

<p>DOCKET NO. 451 – Homeland Towers, LLC and New Cingular Wireless PCS, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at the Cheshire Wastewater Treatment Plant, Cheshire Tax Assessor Map 38, Lot 180, 1325 Cheshire Street, Cheshire, Connecticut.</p>	<p>} } }</p>	<p>Connecticut Siting Council December 4, 2014</p>
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Findings of Fact

Introduction

1. Homeland Towers, LLC (HT) and New Cingular Wireless PCS, LLC (AT&T), in accordance with provisions of Connecticut General Statutes (CGS) § 16-50g, et seq., applied to the Connecticut Siting Council (Council) on August 5, 2014 for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of a telecommunications facility, which would include a 170-foot monopole tower, at 1325 Cheshire Street in the Town of Cheshire, Connecticut. (HT/AT&T 1, p. 1)
2. HT is a Connecticut corporation with offices located at 22 Shelter Rock Lane, Danbury, Connecticut. It owns and operates tower facilities in New York and is developing tower sites in Connecticut. HT has a long term lease agreement with the Town of Cheshire (Town) to develop a wireless telecommunications facility at the proposed site and would be the certificate holder. (HT/AT&T 1, p. 3)
3. AT&T is a Delaware limited liability company with an office at 500 Enterprise Drive, Rocky Hill, Connecticut. It is licensed by the Federal Communications Commission (FCC) to construct and operate a personal wireless services system within the meaning of CGS Section 16-50i(a)(6). (HT/AT&T 1, p. 3)
4. The parties in this proceeding are the co-applicants and the Town of Cheshire. Jennifer Arcesi and Gary Wassmer are intervenors. (Transcript, October 9, 2014, 3:00 p.m. [Tr. 1], p. 5)
5. The purpose of the proposed facility would be to enable the Town of Cheshire’s police, fire and emergency services departments, AT&T and other wireless carriers, to provide reliable emergency communications and wireless services to residents, businesses, schools, municipal facilities, and visitors to northeastern Cheshire. (HT/AT&T 1, p. 1)
6. Pursuant to CGS § 16-50(b), HT published public notice of its intent to submit this application on July 17 and 24, 2014 in The Cheshire Herald, the publication used for planning and zoning notices in the Town of Cheshire. (HT/AT&T 1, p. 5; HT/AT&T 5 – Publisher’s Affidavits of Publication dated October 6, 2014)
7. Pursuant to CGS § 16-50(b), HT sent notices of its intent to file an application with the Council to each person appearing of record as an owner of property abutting the property on which the proposed facility is located on July 28, 2014. (HT/AT&T 1, p. 5; Attachment 13)
8. HT did not receive return receipts from five of the abutters to whom it sent its notice of intent to file. It subsequently sent letters via first class mail to these five abutters. (HT/AT&T 2, A1, Attachment 1)

9. Pursuant to CGS § 16-50/ (b) on August 4, 2014, HT provided copies of its application to all federal, state and local officials and agencies listed therein. (HT/AT&T 1, p. 5; Attachment 14)
10. Pursuant to C.G.S. §16-50m, the Council published legal notice of the date and time of its public hearing on this proceeding in the Cheshire Herald on September 11, 2014. (Transcript, October 9, 2014, 7:00 p.m. [Tr. 2], p. 149)
11. HT posted a sign at the proposed site on September 23, 2014 advising the passing public of its application pending before the Council. The sign gave the date of the Council's public hearing and contact information for the Council. (HT/AT&T 3, Affidavit of Sign Posting)
12. The Council and its staff, together with representatives of the applicants and the intervenors and the public, conducted an inspection of the proposed site on October 9, 2014 beginning at approximately 2:00 p.m. (Record; Transcript, October 9, 2014, 7:00 p.m. [Tr. 2], p. 149)
13. HT sought to fly a balloon at the height of the proposed tower at its site throughout the day of the Council's field inspection between the hours of 8:00 a.m. and 6:00 p.m. In the morning, wind conditions were relatively calm and the balloon reached its maximum height. After 11:00 a.m., however, winds increased making it difficult to keep a balloon aloft at the height of the proposed tower, and at least two balloons were lost. (Tr. 1, pp. 32-33)
14. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a public hearing on October 9, 2014, beginning with the evidentiary portion of the hearing at 3:00 p.m. and continuing with the public comment session at 7:00 p.m. in the Large Conference Room of the Cheshire Town Hall, 400 Main Street in Cheshire, Connecticut. (Tr. 1, p. 1 ff.)
15. The public evidentiary hearing was continued on October 28, 2014 beginning at 1:02 p.m. at the Council's offices at 10 Franklin Square in New Britain. (Transcript, October 28, 2014, 1:02 p.m. [Tr. 3], p. 172ff.)

State Agency Comment

16. Pursuant to C.G.S. § 16-50j (g), on September 5, 2014 and on October 28, 2014, the Council solicited written comments regarding the proposed facility from the following State agencies: Department of Energy and Environmental Protection (CT DEEP); Department of Public Health (DPH); Council on Environmental Quality (CEQ); Public Utilities Regulatory Authority (PURA); Office of Policy and Management (OPM); Department of Economic and Community Development (DECD); Department of Agriculture (DOAg); Department of Transportation (DOT); Department of Emergency Management and Public Protection (DESPP); and Connecticut Airport Authority. (Record)
17. DOT responded to the Council's solicitation with no comments. (DOT Letter dated September 15, 2014)
18. The Council did not receive comments from any other state agency. (Record)

Municipal Consultation

19. Prior to submitting their application to the Council, HT and AT&T consulted with the Town for a period of over two years. Consultations included discussions regarding AT&T's and the Town's wireless telecommunications needs, design visits to the proposed site, and communications about the height needed for the Town's antennas. (HT/AT&T 1, p. 27)
20. The discussions between the Town and HT and AT&T culminated in a lease agreement, which was approved by the Town Council at a special meeting held on January 22, 2013. (Town 5, Excerpt Of the Minutes of the Special Town Council Meeting)
21. The Town's Planning and Zoning Commission reviewed the agreement for the proposed facility and found it to be in accordance with Town planning priorities. (HT/AT&T 1, p. 28; Attachment 12 – Letter from Cheshire Planning & Zoning Commission, dated May 23, 2014)
22. Additional technical information was provided to the Town Manager, the Planning and Zoning Commission, and the Inland Wetlands Commission on June 14, 2014 with the understanding that HT's and AT&T's next step would be to submit an application to the Council. (HT/AT&T 1, p. 28)

Public Need for Service

23. In 1996, the United States Congress recognized a nationwide need for high quality wireless telecommunications services in part through the adoption of the Federal Telecommunications Act (Act). A core purpose of the Act was to “provide for a competitive, deregulatory national policy framework designed to accelerate rapidly private sector deployment of advanced telecommunications and information technologies to all Americans.” (HT/AT&T 1, p. 5; Council Administrative Notice Item No. 4 - Telecommunications Act of 1996)
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. 4 - Telecommunications Act of 1996)
25. Section 253 of the Telecommunications Act of 1996 prohibits any state or local statute or regulation, or other state or local legal requirement from prohibiting or having the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service. (Council Administrative Notice Item No. 4 - Telecommunications Act of 1996)
26. Section 704 of the Telecommunications Act of 1996 prohibits local and state entities from discriminating among providers of functionally equivalent services and from prohibiting or having the effect of prohibiting the provision of personal wireless services. This section also requires state or local governments to act on applications within a reasonable period of time and to make any denial of an application in writing supported by substantial evidence in a written record. (Council Administrative Notice Item No. 4 - Telecommunications Act of 1996)

27. Section 704 of the Telecommunications Act of 1996 also prohibits any state or local entity from regulating telecommunications towers on the basis of the environmental effects of radio frequency emissions, which include effects on human health and wildlife, to the extent that such towers and equipment comply with FCC's regulations concerning such emissions. (Council Administrative Notice Item No. 4 - Telecommunications Act of 1996)
28. Section 706 of the Telecommunications Act of 1996 requires each state commission with regulatory jurisdiction over telecommunications services to encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans, including elementary and secondary schools, by utilizing regulating methods that promote competition in the local telecommunications market and remove barriers to infrastructure investment. (Council Administrative Notice Item No. 4 - Telecommunications Act of 1996)
29. In February 2009, as part of the American Recovery and Reinvestment Act, Congress directed the FCC to develop a National Broadband Plan to ensure every American has "access to broadband capability." Congress also required that this plan include a detailed strategy for achieving affordability and maximizing use of broadband to advance "consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, employee training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes."(The National Broadband Plan - Council Administrative Notice Item 18)
30. In December 2009, President Barack Obama recognized cell phone towers as critical infrastructure vital to the United States. The Department of Homeland Security, in collaboration with other Federal stakeholders, State, local, and tribal governments, and private sector partners, has developed the National Infrastructure Protection Plan (NIPP) to establish a framework for securing our resources and maintaining their resilience from all hazards during an event or emergency. (Council Administrative Notice Item No. 11 - Barack Obama Presidential Proclamation 8460, Critical Infrastructure Protection)
31. In February 2012, Congress adopted the Middle Class Tax Relief and Job Creation Act to advance wireless broadband service for both public safety and commercial users. The Act established the First Responder Network Authority to oversee the construction and operation of a nationwide public safety wireless broadband network. Section 6409 of the Act contributes to the twin goals of commercial and public safety wireless broadband deployment through several measures that promote rapid deployment of the network facilities needed for the provision of broadband wireless services. (Council Administrative Notice Item 8 - Middle Class Tax Relief and Job Creation Act of 2012)
32. In June 2012, President Barack Obama issued an Executive Order to accelerate broadband infrastructure deployment declaring that broadband access is a crucial resource essential to the nation's global competitiveness, driving job creation, promoting innovation, expanding markets for American businesses and affording public safety agencies the opportunity for greater levels of effectiveness and interoperability. (Council Admin Notice Item 21 – FCC Report and Order)
33. Pursuant to Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012, also referred to as the Spectrum Act, a state or local government may not deny and shall approve any request for collocation, removal or replacement of equipment on an existing wireless tower provided that this does not constitute a substantial change in the physical dimensions of the tower. The Federal Communications Commission defines a substantial change in the physical dimensions of a tower as follows:

- a) An increase in the existing height of the tower by more than 10% or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater. Changes in height should be measured from the dimensions of the tower, inclusive of originally approved appurtenances and any modifications that were approved prior to the passage of the Spectrum Act.
- b) Adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater.
- c) Installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four, or more than one new equipment shelter.
- d) A change that entails any excavation or deployment outside the current site.
- e) A change that would defeat the concealment elements of the tower.
- f) A change that does not comply with conditions associated with the siting approval of the construction or modification of the tower, provided however that this limitation does not apply to any modification that is non-compliant only in a manner that would exceed the thresholds identified in (a) – (d).

(Council Administrative Notice Item No. 8, Middle Class Tax Relief and Job Creation Act of 2012)

34. According to state policy, if the Council finds that a request for shared use of a facility by a municipality or other person, firm, corporation or public agency is technically, legally, environmentally and economically feasible, and the Council finds that the request for shared use of a facility meets public safety concerns, the Council shall issue an order approving such shared use to avoid the unnecessary proliferation of towers in the state. (Conn. Gen. Stat. §16-50aa)

Public Safety

35. The Wireless Communications and Public Safety Act of 1999 (911 Act) was enacted by Congress to promote and enhance public safety by making 9-1-1 the universal emergency assistance number, by furthering deployment of wireless 9-1-1 capabilities, and by encouraging construction and operation of seamless ubiquitous and reliable networks for wireless services. (HT/AT&T 1, p. 10; Council Administrative Notice Item No. 6 - Wireless Communications and Public Safety Act of 1999, as amended)
36. AT&T would provide “Enhanced 911” services from its proposed facility, as required by the 911 Act. (HT/AT&T 1, p. 10)
37. On May 15, 2014, AT&T along with other wireless carriers began offering text-to-911 services nationwide in areas where municipal Public Safety Answering Points (PSAPs) support text-to-911 technology. Text-to-911 will extend emergency services to those who are deaf, hard of hearing, have a speech disability, or are in situations where a voice call to 911 may be dangerous or impossible. (HT/AT&T 1, p. 11)
38. Pursuant to the Warning, Alert and Response Network Act (WARN), the FCC established the Personal Localized Alerting Network (PLAN), which requires wireless service providers to issue text message alerts from the President of the United States, the U.S. Department of Homeland Security, the Federal Emergency Management Agency and the National Weather Service. The proposed facility would be able to transmit such alerts. (HT/AT&T 1, p. 11)

39. HT's proposed tower would be designed in accordance with the specifications of the American National Standards Institute EIA/TIA-222-F and EIA/TIA-222-G "Structural Standards for Steel Antenna Towers and Antenna Support Structures" for New Haven County. The more stringent of the two design iterations would be used. The tower would be designed to wind loads equivalent to a maximum 85 MPH fastest mile wind speed (REV F) and/or average basic 3-second wind gust of 100 MPH (REV G). The diameter of the tower would be approximately five to six feet at its base and two to three feet at its top. (HT/AT&T 2, A5)
40. In addition to AT&T's antennas and equipment, the proposed tower would be designed to accommodate three additional wireless carriers and antennas for use by the police and fire department emergency communications of the Town. (HT/AT&T 1, p. 13; Tr. 1, p. 29)
41. AT&T's equipment would include alarm devices to detect intrusions and equipment malfunctions. (Tr. 1, p. 28)
42. The setback radius of the proposed tower would lie completely within host property. (HT/AT&T 1, Attachment 5, Sheet A-1)
43. AT&T's equipment shelter would be locked and remotely monitored for intrusion 24 hours a day. (HT/AT&T 2, A4)
44. The Town requires a new tower in northern Cheshire to support its emergency communications needs in this part of the town. (HT/AT&T 1, p. 9)
45. The Town has existing antennas at the water pollution control facility that are mounted at heights of 30 to 40 feet above ground level (agl). Going from a height of 30 feet to 170 feet would greatly enhance the Town's public safety communications. (Tr. 1, p. 7)
46. Currently, the Town's antennas at the water pollution control facility are receive only. Antennas at this site would also transmit signals under the Town's planned public safety radio system upgrade. (Tr. 3, p. 185)
47. The Town currently has difficulty with portable radios of its police officers and firefighters, often losing communications, in its northeast corner. (Tr. 1, pp. 7-8)
48. The Town has plans to switch its emergency communications to microwave dishes instead of the current copper land lines. This switch would require point-to-point (PTP), or line of sight, communications between microwave stations. The height of the proposed tower would enable Town microwave antennas at this location to connect with the tower at police headquarters on Highland Avenue and the tower located at fire department headquarters. (Tr. 1, pp. 9-12; Town 8 – Pre-filed Testimony of Eric Fine)
49. Point-to-point connectivity would be critical for the simulcast type of system the Town is moving toward for its public safety communications network. (Tr. 3, p. 186)
50. Northeastern Communications, a consultant for the Town, has determined that the proposed tower would be a good location for the Town's emergency service antennas and PTP backhaul communications equipment. (HT/AT&T 1, p. 3)

Existing and Proposed Wireless Services

51. In Connecticut, AT&T is licensed to utilize frequencies within the 700 to 746 Megahertz (MHz) range, the 835 to 894 MHz range, the 1850 to 1890 MHz range, the 1930 to 1970 MHz range, and the 2305 to 2360 MHz range. At the proposed site, AT&T would deploy equipment utilizing its 700 MHz, 850 MHz, and 1900 MHz frequencies. (HT/AT&T 2, A6 and A7)
52. AT&T has historically designed its Global System for Mobile Communications (GSM) and Universal Mobile Telecommunications System (UMTS) networks using signal strengths of -74 decibels (dBm) and -82 dBm as its criteria for reliable in-building and in-vehicle service respectively. AT&T is now using signal strengths of -83 and -93 dBm for its 700 MHz Long Term Evolution (LTE) service and -86 and -96 dBm for its 1900 MHz LTE service. (HT/AT&T 1, Attachment 1 – Radio Frequency Analysis Report, p. 1)
53. Existing signal strengths in the area AT&T would cover from the proposed site range between -93 dBm and -120 dBm for 700 MHz LTE frequencies and between -96 dBm and -120 dBm for 1900 MHz LTE frequencies. (HT/AT&T 2, A9)
54. AT&T’s proposed facility would hand off signals with the adjacent facilities identified in the following table.

Hand Off Facility Location	Type of Structure
250 Meriden-Waterbury Turnpike, Southington	Monopole
546 South Broad Street, Meriden	Rooftop
1338 Highland Avenue, Cheshire	Water tower
500 Highland Avenue, Cheshire	Rooftop
989 Church Street, Wallingford	Lattice tower
450-478 West Main Street, Meriden	Rooftop
33 Main Street, Meriden	Planned monopole
185 Academy Road, Cheshire	Planned monopole

(HT/AT&T 2, A8)

55. The following table approximates AT&T’s coverage gaps at different frequencies in the vicinity surrounding the proposed facility.

	Existing 700 MHz Coverage Gaps		Existing 1900 MHz Coverage Gaps	
Population	(≥ -83 dBm)	7,597	(≥ -86 dBm)	7,893
	(≥ -93 dBm)	5,043	(≥ -96 dBm)	5,920
Area (mi ²)	(≥ -83 dBm)	8.70	(≥ -86 dBm)	8.81
	(≥ -93 dBm)	6.10	(≥ -96 dBm)	7.07
Roadway (mi)	Main	11.69	Main	12.01
	Secondary	24.94	Secondary	29.40
	Total:	36.63	Total:	41.41

(HT/AT&T 1 - Attachment 1, p. 3)

56. The following table shows the approximate statistics for the coverage that would be possible from the proposed facility.

	Incremental Coverage from Proposed Site (700 MHz)		Incremental Coverage from Proposed Site (1900 MHz)	
	≥ -83 dBm		≥ -86 dBm	
Population	≥ -83 dBm	1,200	≥ -86 dBm	280
	≥ -93 dBm	3,026	≥ -96 dBm	2,083
Area (mi ²)	≥ -83 dBm	1.25	≥ -86 dBm	0.41
	≥ -93 dBm	3.64	≥ -96 dBm	2.44
Roadway (mi)	Main	7.26	Main	5.29
	Secondary	15.11	Secondary	9.55
	Total:	22.37	Total:	14.84

(HT/AT&T 1 - Attachment 1, p. 5)

57. For specific roads in the vicinity of the proposed facility, the lengths of existing coverage gaps and the distances that would be covered by the proposed facility are shown in the following table.

Street Name	700 MHz Frequency		1900 MHz Frequency	
	Gap (mi)	Coverage (mi)	Gap (mi)	Coverage (mi)
State Route 70	2.8	0.32	2.88	.18
Nob Hill Road	0.9	0.62	0.62	0.37
Riverside Drive	1.13	1.04	1.15	.8
Redstone, Payne Drive	0.59	0.47	0.68	0.34
Cheshire Street	1.72	1.65	1.72	1.48
Allen Avenue	1.45	0.89	0.66	0.63

(HT/AT&T 2, A11)

58. AT&T's data on dropped calls in the area that would be covered from the proposed facility indicate an elevated level of voice and data drops. Testing of these data further indicates that data service is substandard or nonexistent within this area. (HT/AT&T 2, A10)
59. Traffic counts taken by DOT indicate that 3,300 vehicles pass through the vicinity of the proposed facility at the intersection of Cheshire Street and Allen Road on an average day. Approximately 4,600 vehicles travel through the intersection of Cheshire Street and State Route 70, also within the proposed coverage area. (HT/AT&T 1, Attachment 1 – Radio Frequency Analysis Report, p. 4)
60. The minimum centerline height required to achieve AT&T's coverage objectives from the proposed facility would be 145 feet above ground level (agl). However, the proposed 155-foot agl centerline would provide additional infill and robustness. (HT/AT&T 2, A12)

Site Selection

61. The search to find a suitable location for a wireless telecommunications facility in this part of Cheshire extended over a period of approximately two years. (HT/AT&T 1, p. 1)

62. In addition to the proposed site, AT&T investigated two other parcels as potential sites for its facility. These two properties investigated could not satisfy AT&T's coverage requirements. The properties were:
- a) 796 Greens Loop, Cheshire: There is an 80-foot tall CL&P utility pole at this location, but AT&T Radio Frequency engineers rejected this property as it did not meet the coverage objectives.
 - b) 99 Realty Drive: There is a 55-foot tall building, the Milone and MacBroom building, on this property, but AT&T Radio Frequency engineers rejected this property as it did not meet the coverage objectives.

(HT/AT&T 1, Attachment 3)

63. In addition to the property on which the proposed facility is located, HT investigated five other properties within the search area. These properties were:
- a) City of Meriden's Broad Brook Filtration Plant, 1285 South Meriden Road, Cheshire: HT held preliminary discussions with Meriden city officials about this location. A site visit and preliminary negotiations revealed concerns about a potential contract, a plant upgrade plans would limit construction activities. Follow up communications to the city went unanswered, and HT concluded that the city was not interested in a facility on this property.
 - b) Casertano Green Houses and Farms, 1020 South Meriden Road, Cheshire: the owner of this property did not respond to HT's inquiries and was presumed to be not interested.
 - c) Michaels Green Houses, 300 South Meriden Road, Cheshire: the owner of this property did not respond to HT's inquiries and was presumed to be not interested.
 - d) Hickory Hill Orchard, 351 South Meriden Road, Cheshire: this property is at the far southern end of the area where AT&T needs to locate its facility. In addition, construction of a facility on this property would have required a lengthy access road, tree removals, and close proximity to a retention pond.
 - e) Norton Brothers Fruit Farm, 466 Academy Road, Cheshire: the owner of this property did not respond to HT's inquiries and was presumed to be not interested.

(HT/AT&T 1, Attachment 3)

64. There are 45 wireless telecommunications facilities located within approximately four miles of the proposed facility. None of these facilities would provide adequate and reliable coverage for the area that would be covered by the proposed facility. (HT/AT&T 1, Attachment 3 – Existing Tower/Cell Site Listing)
65. Alternative telecommunications technologies such as repeaters, microcell transmitters, distributed antenna systems and other types of transmitting technologies are not a practicable or feasible means of providing service to the large area, with lesser density of usage, that AT&T is seeking to cover from the proposed site. (HT/AT&T 1, p. 12; Tr. 1, pp. 29)

Facility Description

66. The proposed facility is located in the center of a 59-acre parcel owned by the Town of Cheshire. The Town's water pollution control plant is located on this parcel, directly to the south of proposed facility's location. There are also municipal recreation fields on the parcel to the north and east of the proposed facility's location. The parcel is in the northeastern part of the Town. (See Figures 1 and 2)(HT/AT&T 1, p. 13; Attachments 4 and 5)
67. There are no deed restrictions or other encumbrances that would preclude the use of the water pollution control plant property from being used for a wireless telecommunications facility. (Tr. 3, pp. 182-183)
68. The host property is located within an R-40 zoning district (single family residential with a minimum lot size of 40,000 square feet). Wireless telecommunications facilities are allowable in the R-40 zoning district with the approval of a special permit. (HT/AT&T 1, p. 17)
69. On this property, HT would lease a 75-foot by 75-foot parcel (5,625 square feet), within which it would install a 62-foot by 75-foot (4,650 square feet) compound that would include a 170-foot monopole tower. The compound would be enclosed by an eight-foot high chain link fence and would include a 11.5-foot by 16-foot shelter for AT&T's ground equipment. There would be space reserved within the compound for the Town to install its own equipment shelter. With the Town's antennas, the tower would reach an overall height of 190 feet above ground level. (HT/AT&T 1, p. 13; Tr. 3, pp. 183-184)
70. The proposed tower would be located at 41° 31' 57.32" North latitude and 72° 52' 13.7" West longitude. Its elevation at ground level would be approximately 116 feet above mean sea level. (HT/AT&T 1, Attachment 4, Site Evaluation Report)
71. AT&T would install 12 antennas at a centerline height of 155 feet above ground level on the proposed tower. (HT/AT&T 1, p. 13; Tr. 1, p. 23)
72. In the short term, the Town would most likely install two RF, or whip, antennas, which would be 18 to 20 feet tall at the top of the tower. For the Town's long range public safety radio system plans, it would probably have three RF antennas and two microwave dish antenna that would be two feet in diameter. (HT/AT&T 1, Attachment 5, Sheet SP-1; Tr. 3, pp. 183-184)
73. Vehicular access to the proposed facility would extend from Cheshire Street over an existing paved driveway for a distance of approximately 1,360 feet to the existing gate of the water treatment plant and then over a proposed gravel access drive for an approximate distance of 140 feet. (HT/AT&T 1, p. 13; Attachment 5, Sheet SP-1)
74. Utilities would be extended overhead from an existing utility pole on the host property approximately 65 feet to a proposed new utility pole on the host property and then for a distance of approximately 385 feet underground to the proposed facility. Underground utilities would closely parallel the proposed facility's access drive. (HT/AT&T 1, p. 13; Attachment 5, Sheet SP-1)
75. Blasting would not be anticipated for the proposed facility as bedrock was not encountered during the subsurface geotechnical investigation. (HT/AT&T 2, A3)

76. Construction of the proposed facility would require 250 cubic yards of cut for utility trenching and the importation of 160 cubic yards of broken stone for the compound and driveway construction. (HT/AT&T 1, Attachment 4 – Site Evaluation Report, III. G. Clearing and Fill Required)
77. No schools or commercial child day care facilities are located within 250 feet of the host property. The nearest school, the Chapman School, is located approximately 1.5 miles to the southeast at 115 Barlow Mountain Road. The nearest commercial child day care center is the Stork Club of Cheshire, which is located at 1311 Highland Avenue approximately 1.25 miles to the west. (HT/AT&T 1, Attachment 9 – Visibility Analysis - Proximity to Schools and Commercial Child Day Care Centers)
78. There are 12 single family residences within 1,000 feet of the proposed facility. (HT/AT&T 1, Attachment 4 – Site Impact Statement)
79. The closest off-site residence is 781 feet to the north at 11 Marks Place in Cheshire. It is owned by Diane Kearney. (HT/AT&T 1, Attachment 4 – Site Impact Statement)
80. Land use within ¼ mile of the proposed site is comprised primarily of single family residential properties and Town-owned open space. (HT/AT&T 1, Attachment 4 – Site Evaluation Report)
81. Construction of the proposed facility would take approximately eight weeks. The site preparation stage would take an estimated four to five weeks. Installation of the tower, antennas, and associated equipment would take an additional three weeks. Facility integration and system testing would take an additional two weeks. (HT/AT&T 1, p. 28)
82. The estimated cost of the proposed facility is:

Tower and Foundation	\$100,000
Site Development	100,000
Utility Installation	25,000
Facility Installation	45,000
Subtotal: Homeland Towers Cost	\$270,000
Antennas and Equipment	\$250,000
Subtotal: AT&T Costs	\$250,000
Total Estimated Costs	\$520,000

(HT/AT&T 1, p. 28)

Backup Power

83. In response to two significant storm events in 2011, Governor Malloy formed a Two Storm Panel (Panel) that was charged with an objective review and evaluation of Connecticut’s approach to the prevention, planning and mitigation of impacts associated with emergencies and natural disasters that can reasonably be anticipated to impact the state. Two of the Panel’s findings are as follows:
 - a. “Wireless telecommunications service providers were not prepared to serve residential and business customers during a power outage. Certain companies had limited backup generator capacity;” and

- b. “The failure of a large portion of Connecticut’s telecommunications system during the two storms is a life safety issue.”

(Final Report of the Two Storm Panel, Council Administrative Notice Item No. 39)

84. The Panel made the following recommendations:

- a. “State regulatory bodies should review telecommunications services currently in place to verify that the vendors have sufficient generator and backhaul capacity to meet the emergency needs of consumers and businesses:” and
- b. The Connecticut Siting Council should require continuity of service plans for any cellular tower to be erected. In addition, where possible, the Siting Council should issue clear and uniform standards for issues including, but not limited to, generators, battery backups, backhaul capacity, response times for existing cellular towers.

(Final Report of the Two Storm Panel, Council Administrative Notice Item No. 39)

85. In response to the findings and recommendations of the Panel, Public Act 12-148, An Act Enhancing Emergency Preparedness and Response, codified at C.G.S. §16-50ll, required the Council, in consultation and coordination with the Department of Energy and Environmental Protection, the Department of Emergency Services and Public Protection and the Public Utilities Regulatory Authority (PURA), to study the feasibility of requiring backup power for telecommunications towers and antennas, as the reliability of such telecommunications service is considered to be in the public interest and necessary for the public health and safety. The study was completed on January 24, 2013. (Council Docket No. 432, Council Administrative Notice Item No. 25)

86. The Council’s study included consideration of the following matters:

- a. Federal, state and local jurisdictional issues of such backup power requirements, including, but not limited to, siting issues;
- b. Similar laws or initiatives in other states;
- c. The technical and legal feasibility of such backup power requirements;
- d. The environmental issues concerning such backup power; and
- e. Any other issue concerning backup power that PURA deems relevant to such study.

(Council Docket No. 432, Council Administrative Notice Item No. 25)

87. The Council reached the following conclusions in the study:

- a. “Sharing a backup source is feasible for CMRS providers, within certain limits. Going forward, the Council will explore this option in applications for new tower facilities”, and
- b. “The Council will continue to urge reassessment and implementation of new technologies to improve network operations overall, including improvements in backup power.”

(Council Docket No. 432, Council Administrative Notice Item No. 25)

88. According to R.C.S.A. §22a-69-1.8, noise created as a result of, or relating to, an emergency, such as an emergency backup generator, are exempt from the State Noise Control Regulations. (R.C.S.A. §22a-69-1.8)

89. Backup power for AT&T’s facility would be provided by a 35kW diesel generator with a run time of approximately 48 hours based on a 200 gallon supply. AT&T would also have a battery backup to prevent its facility from experiencing a “re-boot” condition during the generator start-up delay period and thereby allowing for continued or “seamless” service. (HT/AT&T 2, A13; Tr. 1, pp. 27-28)

90. AT&T's generator fuel tank would be a steel containment chamber lined with a bladder to contain fuel in the unlikely event of a fuel spill. (HT/AT&T 2, A14)
91. Backup power for the town's telecommunication equipment would be provided by a 1200 kW, diesel generator that will be installed at the Cheshire Wastewater Treatment Plant. The generator would have a fuel tank with a 6,000 gallon capacity and would be capable of providing at least 48 hours of service at full load. The fuel tank would be double-walled and would comply with EPA spill containment and prevention requirements. (Town 2, Responses 1 and 2)
92. The Town would not be interested in sharing the power from its backup generator with commercial telecommunications firms on the proposed facility as that may violate terms of grants obtained to fund an upgrade of the Wastewater Treatment Plant. (Town 2, Response 4)

Environmental Considerations

93. After reviewing plans for the proposed facility, the State Historic Preservation Office (SHPO) determined that it would have no adverse effect on contributing resources eligible for listing on the National Register of Historic Places in a potential district with the conditions that: 1) the tower and associated equipment are installed to be as non-visible as possible; and 2) if not in use for six consecutive months, the antennas and equipment are removed by the facility owner within 90 days of the end of the six-month period. (HT/AT&T 1, Attachment 11 – Letter from SHPO, dated May 30, 2014)
94. According to the DEEP Natural Diversity Data Base, the wood turtle (*Glyptemys insculpta*) and the eastern box turtle (*Terrapene carolina carolina*), two State Special Concern Species, may occur in the vicinity of the proposed facility. (HT/AT&T 1, Attachment 10 – Letter from DEEP, dated December 4, 2013)
95. HT would employ measures used on other, similar projects to develop wireless telecommunications facilities to protect the state listed turtles on this proposed facility. (HT/AT&T 1, p. 15; Attachment 10 – Letter from DEEP, dated December 4, 2013)
96. Following the turtle protection protocols used on other, similar projects should prevent any long-term adverse impacts on these turtle populations that may occur in the vicinity of the proposed facility. (HT/AT&T 1, Attachment 10 – Letter from DEEP, dated December 4, 2013)
97. No trees would be removed to develop the proposed facility. (HT/AT&T 1, Attachment 4 –Site Evaluation Report III.G Clearing and Fill Required)
98. The closest wetland to the proposed facility is a forested floodplain wetland associated with the Quinnipiac River located approximately 127 feet to the west. This wetland area includes a very poorly drained depressional feature, which potentially provides a “cryptic” vernal pool habitat as it appears to support seasonal inundation of sufficient depth and duration to provide breeding habitat for amphibians. (HT/AT&T 1, Attachment 4 – Site Impact Statement; Attachment 7 – Wetland Investigation; HT/AT&T 2, A21)

99. All activity associated with the proposed facility would be outside of the Vernal Pool Envelope zone (within 100 feet of the vernal pool edge) and limited to locations within the vernal pool's Critical Terrestrial Habitat zone (within 100 – 750 feet of the vernal pool edge). The area within which the proposed facility would be located has already been disturbed by development associated with the Town's Wastewater Treatment Plant and recreational park. For this reason, the proposed facility would not result in an increase in development within the Critical Terrestrial Habitat zone. (HT/AT&T 2, A17)
100. The turtle protection protocols that would be followed would include Best Management Practices that would also protect vernal pool species. (HT/AT&T 2, A17)
101. Throughout the construction period of the proposed facility, HT 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 Energy and Environmental Protection. (HT/AT&T 1, p. 27)
102. With the erosion and sedimentation control measures in place, no adverse impacts to the identified wetland area would be anticipated to result from construction activities related to the proposed facility. (HT/AT&T 1, p. 27; Attachment 7 - Wetland Investigation)
103. The proposed tower at this site would not constitute an obstruction or hazard to air navigation and would not require any obstruction marking or lighting. (HT/AT&T 1, p. 16; Attachment 5 – TOWAIR Determination Results)
104. The nearest Important Bird Area (IBA), as designated by Audubon Connecticut, is located approximately 10 miles to the southeast within the Naugatuck State Forest. Due to the intervening distance, this IBA would not experience any adverse impacts from the proposed facility. (HT/AT&T 2, A15; Attachment 3 – Avian Resources Evaluation, p. 2)
105. HT's proposed facility would comply with the recommendations of the United States Fish and Wildlife Service's *Interim Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers*. (HT/AT&T 2, A16, Attachment 3 - Avian Resources Evaluation, pp. 7-9)
106. The cumulative worst-case maximum power density from the radio frequency emissions from the operation of AT&T's proposed antennas at the base of the proposed tower would be 2.74% of the standard for the General Public/Uncontrolled 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. (HT/AT&T 1, Attachment 8)

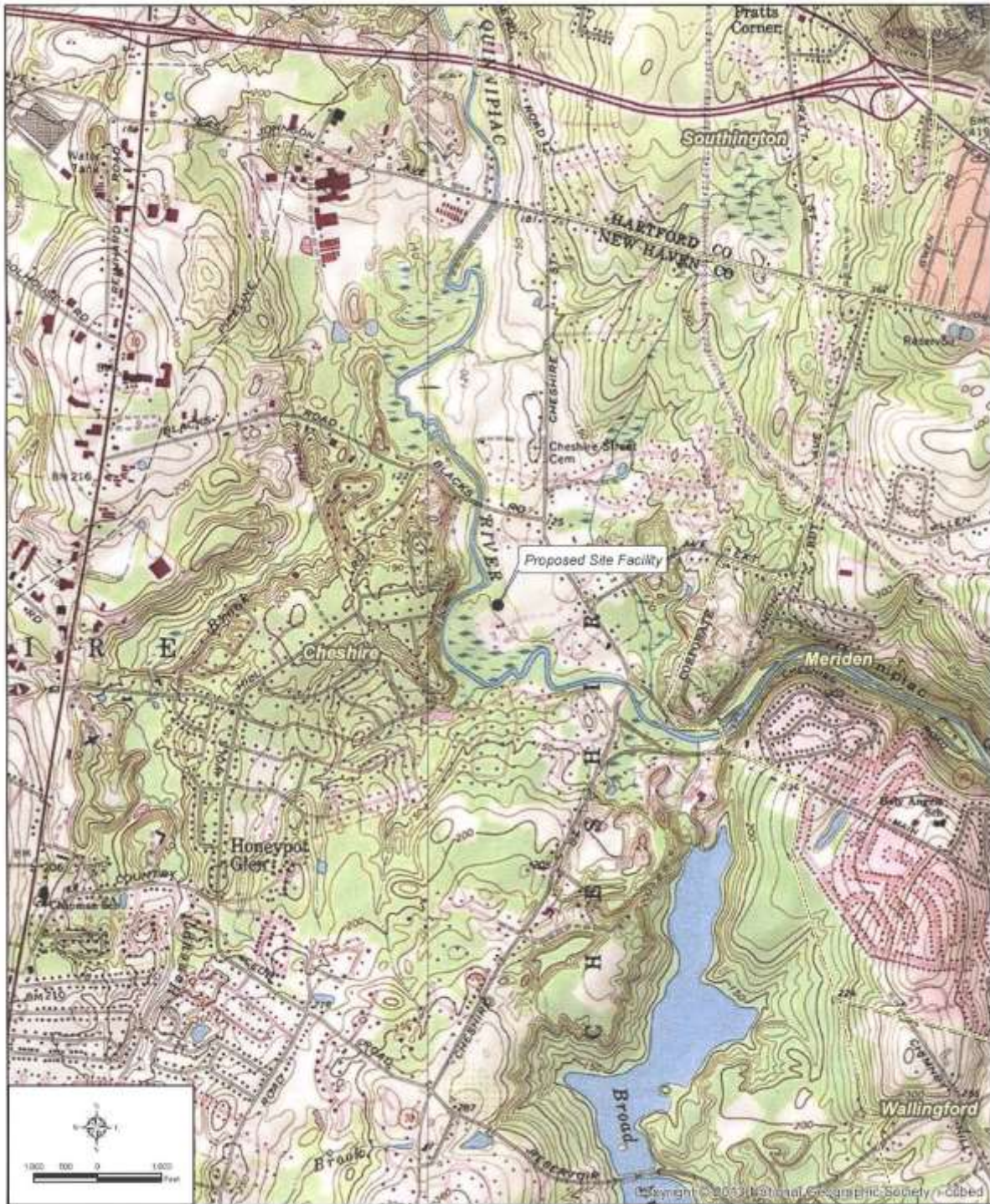
Visibility

107. HT’s proposed tower would be visible above the tree canopy on a year-round basis from approximately 53 acres in the surrounding vicinity. (See Figure 7) (HT/AT&T 1, Attachment 9 – Visibility Analysis Results)
108. Year-round views of the proposed tower would generally be limited to the host property and its immediate vicinity. (HT/AT&T 1, Attachment 9 – Visibility Analysis Results)
109. The proposed tower would be seasonally visible (during “leaf-off” conditions) from approximately 735± additional acres. (HT/AT&T 1, Attachment 9 – Visibility Analysis Results)
110. Seasonal views of the proposed tower could extend out to distances of approximately one mile northward and slightly farther to the south. (HT/AT&T 1, Attachment 9 – Visibility Analysis Results)
111. Year-round views of the proposed facility would be possible from the northern portion of the Quinnipiac River Trail, and seasonal views may be possible from the southern portion of the trail, as well as some views from locations within the Ives Farm trails system. (HT/AT&T 1, Attachment 9 – Visibility Analysis Results)
112. No views of the proposed facility would be anticipated from Cheshire Park or the Hanover Pond trails. (HT/AT&T 1, Attachment 9 – Visibility Analysis Results)
113. The visibility of the proposed tower from different vantage points in the surrounding vicinity is summarized in the following table.

<u>Location</u>	<u>Visibility</u>	<u>Approx. Portion of (170°) Tower Visible</u>	<u>Approx. Distance and Direction to Tower</u>
1 – East Ridge Court	Seasonal	40’	4,430 feet, SW
2 – Cheshire Street Cemetery	Year-round	30’	2,590 feet, SW
3 – River View Court	Seasonal	60’	2,060 feet, S
4 – North Pond Road	Seasonal	30’	3,700 feet, SW
5 – Trout Brook Road	Seasonal	30’	3,120 feet, SW
6 – Cheshire Street	Year-round	40’	1,590 feet, SW
7 – Sandstone Circle	Year-round	50’	1,800 feet, SE
8 – 9 Marks Place	Year-round	100’	1,100 feet, S
9 – Oak Ridge at cul-de-sac	Seasonal	60’	900 feet, E
10 – Vista Terrace	Seasonal	40’	1,100 feet, E
11 – Smith Place	Seasonal	60’	1,370 feet, W
12 – Host property parking lot	Year-round	90’	1,110 feet, W
13 – Allen Avenue	Seasonal	60’	1,530 feet, W
14 – 800 Allen Avenue	Seasonal	40’	2,690 feet, W
15 – Wooden Circle	Seasonal	70’	1,160 feet, NW
16 – Riverside Drive	Seasonal	30’	1,740 feet, NE
17 – Riverside Drive	Seasonal	70’	1,320 feet, N

(HT/AT&T 1, Attachment 9 – Visibility Analysis)

Figure 1: Location Map



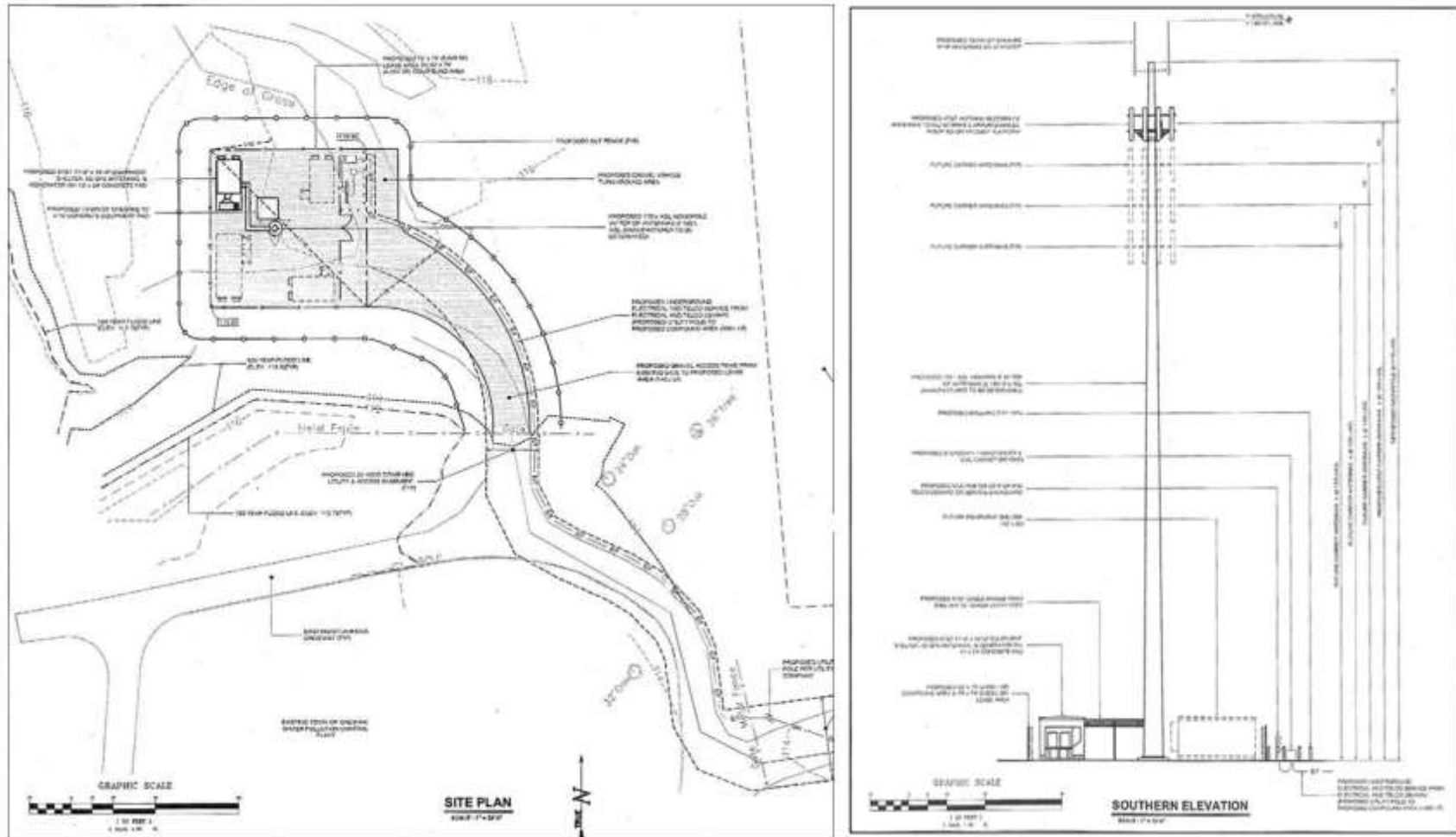
(HT/AT&T 1, Attachment 5)

Figure 2: Aerial Photograph of Proposed Site Location



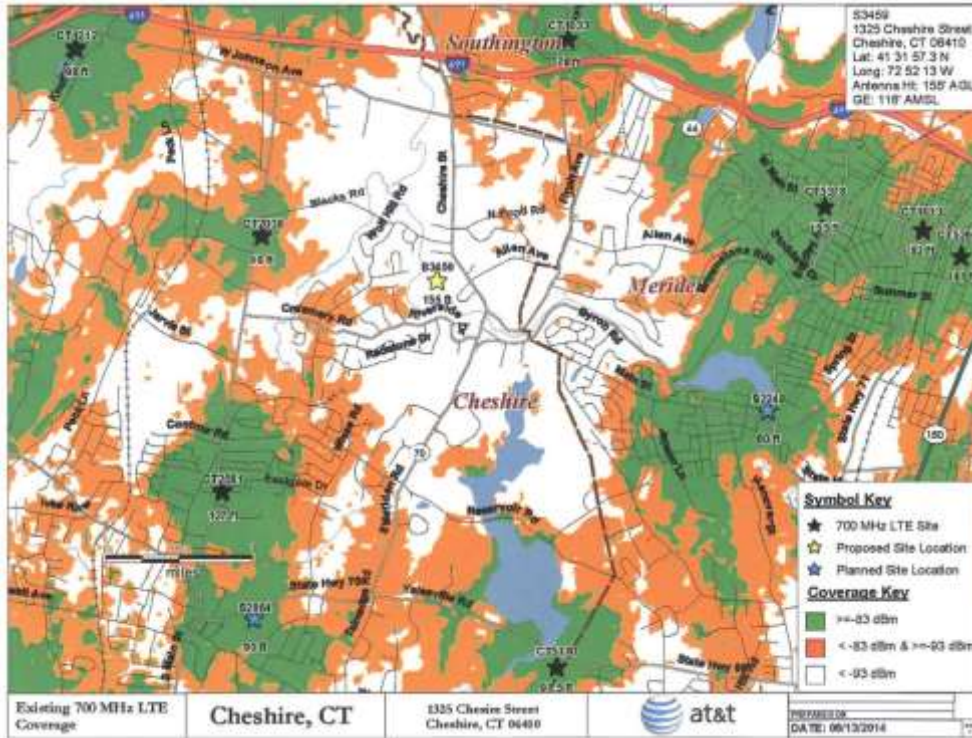
(HT/AT&T 1, Attachment 5)

Figure 3: Facility Site Plan with Tower Elevation



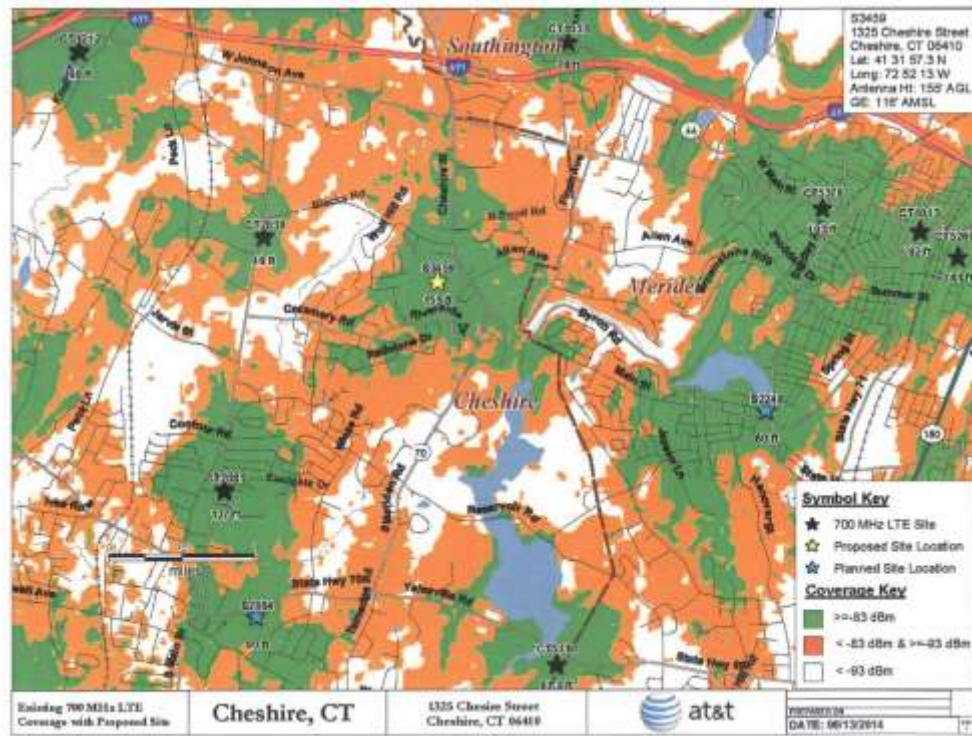
(HT/AT&T 1, Attachment 5, Sheet SP-1)

Figure 4A: Existing AT&T 700 MHz Coverage



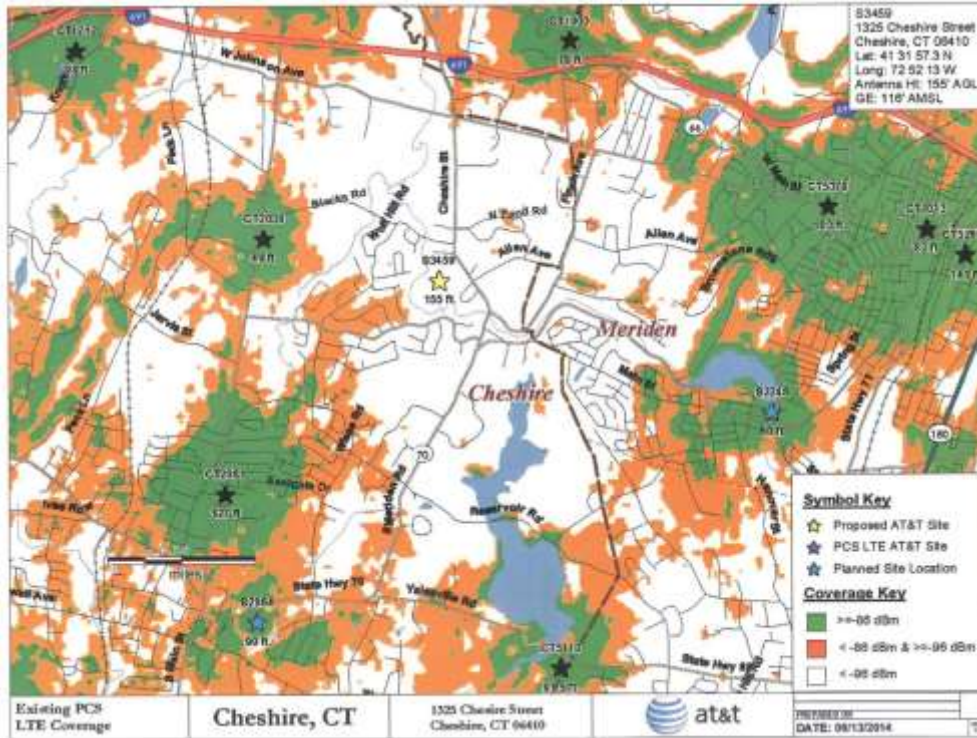
(HT/AT&T 1, Attachment 1 – Radio Frequency Analysis Report)

Figure 4B: AT&T 700 MHz Coverage with Proposed Site



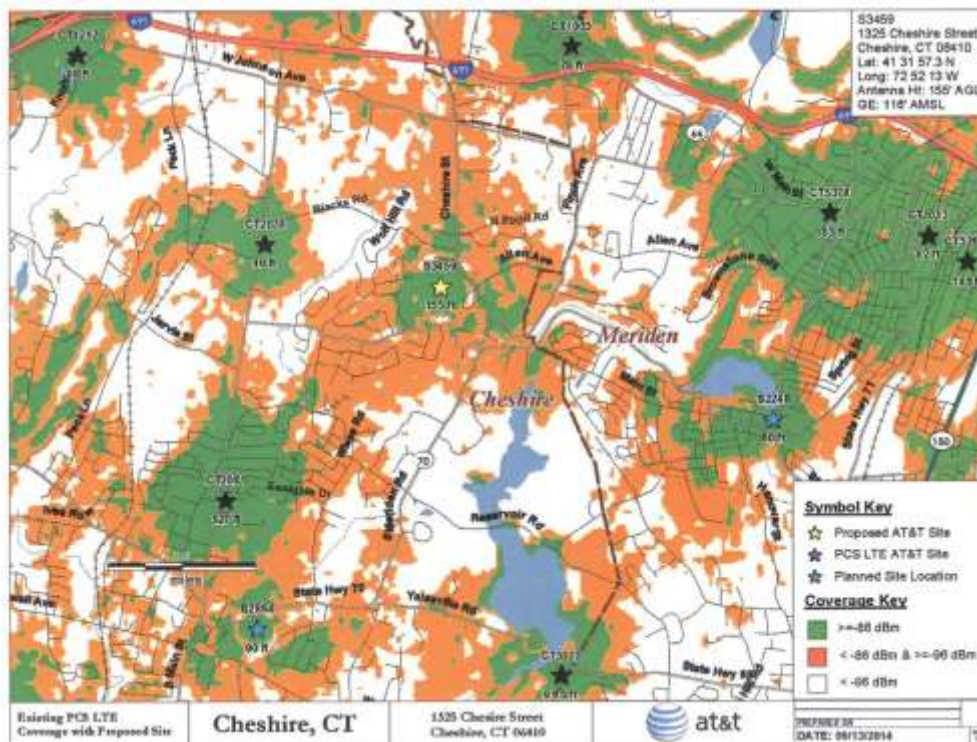
(HT/AT&T 1, Attachment 1 – Radio Frequency Analysis Report)

Figure 5A: Existing AT&T 1900 MHz Coverage



(HT/AT&T 1, Attachment 1 – Radio Frequency Analysis Report)

Figure 5B: AT&T 1900 MHz Coverage with Proposed Site



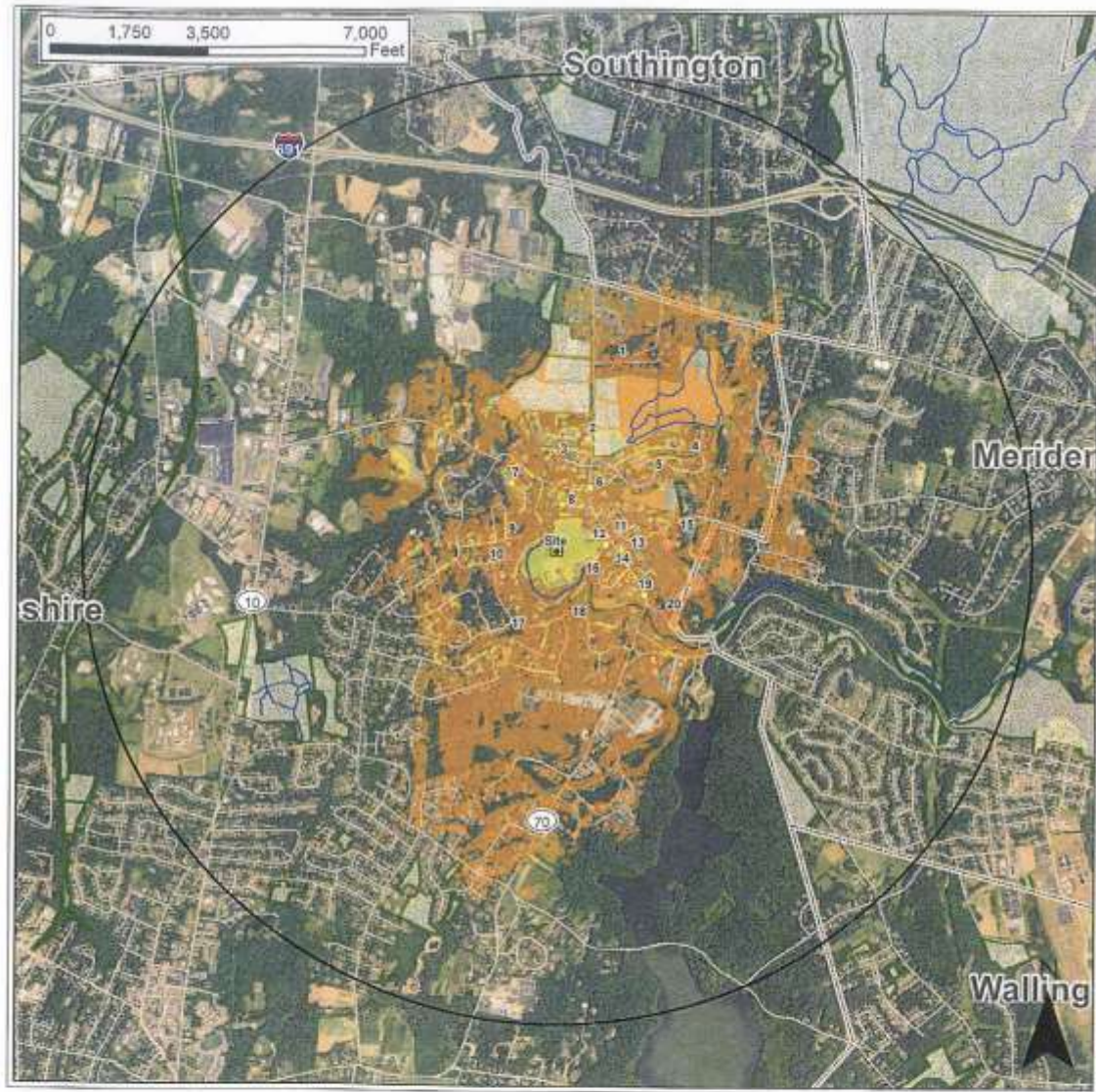
(HT/AT&T 1, Attachment 1 – Radio Frequency Analysis Report)

Figure 6: Photosimulation of Proposed Tower from Quinnipiac Recreation Area Parking Area



(HT/AT&T 1, Attachment 9 – Visibility Analysis)

Figure 7: Projected Tower Visibility



(HT/AT&T 1, Attachment 9 – Visibility Analysis)