



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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July 21, 2017

TO: Parties and Intervenors

FROM: Melanie Bachman, Executive Director *MAB*

RE: **DOCKET NO. 472** - 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 Bridgeport Tax Assessor's Map 85, Block 2805, Lot 29, 541 Broadbridge Road, Bridgeport, Connecticut.

As stated at the hearing in City of Bridgeport on June 15, 2017, after the Connecticut Siting Council (Council) issues its draft findings of fact, parties and intervenors may identify errors or inconsistencies between the Council's draft findings of fact and the record; however, no new information, evidence, argument, or reply briefs will be considered by the Council.

Parties and Intervenors may file written comments with the Council on the Draft Findings of Fact issued on this docket by August 4, 2017.

MB/MP/laf

Enclosure

<p>DOCKET NO. 472 - 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 Bridgeport Tax Assessor's Map 85, Block 2805, Lot 29, 541 Broadbridge Road, Bridgeport, Connecticut.</p>	<p>} Connecticut } Siting } Council } July 14, 2017</p>
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DRAFT 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 March 24, 2017 for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of a 100-foot flagpole wireless telecommunications facility at 541 Broadbridge Road in Bridgeport, 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 is licensed by the Federal Communications Commission (FCC) to provide personal wireless communication service to Fairfield County, Connecticut. (Cellco 1, p. 2; Cellco 1, p. 6 and Tab 5)
3. The party in this proceeding is Cellco. (Transcript 1, June 15, 2017, 3:00 p.m. [Tr. 1], p. 5)
4. The purpose of the proposed facility is to provide enhanced wireless voice and data services in northerly portions of Bridgeport, as well as portions of Trumbull and Stratford; improve coverage along portions of Route 8, Huntington Turnpike and Broadbridge Road and the surrounding commercial and residential areas; and provide capacity relief to Cellco's existing North Bridgeport 2* and Trumbull II** cell sites that are currently operating at or near their capacity limits.

*North Bridgeport 2 is an existing Cellco rooftop telecommunications facility located at 120 Huntington Avenue, Bridgeport.

**Trumbull II is an existing Cellco rooftop telecommunications facility located at Hawley Lane in Trumbull.

(Cellco 1, pp. i and 8; Cellco 1, Tab 6; Cellco 3, response 15)

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 Connecticut Post on March 22, 2017 and March 23, 2017. (Cellco 1, p. 3; Cellco 2; Tr. 1, p. 13)
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 two abutters: Bernice Alicea and Levit Rivera of 602 Broadbridge Road; and 1055 Huntington Turnpike LLC, the property owner of 1055 Huntington Turnpike. On May 11, 2017, notice letters were resent to each by regular mail. On May 18, 2017, Cellco received an email from 1055 Huntington Turnpike LLC stating that they did not object to the tower proposal. On May 23, 2017, the original notice to Bernice Alicea and Levit Rivera was returned, marked "unclaimed." (Cellco 1, p. 3 and Tab 4; Cellco 3, response 2)

7. On March 24, 2017, 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 Trumbull and the Town of Stratford, both located within 2,500 feet of the proposed site. (Cellco 1, p. 3, 18-19 and Tab 2 – Certification of Service)

Procedural Matters

8. Upon receipt of the application, the Council sent a letter to the City of Bridgeport and the Towns of Trumbull and Stratford, which are within 2,500 feet of the proposed facility, on March 27, 2017, as notification that the application was received and is being processed, in accordance with C.G.S. § 16-50gg. (Record)
9. On March 27, 2017, the Council requested an extension of time to deem the application complete due to the timing of scheduled Council meetings. On March 28, 2017, Cellco granted an extension of time until April 28, 2017. (Council Request for Extension for Completeness Review dated March 27, 2017; Cellco Approval of Extension of Time dated March 28, 2017)
10. During a regular Council meeting on April 27, 2017, the application was deemed complete pursuant to Connecticut Regulations of State Agencies (R.C.S.A.) § 16-50/-1a and the public hearing schedule was approved by the Council. (Record)
11. Pursuant to C.G.S. § 16-50m, the Council published legal notice of the date and time of the public hearing in the Connecticut Post on May 2, 2017. (Record)
12. Pursuant to C.G.S. § 16-50m, on April 28, 2017, the Council sent letters to the City of Bridgeport, the Town of Trumbull and the Town of Stratford to provide notification of the scheduled public hearing and to invite the municipalities to participate. (Record)
13. On May 16, 2017, 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 June 15, 2017, at the Office of the Council, 10 Franklin Square, New Britain, Connecticut. (CSC Pre-Hearing Conference Memoranda, dated May 9, 2017 and May 16, 2017)
14. In compliance with R.C.S.A. § 16-50j-21, the Applicant installed a four-foot by six-foot sign along Broadbridge Road on the subject property on May 30, 2017. The sign presented information regarding the project and the Council's public hearing. (Cellco 4)
15. The Council and its staff conducted an inspection of the proposed site on June 15, 2017, beginning at 2:00 p.m. During the field inspection, the applicant flew a 4-foot diameter balloon at the proposed site to simulate the height of the proposed tower. The string height was 97 feet, so the top of the balloon was approximately 101 feet above ground level (agl). Weather conditions included favorable winds during the morning hours where the balloon could maintain its approximate height, but there were approximately 8 to 12 miles per hour wind during the afternoon field review. Visibility was very good, but existing trees did not allow the balloon to maintain its full height at all times. The balloon was aloft from approximately 7:45 a.m. to 6:00 p.m. for the convenience of the public. Cellco flew a red balloon before noon and replaced it with a purple balloon for the afternoon hours. (Council's Hearing Notice dated April 28, 2017; Tr. 1, pp. 12-13)

16. Pursuant to C.G.S. § 16-50m, the Council, after giving due notice thereof, held a public hearing on June 15, 2017, beginning with the evidentiary session of the hearing at 3:00 p.m. and continuing with the public comment session at 7:00 p.m. at the Bridgeport City Hall, Council Chambers, 45 Lyon Terrace, Bridgeport, Connecticut. (Council's Hearing Notice dated April 28, 2017; Tr. 1, p. 1; Transcript 2 – 7:00 p.m. [Tr. 2], p. 1)

State Agency Comment

17. Pursuant to C.G.S. § 16-50j (g), on April 28, 2017, 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)
18. The Council received a response from the DOT's Bureau of Engineering and Construction on May 2, 2017 indicating that DOT had no comments. (DOT Comments received May 2, 2017)
19. The following agencies did not respond with comment on the application: DEEP, DPH, CEQ, PURA, OPM, DECD, DOAg, CAA, DESPP, and SHPO. (Record)

Municipal Consultation

20. Cellco commenced the 90-day pre-application municipal consultation process by meeting with Daniel Roach, Chief of Staff and Edward Adams, Senior Advisor to Bridgeport Mayor Joseph Ganim on November 21, 2016. Cellco provided copies of the technical report to Mr. Roach and Mr. Adams and discussed the project. Cellco also sent copies of the technical report to the Town of Trumbull and the Town of Stratford on November 21, 2016, as both municipalities are within 2,500 feet of the proposed project. (Cellco 1, pp. 18-19; Tr. 1, p. 14)
21. Bridgeport officials did not ask Cellco to hold a public information meeting on the proposed facility. (Cellco 1, p. 19; Tr. 1, p. 88)
22. Cellco did not receive any comments or recommendations from the City of Bridgeport, the Town of Stratford or the Town of Trumbull. Thus, the City of Bridgeport has not expressed a preference for either a flagpole or monopole facility. (Tr. 1, p. 14, 88-89)
23. Cellco's tower design could potentially accommodate external mounting municipal emergency service antennas. However, to date, none of the three municipalities have expressed an interest in co-locating emergency services antennas on the proposed tower. (Cellco 1, p. 12; Tr. 1, p. 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 – Telecommunications Act of 1996)

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 – Telecommunications Act of 1996; 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 – Telecommunications Act of 1996)
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 – Telecommunications Act of 1996)
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 – Telecommunications Act of 1996)
29. In February 2009, as part of the American Recovery and Reinvestment Act, Congress directed the FCC to develop a National Broadband Plan to ensure every American has “access to broadband capability.” Congress also required that this plan include a detailed strategy for achieving affordability and maximizing use of broadband to advance “consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, employee training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes.” (Council Administrative Notice Item No. 18 – 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 – Telecommunications Act of 1996)
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 – 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. 20 – FCC Wireless Infrastructure Report and Order; Council Admin Notice Item No. 12 – Presidential Executive Order 13616, Accelerating Broadband Infrastructure Development)
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. 20 – FCC Wireless Infrastructure 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)

Existing and Proposed Wireless Services

36. Cellco’s proposed facility would provide both coverage and capacity. (Cellco 1, p. i)

37. Cellco would initially deploy 700 MHz and 2100 MHz frequencies at the proposed facility. Based on the amount of wireless traffic that Cellco is looking to offload from the sectors of its adjacent sites, Cellco has determined that these two operating frequency bands would be adequate at this time. The use of 850 MHz and 1900 MHz frequency bands at this site would be evaluated in the future. (Cellco 3, response 16; Tr. 1, p. 17-18)
38. Cellco's existing North Bridgeport 2 and Trumbull II cell sites are currently operating at or near their capacity limits. Specifically, the North Bridgeport 2 is projected to exhaust in November 2017. The Trumbull II site has been exhausted since March 2017. (Cellco 1, p. i; Cellco 3, response 21)
39. The proposed facility would provide network capacity relief for North Bridgeport 2 and Trumbull II for approximately three to five years, depending on various factors related to customer demand. (Cellco 1, p. i; Cellco 3, response 21)
40. In Cellco's efforts to improve network performance, the most critical parameters are the Voice Over LTE (VoLTE) Ineffective Attempts (IA) and VoLTE Dropped Calls (DC). Cellco has provided IA and DC data from the month of April 2017, excluding weekends* and any maintenance windows. Such data is provided in the table below.

Facility Name	Sector	Frequency	Percent IA	Percent DC
Trumbull II	Gamma	700 MHz	0.49	1.61
North Bridgeport 2	Alpha	700 MHz	1.22	2.01
North Bridgeport 2	Beta	700 MHz	0.46	1.09
Stratford West	Alpha	700 MHz	0.54	1.04
Trumbull 4	Beta	700 MHz	0.88	0.79

*Weekend data is neglected because there are typically less calls on the weekends. Less activity could "skew" the data.

(Cellco 3, response 20; Tr. 1, pp. 33-34)

41. Cellco's system performance standard is 0.75 percent or better for DC and IA. Thus, for LTE voice services, none of the surrounding cell sites satisfy Cellco's DC performance standard. Three of the five surrounding cell sites currently meet Cellco's IA performance standard. (Cellco 3, response 20)
42. Cellco's proposed facility would improve the percent IA and DC of all five sectors noted in FOF #40. (Tr. 1, pp. 18-20)
43. For Cellco's LTE network, Cellco designs its network using a 114 dB Reverse Link Operational Path Loss (RLOPL) standard for in-vehicle coverage and 95 dB for in-building coverage. For its CDMA service, Cellco's design signal strengths for in-building and in-vehicle coverage are -75 dBm and -85 dBm, respectively. (Cellco 3, response 18)
44. For 700 MHz, Cellco's existing signal strength in the area of the proposed facility ranges from 98 dB RLOPL to 138 dB RLOPL. For 2100 MHz, Cellco's existing signal strength ranges from 114 dB RLOPL to 142 dB RLOPL. (Cellco 3, response 19)

45. The table below indicates Cellco's approximate existing coverage gaps along primary roads at various frequencies.

Street Name	700 MHz Coverage Gap	2100 MHz Coverage Gap
Route 8	0.0 miles	0.0 miles
Huntington Turnpike	0.0 miles	0.3 miles
Broadbridge Road	0.2 miles	0.0 miles
Primary Road Total	0.2 miles	0.3 miles

(Cellco 3, response 24)

46. The table below indicates Cellco's approximate sum of existing coverage gaps along secondary roads at various frequencies.

Street Name	700 MHz Coverage Gap	2100 MHz Coverage Gap
Secondary Road Total	0.8 miles	1.2 miles

(Cellco 3, response 25; Tr. 1, pp. 23-24)

47. The tables below indicate the distances that Cellco would cover along primary roads and secondary roads in the area of its proposed facility at the proposed antenna centerline heights of 92 feet and 82 feet and ten feet lower (i.e. antenna heights of 82 feet and 72 feet) for various frequencies.

Street Name	700 MHz Coverage at 92 feet/82 feet	2100 MHz Coverage at 92 feet/82 feet
Route 8	0.7 miles	0.6 miles
Huntington Turnpike	0.9 miles	0.8 miles
Broadbridge Road	1.2 miles	1.0 miles
Secondary Roads	0.8 miles	1.2 miles
Total	3.6 miles	3.6 miles

Street Name	700 MHz Coverage at 82 feet/72 feet	2100 MHz Coverage at 82 feet/72 feet
Route 8	0.7 miles	0.4 miles
Huntington Turnpike	0.8 miles	0.7 miles
Broadbridge Road	1.1 miles	0.8 miles
Secondary Roads	0.8 miles	1.2 miles
Total	3.4 miles	3.1 miles

(Cellco 1, p. 8; Cellco 3, responses 26 and 27; Tr. 1, pp. 23-24)

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

Antenna Heights	Area Coverage with 700 MHz	Area Coverage with 2100 MHz
92 feet/82 feet	4.82 square miles	3.67 square miles
82 feet/72 feet	4.03 square miles	1.87 square miles

(Cellco 1, p. 8; Cellco 3, response 27)

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

Cellco's Site Name and Location	Distance and Direction from Proposed Tower	Height of Cellco's Antennas Centerline	Structure Type
North Bridgeport 2 – 120 Huntington Avenue, Bridgeport	0.90 miles southwest	125 feet	Rooftop
Trumbull 4 – 900 Old Town Road, Trumbull	1.35 miles northwest	90 feet	Transmission Line Lattice Tower
Trumbull II – 180 Hawley Lane, Trumbull	1.30 miles northeast	64 feet	Rooftop
Stratford West – 23 Stonybrook Road, Stratford	1.70 miles southeast	77 feet	Monopole

(Cellco 1, p. 8; Cellco 3, response 15)

50. For the areas that would be covered by the proposed facility, the traffic counts on major roads based on DOT data are listed below.

	Average Daily Trips
Route 8 (near intersection with Chopsy Hill Road)	88,300
Broadbridge Road	7,500
Huntington Turnpike	6,500

(Cellco 3, response 29)

51. The minimum antenna centerline heights for Cellco to meet its wireless service objectives are 92 feet and 82 feet. The height requirement is driven by both coverage and capacity needs. (Cellco 4, response 22; Tr. 1, p. 92)

52. If the tower were ten feet shorter than the proposed height, one antenna array would be at 82 feet and one would be at 72 feet. While there would be little coverage difference or difference in services for Cellco to have its top array lowered to 82 feet, Cellco cannot place its lower array at 72 feet because of its high band 2100 MHz and PCS 1900 MHz band. Furthermore, other carriers would be less interested in co-locating at the 62-foot level of the tower. (Tr. 1, p. 23)

53. From a purely capacity standpoint, if tower were ten feet shorter, there would be a difference in Cellco's ability to provide capacity relief, but it would not be expected to be significant. (Tr. 1, p. 23)

Site Selection

54. Cellco's original 3G CDMA search ring was initiated in approximately June 2011 as a capacity search ring. However, it was initially put on hold because it was a lower priority site for Cellco. The original search ring was later reactivated in July 2014 as an LTE capacity offload site because the surrounding LTE sectors were being exhausted. (Cellco 1, p. 11; Cellco 3, response 1)
55. The original search ring was centered on the location of the proposed facility. When Cellco reactivated the search ring in 2014, the search ring was moved closer to Route 8, near the property located at 1235 Huntington Turnpike. However, the sites investigated that were closer to Route 8 were rejected, and Cellco went back to the original site at 541 Broadbridge Road. This updated search ring has a radius of approximately 0.25 miles and is centered at 41 degrees 13 minutes 28.51 seconds north latitude and 73 degrees 10 minutes 7.58 seconds west longitude. (Cellco 3, response 1)
56. There are no other existing towers or other sufficiently tall structures available within Cellco's search area. (Cellco 5, p. 2; Tr. 1, p. 46)
57. After determining there were no suitable structures within the search area, Cellco searched for properties suitable for tower development. Cellco investigated ten parcels/areas, one of which was selected for site development. The nine rejected parcels/areas and reasons for their rejection are as follows:
- a) **1235 Huntington Turnpike, Trumbull** – This parcel was rejected because the property owner was not interested in leasing space to Cellco for a tower site.
 - b) **1055 Huntington Turnpike, Bridgeport** – This parcel was rejected because the property owner was not interested in leasing space to Cellco for a tower site.
 - c) **1294 Huntington Turnpike, Bridgeport** – This parcel was rejected because the property owner was not interested in leasing space to Cellco for a tower site.
 - d) **1234 Huntington Turnpike, Bridgeport** – This parcel was rejected because the property owner was not interested in leasing space to Cellco for a tower site.
 - e) **8 Knollcrest Drive, Trumbull** – This parcel was rejected because the property owner was not interested in leasing space to Cellco for a tower site.
 - f) **19 Knollcrest Drive, Trumbull** – After a site visit, Cellco determined that this location would not work due to site topography issues. It would not be feasible to construct on this site because significant cutting and grading would be required.
 - g) **900 Huntington Turnpike, Bridgeport** – This parcel was rejected because the property owner was not interested in leasing space to Cellco for a tower site.
 - h) **1000 Huntington Turnpike, Bridgeport** – This parcel was rejected because the property owner was not interested in leasing space to Cellco for a tower site.
 - i) **263 Broadbridge Avenue, Trumbull** – This parcel was rejected because there would be significant wetland impacts associated with tower development at this site. Specifically, a majority of the undeveloped portion of the parcel is dominated by a wetland area.

(Cellco 5, p. 2; Tr. 1, pp. 14-15, 35-36)

58. Cellco selected the northeastern corner of the subject property for the proposed tower site so that the facility could be placed in an under-utilized portion of the property. The facility could be located in a different location on the subject property as long as the location does not affect parking and servicing of the shopping plaza and is approved by the land owner. (Cellco 3, response 3)

59. Cellco did not consider a rooftop facility on the shopping plaza building due to the inability to structurally support what would be an 87-foot 3-inch flagpole tower. Major structural modifications would be required to install a rooftop facility. (Cellco 3, response 3)
60. It may be possible that a series of small cell installations of existing utility poles could help improve wireless service in the residential areas around the proposed facility. However, no such utility poles (to accommodate small cells or a distributed antenna system) exist along these portions of Route 8 that would be served by the proposed facility. The actual number of small cells required to provide comparable service to the proposed facility is not known but is expected to be significant given the size of the area that Cellco seeks to serve. (Cellco 3, response 30; Tr. 1, p. 16)
61. Cellco prefers to avoid co-locating on electric transmission structures because gaining access to service a wireless telecommunications facility on such a structure requires scheduling a line outage which could take days, weeks or even months. (Tr. 1, p. 49-50)

Facility Description

62. The proposed site is located on an approximately 1.26-acre parcel at 541 Broadbridge Road in Bridgeport. The parcel is owned by Beardsley Plaza Limited Partnership. The proposed site location is depicted on Figure 1. (Cellco 1, p. i)
63. The subject property is zoned Office Retail (OR) and is occupied by the Beardsley Park Shopping Plaza, with its related parking and loading areas. (Cellco 1, p. 17)
64. The tower site is located in the northeastern portion of the property, at an elevation of approximately 81 feet above mean sea level (amsl). (Cellco 1, Tab 1 – Sheets T-1 and C-1)
65. Land use within the immediate vicinity is primarily a mix of medium density commercial and residential development, with Routes 8, 25 and 15 transportation corridors to the north and Broadbridge Road to the south. ((Cellco 1, Tab 9 – Visibility Analysis, p. 1)
66. The proposed facility would consist of a 100-foot flagpole tower within an 8-foot by 19-foot leased area. The tower would be approximately 42 inches wide at the base tapering to 36 inches wide at the top. The tower would be designed to be expandable in height by up to 20 feet. (Cellco 1, p. i; Cellco 1, Tab 16 – Option and Land Lease Agreement, p. 1; Cellco 1, Tab 1 – Facilities and Equipment Specifications; Tr. 1, p. 35, 90-91; Tr. 1, p. 35)
67. The proposed flagpole would be white. However, Cellco would be willing to consider alternative colors for the structure. (Cellco 3, response 8)
68. The proposed flagpole* tower would not have a flag, due to concerns relating to lighting protocol and ongoing maintenance obligations associated with flying a flag.

*Without a flag, the proposed facility could be referred to as a “unipole.”
(Cellco 3, response 9; Tr. 1, p. 75)
69. Cellco would install three panel antennas inside the tower at a centerline height of 92 feet above ground level (agl) and three panel antennas inside the tower at a centerline height of 82 feet agl. All antennas would be located behind RF transparent sheathing. The total height of the facility would be 100 feet agl. (Cellco 1, p. i; Cellco 1, Tab 1 – Sheet C-4)

70. In lieu of a flagpole, Cellco could install a monopole within the same sized compound. Cellco would require the same tower height for a monopole. With a 100-foot monopole, Cellco would prefer a traditional triangular antenna array with all of its antennas at a centerline height of roughly 96 or 97 feet. A monopole would have approximately the same base diameter as the flagpole, but the diameter at the top would be smaller. (Tr. 1, pp. 87-90)
71. A 19-foot by 8-foot fenced equipment compound would be established at the base of the tower. Cellco's equipment cabinet and battery cabinet on steel dunnage would be mounted to a concrete pad within the fenced compound. Cellco's backup generator would also be located within the fenced compound. (Cellco 1, Tab 1 – Sheet C-3)
72. The proposed equipment compound will be surrounded by an eight-foot high chain-link fence with privacy slats and one foot of barbed wire on top. While the proposed fence would have two-inch mesh, the privacy slats would function as both a visual barrier and an anti-climbing feature. The compound would be fenced on three sides, with the western side against the shopping center building. (Cellco 1, Tab 1 – Sheets C-3 and C-4; Cellco 3, responses 10 and 11)
73. No other wireless carriers have expressed an interest in co-locating on the proposed tower at this time. (Tr. 1, p. 16)
74. Minimal grading for the facility compound would be required due to the generally flat topography. (Cellco 1, Tab 1 – Site Evaluation Report)
75. Access to the proposed site compound from Broadbridge Road would be provided over an existing paved driveway and parking area used by the shopping center for a total distance of about 170 feet. Cellco would expand the existing access slightly to the east with more asphalt and would remove the curbing to facilitate access. (Cellco 1, p. i; Tr. 1, p. 30-31)
76. Electric and telecom utilities would be installed underground to the site from an existing utility pole on the same side of Broadbridge Road as the subject property. (Cellco 1, Tab 1 – Aerial Photograph)
77. The proposed natural gas line (to supply the backup generator) would rise up the wall of the shopping center building, travel through the inside of the building along the roof line and would exit the building on the north side to connect to a new gas meter. It may be possible to have the natural gas line run underground from Broadbridge Road similar to the electric and telecom utilities. However, the final natural gas line route would be subject to discussions with the natural gas utility company. If the project is approved, Cellco would include the final natural gas line route in the D&M Plan. (Cellco 1, Tab 1 – Aerial Photograph; Tr. 1, p. 31)
78. The nearest property boundary from the proposed tower is approximately 17 feet to the east (Ferreira property). (Cellco 1, Tab 1 – Sheet C-1; Tr. 1, p. 16)
79. There are approximately 142 residences within 1,000 feet of the proposed tower site. The nearest residence is located at 29 Holland Road, approximately 75 feet to the east of the tower site (Ferreira residence). (Cellco 1, p. 14; Cellco 1, Tab 1 – Sheet C-1)
80. 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. Equipment installation is expected to take an additional four weeks after the installation of the tower. After the equipment installation, cell site integration and system testing is expected to require about two additional weeks. (Cellco 1, p. 21)

81. The estimated construction cost of the proposed facility is as follows:

Cell site radio equipment	\$ 170,000.
Tower, coax and antennas	\$ 250,000.
Power systems	\$ 50,000.
Equipment and platform	\$ 98,000.
<u>Miscellaneous (inc. site prep and installation)</u>	<u>\$ 45,000.</u>
Total	<u>\$ 613,000.</u>

(Cellco 1, p. 20)

Public Safety

82. 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)
83. The proposed facility would be in compliance with the requirements of the 911 Act and would provide Enhanced 911 services. (Cellco 1, p. 5, 12)
84. 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. 19 – FCC Text-to-911: Quick Facts & FAQs)
85. Cellco's proposed facility would be capable of supporting text-to-911 service as soon as the PSAP is capable of receiving text-to-911. However, Cellco is not aware of any PSAPs in the vicinity of the proposed tower site are able to accept text-to-911 service at this time. (Cellco 3, responses 13 and 14)
86. 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)
87. The tower would be constructed in accordance with the governing standard in the State of Connecticut for tower design in accordance with the currently adopted International Building Code. Final tower and foundation design details would be provided in the Development and Management (D&M) Plan for the facility. (Cellco 3, response 37; Cellco 1, Tab 1 – Facilities and Equipment Specifications)

88. 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. 19 and Tab 15)
89. Cellco's radio equipment cabinets would be equipped with silent intrusion alarms. Cell site technicians monitoring the site would be alerted to attempts to tamper or break in to the cabinets and would contact the local police. (Cellco 3, response 10)
90. With the proposed tower located 17 feet from the eastern property line, the tower setback radius extends beyond the property boundary by about 83 feet to the east. The tower could be designed with a yield point so that, in the unlikely event of a tower failure, the structure would remain on the subject parcel. Even though the 83-foot level of the tower would be in the vicinity of the antenna and RF dome location, the yield point can be designed as part of the internal structure of the tower. (Cellco 1, Tab 1, Sheet C-1; Cellco 3, response 6; Tr. 1, pp. 16-17)
91. 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 12.9% of the standard for the General Public/Uncontrolled Maximum Permissible Exposure, as adopted by the FCC, at the base of the proposed tower. This calculation was based on methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997) that assumes all antennas 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 13 – General Power Density Table; Council Administrative Notice Item No. 2 – FCC OET Bulletin No. 65; Tr. 1, p. 22)

Emergency Backup Power

92. 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. 45)
93. 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. 25 – Council Docket No. 432)
94. 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. 25 – Council Docket No. 432)

95. For backup power, Cellco proposes a 25-kilowatt natural gas-fueled generator. Barring a mechanical breakdown, maintenance shutdown or interruption of natural gas supply, Cellco's backup generator would have an essentially unlimited run time because its fuel is pipeline supplied. (Cellco 1, p. 2, 10 and Tab 7; Cellco 3, response 31)
96. Cellco's backup generator would be sized for its own use. Due to limited ground space available at the site, a generator large enough to provide backup power to multiple carriers would not fit within the limits of the existing compound and lease area. (Cellco 3, response 34)
97. The generator would be "exercised" twice per month for about 30 minutes for maintenance purposes. This would be performed during daytime hours, typically between noon and 1:00 p.m. (Cellco 3, response 35; Tr. 1, p. 37)
98. Cellco would also have a battery backup in order to provide uninterrupted power and avoid a "re-boot" condition. The battery backup system alone could provide about four to eight hours of backup power depending on site loading. However, if site traffic increases significantly, this could decrease to as little as two hours, which makes the backup generator critical to the system. (Cellco 3, response 32)
99. The generator would have secondary containment for engine oil and coolant. Fuel containment is not applicable because a natural gas generator does not have a fuel tank. (Cellco 3, response 36)
100. Cellco would comply with any DEEP requirements/limitations regarding hours of generator operation and fuel consumption monitoring. (Tr. 1, p. 56)
101. 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 DEEP Noise Control Regulations. Noise associated with Cellco's radio equipment would be comparable to a hum from a household refrigerator. Notwithstanding, Cellco would be willing to perform a noise analysis and, if necessary, install sound attenuation materials (e.g. padding against the inside of the fencing) to ensure compliance with the DEEP Noise Control Regulations. (R.C.S.A. §22a-69-1.8; Tr. 1, pp. 37-38, 91-92)

Environmental Considerations

102. There are no historic resources on or eligible for listing on National Register of Historic Places within one-half mile of the proposed facility. (Cellco 1, Tab 12 – Preliminary Historic Resources Determination)
103. Cellco submitted a request (with applicable historic documentation) to the State Historic Preservation Office (SHPO) on May 12, 2017. As of June 15, 2017, a response from the SHPO has not been received. (Cellco 3, response 41; Tr. 1, p. 24)
104. No wetlands are located on the subject property. An intermittent watercourse flows under the central portion of the subject property and daylight off site along the northern property boundary and across Broadbridge Road, south of the subject property. The proposed flagpole facility would be located approximately 190 feet east of the watercourse. The underground utility route would be located approximately 120 feet northeast of the watercourse, across (or south) of Broadbridge Road. (Cellco 1, Tab 11 – Wetland Inspection Report)

105. Since the proposed facility and associated development activities would be located within existing developed and disturbed areas that are a significant distance from the intermittent watercourse, the proposed development would not likely result in an adverse impact to this resource, subject to erosion and sedimentation controls being installed and maintained during construction in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sedimentation Control*. (Cellco 1, Tab 11 – Wetland Inspection Report, p. 2)
106. 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. 18 and Tab 14)
107. While the City of Bridgeport is located within the Connecticut Coastal Area, the proposed facility would not be located within the Coastal Boundary. (Tr. 1, p. 30; C.G.S. §22a-94)
108. No trees would be removed as a result of the proposed project. However, some of the existing trees would be trimmed to simplify the installation of the tower. (Tr. 1, pp. 24-25)
109. No negative impacts to State-listed species are expected to result from the proposed project. (Cellco 3, response 42)
110. No federally-listed threatened or endangered species were identified in the project area. No critical habitats were identified within the project area. (Cellco 1, Tab 10 – U.S. Fish & Wildlife Service Letter dated January 20, 2017)
111. According to Cellco's consultation with U.S. Fish & Wildlife Service (USFWS), the northern long-eared bat (NLEB), a federally-listed Threatened Species and State-listed Endangered Species, was not identified in the part of Bridgeport that the proposed facility would be located. Also, with no tree clearing proposed, no effect on the NLEB is expected. (Tr. 1, p. 25; Council Administrative Notice Item No. 35, p. 1)
112. The nearest Important Bird Area (IBA) to the proposed tower site, as designated by the National Audubon Society, is Milford Point/Wheeler Marsh/Mouth of the Housatonic River in Milford and Stratford, located approximately 3.25 miles southeast of the proposed site. Due to the significant distance separating the proposed facility from this IBA, no adverse impact to this resource or the bird species it supports are expected to result from the proposed project. (Cellco 3, response 39)
113. The proposed facility would comply with the 2013 USFWS guidelines for minimizing the potential for telecommunications towers to impact bird species. (Cellco 3, response 40)
114. Cellco does not anticipate the need for blasting at the proposed site. Notwithstanding, if the facility is approved, a complete geotechnical survey would be prepared and subsurface conditions would be evaluated. (Cellco 3, response 12)

Visibility

115. The proposed tower would be visible year-round from approximately 60 acres within a two-mile radius of the site (refer to Figure 11). The tower would be seasonally visible from approximately 489 acres within a two-mile radius of the site. (Cellco 1, Tab 9 – Visibility Analysis Viewshed Map)
116. The majority of the year-round views of the facility would occur from areas within the immediate vicinity of the site or roughly within a 0.25-mile radius or less. About five or six (off-site) parcels would be expected to have partial year-round views of the proposed facility. (Cellco 1, Tab 9 – Visibility Analysis, p. 6; Tr. 1, p. 29)

117. Due to the relatively dense development, topography and vegetative cover throughout the study area, seasonal views of the proposed facility would generally be limited to locations within a roughly 0.75-mile radius. (Cellco 1, Tab 9 – Visibility Analysis, p. 6)
118. Pursuant to CGS § 16-50p(a)(3)(F), the nearest school is The Hooker School approximately 0.37 miles south of the proposed facility. The nearest child day care facility is The Laurel School for Young Children approximately 0.42 miles northwest of the proposed facility. No views of the proposed facility are expected at either location. (Cellco 1, Tab 9 – Visibility Analysis, p. 2, 6)
119. Visibility of the proposed tower from specific locations within a two-mile radius of the site is presented in the table below:

Specific Location	Photo location on Map	Approx. Portion of Facility Visible	Approx. Distance & Direction to Tower
Broadbridge Road, Bridgeport	1	Not visible	0.47 miles east
Broadbridge Road, Bridgeport	2	Year-round – approx. 80 feet	0.18 miles northeast
Duane Place, Bridgeport	3	Year-round – approx. 30 feet	0.13 miles southeast
Broadbridge Road, Bridgeport	4	Year-round – approx. 70 feet	0.11 miles northeast
Huntington Turnpike, Bridgeport	5	Year-round – approx. 80 feet	0.073 miles east
Huntington Turnpike, Bridgeport	6	Not visible	0.23 miles northeast
Hooker Road, Bridgeport	7	Year-round – All of tower	0.058 miles northeast
Hooker Road, Bridgeport	8	Year-round – All of tower except base	0.16 miles northeast
Hooker Road, Bridgeport	9	Year-round – approx. 30 feet	0.37 miles northeast
Hooker Road, Bridgeport	10	Year-round – approx. 25 feet	0.50 miles northeast
Hooker Road, Bridgeport	11	Not visible	0.51 miles northeast
Roger Williams Road, Bridgeport	12	Not visible	0.38 miles northeast
Lynne Place at Alameda Place, Bridgeport	13	Not visible	0.17 miles north
Greystone Road, Bridgeport	14	Not visible	0.20 miles northwest
Alameda Place, Bridgeport	15	Not visible	0.092 miles northwest
Holland Road, Bridgeport	16	Year-round – approx. 30 feet	0.040 miles northwest
Holland Road, Bridgeport	17	Year-round – approx. 25 feet	0.068 miles southwest
Iwanicki Circle, Bridgeport	18	Not visible	0.17 miles southwest
Huntington Turnpike, Trumbull	19	Not visible	0.36 miles southwest
Lawlor Terrace, Stratford	20	Not visible	0.74 miles southwest
Gannon Drive, Stratford	21	Not visible	0.59 miles southwest
Second Hill Lane, Stratford	22	Not visible	0.72 miles northwest

Ridgefield Drive, Stratford	23	Not visible	0.52 miles northwest
Oak Ridge Drive, Stratford	24	Not visible	0.58 miles southeast
Unity Park, Trumbull	25	Not visible	1.09 miles southeast
Quarry Road, Trumbull	26	Not visible	1.05 miles southeast
White Plains Road, Trumbull	27	Not visible	0.54 miles southeast
Sylvan Avenue, Trumbull	28	Not visible	1.04 miles east
Seltsam Road, Bridgeport	29	Not visible	1.08 miles northeast
Huntington Plaza, Bridgeport	30	Not visible	0.73 miles northeast
East Main Street at Beardsley Park, Bridgeport	31	Not visible	0.92 miles northeast
East Main Street, Bridgeport	32	Not visible	1.04 miles northeast
East Main Street, Stratford	33	Not visible	1.87 miles northwest

(Cellco 1, Tab 9 – Visibility Analysis)

120. The Housatonic Trail runs in a north/south direction approximately 0.5 miles to the west of the proposed tower site. The proposed facility is not expected to be visible from the Housatonic Trail. (Cellco 1, Tab 9 – Visibility Analysis, p. 2 and Viewshed Map; Tr. 1, p. 13)
121. The proposed tower is not expected to be visible from Beardsley Park. (Tr. 1, pp. 26-27)
122. The Merritt Parkway (Route 15), a State-designated Scenic Road, is located approximately one mile to the north of the proposed facility. The proposed facility is not expected to be visible from Route 15. (Cellco 1, Tab 9 – Visibility Analysis, p. 2 and Viewshed Map)
123. There are no known locally-designated scenic roads within the two-mile viewshed study area. (Cellco 3, response 38)
124. The abutting property to the east, 29 Holland Road, would have year-round visibility of the top of the tower and seasonal visibility of the tower itself through the existing deciduous trees. (Tr. 1, pp. 27-29; Cellco 1, Tab 1 – Sheet C-1)
125. The abutting property to the north, 1088 Huntington Turnpike, would have less of a wintertime (i.e. seasonal) view of the facility than properties to the east because the shopping center building would shield the ground equipment, compound and a fair amount of the tower. (Tr. 1, p. 30; Cellco 1, Tab 1 – Sheet C-1)
126. Given the proposed site’s proximity to residences, Cellco believes that a flagpole design would be the least visually intrusive of all the stealth tower design options. The flagpole is designed to have a slim profile with no external or horizontal appurtenances. (Cellco 3, response 5; Cellco 1, Tab 9 – Visibility Analysis, p. 6)

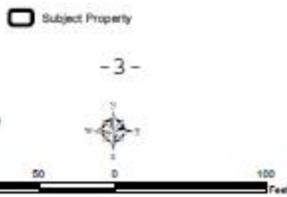
Figure 1 – Aerial Map



Legend

- Proposed 100' Flagpole Tower
- Proposed Fenced/Gravel Equipment Compound Area
- Proposed Natural Gas Meter at Grade
- Proposed Natural Gas Line Routed Along Building Roof
- Proposed Underground Electric & Telco Utilities
- Approximate Parcel Boundary (CTDEEP GIS Parcels Last Updated 2010)

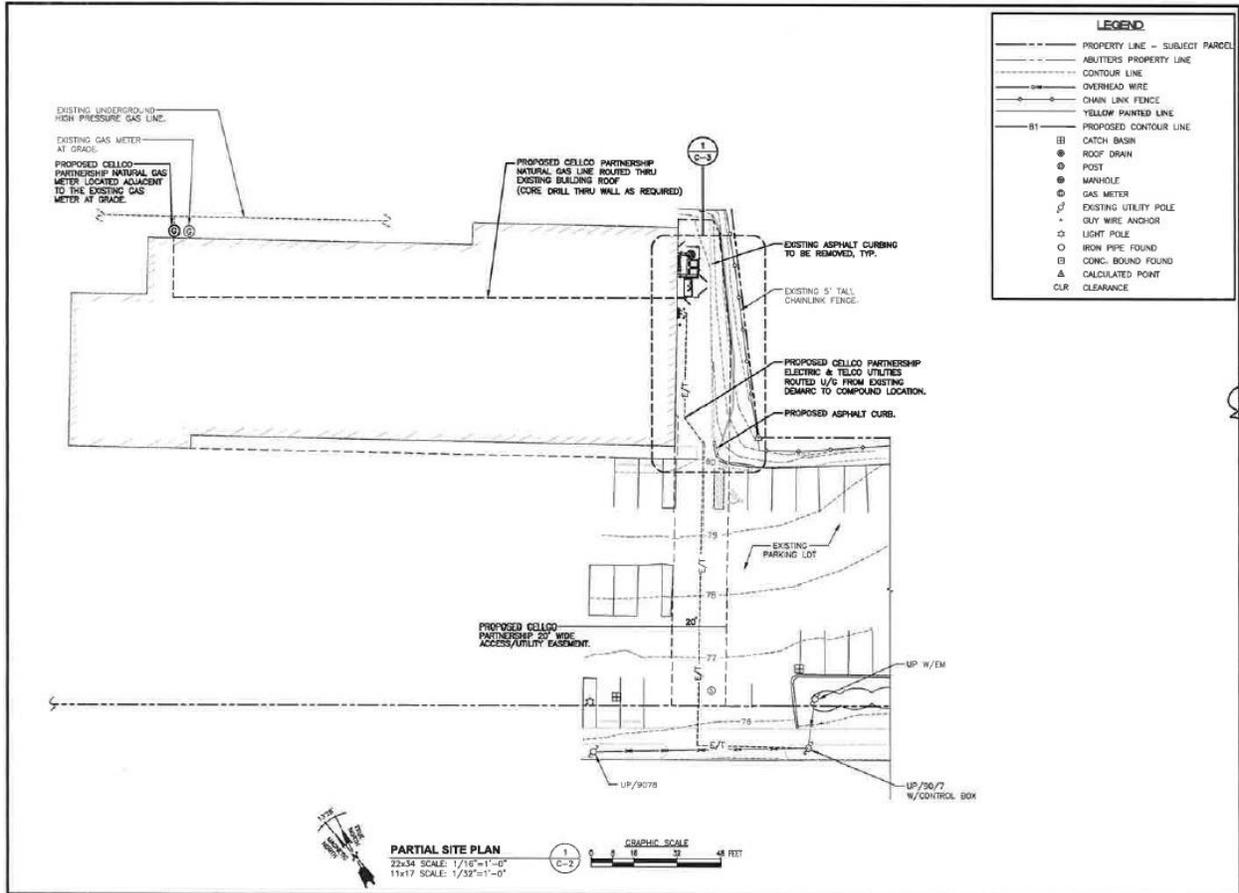
Map Notes:
 No wetlands or watercourses identified on the subject property
 Base Map Source: ESRI Imagery, GBRC RRP 2013
 Map Scale: 1 inch = 100 feet
 Map Date: March 2017



Aerial Photograph
 Proposed Wireless
 Telecommunications Facility
 Bridgeport NE
 541 Broadbridge Road
 Bridgeport, Connecticut.

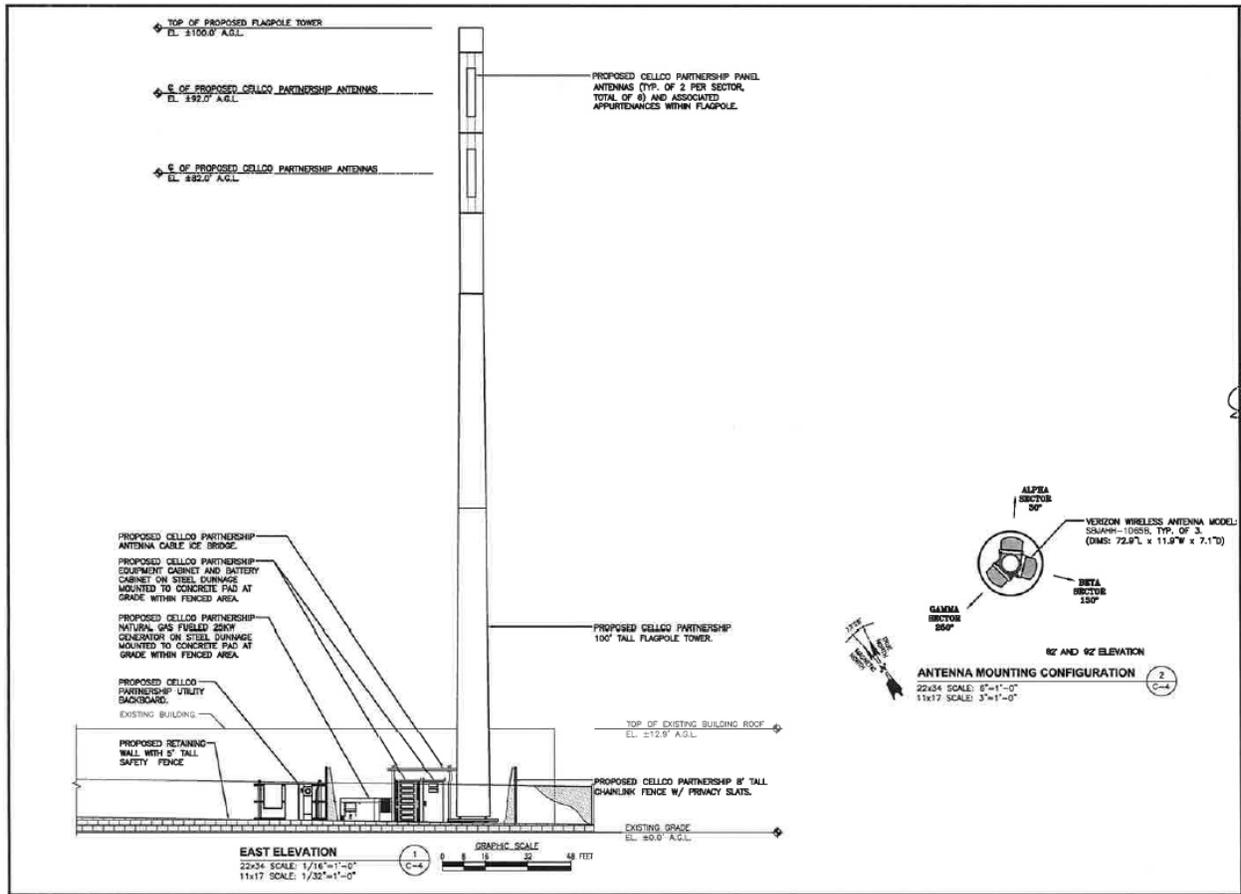


Figure 2 – Site Plan



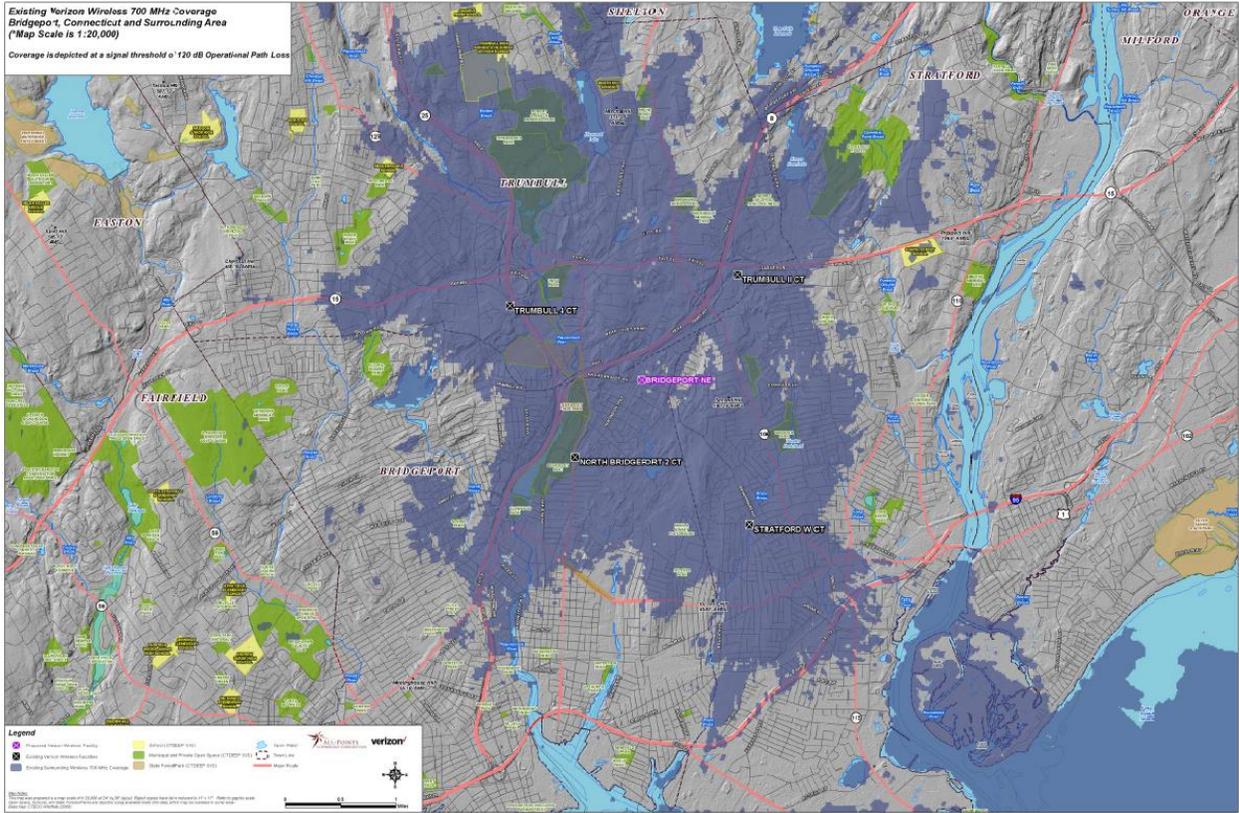
(Cellco 1, Tab 1 – Sheet C-2)

Figure 4 – Tower Profile Drawing



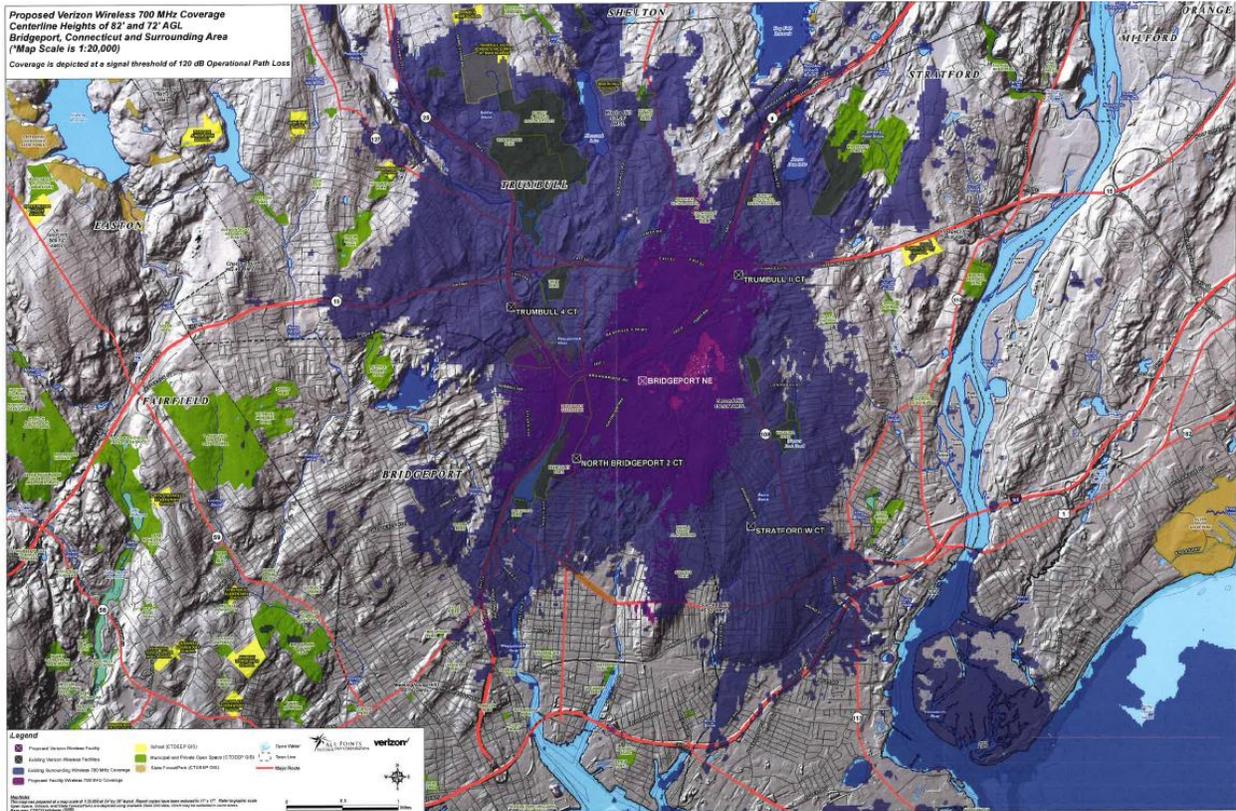
(Cellco 1, Tab 1 – Sheet C-4)

Figure 5 – Existing 700 MHz Coverage



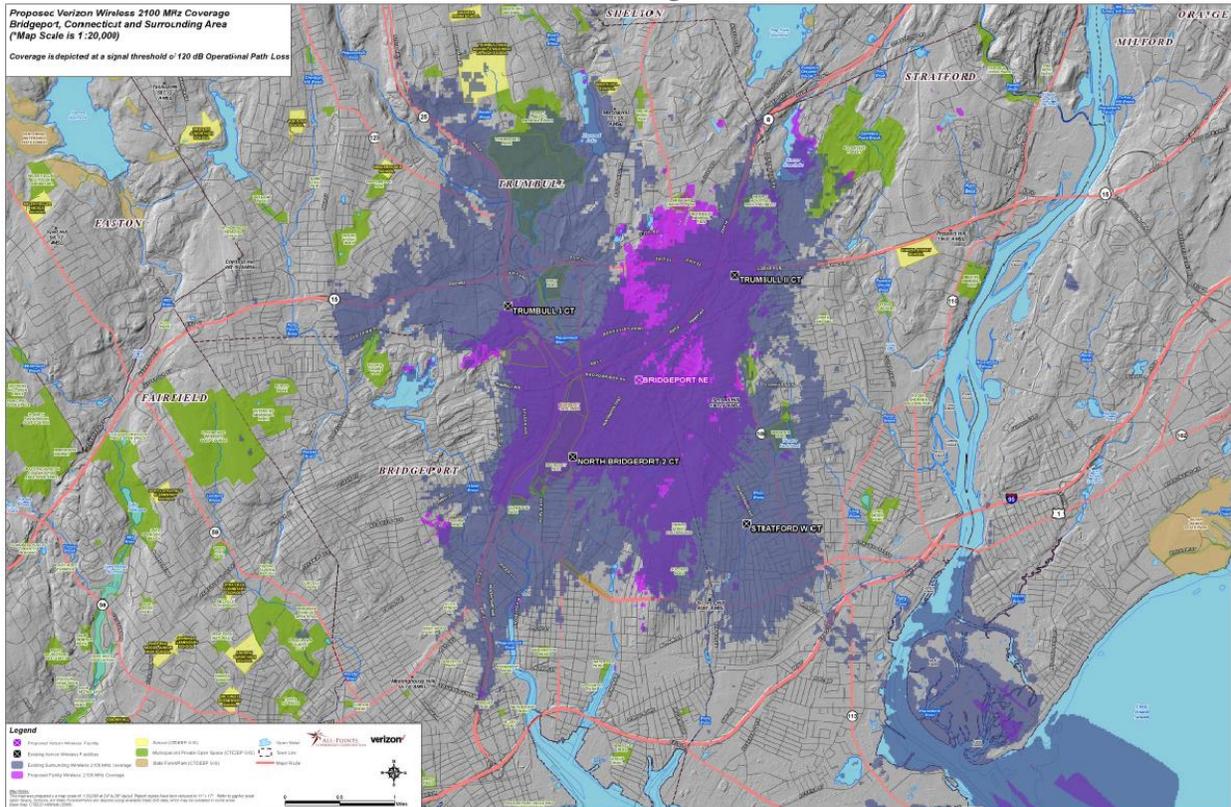
(Cellco 1, Tab 6)

Figure 7 – Existing Coverage and Coverage from the Proposed Facility at 700 MHz for 82 feet and 72 feet Antenna Centerline Heights



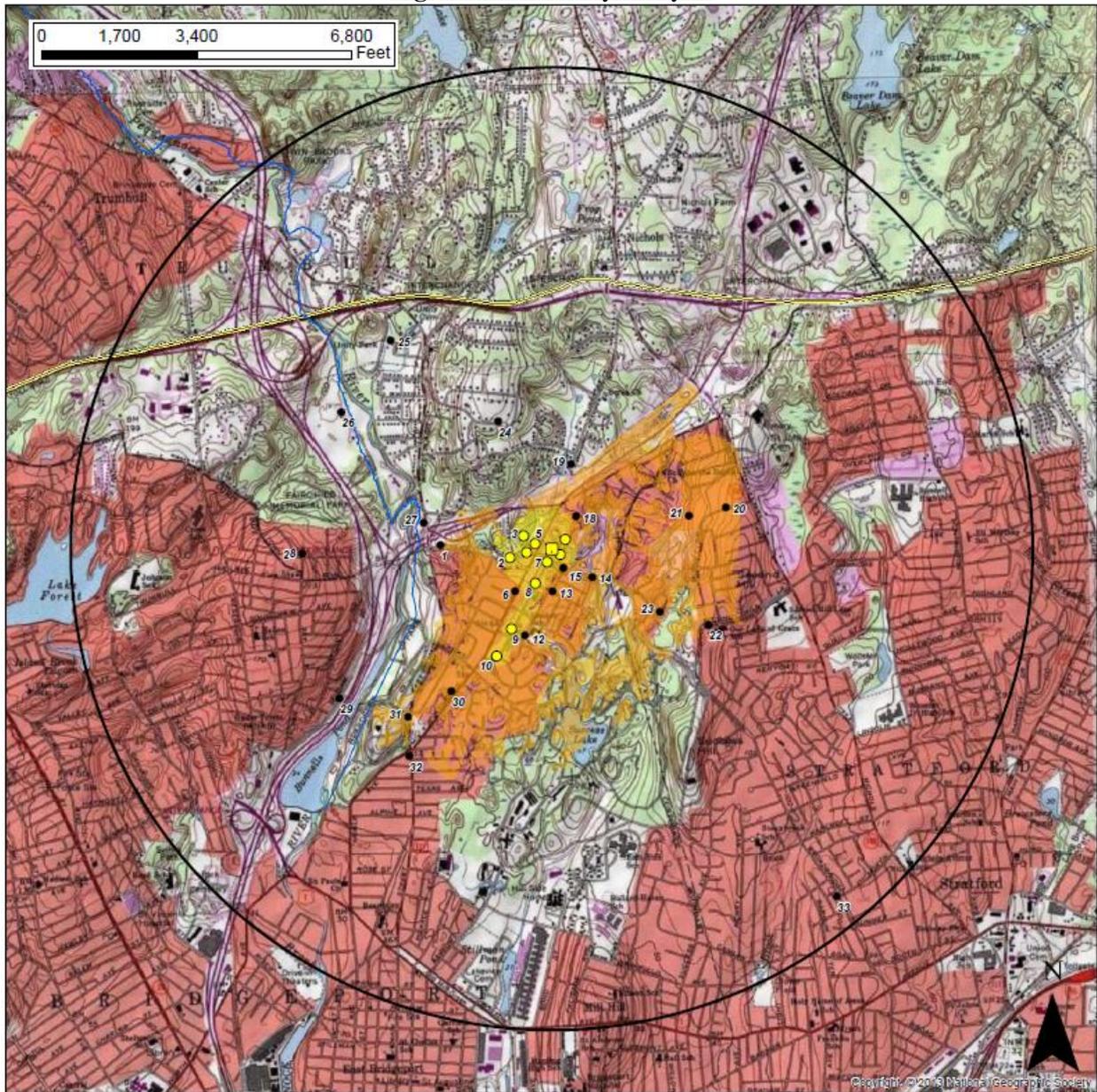
(Cellco 3, response 23, Attachment 1)

Figure 9 – Existing and Proposed 2100 MHz Coverage at 92 feet and 82 feet Antenna Centerline Heights



(Cellco 1, Tab 6)

Figure 11 – Visibility Analysis



Legend

- Proposed Tower
- Photo Locations**
- Not Visible
- Visible
- Trails
- Predicted Seasonal Visibility (489 Acres)
- Predicted Year-Round Visibility (60 Acres)
- Towns
- 2-Mile Study Area
- Scenic Roads

(Cellco 1, Tab 9 – Viewshed Map)