

<p>DOCKET NO. 481 - 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 667, 665, 663 and 663R Main Street, Cromwell, Connecticut.</p>	<p>} } }</p>	<p>Connecticut Siting Council July 19, 2018</p>
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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 February 23, 2018 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 667, 665, 663 and 663R Main Street in Cromwell, Connecticut. (Cellco 1, pp. 1-2)
2. Cellco is a Delaware Partnership with an administrative office located at 20 Alexander Drive, Wallingford, Connecticut. Cellco is licensed by the Federal Communications Commission (FCC) to provide personal wireless communication service to Fairfield County, Connecticut. (Cellco 1, p. 2 and Tab 5)
3. The party in this proceeding is Cellco. (Transcript 1, April 19, 2018, 3:00 p.m. [Tr. 1], p. 5)
4. The purpose of the proposed facility is to provide improved wireless voice and data services in Cromwell and portions of Rocky Hill. (Cellco 1, p. i; Cellco 1, Tab 6)
5. Pursuant to C.G.S. § 16-50/ (b), the applicant provided public notice of the filing of the application that was published in the Hartford Courant on February 21, and 22, 2018. (Cellco 2)
6. Pursuant to C.G.S. § 16-50/ (b), notice of the application was provided to all abutting property owners by certified mail. Notice was unclaimed by one abutter, Susan M. Boucher for property located at 666 Main Street, Cromwell. Cellco submitted notice to Susan M. Boucher a second time by first class mail on March 21, 2018. (Cellco 4, response 1; Cellco 1, p. 3 and Tab 4)
7. On March 8, 2018, Janet Steucek, an abutter at 668 Main Street, Cromwell contacted Cellco’s counsel and stated that she had not received notice of the Application, and she did not receive notice from the post office that a certified letter was available for her to pick up. Cellco did, however, receive a return receipt for Ms. Steucek’s notice letter confirming that her letter was retrieved. However, the signature was not legible, so it is unclear who received/signed for the letter. Nevertheless, a copy of the notice letter, along with a copy of the return receipt was emailed by Cellco to Ms. Steucek on March 8, 2018. (Cellco 4, response 1)
8. On February 23, 2018, Cellco provided notice to all federal, state and local officials and agencies listed in C.G.S. § 16-50/ (b). This includes notice to the Town of Rocky Hill, located within 2,500 feet of the proposed site. (Cellco 1, Tab 2 – Certification of Service; Cellco 1, Tab 1 – Sheets T-1 and R-1)

9. On March 7, 2018, Cellco's counsel was contacted by Attorney Keith Ainsworth representing John Lael Libera, the owner of the closest abutting residence (Libera property) at 669 Main Street, Cromwell. Attorney Ainsworth (on behalf of his client) requested that Cellco consider moving the tower site 100 feet to the east of the proposed location. Subsequently, Cellco reached out to its landlord who was agreeable to such a relocation. On April 12, 2018, Cellco filed revised plans with the Council to include a 100-foot shift of the proposed facility to the east. Thus, hereafter in this document, the 100-foot shifted location will be considered the "proposed location." (Cellco 4, response 2; Cellco 1, Tab 1, Sheet R-1; Cellco 4, Attachment 1, Sheet R-1)

Procedural Matters

10. Upon receipt of the application, the Council sent a letter to the Town of Cromwell and the Town of Rocky Hill, which is within 2,500 feet of the proposed facility, on February 26, 2018, as notification that the application was received and is being processed, in accordance with C.G.S. § 16-50gg. (Record)
11. During a regular Council meeting on March 15, 2018, the application was deemed complete pursuant to Regulations of Connecticut State Agencies (R.C.S.A.) § 16-50/1a and the public hearing schedule was approved by the Council. (Record)
12. Pursuant to C.G.S. § 16-50m, the Council published legal notice of the date and time of the public hearing in Hartford Courant on March 21, 2018. (Record)
13. Pursuant to C.G.S. § 16-50m, on March 16, 2018, the Council sent letters to the Town of Cromwell and the Town of Rocky Hill to provide notification of the scheduled public hearing and to invite the municipalities to participate. (Record)
14. On March 28, 2018, the Council held a pre-hearing conference on procedural matters for parties and intervenors to discuss the requirements for pre-filed testimony, exhibit lists, administrative notice lists, expected witness lists, filing of pre-hearing interrogatories and the logistics of the public inspection of the site scheduled for April 19, 2018, at the Office of the Council, 10 Franklin Square, New Britain, Connecticut. (CSC Pre-Hearing Conference Memoranda, dated March 21, 2018 and March 28, 2018)
15. 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 April 4, 2018. The sign presented information regarding the project and the Council's public hearing. (Cellco 3)
16. The Council and its staff conducted an inspection of the proposed site on April 19, 2018, beginning at 2:00 p.m. During the field inspection, the applicant flew a three to four foot diameter red balloon at the proposed location to simulate the height of the proposed tower. Weather conditions included intermittent light rain and a fairly low cloud cover and ceiling, with visibility roughly one or two miles. Overall, conditions were acceptable for a balloon float, particularly for near views. During the field review, the top of the balloon reached a height of about 123 to 124 feet above ground level (agl) based on its string height of 120 feet. The balloon was aloft from approximately 7:25 a.m. to 6:00 p.m. for the convenience of the public. (Council's Hearing Notice dated March 16, 2018; Tr. 1, pp. 12-14; Cellco 4, Attachment 1)

17. Pursuant to C.G.S. § 16-50m, the Council, after giving due notice thereof, held a public hearing on April 19, 2018, beginning with the evidentiary session of the hearing at 3:00 p.m. and continuing with the public comment session at 6:30 p.m. at the Cromwell Town Hall, Room 224/5, 41 West Street, Cromwell, Connecticut. (Council's Hearing Notice dated March 16, 2018; Tr. 1, p. 1; Transcript 2 – 6:30 p.m. [Tr. 2], p. 1)

State Agency Comment

18. Pursuant to C.G.S. § 16-50j (g), on March 16, 2018, 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)
19. None of the state agencies responded with comment on the application. (Record)

Municipal Consultation and Community Outreach

20. Cellco commenced the 90-day pre-application municipal consultation process by meeting with Mayor Enzo Faienza and Town Manager Anthony Salvatore of the Town of Cromwell on October 30, 2015. Cellco provided copies of the technical report and discussed the project with Mayor Faienza and Mr. Salvatore. Cellco also sent copies of the technical report to the Town of Rocky Hill on October 30, 2015, as Rocky Hill is within 2,500 feet of the proposed project. (Cellco 1, p. 20; Cellco 1a, Technical Report)
21. At the request of the Town of Cromwell, Cellco held a Public Information Meeting (PIM) at the Cromwell Town Hall on November 30, 2015. Notice of such meeting was published in the Hartford Courant on November 20, 2015 and was also sent to abutting landowners. (Cellco 1, p. 20)
22. At the PIM, neighbors asked Cellco to explore the Gardners Nursery parcel as a possible tower site. The Gardners Nursery parcel is located at 675 Main Street, Cromwell, immediately north of the subject property. Cellco spent the next two years negotiating a tower lease with the owner of this parcel to no avail. Cellco terminated negotiations in December 2017. (Cellco 1, pp. 20-21; Cellco 4, response 15; Cellco 1, Attachment 1, Sheet R-1)
23. On December 26, 2017, Cellco's counsel notified Mayor Faienza and Mr. Salvatore by letter of its intent to move forward with its plans to construct a new tower on the subject property. (Cellco 1, p. 21)
24. On January 16, 2018, Cellco's counsel left a voicemail message for Mayor Faienza and Mr. Salvatore to discuss the tower proposal further. Cellco did not receive a response to its December 26, 2017 notice letter or its follow-up telephone call. (Cellco 1, p. 21; Tr. 1, p. 62)
25. The Town of Cromwell has not expressed an interest in co-locating emergency services antennas on the proposed tower at this time. (Cellco 1, p. 12; Tr. 1, pp. 79-80)

Public Need for Service

26. 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 – Telecommunications Act of 1996)
27. 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 Middlesex County, Connecticut. (Council Administrative Notice Item No. 4 – Telecommunications Act of 1996; Cellco 1, p. 2 and Tab 5)
28. Section 253 of the Telecommunications Act of 1996 prohibits any state or local statute or regulation, or other state or local legal requirement from prohibiting or having the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service. (Council Administrative Notice Item No. 4 – Telecommunications Act of 1996)
29. Section 704 of the Telecommunications Act of 1996 prohibits local and state entities from discriminating among providers of functionally equivalent services and from prohibiting or having the effect of prohibiting the provision of personal wireless services. This section also requires state or local governments to act on applications within a reasonable period of time and to make any denial of an application in writing supported by substantial evidence in a written record. (Council Administrative Notice Item No. 4 – Telecommunications Act of 1996)
30. Section 704 of the Telecommunications Act of 1996 also prohibits any state or local entity from regulating telecommunications towers on the basis of the environmental effects of radio frequency emissions, which include effects on human health and wildlife, to the extent that such towers and equipment comply with FCC’s regulations concerning such emissions. (Council Administrative Notice Item No. 4 – Telecommunications Act of 1996)
31. 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. 20 – The National Broadband Plan)
32. Section 706 of the Telecommunications Act of 1996 requires each state commission with regulatory jurisdiction over telecommunications services to encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans, including elementary and secondary schools, by utilizing regulating methods that promote competition in the local telecommunications market and remove barriers to infrastructure investment. (Council Administrative Notice Item No. 4 – Telecommunications Act of 1996)

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 –Presidential Proclamation 8460, Critical Infrastructure Protection)
34. 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)
35. 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 Administrative Notice Item No. 23 – FCC Wireless Infrastructure Report and Order; Council Administrative Notice Item No. 12 – Presidential Executive Order 13616, Accelerating Broadband Infrastructure Development)
36. 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. 23 – FCC Wireless Infrastructure Report and Order)

37. 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)
38. On March 16, 2018, the Council sent correspondence to other telecommunications carriers requesting that carriers interested in locating on the proposed facility in the foreseeable future to notify the Council by April 12, 2018. No carriers responded to the Council's solicitation. (Record)

Existing and Proposed Wireless Services

39. Cellco's proposed facility would provide both coverage and capacity. Cellco's customers at Watrous Park, Cromwell Middle School and the TPC River Highlands Golf Course (Travelers Championship) would benefit from capacity off-loading by the proposed facility. (Cellco 4, response 16)
40. Cellco's existing Cromwell North (Alpha sector) and Rocky Hill 2 (Beta sector) are currently operating or near their existing capacity limits, and Cellco is experiencing significant gaps in wireless service in the area at its 700 MHz and 2100 MHz frequencies. (Cellco 1, p. 7)
41. Cellco would designate the proposed facility as the "Cromwell North 2" facility in its network. (Cellco 1, p. i)
42. Cellco would initially provide service over 700 MHz and 2100 MHz frequency bands at the proposed site. Cellco's 850 MHz and 1900 MHz frequencies would be added in the future when needed for capacity. (Cellco 1, p. 8)
43. For Cellco's proposed Long Term Evolution (LTE) frequency bands, Cellco's design signal strengths for in-building and in-vehicle coverage are -85 dBm Receive Signal Reference Power (RSRP) and -95 dBm RSRP, respectively. (Cellco 4, response 20)
44. For 700 MHz, Cellco's existing signal strength in the area of the proposed facility ranges from -85 dB RSRP to -105 dB RSRP. For 2100 MHz, Cellco has no existing coverage in the area of the proposed facility. (Cellco 4, response 21)
45. The table below indicates Cellco's approximate existing coverage gaps along a State road at both frequencies. See Figures 5 and 6.

Street Name	700 MHz Coverage Gap	2100 MHz Coverage Gap
Route 99	0.1 miles	1.1 miles

(Cellco 1, pp. i; Cellco 4, response 23)

46. The table below indicates the distances that Cellco would cover along a State road in the area of its proposed facility at both frequencies at the proposed antenna centerline height of 120 feet.

Street Name	700 MHz Coverage at 120 feet	2100 MHz Coverage at 120 feet
Route 99	2.2 miles	1.5 miles

(Cellco 1, pp. i and 8)

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

Site Location	Cellco Facility Name	Distance and Direction from Proposed Tower	Structure Type	Antenna Height (agl)
160 West Street, Cromwell	Cromwell	2.0 miles south	Monopole	64 feet
179 Shunpike Road, Cromwell	Cromwell North	1.5 miles southwest	Self-supporting lattice	101 feet
1218 Cromwell Avenue, Rocky Hill	Rocky Hill 2	1.0 mile west	Monopole	150 feet
2 West Street, Rocky Hill	Rocky Hill 4	1.5 miles northwest	Monopole	90 feet
699 Old Main Street, Rocky Hill	Rocky Hill East	2.6 miles north	Monopole	140 feet
74 Goodrich Lane, Portland	Portland	3.5 miles southeast	Monopole	160 feet
201 Main Street, Cromwell	Cromwell SE	3.4 miles south	Monopole	105 feet

(Applicant 1, pp. 8-9; Council Administrative Notice Item No. 26 – Council Statewide Telecommunications Coverage Database)

48. This table indicates the total areas that Cellco would cover from its proposed facility for prescribed frequencies at the proposed antenna height. See Figures 6, 8 and 10.

Antenna Height	Area Coverage with 700 MHz	Area Coverage with 2100 MHz
120 feet	11.3 square miles	2.4 square miles

(Applicant 1, pp. i and 8)

49. The minimum antenna centerline height for Cellco to achieve its wireless service objectives is 120 feet. (Cellco 4, response 18)
50. There are numerous parameters that Cellco considers in its effort to improve network performance. The most critical parameters are the Voice Over LTE Ineffective Attempts (IA) and Voice Over LTE Dropped Calls (DC). (Cellco 4, response 22)
51. Cellco’s system performance standard for both percent IA and DC is 0.75 percent or less. The data presented below summarize each adjacent sector’s performance.

Cellco Facility Name	Sector	Voice Over LTE % IA	Voice Over LTE % DC
Portland	Alpha	0.15	1.05
Cromwell SE	Alpha	0.25	0.80
Cromwell	Alpha	0.11	0.60
Cromwell North	Beta	0.2	0.95
Rocky Hill 2	Beta	0.3	1.4
Rocky Hill 4	Beta	0.2	1.3
Rocky Hill East	Beta	0.17	0.90

(Cellco 4, response 22)

52. While six out of seven sectors do not satisfy Cellco's percent DC performance standard, the proposed facility would improve the percent DC performance for the Portland Alpha sector, the Cromwell North Beta sector and the Rocky Hill 2 Beta sector. (Cellco 4, response 22; Tr. 1, p. 22)
53. The Cromwell North (Alpha sector) is currently operating in exhaust. The Rocky Hill 2 facility is projected to be in exhaust in 2020. The deployment of the proposed Cromwell North 2 facility would likely resolve these capacity problems for the foreseeable future. (Cellco 4, response 24)
54. Cellco's Portland (Alpha sector) is projected to exhaust in the 4th quarter of 2019. Cellco's Portland facility also would benefit from capacity offload onto the proposed facility, but to a lesser extent than Cromwell North and Rocky Hill 2. (Cellco 4, response 25; Tr. 1, p. 23)

Site Selection

55. Cellco established a search area for its Cromwell North 2 facility in September 2014. The 0.072 square mile search area was roughly centered at the residential parcel at 664 Main Street, Cromwell. (Cellco 4, response 14)
56. There are no other existing towers or other sufficiently tall structures available in the area. (Cellco 1, Tab 8 – Site Search Summary, p. 2)
57. After determining there were no suitable structures within the search area, Cellco searched for properties suitable for tower development. Cellco investigated four parcels/areas, one of which was selected for site development. The three rejected parcels/areas and reasons for their rejection are as follows:
 - a) **650 Main Street, Cromwell** – This parcel was rejected because the property owner (Gardners Nurseries Inc.) was not interested in leasing space to Cellco for a tower site.
 - b) **652 Main Street, Cromwell** – This parcel was rejected because the property owner (Gardeners Nurseries Inc.) was not interested in leasing space to Cellco for a tower site.
 - c) **675 Main Street, Cromwell** – This parcel was rejected because, after nearly two years of negotiations, the landowner (Gardners Nurseries Inc.) declined Cellco's offer to lease ground space for a tower site.(Cellco 1, Tab 8 – Site Search Summary, p. 2)
58. Cromwell Fire District (CFD) has a 7.6-acre parcel about 0.3 miles north of the proposed site. While Cellco did not investigate this site during its initial site search, based on review of publicly available mapping, the parcel is bisected by Dividend Brook, and a significant portion of the parcel is encumbered by wetlands and floodplain areas. The southern portion of the parcel contains the Algonquin Gas Transmission line right-of-way. Given that the ground elevation is about 35 to 40 feet lower than at the proposed site, if Cellco were able to use the southwest portion of the CFD parcel, it would need to construct a significantly taller tower on the order of 150 to 160 feet in height to meet its wireless service objectives. (Cellco 4, response 15)
59. While it may be theoretically and technically possible to utilize a large number of small cells or a distributed antenna system to provide the required coverage footprint associated with the proposed tower, such an approach is not economically feasible and not consistent with good radio frequency engineering practice. Typically, such alternatives utilize existing infrastructure (i.e. electric distribution poles) along public rights-of-way. In areas where such existing infrastructure is not available, property rights would need to be acquired, and new poles would need to be installed. Thus, Cellco is not aware of any viable technological alternatives to the proposed facility. (Cellco 1, pp. 9-10; Cellco 4, response 19)

Facility Description

60. The proposed site consists of four contiguous parcels (collectively, the subject property) totaling 7.78 acres and located at 667, 665, 663 and 663R Main Street in Cromwell. The parcels located at 663, 663R and 667 Main Street are owned by Cromwell Concrete Products, Inc. (CCPI), and the parcel located at 665 Main Street is owned by Libera Real Estate Holdings, LLC. The proposed site location is depicted on Figure 1. (Cellco 1, pp. i and 18; Cellco 4, Attachment 1, Sheet R-1)
61. The parcels located at 667 and 665 Main Street are zoned Business Industrial Park District (BP), and the parcels located at the 663 and 663R Main Street are zoned Residential (R-15). (Cellco 4, Attachment 1, Sheet R-1; Cellco 1b, Town of Cromwell Zoning Regulations, pp. 27 and 54)
62. The subject property is used for commercial/industrial purposes and includes, but is not limited to, buildings, infrastructure, and storage areas that support the operations of CCPI. (Cellco 1, p. 18; Cellco 1, Tab 9 – Visibility Analysis, p. 1)
63. The tower site is located in the northwestern portion of the subject property (i.e. on the 667 Main Street parcel), at an elevation of approximately 147 feet* above mean sea level (amsl).

*The ground elevation remains approximately the same with the 100-foot shift.
(Cellco 1, Tab 1, Sheet T-1; Cellco 4, Attachment 1, Sheets T-1 and R-1)
64. Land use surrounding the subject property includes undeveloped agricultural land to the north and west and residential uses to the east, along the east side of Main Street and to the south. (Cellco 1, p. 18)
65. The proposed facility would consist of a 120-foot monopole within a 70-foot by 75-foot leased area. The tower would be approximately 50 inches wide at the base tapering to 24 inches wide at the top. The tower would be designed to support four levels of wireless carrier antennas (including Cellco), as well as municipal and/or emergency services antennas if needed. The tower could be designed to be extended in height by up to 20 feet. (Cellco 1, Tab 1, Facilities and Equipment Specification; Cellco 1, pp. 7 and 12; Cellco 4, Attachment 1, Sheet A-1)
66. The monopole would have a galvanized steel finish. (Cellco 4, response 7)
67. Cellco would install six panel antennas and 12 remote radio heads on a square platform at a centerline height of 120 feet agl. The total height of the facility with antennas would be 124 feet agl. (Cellco 1, p. i; Cellco 4, Attachment 1, Sheet A-1)
68. The use of flush-mounted antennas would require the use of multiple antenna levels on the tower, thus limiting available space for other wireless carriers or emergency services entities. The use of flush-mounted antennas could also limit Cellco's ability to install new technologies and make other cell site enhancements in the future. (Cellco 4, response 26)
69. A 50-foot by 50-foot fenced equipment compound 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 on a 9-foot 4-inch by 16-foot elevated platform with a canopy roof within the compound. (Cellco 4, Attachment 1, Sheets A-1 and C-1)
70. The proposed equipment compound will be surrounded by an eight-foot high chain-link fence. The fence would have a mesh size of 1.25 inches. Cellco's proposed compound fence would have a gate that would be locked for security purposes. (Cellco 4, response 8 and Attachment 1, Sheet A-1)

71. No other wireless carriers have expressed an interest in co-locating on the proposed tower at this time. (Tr. 1, p. 72)
72. Development of the site would require approximately 450 cubic yards* of net cut to construct the proposed access drive and compound area. The net cut material would be likely hauled off-site, unless the property owner wishes to retain such material.
- *This number would not be affected by the proposed 100-foot shift of the tower. (Cellco 4, response 4; Tr. 1, pp. 14-15)
73. Access to the proposed site from Main Street would be provided over an existing paved driveway for a total distance of 156 feet, and a new 12-foot wide and approximately 990 foot gravel access road would be constructed roughly parallel to an existing tree line along the southern property boundary to reach the compound. The access road would pass through all four parcels to reach the compound. (Cellco 4, Attachment 1, Sheet R-1)
74. The proposed access road and compound are located on a relatively level terrain, and drainage would not be expected to change. Proper erosion and sedimentation controls would be installed to contain soil mitigation during construction. (Tr. 1, pp. 62-68)
75. Utilities would connect overhead to two existing poles on opposite sides of Main Street. Utilities would continue underground roughly parallel to the proposed access road to reach the compound. The utility trench would be on the south side of the access road near existing trees. Cellco would be willing to put protective measures in place or shift the utilities to the north side of the access road to protect the roots of the existing trees. (Cellco 4, Attachment 1, Sheet R-1; Tr. 1, pp. 35-36)
76. The nearest property boundary from the proposed tower is approximately 35 feet to the north (Gardeners Nurseries property). (Cellco 4, Attachment 1, Sheet R-1)
77. There are approximately 58 residential structures* within 1,000 feet of the proposed tower site. The nearest residence is located at 669 Main Street, approximately 150 feet to the southwest of the tower site (Libera residence).

*The 100-foot shift resulted in an increase from 56 to 58 residences, and the distance from the tower compound to the nearest home increases from approximately 108 feet to approximately 150 feet. (Cellco 1, p. 14 and Tab 1, Sheet R-1; Tr. 1, p. 14; Cellco 4, Attachment 1, Sheet R-1)

78. Site preparation and engineering would commence following Council approval of a Development and Management Plan (D&M Plan) and would be expected to be completed within two to four weeks. Equipment installation would be expected to take another four weeks after the tower and platform installation. After the equipment installation, cell site integration and system testing is expected to require about two additional weeks. (Cellco 1, p. 23)
79. Cellco would recover the costs of the facility via the price of its services on a national level. The estimated cost of the proposed facility is:

Tower	\$50,000
Generator	25,000
Cellco radio equipment	150,000
Misc. (e.g. site preparation, access, grading)	200,000
Total Estimated Facility Cost*	\$425,000

*Costs are not expected to be affected by the proposed 100-foot shift. (Cellco 1, p. 23; Tr. 1, pp. 15 and 37)

Public Safety

80. 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 - Wireless Communications and Public Safety Act of 1999)
81. The proposed facility would be in compliance with the requirements of the 911 Act and would provide Enhanced 911 services. (Cellco 4, response 32)
82. 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 Administrative Notice Item No. 22 – FCC Text-to-911: Quick Facts & FAQs)
83. 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, response 31)
84. Pursuant to the Warning, Alert and Response Network Act of 2006, "Wireless Emergency Alerts" (WEA) is a public safety system that allows customers who own certain wireless phone models and other enabled mobile devices to receive geographically-targeted, text-like messages alerting them of imminent threats to safety in their area. WEA complements the existing Emergency Alert System that is implemented by the FCC and FEMA at the federal level through broadcasters and other media service providers, including wireless carriers. (Council Administrative Notice No. 5 – FCC WARN Act)
85. Pursuant to CGS § 16-50p(a)(3)(G), the tower would be constructed in accordance with the 2012 International Building Code as amended by the 2016 Connecticut State Building Code. (Cellco 4, response 9)
86. The proposed tower would not constitute an obstruction or hazard to air navigation and would not require any obstruction marking or lighting. Notice to the Federal Aviation Administration (FAA) is not required*.

*The 100-foot shift is not expected to affect the FAA analysis.
(Cellco 1, p. 21 and Tab 17; Tr. 1, p. 16)
87. Cellco's radio equipment cabinets would be equipped with silent intrusion alarms. If someone attempts to tamper with or break into the cabinets, technicians monitoring the site would be alerted and the local police would be contacted. (Cellco 4, response 8)
88. The tower radius extends beyond the nearest property boundary 35-feet to the north. A tower design yield point could be employed. (Cellco 4, response 3)

89. 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 29.5% 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 1, Tab 14; Council Administrative Notice Item No. 2 – FCC OET Bulletin No. 65)

Emergency Backup Power

90. 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. 47)
91. In response to the findings and recommendations of the Panel, and in accordance with C.G.S. §16-50//, 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. 27 – Council Docket No. 432)
92. The Council reached the following conclusions in the study:
- a) "Sharing a backup source is feasible for Commercial Mobile Radio Service 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. 27 – Council Docket No. 432)
93. For backup power, Cellco originally proposed a 20-kilowatt (kW) diesel-fueled generator for its own use. However, Cellco subsequently changed the size to 30 kW to accommodate the increased power demands of new (soon to be available) Samsung dual-band radio heads. (Cellco 4, response 28; Cellco 1, p. 2; Tr. 1, pp. 25-26)
94. Cellco's standard is to have about two days of fuel for backup power. At full load, the proposed 30-kW generator could operate for approximately 43 hours based on its 132-gallon tank before it would require refueling. (Tr. 1, p. 25-33)
95. Cellco's proposed backup generator would be for its own use. The 30 kW generator would need to be replaced with a larger capacity approximately 50 kW generator if a second wireless carrier wanted to share this backup power supply. Cellco would be amenable to letting a second carrier upgrade its 30 kW generator to a 50 kW generator if a need exists in the future. (Cellco 4, response 29)

96. 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 hours of backup power. (Cellco 4, response 30)
97. The proposed backup generator would have a double-walled fuel tank with remote alarm to protect against fuel leakage. Also, the generator would have secondary containment for engine oil and coolant within its weather enclosure. (Cellco 4, response 27)
98. 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)
99. Pursuant to R.C.S.A. §22a-174-3b, the generator would be managed to comply with DEEP’s “permit by rule” criteria. Therefore, the generator would be exempt from general air permit requirements. (R.C.S.A. §22a-174-3b)

Environmental Considerations

100. There are no Prime Farmland Soils at the site. While, according to mapping, there appears to be Statewide Important Farmland Soils at the entrance to the proposed access drive at Route 99 per existing soil map data, such soil has been altered by development to such a degree that it can no longer be classified as Statewide Important Farmland Soil. Thus, there are no Statewide Important Farmland Soils at the site. (Cellco 1, Tab 13; Cellco 4, responses 11 and 12)
101. The Connecticut Department of Agriculture does not retain development rights to the site property. (Cellco 4, response 10)
102. No sites listed on the National Register of Historic Places are located proximate to the proposed facility. No views of the proposed tower would be achieved from the one State-registered historic place (Wright Samuel House in Rocky Hill) approximately 0.5 mile to the northeast. Thus, Cellco anticipates receiving a “No Effect” determination from the State Historic Preservation Office. (Cellco 1, p. 16; Cellco 4, response 39)
103. The Inland Wetlands and Watercourses Act (IWWA), CGS §22a-36, *et seq.*, contains a specific legislative finding that the inland wetlands and watercourses of the state are an indispensable and irreplaceable but fragile natural resource with which the citizens of the state have been endowed, and the preservation and protection of the wetlands and watercourses from random, unnecessary, undesirable and unregulated uses, disturbance or destruction is in the public interest and is essential to the health, welfare and safety of the citizens of the state. (CGS §22a-36, *et seq.*)
104. The IWWA grants regulatory agencies with the authority to regulate upland review areas in its discretion if it finds such regulations necessary to protect wetlands or watercourses from activity that will likely affect those areas. (CGS §22a-42a)
105. The IWWA forbids regulatory agencies from issuing a permit for a regulated activity unless it finds on the basis of the record that a feasible and prudent alternative does not exist. (CGS §22a-41)

106. Although there are no on-site wetlands, there are two off-site wetlands. Wetland 2 is located approximately 160 feet* to the west of the proposed tower compound. Wetland 2 is an emergent, open water, palustrine wetland. Wetland 1 is located approximately 360 feet* to the northwest of the proposed tower compound. Due to the significant distance separating the proposed facility from these wetland resource areas, no likely adverse impact to wetlands or watercourses is expected to result from the proposed project.

*The proposed 100-foot shift results in greater wetland buffers than the originally proposed 85 feet and 354 feet, respectively.

(Cellco 1, Tab 11 – Wetland Inspection Report; Tr. 1, p. 10)

107. No vernal pools were identified at the project site. (Tr. 1, p. 25)

108. The site is located in the Federal Emergency Management Agency (unshaded) Zone X, an area outside of the 500-year flood zone. (Cellco 1, p. 20)

109. The proposed site is not located within a DEEP-designated Aquifer Protection Area. (Cellco 4, response 37)

110. Connecticut is within the range of the northern long-eared bat (NLEB), a federally-listed Threatened species and State-listed Endangered species. There are no known NLEB hibernacula or known maternity roost trees near the project area, and thus the proposed project would not adversely impact the NLEB. The United States Fish and Wildlife Service (USFWS) did not respond to the Cellco NLEB submittal, and in accordance with USFWS rules, the project is deemed in compliance. (Cellco 1, Tab 10, p. 2; Tr. 1, p. 20; Council Administrative Notice Item Nos. 37 and 63)

111. No trees would be removed as a result of the proposed project. (Cellco 1, Tab 1, Site Evaluation Report; Tr. 1, p. 20)

112. According to the Natural Diversity Database, the eastern box turtle, a State-designated Species of Special Concern, exists in the vicinity of the proposed site. Cellco would implement an Eastern Box Turtle Protection Program (EBTPP). The EBTPP 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 4, response 38 and Attachment 6)

113. 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 Great Meadows in Rocky Hill, approximately 2.5 miles to the north of the proposed tower site. The proposed facility would not be expected to impact this IBA because of the distance. (Cellco 1, Tab 1, p. 2; Tr. 1, pp. 20-21; Council Administrative Notice Item No. 67)

114. 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 1, Tab 10, p. 2)

115. Cellco does not anticipate the need for blasting at the proposed site. Mechanical chipping would be the preferred method for rock removal if necessary. (Cellco 4, response 5)

116. The proposed facility would comply with DEEP Noise Control Regulations at the property boundaries. (Applicant 4, response 36 and Attachment 3)
117. Construction noise is exempt from the State of Connecticut Noise Control Regulations §22a-69-1.8(g), which includes, but is not limited to, “physical activity at a site necessary or incidental to the erection, placement, demolition, assembling, altering, blasting, cleaning, repairing, installing, or equipping of buildings or other structures, public or private highways, roads, premises, parks, utility lines, or other property.” (R.C.S.A. §22a-69-1.8(g))

Visibility

118. The proposed tower would be visible year-round from approximately 108 acres within a two-mile radius of the site (refer to Figure 9). The tower would be seasonally visible from approximately 224 acres within a two-mile radius of the site. (Cellco 1, Tab 9 – Visibility Analysis Viewshed Map; Tr. 1, p. 18)
119. Generally, year-round views of portions of the facility would be limited to locations within less than a 0.75 mile radius of the subject property. (Cellco 1, Tab 9 – Visibility Analysis, p. 6)
120. The proposed 100-foot shift to the east would not provide a substantially different view of the tower from the Libera property at 669 Main Street, but it would roughly center the tower behind a deciduous tree and provide more distance to mitigate views to some degree. The elevation or perceived height of the tower would be about the same. Instead the view of the tower would shift to the right or eastward. The shift to the right would be as compared to the originally proposed location depicted on Photosimulation No. 13. (Tr. 1, pp. 16-18; Cellco 4, response 2 and Attachment 1, Sheet R-1; Cellco 1, Tab 9 – Visibility Analysis, Photosimulation No. 13)
121. Pursuant to CGS § 16-50p(a)(3)(F), the nearest school is the Cromwell Middle School approximately 0.4 mile southwest of the proposed facility. The nearest commercial child day care facility is Kids Korner at Woodside Intermediate School approximately 0.75 mile south/southwest of the proposed facility. (Cellco 1, Tab 9 – Visibility Analysis, p. 6)

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

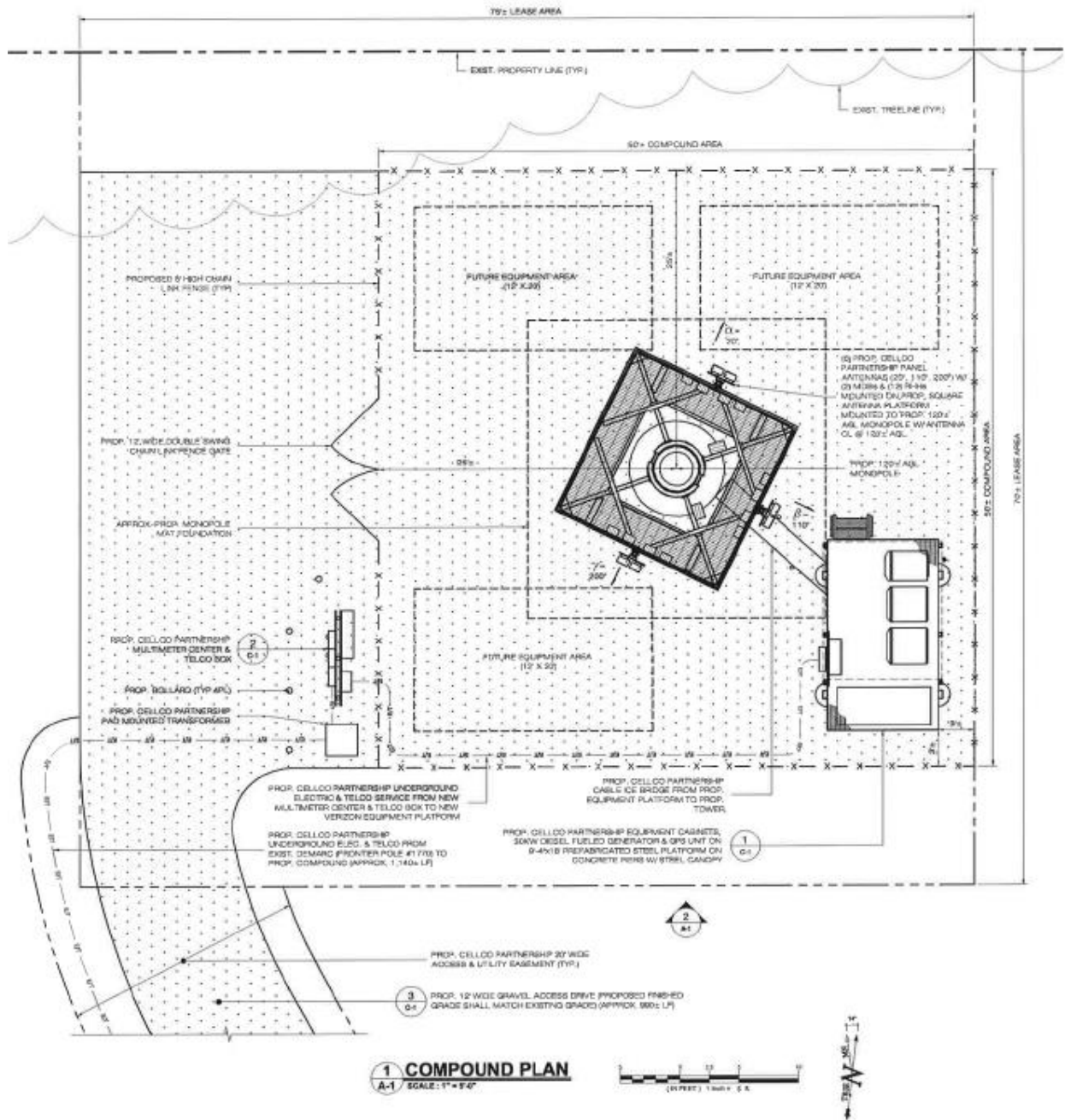
View	Location	Orientation	Distance to Site	View Characteristics
1	Woodside Road	Northeast	±0.73 Mile	Not Visible
2	Geer Street	Northeast	±0.70 Mile	Not Visible
3	Cromwell Middle School	Northeast	±0.40 Mile	Seasonal
4	Botelle Manor	Northeast	±0.26 Mile	Seasonal
5	West Tract Road	Northeast	±0.39 Mile	Year-round
6	Raymond Road	Northeast	±0.27 Mile	Year-round
7	Raymond Road	Northeast	±0.21 Mile	Year-round
8	Goodrich Avenue	Northeast	±0.19 Mile	Year-round
9	Goodrich Avenue	Northwest	±0.23 Mile	Year-round
10	Grove Road	Northeast	±0.14 Mile	Year-round
11	Grove Road	Northeast	±0.18 Mile	Year-round
12	Watrous Park	Northeast	±0.25 Mile	Year-round
13	Sunset Drive	Northeast	±0.08 Mile	Year-round
14	Sunset Drive	Northwest	±0.16 Mile	Year-round
15	Main Street	Northwest	±0.17 Mile	Year-round
16	Main Street	Southwest	±0.19 Mile	Seasonal
17	Ronald Drive	Southwest	±0.37 Mile	Not Visible
18	Main Street	Southwest	±0.42 Mile	Seasonal
19	Farms Village Road	Southwest	±0.52 Mile	Not Visible
20	Highview Drive	Southwest	±0.77 Mile	Not Visible
21	Springbrook Drive	Southeast	±0.84 Mile	Not Visible
22	Brook Street	Southeast	±0.86 Mile	Year-round
23	Capital Boulevard	Southeast	±1.10 Miles	Not Visible
24	Golf Club Road	Southwest	±0.42 Mile	Year-round
25	Golf Club Road	West	±0.57 Mile	Year-round
26	Golf Club Road	Northwest	±0.49 Mile	Year-round
27	Field Road	Northwest	±0.55 Mile	Year-round
28	Field Road	Northwest	±0.69 Mile	Year-round
29	Laurel Drive	Northwest	±0.71 Mile	Not Visible
30	Reiman Drive	Southwest	±1.18 Miles	Not Visible

(Cellco 1, Tab 9 – Visibility Analysis)

123. The Dinosaur State Park trail system is located approximately 1.1 miles to the north in Rocky Hill. The River Highlands State Park trail system is located approximately 1.0 mile to the southeast in Cromwell. There would be no views of the proposed tower from either of these resources. (Cellco 4, response 34; Cellco 1, Tab 9, Viewshed Map)

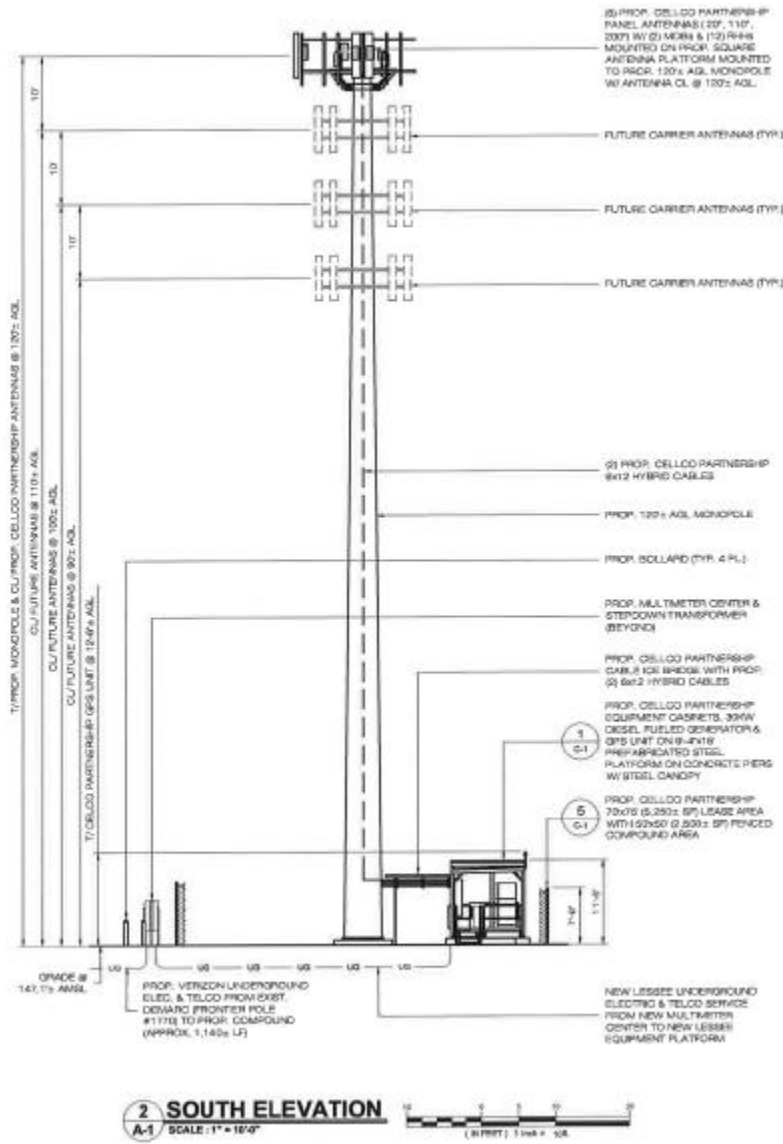
124. Because the proposed 120-foot tower would rise above the tree canopy when viewed from several surrounding locations, effective camouflaging options are somewhat limited. A “monopine” or tree tower design, a painting scheme or a concrete silo would likely increase visual impacts and cost. A more slim antenna profile (e.g. flush-mounted or internally-mounted antennas) might soften views of the tower, but would affect cell site operations. See FOF #68. (Cellco 4, response 35; Tr. 1, pp. 48-51)
125. No landscaping is proposed around the tower compound. (Cellco 4, Attachment 1, Sheet R-1 and A-1)

Figure 2 – Compound Plan



(Cellco 4, Attachment 1, Sheet A-1)

Figure 3 – Tower Profile Drawing



(Cellco 4, Attachment 1, Sheet A-1)

Figure 4 – Wetland/NDDB Map



Legend

- Proposed Tower
- Proposed Site Layout
- Natural Diversity Database (updated December 2017)
- Delineated Wetland Boundary
- Approximate Wetland

- Open Water (CTDEEP)
- Subject Property
- Approximate Parcel Boundary (CTDEEP)

NDDB Map

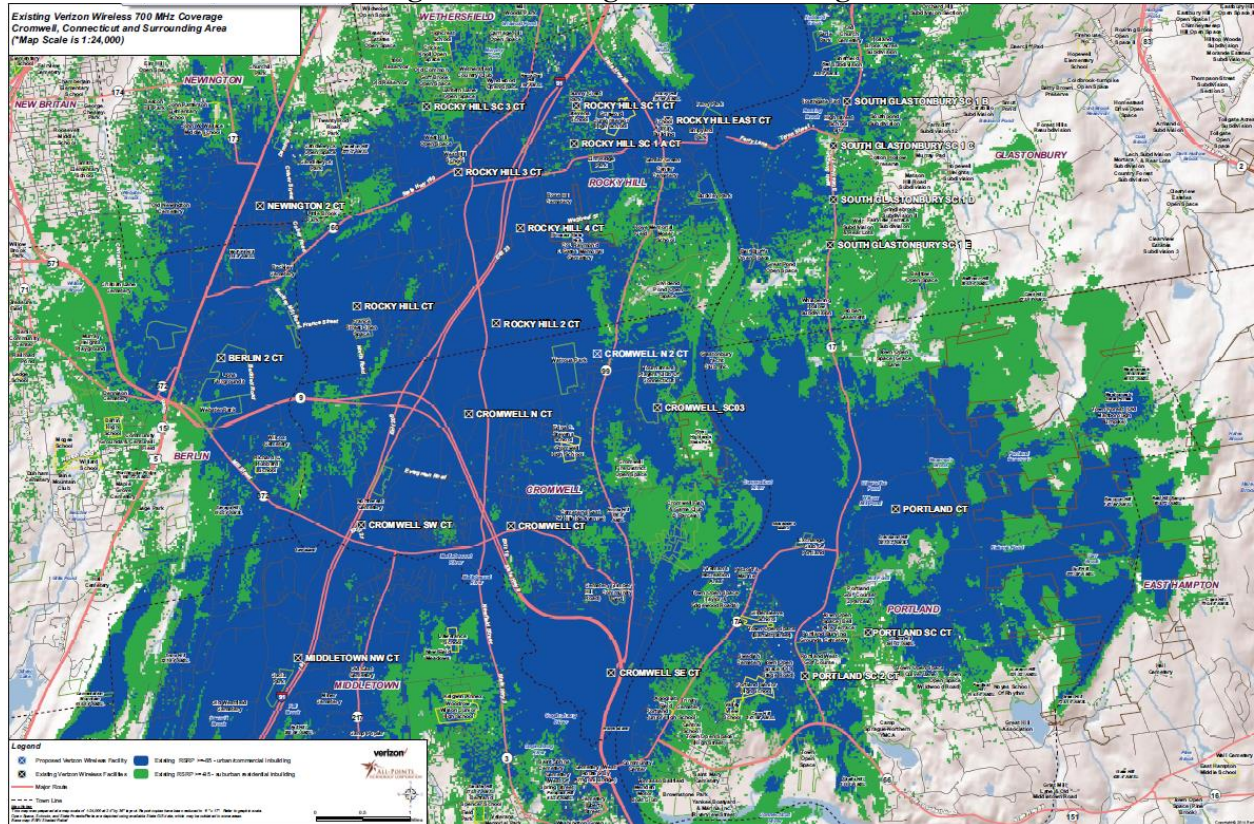
Proposed Wireless Telecommunications Facility
 Cromwell North 2 CT
 667 Main Street
 Cromwell, Connecticut

Map Notes:

Base Map Source: 2018 Aerial Photograph (CTFCD)
 Map Scale: 1 inch = 250 feet
 Map Date: January 2018

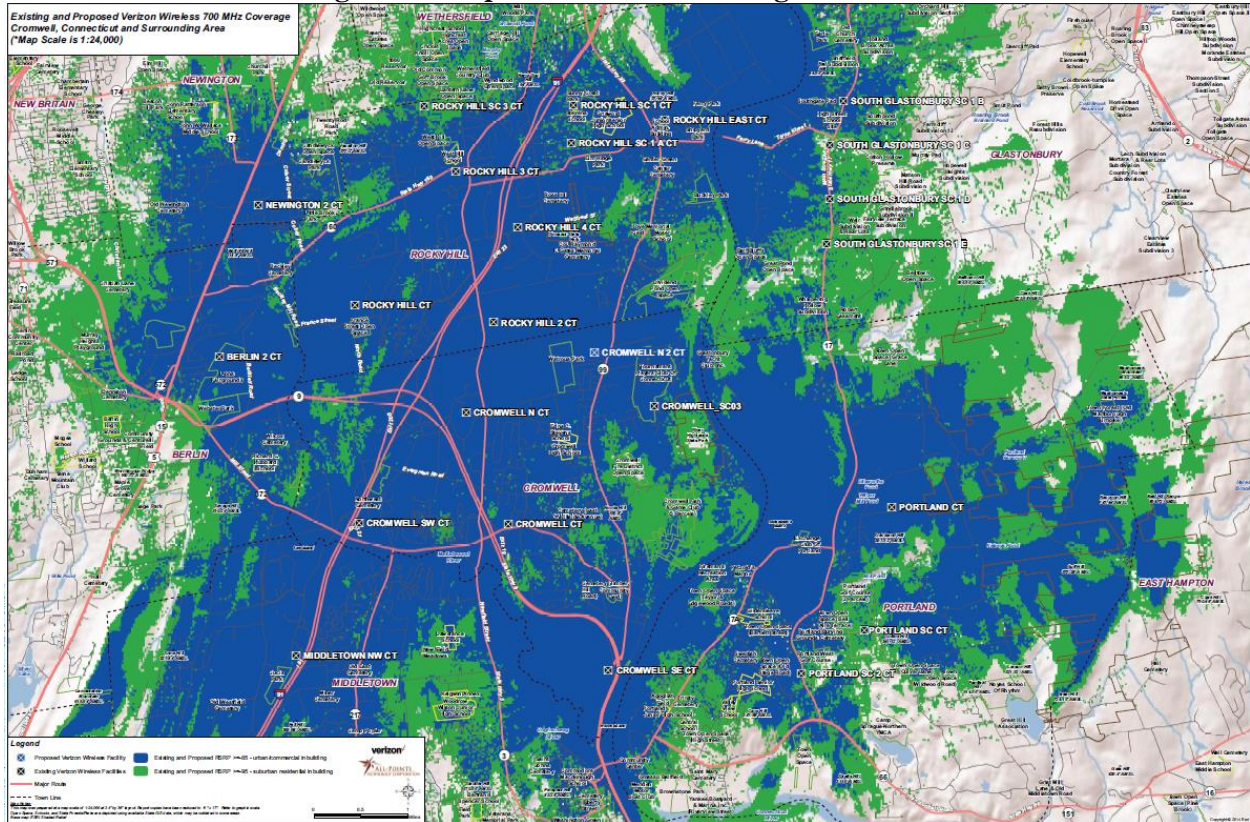


Figure 5 – Existing 700 MHz Coverage*



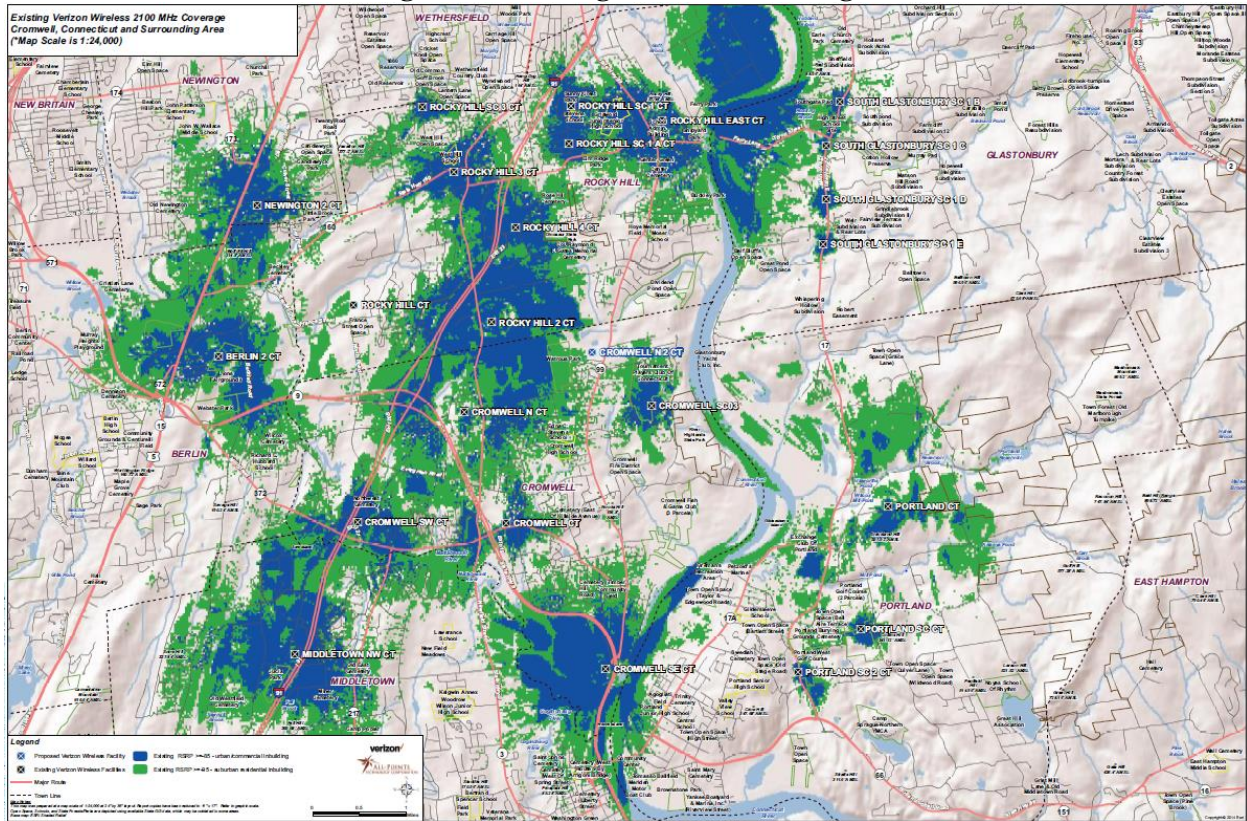
*Blue areas are greater than or equal to -85 dB in-building. Green areas are greater than or equal to -95 dB in-vehicle.
(Cellco 1, Tab 6; Tr. 1, p. 9)

Figure 6 – Proposed 700 MHz Coverage at 120 feet*



*Blue areas are greater than or equal to -85 dB in-building. Green areas are greater than or equal to -95 dB in-vehicle.
(Celco 1, Tab 6; Tr. 1, p. 9)

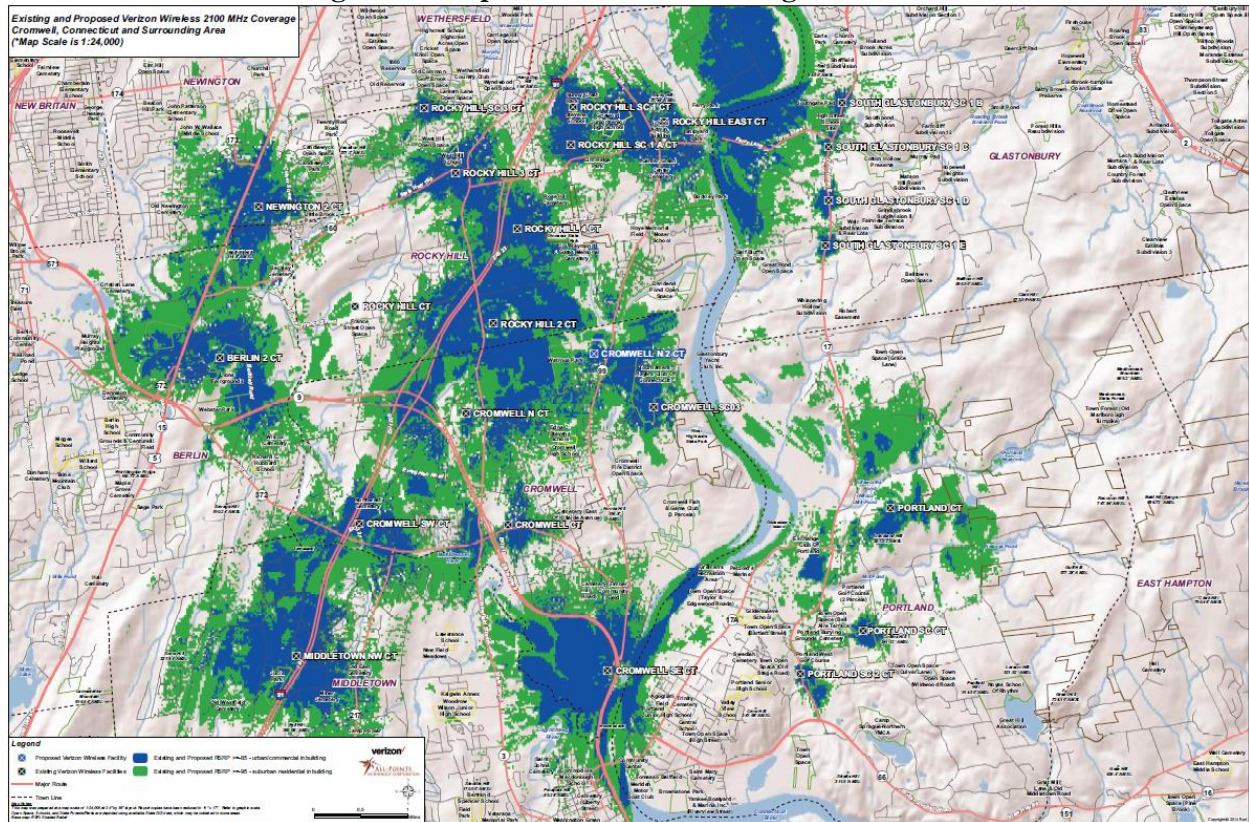
Figure 7 – Existing 2100 MHz Coverage*



*Blue areas are greater than or equal to -85 dB in-building. Green areas are greater than or equal to -95 dB in-vehicle.

(Celco 1, Tab 6; Tr. 1, p. 9)

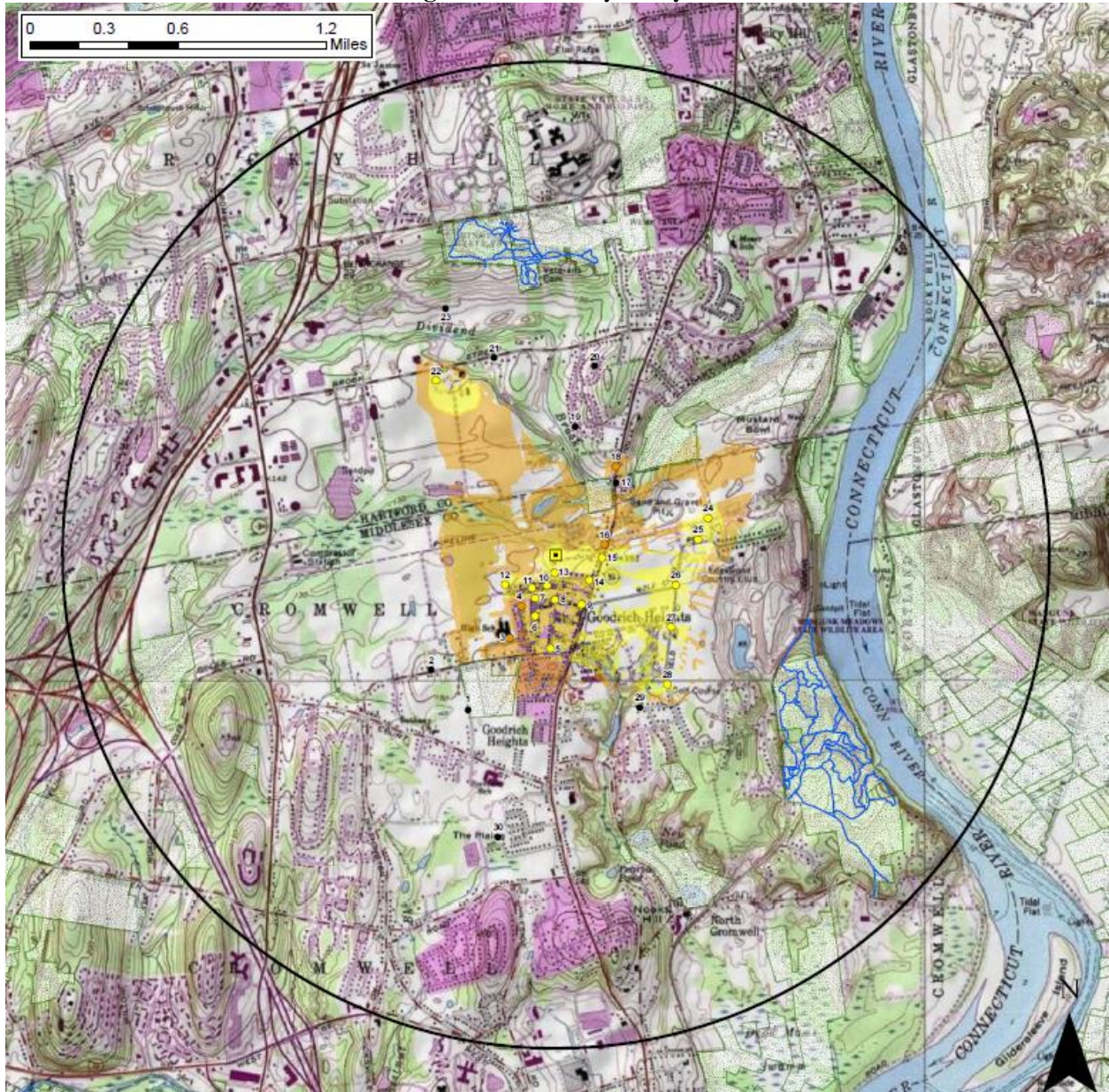
Figure 8 – Proposed 2100 MHz Coverage at 120 feet*













*Blue areas are greater than or equal to -85 dB in-building. Green areas are greater than or equal to -95 dB in-vehicle.

(Cellco 1, Tab 6; Tr. 1, p. 9)

Figure 9 – Visibility Analysis



Legend

-  Proposed Tower
- Photo Locations**
-  Not Visible
-  Seasonal Views
-  Year-round Views
-  Trails
-  Predicted Seasonal Visibility (224 Acres)
-  Predicted Year-Round Visibility (108 Acres)
-  Towns
-  2-Mile Study Area
-  Open Space

(Cellco 1, Tab 9 – Viewshed Map)