

STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

IN RE: :  
: :  
APPLICATION OF CELLCO PARTNERSHIP : DOCKET NO. 482  
D/B/A VERIZON WIRELESS FOR A : :  
CERTIFICATE OF ENVIRONMENTAL : :  
COMPATIBILITY AND PUBLIC NEED FOR : :  
THE CONSTRUCTION, MAINTENANCE AND : :  
OPERATION OF A WIRELESS : :  
TELECOMMUNICATIONS FACILITY AT 917 : :  
EXETER ROAD, LEBANON, CONNECTICUT : APRIL 18, 2018

**RESPONSES OF CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS  
TO CONNECTICUT SITING COUNCIL PRE-HEARING INTERROGATORIES**

On April 5, 2018, the Connecticut Siting Council (“Council”) issued Pre-Hearing Interrogatories to Cellco Partnership d/b/a Verizon Wireless (“Cellco”), relating to Docket No. 482, a proposal to construct a wireless telecommunications facility (the “Facility”) in a forested area behind the Lyman Memorial High School (“High School”) at 917 Exeter Road in Lebanon (the “Property”). Below are Cellco’s responses.

**General**

**Question No. 1**

Of the letters sent to abutting property owners, how many certified mail receipts were received? If any receipts were not returned, which owners did not receive their notice? Were any additional attempts made to contact those property owners?

**Response**

Cellco received return receipts for three (3) of the five (5) abutter notices sent on March 8, 2018. On April 9, 2018, the notice to Helen Szajda, Et. Al. was returned marked “Refused”. Cellco did not receive the return receipt or the notice letter back from the Greer Family Living

Trust. Notice was sent to Ms. Szajda and the Greer Family Living Trust a second time on April 9, 2018, by first class mail.

Question No. 2

How is the cost of facility construction recovered?

Response

The costs associated with providing Cellco customers with the nation's most reliable wireless service network, including the cost for development of network infrastructure (small cell and macro-cells), are paid for by the individuals, corporations and government entities that purchase Cellco's service.

**Site/Tower**

Question No. 3

What is the distance and direction from the proposed site to the nearest residence outside of the host property?

Response

The nearest off-site residence is located approximately 1,800 to the north of the Facility, at 894 Exeter Road.

Question No. 4

Would the tower be designed for EIA/TIA-222 structural standards version G, H, or both?

Response

The tower would be designed to comply with the current Rev G standard, or the most current standard in place at the time of construction. While TIA-222 Rev H has been released by the TIA Committee, it has not yet been adopted in Connecticut.

Question No. 5

What is the structural design standard applicable to antenna mounts?

Response

TIA-222-G-4 “Structural Standards for Steel Antenna Towers and Antenna Supporting Structures”.

Question No. 6

Identify the safety standards and/or codes by which equipment, machinery, or technology would be used or operated at the proposed facility.

Response

- 2012 International Building Code with the 2016 CT Building Code Amendments.
- National Electric Code (NFPA70).
- 2005 CT State Fire Safety Code with the 2009 Amendments.
- TIA-222-G-1 “Structural Standards for Steel Antenna Towers and Antenna Supporting Structures”.
- Occupational Safety and Health Administration (OSHA).

Question No. 7

Referring to Application p. 18, what is the area in square feet of prime farmland soil and “locally important” farmland soils that would be disturbed by project construction?

Response

The area of Prime Farmland soils that would be disturbed by the construction of a portion of the proposed access driveway is approximately 1,800 square feet. The area of Locally Important Farmland soils disturbed by the construction of a portion of the proposed access driveway is approximately 15,850 square feet. Both areas are not currently in productive

agricultural use and have not been in productive agricultural use in the recent historical past (i.e., within the last 50 years). Cellco understands that the Town of Lebanon has no current plans to expand the High School's existing agricultural activities within the areas proposed for construction of the access driveway and Facility. Therefore, the loss of ±0.4 acre of farmland soils is not considered a significant loss.

#### Question No. 8

Referring to Application p. 23, what were the other two locations on the property that were considered for a tower site? What were the reasons for their rejection?

#### Response

Two alternate tower locations were investigated on the subject property. These locations are depicted on the Site Schematic map provided in Attachment 1. The northern-most tower location (identified on the map as Alternate 1) was rejected due to proximity to the recreational fields to the north, lack of screening to the high school to the west, and potential future use of this area as part of the High School's agricultural programs outdoor classroom expansion. Town of Lebanon staff indicated that an orchard was planned in that area. The second alternate tower location evaluated was to the south of the proposed Facility (identified on Attachment 1 as Alternate 3). This location was rejected primarily due to conflicts with the existing agricultural fields used by the High School's agricultural education program along with concern over the longer access and increase in mature tree removal.

### **Coverage Capacity**

#### Question No. 9

For the frequencies that will be initially deployed (700 MHz and 2100 MHz), what is Cellco's service design threshold for each frequency? Are both frequencies used to transmit

voice and data services? How do they interact?

Response

Cellco's minimum design threshold for LTE service is -95 dB Receive Signal Reference Power (RSRP) for in-vehicle service and -85 dB RSRP for in-building service.

Question No. 10

What is the determining factor for the deployment of additional frequencies within the proposed service area?

Response

Radio equipment supporting the additional frequencies would be added if and when at least one (1) of the three (3) operating antenna sectors at the Facility is projected to reach its capacity limit (exhaust).

Question No. 11

The Application states the site is designed for coverage needs. Would the site also provide capacity relief at adjacent sectors? If so, are any of these adjacent sectors nearing exhaustion? If yes, identify the sectors, frequencies and estimated exhaustion dates.

Response

The Facility is primarily a "coverage" site. The proposed Facility will likely also provide some capacity relief to Cellco's existing Franklin North (Gamma Sector) cell site.

Question No. 12

Application page 7 describes "gaps" in wireless service in the area of the proposed site. Provide information regarding the size of the existing wireless coverage gaps (700 MHz and 2100 MHz) that will be served by the proposed facility.

Response

At 700 MHz, Cellco's service gaps are 3.8 miles along Route 207; 3.4 miles along Route 87; 0.75 miles along Route 16; and 0.575 miles along Route 289. As illustrated, the coverage plots included behind Tab 6 of the Application, Cellco provides very limited service at 2100 MHz in and around the Town of Lebanon. Cellco's 2100 MHz service along Routes 207, 87, 16 and 289 in the area near the proposed Facility is virtually non-existent.

Question No. 13

Besides propagation modeling, were other indicators of substandard service used to identify a need in this area? If so, please describe.

Response

Yes. There are numerous parameters that Cellco considers in its effort to improve network performance. Two of the more critical parameters are the Voice over LTE (VoLTE) Ineffective Attempts and VoLTE Dropped calls. Dropped calls and Ineffective Attempts data in the area around the proposed Facility indicate that several surrounding facilities are operating below Cellco's system performance standard. In addition to the DC and IA system performance data, Cellco completed drive tests for the area around the proposed Facility. This data was used to develop the coverage plots included in the Application (Tab 6) which accurately reflect the level of reliable wireless service in the area surrounding the Property.

Question No. 14

Could the target service area be adequately served by a series of small cell facilities or a distributed antenna system instead of the proposed macro-tower facility?

Response

It may be theoretically and technically possible to install a large number of small cell facilities in the area that could match or closely match the coverage footprint of the proposed

Facility (macro cell). Such an approach, however, is not economically feasible and is not consistent with good RF Engineering practice. Typically, small cell facilities utilize existing infrastructure (i.e. electric distribution poles) along public rights of way in areas where coverage and/or capacity problems exist. In areas where this existing infrastructure is not available, for example, along private roads or on private and municipal property, property rights would need to be acquired and new poles would need to be installed.

The actual number of small cell facilities that would be needed to provide a service comparable to that from the proposed Facility is not known but would be significant given the overall size of the area that Cellco is attempting to serve.

Question No. 15

Does Cellco intend to locate a 700 MHz facility at 122 Waterman Road in Lebanon? If so, would the 122 Waterman Road facility meet some of the coverage/capacity objectives of the proposed site? Provide revised coverage plots if necessary.

Response

Yes. As discussed in its Sub-Petition filing (PE1133-VER-2018035b), Cellco plans to deploy 700 MHz at the approved Waterman Road cell site. Cellco's Waterman Road cell site is primarily designed to provide service to the 350 acre Pride's Corner Nursery parcel. The site will also provide some capacity off-load to Cellco's existing Franklin North cell site. The antenna at 122 Waterman Road is mounted at a centerline height of only 36.2 feet above grade.

Question No. 16

If some of the coverage/capacity objectives are met by the 122 Waterman Road, Lebanon facility, can Cellco achieve wireless service objectives from the proposed site using a lower antenna height?

Response

No. Due to the low antenna height and the limited service objective of this Facility, the 122 Waterman Road cell site will not help the Facility meet its service objectives. Cellco still requires an antenna height of 140 feet at the proposed Facility.

**Public Safety**

Question No. 17

Can the proposed facility support text-to-911 service? Is additional equipment required for this purpose? Is Cellco aware of any Public Safety Answering Points in the area of the proposed site that are able to accept text-to-911?

Response

Yes, the proposed Facility will be capable of supporting text-to-911 as soon as the Public Safety Answering Point (PSAP) is capable of receiving text-to-911. No additional cell site equipment is necessary to support this service. Cellco is not aware of any Public Safety Answering Points in the area of the proposed Facility that are about to accept text-to-911 at this time.

Question No. 18

Would Cellco's installation comply with the intent of the *Warning, Alert and Response Network Act of 2006*?

Response

Yes.

**Backup Power**

Question No. 19

What measures would the applicant implement or employ to ensure an adequate supply of



backup power for the site in the event of a propane fuel shortage?

Response

In the unlikely event of a shortage of propane fuel, Cellco would rely on its back-up battery system for back-up power. If commercial power were interrupted for an extended period, Cellco may also consider utilizing a portable generator at the cell site.

Question No. 20

What is the estimated run time for the emergency power generator before it would need to be refueled, assuming it is running at under normal loading conditions? How long could the battery backup alone supply power to the facility in the event that the generator fails to start?

Response

Under normal loading conditions, the proposed 35 kW propane generator could operate for approximately 132 hours (5.5 days) before refueling of the 1000 gallon fuel tank would be necessary. If the generator were to fail the backup battery system could keep the cell site operating for approximately four (4) hours.

**Environmental/Cultural**

Question No. 21

Would site development affect core forest? (refer to C.G.S. §16a-3k for core forest definition)

Response

A forest fragmentation model has been developed by the University of Connecticut Center for Land Use Education and Research (“CLEAR”) to classify forest cover into four main categories of increasing disturbance – core, perforated, edge and patch – based on a key metric

called edge width.<sup>1</sup> Core forest areas are sub-classified into three categories – small core, medium core, and large core – based on the area of a given core patch: large core forest = >500 acres; medium core = 500 – 250 acres; small core = <250 acres. Based on this forest block classification tool, the subject property forest is classified as an Edge Forest Block (±77.3 acres) and Small Core Forest (±62.7 acres) as a result of the on-site and surrounding institutional developments, agricultural land use and roadways that have fragmented the core forest block. Refer to the Forest Fragmentation Map provided in Attachment 2.

Development of the Facility will result in ±0.18 acre of forest removal (12 trees would be removed) within the Edge Forest Block which represents ±0.2% of the total Edge Forest Block. Therefore, since the proposed Facility would not result in fragmentation of a core forest block and clearing would be limited to a de minimis loss of trees in the Edge Forest Block, no significant change to the overall nature and function of this forest habitat would occur due to the proposed development.

#### Question No. 22

Referring to Application Tab 11 would the tower access road and compound serve to act as a barrier to vernal pool species, thus causing underutilization of the vernal pool Critical Terrestrial Habitat area west of the proposed facility?

#### Response

The tower access road and compound would not serve as a barrier to vernal pool species due primarily to the narrow construction of the road (12 feet wide), low traffic frequency of the proposed Facility post-construction, and the relatively small nature of the proposed Facility. In

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<sup>1</sup> Forest Fragmentation Assessment Model. UCONN Center for Land Use Education and Research. 2007. <http://clear.uconn.edu/Projects/landscape/forestfrag/index.htm>

addition, Cellco proposes to raise the fence surrounding the Facility six (6) inches off the ground to avoid impeding or potentially trapping herpetofauna that may be migrating into or from the vernal pool habitat. The area west of the proposed Facility has been historically altered by agricultural activities and continues to experience varying degrees of disturbance associated with the agricultural education program at the High School. Although the area west of the proposed Facility continues to provide Critical Terrestrial Habitat (“CTH”) function in support of the vernal pool, the ongoing disturbances at the Property lessen the value of this habitat in comparison to higher value densely forested areas located south and east of the proposed Facility. When considering all of these factors, the proposed access drive and Facility compound are not anticipated to result in a significant barrier to herpetofauna that may utilize the CTH area located to the west and would allow for herpetofauna migration around or through the access road and Facility compound.

Question No. 23

Could the tower site be relocated to the area east of the agricultural field and north of Wetland 2?

Response

As noted in Question No. 8 response, an alternate tower location was evaluated in the general area east of the agricultural field and north of Wetland 2; refer to the location labeled Alternate 1 on the map provided in Attachment 1. The Alternate 1 site is not considered a favorable tower location due to the reasons provided in Question No. 8 response. If the Alternate 1 site location was shifted further to the east it would encroach upon an existing woods trail maintained and used by the Town school system as a recreational trail. As a result this location was rejected from consideration.

Question No. 24

Has Cellco received a response from the State Historic Preservation Office regarding the proposed project? If so, please provide.

Response

No. Cellco has not yet submitted project information to the SHPO for review. However, as indicated in the Preliminary Historic Resources Determination behind Tab 12 of the Application, no sites listed on the National Register of Historic Places are located proximate (within 1/2 mile) of the proposed Facility. Based on this information, Cellco anticipates a “No Effect” determination from SHPO.

Question No. 25

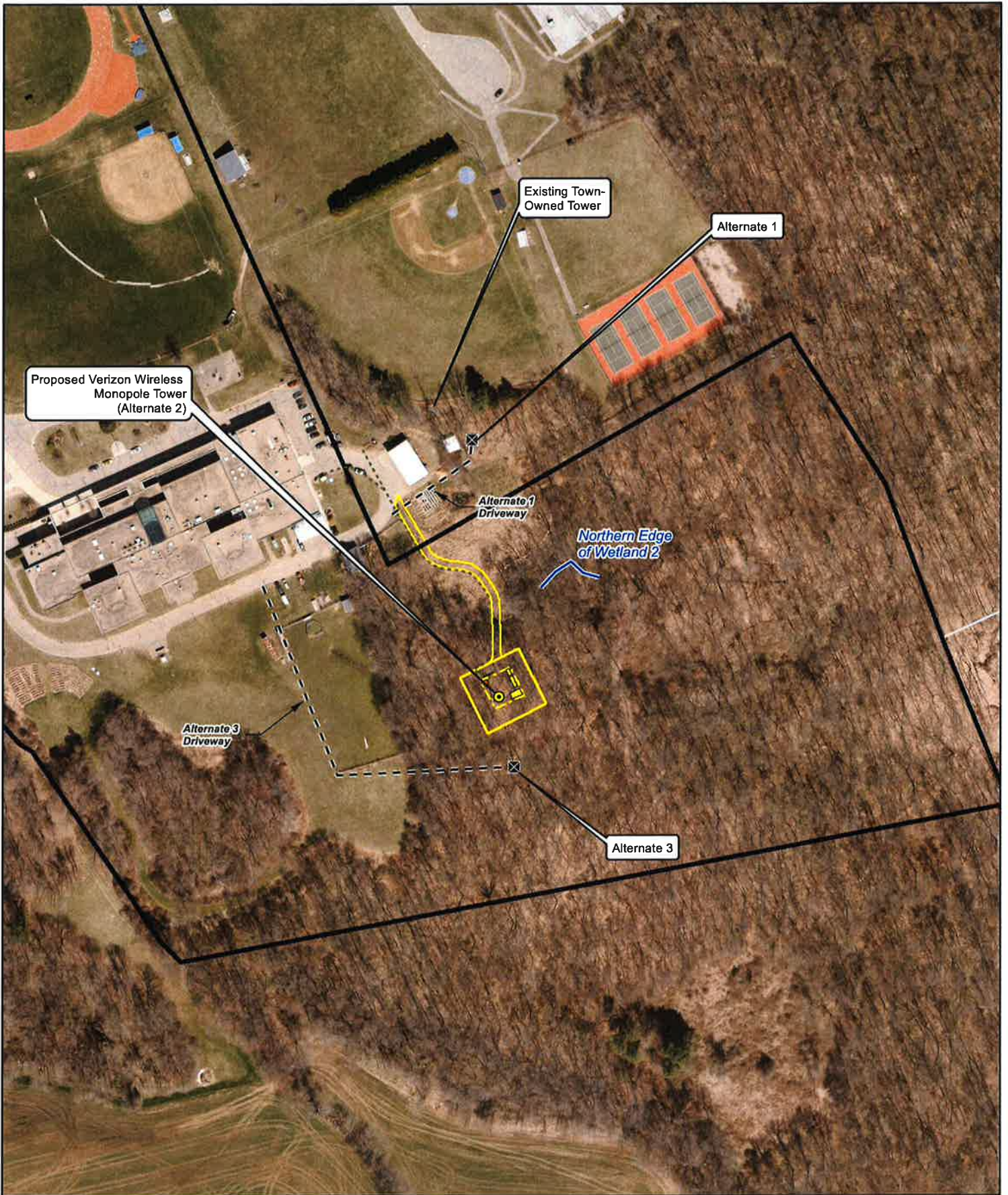
Is the proposed facility within a Department of Energy and Environmental Protection (“DEEP”)-designated Aquifer Protection Area?

Response

No. The nearest Aquifer Protection Area (“APA”) is located approximately 5 miles to the southwest of the Property identified by DEEP as the Judd Brook APA, a Level A APA. Included in Attachment 3 is a map depicting the location of the Judd Brook APA. In addition, the nearest public water supply watershed is located approximately 4.3 miles to the south of the Property, identified as the Norwich Water Department’s Deep River Reservoir watershed.

# **ATTACHMENT 1**





**Legend**

- ⊙ Proposed Verizon Wireless Monopole Tower
- ⊞ Proposed Verizon Wireless Equipment
- ▭ Proposed Verizon Wireless Lease Area
- ▭ Proposed Verizon Wireless Fenced Compound
- ▭ Proposed Verizon Wireless Access Drive
- ▭ Proposed Verizon Wireless Electrical and Telco Service
- Delineated Wetland 2 Boundary (Northern Edge)
- ⊞ Alternate Site Locations
- - - Alternate Sites Driveway
- ▭ Proposed Equipment (By Others)
- ⊞ Subject Property
- ▭ Approximate Parcel Boundary

**Map Notes:**  
 Base Map Source: CT ECO 2016 Aerial Imagery  
 Map Scale: 1 inch = 200 feet  
 Map Date: April 2018



**Site Schematic**

Proposed Wireless Telecommunications Facility  
 Lebanon Center CT  
 917 Exeter Road  
 Lebanon, Connecticut



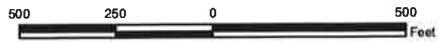


# **ATTACHMENT 2**



- Legend**
- Proposed Monopole Tower
  - Proposed Facility Layout/Lease Area
  - Subject Property
  - Approximate Parcel Boundary

- Existing Forest Block**
- Core Forest (+/- 62.7 Acres)
  - Edge Forest (+/- 77.3 Acres)
- Installation of the proposed facility would require the removal of 12 trees within the edge forest.*



**Forest Fragmentation Map**

Proposed Wireless Telecommunications Facility  
 Lebanon Center CT  
 917 Exeter Road  
 Lebanon, Connecticut



**Map Notes:**  
 Base Map Source: CT ECO 2016 Aerial Imagery  
 Map Scale: 1 inch = 500 feet  
 Map Date: April 2018



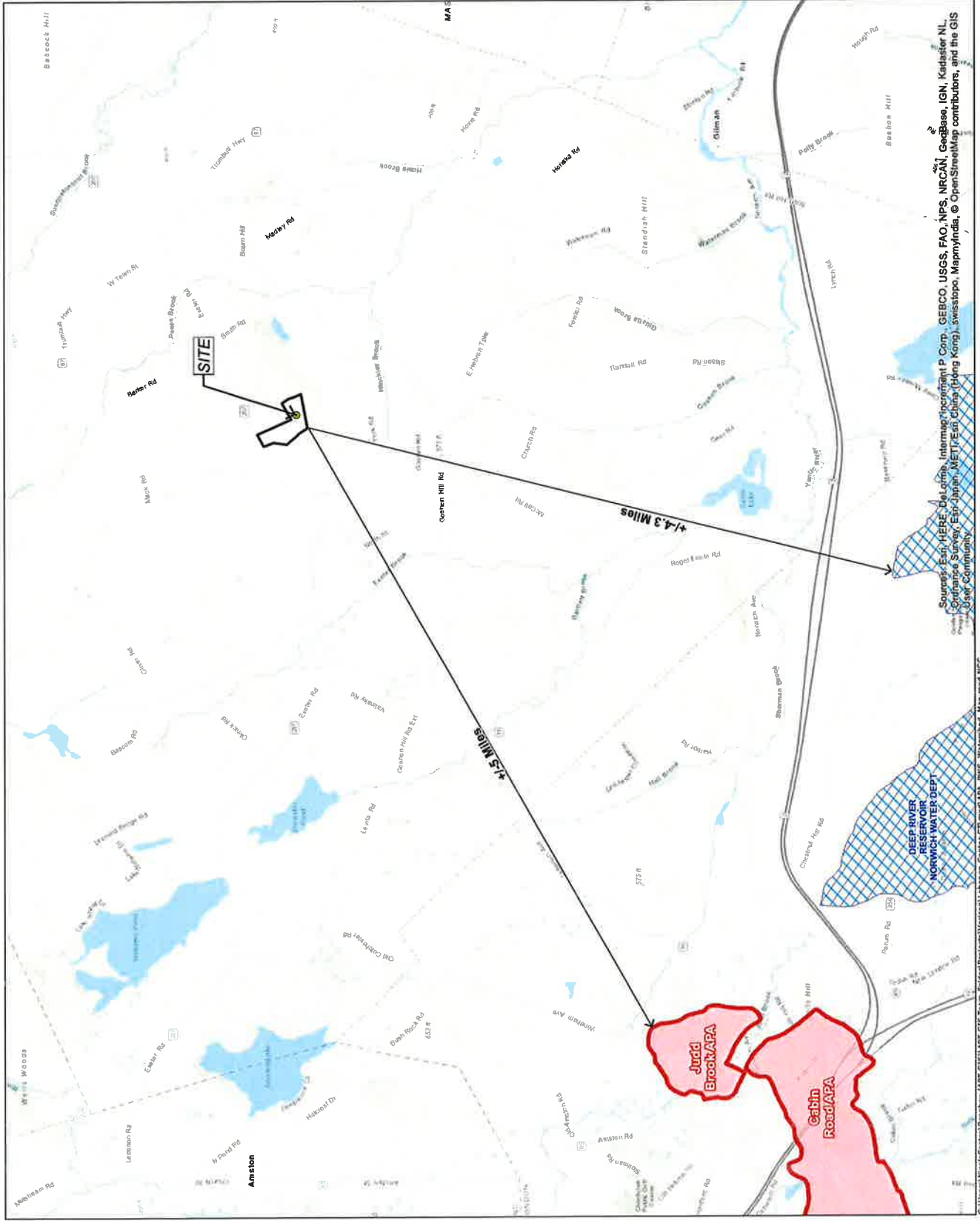
# **ATTACHMENT 3**

**Acquirer Protection Area & Public  
Water Supply Watershed Map**  
**Proposed Wireless Telecommunications Facility**  
 Lebanon Center CT  
 917 Exeter Road  
 Lebanon, Connecticut  
**VERTIZON**

- Legend**
- Subject Property
  - Proposed Monopole Tower
  - Public Water Supply Watershed
  - Final Adopted Aquifer Protection Area
  - Final Aquifer Protection Area
  - Preliminary Aquifer Protection Area



**Map Sources:**  
 Online Base Map: ESRI World Topographic Map  
 CTDEEP's data library (<http://www.ct.gov/deep>)  
 Data layers are maintained and updated by CTDEEP and represent  
 the most recent publications.  
 Map Date: April 2018



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeBCo, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community