

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:	:	
	:	
A PETITION OF CELLCO PARTNERSHIP	:	PETITION NO. _____
D/B/A VERIZON WIRELESS FOR A	:	
DECLARATORY RULING ON THE NEED TO	:	
OBTAIN A SITING COUNCIL CERTIFICATE	:	
FOR THE INSTALLATION OF A SMALL	:	
CELL TELECOMMUNICATIONS FACILITY	:	
ON THE ROOF OF THE BUILDING AT 398	:	
SOMERS ROAD, ELLINGTON,	:	
CONNECTICUT	:	MAY 15, 2015

PETITION FOR A DECLARATORY RULING:
INSTALLATION HAVING NO
SUBSTANTIAL ADVERSE ENVIRONMENTAL EFFECT

I. Introduction

Pursuant to Sections 16-50j-38 and 16-50j-39 of the Regulations of Connecticut State Agencies (“R.C.S.A.”), Cellco Partnership d/b/a Verizon Wireless (“Cellco”) hereby petitions the Connecticut Siting Council (the “Council”) for a declaratory ruling (“Petition”) that no Certificate of Environmental Compatibility and Public Need (“Certificate”) is required under Section 16-50k(a) of the Connecticut General Statutes (“C.G.S.”) to install a new “small cell” facility on the roof of an existing building at 398 Somers Road (Route 83) in Ellington, Connecticut (the “Property”). The Property is owned by Harold G. Levesque, Jr. (“Owner”). Cellco has designated this site as its “Ellington SC1 Facility”.

II. Factual Background

The Property is a 1.8-acre parcel in Ellington’s Industrial (I) zone. The Property is surrounded by commercial and light industrial uses and the Ellington Airport to the north, south

and west and residential uses to the east. See Attachment 1 – Site Vicinity Map and Site Schematic (Aerial Photograph).

Cellco currently maintains two (2) existing cell sites and has approval to install a third cell site all within approximately 2.5 miles of the Property. Cellco’s Ellington 2 cell site consists of antennas on a farm silo at 458 South Road in Somers, Connecticut. Cellco’s Somers cell site consists of antennas on a tower at 126 Pioneer Heights in Somers, Connecticut. Cellco’s Ellington DT cell site was recently approved by the Town of Ellington Planning and Zoning Commission and consists of antennas inside the Church steeple at 72 Main Street in Ellington, Connecticut. As depicted on coverage maps included in Attachment 2, Cellco maintains gaps in its 2100 MHz wireless service along portions of Somers Road (Route 83) and in various locations throughout the surrounding area. The Ellington SC1 Facility will fill several of these existing coverage gaps. In addition, the Ellington SC1 Facility will off-load capacity from Cellco’s Somers cell site. The Ellington SC1 Facility will provide improved wireless service to existing commercial and industrial uses along Route 83, the Ellington Airport and residential areas to the east.

III. Proposed “Small Cell” Facility

Cellco is licensed to provide wireless telecommunications services in the 850 MHz, 1900 MHz, 700 MHz and 2100 MHz frequency ranges in Ellington and throughout the State of Connecticut. Initially, the proposed Ellington SC1 Facility described above will provide wireless service in Cellco’s 2100 MHz frequency range only.

The proposed Ellington SC1 Facility will consist of a small tower attached to the building in the southeast corner of the roof. The tower will support a single canister-type antenna, a Remote Radio Head (“RRH”) and an Oven Voltage Protection (“OVP”) utility connection box.

The tower would extend approximately nine (9) feet above the roof of the building (an overall height of 25.2 feet above ground level). Equipment associated with the Ellington SC1 Facility will be located inside a cabinet, placed on an 8' x 8' concrete pad located on the west side of the existing building. The equipment cabinet will house all of Cellco's small cell radio equipment and a battery back-up power supply system. The equipment will be surrounded by a six-foot (6') tall security fence. Power and telephone service to the Ellington SC1 Facility will extend from existing service inside the building. (See Cellco's Project Plans included in Attachment 3). Specifications for the "small cell" antenna (Commscope Model NH360QS-DG-F0M), RRH (Model 2X60AWS) and OVP box are included in Attachment 4.

IV. Discussion

A. The Proposed Facility Modifications Will Not Have A Substantial Adverse Environmental Effect

The Public Utility Environmental Standards Act (the "Act"), C.G.S. § 16-50g et seq., provides for the orderly and environmentally compatible development of telecommunications towers in the state to avoid "a significant impact on the environment and ecology of the State of Connecticut." C.G.S. § 16-50g. To achieve these goals, the Act established the Council, and requires a Certificate of Environmental Compatibility and Public Need for the construction of cellular telecommunication towers "that may, as determined by the council, have a substantial adverse environmental effect". C.G.S. § 16-50k(a).

1. Physical Environmental Effects

Cellco respectfully submits that the installation of a small tower supporting a single "small cell" canister-type antenna, RRH and OVP, and the placement of an equipment cabinet on an 8' x 8' concrete pad along the west side of the building, will not involve a significant alteration in the physical and environmental characteristics of the Property. The 8' x 8'

equipment area is located in an area that is currently paved and previously disturbed.

2. Visual Effects

The installation of a small tower, a single canister-type antenna, a RRH and an OVP on the roof of the building at the Property would not have a significant impact on aesthetics on the Property or in the surrounding area. (See Limited Visual Assessment and Photo-Simulations included in Attachment 5). The visibility of the proposed small cell installation would be limited to locations within a few hundred feet of the building along Somers Road. The small cell tower, and antenna, RRH and OVP box may be visible from residential areas to the east. Views of existing utility infrastructure, buildings and other appurtenances, however exist from these residential locations today. The impact of the new small cell equipment will be, therefore, insignificant.

3. FCC Compliance

Radio frequency (“RF”) emissions from the proposed small cell installation will be far below the standards adopted by the Federal Communications Commission (“FCC”). Included in Attachment 6 is a General Power Density table, confirming that Cellco’s “small cell” facility will operate well within the FCC safety standard.

4. FAA Summary Report

Included in Attachment 7 is a Federal Airways & Airspace Summary Report verifying that the new tower and antenna installation on the roof of the building at the Property would not constitute an obstruction or hazard to air navigation and that notification to the FAA is not required.

B. Notice to the Town, the Owner and Abutting Landowners

On May 15, 2015, a copy of this Petition was sent to Ellington's First Selectman Maurice W. Blanchette, Ellington's Town Planner Lisa Houlihan and the Owner of the Property. Included in Attachment 8 is a copy of the letters sent to Mr. Blanchette, Ms. Houlihan and the Owner. A copy of the Petition was also sent to all abutting property owners. A sample abutter's letter, and the list of those abutting landowners who were sent a copy of the Petition is included in Attachment 9.

V. Conclusion

Based on the information provided above, Cellco respectfully requests that the Council issue a determination in the form of a declaratory ruling that the installation of a nine-foot (9') tower on the roof of the building at the Property to support a small cell antenna, RRH and OVP will not have a substantial adverse environmental effect and does not require the issuance of a Certificate of Environmental Compatibility and Public Need pursuant to § 16-50k of the General Statutes.

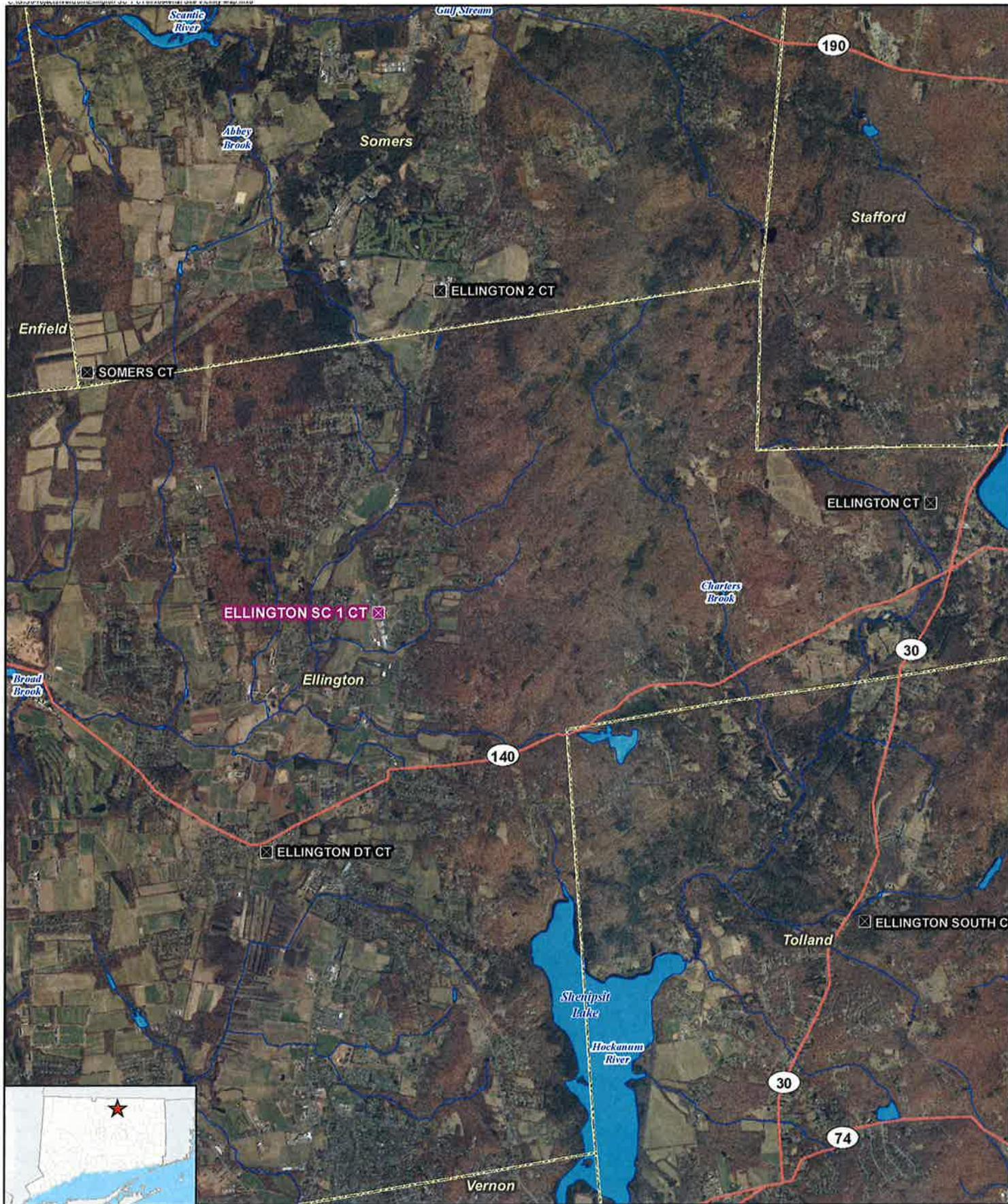
Respectfully submitted,

CELLCO PARTNERSHIP d/b/a VERIZON
WIRELESS

By  _____

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597
(860) 275-8200
Its Attorneys

ATTACHMENT 1



Legend

- X Proposed Verizon Small Cell Facility
- Municipal Boundary
- ~ Watercourse
- Waterbody
- Major Road
- Surrounding Verizon Wireless Facilities

Site Vicinity Map

Proposed Small Cell Installation
 Ellington SC 1 CT
 398 Somers Road
 Ellington, Connecticut



Base Map Source: 2012 Aerial Photograph (CTECO)
 Map Scale: 1 inch = 4,500 feet
 Map Date: March 2015





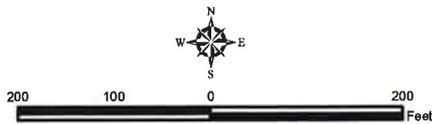
Legend

-  Subject Property
-  Approximate Parcel Boundary (CTDEEP GIS)

Site Schematic

Proposed Small Cell Installation
 Ellington SC 1 CT
 398 Somers Road
 Ellington, Connecticut

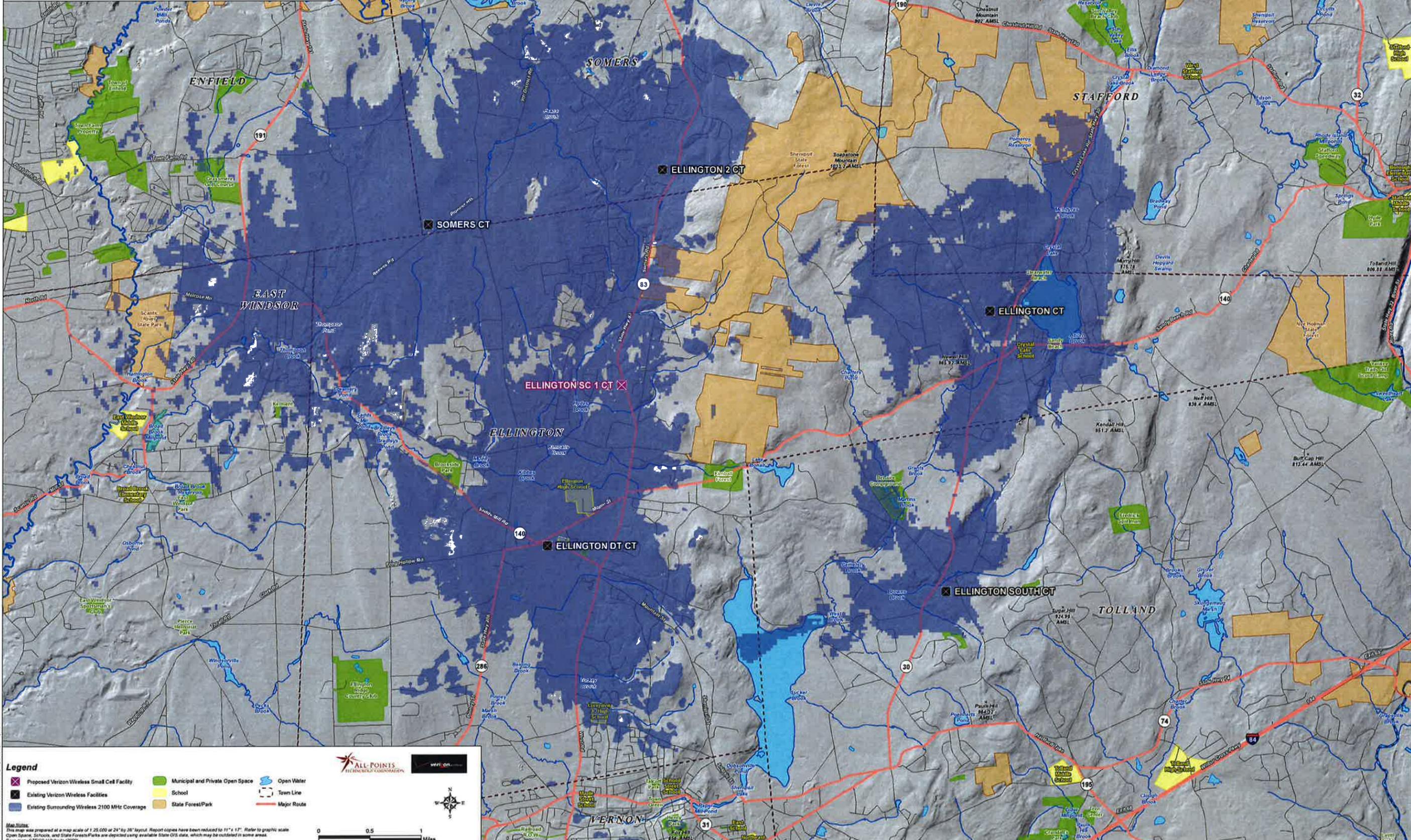
Map Notes:
 Base Map Source: 2012 Aerial Photograph (CTECO)
 Map Scale: 1 inch = 200 feet
 Map Date: March 2015



ATTACHMENT 2

**Existing Verizon Wireless 2100 MHz Coverage
Ellington, Connecticut and Surrounding Area
(*Map Scale is 1:25,000)**

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss



- Legend**
- X Proposed Verizon Wireless Small Cell Facility
 - Existing Verizon Wireless Facilities
 - Existing Surrounding Wireless 2100 MHz Coverage
 - Municipal and Private Open Space
 - School
 - State Forest/Park
 - Open Water
 - Town Line
 - Major Route



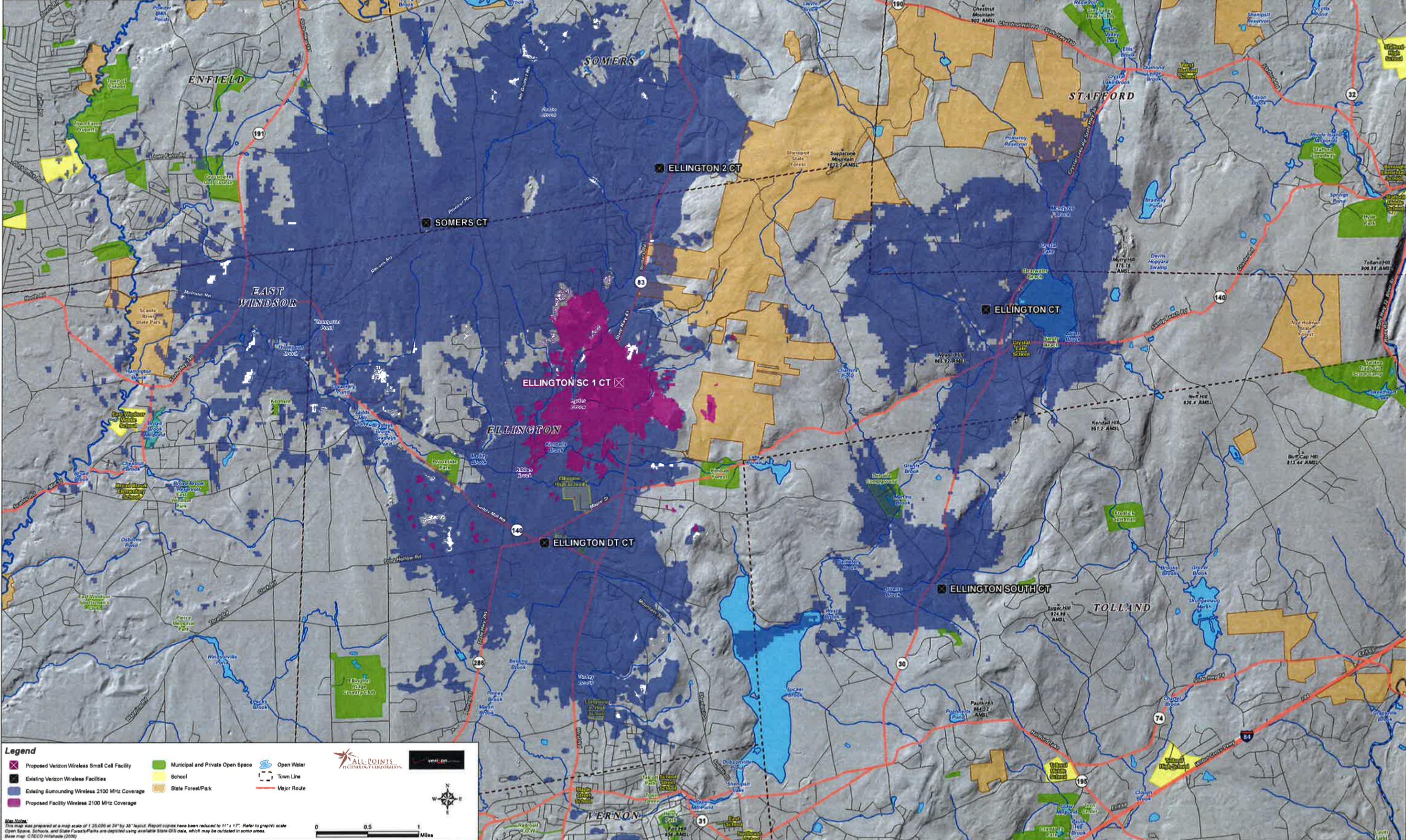





Map Notes:
This map was prepared at a map scale of 1:25,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: © ESRI/CO Hillshade (2009)

**Proposed Verizon Wireless 2100 MHz Coverage
Ellington, Connecticut and Surrounding Area
(*Map Scale is 1:25,000)**

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss



Legend

- Proposed Verizon Wireless Small Cell Facility
- Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 2100 MHz Coverage
- Proposed Facility Wireless 2100 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

Map Notes:
This map was prepared at a map scale of 1:25,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale. Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas. Base map: © FICO Hillshade (2006)

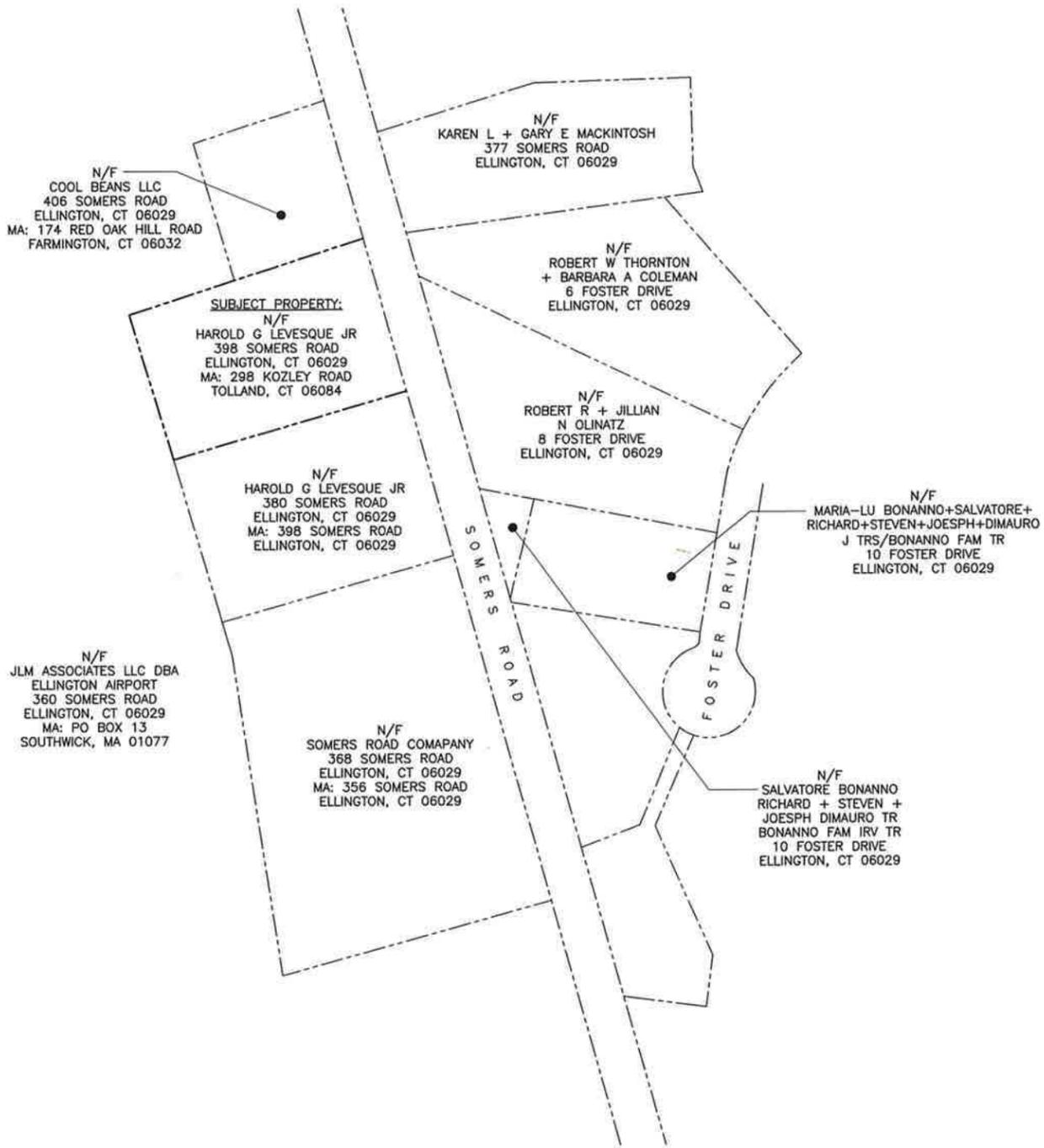
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Logos: ALL-POINTS TECHNOLOGY CORPORATION, vzw | 411

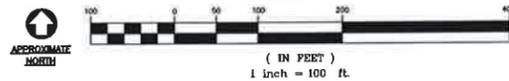
ATTACHMENT 3



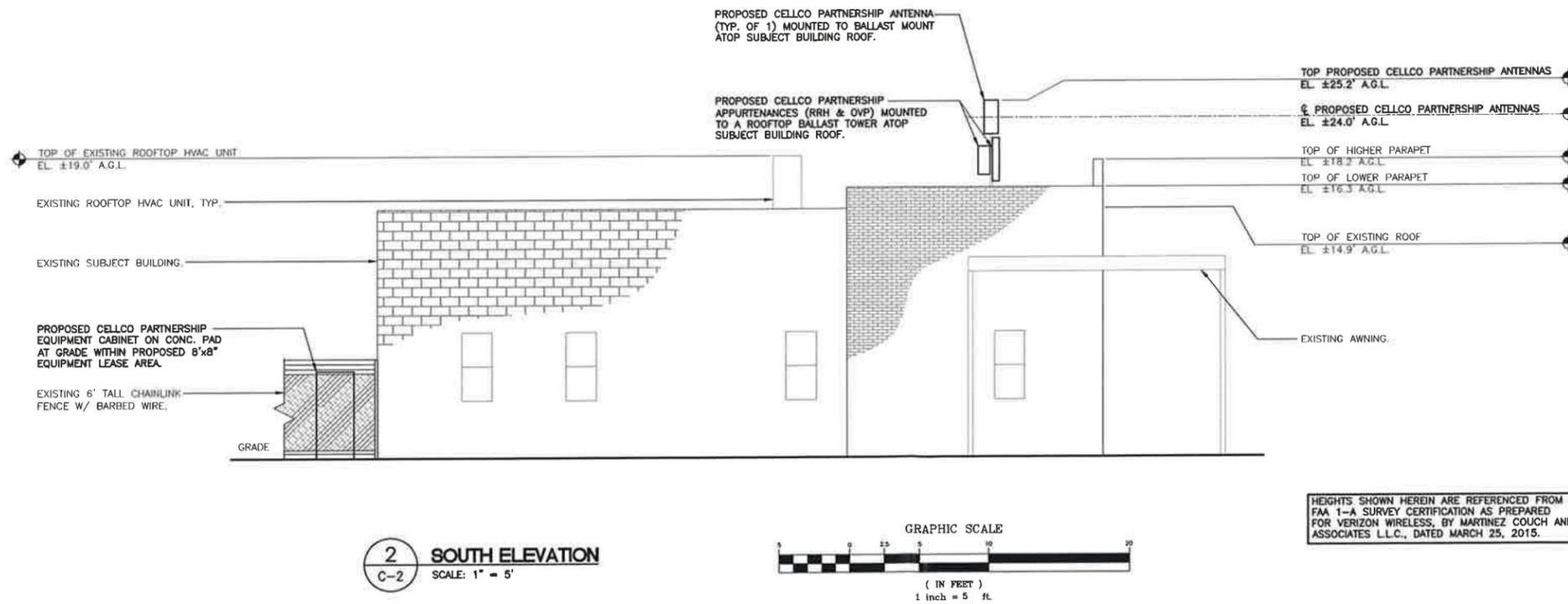
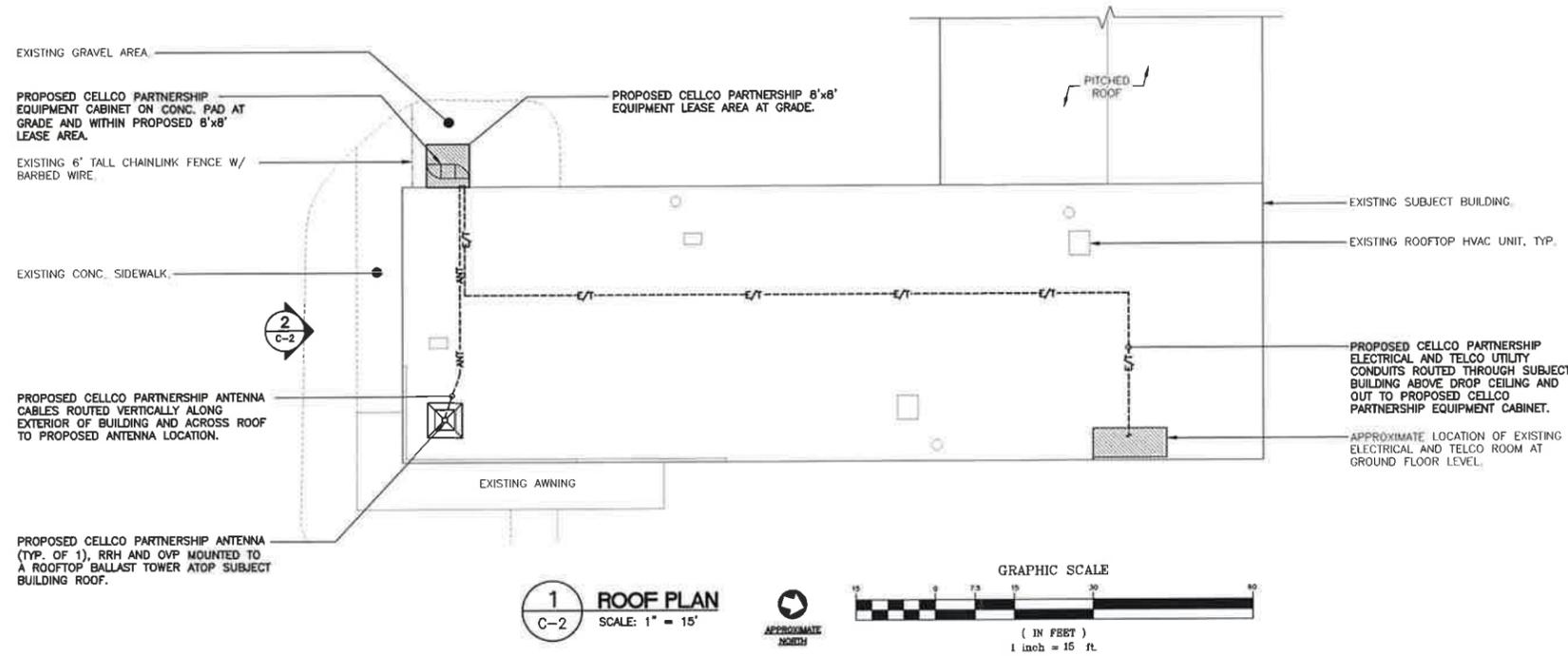
MUNICIPALITY NOTIFICATION LIMIT MAP



1
C-1
ABUTTERS MAP
SCALE: 1" = 100'



<p>Cellco Partnership d/b/a Verizon Wireless WIRELESS COMMUNICATIONS FACILITY ELLINGTON SC1 398 SOMERS ROAD ELLINGTON, CT 06029</p>																					
<p>DATE: 04/01/15 SCALE: AS NOTED JOB NO. 14225.000</p>																					
<p>ABUTTERS MAP</p>																					
<p>C-1</p>																					
<p>Sheet No. 2 of 3</p>																					
<p>PROFESSIONAL ENGINEER SEAL</p>	<p>Cellco Partnership d.b.a. Verizon Wireless</p>																				
<p>CENTEK engineering Center on Solutions® 0703 888-0580 0203 888-8887 Fax 65-Z North Main Road Bristol, CT 06040 www.Centekeng.com</p>	<table border="1"> <thead> <tr> <th>REV.</th> <th>DATE</th> <th>DRAWN BY</th> <th>CHK'D BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>05/12/15</td> <td>KAW</td> <td>DMD</td> <td>ISSUED FOR CSC</td> </tr> <tr> <td>1</td> <td>04/09/15</td> <td>KAW</td> <td>DMD</td> <td>ISSUED FOR CSC</td> </tr> <tr> <td>0</td> <td>04/01/15</td> <td>KAW</td> <td>DMD</td> <td>ISSUED FOR CSC-CLIENT REVIEW</td> </tr> </tbody> </table>	REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION	2	05/12/15	KAW	DMD	ISSUED FOR CSC	1	04/09/15	KAW	DMD	ISSUED FOR CSC	0	04/01/15	KAW	DMD	ISSUED FOR CSC-CLIENT REVIEW
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1	04/09/15	RAW	DMD	ISSUED FOR CSC
0	04/01/15	RAW	DMD	ISSUED FOR CSC-CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

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d.b.a. Verizon Wireless

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Cellco Partnership d/b/a Verizon Wireless
WIRELESS COMMUNICATIONS FACILITY

ELLINGTON SC1

388 SOMERS ROAD
ELLINGTON, CT 06029

DATE: 04/01/15
SCALE: AS NOTED
JOB NO. 14225.000

COMPOUND PLAN,
ELEVATION AND
ANTENNA
CONFIGURATION

C-2

Sheet No. 3 of 3

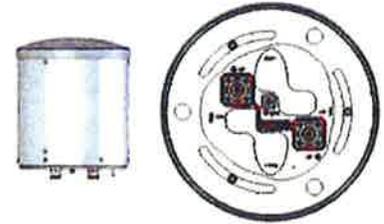
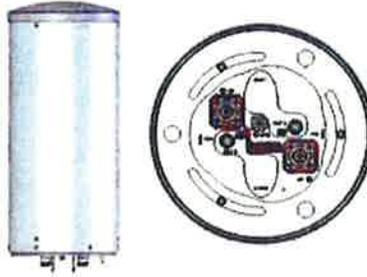
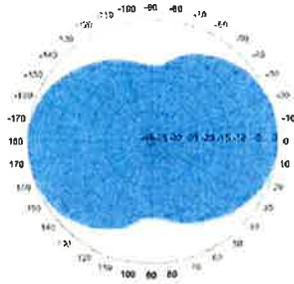
ATTACHMENT 4

Metro Cell Antennas with Internal Diplexer and GPS Antenna

Dualband Bi-Directional (2x65°), Metro Cell Antenna

NH65PS-DG-F0M

NH65PT-DG-F0



ELECTRICAL SPECIFICATIONS

Operating Frequency Range	698 - 896 and 1710 - 2170 MHz					698 - 896 and 1710 - 2170 MHz				
	698 - 806	806 - 896	1710 - 1880	1850 - 1990	1920 - 2170	698 - 806	806 - 896	1710 - 1880	1850 - 1990	1920 - 2170
Frequency Bands, MHz	698 - 806	806 - 896	1710 - 1880	1850 - 1990	1920 - 2170	698 - 806	806 - 896	1710 - 1880	1850 - 1990	1920 - 2170
Polarization	±45°	±45°	±45°	±45°	±45°	±45°	±45°	±45°	±45°	±45°
Gain, dBi	6.5	7.5	10.2	10.4	10.7	3.5	4.5	6.1	6.2	6.5
Beamwidth, Horizontal, degrees	70	70	65	65	65	70	70	65	65	65
Beamwidth, Vertical, degrees	30.0	24.0	16.0	15.0	14.0	60.0	55.0	16.0	15.0	14.0
USLS, dB	12	12	15	15	15	-	-	12	10	10
Beam Tilt, degrees	0	0	0-16	0-16	0-16	0	0	0	0	0
Isolation, dB	25	25	25	25	25	25	25	25	25	25
VSWR (Return Loss, dB)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)
P1M, 3rd Order, 2 x 20 W, dBc	-150	-150	-150	-150	-150	-150	-150	-150	-150	-150
Input Power per Port, maximum, watts	250	250	250	250	250	250	250	250	250	250

MECHANICAL SPECIFICATIONS

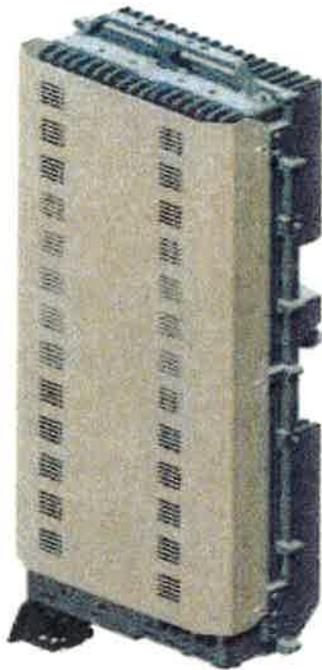
	NH65PS-DG-F0M	NH65PT-DG-F0
Connector Interface	7 - 16 DIN Female	7 - 16 DIN Female
Connector Quantity, Location	2, Bottom	2, Bottom
GPS Connector Interface	4.1/9.5 DIN Female	4.1/9.5 DIN Female
GPS Connector Quantity, Location	1, Bottom	1, Bottom
Length, mm (inch)	730 (28.7)	360 (14.2)
Outer Diameter, mm (inch)	305 (12.0)	305 (12.0)
Wind Speed, maximum, km/h (mph)	241.4 (150)	241.4 (150)
Net Weight, kg (lb)	16.0 (35.3)	10.0 (22.0)

AVAILABILITY

	NH65PS-DG-F0M	NH65PT-DG-F0
Expected Ready Date for Manufacturing	May 2014	June 2014

ALCATEL-LUCENT WIRELESS PRODUCT DATASHEET RRH2X60-AWS FOR BAND 4 APPLICATIONS

The Alcatel-Lucent RRH2x60-AWS is a high power, small form factor Remote Radio Head operating in the AWS frequency band (3GPP Band 4) for LTE technology. It is designed with an eco-efficient approach, providing operators with the means to achieve high quality and high capacity coverage with minimum site requirements and efficient operation.



A distributed Node B expands the deployment options by using two components, a Base Band Unit (BBU) containing the digital assets and a separate RRH containing the radio-frequency (RF) elements. This modular design optimizes available space and allows the main components of a Node B to be installed separately, within the same site or several kilometers apart.

The Alcatel-Lucent RRH2x60-AWS is linked to the BBU by an optical-fiber connection carrying downlink and uplink digital radio signals

along with operations, administration and maintenance (OA&M) information.

SUPERIOR RF PERFORMANCE

The Alcatel-Lucent RRH2x60-AWS integrates all the latest technologies. This allows to offer best-in-class characteristics.

It delivers an outstanding 120 watts of total RF power thanks to its two transmit RF paths of 60 W each.

It is ideally suited to support multiple-input multiple-output (MIMO) 2x2 operation.

It includes four RF receivers to natively support 4-way uplink reception diversity. This improves the radio uplink coverage and this can be used to extend the cell radius commensurate with 2x2MIMO 2x60 W for the downlink.

It supports multiple discontinuous LTE carriers within an instantaneous bandwidth of 45 MHz corresponding to the entire AWS B4 spectrum.

The latest generation power amplifiers (PA) used in this product achieve high efficiency (>40%), resulting in improved power consumption figures.

OPTIMIZED TCO

The Alcatel-Lucent RRH2x60-AWS is designed to make available all the benefits of a distributed Node B, with excellent RF characteristics, with low capital expenditures (CAPEX) and low operating expenditures (OPEX).

The Alcatel-Lucent RRH2x60-AWS is a very cost-effective solution to deploy LTE MIMO.

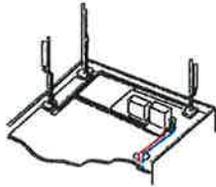
EASY INSTALLATION

The RRH2x60-AWS includes a reversible mounting bracket which allows for ease of installation behind an antenna, or on a rooftop knee wall while providing easy access to the mid body RF connectors.

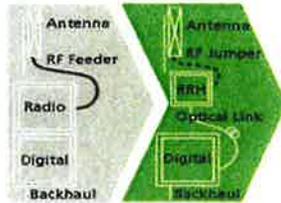
The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment. However, many of these sites can host an Alcatel-Lucent RRH2x60-AWS installation, providing more flexible site selection and improved network quality along with greatly reduced installation time and costs.

The Alcatel-Lucent RRH2x60-AWS is a zero-footprint solution and is convection cooled without fans for silent operation, simplifying negotiations with site property owners and minimizing environmental impacts.

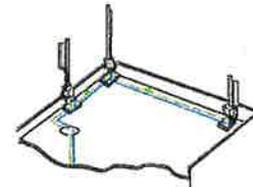
Installation can easily be done by a single person as the Alcatel-Lucent RRH2x60-AWS is compact and weighs about 20 kg, eliminating the need for a crane to hoist the BTS cabinet to the rooftop. A site can be in operation in less than one day.



Macro



RRH for space-constrained cell sites



Distributed

FEATURES

- RRH2x60-AWS integrates two power amplifiers of 60W rating (at each antenna connector)
- Support multiple carriers over the entire 3GPP band 4
- RRH2x60-AWS is optimized for LTE operation
- RRH2x60-AWS is a very compact and lightweight product
- Advanced power management techniques are embedded to provide power savings, such as PA bias control

BENEFITS

- MIMO LTE operation with only one single unit per sector
- Improved uplink coverage with built-in 4-way receive diversity capability
- RRH can be mounted close to the antenna, eliminating nearly all losses in RF cables and thus reducing power consumption by 50% compared to conventional solutions
- Distributed configurations provide easily deployable and cost-effective solutions, near zero footprint and

silent solutions, with minimum impact on the neighborhood, which ease the deployment

- RETA and TMA support without additional hardware thanks to the AISG v2.0 port and the integrated Bias-Tees. Bias-Tees support AISG DC supply and signaling.

TECHNICAL SPECIFICATIONS

Specifications listed are hardware capabilities. Some capabilities depend on support in a specific software release or future release.

Dimensions and weights

- HxWxD : 510x285x186mm (27 l with solar shield)
- Weight : 20 kg (44 lbs)

Electrical Data

- Power Supply : -48V DC (-40.5 to -57V)
- Power Consumption (ETSI average traffic load reference) : 250W @2x60W

RF Characteristics

- Frequency band: 1710-1755, UL / 2110-2155 MHz, DL (3GPP band 4)
- Output power: 2x60W at antenna connectors
- Technology supported: LTE
- Instantaneous bandwidth: 45 MHz
- Rx diversity: 2-way and 4-way uplink reception
- Typical sensitivity without Rx diversity: -105 dBm for LTE

Connectivity

- Two CPRI optical ports for daisy chaining and up to six RRHs per fiber
- Type of optical fiber: Single-Mode (SM) and Multi-Mode (MM) SFPs
- Optical fiber length: up to 500m using MM fiber, up to 20km using SM fiber
- TMA/RETA : AISG 2.0 (RS485 connector and internal Bias-Tee)
- Six external alarms
- Surge protection for all external ports (DC and RF)

Environmental specifications

- Operating temperature: -40°C to 55°C including solar load
- Operating relative humidity: 8% to 100%
- Environmental Conditions : ETS 300 019-1-4 class 4.1E
- Ingress Protection : IEC 60529 IP65
- Acoustic Noise : Noiseless (natural convection cooling)

Safety and Regulatory Data

- EMC : 3GPP 25113, EN 301 489-1, EN 301 489-23, GR 1089, GR 3108, OET-65
- Safety : IEC60950-1, EN 60825-1, UL, ANSI/NFPA 70, CAN/CSA-C22.2
- Regulatory : FCC Part 15 Class B, CE Mark – European Directive : 2002/95/EC (ROHS); 2002/96/EC (WEEE); 1999/5/EC (R&TTE)
- Health : EN 50385

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Product Description

RFS' flexible Tower, Base Stations and Rooftop protection and Distribution products provide protection for up to 6 Remote Radio Heads/Integrated Antennas. The solutions mitigate the risk of damage due to lightning and provide high levels of availability and reliability to radio equipment.

Features

- Employs the Strikesorb® 30-V1-HV Surge Protective Device (SPD) specifically designed for the Remote Radio Head (RRH) installation environment and certified for use in DC applications and at low DC operating voltages (48V).
- The Strikesorb 30-V1-HV is a Class I SPD, certified by VDE per the IEC 61643-1 standard as suitable for installation in areas where direct lightning exposure is expected. Strikesorb 30-V1-HV is able to withstand direct lightning currents of up to 5kA (10/350) and induced surge currents of up to 60kA (8/20).
- Provides very low let through / clamping voltage – unique for a Class I product – as it does not employ spark gaps or other switching elements. Strikesorb offers unique protection levels to the RRH equipment as well as the Base Band Units.
- Alarms for SPD sacrifice, Moisture detection and Intrusion.
- Fully recognized to the UL 1449 3rd Edition Safety Standard.
- Digital Voltmeter with six (6) position switch to monitor each DC circuit (Model DB-B1-6C-12AB-0Z).
- Patent pending design



Tower / Base / Rooftop / Rooftop Distribution Models:
DB-T1-6Z-12AB-0Z
DB-B1-6C-12AB-0Z

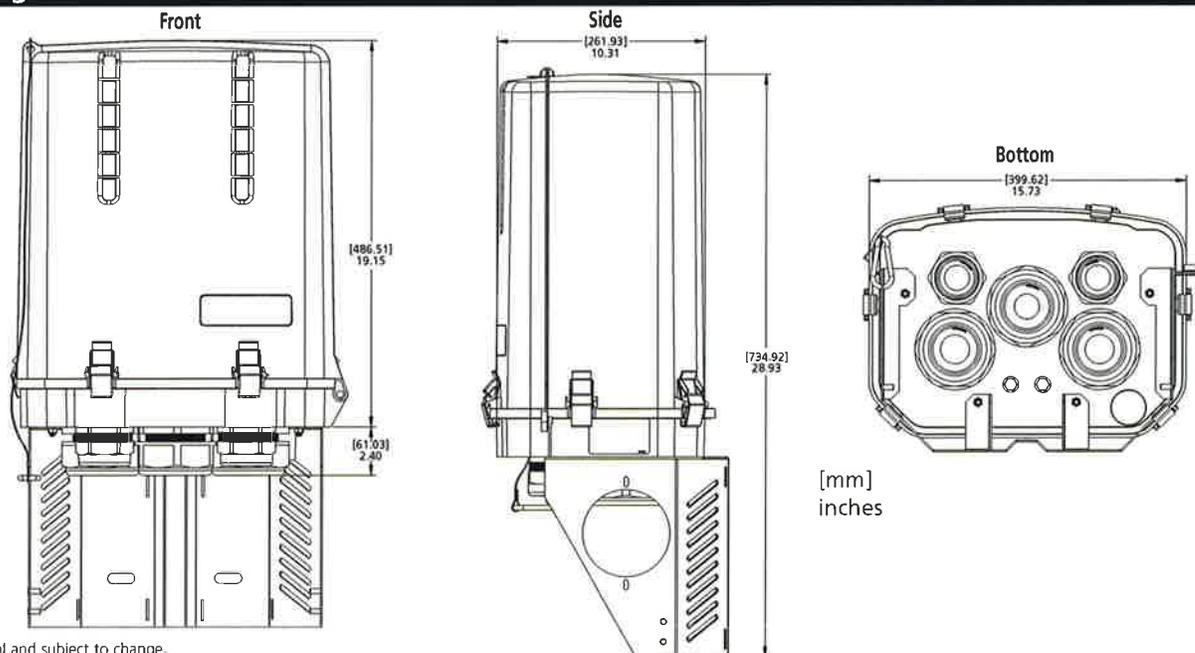


Companion Sector Model:
DB-E1-2C-4AB-0Z

Benefits

- Offers unique maintenance-free protection against direct lightning currents.
- Protects up to 6 Remote Radio Heads and connects up to 12 fiber pairs.
- Utilizes an IP 67 rated enclosure, allowing for indoor or outdoor installation on a roof or tower top.
- Configurable cable ports are designed to accommodate varying diameters of hybrid (combined power and fiber optic) or standard cables with diameters up to 2" (will fit most standard 1-5/8" coax class cables) depending upon port configuration.
- Lightweight aerodynamic design provides maximum flexibility for tower top installation.

Product Diagram



* This data is provisional and subject to change.



Technical Specifications

Electrical Specifications

Model Numbers	DB-T1-6Z-12AB-0Z	DB-B1-6C-12AB-0Z
Nominal Operating Voltage		48 VDC
Nominal Discharge Current [In]	N/A	20 kA 8/20 μs
Maximum Surge Current [Imax]	N/A	60 kA 8/20 μs
Maximum Impulse (Lightning) Current per IEC 61643-1	N/A	5 kA 10/350 μs
Maximum Continuous Operating Voltage [Uc]	N/A	75 VDC
Voltage Protection Rating (VPR) per UL 1449 3rd Edition	N/A	400V
Protection Class as per IEC 61643-1	N/A	Class I
SPD Alarm	N/A	Upon sacrifice
Intrusion Sensor		Microswitch
Moisture Sensor		Infrared moisture detector
Strikesorb Module Type	No Strikesorb modules installed <i>(used as Distribution Unit only)</i>	30-V1-HV – Strikesorb modules installed to protect 6 RRHs

Mechanical Specifications

Suppression Connection Method	Compression lug, #14-#2 AWG (2 mm ² -33 mm ²)	
Fiber Connection Method	LC-LC Single mode	
Pressure Equalizing Vent	Gore™ Vent	
Environmental Rating	IP 67	
Operating Temperature	-40° C to +80° C	
UV Resistant	Yes	
Weight	System: 26 lbs (11.8 kg)	System: 32 lbs (14.51 kg)
Combined Wind Loading	150mph (sustained): 185 lbs (823 N)	

Standards Compliance

Standards (Strikesorb modules ONLY)	Not Applicable	ANSI/UL 1449 3rd Edition IEEE C62.41, NEMA LS-1 IEC 61643-1:2005 2nd Ed (Class I Protection) IEC 61643-12 EN 61643-11:2002 (including A11:2007)
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* This data is provisional and subject to change.

ATTACHMENT 5

Limited Visual Assessments and Photo-Simulations

ELLINGTON SC 1
398 SOMERS ROAD
ELLINGTON, CT



Prepared in May 2015 by:
All-Points Technology Corporation, P.C.
3 Saddlebrook Drive
Killingworth, CT 06141

Prepared for Verizon Wireless



LIMITED VISUAL ASSESSMENT & PHOTO-SIMULATIONS

At the request of Cellco partnership LLC d/b/a Verizon Wireless, All-Points Technology Corporation, P.C. ("APT") completed a limited visual assessment and prepared computer-generated photo-simulations depicting the proposed installation of a small cell wireless telecommunications Facility at 398 Somers Road (State Highway 83) in Ellington, Connecticut (the "Property").

Project Setting

The Property is located on the west side of Somers Road in a mixed commercial and residential area. The Property is improved with a single-story commercial building currently occupied by TSI Harley-Davidson Sales & Service. The proposed Facility would include the installation of a pipe-mast mounted canister antenna affixed to the rooftop on the southeast corner of the building. The antenna would rise approximately 10 feet above the roof of the rooftop and about 25 feet above existing grade. A remote radio head and Over Voltage Protection box would also be affixed to the pipe mast, below the antenna canister. Associated ground equipment would be located behind the building within an existing chain link fence enclosure.

Methodology

On May 6, 2015, APT personnel conducted a field reconnaissance to photo-document existing conditions. Three (3) nearby locations were selected to represent where the existing building is visible and depict proposed conditions with the proposed small cell installation. At each photo location, the geographic coordinates of the camera's position were logged using global positioning system ("GPS") technology. Photographs were taken with a Canon EOS 6D digital camera body and Canon EF 24 to 105 millimeter ("mm") zoom lens, with lens set to 50 mm.

"The lens that most closely approximates the view of the unaided human eye is known as the normal focal-length lens. For the 35 mm camera format, which gives a 24x36 mm image, the normal focal length is about 50 mm."¹

Three-dimensional computer models were developed for the building and proposed small cell components from AutoCAD information. Photographic simulations were then generated to portray scaled renderings of the proposed installation. Using field data, site plan information and image editing software, the proposed Facility was scaled to the correct location and height, relative to the existing structure and surrounding area. For presentation purposes in this report, all of the photographs were produced in an approximate 7-inch by 10.5-inch format². A photolog map and copies of the existing conditions and photo-simulations are attached.

¹ Warren, Bruce. Photography, West Publishing Company, Eagan, MN, c. 1993, (page 70).

² When viewing in this format size, we believe it is important to provide the largest representational image while maintaining an accurate relation of sizes between objects within the frame of the photograph and depicting the subject in a way similar to what an observer might see, to the greatest extent possible.

Conclusions

The visibility of the proposed small cell installation would be limited primarily to nearby locations within a few hundred feet of the building along Somers Road. Some residential properties to the east, on Foster Drive may have a potential to see a portion of the new installation, but existing utility infrastructure and other appurtenances are visible today from these locations. The ground equipment's placement behind the building and within an existing chain link fence enclosure would render it invisible from exterior locations and this area would look no different than it does currently. Based on the results of this assessment, it is APT's opinion that the proposed installation of Verizon Wireless equipment at the Property would not have a significant impact on aesthetics in the area.

Limitations

This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen. The photo-simulations provide a representation of the Facility under similar settings as those encountered during the field reconnaissance. Views of the Facility can change throughout the seasons and the time of day, and are dependent on weather and other atmospheric conditions (e.g., haze, fog, clouds); the location, angle and intensity of the sun; and the specific viewer location. Weather conditions on the day of the reconnaissance included mostly sunny skies and the photo-simulations presented in this report provide an accurate portrayal of the Facility during comparable conditions.

ATTACHMENTS



PHOTO LOG

Legend

- Site
- Photo Location





EXISTING

PHOTO

1

LOCATION

SOMERS ROAD

ORIENTATION

NORTHWEST

DISTANCE TO SITE

+/- 268 FEET



PROPOSED

PHOTO

1

LOCATION

SOMERS ROAD

ORIENTATION

NORTHWEST

DISTANCE TO SITE

+/- 268 FEET



PROPOSED

PHOTO

1

LOCATION

SOMERS ROAD

ORIENTATION

NORTHWEST

DISTANCE TO SITE

+/- 268 FEET





EXISTING

PHOTO

2

LOCATION

SOMERS ROAD

ORIENTATION

NORTHWEST

DISTANCE TO SITE

+/- 191 FEET



PROPOSED

PHOTO
2

LOCATION
SOMERS ROAD

ORIENTATION
NORTHWEST

DISTANCE TO SITE
+/- 191 FEET



PROPOSED

PHOTO

2

LOCATION

SOMERS ROAD

ORIENTATION

NORTHWEST

DISTANCE TO SITE

+/- 191 FEET



EXISTING

PHOTO

3

LOCATION

SOMERS ROAD

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 209 FEET



PROPOSED

PHOTO

3

LOCATION

SOMERS ROAD

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 209 FEET



PROPOSED

PHOTO

3

LOCATION

SOMERS ROAD

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 209 FEET

ATTACHMENT 6

General Power Density

Site Name: Ellington SC 1 CT
 Cumulative Power Density

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure* (mW/cm ²)	Fraction of MPE (%)
VZW AWS	2145	1	360	360	24	0.2248	1.0	22.48%

Total Percentage of Maximum Permissible Exposure

22.48%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.

ATTACHMENT 7

* Federal Airways & Airspace
*
* Summary Report: New Construction
*
* Non-Antenna Structure
*

Airspace User: Mark Brauer

File: ELLINGTON_SC_1_CT

Location: Stafford Springs, CT

Latitude: 41°-55'-34.45" Longitude: 72°-27'-19.47"

SITE ELEVATION AMSL.....291 ft.
STRUCTURE HEIGHT.....26 ft.
OVERALL HEIGHT AMSL.....317 ft.

NOTICE CRITERIA

- FAR 77.9(a): NNR (DNE 200 ft AGL)
- FAR 77.9(b): NNR (DNE Notice Slope)
- FAR 77.9(c): NNR (Not a Traverse Way)
- 7B9 FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for
- 7B6 FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for
- FAR 77.9(d): NR (On Airport Construction)

NR = Notice Required
NNR = Notice Not Required
PNR = Possible Notice Required (depends upon actual IFR procedure)

For new construction review Air Navigation Facilities at bottom of this report.

Notice to the FAA is not required at the analyzed location and height for slope, height or Straight-In procedures. Please review the 'Air Navigation' section for notice requirements for offset IFR procedures and EMI.

OBSTRUCTION STANDARDS

- FAR 77.17(a)(1): DNE 499 ft AGL

FAR 77.17(a)(2): DNE - Airport Surface
 FAR 77.19(a): DNE - Horizontal Surface
 FAR 77.19(b): DNE - Conical Surface
 FAR 77.19(c): DNE - Primary Surface
 FAR 77.19(d): DNE - Approach Surface
 FAR 77.19(e): DNE - Transitional Surface

VFR TRAFFIC PATTERN AIRSPACE FOR: 7B9: ELLINGTON

Type: A RD: 793.507 RE: 248.3

FAR 77.17(a)(1): DNE
 FAR 77.17(a)(2): Does Not Apply.
 VFR Horizontal Surface: DNE
 VFR Conical Surface: DNE
 VFR Approach Slope: DNE
 VFR Transitional Slope: DNE

The structure is within VFR - Traffic Pattern Airspace Runway Side Area.

Structures that exceed horizontal, conical, and/or 500' AGL will receive a hazard determination from the FAA.

VFR TRAFFIC PATTERN AIRSPACE FOR: 7B6: SKYLARK AIRPARK

Type: A RD: 31317.32 RE: 125

FAR 77.17(a)(1): DNE
 FAR 77.17(a)(2): DNE - Height No Greater Than 200 feet AGL.
 VFR Horizontal Surface: DNE
 VFR Conical Surface: DNE
 VFR Approach Slope: DNE
 VFR Transitional Slope: DNE

TERPS DEPARTURE PROCEDURE (FAA Order 8260.3, Volume 4)

FAR 77.17(a)(3) Departure Surface Criteria (40:1)
 DNE Departure Surface

MINIMUM OBSTACLE CLEARANCE ALTITUDE (MOCA)

FAR 77.17(a)(4) MOCA Altitude Enroute Criteria
 The Maximum Height Permitted is 1800 ft AMSL

PRIVATE LANDING FACILITIES

FACIL	BEARING	RANGE	DELTA
IDENT TYP NAME	To FACIL	IN NM	
ELEVATION IFR			
02CT HEL STRANGERS POINT	128.51	.63	-

223

No Impact to Private Landing Facility
 Structure 0 ft below heliport.

73	CT15	AIR WYSOCKI FIELD	319.1	1.51	
	No Impact to Private Landing Facility. DNE 200 ft AGL within 3 NM of Airport.				
+188	CT19	AIR LAURIE FIELD	303.63	4.53	
	No Impact to VFr Transitional Surface. Below surface height of 353 ft above ARP.				
+96	CT29	AIR VALLEY FARMS	351.57	5.3	
	No Impact to VFR Transitional Surface. Below surface height of 430 ft above ARP.				
+27	CT53	HEL MOUNTAIN VIEW	347.25	5.71	
	No Impact to Private Landing Facility Structure is beyond notice limit by 29695 feet.				

AIR NAVIGATION ELECTRONIC FACILITIES

GRND	FAC	ST	DIST	DELTA		
ANGLE	APCH					
	IDNT	TYPE	AT	FREQ	VECTOR (ft)	ELEVA ST LOCATION
	BEAR					
.07	BDL	RADAR	ON	274.23	61950	+81 CT BRADLEY INTL
	No Impact. This structure does not require Notice based upon EMI. The studied location is within 20 NM of a Radar facility. The calculated Radar Line-Of-Sight (LOS) distance is: 41 NM. This location and height is within the Radar Line-Of-Sight.					
.04	CEF	VORTAC	R	114.0	349.00	100719 +76 MA WESTOVER
-.29	HFD	VOR/DME	R	114.9	193.55	106895 -532 CT HARTFORD
.03	BAF	VORTAC	R	113.0	320.57	111337 +50 MA BARNES
-.12	PUT	VOR/DME	R	117.4	86.13	166668 -335 CT PUTNAM
0.00	ORW	VOR/DME	I	110.0	137.43	183456 +7 CT NORWICH
-.39	CTR	VOR/DME	I	115.1	314.95	188858 -1283 MA CHESTER
-.19	ORH	RADAR WXL	Y	51.35	202500	-686 MA WORCESTER

AM STUDY NOT REQUIRED: Structure is not near a FCC licensed AM station.

Movement Method Proof as specified in §73.151(c) is not required.

Please review 'AM Station Report' for details.

Nearest AM Station: WCTF @ 6823 meters.

Airspace® Summary Version 15.3.386

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03-23-2015

16:40:01

ATTACHMENT 8

May 15, 2015

Via Certified Mail, Return Receipt Requested

Maurice W. Blanchette, First Selectman
Town of Ellington
55 Main Street
P.O. Box 187
Ellington, CT 06029-0187

Re: **Proposed Installation of a Small Cell Telecommunications Facility at 398 Somers Road, Ellington, Connecticut**

Dear Mr. Blanchette:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a new small cell wireless telecommunications facility at 398 Somers Road in Ellington (the “Property”). The facility will consist of a roof-mounted tower extending approximately nine (9) feet above the roof of the building. The tower will support a single canister-type antenna, a Remote Radio Head (“RRH”) and an Oven Voltage Protection (“OVP”) electric box. Equipment associated with Cellco’s antenna, RRH and OVP will be housed in a small cabinet, placed on a concrete pad located on the west side of the existing building. A copy of the full Petition is attached for your review. Landowners whose property abuts the Property were also sent a copy of this Petition.

Please contact me if you have any questions regarding this proposal.

Sincerely,



Kenneth C. Baldwin

Attachment

13799315-v1

May 15, 2015

Via Certified Mail, Return Receipt Requested

Lisa Houlihan, Town Planner
Town of Ellington
55 Main Street
P.O. Box 187
Ellington, CT 06029-0187

Re: **Proposed Installation of a Small Cell Telecommunications Facility at 398 Somers Road, Ellington, Connecticut**

Dear Ms. Houlihan:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a new small cell wireless telecommunications facility at 398 Somers Road in Ellington (the “Property”). The facility will consist of a roof-mounted tower extending approximately nine (9) feet above the roof of the building. The tower will support a single canister-type antenna, a Remote Radio Head (“RRH”) and an Oven Voltage Protection (“OVP”) electric box. Equipment associated with Cellco’s antenna, RRH and OVP will be housed in a small cabinet, placed on a concrete pad located on the west side of the existing building. A copy of the full Petition is attached for your review. Landowners whose property abuts the Property were also sent a copy of this Petition.

Please contact me if you have any questions regarding this proposal.

Sincerely,



Kenneth C. Baldwin

Attachment

13799355-v1

May 15, 2015

Via Certified Mail, Return Receipt Requested

Harold G. Levesque, Jr.
298 Kozley Road
Tolland, CT 06084

Re: Proposed Installation of a Small Cell Telecommunications Facility at 398 Somers Road, Ellington, Connecticut

Dear Mr. Levesque:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a new small cell wireless telecommunications facility at 398 Somers Road in Ellington (the “Property”). The facility will consist of a roof-mounted tower extending approximately nine (9) feet above the roof of the building. The tower will support a single canister-type antenna, a Remote Radio Head (“RRH”) and an Oven Voltage Protection (“OVP”) electric box. Equipment associated with Cellco’s antenna, RRH and OVP will be housed in a small cabinet, placed on a concrete pad located on the west side of the existing building. A copy of the full Petition is attached for your review. Landowners whose property abuts the Property were also sent a copy of this Petition.

Please contact me if you have any questions regarding this proposal.

Sincerely,



Kenneth C. Baldwin

Attachment

13799363-v1

ATTACHMENT 9

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts

May 15, 2015

Via Certified Mail, Return Receipt Requested

«Name_and_Address»

Re: Petition for Declaratory Ruling Filed with the Connecticut Siting Council for the Installation of a Small Cell Telecommunications Facility at 398 Somers Road, Ellington, Connecticut

Dear «Salutation»:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a new small cell wireless telecommunications facility at 398 Somers Road in Ellington (the “Property”). The facility will consist of a roof-mounted tower extending approximately nine (9) feet above the roof of the building. The tower will support a single canister-type antenna, a Remote Radio Head (“RRH”) and an Oven Voltage Protection (“OVP”) electric box. Equipment associated with Cellco’s antenna, RRH and OVP will be housed in a small cabinet, placed on a concrete pad located on the west side of the existing building. A copy of the full Petition is attached for your review.

May 15, 2015
Page 2

This notice is being sent to you because you are listed as an owner of land that abuts the Property. If you have any questions regarding the Petition, the Council's process for reviewing the Petition or the details of the filing itself, please feel free to contact me at the number listed above. You may also contact the Council directly at 860-827-2935.

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth C. Baldwin". The signature is fluid and cursive, with a long horizontal stroke at the end.

Kenneth C. Baldwin

Attachment
Copy to:
Tim Parks

CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS

ABUTTERS LIST

**398 SOMERS AVENUE
ELLINGTON, CONNECTICUT**

	<u>Map/Block/Lot</u>	<u>Property Address</u>	<u>Owner and Mailing Address</u>
1.	105/007/0015	6 Foster Drive	Robert W. Thornton and Barbara A. Colemann 6 Foster Drive Ellington, CT 06029
2.	105/007/0014	8 Foster Drive	Jillian N. and Robert R. Olinatz 8 Foster Drive Ellington, CT 06029
3.	105/007/0019	Foster Drive	Richard Salvatore and Steven Bonanno Joseph DiMauro Tr. Bonanno Family Irr. Tr. 10 Foster Drive Ellington, CT 06029
4.	105/007/0013	10 Foster Drive	Maria Bonanno, Richard Salvatore and Steven Bonanno Joseph DiMauro Tr.; Bonnanno Family Tr. 10 Foster Drive Ellington, CT 06029
5.	105/004/0000	368 Somers Road	Somers Road Company 356 Somers Road Ellington, CT 06029
6.	105/006/0000	380 Somers Road	Harold E. Levesque, Jr. 398 Somers Road Ellington, CT 06029
7.	105/002/000	360 Somers Road	JLM Associates LLC DBA Ellington Airport P.O. Box 13 Southwick, MA 01077
8.	121/028/0000	406 Somers Road	Cool Beans LLC 174 Red Oak Hill Road Farmington, CT 06032

	<u>Map/Block/Lot</u>	<u>Property Address</u>	<u>Owner and Mailing Address</u>
9.	122/008/0003	377 Somers Road	Gary E. and Karen L. MacKintosh 377 Somers Road Ellington, CT 06029