

<p><b>DOCKET NO. 462</b> – Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at Danbury Tax Assessor’s Map L16, Lot 5, 15 Great Pasture Road, Danbury, Connecticut.</p>	<p>} Connecticut } Siting } Council</p>
	<p>December 10, 2015</p>

**Findings of Fact**

**Introduction**

1. Cellco Partnership d/b/a Verizon Wireless (Cellco), in accordance with provisions of Connecticut General Statutes (C.G.S.) § 16-50g, et seq, applied to the Connecticut Siting Council (Council) on July 7, 2015 for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of a 120-foot monopole wireless telecommunications facility at 15 Great Pasture Road in Danbury, Connecticut. (Cellco 1, pp. 1-2)
2. Cellco is a Delaware Partnership with an administrative office located at 99 East River Drive, East Hartford, Connecticut. (Cellco 1, p. 2)
3. The party in this proceeding is the applicant – Cellco. (Transcript 1, September 15, 2015, 3:00 p.m. [Tr. 1], p. 5)
4. The purpose of the proposed facility is to increase network capacity and provide reliable wireless service to existing gaps in portions of southeast Danbury and northwest Bethel, particularly along portions of Routes 53 and 302 in the area. (Cellco 1, p. i; Cellco 1, Tab 6)
5. Pursuant to C.G.S. § 16-50l (b), public notice of the application was published in The News-Times on July 1 and July 2, 2015. (Cellco 2)
6. 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, Stamford Cove Partners LLC for property located at 104 Wooster Street, Bethel. Cellco submitted a copy of the notice letter to Stamford Cove Partners LLC a second time by regular mail on August 24, 2015. (Cellco 4, response 2)
7. On July 7, 2015, Cellco provided notice to all federal, state and local officials and agencies listed in C.G.S. § 16-50l (b). This includes notice to the Town of Bethel, located within 2,500 feet of the proposed site. (Cellco 1, Tab 2 – Certification of Service; Cellco 1, Tab 1 – Sheet C-1)
8. Upon receipt of the application, the Council sent letters to the City of Danbury and the Town of Bethel on July 9, 2015 as notification that the application was received and is being processed in accordance with C.G.S. §16-50gg. (record)
9. Pursuant to C.G.S. §16-50m, the Council published legal notice of the date and time of the public hearing in The News-Times on August 12, 2015. (record)
10. Pursuant to C.G.S. § 16-50m, on August 7, 2015, the Council sent letters to the City of Danbury and Town of Bethel to provide notification of the scheduled public hearing and to invite the municipalities to participate. (record)
11. In compliance with R.C.S.A. §16-50j-21, the Applicant installed a four-foot by six-foot sign at the entrance to the subject property on August 27, 2015. The sign presented information regarding the project and the Council’s public hearing. (Cellco 5)

12. The Council and its staff conducted an inspection of the proposed site on September 15, 2015, beginning at 2:00 p.m. During the field inspection, the applicant flew a 4.5-foot diameter red balloon at the proposed site to simulate the height of the proposed tower. Weather conditions during the day of the balloon flight generally included calm winds. However, at about 10:00 a.m., the winds increased and the balloon bounced about. However, during the Council's field review, the balloon stabilized. Thus, overall, it was a favorable day for a balloon flight. During the field review, the balloon reached a height of 123 feet above ground level (agl). The balloon was aloft from approximately 7:40 a.m. to 6:00 p.m. for the convenience of the public. (Council's Hearing Notice dated August 7, 2015; Tr. 1, pp. 14-15)
13. Pursuant to C.G.S. § 16-50m, the Council, after giving due notice thereof, held a public hearing on September 15, 2015, 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. at the Danbury City Hall, Council Chambers, 155 Deer Hill Avenue, Danbury, Connecticut. (Council's Hearing Notice dated August 7, 2015; Tr. 1, p. 1; Transcript 2 – 7:00 p.m. [Tr. 2], p. 1)

#### State Agency Comment

14. Pursuant to C.G.S. § 16-50j (g), on August 7, 2015 and September 16, 2015, 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); Department of Emergency Services and Public Protection (DESPP); and State Historic Preservation Office (SHPO). (Record)
15. The Council received a response from the DOT's Bureau of Engineering and Construction on August 12, 2015 indicating that DOT had no comments. (DOT Comments received August 12, 2015)
16. The Council received a response from the DPH's Drinking Water Section on August 18, 2015 indicating that the proposed project does not appear to be located in a public water supply source water area. Therefore, the Drinking Water Section has no comments at this time. (DPH Comments received August 18, 2015 and October 15, 2015)
17. The following agencies did not respond with comment on the application: DEEP, CEQ, PURA, OPM, DECD, DOAg, CAA, DESPP, and SHPO. (Record)

#### Municipal Consultation

18. Cellco met with Mayor Mark Boughton of the City of Danbury on March 3, 2015 and provided a technical report to commence the 90-day municipal consultation process. (Cellco 1, p. 20)
19. Cellco submitted a technical report to the Town of Bethel (Town) on March 3, 2015 as the Town is within 2,500 feet of the project site. (Cellco 1, p. 20)
20. Cellco did not receive any comments from the Town of Bethel. (Tr. 1, p. 15)

21. By letter dated April 7, 2015, the City of Danbury Planning and Zoning Department issued the following comments regarding the proposed facility:
- a) The City respectfully recommends that the potential impact of construction associated with a telecommunications facility and the required utility connections and supporting buildings appurtenant thereto be evaluated by DEEP to ensure that dig restricted areas are not disturbed;
  - b) The City respectfully recommends that any telecommunications tower be a monopole design, painted brown; and
  - c) The City respectfully requests that the Siting Council review the entire record as submitted to ensure that wetlands and watercourses on the property, and any associated wildlife and respective habitats located therein, are not significantly impacted as a result of construction and operation of the telecommunications facility at this location.
- (Cellco 1, Tab 14 – City of Danbury Planning and Zoning Department Comments dated April 7, 2015)
22. The proposed monopole would have a galvanized gray color that would ultimately weather to a dull-gray finish. Cellco could, but prefers not, to paint the tower (e.g. for a brown finish) due to the continuous appearance and maintenance issues associated with painting. (Cellco 4, response 8)
23. Cellco has designed its tower to accommodate emergency services antennas if needed. However, to date, neither the City of Danbury nor the Town of Bethel have expressed an interest in co-locating emergency services antennas on the proposed tower. (Cellco 1, p. 7; Tr. 1, pp. 15-16)

#### **Public Need for Service**

24. 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)
25. 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. Cellco is licensed by the Federal Communications Commission (FCC) to provide personal wireless communication service to Fairfield County, Connecticut. (Council Administrative Notice Item No. 4; Cellco 1, p. 6 and Tab 5)
26. 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)
27. 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)

28. 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)
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."(Council Administrative Notice Item No. 19 – The National Broadband Plan)
30. 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)
31. 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)
32. 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 No. 8 – Middle Class Tax Relief and Job Creation Act of 2012)
33. 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 No. 22 – FCC Report and Order; Council Admin Notice Item No. 12 – Executive Order 13616)

34. 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; Council Administrative Notice Item No. 22 – FCC Report and Order)
35. 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

36. 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)
37. The proposed facility would be in compliance with the requirements of the 911 Act and would provide Enhanced 911 services. (Cellco 4, response 27)
38. Wireless carriers have voluntarily begun supporting text-to-911 services nationwide in areas where municipal Public Safety Answering Points (PSAP) 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. However, even after a carrier upgrades its network, a user's ability to text to 911 is limited by the ability of the local 911 call center to accept a text message. The FCC does not have the authority to regulate 911 call centers; therefore, it cannot require them to accept text messages. (Council Admin. Notice No. 21)

- 39. Cellco’s facility would be capable of supporting text-to-911 service as soon as the PSAP is capable of receiving text-to-911. However, no PSAPs in the vicinity of the proposed tower site are able to accept text-to-911 service at this time. (Cellco 4, responses 28 and 29)
- 40. The tower would be constructed in accordance with the American National Standards Institute “Structural Standards for Steel Antenna Towers and Antenna Support Structures” Revisions F and G. (Cellco 1, Tab 1, p. 6; Cellco 4, response 6)
- 41. The proposed tower would not constitute an obstruction or hazard to air navigation and would not require any obstruction marking or lighting. (Cellco 1, p. 21)
- 42. The proposed equipment compound will be surrounded by an eight-foot high chain-link fence. Cellco’s proposed compound fence would have a gate that would be locked for security purposes. (Cellco 1, Tab 1 – Sheet C-2; Cellco 1, p. 8; Cellco 4, response 26)
- 43. Cellco’s equipment shelter would be equipped with silent intrusion and system alarms. Cellco would have personnel available on a 24-hour basis to receive and respond to incoming alarms. (Cellco 1, p. 8)
- 44. The tower setback radius would remain within the boundaries of the subject property. A tower design yield point would not be necessary. (Tr. 1, p. 18)

**Existing and Proposed Wireless Services**

- 45. Cellco’s proposed facility would provide both coverage and capacity. (Cellco 1, p. i)
- 46. Cellco’s existing Bethel (Alpha sector), Bethel West (Alpha sector) and Danbury 3 (Beta sector) are currently operating at or near capacity limits, and Cellco is experiencing significant gaps in wireless service in the area at its 1900 MHz and 2100 MHz frequencies. Cellco also has coverage gaps at 700 MHz and 850 MHz. (Cellco, Tab 8, p. 2; Cellco 1, p. 7)
- 47. Cellco would provide service over 700 MHz and 2100 MHz frequency bands at this time at the proposed site. Cellco’s 1900 MHz frequencies would be added as necessary to meet future network capacity demands. Cellco has no plans right now to deploy 850 MHz, but has it reserved for the future. (Cellco 4, response 16; Tr. 1, p. 21)
- 48. For Cellco’s LTE network (i.e. 700 MHz and 2100 MHz), Cellco designs its network using a 120 dB Reverse Link Operational Path Loss (RLOPL) standard. For its CDMA service (i.e. 850 MHz and 1900 MHz), Cellco’s design signal strengths for in-building and in-vehicle coverage are -75 dBm and -85 dBm, respectively. (Cellco 4, responses 30 and 32)
- 49. For 700 MHz, Cellco’s existing signal strength in the area of the proposed facility ranges from 110 dB RLOPL to 120 dB RLOPL. In order to be conservative, Cellco chose the 700 MHz frequency band to evaluate existing signal strength because 700 MHz service has the largest coverage area. (Tr. 1, p. 22)
- 50. The table below indicates Cellco’s approximate existing coverage gaps along State roads at various frequencies.

<b>Street Name</b>	<b>700 MHz Coverage Gap</b>	<b>850 MHz Coverage Gap</b>	<b>1900 MHz Coverage Gap</b>	<b>2100 MHz Coverage Gap</b>
Route 53	0.0 miles	0.0 miles	1.0 miles	0.5 miles
Route 302	0.4 miles	0.5 miles	0.8 miles	0.1 miles
<b>State Road Total</b>	0.4 miles	0.5 miles	1.8 miles	0.6 miles

(Cellco 1, Tab 6 – Existing 700 MHz, 850 MHz, 1900 MHz, and 2100 MHz Coverage)

51. The tables below indicate the distances that Cellco would cover along State roads in the area of its proposed facility at various heights.

Street Name	700 MHz Coverage at 120 feet	700 MHz Coverage at 110 feet	2100 MHz Coverage at 120 feet	2100 MHz Coverage at 110 feet
Route 53	1.55 miles	1.35 miles	0.75 miles	0.70 miles
Route 302	0.40 miles	0.30 miles	0.20 miles	0.20 miles
<b>State Road Total</b>	1.95 miles	1.65 miles	0.95 miles	0.90 miles

Street Name	850 MHz Coverage at 120 feet	850 MHz Coverage at 110 feet	1900 MHz Coverage at 120 feet	1900 MHz Coverage at 110 feet
Route 53	1.40 miles	1.25 miles	0.90 miles	0.80 miles
Route 302	0.30 miles	0.20 miles	0.20 miles	0.00 miles
<b>State Road Total</b>	1.70 miles	1.45 miles	1.10 miles	0.80 miles

(Cellco 1, p. 7; Cellco 4, response 36)

52. The tables below indicate the total distances that Cellco would cover along secondary roads in the area of its proposed facility for prescribed frequencies at various heights.

Street Name	700 MHz Coverage at 120 feet	700 MHz Coverage at 110 feet	2100 MHz Coverage at 120 feet	2100 MHz Coverage at 110 feet
<b>Secondary Road Total</b>	5.8 miles	5.1 miles	4.2 miles	3.8 miles

Street Name	850 MHz Coverage at 120 feet	850 MHz Coverage at 110 feet	1900 MHz Coverage at 120 feet	1900 MHz Coverage at 110 feet
<b>Secondary Road Total</b>	5.8 miles	5.1 miles	4.2 miles	3.8 miles

(Cellco 4, response 37)

53. Cellco’s proposed facility would interact with the adjacent existing facilities identified in the following table.

Site Location	Distance and Direction from Proposed Tower	Height of Cellco’s Antennas	Structure Type
24 Hospital Avenue, Danbury	2.00 miles northwest	156 feet	Building-mount
30 Main Street, Danbury	1.25 miles west	63 feet	Building-mount
11 Francis Clarke Circle, Bethel	1.50 miles south	136 feet	Tower
38 Spring Hill Road, Bethel	2.00 miles southeast	95 feet	Tower
48 Newtown Road, Danbury	1.41 miles north	90 feet	Tower

(Cellco 1, pp. 8-9 and Tab 6 – Existing 1900 MHz Coverage; Cellco 4, response 20; Tr. 1, pp. 26-27; Tr. 2, p. 9)

54. This table indicates the total areas that Cellco would cover from its proposed facility for prescribed frequencies at various heights.

Antenna Height	Area Coverage with 700 MHz	Area Coverage with 850 MHz	Area Coverage with 1900 MHz	Area Coverage with 2100 MHz
120 feet	7.82 square miles	7.15 square miles	4.32 square miles	4.60 square miles
110 feet	7.28 square miles	6.58 square miles	4.08 square miles	4.35 square miles

(Cellco 1, p. 7; Cellco 4, response 38)

55. The minimum antenna centerline height for Cellco to meet its coverage objectives is 120 feet. (Cellco 4, response 31)

56. Installing the antennas at 110 feet (or ten feet lower) could result in dropped calls due to loss of hand-off. (Tr. 1, p. 20)

**Site Selection**

57. Cellco established a search ring for the target service area in March of 2014. (Cellco 4, response 1)

58. The search ring has an approximate diameter of 0.75 miles and is centered at 41° 22’ 41.75” north latitude and 73° 25’ 32.30” west longitude. (Cellco 4, response 1)



59. Cellco is currently located on five existing telecommunications facilities located within a two-mile radius of the proposed site. The locations of the five existing facilities are as follows:
- a) 24 Hospital Avenue, Danbury – Cellco is located at 156 feet agl.
  - b) 30 Main Street, Danbury – Cellco is located at 63 feet agl.
  - c) 11 Francis Clarke Circle, Bethel – Cellco is located at 136 feet agl.
  - d) 38 Spring Hill Road, Bethel – Cellco is located at 95 feet agl.
  - e) 48 Newtown Road, Danbury – Cellco is located at 90 feet agl.
- (Cellco 1, pp. 8-9 and Tab 8 – Site Search Summary, pp. 1-2; Tr. 2, p. 9)
60. There are no other existing towers or other sufficiently tall structures available within Cellco’s search area. (Cellco 1, Tab 8 – Site Search Summary, p. 2)
61. After determining there were no suitable structures within the search area, Cellco searched for properties suitable for tower development. Cellco investigated eight parcels/areas, one of which was selected for site development. The seven rejected parcels/areas and reasons for their rejection are as follows:
- a) **14U Paul Street, Bethel** – This parcel was rejected because it is located in a flood zone associated with Sympaug Brook.
  - b) **1 Paul Street, Bethel** – This parcel was rejected because the property owner was not interested in leasing space to Cellco for a tower site.
  - c) **5 Paul Street, Bethel** – This parcel was rejected because the property owner was not interested in leasing space to Cellco for a tower site.
  - d) **Wooster Street, Lot 2, Bethel** – This parcel was rejected because it is located in an established residential area and contains significant wetland areas.
  - e) **31 Durant Avenue, Bethel** – This parcel was rejected because the property owner was not interested in leasing space to Cellco for a tower site.
  - f) **41 Durant Avenue, Bethel** – This parcel was rejected because the property owner was not interested in leasing space to Cellco for a tower site.
  - g) **11 Diamond Avenue, Bethel** – This parcel was rejected because the property owner was not interested in leasing psace to Cellco for a tower site.
- (Cellco 1, Tab 8 – Site Search Summary, p. 2)
62. Abutter Gloria B. Putnam at 13 Great Pasture Road expressed an interest in offering her property as a potential tower site. Her parcel is a 0.45-acre residential lot that abuts the subject property to the northeast and has a ground elevation of approximately three feet lower than that of the proposed tower site. While a tower of 120 feet at this location would, in all likelihood, provide service comparable to that at the proposed cell site, Cellco has not investigated any environmental conditions on the Putnam property. (Cellco 1, Tab 1 – Sheet C-1; Cellco 4, response 5)
63. While it is technically possible to utilize small cells or a distributed antenna system to provide the required wireless service to be provided by the proposed tower, it would be difficult to penetrate some of the dense residential areas to the west and northwest as it would require the installation of nodes and antennas on private residential lots and/or apartment complexes. Thus, the proposed macro-cell tower site would be the most efficient and cost effective means of enhancing wireless service in the area. (Cellco 4, response 13)

#### Facility Description

64. The proposed site is located on an approximately 14.0-acre parcel at 15 Great Pasture Road in Danbury. The parcel is owned by Eppoliti Industrial Realty Inc. The proposed site location is depicted on Figure 1. (Cellco 1, p. i)

65. The subject property is zoned Industrial (IL-40) and is used for light industrial purposes. (Cellco 1, p. 18)
66. The tower site is located in the western portion of the property, at an elevation of approximately 387 feet above mean sea level (ams). (Cellco 1, Tab 1 – Sheets T-1 and C-1)
67. The proposed facility would consist of a 120-foot monopole within a 50-foot by 50-foot leased area. The tower would be approximately 54 inches wide at the base tapering to 24 inches wide at the top. The tower would be designed to support three levels of wireless carrier antennas as well as municipal emergency services antennas. The tower would be designed to be expandable in height by up to 20 feet. (Cellco 1, p. 12; Cellco 1, Tab 1 – Sheet C-2; Cellco 4, response 7)
68. Cellco would install 12 panel antennas and nine remote radio heads on a low-profile platform at a centerline height of 120 feet agl. The total height of the facility with antennas would be 123 feet agl. (Cellco 1, p. i; Cellco 4, response 11; Cellco 1, Tab 1 – Sheet C-2)
69. Cellco could utilize T-arm antenna mounts, but could not use flush-mounted antennas. Use of flush-mounted antennas would result in a reduction in the size of the coverage footprint, would require the use of multiple antenna levels on the tower and would require an increase in tower height of at least ten feet. (Cellco 4, response 12)
70. A 50-foot by 50-foot equipment compound enclosed by a eight-foot high chain link fence would be established at the base of the tower. The size of the lease area would be able to accommodate the equipment of four wireless carriers. Cellco would install its equipment within a 12-foot by 26-foot equipment shelter located within the compound. (Cellco 1, Tab 1 – Sheet C-2; Tr. 1, p. 18)
71. Two HVAC units would be attached to Cellco’s proposed equipment shelter to provide air conditioning and heating to the equipment shelter. (Cellco 1, Tab 1 – Sheet C-2; Tr. 1, 26)
72. No other wireless carriers have expressed an interest in co-locating on the proposed tower at this time. (Tr. 2, pp. 15-16)
73. For the compound fence, Cellco originally proposed 1 ¼-inch chain link mesh with privacy slats. However, subsequently, Cellco determined that privacy slats are not available for the 1 ¼-inch mesh size. Thus, Cellco offers two options: 2-inch chain link mesh size with 1 ¼-inch privacy slats (which also acts as an anti-climbing measure) or 1 ¼-inch chain link mesh size with a privacy fabric mesh installed on the back side of the fence. If approved, the specific fence and screening/anti-climbing design details would be determined in the D&M Plan. (Cellco 1, Tab 1 – Sheet C-2; Cellco 4, response 25; Tr. 2, pp. 11-14)
74. The privacy slats are available in different colors, but Cellco typically recommends black. (Tr. 1, p. 19)
75. Development of the site would require approximately 80 cubic yards of cut and 34 cubic yards of fill. (Cellco 4, response 15)
76. Access to the proposed site compound from Great Pasture Road would be provided over an existing paved driveway and parking area for a total distance of 645 feet. Cellco does not anticipate the need for any improvements to the existing access. (Cellco 1, p. i; Cellco 4, response 14)

77. Utilities would be installed underground to the site from Great Pasture Road following the existing paved access drive. Utilities would connect to an existing Eversource pole number 1979, located on the same side of Great Pasture Road as the subject property, subject to Eversource's final determination. If the demarcation point ultimately selected is located on the opposite side of Great Pasture Road, Cellco could trench under Great Pasture Road. (Cellco 1, Tab 1 – Sheets C1-A and C-2; Cellco 4, response 10)
78. Cellco does not anticipate the need for blasting at the proposed site. (Cellco 4, response 21)
79. Pursuant to CGS § 16-50p(a)(3)(G), the nearest school is the Hudson Country Montessori School approximately 0.66 miles northwest of the proposed facility. The nearest commercial child day care facility is the YMCA Children's Center approximately 0.67 miles south/southwest of the proposed facility. (Cellco 1, Tab 9 – Visibility Analysis, p. 6)
80. The nearest property boundary from the proposed tower is approximately 224 feet to the southwest (City of Danbury property). (Cellco 1, Tab 1 – Sheets C-1 and C-1A)
81. There are approximately 10 residential structures within 1,000 feet of the proposed tower site. The nearest residence is located at 13 Great Pasture Road, approximately 612 feet northeast of the tower site (Putnam residence). (Cellco 1, Tab 1 – Sheets C-1 and C-1A)
82. Land use immediately surrounding the subject parcel is predominately industrial. However, four residential uses exist to the north of the subject property along Great Pasture Road. Further to the southwest is open space, but it is passive open space with no active trails. (Cellco 4, response 4; Cellco 1, Tab 9 – Viewshed Map; Tr. 1, p. 23)
83. Site preparation and engineering would commence following Council approval of a Development and Management Plan (D&M Plan) and are expected to be completed within two to four weeks. Installation of the equipment shelter and tower are expected to take another two to four weeks. Equipment installation is expected to take an additional two weeks after the tower and equipment shelter are installed. After the equipment installation, cell site integration and system testing is expected to require about two additional weeks. (Cellco 1, p. 23)
84. The estimated construction cost of the proposed facility is as follows:

Cell site radio equipment	\$ 300,000.
Tower, coax and antennas	\$ 85,000.
Power systems	\$ 40,000.
Equipment shelter	\$ 90,000.
<u>Miscellaneous (inc. site prep and installation)</u>	<u>\$ 155,000.</u>
Total	<u>\$ 670,000.</u>

(Cellco 1, p. 22)

#### **Emergency Backup Power**

85. 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. (Final Report of the Two Storm Panel, Council Administrative Notice Item No. 43)

86. In response to the findings and recommendations of the Panel, and in accordance with C.G.S. §16-50ll, 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), studied 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. 26 – Council Docket No. 432)
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 Administrative Notice Item No. 26 – Council Docket No. 432)
88. For backup power, Cellco originally proposed a 35-kilowatt natural gas-fueled generator for its own use. However, Cellco subsequently changed its design to a similar-sized propane-fueled generator. Cellco would also install an approximately 1,000-gallon propane fuel tank to provide approximately seven days of run time before it requires refueling. If approved, the specific details of Cellco’s revised propane-fueled generator plans would be included in the D&M Plan. (Cellco 1, p. 10; Tr. 1, pp. 11, 18-19)
89. Cellco would also have a battery backup in order to avoid a “re-boot” condition during the generator start-up delay period. The battery backup system alone could provide about four to eight hours of backup power. (Cellco 4, response 42)
90. 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, is exempt from the State Noise Control Regulations. (R.C.S.A. §22a-69-1.8)

### **Environmental Considerations**

91. No historic properties would be affected by the proposed facility. (Cellco 3)
92. There is one wetland on the subject property. Wetland 1 is located to the south and west of the proposed tower compound. Wetland 1 is approximately 80 feet to the south-southeast at its closest point. (Cellco 1, Tab 10 – Wetland Inspection Map)
93. During the Council’s site inspection held on September 15, 2015, it was noted that the edge of the wetland had been filled near the edge of the subject property. (Council’s Hearing Notice dated August 7, 2015; Tr. 1, pp. 36-38)
94. The proposed project would comply with the *2002 Connecticut Guidelines for Soil Erosion and Sedimentation Control*. If approved, the final details of the erosion and sedimentation control plans would be provided in the D&M Plan. (Cellco 4, response 23)
95. The site is located in the Federal Emergency Management Agency Zone X, an area outside of the 500-year flood zone. (Cellco 1, p. 20)
96. Two federally-listed Threatened Species, the bog turtle and the northern long-eared bat are documented in the vicinity of the subject property. (Cellco 1, Tab 10 – Preliminary USFWS & CTDEEP Compliance Determination; Late Filed Exhibit No. 1 – USFWS Final Determination)

97. The nearest bat hibernaculum is located over 10 miles from the proposed site. (Cellco 4, response 48)
98. No trees would be removed as a result of the proposed project. Thus, no impact on the northern long-eared bat is expected to result from the proposed project. (Cellco 1, Tab 1 – Sheet C-1A; Late Filed Exhibit No. 1 – USFWS Final Determination)
99. No impact on the bog turtle is expected to result from the proposed project. (Late Filed Exhibit No. 1 – USFWS Final Determination)
100. Two State-listed Species of Special Concern, the eastern box turtle and the wood turtle, may occur in the vicinity of the proposed site. (Cellco 1, Tab 10 – DEEP Letter dated June 19, 2015)
101. Cellco would implement an Eastern Box Turtle and Wood Turtle Protection Program (EBTWTPP). The EBTWTPP consists of several components: isolation of the project perimeter; periodic inspection and maintenance of isolation structures; education of all contractors and sub-contractors prior to the initiation of work on the site; protective measures; and reporting. (Cellco 1, Tab 10 – EBTWTPP, p. 1)
102. The EBTWTPP would be equally protective of any terrestrial use or activity of the bog turtle. (Tr. 1, p. 25; Cellco 1, Tab 10 – EBTWTPP)
103. The proposed facility is not located near an Important Bird Area (IBA), as designated by the National Audubon Society. The nearest IBA to the proposed tower site is The Nature Conservancy's Devil's Den Preserve in Weston and Redding, approximately 7.5 miles to the south of the proposed tower site. (Cellco 4, response 45 and Attachment 4)
104. The proposed facility would comply with the United States Fish and Wildlife Service guidelines for minimizing the potential for telecommunications towers to impact bird species. (Cellco 4, response 47 and Attachment 4)
105. There is an existing DEEP dig-restricted area on the subject property, or what is known as an environmental land-use restriction on a portion of the subject property that resulted from some historic releases in contamination that were identified approximately 10 to 15 years ago. This restricted area encompasses an area approximately ten feet deep beneath the southwest corner of the existing industrial building on the subject property and extends approximately 25 feet beyond the building to the west and the south. Cellco would not be performing any construction within this restricted area. (Cellco 1, Tab 10 – Aerial Photography Map; Cellco 4, response 22; Tr. 1, pp. 15-16, and 57)
106. A 10-foot wide utility trench was originally proposed from the fenced compound to the north side of the existing industrial building on the subject property to provide natural gas service to Cellco's equipment shelter for the backup generator. However, natural gas service is no longer proposed because the backup generator would run on propane. (Cellco 1, Tab 1 – Sheet C-1A; Tr. 1, p. 11)
107. Noise from HVAC units at the proposed facility would not exceed State Noise Control Regulations at the property boundaries. (Cellco 4, response 52)

108. The cumulative worst-case maximum power density from the radio frequency emissions from the operation of all approved antennas and Cellco's proposed antennas is 25.4% 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 in a sector 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. (Cellco 4, response 19; Council Administrative Notice Item No. 2)

### Visibility

109. The proposed tower would be visible year-round from approximately 38 acres within a two-mile radius of the site (refer to Figure 11). The tower would be seasonally visible from approximately 255 acres within a two-mile radius of the site. (Cellco 1, Tab 6 – Visibility Analysis Viewshed Map)
110. Approximately 25 residential properties could have some year-round views of the upper portions of the proposed tower. These properties are located on the west side of South Street, Tucker Street, Lawrence Avenue, Penny Lane, Willow Street, Bainbridge Boulevard, Apollo Road, Kingswood Drive, and Great Hill Drive. (Cellco 4, response 51)
111. Generally, year-round views of portions of the facility would be limited to approximately a 0.5-mile radius of the subject property. However, beyond a 0.25-mile radius, views of the proposed tower become more sporadic, and intervening vegetation and existing infrastructure serve to obstruct large portions of the proposed facility. (Cellco 1, Tab 6 – Visibility Analysis Viewshed Map, p. 5)
112. Up to 12 residential properties could have seasonal views of at least a portion of the proposed tower through intervening trees. These properties are located on Apollo Road, Gemini Road, Lawrence Avenue, Tucker Street, Shelter Rock Road, and possibly Skyline Drive. (Cellco 4, response 51)

113. Visibility of the proposed tower from specific locations within a two-mile radius of the site is presented in the table below:

<i>Location</i>	<i>Visible</i>	<i>Approximate Portion of Tower Visible</i>	<i>Approximate Distance and Direction to Tower</i>
Wooster Street	Yes	8 feet – through trees	0.21 miles west
Wooster Street	Yes	45 feet - unobstructed	0.14 miles southwest
Wooster Street	Yes	57 feet - unobstructed	0.14 miles southwest
Apollo Road	Yes	21 feet - unobstructed	0.47 miles west
Apollo Road	Yes	46 feet - unobstructed	0.38 miles southwest
Apollo Road	Yes	22 feet – through trees	0.36 miles southwest
Great Hill Drive	Yes	25 feet – through trees	0.51 miles southwest
Great Pasture Road	Yes	30 feet – through trees	0.24 miles southeast
South Street	Yes	15 feet - unobstructed	0.36 miles southeast
Grassy Plain Street	Yes	20 feet – unobstructed	0.13 miles east
Bainbridge Boulevard	Yes	28 feet - unobstructed	0.25 miles northeast
Penny Lane	Yes	3 feet - obstructed	0.36 miles northeast
Willow Street	Yes	56 feet - unobstructed	0.36 miles north
South Street	No	None	0.96 miles north
Bonnette Drive	No	None	0.70 miles northeast
Tucker Street	Yes	11 feet – through trees	0.34 miles east
South Street	No	None	0.55 miles southeast
Briarwood Drive	No	None	0.96 miles southeast
Skyline Drive	No	None	0.88 miles south
Kingswood Drive	Yes	20 feet – through trees	0.78 miles northwest

(Cellco 1, Tab 9 – Visibility Analysis)

114. There are no Connecticut blue-blaze or other designated hiking trails located within the two-mile study area. (Cellco 4, response 50)
115. There are no state or locally-designated scenic roads located within the two-mile study area. (Cellco 4, response 50)
116. Regarding possible stealth tower designs, the industrial setting of the site and predominance of deciduous trees in the vicinity of the tower do not provide the proper context for a monopine design. Implementing some form of interior-mounted antenna design, even if technically feasible, would result in a substantially wider monopole and limit co-location opportunities. An industrial silo might represent a compatible design, but the facility would be a minimum of 20 feet in diameter, creating a much more visible structure. (Cellco 4, response 49)
117. No landscaping is proposed because any views of the compound and lower portions of the monopole would be limited to locations on the subject property. (Cellco 4, response 9)

**Figure 1 – Aerial Map**



- Legend**
- Proposed 123' Monopole Tower
  - Proposed Facility Layout
  - Subject Property
  - Approximate Parcel Boundary (CTDEEP GIS)
  - Natural Diversity Database (INDB; 12/2014)
  - Existing CTDEEP Dig Restricted Area

**Aerial Photograph Map**  
 Proposed Wireless Telecommunications Facility  
 Bethel West 2 CT  
 15 Great Pasture Road  
 Danbury, Connecticut

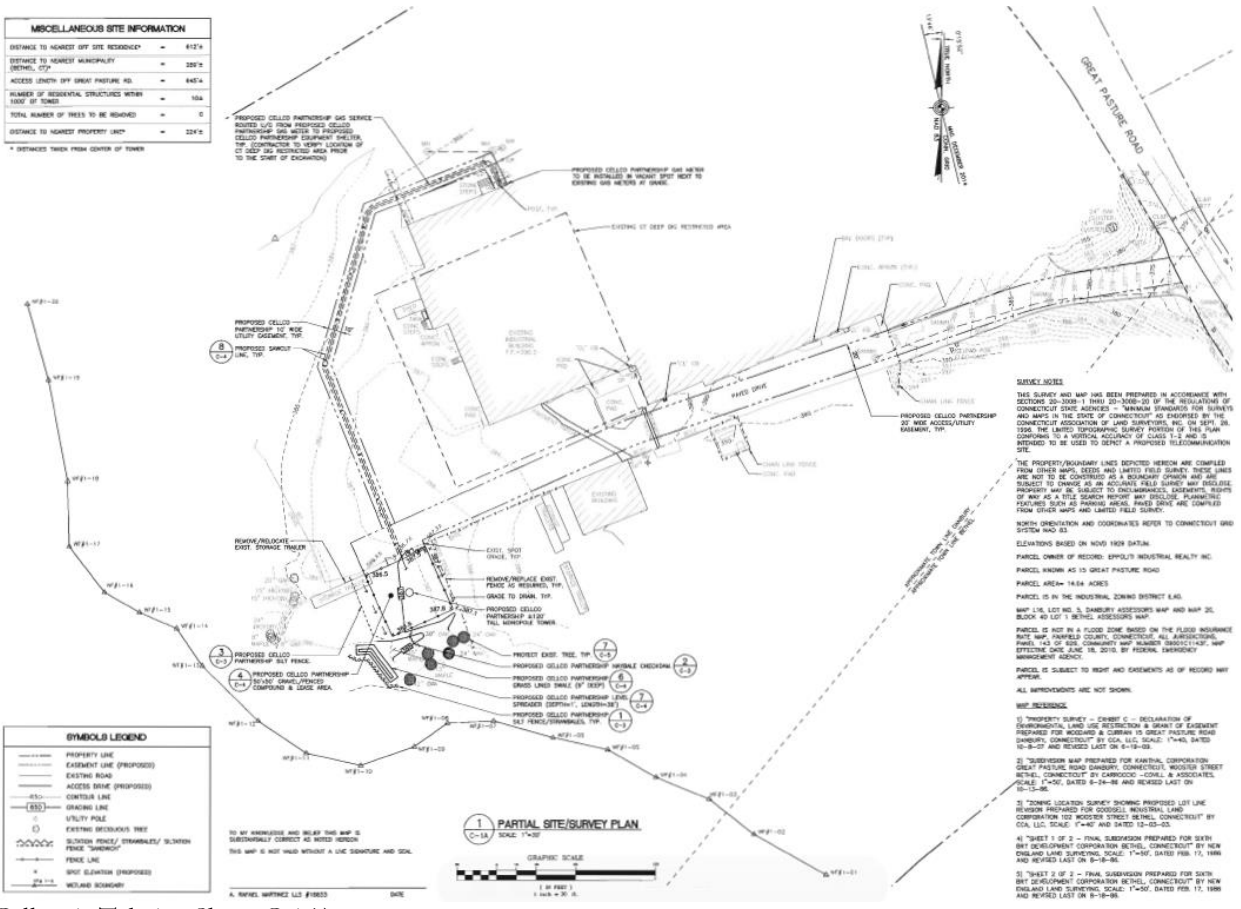
**Map Notes:**  
 Base Map Source: 2012 Aerial Photograph (CTDCO)  
 Map Scale: 1:2,400  
 Map Date: June 2015



(Cellco 1, Tab 10 – Wetland Inspection Map)

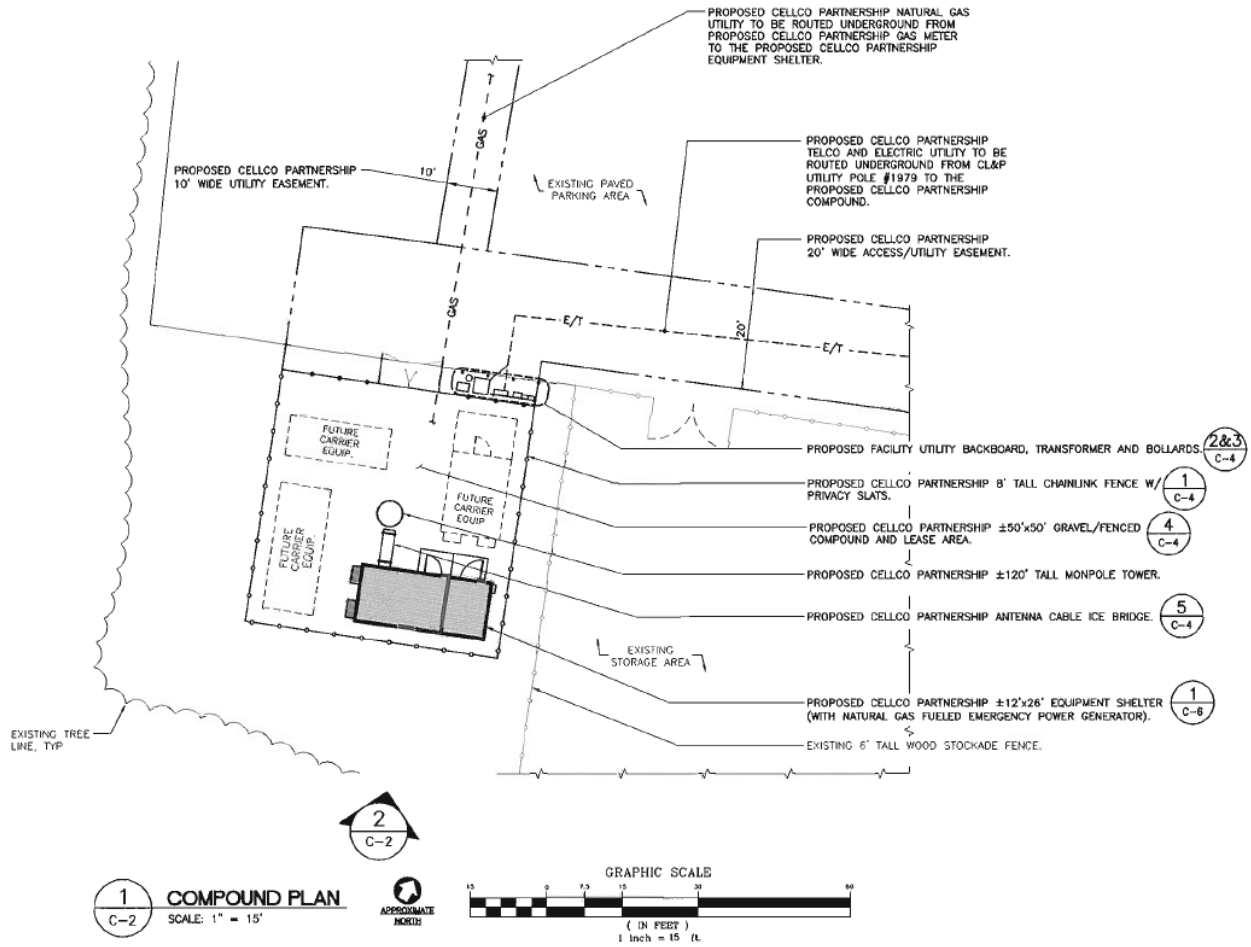


Figure 2 – Site Plan



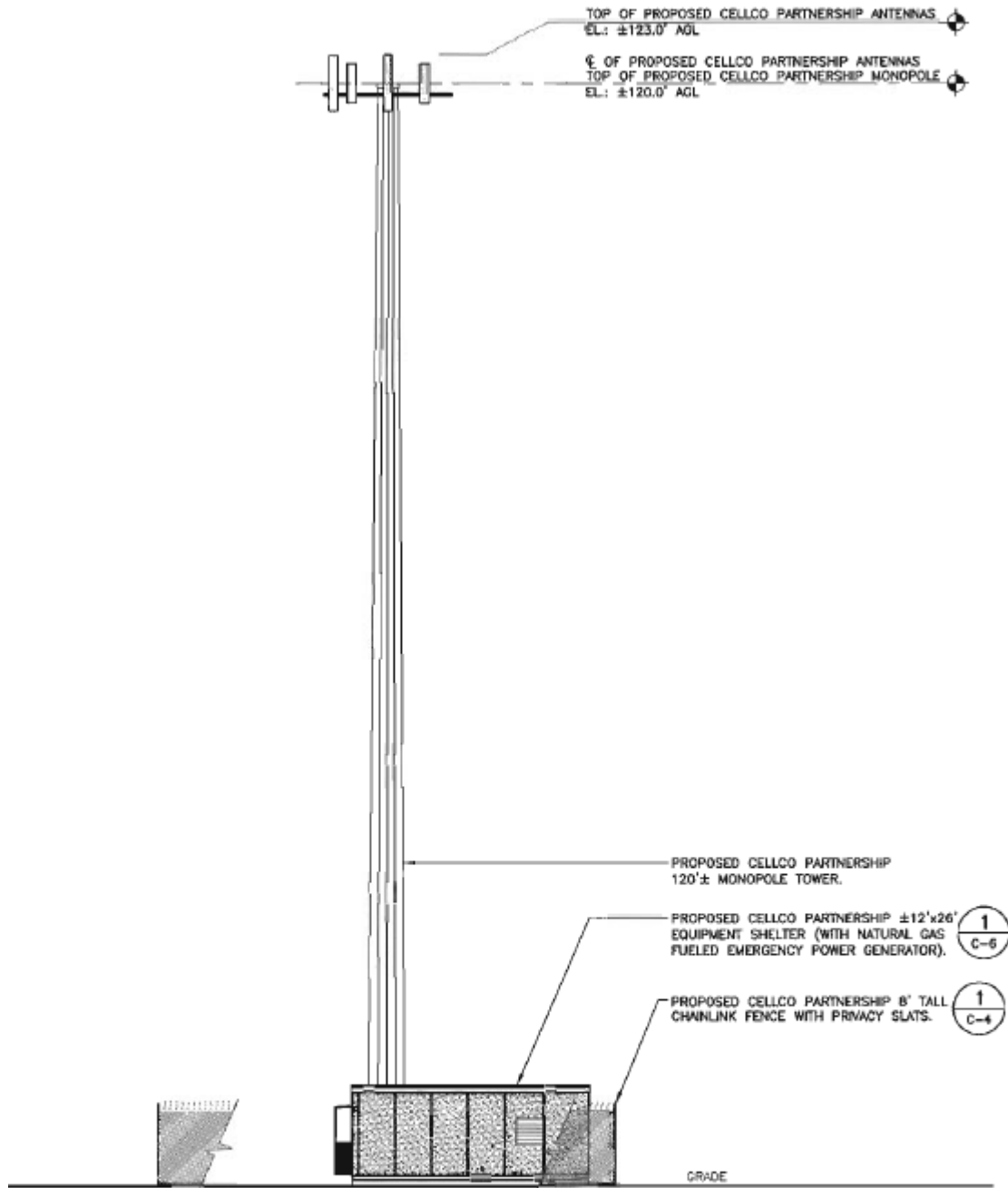
(Cellico 1, Tab 1 – Sheet C-1A)

**Figure 3 – Compound Plan**

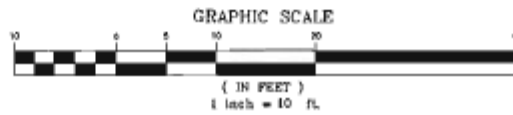


(Cellco 1, Tab 1 – Sheet C-2)

**Figure 4 – Tower Profile Drawing**

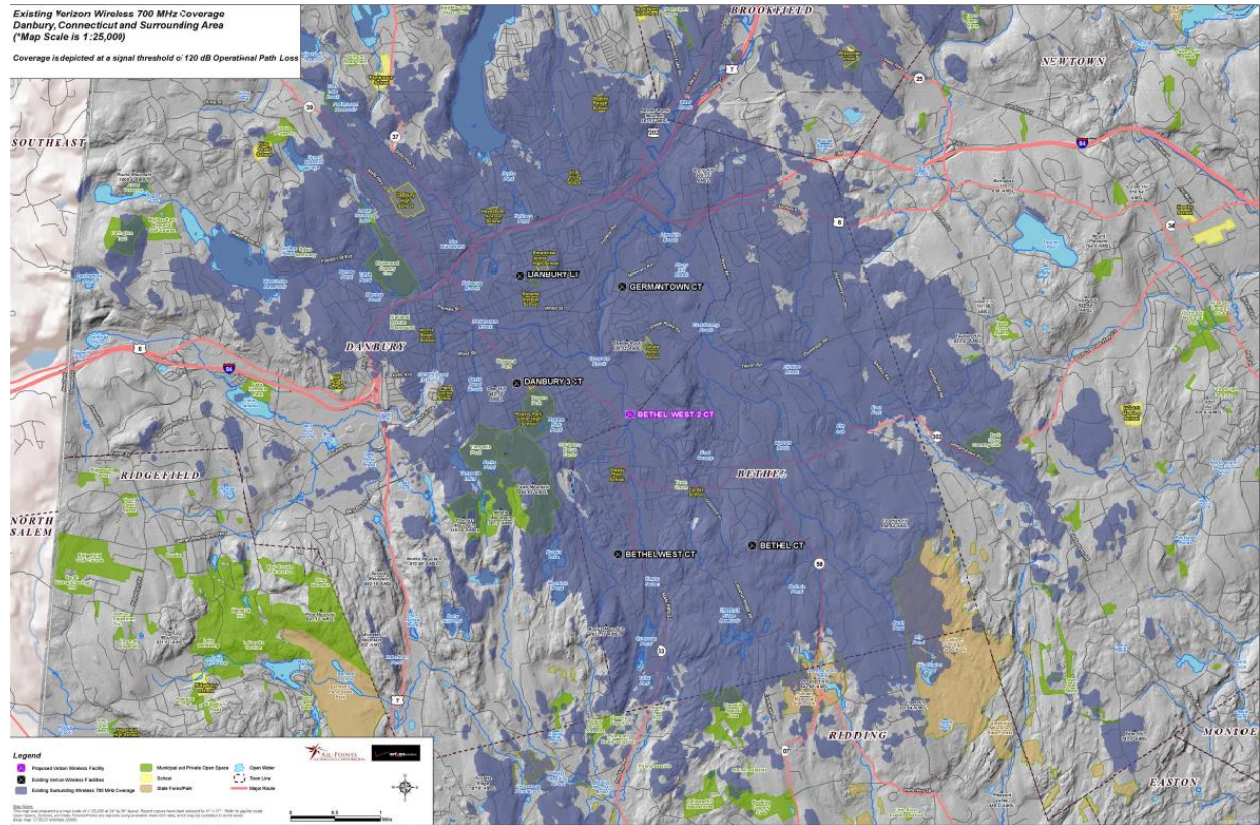


**2**  
C-2 **SOUTH ELEVATION**  
SCALE: 1" = 10'



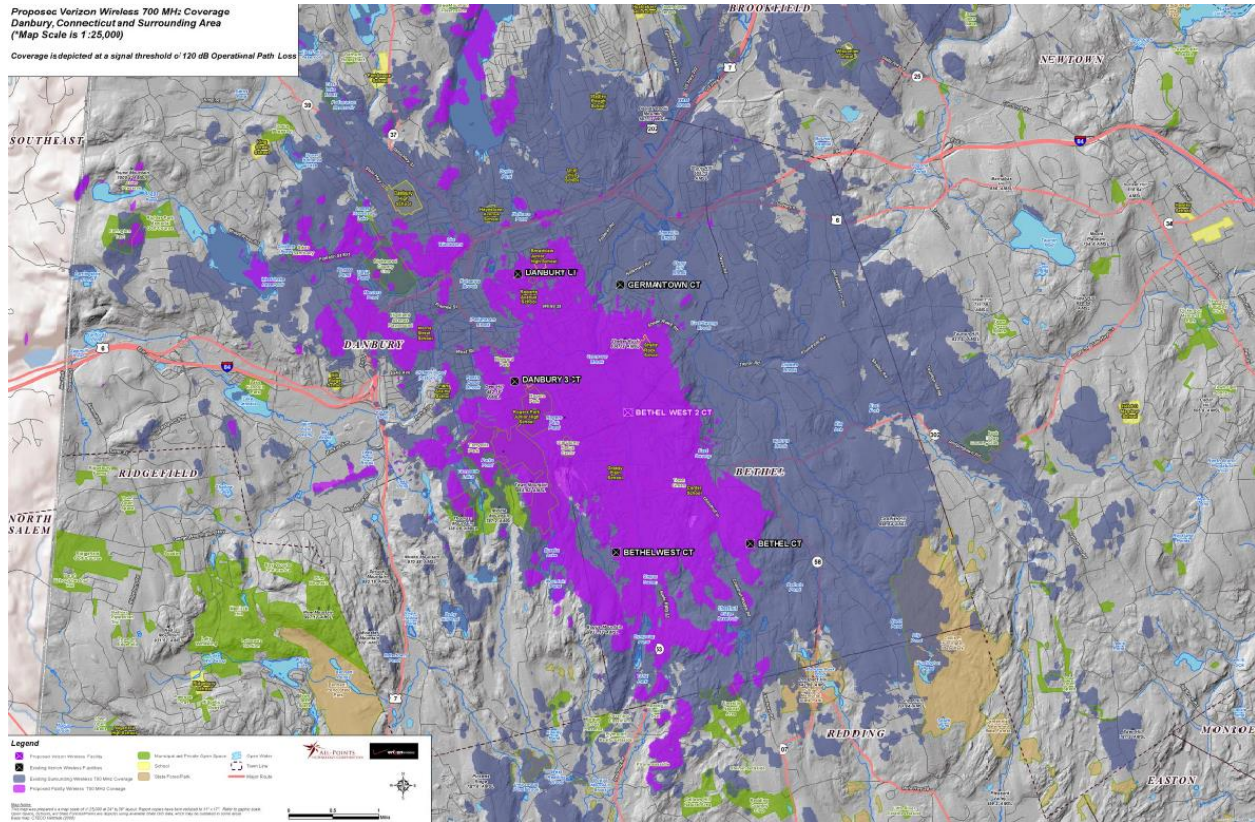
(Cellco 1, Tab 1 – Sheet C-2)

**Figure 5 – Existing 700 MHz Coverage**



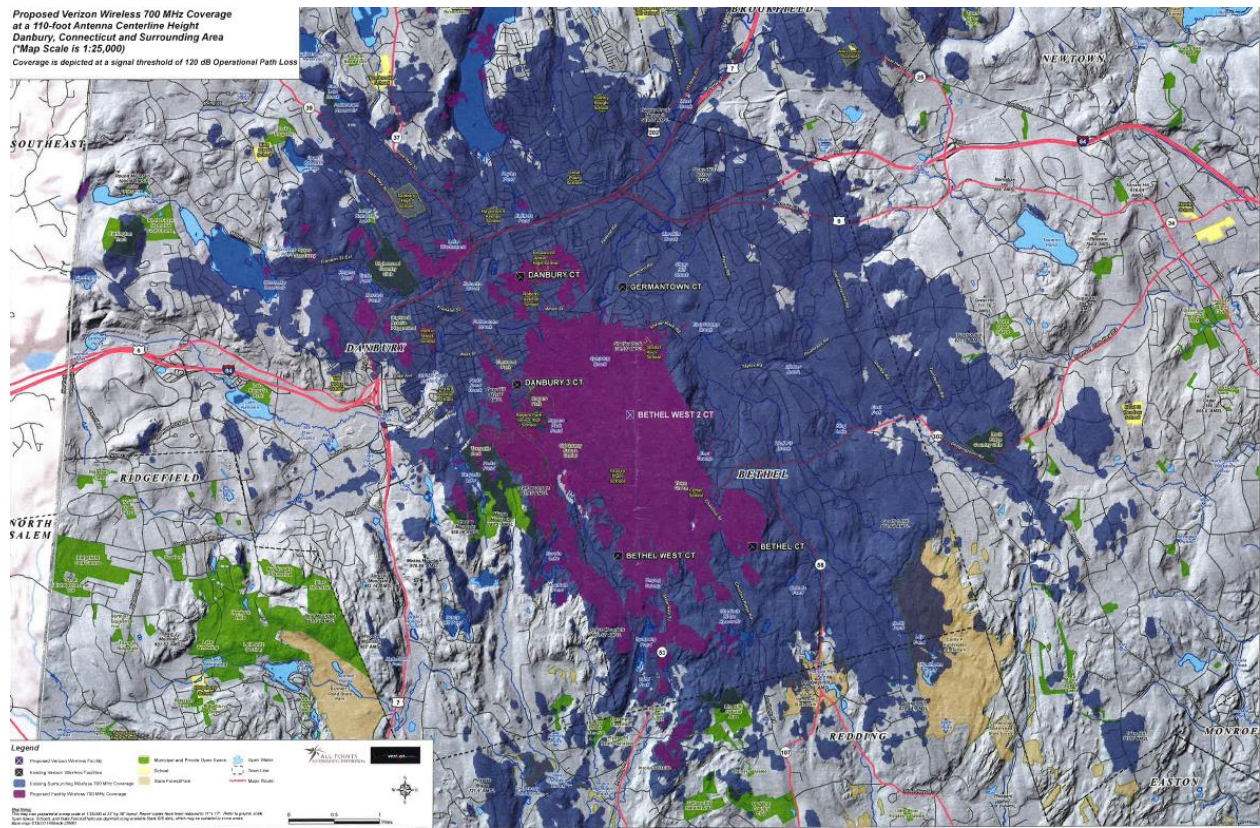
(Cellco 1, Tab 6)

**Figure 6 – Proposed 700 MHz Coverage at 120 feet**



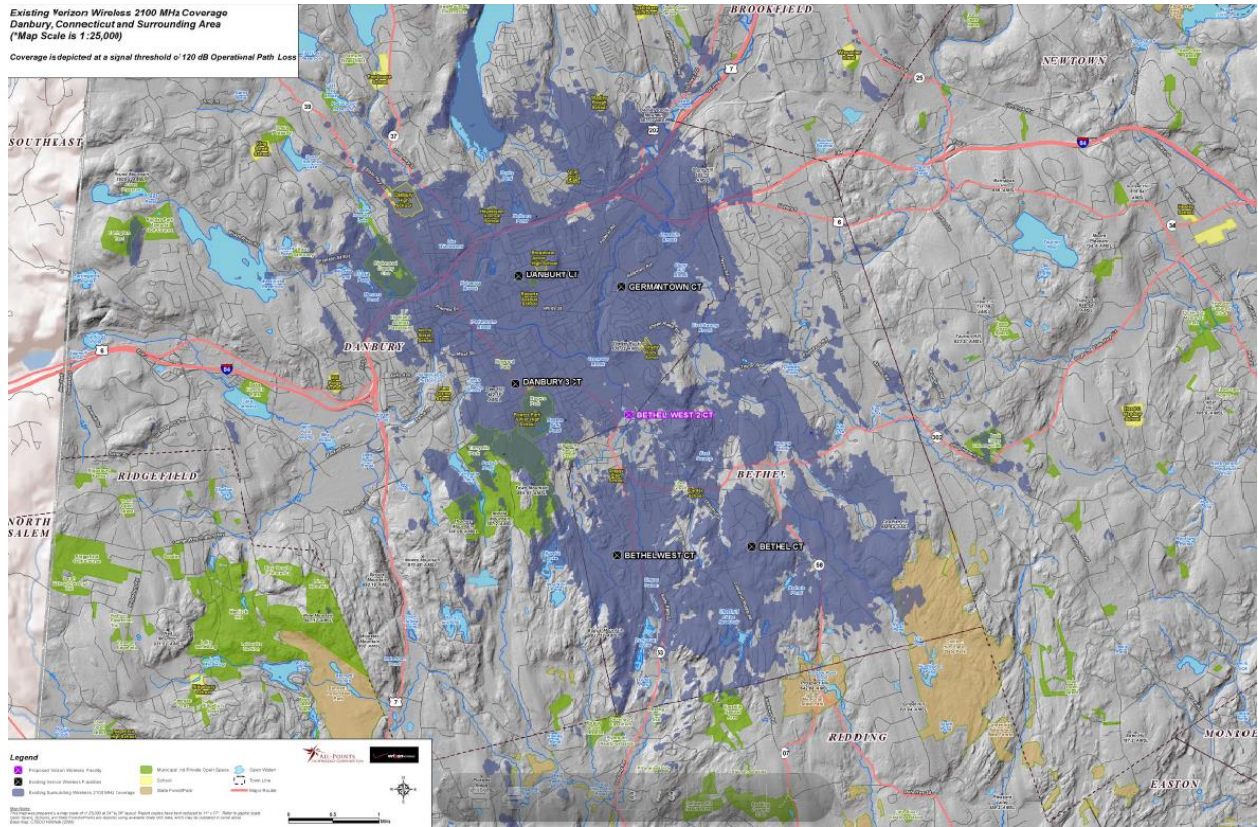
(Cellco 1, Tab 6)

**Figure 7 – 700 MHz Coverage at 110 feet**



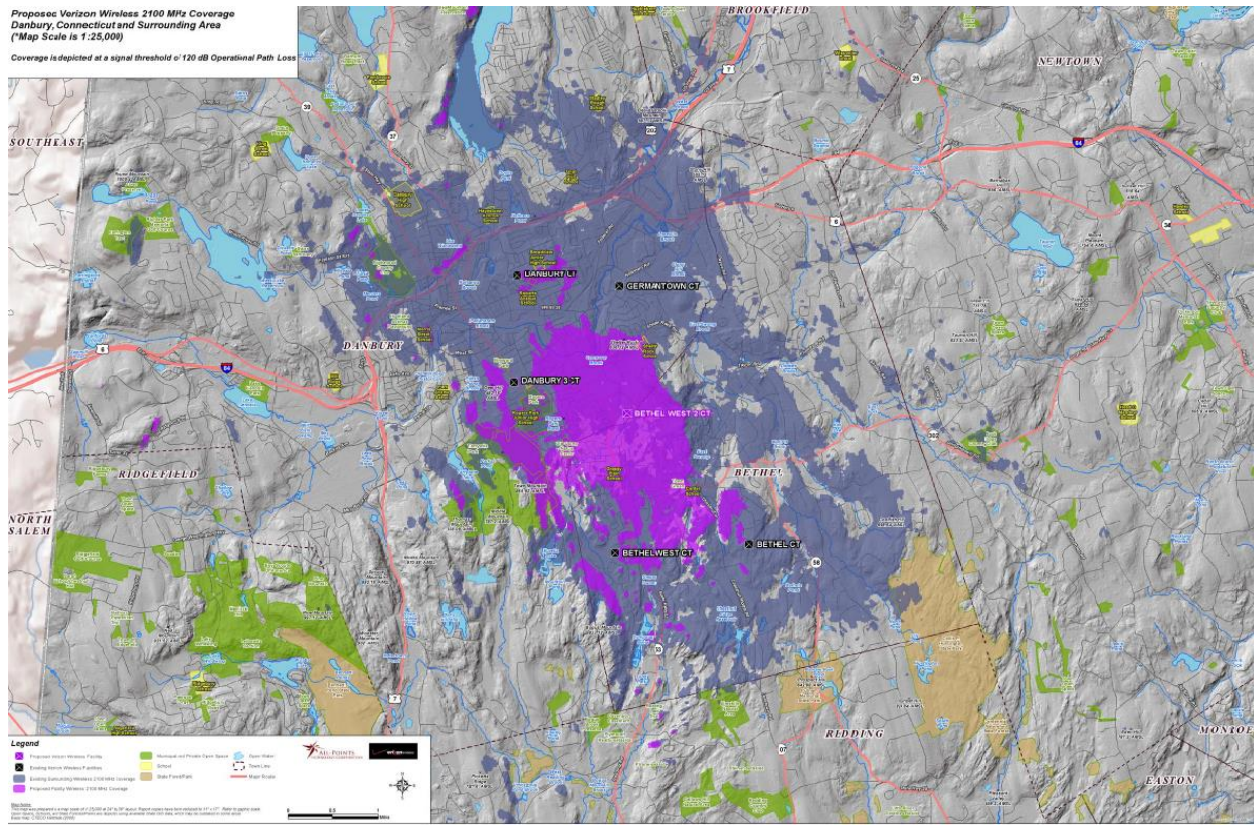
(Cellco 4, response 35, Attachment 3)

**Figure 8 – Existing 2100 MHz Coverage**



(Cellco 1, Tab 6)

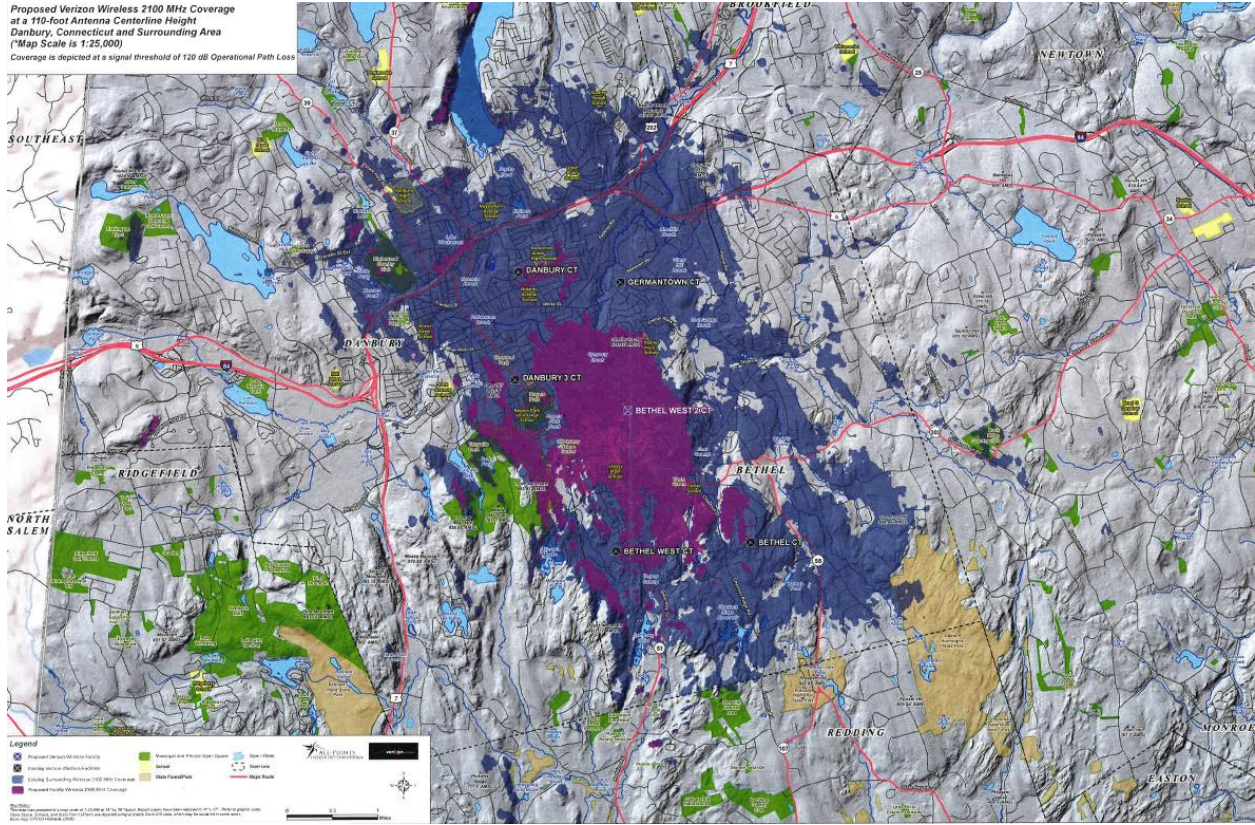
**Figure 9 – Proposed 2100 MHz Coverage at 120 feet**



(Cellco 1, Tab 6)

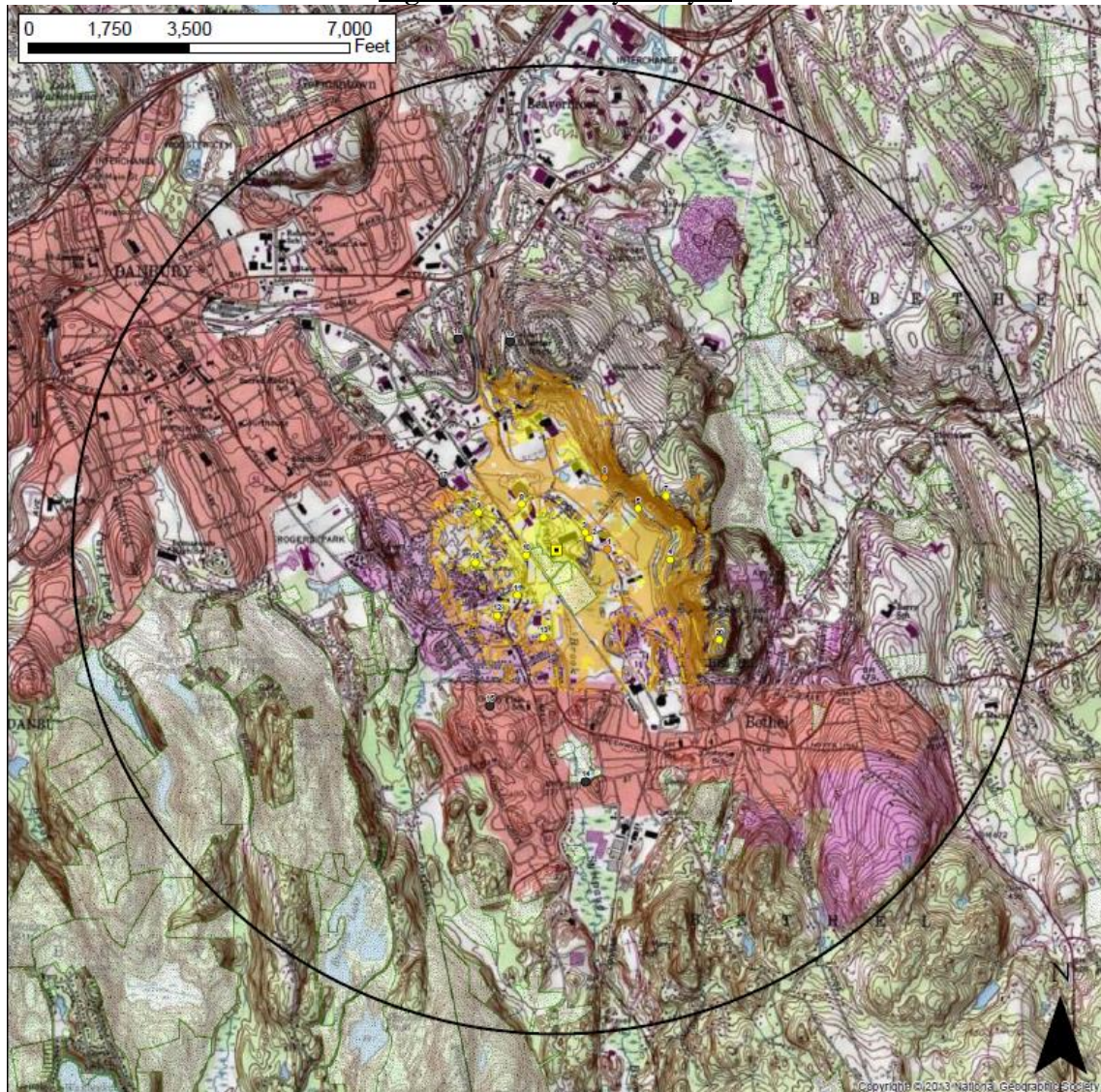


**Figure 10 – 2100 MHz Coverage at 110 feet**












(Cellco 4, response 35, Attachment 3)

Figure 11 – Visibility Analysis



**Legend**

-  Proposed Tower
- Photo Locations**
-  Not Visible
-  Seasonal Views
-  Year-round Views
-  Predicted Seasonal Visibility (255 Acres)
-  Predicted Year-Round Visibility (38 Acres)
-  Towns
-  2-Mile Study Area
-  Open Space

(Cellco 1, Tab 9 – Viewshed Map)