

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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September 23, 2011

TO: Parties and Intervenors

FROM: Linda Roberts, Executive Director 

RE: **DOCKET NO. 417** - 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 Moose Hill Road, Guilford, Connecticut.

As stated at the hearing in Guilford on August 18, 2011, 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 30, 2011.

LR/RDM/cm

Enclosure

DOCKET NO. 417 - 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 Moose Hill Road, Guilford, Connecticut. } Connecticut
} Siting
} Council

September 16, 2011

DRAFT Findings of Fact

Introduction

1. T-Mobile Northeast, LLC (T-Mobile), in accordance with the provisions of Connecticut General Statutes (CGS) §§ 16-50g through 16-50aa, applied to the Connecticut Siting Council (Council) on May 13, 2011 for the construction, maintenance, and operation of a 110-foot wireless telecommunications facility located on Moose Hill Road in Guilford, Connecticut. (T-Mobile 1, p. 1)
2. T-Mobile is a Delaware Partnership with an office in Bloomfield, Connecticut. T-Mobile is licensed by the Federal Communications Commission (FCC) to construct and operate a personal wireless service system in Connecticut. (T-Mobile 1, p. 2)
3. The purpose of the proposed facility is to provide wireless service for T-Mobile to the southwest section of Guilford. (T-Mobile 1, Tab H)
4. Pursuant to CGS § 16-50m, the Council held a public hearing on August 18, 2011, beginning at 3:00 p.m. and continuing at 7:00 p.m. at the Guilford Community Center, 32 Church Street, Guilford, Connecticut. (Transcript 1 – 08/18/11, 3:00 p.m. [Tr. 1], p. 2; Transcript 2 – 08/18/11, 7:00 p.m. [Tr. 2], p. 2)
5. The party in the proceeding is the applicant. (Record)
6. The Council and its staff conducted an inspection of the site on August 18, 2011, beginning at 2:00 p.m. The applicant flew a five-foot diameter red balloon at the site from 11:40 a.m. to 6:00 p.m. to simulate the height of the proposed facility. Weather conditions were generally favorable at the balloon reached the intended height of 110 feet above ground level (agl). (Tr. 2, pp. 32-33)
7. Notice of the application was sent to all abutting property owners by certified mail. All return receipts were received except from two property owners (State of Connecticut and Marc Knapp). A second notice was sent to these abutters by first class mail. (T-Mobile 1, Tab G; T-Mobile 2, R. 1)
8. Public notice of the application was published in the New Haven Register on April 10 and 12, 2011. (T-Mobile 1, Tab F)
9. T-Mobile installed a four-foot by six-foot sign at the entrance to the site property on July 30, 2011. The sign presented information regarding the project and the Council’s public hearing. (T-Mobile 3e)
10. Pursuant to CGS § 16-50l(b), T-Mobile provided notice of the application to all federal, state and local officials and agencies listed therein. (T-Mobile 1, Tab E)

State Agency Comment

11. Pursuant to CGS § 16-50j(h), on June 27, 2011, and August 19, 2011, the following State agencies were solicited to submit written comments regarding the proposed facility: Department of Energy and Environmental Protection (DEEP), Department of Public Health, Council on Environmental Quality, Public Utility Regulatory Authority, Office of Policy and Management, Department of Economic and Community Development, Department of Public Safety, Department of Transportation, Department of Agriculture, and Department of Emergency Management and Homeland Security. (Record)
12. No state agencies submitted comments to the Council regarding the application. (Record)

Municipal Consultation

13. T-Mobile submitted a technical report to the Town of Guilford First Selectman Joseph Mazza on December 24, 2009. The technical report specified a 140-foot monopole telecommunications facility at the site. (T-Mobile 3e, p. 7)
14. T-Mobile met with Town representatives on January 21, 2010. Although the Town did not request that T-Mobile appear at a public meeting, Town officials requested that T-Mobile consult with local organizations including the Guilford Conservation Land Trust (Land Trust) and the Guilford Preservation Alliance. (T-Mobile 1, p. 23; T-Mobile 3e)
15. T-Mobile met with the Land Trust on June 7, 2010 and agreed to conduct a balloon float to determine the visibility from hiking trails in the Westwoods open space area north and northeast of the site. (T-Mobile 3e)
16. T-Mobile consulted with the Guilford Scenic Road Advisory Committee on September 23, 2010 to discuss the project. The committee expressed their concerns to T-Mobile and the State Historic Preservation Office (SHPO). (T-Mobile 1, p. 24)
17. Based on concerns expressed by these local organizations and SHPO, T-Mobile modified its proposal, reducing the height of the proposed facility from 140 feet to 110 feet with an exterior flush mount antenna configuration. (T-Mobile 1, p. 24)
18. T-Mobile would offer lease free space on the tower for the Town's emergency communications system. The Guilford Fire Department expressed an interest in placing equipment on the tower due to the current lack of emergency communications in this area of town. (T-Mobile 1, Tab R)

Public Need for Service

19. 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 8)
20. 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 8)

21. The Telecommunications Act of 1996 prohibits local and state entities from discriminating among providers of functionally equivalent services. (Council Administrative Notice Item 8)
22. The Telecommunications Act of 1996 prohibits any state or local entity 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. This Act also blocks the Council from prohibiting or acting with the effect of prohibiting the provision of personal wireless service. (Council Administrative Notice Item 8)
23. In an effort to ensure the benefits of wireless technologies to all Americans, Congress enacted the Wireless Communications and Public Safety Act of 1999. The purpose of this legislation was to promote public safety through the deployment of a seamless, nationwide emergency communications infrastructure that includes wireless communications services. Congress further enacted the Enhanced 911 Act to facilitate emergency response capabilities. (Council Administrative Notice Items 9 & 10)

T-Mobile - Existing and Proposed Wireless Coverage

22. T-Mobile intends to provide personal communication service (PCS - 1900 MHz), and Advanced Wireless Service (AWS - 2100 MHz) from the site. (T-Mobile 3d)
23. T-Mobile designs and operates at a signal level threshold of -84 dBm to maintain reliable voice and data services. Reliable in-building service is at a threshold of -76 dBm. Currently, there is no reliable service in the proposed service area (refer to Figure 1). (T-Mobile 2, R. 4, Tab H)
24. The quality of voice and data services depends on signal strength and the effective placement of the facility to seamlessly hand-off to other adjacent sites. The proposed facility would hand off to the following T-Mobile facilities:

Location	Antenna Height	Distance and Direction from Proposed Site
188 Sachems Head Road	87 feet agl (existing)	1.1 miles east
1919 Boston Post Road, Guilford	147 feet agl (existing)	2.3 miles northeast
723 Leetes Island Road, Branford	80 feet agl (to be installed)	1.1 miles west

These T-Mobile facilities do not provide adequate coverage to the proposed service area. (T-Mobile 1, Tab H, Tab I; T-Mobile 2, R. 6)

25. The proposed facility would provide 4.9 square miles of reliable service to the surrounding land area (does not include open water areas of Long Island Sound). This includes areas adjacent to Route 146, Interstate 95 and the Amtrak rail line (refer to Figure 2). (Tr. 2, pp. 28-30)

Site Selection

26. T-Mobile initiated a site search for the proposed service area in July of 2008. (T-Mobile 3e)
27. The search area was centered on the intersection of Moose Hill Road and Dromara Road. (T-Mobile 3e)

28. T-Mobile did not identify any structures in the search area that would be suitable for a telecommunications facility. (T-Mobile 1, Tab J)
29. After determining there were no viable structures within the search area, T-Mobile researched fourteen other parcels in Guilford but rejected them as follows:
 - a) Leetes Island Road (Map 19/Lot 13) - no response from landowner;
 - b) Leetes Island Road (Map 19/Lot 15) - landowner not interested;
 - c) Leetes Island Road (map 18, Lot 18A) - would not meet coverage objectives;
 - d) New Quarry Road (Map 66/Lots 9B, 17) - would not meet coverage objectives;
 - e) Amtrak Right of Way - location examined too far to west, redundant coverage with existing site;
 - f) Duck Rock Road (Map 69/Lot 13) - would not meet coverage objectives;
 - g) Moose Hill Road Map 69/Lots 1, 1A, 5, 7, 7A) - would not meet coverage objectives;
 - h) 225 Moose Hill Road - would not meet coverage objectives;
 - i) 204 Dromara Road - would not meet coverage objectives;(T-Mobile 1, Tab J)
30. T-Mobile investigated a second potential location for a facility south of the proposed site on the same property but determined this location would require too much land disturbance (tree clearing, blasting, and filling) when compared to the proposed site. (T-Mobile 2, R. 8)

Site Property Description

31. The site is located on a 163-acre parcel on Moose Hill Road, referred to as Map 66, Lot 64 (refer to Figure 3). (T-Mobile 1, Tab C)
32. The parcel is owned by Leete Associates, Inc. (T-Mobile 1, Tab C)
33. The parcel is zoned residential, R-8. (T-Mobile 1, Tab C)
34. The parcel consists of mostly wooded small ridgelines with two small field areas. (T-Mobile 1, Tab C; T-Mobile 2, R. 7)
35. The tower site is located in the southwest portion of the parcel, approximately 580 feet east of Moose Hill Road and approximately 400 feet north of the Amtrak railway bed. (T-Mobile 1, Tab C)
36. The proposed tower would be located at an elevation of 52 feet above mean sea level. (T-Mobile 1, Tab C)
37. The nearest property lines to the proposed tower are approximately 350 feet to the west (Leete Associates), 350 feet to the south (Amtrak), and 475 feet to the northwest (Jackson). (T-Mobile 1, Tab C)
38. The nearest residence to the proposed tower site is approximately 535 feet to the southwest (Burgess residence). (T-Mobile 1, Tab L; T-Mobile 2, R. 9)
39. There are 16 residences within 1,000 feet of the tower site. (T-Mobile 1, Tab L)

Facility Description

40. T-Mobile proposes to construct a 110-foot monopole at site, capable of supporting four levels of exterior, flush-mount antennas. (T-Mobile 1, Tab C)
41. T-Mobile proposes to install six panel antennas at the 108-foot level of the tower. Each antenna would be capable of providing both PCS and AWS service. (T-Mobile 1, Tab C; Tr. 1, pp. 63-64)
42. The Town would locate the following emergency communication equipment on the tower: one nine-foot tall whip antenna at the top of the tower; one nine-foot tall whip antenna on a stand-off arm at the 77-foot level of the tower; and one four-foot diameter microwave dish at the 77-foot level of the tower. Another carrier may be able to use the 77-foot level of the tower depending on its specific equipment needs. Two more tower locations (88 feet and 98 feet) would be available for other carriers to locate exterior, flush-mounted antennas. (T-Mobile 1, Tab C; Tr. 1, pp. 16-21, 84-85)
43. T-Mobile proposes to construct a 50-foot by 50-foot compound within a 52-foot by 52-foot lease area at the base of the tower. T-Mobile would install equipment cabinets on a concrete pad within the compound (refer to Figure 4). (T-Mobile 1, Tab C)
44. Access to the proposed tower site would follow an existing dirt road east from Moose Hill Road for 300 feet before turning north for 460 feet to the compound. T-Mobile would upgrade the road to a 12-foot wide, graveled surface. (T-Mobile 1, Tab C)
45. Overhead utilities would be installed from an existing utility pole along Moose Hill Road. Six new wood poles would be installed along the access road. It would be possible to install utilities underground along the shoulder of the road and within a conduit where the road uses a culvert crossing. (T-Mobile 1, Tab C; Tr. 1, pp. 66-67)
46. The facility would have a battery backup power of eight to ten hours in duration. (Tr. 1, p. 66)
47. The estimated construction cost of the tower and the installation of T-Mobile's equipment is:

Tower and foundation	\$90,000.
Site development	65,000.
Utilities	30,000.
<u>Antennas and radio equipment</u>	<u>75,000.</u>
<u>Total estimated cost</u>	<u>\$260,000.</u>

(T-Mobile 1, p. 26; Tr. 2, p. 28)

Environmental Concerns

48. The compound site and access road is within an area containing records of the Eastern Box Turtle, a State special concern species. T-Mobile performed a box turtle survey and did not identify any box turtles on the site property although suitable habitat exists. The DEEP reviewed the survey and indicated that it was preferable that construction occur during the turtle's dormant period (November 1 to April 1) but further stipulated that if construction occurs during the turtle's active period, precautionary measures should be undertaken to avoid potential turtle mortality. (T-Mobile 1, Tab O)
49. A Wood Turtle, a State special concern species, was identified during the turtle survey but it was not near the proposed construction area. (T-Mobile 1, Tab O)

50. Development of the site would require the removal of two trees with a diameter of six-inches or greater at breast height. (T-Mobile, Tab M)
51. There are no wetlands at the proposed compound site. The existing dirt road crosses an intermittent watercourse associated with a wetland system that extends in a north-south direction through the property. Reconstruction of the access road includes a new 10-foot wide culvert at the stream crossing. It would be designed to maintain the natural substrate of the watercourse, allowing for the movement of aquatic organisms up and down the stream corridor as well as sufficient capacity to convey stormwater flows. (T-Mobile 1, Tab K, Tab O; Tr. 1, pp. 24-26)
52. Installation of the new culvert would result in approximately 150 square feet of direct wetland impact (filling) and 250 square feet of temporary wetland impact (clearing). (T-Mobile 1, Tab K, Tab O; Tr. 1, pp. 21-22)
53. T-Mobile would restore temporarily disturbed wetland areas using a native New England wetland seed mix and native wetland shrubs. (T-Mobile 1, Tab K)
54. The amount of wetland impact is within the United States Army Corp of Engineers Category 1 project threshold. This threshold requires certain documentation filings and limits unconfined streamwork to the period of July 1 to September 30. (T-Mobile 1, Tab K; Tr. 1, pp. 23, 88-89)
55. Erosion and sedimentation controls consistent with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* and other best management practices would be established and maintained during construction. (T-Mobile 1, Tab K)
56. The proposed facility is not located within any Federal Emergency Management Agency designated 100-year or 500 year flood zones. (T-Mobile 1, Tab O)
57. The proposed facility is within the Connecticut Coastal Management Act's (CCMA) coastal boundary. The nearest coastal resources are tidal wetlands located approximately 1,050 feet southeast of the proposed tower site. No coastal resources, as defined in the CCMA, would be adversely affected by development of the proposed facility. (T-Mobile 1, Tab O)
58. Aircraft hazard obstruction marking or lighting of the tower would not be required. (T-Mobile 1, Tab S)
59. The design of the proposed tower would comply with recommended guidelines of the United States Fish and Wildlife Service for minimizing the potential for telecommunications towers to impact bird species. The guidelines recommend that towers be less than 199 feet tall, avoid the use of aviation lighting, and avoid guy wires as tower supports. (Council Administrative Notice 39)
60. The proposed facility is not near any areas identified by the National Audubon Society as a Connecticut Important Bird Area. (Council Administrative Notice 29)
61. The Connecticut coastline is within the Atlantic Flyway, a generalized regional migratory bird flyway used as a stopover for migratory birds. The nearest coastal area is Shell Beach, 0.3 miles to the south. An intertidal marsh associated with Shell Beach is located 0.2 miles to the south. The proposed facility would not affect any coastal avian habitat and no impact on migratory birds is expected. (T-Mobile 3c)

62. The proposed facility is approximately 530 feet north of the Route 146 Historic District at its closest point. The Route 146 Historic District is a linear designation through the southwest portion of Guilford and the southeast portion of Branford that encompasses Route 146 and land on both sides of the road. The SHPO determined the facility, as proposed, would not have an adverse impact on this resource. (T-Mobile 1, Tab J, Tab N)
63. The cumulative worst-case maximum power density from the radio frequency emissions from the operation of the proposed T-Mobile antennas is calculated to be 9.5% of the standard for Maximum Permissible Exposure, as adopted by the FCC, at the base of the proposed 110-foot 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 base. (T-Mobile 1, p. 15, Tab P)

Visibility

64. The proposed tower would be visible year-round from approximately 1,072 acres within a two-mile radius of the proposed site (refer to Figure 5). Most of this visibility is from open waters of Long Island Sound, 0.4 miles to the south at its closest point. Other areas of year-round visibility include views from marshland east of the site, select views from area roads and views from open yard areas from the Shell Beach/Joshua Point area 0.3 miles to the south, and Sachem Head, 1.1 miles to the south. (T-Mobile 1, Tab N)
65. The following roads and adjacent residences would have year-round views of the upper portion of the tower:

Road	Road length of year-round visibility	Number of residences	Approx. Distance from Tower
Moose Hill Road	255 feet	2	1,075 feet northwest
Old Sachems Head Road	100 feet	8	6,335 feet southeast
Uncas Point Road	775 feet	6	6,865 feet south
Uncas Circle	290 feet	1	6,330 feet south
Shell Beach Road	1,975 feet	14	1,500 feet south
Joshua Point Road	1,025 feet	8	3,520 feet south
Rockledge Circle	330 feet	8	3,575 feet south
Birch Grove	480 feet	10	2,805 feet south
Beach Road	315 feet	9	2,565 feet south
Hickory Lane	300 feet	4	2,640 feet south
Juniper Knolls	170 feet	1	3,170 feet south

Views from these roads and residences would range from the very top of the tower to the upper 50 feet. (T-Mobile 1, Tab N; Tr. 2, pp. 30-31)

66. The tower would be visible during leaf-off conditions from an additional 54 acres. The following roads and adjacent residences would have round views of the tower during “leaf-off” conditions:

Road	Road length with seasonal visibility	Number of residences	Approx. Distance from Tower
Moose Hill Road	2,610 feet	13	620 feet west
Dromara Road	1,230 feet	7	842 feet west
Leetes Island Road (Route 146)	2,840 feet	2	1,386 feet southwest
Sanborn Road	350 feet	3	1,068 feet southwest

(T-Mobile 1, Tab N; T-Mobile 3b)

67. Visibility of the proposed tower from specific locations within a two-mile radius of the site is as follows:

Specific Location	Photo location on Map*	Approx. Portion of Tower Visible	Approx. Distance from Tower
Moose Hill Road	1	30 feet - unobstructed	1,075 feet northwest
Moose Hill Road	2	50 feet - through trees	694 feet northwest
Dromara Road	3	50 feet - through trees	842 feet west
Shell Beach Road	4	50 feet - unobstructed	1,849 feet south
Leetes Island Road	5	20 feet - through tree top.	1,809 feet east
Uncas Point Road	6	10 feet - unobstructed	6,987 feet south
Old Sachems Head Road	7	Not visible	6,156 feet southeast
Moose Hill Road	8	20 feet - through trees	1,829 feet northwest
Moose Hill Road	9	20 feet - through trees	875 feet northwest
Moose Hill Road	10	50 feet - through trees	620 feet west
Dromara Road	11	40 feet - through trees	1,030 feet west
Dromara Road	12	40 feet - through trees	1,503 feet northwest
Shell Beach Road	13	Not visible	1,441 feet south
Leetes Island Road	14	10 feet - through trees	1,386 feet southwest
Leetes Island Road	15	Not visible	3,089 feet east
Leetes Island Road	16	Not visible	1,321 feet east
Old Sagem Head Road	17	Not visible	6,401 feet southeast
Westwoods - Lost Lake	18	Not visible	3,656 feet east
Westwoods - vista	-	Not visible	7,713 feet northeast
Quarry Road	-	Not visible	8,856 feet northwest
Three Mile Course	-	Not visible	8,728 feet northeast
Norton Avenue	-	Not visible	10,343 feet east
Leetes Island Road	23	Not visible	6,069 feet west
Flying Point Road	24	Not visible	9,003 feet west
Westwoods - White Trail	25	Not visible	4,150 feet east
Westwoods - White Trail at carved rocks	26	Not visible	3,700 feet east
Westwoods - Blue Trail	-	Not visible	5,150 feet north
Westwoods - Yellow Trail	-	Not visible	5,800 feet north
Westwoods - Green Trail	-	Not visible	8,720 feet north
Westwoods - Dunk Rock Road	-	Not visible	7,760 feet northeast

* A map showing projected visibility is included as Figure 5. (T-Mobile 1, Tab N)

68. The tower would not be visible from any hiking trails within the Westwoods open space area, approximately 0.5 miles east and northeast of the site. (T-Mobile 1, Tab N)
69. The upper 25 feet of the tower would be visible above the treeline when viewed from Long Island Sound at distances between 0.4 miles and 1.5 miles from the tower (refer to Figures 8 & 9). (T-Mobile 3b)
70. Although the upper portion of the tower would be visible from portions of Long Island Sound at distances greater than 1.5 miles, the tower is not prominent. This includes visibility includes the Thimble Island Historic District, located 1.7 miles southwest of the tower site. (T-Mobile 3b)
71. The tower would conform to the visual quality portion of the CCMA in that no vistas or viewpoints would be significantly altered. (T-Mobile 1, Tab O)
72. The tower would not be visible year-round from Route 146. Seasonal visibility would occur on a 440-foot long section of the road, 1,386 feet southwest of the tower site, and from a 2,400-foot long section of the road, 1,800 feet southeast of the tower site. (T-Mobile 1, Tab N)
73. The Guilford Scenic Road Advisory Committee requests that a tower be designed at the lowest possible height using a flush-mount antenna configuration. (T-Mobile 1, Tab N)
74. The tower would be painted a grey-brown color to blend in with the surrounding vegetation. (T-Mobile 1, Tab C; Tr. 1, pp. 51-52)

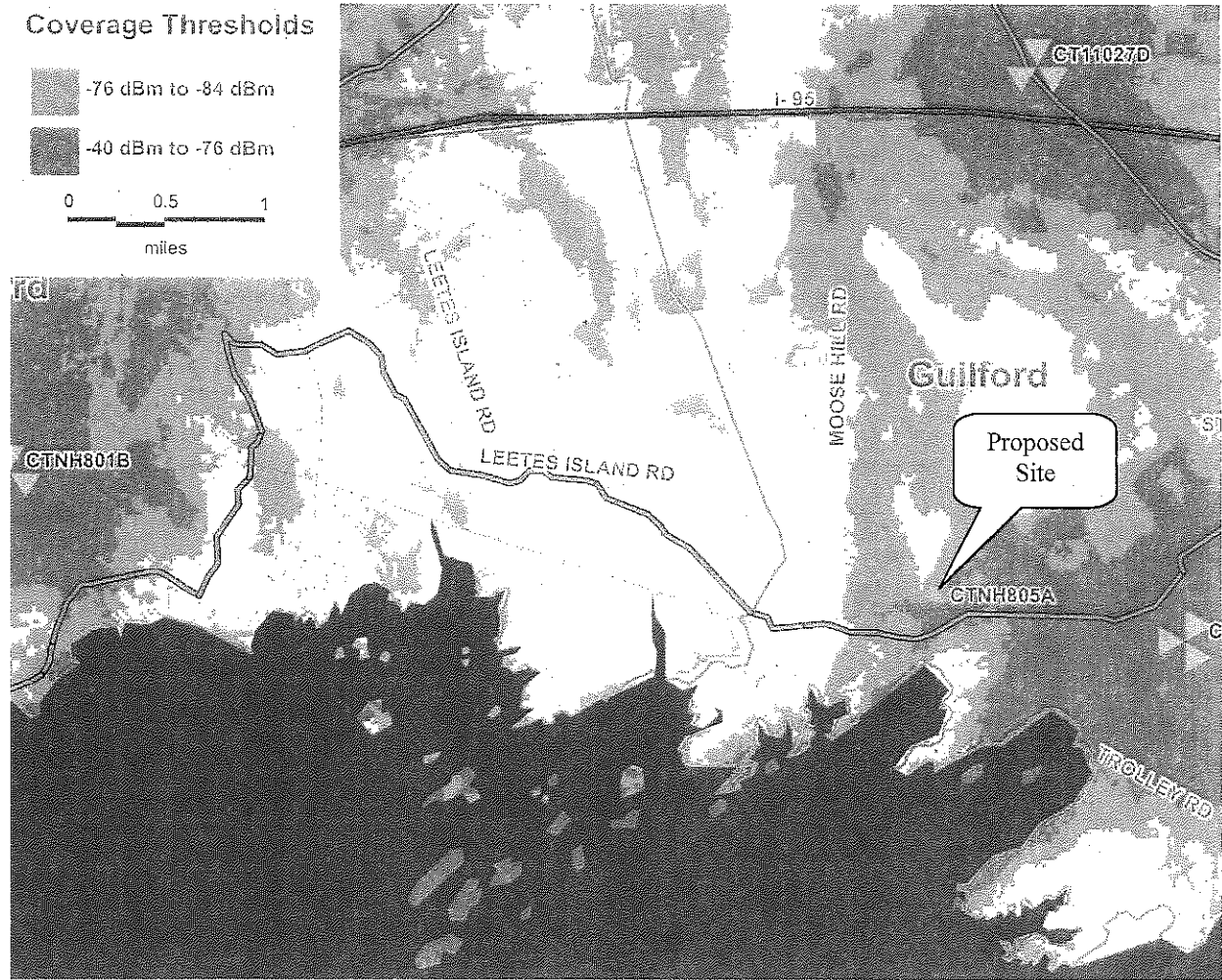


Figure 1: T-Mobile existing wireless service. (T-Mobile 1, Tab H)

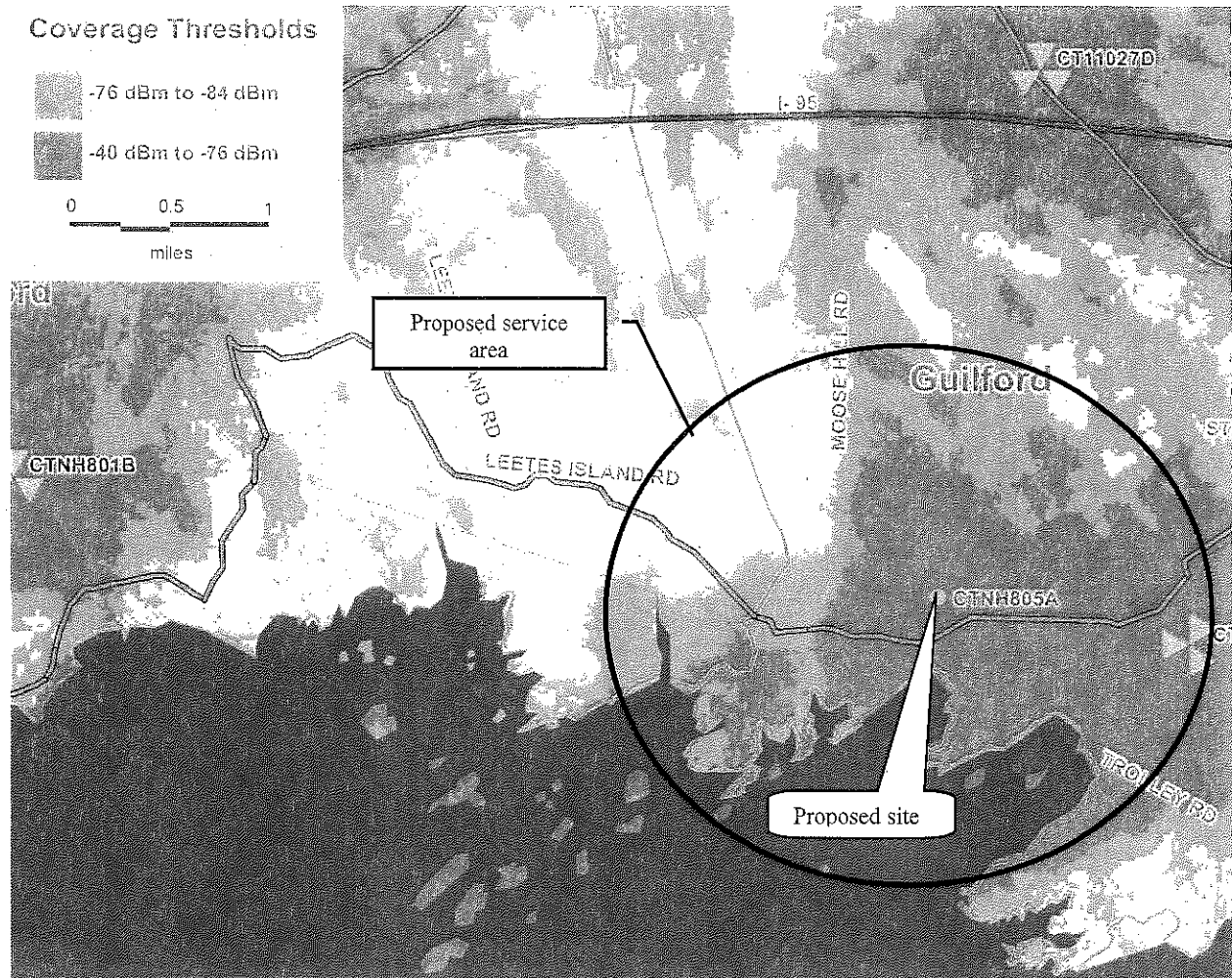


Figure 2: T-mobile proposed service area with antennas at 107 feet above ground level.
(T-Mobile 1, Tab H)

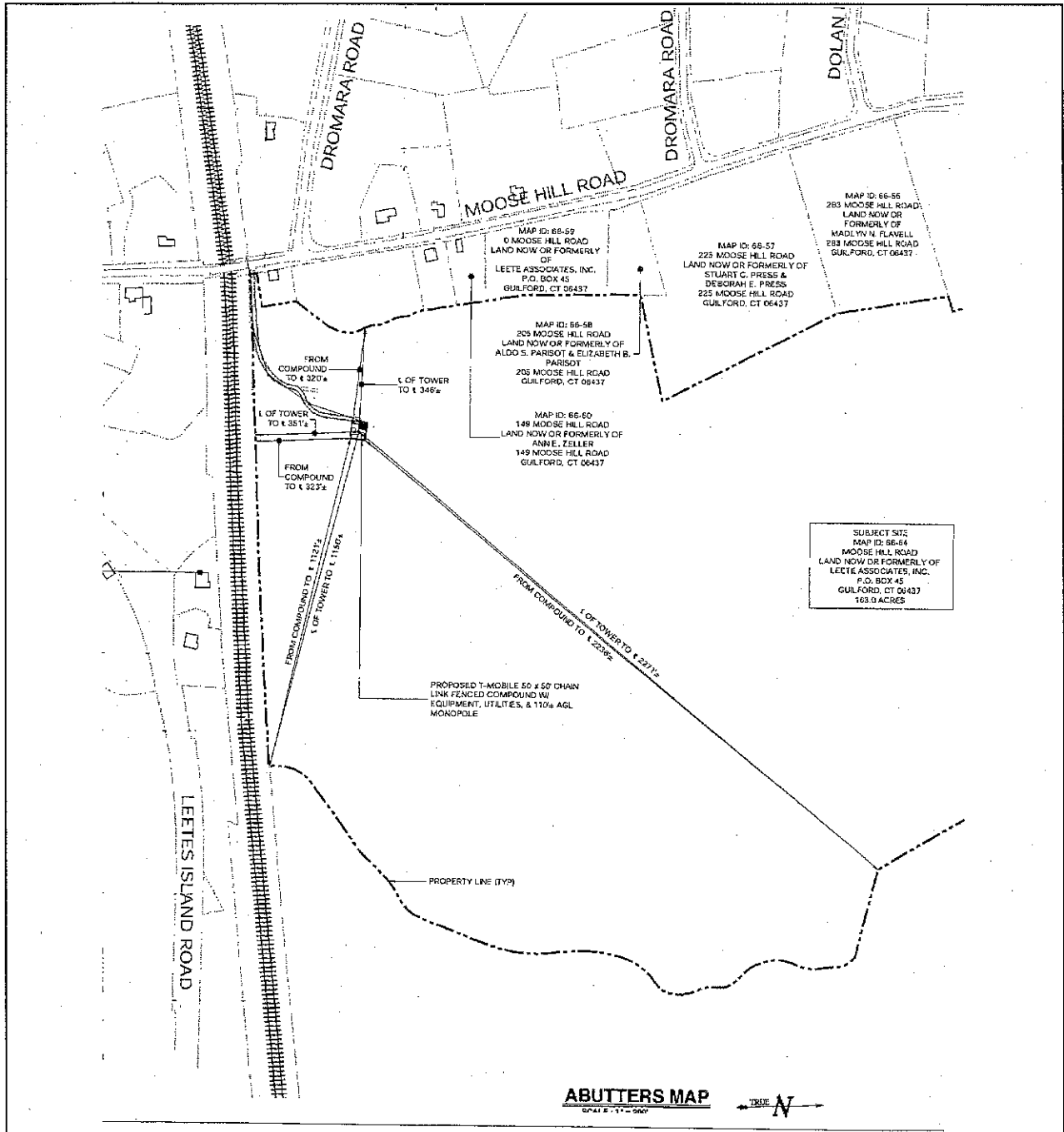


Figure 3: Site location off Moose Hill Road. (T-Mobile 1, Tab C)

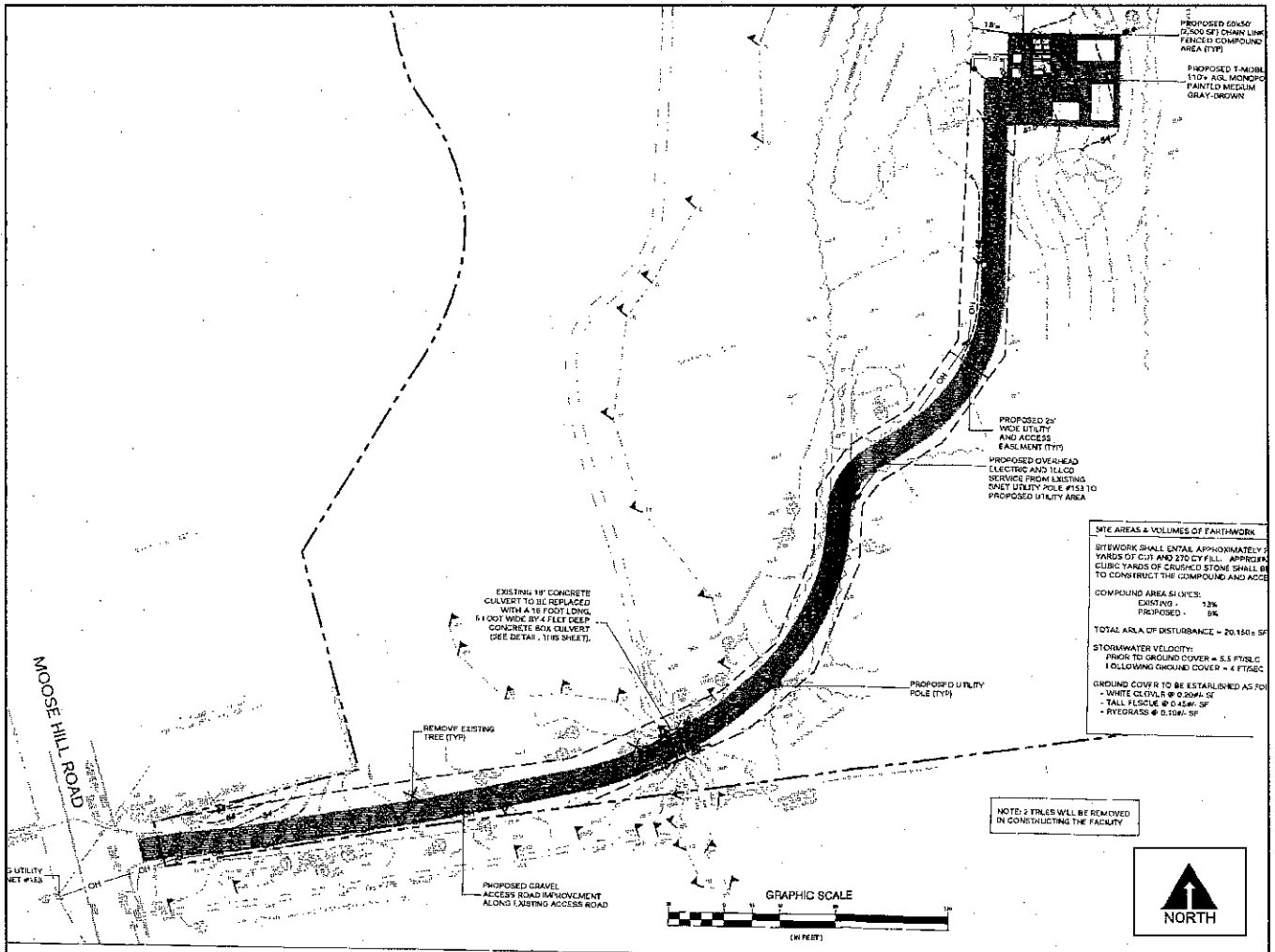
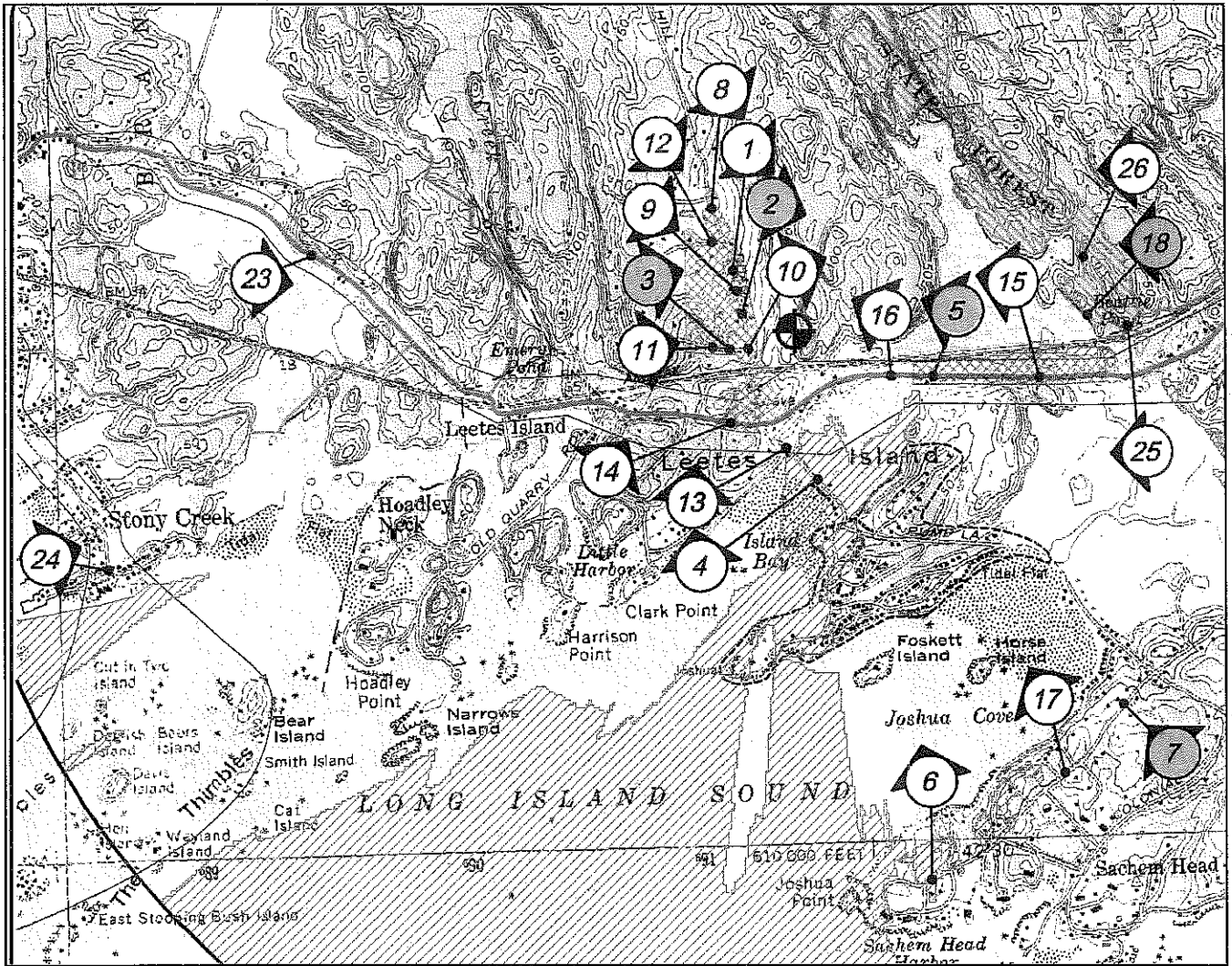


Figure 4: Proposed site plan featuring 110-foot monopole, 50-foot x 50-foot compound, and access road culvert over intermittent watercourse.



Legend

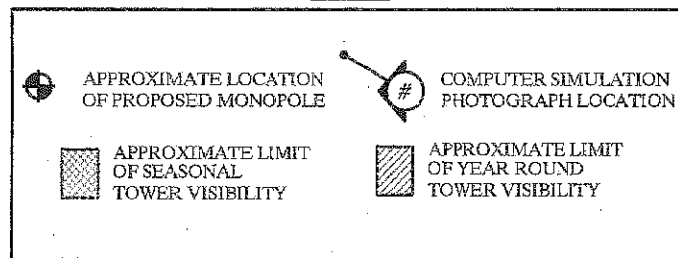


Figure 5: Projected visibility of proposed site. (T-Mobile 1, Tab N)



Figure 6: Photosimulation of tower from Dromara Road (view 3). (T-Mobile late file)

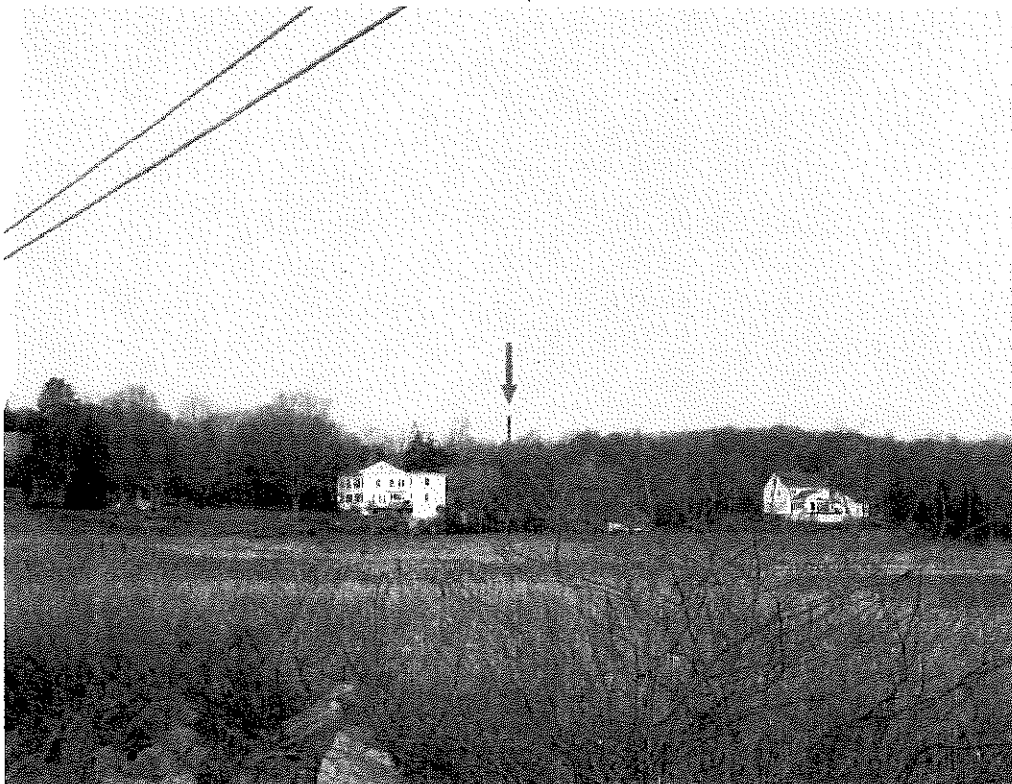


Figure 7: Photosimulation of tower from Shell Beach Road (view 4). (T-Mobile late file)



Figure 8: Photosimulation of tower from Joshua Cove, ~1 mile south of site. (T-Mobile 3b)

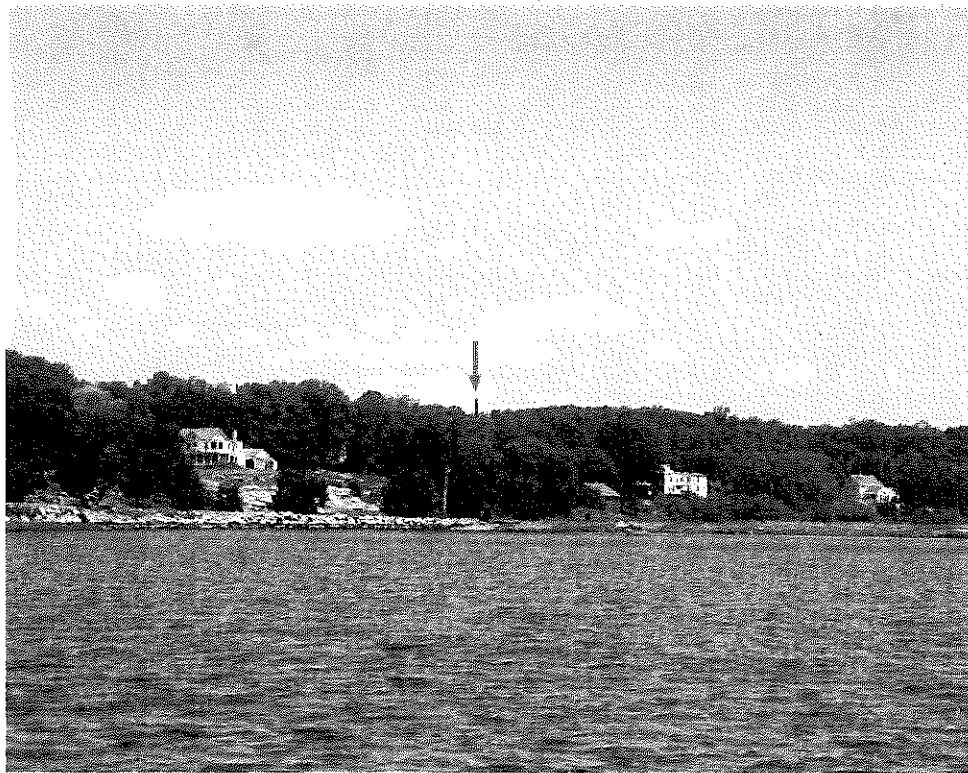


Figure 9: Photosimulation of tower from Island Bay, ~0.5 mile south of site. (T-Mobile 3b)