



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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Daniel F. Caruso
Chairman

September 8, 2010

TO: Parties and Intervenors

FROM: S. Derek Phelps, Executive Director 

RE: **DOCKET NO. 393** - 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 61-1 Buttonball Road, Old Lyme, Connecticut.

As stated at the hearing in New Britain on June 23, 2010, after the Council issues its draft findings of fact, parties and intervenors may identify errors or inconsistencies between the Council's draft findings of fact and the record; however, no new information, evidence, argument, or reply briefs will be considered by the Council.

Parties and Intervenors may file written comments with the Connecticut Siting Council on the Draft Findings of Fact issued on this docket by September 17, 2010.

LR/MP/jbw

Enclosure

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Document Service	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	<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 jkohler@cohenandwolf.com mfrank@cohenandwolf.com jlanger@cohenandwolf.com
Party <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 firstselectman@oldlyme-ct.gov
Intervenor <i>(granted on 3/2/2010)</i>	<input checked="" type="checkbox"/> U.S. Mail	Black Hall Club	Keith R. Ainsworth, Esq. Evans Feldman & Ainsworth, LLC 261 Bradley Street P.O. Box 1694 New Haven, CT 06507-1694 (203) 772-4900 (203) 782-1356 fax krainsworth@snet.net

DOCKET NO. 393 - 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 61-1 Buttonball Road, Old Lyme, Connecticut.	} Connecticut } Siting } Council
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September 7, 2010

DRAFT 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 61-1 Buttonball 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). Black Hall Club (BHC) is an intervenor. (Transcript 3 – March 2, 2010, 11:15 a.m. [Tr. 3], pp. 2 and 124)
4. T-Mobile’s proposed facility would provide coverage to Buttonball Road and Route 156, 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 § 16-50l(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 § 16-50l(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. (T-Mobile 1, p. 4 and Tab G; T-Mobile 3, response 5)
7. Pursuant to CGS § 16-50l (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 61-1 Buttonball Road and the public hearing scheduled for it. The sign was posted at the beginning of Buttonball Road, at the host property at the request of the Council, in order to provide better visibility. (T-Mobile 5, Pre-Filed Testimony of Raymond Vergati, response 11)

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; Docket No. 392 – 387 Shore Road; and 61-1 Buttonball Road. The 3:00 p.m. hearing session began with Docket No. 391. The 7:00 p.m. hearing session included all three dockets. (Council's Hearing Notice dated December 23, 2009; Transcript 1 – February 4, 2010 at 3:05 p.m. [Tr. 1], pp. 3-4, 8, 13; Transcript 2 – 7:00 p.m. [Tr. 2], p. 3)
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 yellow balloon with a diameter of five feet to simulate the height of the proposed tower at the Commercial Complex 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 may 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. The balloon briefly reached its proposed height of 100 feet above ground level (agl) periodically, but could not be sustained due to the wind. (Council Field Review Notice dated January 27, 2010; Tr. 1, p. 4, 24-29; Tr. 3, p. 132)
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, Department of Environmental Protection (DEP), Department of Public Health, CEQ, Department of Public Utility Control, Office of Policy and Management, Department of Economic and Community Development, ConnDOT, and the Department of Emergency Management and Homeland Security. (Letter to State Department Heads dated June 24, 2010)
14. The CEQ responded to the Council's solicitation with for 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. The ConnDOT responded to the Council's solicitation with no comments. (ConnDOT Letter dated January 29, 2010)
16. Except for CEQ and ConnDOT, no state agencies submitted comments in response to the Council's solicitation. (Record)

Municipal Consultation

17. 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 Q)
18. 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)
19. 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 would be 170 feet tall, and the Town believes that it may supplant the need for any number of T-Mobile sites while avoiding the proliferation of towers in Connecticut. Accordingly, 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)
20. First Selectman Griswold made a statement at both February 4, 2010 hearing sessions indicating an interest in improving cell reception on behalf of the Board of Selectman and residents in Old Lyme, particularly the beach area. Mr. Griswold also indicated that Town emergency services communications could be improved. Also, the proposition to lease the Cross Lane site to SBA for a tower was defeated at a Town meeting due to concerns including the proximity of the tower to a school. The Cross Lane site is no longer available for consideration. (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 160 feet of tower height on one of the proposed towers. (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)

Federal Designation for Public Need

23. 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)
24. 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)

25. 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)
26. 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)
27. 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)
28. 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)
29. 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

30. 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 and Buttonball Road. (T-Mobile 1, pp. 4-5)
31. The proposed facility would provide service in the area of T-Mobile's coverage gap. (T-Mobile 1, p. 5)
32. T-Mobile does not have a specific agreement with Amtrak to provide coverage to its corridor, but seeks to provide coverage its customers that use the train. However, T-Mobile would still seek to construct the tower even without the presence of Amtrak's corridor. (Tr. 3, p. 137, 145)
33. T-Mobile utilizes Personal Communications Services (PCS) in this area of the state through the deployment of wireless transmitting sites. (T-Mobile 1, p. 6)
33. T-Mobile's 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. 9 and Tab O)
34. T-Mobile's minimum design signal strength for in-vehicle coverage is -84 dBm. For in-building coverage, it is -76 dBm. (T-Mobile 3, responses 2 and 3)

35. T-Mobile's existing signal strengths in the area that would be covered by the proposed facility range from -84 dBm to below -100 dBm. (T-Mobile 3, response 1)
36. The ratio of dropped calls to calls made in the area by existing sites has reached upwards of 10 percent. T-Mobile's target is not to exceed two percent. (Tr. 3, p. 146)
37. The lengths of the coverage gaps T-Mobile experiences on the major arteries within the proposed coverage area are listed in the following table.

Transportation Artery	Coverage Gap	Distance Covered at Proposed Antenna Height of 97 feet
Route 156	3.36 miles	1.69 miles
Buttonball Road	1.03 miles	0.99 miles
Amtrak Rail Line	4.62 miles	1.98 miles

(T-Mobile 3, responses 14 and 15)

38. The total area T-Mobile could cover from the proposed site at antenna height of 97 feet would be approximately 3.54 square miles. (T-Mobile 3, response 16)
39. The 100-foot stealth pole or "brown stick" design proposed by T-Mobile and BHC according to a stipulated agreement would have essentially the same coverage as the proposed 100-foot monopole. However, T-Mobile would utilize two antenna array positions: one at 97-foot 9-inches and one at 87-foot 9-inches. See Finding of Fact No. 58. (T-Mobile 16)
40. The lengths T-Mobile's coverage areas on the major arteries at lower antenna heights are listed below.

Transportation Artery	Distance Covered at Antenna Height of 87 feet	Distance Covered at Antenna Height of 77 feet
Route 156	1.13 miles	0.72 miles
Buttonball Road	0.97 miles	0.79 miles
Amtrak Rail Line	1.96 miles	1.74 miles

(T-Mobile 3, response 15)

41. The total area T-Mobile could cover from the proposed site at the lower antenna heights of 87 feet and 77 feet would be 2.98 square miles and 1.78 square miles, respectively. (T-Mobile 3, response 16)

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Buttonball Road	0.97 miles	0.79 miles
Amtrak Rail Line	1.96 miles	1.74 miles

(T-Mobile 3, response 15)

- 41. The total area T-Mobile could cover from the proposed site at the lower antenna heights of 87 feet and 77 feet would be 2.98 square miles and 1.78 square miles, respectively. (T-Mobile 3, response 16)

42. 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	0.67 miles S
72 Boggy Hole Road, Old Lyme	Monopole	175 feet	175 feet	1.80 miles S
38 Hattchetts Hill Road, Old Lyme	Monopole	190 feet	187 feet	2.20 miles SW
44 Ford Drive, Old Saybrook	Monopole	150 feet	150 feet	3.85 miles E
8 Old Bridge Road, Old Lyme	Utility Pole	175 feet	181 feet	2.78 miles SE

(T-Mobile 3, response 9)

43. 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)

Site Selection

44. T-Mobile initiated its search for a site in this vicinity on or about July 17, 2008. (T-Mobile 3, response 4)
45. T-Mobile's site search was centered at the intersection of Buttonball Road and the Amtrak rail line. The radius of the search area was approximately 0.2 miles. (T-Mobile 3, response 4)

46. T-Mobile identified nine telecommunications towers within approximately four miles of its proposed site. The towers are listed in the table below.

Tower Location	Height and Type Of Tower	Tower Owner	Approx. Distance and Direction from Proposed Tower Location
2 Ferry Place, Old Saybrook	110-foot smokestack	Geoffry Etherington	2.98 miles NW
132 Whippoorwill Road, Old Lyme	100-foot guyed lattice tower	Mr. and Mrs. Andrew Pfeiffer	2.18 miles N
62-1 Boggy Hill Road, Old Lyme	175-foot monopole	Wireless Solutions	2.29 miles N
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	1.92 miles NE
125 Mile Creek Road, Old Lyme	160-foot monopole	Cellco	0.66 miles N
Route 1, between River Street and Ford Drive, Old Saybrook	150-foot monopole	Amtrak	3.87 miles NW
430 Middlesex Turnpike, Old Saybrook	175-foot monopole	Sprint	3.83 miles W
40-3 River Street, Old Saybrook	120-foot monopole	Spectrasite	3.83 miles W

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

47. Five of the existing telecommunications towers with 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; 30 Short Hills Road, Old Lyme; 430 Middlesex Turnpike, Old Saybrook; and 40-3 River Street, Old Saybrook. (T-Mobile 4, response 3)
48. The remaining four existing telecommunications towers within a four-mile radius already have T-Mobile co-located on those towers. These towers are 62-1 Boggy Hill Road, Old Lyme; 38 Hatchetts Hill Road, Old Lyme; 125 Mile Creek Road, Old Lyme; and Route 1 (between River Street and Ford Road), Old Saybrook. (T-Mobile 4, response 3)
49. T-Mobile investigated several different properties in the area of its proposed site. Properties that were investigated include:
- Amtrak Power Substation, 63 Buttonball Road: This parcel is located within Amtrak's right of way. Amtrak maintains a strict policy against co-location of antennas on Amtrak catenaries.
 - Black Hall Golf Course, 50 Buttonball Road: The property owner was not interested in leasing a location for a tower. (T-Mobile 1, Tab J)

50. 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 proposed tower would not provide adequate coverage to T-Mobile and the site is no longer available. (T-Mobile T-Mobile has leased an unrelated 12-acre site off of Indian Hill Road in East Lyme. However, there is no possible configuration that would reduce the required number of T-Mobile towers including the Indian Hill Road tower. (Tr. 3, p. 212)
51. An outdoor Distributed Antenna System (DAS) would not be a feasible alternative to a tower because of several reasons listed below:
- a) A sufficient number of existing utility poles on which to string fiber-optic cable and install DAS nodes are not available 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) Unused fiber-optic cables are not available to serve as the backbone of the DAS network in the area; and
 - e) There would be a need to enter into access easements, 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 17)
52. 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 in the area, as well as other practical considerations. (T-Mobile 1, p. 7)

Facility Description

53. The proposed facility would be located at 61-1 Buttonball Road on a 2.53 acre parcel owned by Ron Swaney, LLC (the Swaney property) and used for commercial storage. The Amtrak rail line right-of-way abuts the Swaney property to the north. (See Figures 1 and 2) (T-Mobile 1, pp. 1, 9; Tab B)
54. The Swaney property is zoned Light Industry (LI-80). Telecommunications towers are allowed in the LI-80 zoning district with a special permit. (T-Mobile 1, p. 9; T-Mobile 1b – Town of Old Lyme Zoning Regulations)
55. The proposed facility would be located in the eastern corner of the host property. (T-Mobile 1, Exhibit B)
56. For its proposed facility, T-Mobile would lease a 75-foot by 75-foot square lease area minus the northeast corner due to the nearby property line. This results in a lease area of approximately 5,314 square feet. The facility would include a 10-foot tall steel monopole tower within a 50-foot by 50-foot (2,500 square feet) compound. The compound would be enclosed by an eight-foot high chain link fence. (See Figure 3) (T-Mobile 1, Tab B)

57. 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 3, response 19)
58. The proposed tower would be located at 41° 17' 46.55" north latitude and 72° 18' 1.73" west longitude. Its ground elevation would be 38 feet above mean sea level (amsl). (T-Mobile 1, Tab B)
59. 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. (T-Mobile 1, Tab B)
60. T-Mobile would initially install three antennas (one per sector) at a centerline height of 97 feet 9 inches agl on T-arm mounts. (T-Mobile 1, p. 9; Tr. 1, p. 16)
61. The top of T-Mobile's antennas would be flush with the top of the tower at 100 feet agl. (T-Mobile 1, Tab B; Tr. 3, pp. 137-138)
62. T-Mobile could construct a tree tower with an antenna centerline height of 87 feet. The total height would be 94 feet due to the taper to simulate the tree top. (Tr. 3, pp. 247-250)
63. In a joint stipulation agreement dated April 9, 2010, BHC and T-Mobile agreed to a "brown stick" stealth design with flush-mounted antennas. The tower height would remain the same at 100 feet tall, but T-Mobile would require two antenna arrays: one at 97-foot 9-inches agl and one at 87-foot 9-inches agl. The compound fence would also be eight feet high and made of cedar according to the agreement. If this configuration is approved, BHC would not oppose the tower. The Town has no opinion on the agreement since it is a private agreement between two parties. (T-Mobile 16; Tr. 5, p. 140)
64. T-Mobile would install two radio equipment cabinets on a concrete pad within the fenced compound. (Tr. 3, p. 133)
65. T-Mobile would use battery backup power for its proposed facility. The battery power system could operate for between four and 12 hours. (T-Mobile 4, response 20)
66. No other carrier has expressed an interest in co-locating on the proposed tower. (Tr. 3, p. 137)
67. The equipment area would contain a service light with a motion sensor. The light would not normally be on. (Tr. 3, p. 22, 134)
68. Construction of the proposed facility would require a total of 388 cubic yards of cut and 203 cubic yards of fill. (T-Mobile 3, response 18)
69. Vehicular access to the proposed facility would extend from Buttonball Road over an existing paved driveway and parking for a total distance of approximately 2,000 feet. (T-Mobile 1, Tab B)

70. Utility service would extend underground approximately 2,000 feet to the proposed facility from an existing pole on Buttonball Road. (T-Mobile 1, Tab B)
71. The tower's setback radius would extend approximately 53 feet onto the Amtrak rail line right of way to the north. It would also extend approximately 77 feet onto the Black Hall Golf Club property to the east and 47 feet onto the same Black Hall Golf property to the south. (T-Mobile 1, Tab B)
72. 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 77 feet agl. (Tr. 3, p. 135; T-Mobile 1, Tab B)
73. The nearest adjacent properties are the Amtrak right-of-way, which is located approximately to the north, the Black Hall Golf Club Inc. to the east and south, and a commercial property to the west. (T-Mobile 1, Tab B)
74. There are five single-family residences within 1,000 feet of the proposed facility. (T-Mobile 1, Tab L)
75. The nearest single family residence not on the host property is located 746 feet away at 57 Buttonball Road. (T-Mobile 1, Tabs B and L)
76. Land use in the vicinity of the proposed facility consists of Amtrak right of way and some vacant property owned by the Town to the north, a golf course and commercial office uses to the south, Amtrak right of way and a golf course to the east, and single-family residential use to the west. (T-Mobile 3, response 6)
77. The estimated cost of the proposed facility is the following:

Tower and foundation costs	\$ 85,000
Site development costs	79,000
Utility installation costs	45,000
Equipment cabinets	30,000
<u>RF components e.g. antennas and cable</u>	<u>15,000</u>
<u>Total</u>	<u>\$254,000</u>

(T-Mobile 1, pp. 18-19; T-Mobile 4, response 1)

Environmental Considerations

78. The proposed facility would have no effect on historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places with the condition that EBI Consulting submit two bound copies of the Phase I Archaeological Literature Review and Field Survey (Archaeological Survey) to the State Historic Preservation Office (SHPO) for cultural resource management purposes. (T-Mobile 1, Exhibit N, Letter from SHPO dated August 28, 2009)
79. EBI Consulting has submitted the Archaeological Survey to the SHPO. The SHPO has confirmed receipt. (Tr. 3, p. 134)

80. The proposed facility would not affect any threatened or endangered species or designated critical habitats. (T-Mobile 1, p. 13)
81. 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. 18; Tab P)
82. Development of the proposed facility would not require the removal of any trees. (T-Mobile 1, p. 8)
83. T-Mobile's proposed 100-foot tower would not require notification to the Federal Aviation Administration or marking or lighting. (T-Mobile 1, Tabs B and R)
84. 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. No federal or state regulated tidal wetlands or watercourses are on the host property. The nearest coastal resources are tidal wetlands associated with the Black Hall River, which is located approximately 1,500 feet southwest of the proposed tower. No coastal resources, as defined in the CCMA, would be impacted by the proposed facility. (T-Mobile 1, p. 14 and Tab N)
85. One wetland, a man-made irrigation pond is located approximately 275 feet to the west of the proposed facility construction. An irrigation pond on the Black Hall Golf Course is located approximately 175 feet to the east of the proposed facility. Due to the distance separating the proposed facility from the nearest wetland area, and with proper sedimentation and erosion controls properly installed, no adverse impact to the wetlands are expected. (T-Mobile 1, Tab K)
86. 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)
87. The cumulative worst-case maximum power density from the radio frequency emissions of the proposed T-Mobile antennas is calculated to be 12.34 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. 12)

Visibility

88. The tower would be visible year-round on land that is not tidal marsh from approximately 26 acres within a two-mile radius of the site. The tower would be seasonally visible from approximately 31 acres on land within a two-mile radius of the site. (T-Mobile 1, Tab M)
89. The majority of the year-round visibility of the tower is over open water and the Great Island tidal marsh. Approximately 263 acres, or 91 percent of the 289 acres of year-round visibility is located within these areas. (T-Mobile 1, Tab M)
90. Areas of year-round visibility of the tower on land include select portions of Buttonball Road located within the general vicinity of the proposed tower site; select portions of Smith Neck Road; and several open areas within the northern portion of the Black Hall golf course. (T-Mobile 1, Tab M)
91. Approximately 7 residences would have year-round visibility of the proposed tower including four residences on Buttonball Road and Shore Road and three residences located along Smith Neck Road. (T-Mobile 1, Tab M)
92. A total of approximately two additional homes located on select portions of Buttonball Road would have seasonal views of the proposed tower. (T-Mobile 1, Tab M)
93. Visibility of the proposed tower from specific locations in the surrounding area is summarized in the table below.

Location	Visible	Approx. Portion of 100' Tower Visible (ft.)	Approx. Distance and Direction to Tower
1 – Buttonball Road adjacent to house #54, looking northeast	Yes	38 feet – above tree line	0.18 miles NE
2 – Smith Neck Road adjacent to house #47, looking northeast	Yes	10 feet – above tree line	1.25 miles NE
3 – Buttonball Road at entrance to Black Hall Golf Course, looking northeast	Yes	32 feet – above tree line	0.22 miles NE
4 – Buttonball Road at entrance to host property, looking east	Yes	65 feet – above tree line	0.18 miles E
5 – Shore Road (Route 156) south of Homestead Circle, looking northeast	No	n/a	0.75 miles NE
6 – Homestead Circle adjacent to house #20, looking northeast	No	n/a	0.59 miles NE
7 – Shore Road (Route 156), looking northeast	No	n/a	0.79 miles NE
8 – Mile Creek Road over Black Hall River, looking southeast	No	n/a	0.76 miles SE

(T-Mobile 1, Exhibit M)

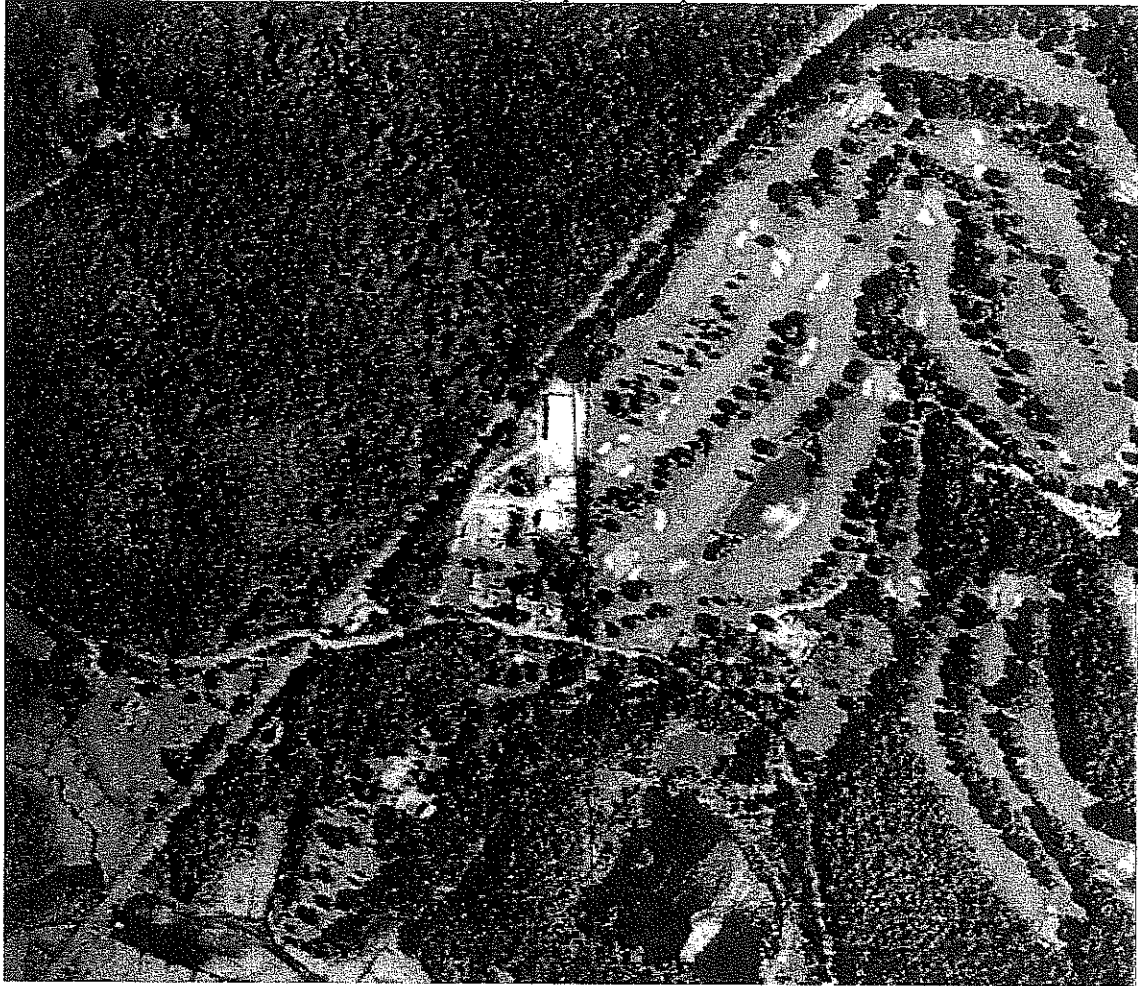
Figure 1: Location Map of Proposed Site



Base Map Source: USGS 7.5 Minute Topographic Quadrangle Maps,
Old Lyme (1976)

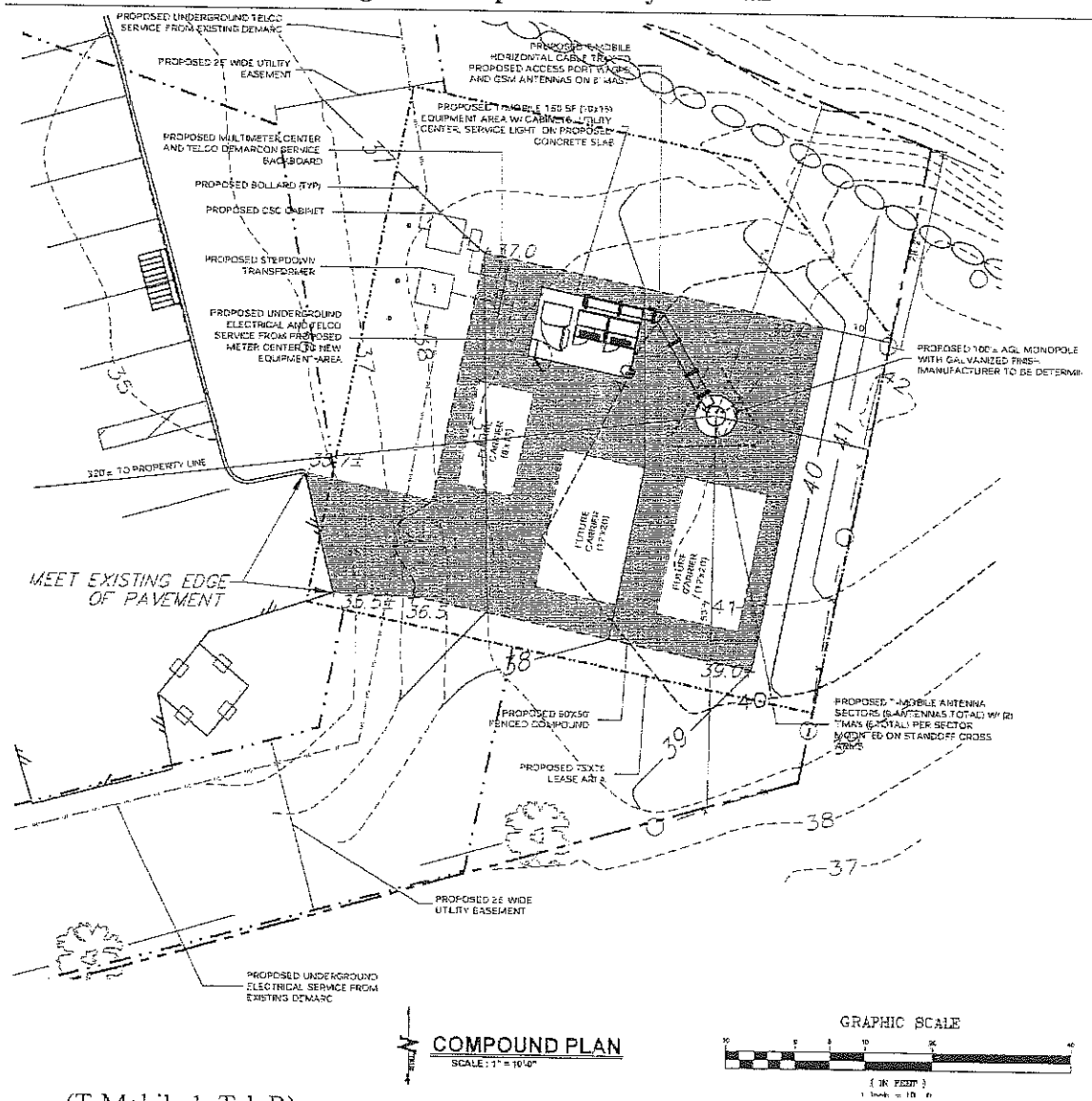
(T-Mobile I, Tab C)

Figure 2: Aerial Photograph of Proposed Site Location



(T-Mobile 1, Tab B)

Figure 3: Proposed Facility Site Plan



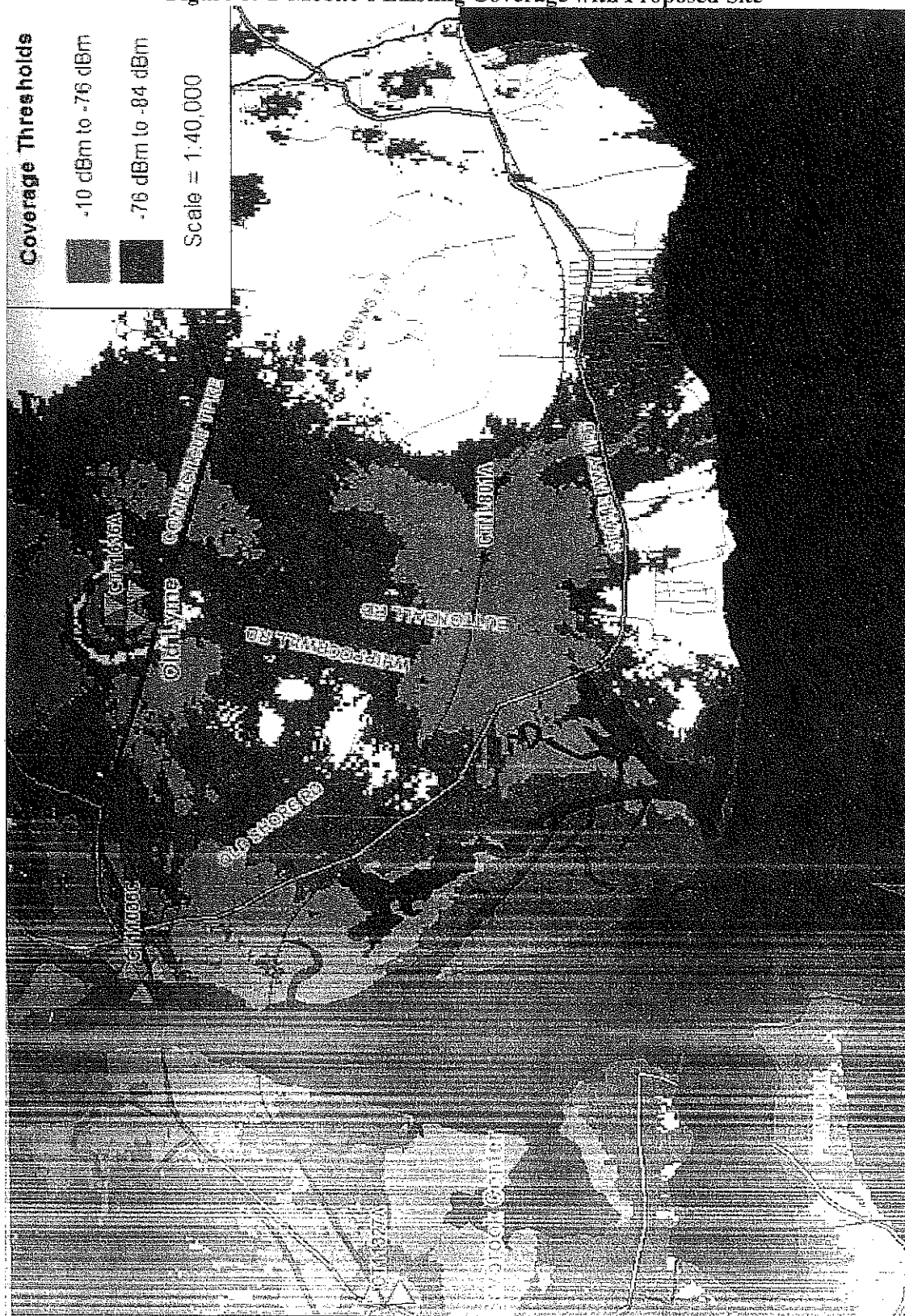
(T-Mobile 1, Tab B)

Figure 5: T-Mobile's Coverage from Proposed Site



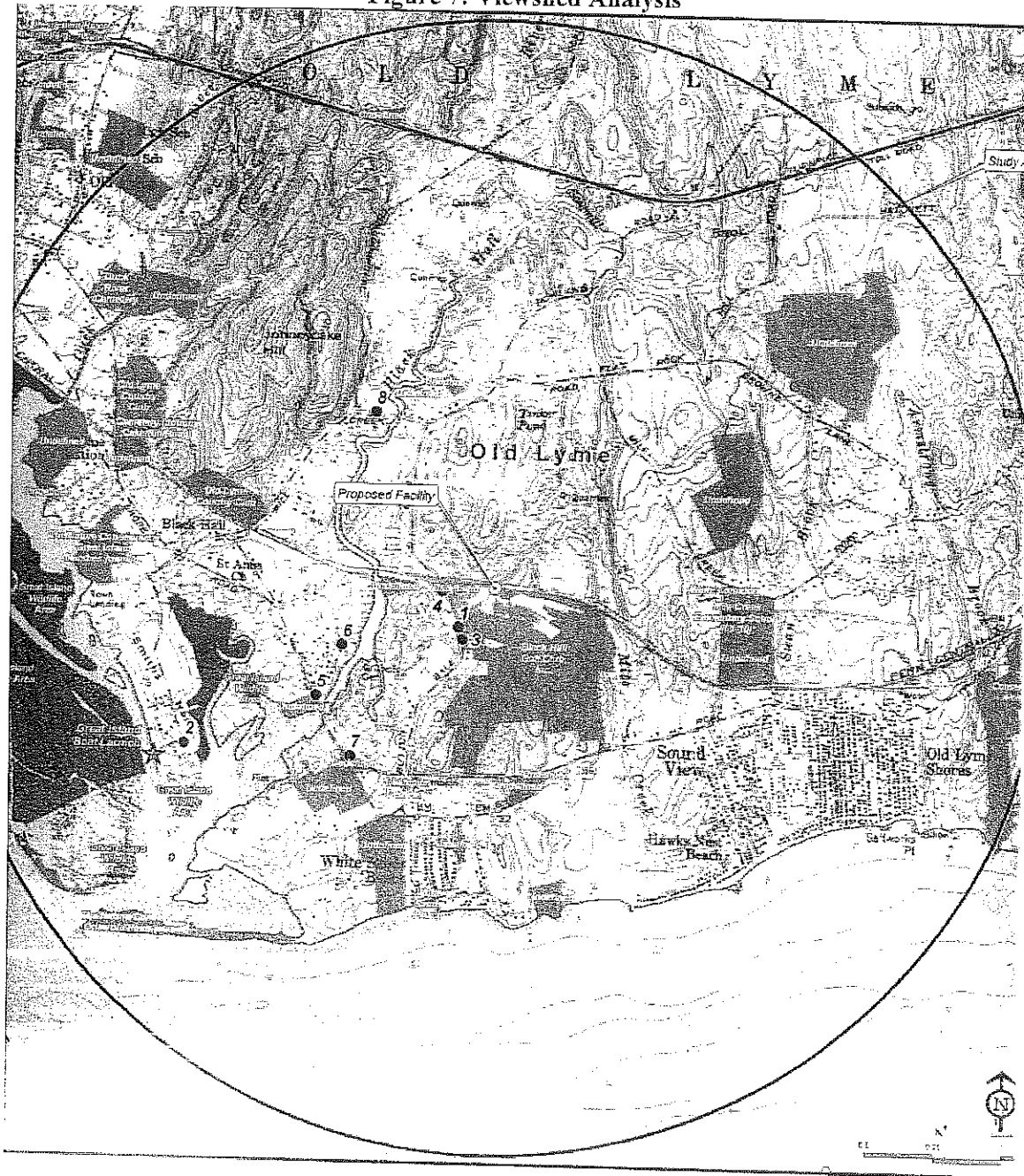
(T-Mobile 1, Tab H)

Figure 6: T-Mobile's Existing Coverage with Proposed Site



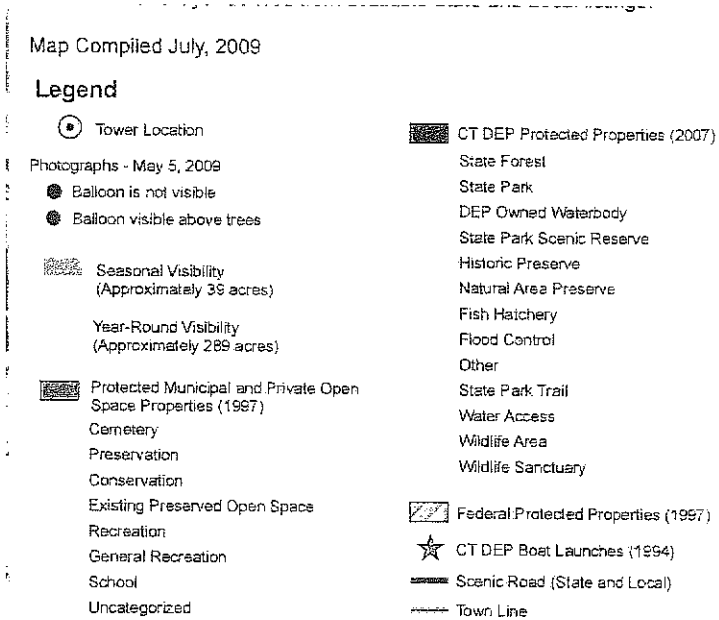
(T-Mobile 1, Tab H)

Figure 7: Viewshed Analysis



(T-Mobile 1, Tab M)

Figure 8: Viewshed Analysis Key



(T-Mobile 1, Tab M)