DOCKET NO. 440 – New Cingular Wireless PCS, LLC (AT&T) application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at 522 Colebrook Road, Colebrook, Connecticut.	}	Connecticut Siting Council February 6, 2014

Findings of Fact

Introduction

1. New Cingular Wireless PCS, LLC (AT&T), in accordance with provisions of Connecticut General Statutes (C.G.S.) § 16-50g, et seq, applied to the Connecticut Siting Council (Council) on August 14, 2013 for the construction, maintenance, and operation of a 120-foot wireless telecommunications facility at 522 Colebrook Road in Colebrook, Connecticut. (AT&T 1, pp. 3-4)

2. AT&T is a Delaware limited liability company with an office at 500 Enterprise Drive, Rocky Hill, Connecticut. The company's member corporation is licensed by the Federal Communications Commission (FCC) to construct and operate a personal wireless services system. The company does not conduct any business in the State of Connecticut other than the provision of wireless services under FCC rules and regulations. (AT&T 1, p. 5)

3. The parties in this proceeding are the applicant and the Town of Colebrook (Town). (Transcript 1- October 24, 2013 - 3:05 p.m. [Tr. 1], pp. 5)

4. The purpose of the proposed facility is to provide reliable wireless telecommunications services along Routes 182, 182A, and 183 and Smith Hill Road and surrounding areas in Colebrook. (AT&T 1, p. 3)

5. On October 10, 2013, AT&T posted a sign on the subject property at 522 Colebrook Road, Colebrook, near the proposed access drive to indicate that an application had been filed with the Council and that a public hearing would be held on October 24, 2013. (AT&T 6)

6. Pursuant to C.G.S. § 16-50m, the Council, after giving due notice thereof, held a public hearing on October 24, 2013, beginning at 3:05 p.m. and continuing at 7:05 p.m. at the Colebrook Town Hall, 2nd Floor Meeting Room, 562 Colebrook Road, Colebrook, Connecticut. (Council's Hearing Notice dated September 9, 2013; Tr. 1, p. 1; Transcript 2 – 7:05 p.m. [Tr. 2], p. 114)

7. The Council and its staff conducted an inspection of the proposed site on October 24, 2013, beginning at 2:00 p.m. During the field inspection, the applicant flew a red four-foot diameter balloon at the proposed site to simulate the height of the proposed tower. Weather conditions during the field review included a sustained 10 miles per hour wind, which made it difficult for a balloon flight. Thus, there were only short periods where the balloon was at its full height of 120 feet. At least seven balloons were lost due to the unfavorable weather conditions. Some black balloons may have been used in lieu of red balloons due to decreasing supply. The balloons were aloft from 8:00 a.m. to 6:00 p.m. for the convenience of the public. (Council's Hearing Notice September 9, 2013; Tr. 1, pp. 11-12)

8. A continued public hearing was held at 1:00 p.m. at 10 Franklin Square, New Britain on November 7, 2013. (Transcript 3 – 1:00 p.m. [Tr. 3], p. 241)

9. Pursuant to C.G.S. § 16-50l (b), public notice of the application was published in the Republican-American on July 26, 2013 and July 30, 2013. (AT&T 1, p. 6; AT&T 2)

10. Pursuant to C.G.S. § 16-50l(b), notice of the application was provided to all abutting property owners by certified mail. Notice was unclaimed by one abutter, Alesia Maltz. AT&T sent another notice to this abutting property owner via first class mail. (AT&T 1, p. 6 and Tab 9; AT&T 3, response 1)

11. Pursuant to C.G.S. § 16-50l (b), AT&T provided notice to all federal, state and local officials and agencies listed therein. (AT&T 1, p. 6 and Tab 8)

State Agency Comment

12. Pursuant to C.G.S. § 16-50j (h), on September 9, 2013 and November 7, 2013, the following State agencies were solicited by the Council to submit written comments regarding the proposed facility: Department of Energy and Environmental Protection (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); Connecticut Airport Authority (CAA); and Department of Emergency Services and Public Protection (DESPP). (Record)

13. The Council did not receive any comments from State agencies. (Record)

Municipal Consultation

14. AT&T notified the Town of Colebrook (Town) of the proposal on February 28, 2011 by sending a technical report to First Selectman Thomas D. McKeon. A public informational meeting was held on April 4, 2011, at which representatives of AT&T presented the proposed facility and answered questions from members of the community and local officials in attendance. (AT&T 1, p. 21)

15. Subsequent to the community meeting, a noticed balloon float was conducted in April 2011. Shortly thereafter, AT&T deferred filing an application for the facility with the Council for business reasons. (AT&T 1, p. 21)

16. AT&T's project was funded in early 2013. AT&T confirmed that no new tall structures or towers have been constructed in the area since 2011. AT&T also confirmed that the proposed site was still the only known available location. Thus, AT&T contacted the First Selectman of Colebrook to advise him of the decision to proceed with an application to the Council for the proposed facility. (AT&T 1, p. 4)

17. Copies of the technical report were again sent to the First Selectman, Planning and Zoning Commission, Inland Wetlands Commission, and Land Use Administrator on April 12, 2013. (AT&T 1, p. 4)

18. AT&T provided notice to the Town of Colebrook of a balloon float that took place on May 10, 2013. (AT&T 5)

19. AT&T relocated the access drive for the proposed facility from Smith Hill Road (rather than Colebrook Road as originally proposed) to accommodate the requests of some abutters to avoid an underground pipe on the west side of the site that supplies water to the neighboring parcels. (AT&T 5)

20. After submission of the technical report, First Selectman McKeon advised AT&T that the Town did not consider another informational meeting or further consultation to be necessary. (AT&T 1, p. 4; AT&T 5)

21. By letter dated October 15, 2013, the Colebrook Board of Selectman endorsed the proposed telecommunications facility project at 522 Colebrook Road. The reasons for endorsing the project are to address the following deficiencies:

a) The current lack of cell phone service in the Colebrook Center area;
b) The current lack of cell phone service at the Colebrook Consolidated School;
c) The current lack of cell phone service at the Colebrook Town Hall, which also serves as the Town's Emergency Operations Center; and
d) The current lack of cell phone service at the Colebrook Senior and Community Center, which also serves as one of the Town's emergency shelters.
(Colebrook 2)

22. In the October 15, 2013 letter, the Town requests that the following issues be considered as part of the decision process:

a) That the Council approve the entrance on Smith Hill Road, and that said entrance be constructed to avoid wetland issues.
b) That AT&T be required to have a Connecticut-certified Inland Wetland scientist on site when work is being performed, at AT&T's cost. The scientist would be subject to prior approval by the Colebrook Inland Wetlands Agency.
c) That the Council approval include the provision that the tower be outfitted with the evergreen tree design to blend in with the surrounding areas.
d) That the Council implement the recommendations submitted by the State of Connecticut Historical Preservation Office.
e) That the tower be erected so that the fall zone remains within the boundary lines of the site, minimizing the effect on neighboring property owners.
(Colebrook 2; Tr. 3, pp. 237-238)

23. By letter dated October 21, 2013, the Colebrook Conservation Commission (CCC) noted its appreciation for the Preliminary Wetland Impact Analysis dated August 5, 2013 and signed by Dean Gustafson, Senior Wetland Scientist at All Points Technology. CCC requests that the wetland impact mitigation plan in August 5, 2013 analysis be incorporated in its entirety. The CCC also has some additional requests:

a) It is recommended that Michael Halloran, Wetlands Enforcement Officer for the Town of Colebrook, should be specifically authorized to inspect and monitor the site, and that any additional expenses incurred for his work should be paid for by the applicant.
b) The wetland buffer enhancement planting plan to be provided in the Development and Management Plan should only utilize plantings native to northwestern Connecticut. The CCC believes that this is preferable to using plants native to a more general New England area.
c) To avoid the introduction of invasive plant species that could begin a colony in the woods, all machinery and construction should be thoroughly cleaned before being brought on-site and should not contain soil or material from off-site. Likewise, the soil from the site itself should be used for any and all grading and filling. Also, check all areas of disturbances for the non-native invasive Japanese stilt grass. This species is usually introduced to new areas by seed carried by machinery.

d) Construction of the access road should occur outside of March 1 through May 30, the migration period of amphibians.
e) Due to the movement of amphibians, the daily cover searches should occur no more than a half-hour before the start of the construction day.
f) Utilize the Best Development Practices of Dr. Michael Klemens, including but not limited to constructing silt fencing to allow for passage of migrating amphibians both into and out of any vernal pools by staggering or overlapping the fencing.
g) Modify the access road to create a wider buffer from Wetland 2.
h) To facilitate amphibian crossing of the access road, ensure that no large rocks are used as riprap on the roadsides or roadbed.
i) In order to ensure that the work is conducted in the most protective way possible, biologist Elizabeth Corrigan shall be afforded the opportunity to comment, at the applicant's expense, on the development of the final document.
(Colebrook Conservation Commission Comments dated October 21, 2013)

24. AT&T can generally accommodate the CCC's requests. (Tr. 1, p. 25)

Public Need for Service

25. In 1996, the United States Congress recognized a nationwide need for high quality wireless telecommunications services, including cellular telephone service. Through the Federal Telecommunications Act of 1996, Congress seeks to promote competition, encourage technical innovations, and foster lower prices for telecommunications services. (Council Administrative Notice Item No. 4)

26. In issuing cellular licenses, the Federal government has preempted the determination of public need for cellular service by the states, and has established design standards to ensure technical integrity and nationwide compatibility among all systems. AT&T is licensed by the Federal Communications Commission (FCC) to provide personal wireless communication service to Litchfield County, Connecticut. (Council Administrative Notice Item No. 4; AT&T 1, p. 5)

27. The Telecommunications Act of 1996 prohibits local and state entities from discriminating among providers of functionally equivalent services. (Council Administrative Notice Item No. 4)

28. The Telecommunications Act of 1996 prohibits any state or local entity 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 Item No. 4)

29. 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. (Council Administrative Notice Item No. 6)

30. AT&T's facility would be in compliance with the requirements of the 911 Act (AT&T 1, p. 11)

31. Following the enactment of the 911 Act, the FCC mandated wireless carriers to provide enhanced 911 services (E911) to allow public safety dispatchers to determine a wireless caller's geographical location within several hundred feet. The proposed facility would become a component of AT&T's E911 network in this part of the state. (AT&T 1, pp. 11-12)

32. Pursuant to the Warning, Alert and Response Network Act of 2006, the FCC has established a Personal Localized Alerting Network (PLAN) that requires wireless communication providers to issue text message alerts from federal bodies including the President of the United States. PLAN would allow the public to receive e-mails and text messages on mobile devices based on geographic location. The proposed facility would enable the public to receive e-mails and text messages from the CT Alert ENS system. (AT&T 1, p. 10-11)

33. 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)

34. Pursuant to the tower-sharing policy of the State of Connecticut under C.G.S. §16-50aa, 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)

Existing and Proposed Wireless Coverage – AT&T

35. AT&T's proposed facility would provide 850 MHz (cellular), 1900 MHz (PCS) at first, later supplying 700 MHz (LTE) service. (AT&T 3, response 3; AT&T 1, Tab 4; Tr. 1, p. 13)

36. AT&T designs its system for -82 dBm in-vehicle coverage and -74 dBm in-building coverage. (AT&T 3, response 6)

37. AT&T's existing signal strength in the area that would be covered from the proposed facility ranges from less than -100 dBm to -82 dBm. (AT&T 3, response 5)

38. The table below indicates the current coverage gaps along the major routes in the area of the proposed facility.

Street Name	Current Coverage Gap in Miles
Route 44	0.11 miles
Beech Hill Road	0.92 miles
Phelps Flat Road	0.55 miles
Sandy Brook Road	0.27 miles
Smith Hill Road	1.10 miles
Route 183	5.72 miles
Stillman Hill Road	1.04 miles

(AT&T 3, response 12)

39. The table below indicates the sum of the current coverage gaps along secondary roads in the area of the proposed facility.

Street Name	Total Current Coverage Gap in Miles
Secondary Roads	21.21 miles

(AT&T 3, response 12)

40. The table below indicates the distances AT&T would cover along the main and secondary roads in the area of its proposed facility at various heights.

Street Name	Coverage with Antenna Height of 117 feet	Coverage with Antenna Height of 107 feet	Coverage with Antenna Height of 97 feet
Route 44	0.31 miles	0.05 miles	0.04 miles
Beech Hill Road	0.92 miles	0.84 miles	0.83 miles
Phelps Flat Road	0.22 miles	0.17 miles	0.15 miles
Smith Hill Road	1.10 miles	1.10 miles	1.10 miles
Route 183	3.70 miles	3.78 miles	3.67 miles
Stillman Hill Road	1.04 miles	1.04 miles	1.04 miles
Secondary Roads	14.08 miles	10.64 miles	10.54 miles

(AT&T 3, response 13)

41. The table below indicates the total areas AT&T would cover from the proposed facility at various heights.

Signal Strength	Coverage Area with Antenna Height of 117 feet	Coverage Area with Antenna Height of 107 feet	Coverage Area with Antenna Height of 97 feet
≤ -82 dBm*	9.3 square miles	6.8 square miles	6.6 square miles
≤ -74 dBm**	7.7 square miles	5.4 square miles	5.2 square miles

*This is the signal strength AT&T considers generally sufficient to provide service within vehicles, otherwise known as "in-vehicle coverage."
**This is the signal strength AT&T considers generally sufficient to provide service indoors, otherwise known as "in-building coverage."
(AT&T 3, responses 6 and 15)

42. AT&T's proposed facility would interact with the adjacent facilities identified in the following table.

Site Location	Distance from Proposed Tower	Height of AT&T Antennas	Structure Type	Structure Height
382 Colebrook River Road, Colebrook	2.74 miles	137 feet	monopole	150 feet
453 Loon Meadow Road, Norfolk	4.88 miles	143 feet	monopole	160 feet
15 Oakdale Avenue, Winchester	4.84 miles	180 feet	monopole	180 feet
161 Pinney Street, Colebrook	1.96 miles	110 feet	monopole	150 feet
32 Norfolk Road, Winchester	3.05 miles	140 feet	monopole	150 feet
599 Greenwood Road East, Norfolk	3.17 miles	177 feet	monopole	180 feet

(AT&T 3, response 17; AT&T 2, Tabs 1 and 2)

43. AT&T's dropped call data from two neighboring sites and the sectors that face directly into the area to be covered indicate elevated dropped calls and also dropped data transmissions. (AT&T 3, response 9)

44. The minimum antenna height that AT&T would require to meet its coverage objectives would be 117 feet agl. (AT&T 3, response 11)

45. No other wireless carriers have expressed an interest in co-locating at the proposed site at this time. (Tr. 1, pp. 12-13)

Site Selection

46. AT&T established a search ring for the target service area in April 2010. (AT&T 3, response 4)

47. AT&T established a circular search ring in Colebrook with a center located south of the intersection of Colebrook Road and Smith Hill Road and a diameter of approximately one mile. The coordinates of the center are 41 degrees 59 minutes 3 seconds North latitude and 73 degrees 5 minutes 32 seconds West longitude. (AT&T 3, response 4; AT&T 4, response 47)

48. Four existing towers are located within about four miles of the search area. AT&T is located on all four of these existing towers. Their locations are as follows:

a) 382 Colebrook Road, Colebrook – AT&T is located at 137 feet agl.
b) 32 Norfolk Road, Winchester – AT&T is located at 140 feet agl.
c) 161 Pinney Street, Colebrook – AT&T is located at 110 feet agl.
d) 599 Greenwoods Road E, Norfolk – AT&T is located at 177 feet agl.
(AT&T 2, Tab 2; AT&T 3, response 17)

49. After determining there were no suitable structures within the search area, AT&T Wireless searched for properties suitable for tower development. AT&T Wireless investigated 20 parcels/areas, one of which was selected for site development. The 19 rejected parcels/areas and reasons for their rejection are as follows:

a) 558 Colebrook Road – Several alternative locations behind the Town Hall and baseball field were considered, but rejected because they would not meet coverage objectives.
b) 558 Colebrook Road – The cupola at the Senior Center was considered, but rejected because they would not meet coverage objectives.
c) 562 Colebrook Road – The New Town Hall cupola was considered, but rejected because it would not meet coverage objectives.
d) 558 Colebrook Road – A proposed light stanchion behind the baseball field was rejected by Town officials.
e) 471 Smith Hill Road – An installation inside the steeple was considered, but rejected because it would not meet coverage objectives.
f) 452 Smith Hill Road – A tower to the rear of the Colebrook Consolidated School was rejected by Town officials.
g) 31 Bunnell Street – This location was rejected because it would not meet coverage objectives.
h) 643 Colebrook Road – This location was rejected because it would not meet coverage objectives.
i) 650 Colebrook Road – This location was rejected because it would not meet coverage objectives.
j) Pisgah Mountain Road (Lot 21) – The property owner was not interested in leasing space for a tower.
k) Pisgah Mountain Road (Lot 22) – The property owner was not interested in leasing space for a tower.
l) Rockwell Road – This location was rejected because it would not meet coverage objectives.
m) Colebrook Road – This location was rejected because it would not meet coverage objectives.
n) 122 Old Colebrook Road – The property owner was not interested in leasing space for a tower.
o) 138 Old Colebrook Road – The property owner was not interested in leasing space for a tower, and the site would not meet coverage objectives.
p) 430 Smith Hill Road – The property owner was not interested in leasing space for a tower.
q) 369 Smith Hill Road – The property owner was not interested in leasing space for a tower.
r) 467 Colebrook Road – This location was rejected because it would not meet coverage objectives.
s) 77 Colebrook Road – This location was rejected because it would not meet coverage objectives.
(AT&T 1, Tab 2)

50. AT&T has not considered co-locating on one of the BNE Colebrook North (Petition No. 984) or South (Petition No. 983) wind turbines because of the possibility that the moving turbine blades could adversely affect RF propagation. AT&T also reviewed the locations of the BNE wind turbines and determined that a new tower at these locations would not meet coverage objectives. (AT&T 3, response 33)

51. Repeaters, microcell transmitters, distributed antenna systems, and other types of transmitting technologies are not a practicable or feasible means to provide service to the target coverage area. These technologies are better suited for specifically defined areas where new coverage is necessary, such as commercial buildings, shopping malls, and tunnels, or where the network needs greater highway and urban capacity. (AT&T 1, p. 12)

Facility Description

52. The proposed site is located on a 73.1-acre parcel at 522 Colebrook Road (Route 183) in Colebrook. The parcel is owned by Wheeler Limited Liability Partnership. The parcel is zoned Residential R-2 and Village District. The proposed tower location is depicted on Figure 1. (AT&T 1, pp. 14-15)

53. The proposed tower would be located in the eastern portion of the property at 41° 59' 3.0" north latitude and 73° 5' 31.0" west longitude at an elevation of 1,365 feet above mean sea level (amsl). (AT&T 1, Tab 3)

54. The proposed facility would consist of a 120-foot monopole within a 100-foot by 100-foot leased area. The tower would be designed to support a total of four wireless carriers, including AT&T, with 10-foot center-to-center antenna separation. (AT&T 1, Tab 3)

55. The tower would be constructed of galvanized steel in accordance with the American National Standards Institute TIA/EIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Support Structure." (AT&T 1, Tab 3; Tr. 1, p. 97)

56. The tower could have a flat, chocolate brown finish if requested. (Tr. 1, pp. 97-98)

57. The monopole base would be designed so that the tower could be expanded up to twenty feet taller in height. (Tr. 1, pp. 50-53; Tr. 3, p. 196)

58. The tower could be designed with a yield point to ensure that the tower setback radius would remain within the subject boundaries should the tower height be increased in the future. (Tr. 3, pp. 216-217)

59. AT&T would install 12 panel antennas on a low-profile platform at a centerline height of 117 feet agl. The top of the antennas would not exceed 120 feet in height. (AT&T 1, p. 14; AT&T 3, response 34)

60. T-arm antenna mounts could be used and would meet the coverage objective. (Tr. 1, p. 14)

61. A flush-mounted antenna configuration would result in reduced coverage or necessitate greater antenna height while hindering future technological upgrades. Three levels of antennas, beginning with the minimum height, would be needed. Thus, it would require twenty feet of additional tower height to provide comparable coverage. (AT&T 3, response 35)

62. A 75-foot by 75-foot equipment compound enclosed by an eight-foot high chain link fence would be established at the base of the tower. The size of the compound would be able to accommodate the equipment of a total of four wireless carriers including AT&T. (AT&T 1, p. 14 and Tab 3)

63. Inside the compound, AT&T would install an 12-foot by 20-foot equipment shelter and a 4-foot by 11-foot concrete pad to accommodate the backup generator . (AT&T 1, Tab 3)

64. The equipment shelter would have two wall-mounted air conditioning units. Typically, only one unit operates to control the temperature in the shelter. The second unit may operate in addition to the first unit during extreme heat conditions. (AT&T 1, Tab 3;AT&T 4, response 42)

65. Development of the site would require approximately 340 cubic yards of cut and 450 cubic yards of fill. (AT&T 3, response 31)

66. Utilities would be installed from an existing pole on the opposite side of Smith Hill Road. The utilities would be run overhead to cross Smith Hill Road and would continue underground on the subject property. The underground utilities would generally follow the path of the access drive. (AT&T 1, p. 14 and Tab 3)

67. It is possible to underground the utilities that would cross Smith Hill Road, but it would be subject to the approval of electric utility. (Tr. 3, pp. 227-228)

68. The presence of ledge is not anticipated, but would be confirmed upon completion of a geotechnical investigation. If ledge is encountered, removal by mechanical means would be performed first. If mechanical means are unsuccessful, blasting would be utilized as required to remove the ledge. (AT&T 3, response 30)

69. Pursuant to CGS § 16-50p(a)(3)(G), the nearest school is the Colebrook Consolidated School, located approximately 0.25 miles to the north of the proposed tower site. The nearest commercial day care center is Colebrook Child Care, located approximately 2.44 miles southeast of the proposed facility. (AT&T 1, Tab 5)

70. The nearest property boundary from the proposed tower is approximately 132 feet to the south (Campbell property). The tower setback radius would remain within the boundaries of the subject property. (AT&T 1, Tab 3)

71. A single-family home is located on the subject property, located approximately 1,600 feet to the west of the proposed tower site. This home is accessed via the existing access drive from Colebrook Road. (AT&T 3, response 39; AT&T 4, response 48)

72. There are no on-site or off-site residences within 1,000 feet of the proposed tower site. The nearest off-site residence is approximately 1,051 feet to the northeast of the tower site (Seacord and Trowbridge residence). (AT&T Tab 3)

73. Land use surrounding the proposed site includes wooded residential parcels to the north and south and agricultural fields to the southeast and west. (AT&T 1, response 29; AT&T 1, Tab 3)

74. The site preparation phase of construction is expected to take three to four weeks. Installation of the tower, antennas, and equipment would take an additional two weeks. After completion of construction, facility integration and system testing would take approximately two weeks before the site would be operational. (AT&T 1, p. 23)

75. The estimated construction cost of the proposed facility is:

Tower and Foundation	$ 90,000.
Site Development	$ 75,000.
Utility Installation	$ 70,000.
Facility Installation	$ 90,000.
Antennas and Equipment	$ 250,000.
Total	$ 575,000.

(AT&T 1, p. 22)

Backup Power

76. 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." (Council Administrative Notice Item No. 39)

77. 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." (Council Administrative Notice Item No. 39)

78. 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 Administrative Notice Item No. 21)

79. The Council's study included consideration of the following matters:
a. Federal, state and local jurisdictional issues regarding 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 Administrative Notice Item No. 21)

80. 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 Administrative Notice Item No. 21)

81. For AT&T's backup power, AT&T would utilize a 50-kW diesel generator with a 200-gallon fuel tank. AT&T would also have a battery backup in order to avoid a "re-boot" condition during the generator start-up delay period. The typical run time of a generator with this amount of fuel before it requires refueling is 48 hours. In the event that the generator fails to start, the battery backup would provide approximately four to six hours of backup power. (AT&T 3, responses 21, 22, and 23; AT&T 8, response 1; Tr. 1, p. 57)

82. Refueling the proposed backup generator would occur approximately twice per year. (AT&T 8)

83. The proposed 50 kW backup generator would run approximately once per week for about 20 minutes as an exerciser. (Tr. 1, p. 99)

84. Generally, only two carriers use backup generators: AT&T and Verizon (Cellco). Other carriers such as T-Mobile, Sprint, and MetroPCS typically utilize battery backup systems only. (Tr. 1, p. 58; Tr. 3, p. 175)

85. A shared generator sized to accommodate four carriers would be approximately 200 kW in size or about 50 kW per carrier. (AT&T 8)

86. A shared generator represents a possible single point of failure for all carriers. If one shared generator fails, all carriers would not have emergency back-up power. In addition, the ability to replace a failed, large shared generator is limited, as typically, very few portable 200 kW generators are available. (AT&T 8; Tr. 3, p. 169)

Environmental Considerations

87. According to the State Historic Preservation Office, the proposed facility would have no adverse effect upon cultural resources with the following conditions:

a) The tower and equipment shelter within the compound shall be designed to be as unobtrusive as possible; and
b) The tower and equipment shall be removed when it is no longer in use.
(AT&T 1, Tab 6)

88. The proposed project would not impact any extant populations of Federal or State endangered, threatened, or special concern species. (AT&T 1, Tab 6)

89. Wetland 1 is a relatively small, isolated hillside seep depressional wetland system formed in dense glacial till. Portions of Wetland 1 extend off of the subject property to the south across an existing stone wall. This feature is located approximately 475 feet from the proposed facility. (AT&T 1, Tab 4)

90. Wetland 2 is an isolated depressional wetland system formed in bedrock controlled soils. Northern portions of Wetland 2 have had numerous trees blown down, resulting in a re-initiation of the understory vegetation. Wetland 2 is located approximately 175 feet from the proposed facility and approximately 30 feet from the proposed access road. This wetland may seasonally pond water that could result in support of vernal pool habitat. No ponding was observed on May 14th or 16th of 2013, but ponding was observed on May 30, 2013. (AT&T 1, Tab 1)

91. Wetland 3 begins near the southeast property corner, paralleling the east property boundary along Smith Hill Road, as a broad depressional wetland seep system. The southern portion of Wetland 3 is characterized by eastern hemlock wetland system topography that potentially supports cryptic vernal pool habitat. (AT&T 1, Tab 4)

92. Wetland 4 is a very small, isolated depressional wetland feature located mid-slope, formed in dense glacial till. Wetland 4 is located approximately 50 feet from the proposed facility. Evidence in the form of relic charcoal fragments found in multiple soil test pits indicate that the grades in this area may have been altered by the creation of the charcoal pit. (AT&T 1, Tab 4)

93. Wetland 5 is a relatively small, hillside seep wetland system formed in dense glacial till. Weltand 5 generally begins as a seasonal seep breakout as it flows to the north. This feature is located approximately 350 feet from the proposed facility. (AT&T 1, Tab 4)

94. Erosion and sedimentation controls would be installed in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*. (AT&T 1, Tab 4)

95. AT&T has a Wetland and Vernal Pool Protective Measures plan which includes but is not limited to seasonal monitoring for amphibian and reptile species should construction occur during the spring breeding period. This plan also includes isolation measures, contractor education, protective measures, and bi-weekly reporting requirements to the Council. (AT&T 1, Tab 4)

96. AT&T has submitted a Category I determination request under the Connecticut General Permit to the United States Army Corps of Engineers (ACOE). It is currently under review by ACOE. (Tr. 1, p. 60)

97. The majority of the wetlands would be considered ACOE jurisdictional, with the possible exception of Wetland 4. (Tr. 1, p. 60)

98. Vernal Pool 2 is fairly marginal vernal pool habitat compared to Vernal Pool 3. (Tr. 1, p. 64)

99. Construction could be avoided even earlier than the March 1st through May 30th window and avoided during February, as well, to further protect possible Jefferson Salamanders. (Tr. 1, p. 71)

100. The originally proposed access to the tower (Access 1) would be provided from Smith Hill Road over a new, approximately 1,337-foot long and 12-foot wide gravel access drive. The grade varies from two percent to 18 percent. Access 1 crosses Wetland 3 as it enters the subject property from Smith Hill Road. This results in approximately 710 square feet of direct wetland impacts. Access 1 is shown in yellow in Figure 2. (AT&T 1, p. 4 and Tab 4; AT&T 9; Tr. 1, pp. 25-26)

101. The distance from Access 1 to the potential cryptic vernal pool habitat within the southeastern reach of Wetland 3, close to the property boundary and Smith Hill Road, is approximately 250 to 300 feet. (Tr. 1, p. 61)

102. A total of approximately 170 trees six inches diameter or greater at breast height would be removed to construct the project with Access 1. (AT&T 1, Tab 3)

103. Access 2 is an alternate access route that is similar to Access 1, except that a portion of the route shifts to the south to avoid the 100-foot vernal pool envelope surrounding Wetland 2. Access 2 is slightly longer than Access 1. Access 2 is shown in green in Figure 3. (AT&T 9)

104. Access 3 is an alternate access route that shifted to the west of Access 1 to avoid crossing Wetland 3, and it generally runs in a north-south direction. It also increases the buffer from Wetland 2. Access 3 is approximately 250 feet shorter than Access 1 or about 1,087 feet in length. The grades of Access 3 would be comparable to that of Access 1. Access 3 is shown in pink in Figure 3. (AT&T 1, p. 4; AT&T 9)

105. If Access 3 is utilized, the number of trees to be removed would be no greater than the 170 trees to be removed for Access 1. (AT&T 1, Tab 3; Tr. 3, pp. 160-161)

106. Access 3 also avoids direct wetland impacts, avoids ACOE jurisdiction, provides greater buffer to potential vernal pool habitat, minimizes impact to the Critical Terrestrial Habitat, and is located in a separate drainage area from potential vernal pool habitat. (AT&T 9, response 5)

107. The proposed tower site is not proximate to an Important Bird Area. (AT&T 1, Tab 4)

108. The proposed tower would comply with the U.S. Fish and Wildlife Services guidelines for minimizing the potential impact to birds. (AT&T 1, Tab 4)

109. The proposed site is not located within a 100-year or 500-year flood zone. (AT&T 3, response 32)

110. Obstruction marking and lighting of the tower would not be required. (AT&T 1, Tab 4)

111. Operating the two air-conditioning units at once would produce a cumulative worst-case noise level at the southern property boundary of approximately 59.8 dBA, while the additional simultaneous operation of the backup generator* would produce a noise level of 61.1 dBA. The noise levels from the air conditioning units would not comply with the DEEP noise control regulations for either daytime or nighttime limits. However, a wood fence with a sound blanket that faces the southern property boundary could be used to reduce noise levels and achieve compliance.

*Backup generators are exempt from the DEEP noise requirements. (AT&T 4, responses 43, 44, and 45; Tr. 1, pp. 19-20; Regulations of Connecticut State Agencies §22a-69-1.8)

112. One 50 kW backup generator (as proposed) would have noise levels of approximately 55.2 dBA. This would be less than the 58 dBA of a single 200 kW shared generator. (AT&T 8)

113. The number of traffic visits to the site would be slightly less with a shared generator compared to four separate carrier generators. With a shared generator, under standard operations, the number of traffic visits per month would be approximately 4.17 vehicles per month. Under emergency operations, it would be approximately 4.50 vehicles per month. With four separate backup generators (assuming one for each carrier), the number of traffic visits to the site per month for standard and emergency operations would be 4.67 vehicles and 6.00 vehicles, respectively. However, the shared generator would require a larger truck for refueling than separate generators. (AT&T 8)

114. A 200 kW shared generator would emit less noise than four separate 50 kW generators. A 200 kW shared generator would have noise levels of 58 dBA at the nearest property line. Four separate 50 kW generators would have a noise level of approximately 62 dBA at the nearest property line. (AT&T 8)

115. The cumulative worst-case maximum power density from the radio frequency emissions from the operation of AT&T's proposed antennas is 10.9% 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. (AT&T 1, Tab 4)

Visibility

116. The proposed tower would be visible year-round from approximately 45 acres within a two-mile radius of the site (refer to Figure 9). The tower would be seasonally visible from approximately 23 acres within a two-mile radius of the site. (AT&T 1, Tab 5)

117. Year-round visibility of the tower would be limited to a few hundred feet section along the crest of Stillman Hill Road approximately 0.8 miles southwest of the proposed tower location. Thus, approximately two residences would have year-round views of the proposed tower. (AT&T 1, Tab 5)

118. Seasonal views of the tower are expected on the host property, the immediate vicinity of the property, and a short section of Route 183 north of the Town center, adjacent to the Colebrook Center Cemetery. Thus, one or two residential properties may have seasonal views of the proposed tower. (AT&T 1, Tab 5)

119. Areas adjoining the open field north of Stillman Hill Road may also have limited seasonal views of the proposed facility through the deciduous trees. (AT&T 1, Tab 5)

120. The visibility of the proposed tower from specific locations within a two-mile radius of the site is presented in the table below.

Location	Approximate visibility at 120 feet	Distance & direction to tower
1. Adjacent to 16 Sandy Brook Road	Not visible	1.85 miles SE
2. Route 182a	Not visible	0.58 miles SE
3. Route 183 – Adjacent to Colebrook Center Cemetery	Not visible year-round; Seasonal visibility possible	0.65 miles SE
4. Adjacent to 381 Smith Hill Road	Not visible	0.54 miles NW
5. Route 183 – Colebrook Center – North of Post Office	Not visible	0.44 miles SE

6. Adjacent to 33 Stillman Hill Road	Visible year-round approx. 32 feet above tree line	0.82 miles NE

(AT&T 1, Tab 5)

121. Route 183 (Colebrook Road) is a State-designated scenic road extending from beyond the northern limits of the visual study area (i.e. two-mile radius from the proposed tower) to the intersection with Route 182 to the south. Seasonal visibility of the tower is expected in the vicinity of the Colebrook Center Cemetery. (AT&T 1, Tab 5)

122. No Connecticut Blue-blazed hiking trails are located within the Town of Colebrook. (AT&T 3, response 40)

123. Views of the tower from Hale Barn, located at the intersection of Route 183 and Stillman Hill Road, would not be expected. (Tr. 1, p. 40)

124. Views of the tower from Colebrook Consolidated School would not be expected. (Tr. 1, p. 41)

125. Views of the tower from the Colebrook Center Historic District are expected, but they are limited to views through existing trees approximately 0.75 miles away. (Tr. 1, pp. 45-46; AT&T 1, Tab 5)

126. The Town of Colebrook is located within the Upper Housatonic Valley National Heritage Area, a federally-designated national heritage area in the states of Connecticut and Massachusetts. The proposed facility is not expected to have any adverse impact on this resource or on the cultural aspects of the National Heritage Area. (AT&T 8, response 4)

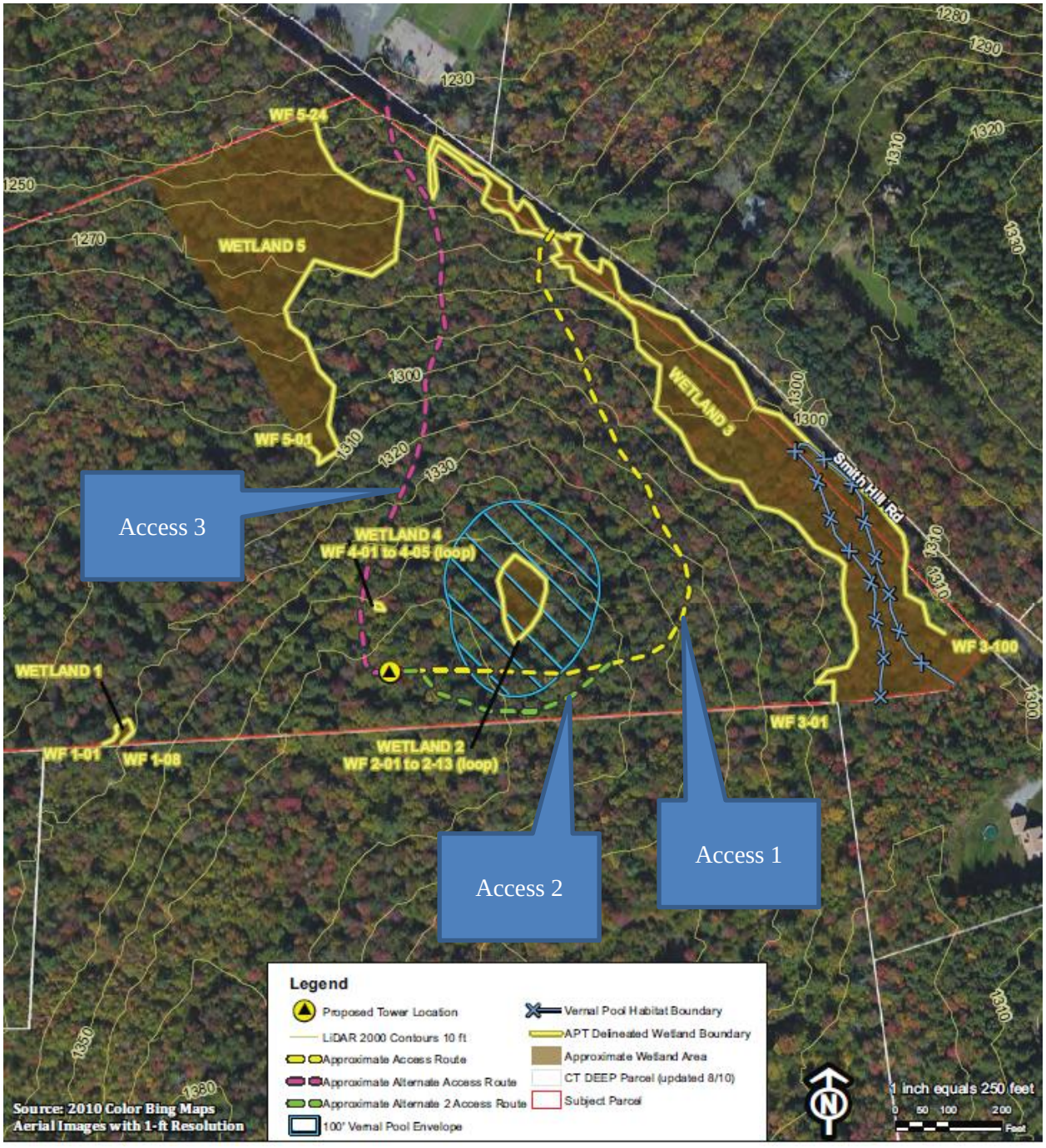
127. AT&T did consider a tree tower (i.e. monopine) design during the design process. A simulated view of a monopine has been provided. (See Figure 10.) Near views of the tower within 0.5 miles are generally negligible. The most prominent view of the facility would occur from a distance of over 0.75 miles from the site, where it would extend above the ridge and tree line by nearly 40 feet. From this perspective, the use of a monopine may provide a larger viewing object on the horizon than a traditional monopole. However, the tree tower could work effectively when viewed through intervening trees. If requested by the Council , AT&T would design the tower as a monopine. (AT&T 3, response 36; Tr. 3, p. 226; Tr. 1, p. 36)

128. The beginning of Access 3 at Smith Hill Road would be roughly facing the playground of the Colebrook Consolidated School on the opposite side of the road. Deciduous trees in front of the school property would offer some screening of the views of an access gate located near Smith Hill Road, but only during leaf-on conditions. However, AT&T is willing to locate the access gate farther south (i.e. farther inland) on the subject property to block its visibility from the school property. (Tr. 1, pp. 21-22; Tr. 3, pp. 159-160; AT&T 9)

Figure 1: Aerial Map

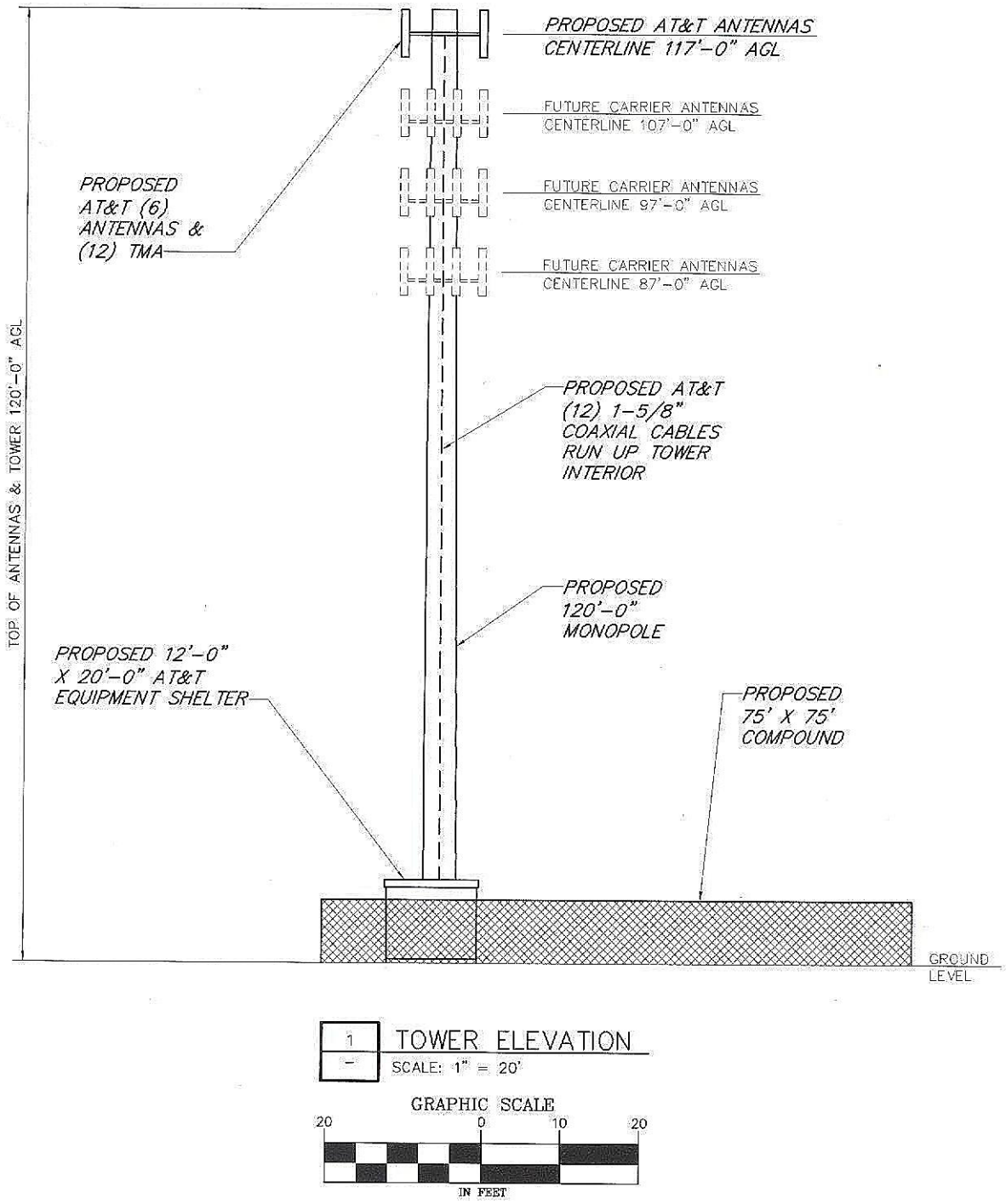
(AT&T 1, Tab 3)

Figure 2: Wetland Map with Access Drives



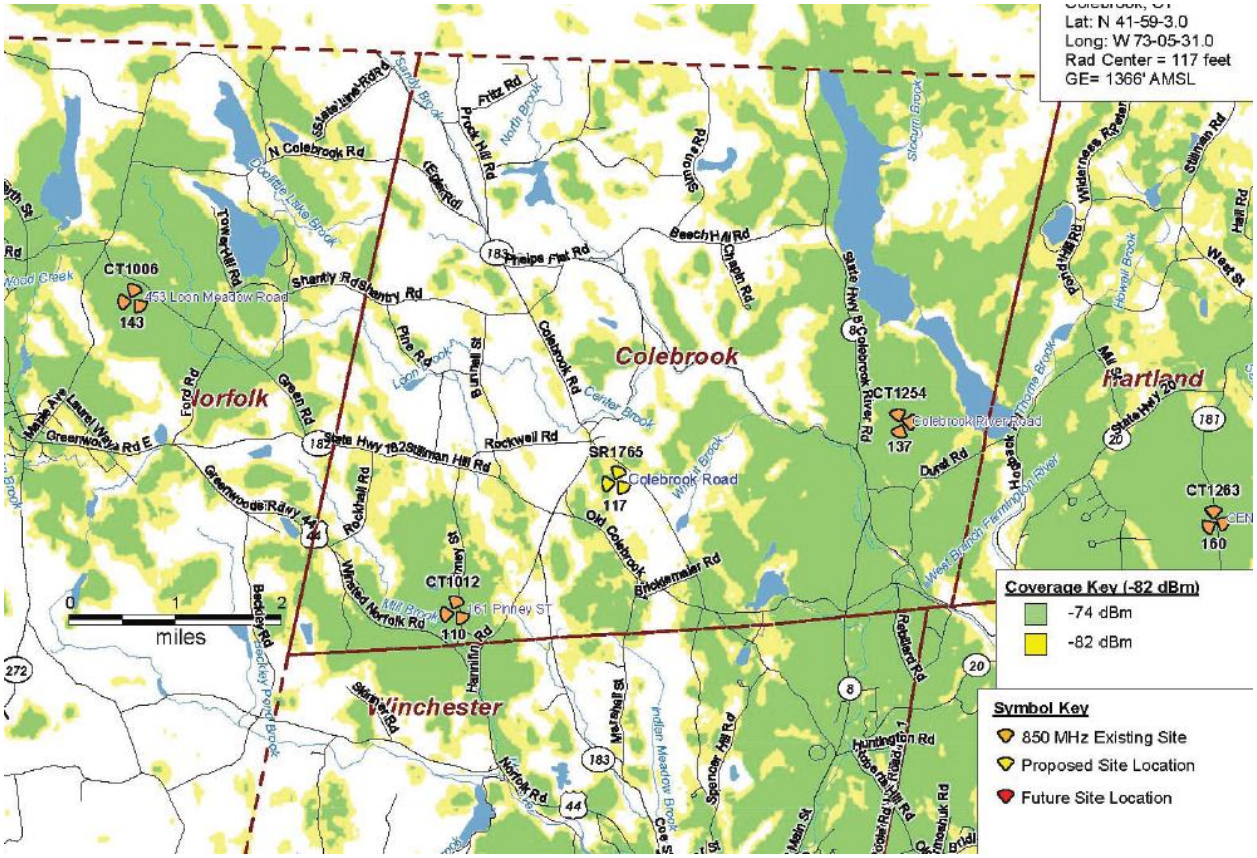
(AT&T 9)

Figure 3: Tower Elevation Drawing



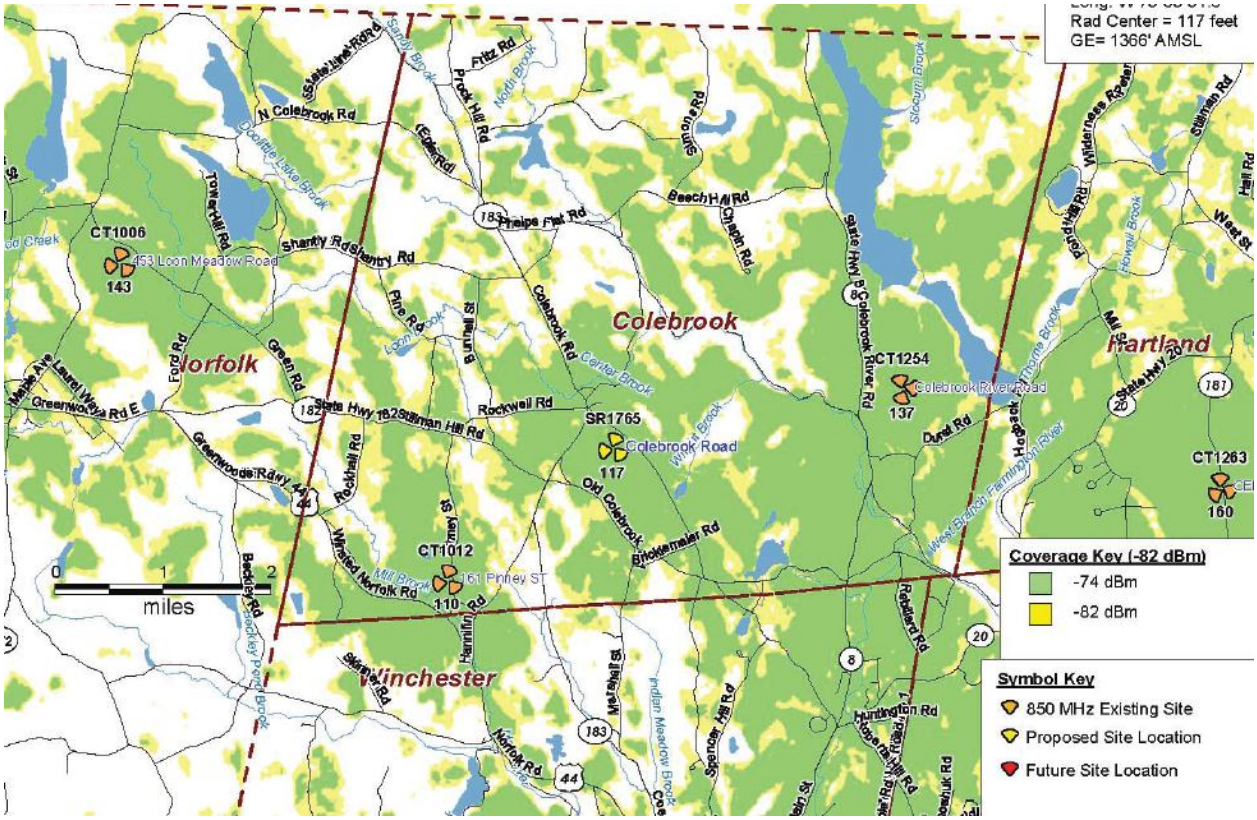
(AT&T 1, Tab 3)

Figure 4: Existing Coverage



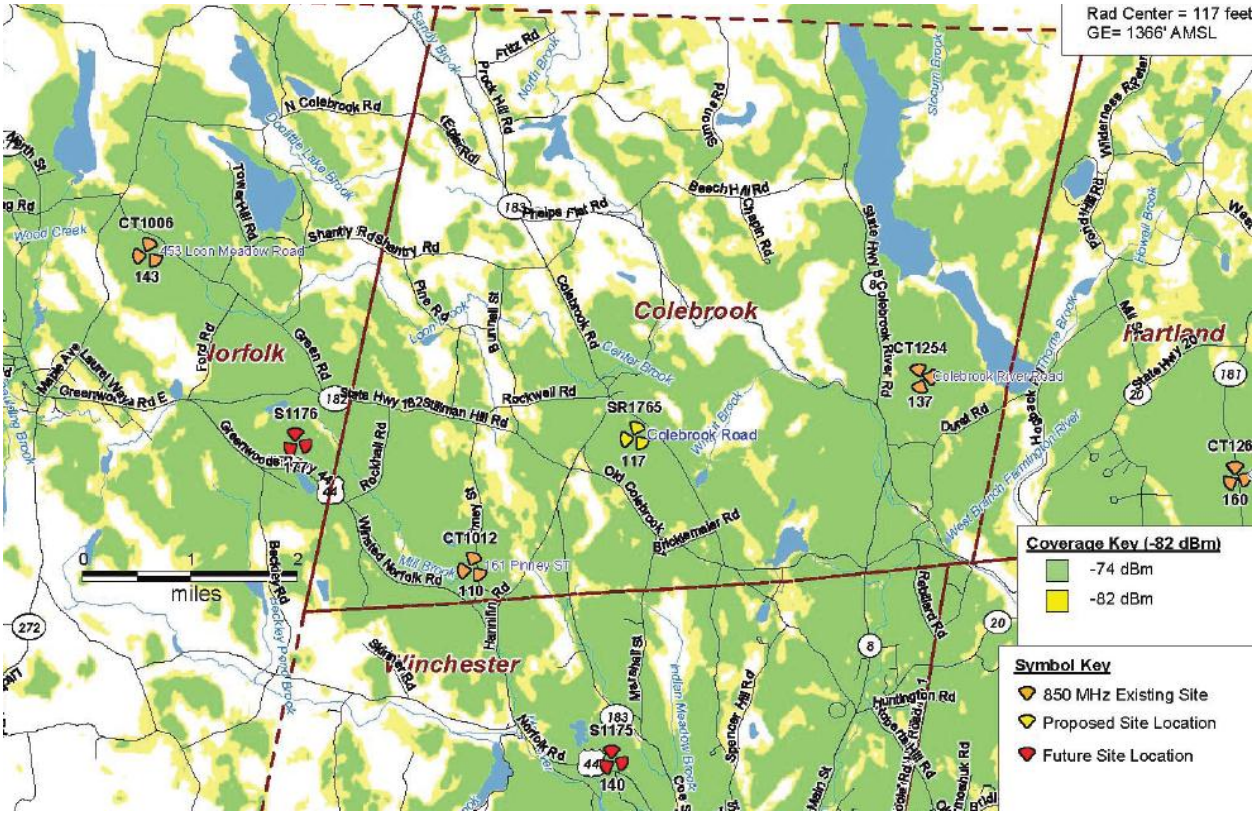
(AT&T 1, Tab 1)

Figure 5: Existing and Proposed Coverage at Antenna Height of 117 feet



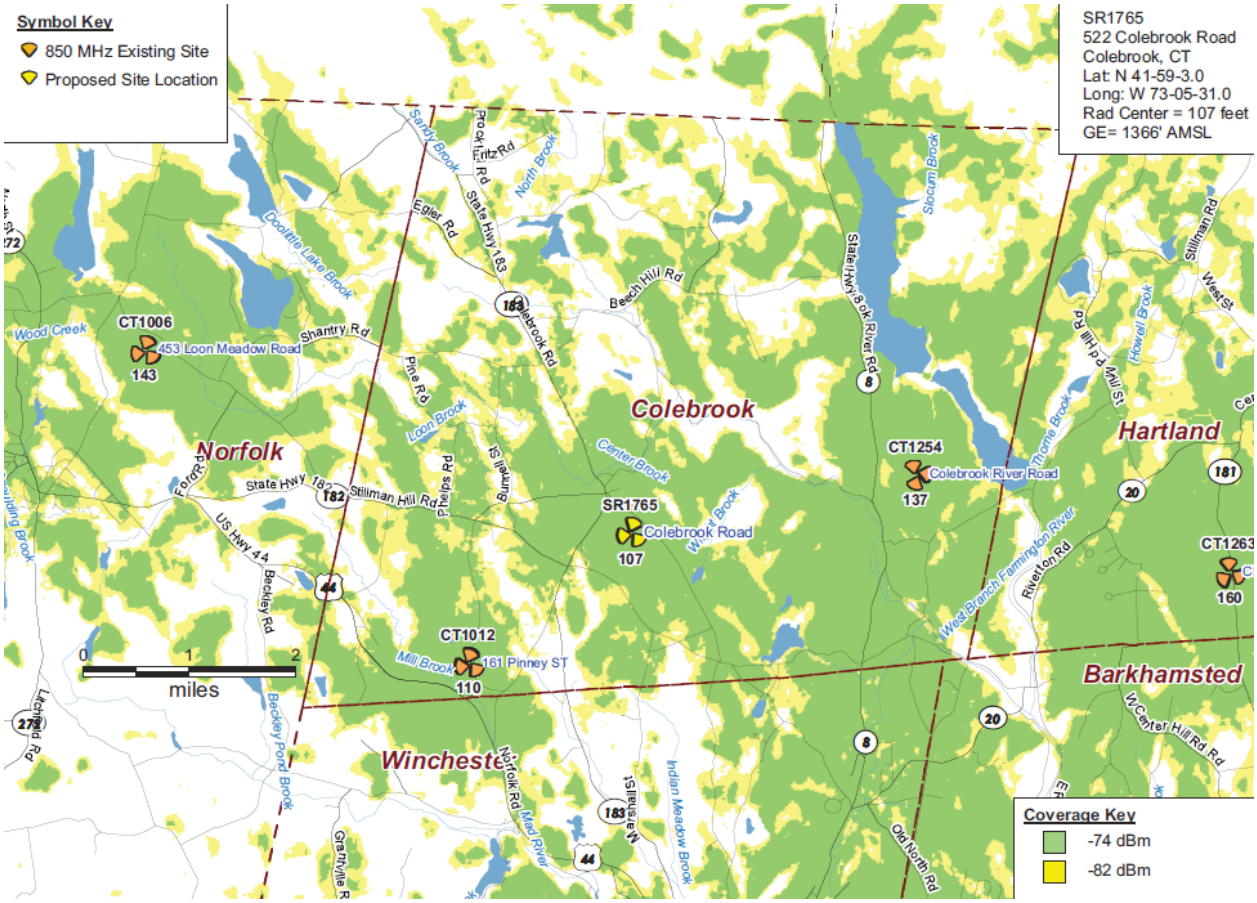
(AT&T 1, Tab 1)

Figure 6: Existing and Proposed Coverage at Antenna Height of 117 feet and Future Sites



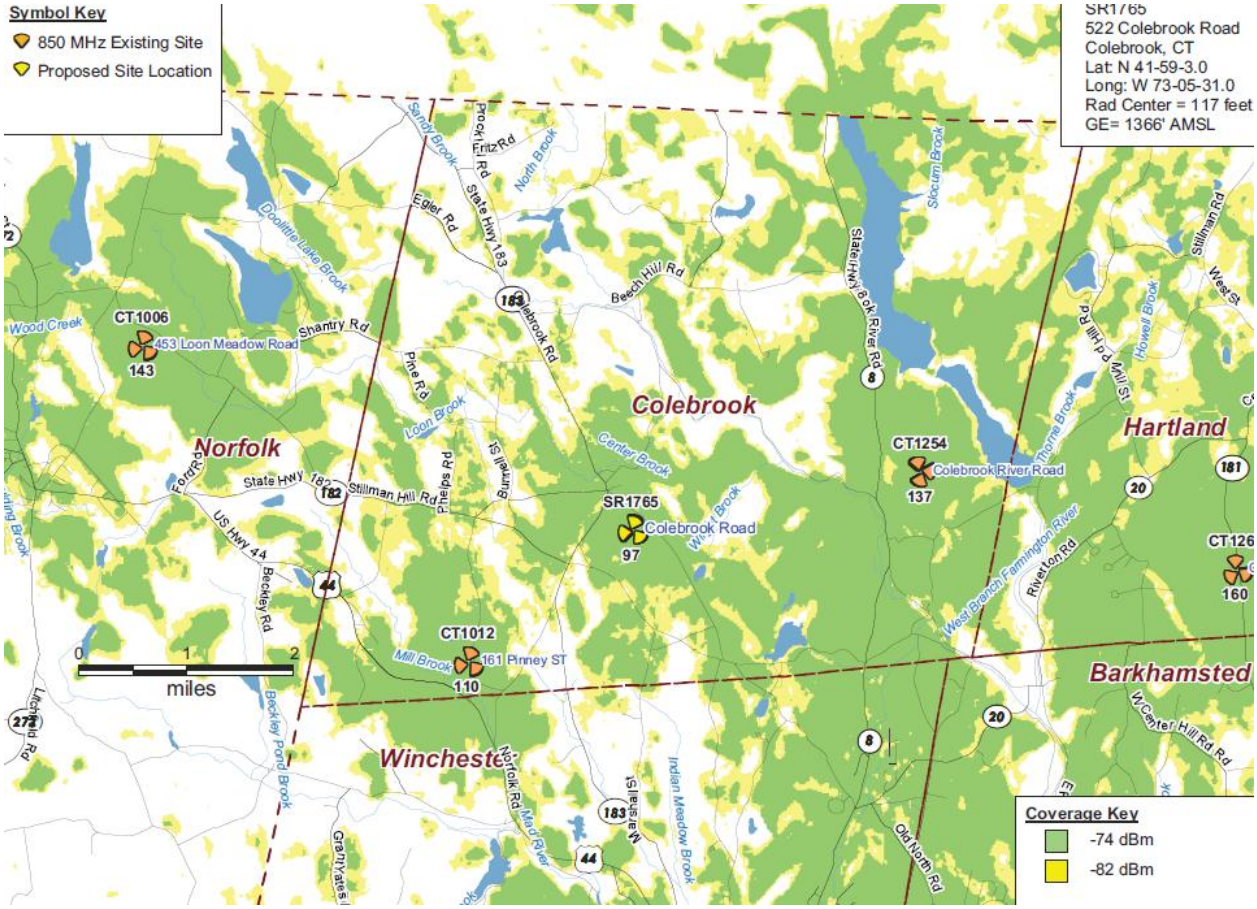
(AT&T 1, Tab 1)

Figure 7: Existing and Proposed Coverage at Antenna Height of 107 feet



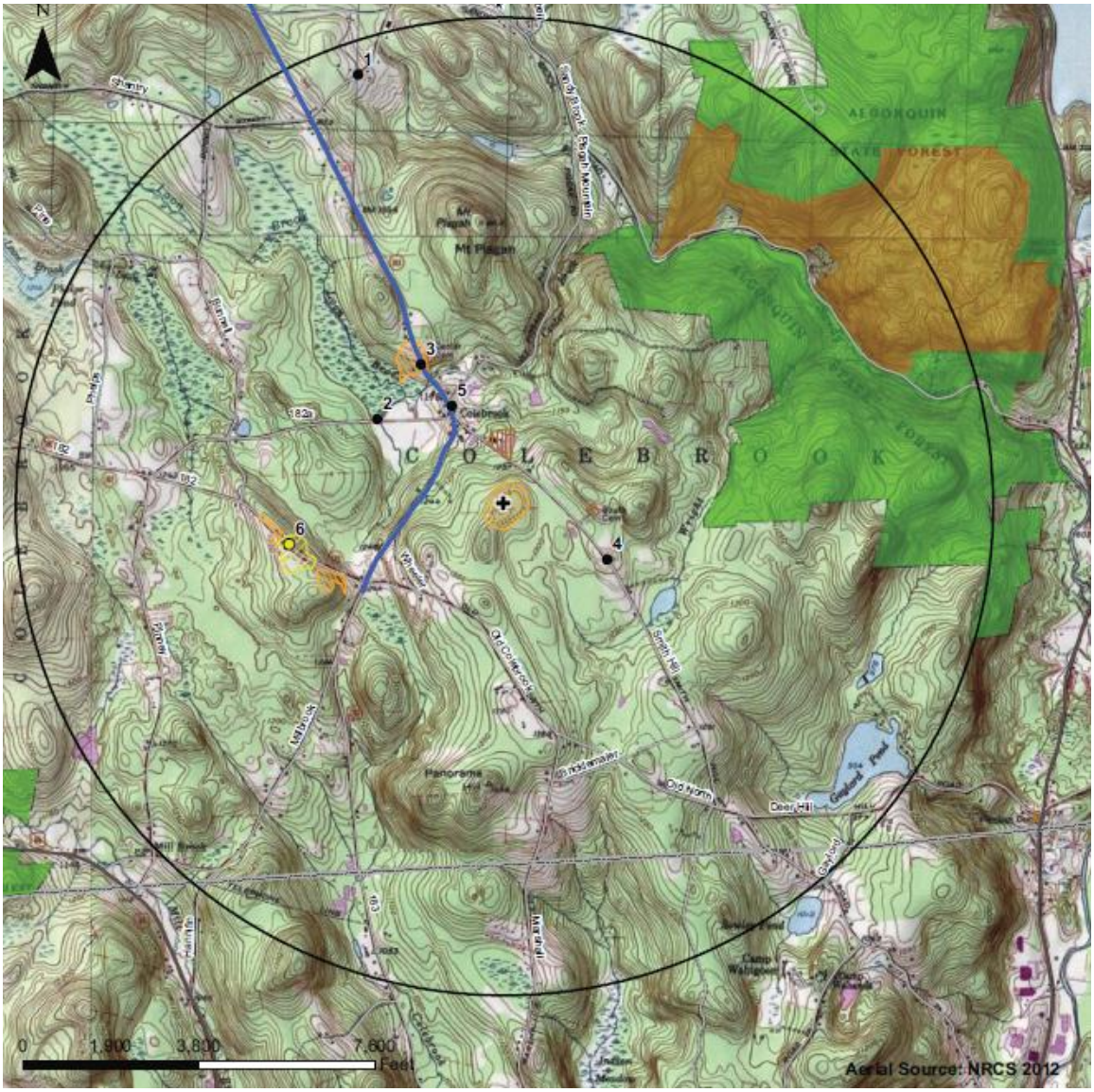
(AT&T 3, response 16)

Figure 8: Existing and Proposed Coverage at Antenna Height of 97 feet



(AT&T 3, response 16)

Figure 9: Visibility Analysis based on Proposed 117-foot Antenna Height



Proposed Facility

Photo Locations

No Visibility

Year-round Visibility

Scenic Highways

Predicted Year-Round Visibility

Predicted Seasonal Visibility

Municipal Private Open Space

2-Mile Study Area

State Forest

Wildlife Area or Sanctuary

Town

(AT&T 1, Tab 5)

Figure 10: Photosimulations based on Proposed 117-foot Antenna Height

Photosimulation of monopole from Photo location #6 (AT&T 1, Tab 5)

Photosimulation of monopine from Photo location #6 (AT&T 1, Tab 5)