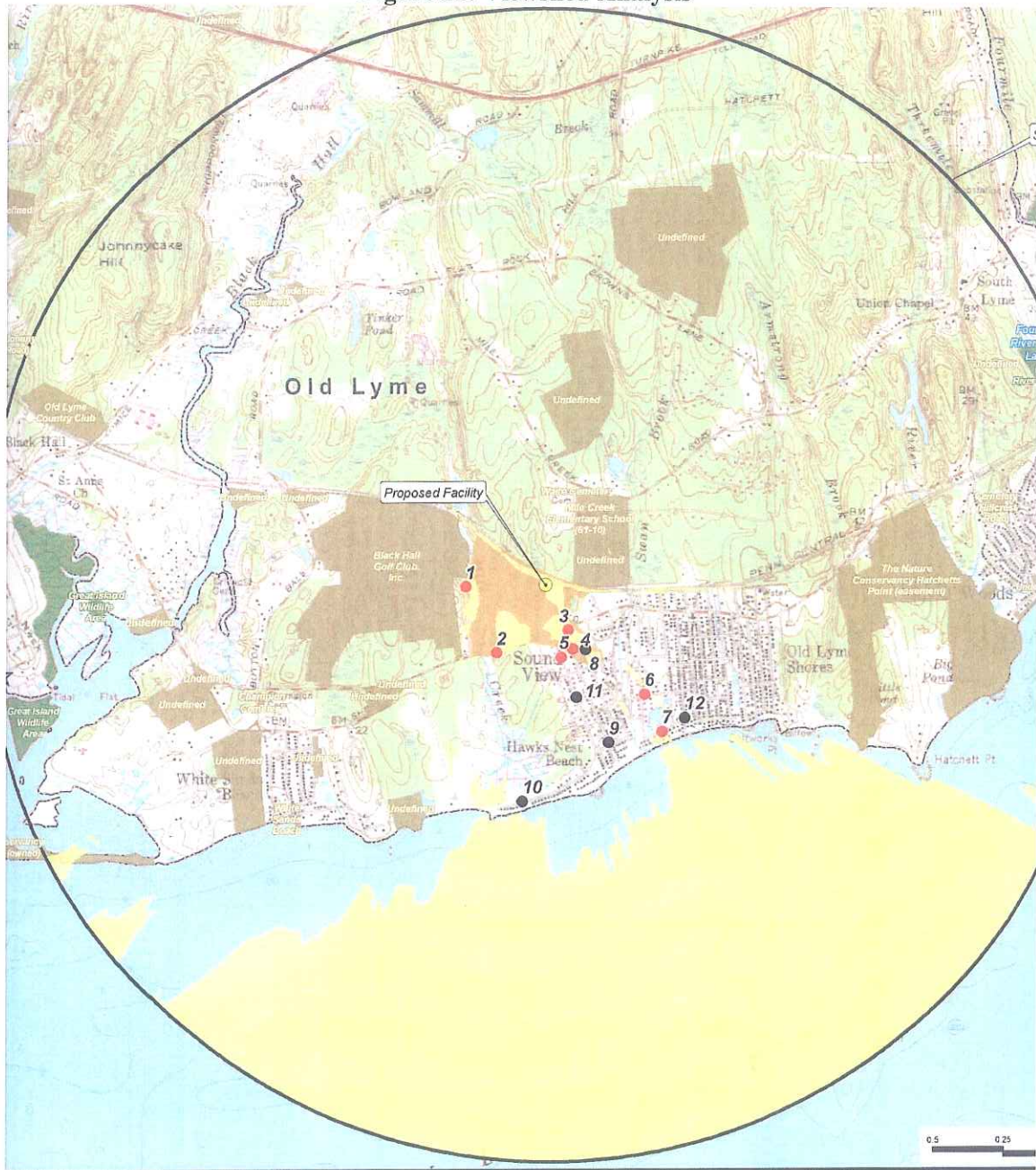


Figure 20: AT&T Existing and Proposed Coverage at 80 feet



(AT&T 2, response 8)

Figure 21: Viewshed Analysis














(T-Mobile 1, Tab N)

**Figure 22: Viewshed Analysis Key**

Map Compiled July, 2009

**Legend**

-  Tower Location
- Photographs - May 5, 2009
  -  Balloon is not visible
  -  Balloon visible above trees
  -  Year-Round Visibility (Approximately 1817 acres)
  -  Seasonal Visibility (Approximately 55 acres)
  -  Protected Municipal and Private Open Space Properties (1997)
    - Cemetery
    - Preservation
    - Conservation
    - Existing Preserved Open Space
    - Recreation
    - General Recreation
    - School
    - Uncategorized
  -  CT DEP Protected Properties (2007)
    - State Forest
    - State Park
    - DEP Owned Waterbody
    - State Park Scenic Reserve
    - Historic Preserve
    - Natural Area Preserve
    - Fish Hatchery
    - Flood Control
    - Other
    - State Park Trail
    - Water Access
    - Wildlife Area
    - Wildlife Sanctuary
  -  Federal Protected Properties (1997)
  -  CT DEP Boat Launches (1994)
  -  Scenic Road (State and Local)
  -  Town Line

(T-Mobile 1, Tab N)

**DOCKET NO. 391** - T-Mobile Northeast, LLC application for a } Connecticut  
Certificate of Environmental Compatibility and Public Need for }  
the construction, maintenance and operation of a } Siting  
telecommunications facility located 232 Shore Drive, Old Lyme, }  
Connecticut. } Council

September 23, 2010

### Opinion

On October 15, 2009, T-Mobile Northeast, Inc. (T-Mobile) 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 to be located at 232 Shore Road in the Town of Old Lyme, Connecticut. T-Mobile is seeking to develop a facility on property owned by the South Shore Landing Self Storage and used as a commercial self-storage facility. This proposed site in Docket No. 391 is otherwise known as the "Self-Storage Site." To further improve coverage in Old Lyme, T-Mobile also filed applications for two other towers: Docket No. 392, known as "the Laundromat Site" located at 387 Shore Road, Old Lyme; and Docket No. 393, known as "the Commercial Complex Site" located at 61-1 Buttonball Road to further improve coverage in Old Lyme.

T-Mobile's coverage objective in this area is to provide coverage to existing gaps in the vicinity of the proposed tower along the shoreline and the Amtrak rail line, as well as on Route 156, Mill Creek Road, Hawks Nest Road, and Cross Lane just south of Interstate 95. New Cingular Wireless PCS, LLC (AT&T) participated as an intervenor in this proceeding to demonstrate their need for the proposed facility which is to fill a coverage gap along Route 156. Cellco Partnership d/b/a Verizon Wireless (Cellco) also participated as an intervenor in this proceeding to demonstrate their need to fill a coverage gap along Route 156, the Amtrak corridor, and the southern portion of Old Lyme. The Town of Old Lyme (Town) participated in this proceeding as a Party.

T-Mobile established a search ring for its target service area on or about July 17, 2008. T-Mobile's search area was centered at the intersection of Cross Lane and the Amtrak rail line and had a radius of approximately 0.2 miles. T-Mobile identified six existing structures suitable for telecommunications use within a four-mile radius of the proposed location. T-Mobile is already co-located at three of these sites. The remaining three sites would not meet T-Mobile's coverage objectives because they are too far away.

T-Mobile also investigated four raw land sites. These sites were rejected either because they would not meet coverage objectives or the property owner was not interested in a tower facility on their property. T-Mobile also considered co-location at a SBA facility that was originally proposed for 14 Cross Lane, Old Lyme. This site is no longer available. T-Mobile also considered co-location on Amtrak's catenary structures, but found that Amtrak does not allow telecommunications co-locations on its structures.

T-Mobile also, at the Council's request, reviewed the feasibility of a distributed antenna system (DAS) in lieu of a tower. The DAS alternative is not feasible because the uneven terrain and mature vegetation in the area would necessitate the installation of numerous DAS nodes (roughly 45), while, at the same time, the area lacks both a sufficient number of utility poles high enough for the purpose and sufficient installed fiber-optic capacity. After reviewing the original

alternatives in T-Mobile's application, as well as others brought up during the proceeding, the Council finds no feasible or available alternatives to the proposed site.

In this docket, the Council has considered two special issues regarding the height of the tower. First: the Town requested a tower 160 feet high to accommodate its own equipment for a planned upgrade of municipal telecommunications. To date, the Town has not yet been able to secure funding for the plan. However, T-Mobile is willing to install a tower that is designed to be expandable to 160 feet. The Council finds that this option would be prudent on behalf of public safety, and will order a tower with the capability for such expansion. When the Town obtains the necessary funds, they can come back to the Council and petition for the added height.

Second: although T-Mobile originally proposed a 100-foot monopole, it increased the proposed tower height to 110 feet on account of the particular coverage needs of co-locator AT&T. The Council acknowledges that T-Mobile has taken steps to provide adequate notice to the public about the height increase, and also notes that the visibility models show the number of homes with views of a 100-foot tower and a 110-foot tower are approximately the same.

The proposed 110-foot tower would be located in a 30-foot by 70-foot compound surrounded by an eight-foot high chain-link fence with anti-climbing weave. AT&T proposes to install six panel antennas on a low profile platform at the 110-foot level. T-Mobile would install nine panel antennas at a centerline height of 100 feet on T-arm mounts. Cellco would install 12 panel antennas at 90 feet on either a low-profile platform or T-arms.

At 110 feet, the tower would be visible year-round on land from approximately 44 acres within a two-mile radius of the site. It would be seasonally visible from approximately 55 acres on land within the same radius. Most of the year-round visibility of the tower – 95 percent – is over open water on Long Island Sound, approximately 0.80 to 1.14 miles away.

Residences with year-round visibility of the tower on land include 16 in the immediate vicinity of the tower, and five farther to the southeast along Pond Road and Corsino Avenue, where views are more limited. Fourteen additional homes close to the tower would have views of the tower in seasonal (leaf-off) conditions.

The Council finds that the proposed site limits visibility of the tower as far as possible, consistent with the carriers' coverage goals. However, to minimize further visual impact and provide a uniform visual profile, the Council will require all carriers to mount their antennas on T-arms, which are not as obtrusive as mounts utilizing platforms.

A 110-foot tower at the proposed site would have a setback radius that extends 58 feet onto the Amtrak rail line right-of-way. To ensure that the tower setback radius remains on the subject property, the Council will require that the tower be designed with a yield point.

Vehicular access to the proposed facility would extend from Shore Road over an existing paved driveway for about 420 feet and then continue across an existing gravel parking lot for approximately 600 feet to the proposed compound. Utility service would extend underground approximately 770 feet to the proposed facility from an existing transformer on the subject property.

Approximately eight trees with a diameter at a breast height of at least six inches would have to be cut down to develop the proposed facility. The nearest wetlands are located 24 feet west of the proposed compound and five feet east of the proposed underground utilities. No direct wetland

impacts are expected, especially since, as a precaution, the Council will require T-Mobile to establish and maintain appropriate soil and erosion control measures in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. Nonetheless, if the tower location were shifted 20 feet to the north (Northern Alternative Location), the wetland buffer would increase to 38 feet, decreasing indirect wetland impacts. Although the shift would require cutting down two large black oaks with diameters of 33 and 22 inches at breast height, a certified forester has examined these trees, found them to be diseased, and recommended their removal.

Another option for mitigating indirect wetland impacts would be to shift the tower 300 feet to the east: this would increase the wetland buffer to roughly 40 or 50 feet, preventing any likely adverse impacts to wetlands at all. However, the tradeoff for this option would be that the tower would be visible from a school ballfield on the other side of the railroad tracks. In the interest of protecting wetlands, the Council chooses the Northern Alternative Location: it would provide a larger buffer for the wetlands than the proposed site offers, but without increasing the tower's visibility.

The proposed facility would not affect any of the "listed" categories of the National Environmental Policy Act (NEPA): wilderness preserves; endangered or threatened species; critical habitats; National Register historic districts, sites, buildings, structures or objects; Indian religious sites; flood plains; or federal wetlands.

The Council is concerned about impacts to migratory birds. The entire Atlantic seaboard is a migratory bird flyway. However, towers less than 200 feet agl generally do not have a significant adverse effect on birds or result in increased bird strikes. In addition, no areas in Old Lyme have been designated by the Audubon Society as important bird concentration areas for bird breeding, stopovers, or other activities critical to survival.

Although the proposed facility is located within the Connecticut Coastal Management Act's (CCMA) coastal boundary, it is 0.8 miles from the coastline and there are no coastal resources on the subject property. Thus, no coastal resources, as defined in the CCMA, would be adversely affected by the facility. Furthermore, the facility would have no effect on historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places.

According to a methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997), the combined radio frequency power density levels of the T-Mobile, AT&T, and Cellco antennas proposed to be installed on the tower have been calculated by Council staff to amount to 63.84% of the FCC's Maximum Permissible Exposure, as measured at the base of the tower. This percentage is well below federal and state standards established for the frequencies used by wireless companies. If federal or state standards change, the Council will require that the tower be brought into compliance with such standards. The Council will require that the power densities be recalculated in the event other carriers add antennas to the tower. 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.

Based on the record in this proceeding, the Council finds that the effects associated with the construction, maintenance, and operation of the telecommunications facility at the proposed subject property, 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, maintenance, and operation of a 110-foot monopole telecommunications facility at the Northern Alternative Location at 232 Shore Drive, Old Lyme, Connecticut.

**DOCKET NO. 391** - T-Mobile Northeast, LLC application for a }  
Certificate of Environmental Compatibility and Public Need for }  
the construction, maintenance and operation of a }  
telecommunications facility located 232 Shore Road, Old Lyme, }  
Connecticut. }

Connecticut

Siting

Council

September 23, 2010

### **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 T-Mobile Northeast, LLC (T-Mobile), hereinafter referred to as the Certificate Holder, for a telecommunications facility at the Northern Alternative Location, located at 232 Shore Road, Old Lyme, 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 monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of AT&T Wireless PCS, LLC, T-Mobile, and Cellco Partnership d/b/a Verizon Wireless and other entities, both public and private, but such tower shall not exceed a height of 110 feet above ground level (agl). The wireless antennas shall be attached to the tower via T-arm mounts.
2. The tower and foundation shall be designed to accommodate a tower extension up to 160 feet agl.
3. 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 Old Lyme 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.



4. 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, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. 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.
5. 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.
6. 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.
7. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Old Lyme public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
8. 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.
9. Any request for extension of the time period referred to in Condition 8 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 Old Lyme. Any proposed modifications to this Decision and Order shall likewise be so served.
10. 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.
11. 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.
12. 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.

13. 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.
14. 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.

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 Day*.

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**

T-Mobile Northeast, LLC

**Its Representative**

Julie D. Kohler, Esq.  
Monte E. Frank, Esq.  
Jesse A. Langer, Esq.  
Cohen and Wolf, P.C.  
1115 Broad Street  
Bridgeport, CT 06604

**Intervenor**

Cellco Partnership d/b/a Verizon Wireless

**Its Representative**

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

New Cingular Wireless PCS, LLC

Christopher B. Fisher, Esq.  
Daniel M. Laub, Esq.  
Cuddy & Feder LLP  
445 Hamilton Avenue, 14<sup>th</sup> Floor  
White Plains, NY 10601

**Party**

Town of Old Lyme

**Its Representative**

The Honorable Timothy G. Griswold  
Office of the Selectman  
Town of Old Lyme  
52 Lyme Street  
Old Lyme, CT 06371

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:



\_\_\_\_\_  
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. 391 has been forwarded by Certified First Class Return Receipt Requested mail, on October 22, 2010, to all parties and intervenors of record as listed on the attached service list, dated February 16, 2010.

ATTEST:



\_\_\_\_\_  
Jessica Brito-Weston  
Secretary I  
Connecticut Siting Council



# 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)

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

*Daniel F. Caruso*  
Chairman

October 22, 2010

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

RE: **DOCKET NO. 391** - T-Mobile Northeast, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located 232 Shore Road, Old Lyme, Connecticut.

Dear Attorney Kohler and Attorney Langer:

By its Decision and Order dated September 23, 2010, 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 232 Shore Road, Old Lyme, Connecticut.

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

Very truly yours,

Linda Roberts  
Executive Director

LR/jbw

Enclosures (4)



Daniel F. Caruso  
Chairman

# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

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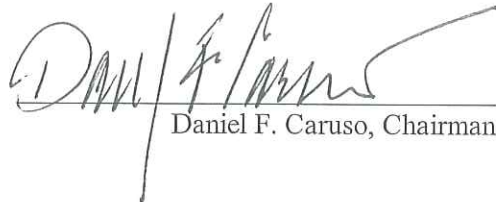
Internet: [ct.gov/csc](http://ct.gov/csc)

**CERTIFICATE  
OF  
ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED  
DOCKET NO. 391**

Pursuant to General Statutes § 16-50k, as amended, the Connecticut Siting Council hereby issues a Certificate of Environmental Compatibility and Public Need to T-Mobile Northeast, LLC for the construction, maintenance and operation of a telecommunications facility located at the Northern Alternative site at 232 Shore Road, Old Lyme, 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 September 23, 2010

By order of the Council,




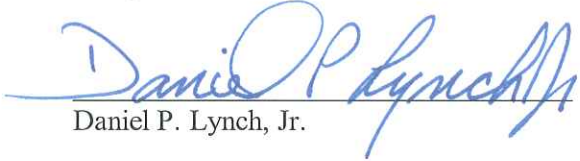


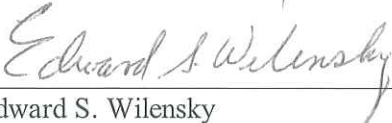
September 23, 2010



Daniel F. Caruso, Chairman

**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. 391 - T-Mobile Northeast, LLC** application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 232 Shore Road, Old Lyme, Connecticut, and voted as follows to approve the proposed Northern Alternative site located at 232 Shore Road, Old Lyme, Connecticut:

<u>Council Members</u>	<u>Vote Cast</u>
 _____ Daniel F. Caruso, Chairman	Yes
 _____ Colin C. Tait, Vice Chairman	Yes
_____ Commissioner Kevin M. DelGobbo Designee: Larry P. Levesque	Abstain
 _____ Designee: Brian Golembiewski	Yes
_____ Philip T. Ashton	Absent
 _____ Daniel P. Lynch, Jr.	Yes
 _____ James J. Murphy, Jr.	Yes
 _____ Dr. Barbara Currier Bell	Yes
 _____ Edward S. Wilensky	Yes

Dated at New Britain, Connecticut, September 23, 2010.



Daniel F. Caruso  
Chairman

# STATE OF CONNECTICUT

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

October 22, 2010

TO: Classified/Legal Supervisor  
**391/392/393100204**  
The New London Day  
P. O. Box 1231  
New London, CT 06320-1231

FROM: Jessica Brito-Weston, Secretary I 

RE: **DOCKET NO. 391** - T-Mobile Northeast, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located 232 Shore Road, Old Lyme, 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.

JBW



*Daniel F. Caruso*  
*Chairman*

# STATE OF CONNECTICUT

## *CONNECTICUT SITING COUNCIL*

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### NOTICE

Pursuant to General Statutes § 16-50p (e), the Connecticut Siting Council (Council) announces that, on September 23, 2010, the Council issued Findings of Fact, an Opinion, and a Decision and Order approving an application from T-Mobile Northeast, for the construction, maintenance and operation of a telecommunications facility located 232 Shore Road, Old Lyme, Connecticut. This application record is available for public inspection in the Council's office, Ten Franklin Square, New Britain, Connecticut.