

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 :  
AT 597 FARMINGTON AVENUE, BRISTOL, :  
CONNECTICUT : DECEMBER 14, 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” telecommunications tower on the roof of an existing commercial building (Bristol Plaza Shopping Center) at 597 Farmington Avenue in Bristol, Connecticut (the “Property”). The Property is owned by Federal Realty Investment Trust. Cellco has designated this site its “Bristol SC2 Facility”.

II. Factual Background

The Property is a 19.42-acre parcel in Bristol’s General Business (BG) zone district and is surrounded by commercial uses to the east, west and south along Farmington Avenue and

residential uses to the north. (See Attachment 1 – Site Vicinity Map and Site Schematic (Aerial Photograph)). Cellco is licensed to provide wireless telecommunications services in the 700 MHz, 850 MHz, 1900 MHz and 2100 MHz frequency ranges in Bristol and throughout the State of Connecticut. Initially, the proposed Bristol SC2 Facility is proposed to provide wireless service in Cellco’s 2100 MHz frequency range only.

### III. Proposed Bristol SC2 Facility

The proposed Bristol SC2 Facility will consist of a tower attached to the roof of the commercial/retail building. The tower will support a single canister antenna (model NH-360QS-DG-F0M) and one (1) remote radio head (RRH) (model ALU RRH2x60-AWS). The tower and canister antenna will extend approximately seven (7) feet above a parapet on the building. Cellco’s radio equipment will be located inside a cabinet, placed on an 8’ x 8’ concrete pad on the ground on the north side of the building. Electric and telephone service to the equipment cabinet will extend from existing service on the Property. Project Plans for the proposed Bristol SC2 Facility are included in Attachment 2. Specifications for Cellco’s Bristol SC2 Facility antenna and RRH are included in Attachment 3.

### 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 canister antenna and one (1) RRH, and the installation of a ground-mounted equipment cabinet will not involve a significant alteration in the physical and environmental characteristics of the Property. Ground disturbance is limited to the 8’ x 8’ equipment pad, in a portion of the site that is currently paved.

2. Visual Effects

The installation of a small tower, canister antenna and RRH on the roof of the existing commercial building at the Property would have minimal visual effects on the Property or the surrounding area. (See Photo-Simulations included in Attachment 4). Visibility of the tower and small cell antenna would be limited to the Bristol Plaza parking lot and more distant locations to the south of Farmington Avenue. Neither the tower nor the ground-mounted equipment would be visible from residential property to the north due to the presence of a dense landscaped buffer.

3. FCC Compliance

Radio frequency (“RF”) emissions from the proposed installation will be far below the standards adopted by the Federal Communications Commission (“FCC”). Included in Attachment 5 is a General Power Density table including a worst-case calculation of RF emissions from the proposed facility. This calculation demonstrates that the proposed “small cell” facility will operate well within the RF emission standards adopted by the FCC.

4. FAA Summary Report

Included in Attachment 6 is a Federal Airways & Airspace Summary Report verifying that the Bristol SC2 Facility tower 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 Town, Property Owner and Abutting Landowners

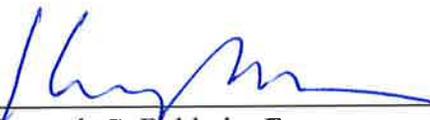
On December 14, 2015, a copy of this Petition was sent to Bristol's Mayor Kenneth B. Cockayne and Federal Realty Investment Trust, the owner of the Property. Included in Attachment 7 are copies of the letters sent to Mayor Cockayne and Federal Realty Investment Trust. A copy of this Petition was also sent to the owners of land that abuts the Property. A sample abutter's letter and the list of those abutting landowners are included in Attachment 8.

V. Conclusion

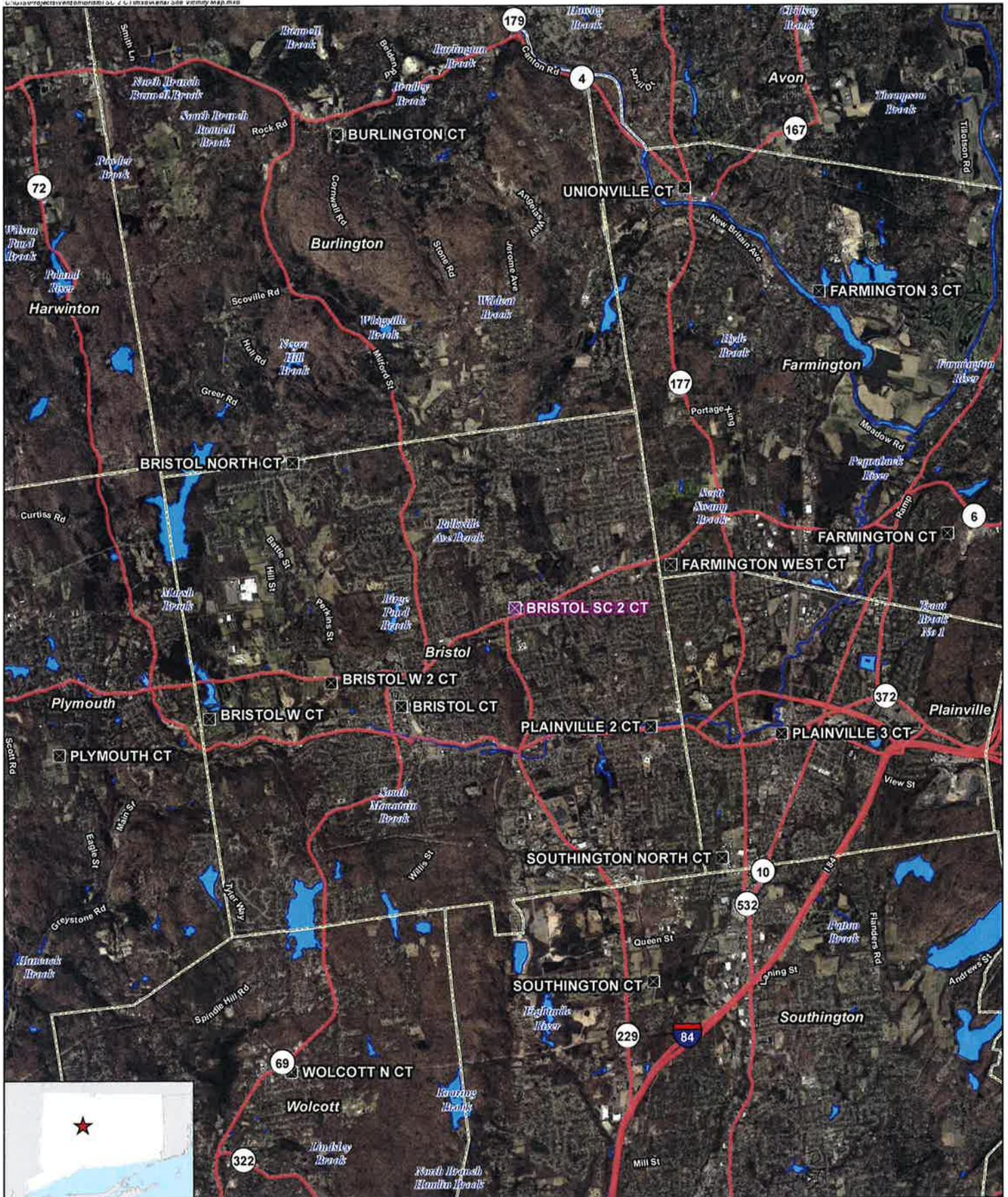
Based on the information provided above, Cellco respectfully requests that the Council issue a determination in the form of a declaratory ruling that the installation of a small tower and related appurtenances on the roof of the building and ground-mounted equipment cabinets at the Property will not 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

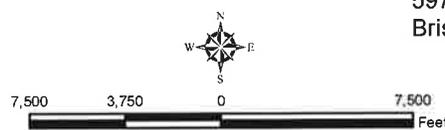
# **ATTACHMENT 1**

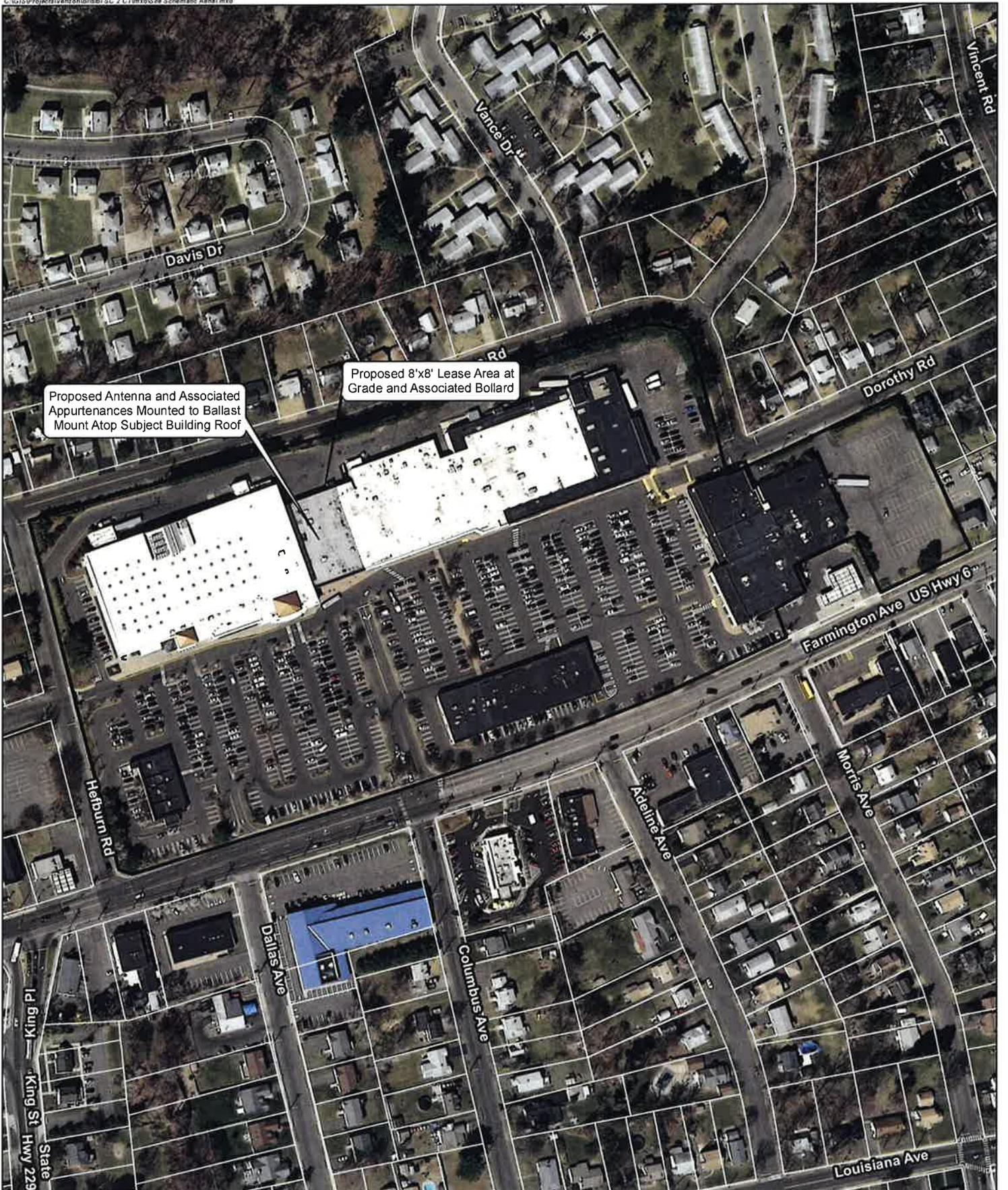


- Legend**
- ✕ Proposed Verizon Wireless Small Cell Facility
  - Surrounding Verizon Wireless Facilities
  - Municipal Boundary
  - ~ Waterbody

**Site Vicinity Map**

Proposed Small Cell Installation  
 Bristol SC 2 CT  
 597 Farmington Avenue  
 Bristol, Connecticut





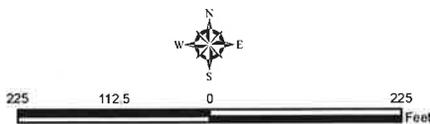
**Legend**

-  Approximate Subject Property
-  Approximate Parcel Boundary (CTDEEP GIS Parcels Last Updated 2010)

**Site Schematic**

Proposed Small Cell Installation  
 Bristol SC 2 CT  
 597 Farmington Avenue  
 Bristol, Connecticut

Map Notes:  
 Base Map Source: 2012 Aerial Photograph (CTECO)  
 Map Scale: 1 inch = 225 feet  
 Map Date: December 2015



# **ATTACHMENT 2**

# Cellco Partnership

d.b.a. **verizon** wireless

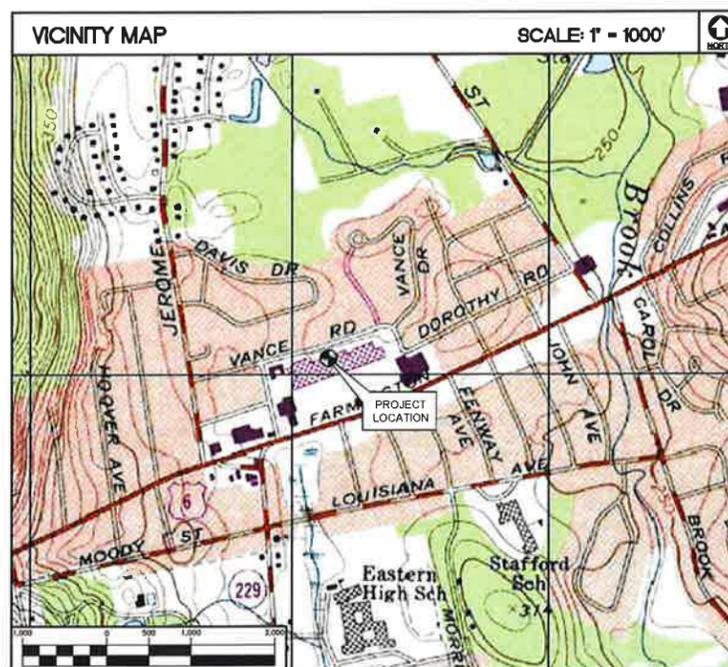
## WIRELESS COMMUNICATIONS FACILITY

BRISTOL SC2 CT  
597 FARMINGTON AVENUE  
BRISTOL, CT 06010

SITE DIRECTIONS	
<b>FROM:</b> 99 EAST RIVER DRIVE EAST HARTFORD, CONNECTICUT	<b>TO:</b> 597 FARMINGTON AVENUE BRISTOL, CT 06010
1. Head east on E River Dr toward Darin St	0.3 mi
2. Turn left to stay on E River Dr	354 ft
3. Turn left at the 1st cross street onto Connecticut Blvd	0.2 mi
4. Turn left onto the Route 84 W ramp to Hartford/Route 91	482 ft
5. Merge onto I-84	0.3 mi
6. Use the left 2 lanes to stay on I-84	194 ft
7. Keep left to stay on I-84	1.4 mi
8. Keep left to stay on I-84	6.9 mi
9. Take exit 38 for US-6 W toward Bristol	0.3 mi
10. Continue onto US-6 W (signs for 6 E)	3.9 mi
11. Continue straight to stay on US-6 W, destination will be on the right	

GENERAL NOTES
1. PROPOSED ANTENNA LOCATIONS AND HEIGHTS PROVIDED BY CELCO PARTNERSHIP.

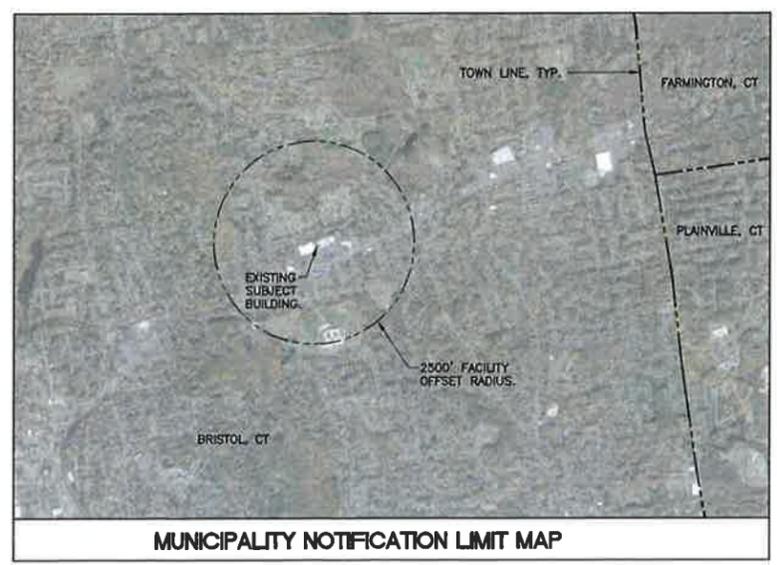
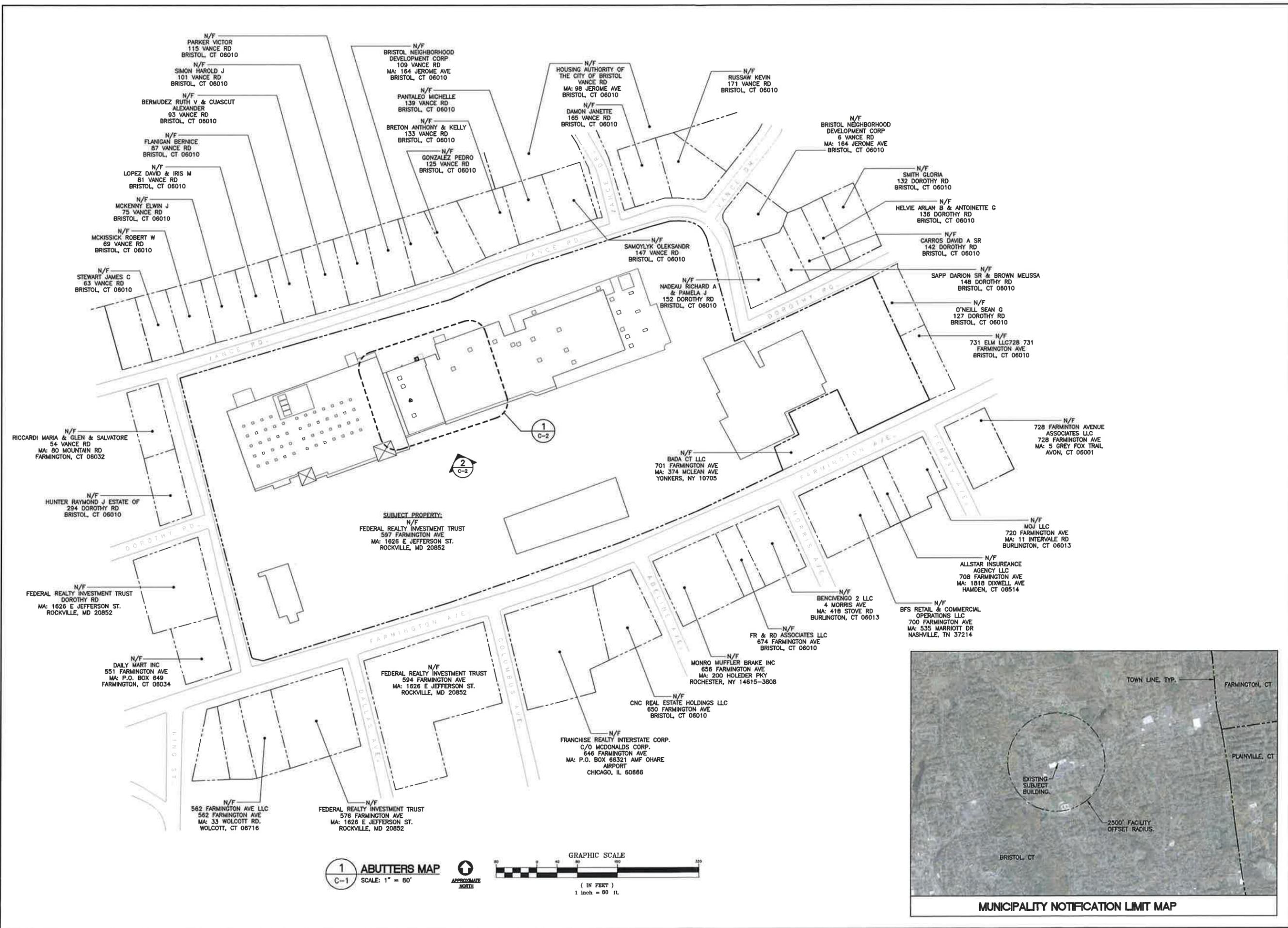
PROJECT SCOPE
1. THE PROPOSED SCOPE OF WORK GENERALLY INCLUDES THE INSTALLATION OF A PROPOSED CELCO PARTNERSHIP EQUIPMENT CABINET MOUNTED ON A 3'x3' CONC. PAD AT GRADE.
2. A TOTAL OF ONE (1) OMNI-DIRECTIONAL ANTENNA IS PROPOSED TO BE MOUNTED TO A ROOFTOP BALLAST MOUNT ATOP THE SUBJECT BUILDING WITH AN ANTENNA CENTERLINE ELEVATION OF 29.5' A.G.L.
3. ELECTRIC AND TELCO UTILITIES SHALL BE ROUTED FROM EXISTING/PROPOSED ELECTRICAL AND TELCO DEMARCS TO PROPOSED EQUIPMENT CABINET AT GRADE.
4. FINAL DESIGN FOR ANTENNA MOUNT SHALL BE INCLUDED IN THE D&M PLANS.
5. THERE WILL NOT BE ANY SIGNS OR ADVERTISING ON THE ANTENNAS OR EQUIPMENT.
6. THE PROPOSED WIRELESS FACILITY INSTALLATION WILL BE DESIGNED IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2009 CONNECTICUT SUPPLEMENT.



PROJECT SUMMARY	
SITE NAME:	BRISTOL SC2 CT
SITE ADDRESS:	597 FARMINGTON AVENUE BRISTOL, CT 06010
LESSEE/TENANT:	CELCO PARTNERSHIP d.b.a. VERIZON WIRELESS 99 EAST RIVER DRIVE EAST HARTFORD, CT 06108
VERIZON SITE ACQUISITION CONTACT:	ALEKSEY TYURIN CELCO PARTNERSHIP (860) 803-8213
LEGAL/REGULATORY COUNSEL:	KENNETH C. BALDWIN, ESQ. ROBINSON & COLE LLP (860) 257-8345
SITE COORDINATES:	LATITUDE: 41°-41'-30.881"N LONGITUDE: 72°-55'-24.946"W GROUND ELEVATION: ±269.4' AMSL
	COORDINATES AND GROUND ELEVATION REFERENCED FROM FAA 1-A SURVEY CERTIFICATION AS PREPARED FOR VERIZON WIRELESS, BY MARTINEZ COUCH AND ASSOCIATES L.L.C., DATED MAY 19, 2015.

SHEET INDEX		
SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	1
C-1	ABUTTERS MAP	1
C-2	ROOF PLAN, ELEVATION AND ANTENNA CONFIG.	1

 d.b.a. <b>verizon</b> wireless	 Centered on Solutions (203) 488-0580 (203) 488-8587 Fax 63-2 North Branford Road Branford, CT 06405 www.CentekEng.com	Cellco Partnership d/b/a Verizon Wireless WIRELESS COMMUNICATIONS FACILITY <b>BRISTOL SC2 CT</b> 597 FARMINGTON AVENUE BRISTOL, CT 06010	DATE: 07/21/15 SCALE: AS NOTED JOB NO. 15086.000	TITLE SHEET	<b>T-1</b> Sheet No. 1 of 3	ISSUED FOR CSC ISSUED FOR CSC - CLIENT REVIEW DMD DMD JTD CTP DATE DRAWN BY CHK'D BY DESCRIPTION 1 06/10/15 JTD 0 07/22/15 CTP REV.	PROFESSIONAL ENGINEER SEAL



REV.	DATE	DRAWN BY	CHECKED BY	DESCRIPTION
1	08/10/15	JTD	DMD	ISSUED FOR CSC
0	07/22/15	CJP	DMD	ISSUED FOR CSC - CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

Cellco Partnership  
 d.b.a. Verizon Wireless

**CENITEK** engineering  
 Centek on Solutions  
 (203) 488-0580  
 (203) 488-8587 Fax  
 63-2 North Branford Road  
 Branford, CT 06405  
 www.CentekEng.com

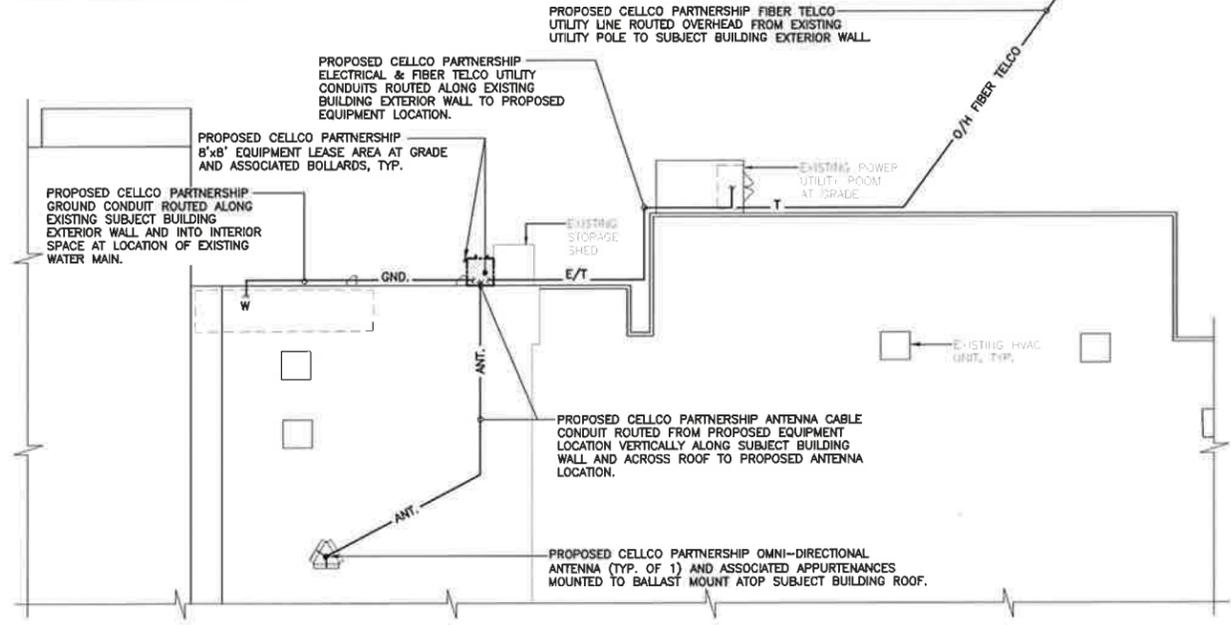
Cellco Partnership d/b/a Verizon Wireless  
 WIRELESS COMMUNICATIONS FACILITY  
**BRISTOL SC2 CT**  
 597 FARMINGTON AVENUE  
 BRISTOL, CT 06010

DATE: 07/21/15  
 SCALE: AS NOTED  
 JOB NO. 15096.000

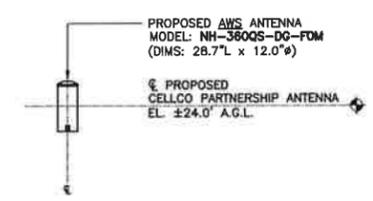
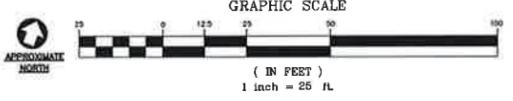
ABUTTERS MAP

**C-1**  
 Sheet No. 2 of 3

**NOTE:**  
 PROPOSED CELCO PARTNERSHIP EQUIPMENT CABINET TO BE MOUNTED ON 3'x3' CONC. PAD AT GRADE WITHIN PROPOSED EQUIPMENT LEASE AREA.



**1 PARTIAL ROOF/SITE PLAN**  
 C-2 SCALE: 1" = 25'

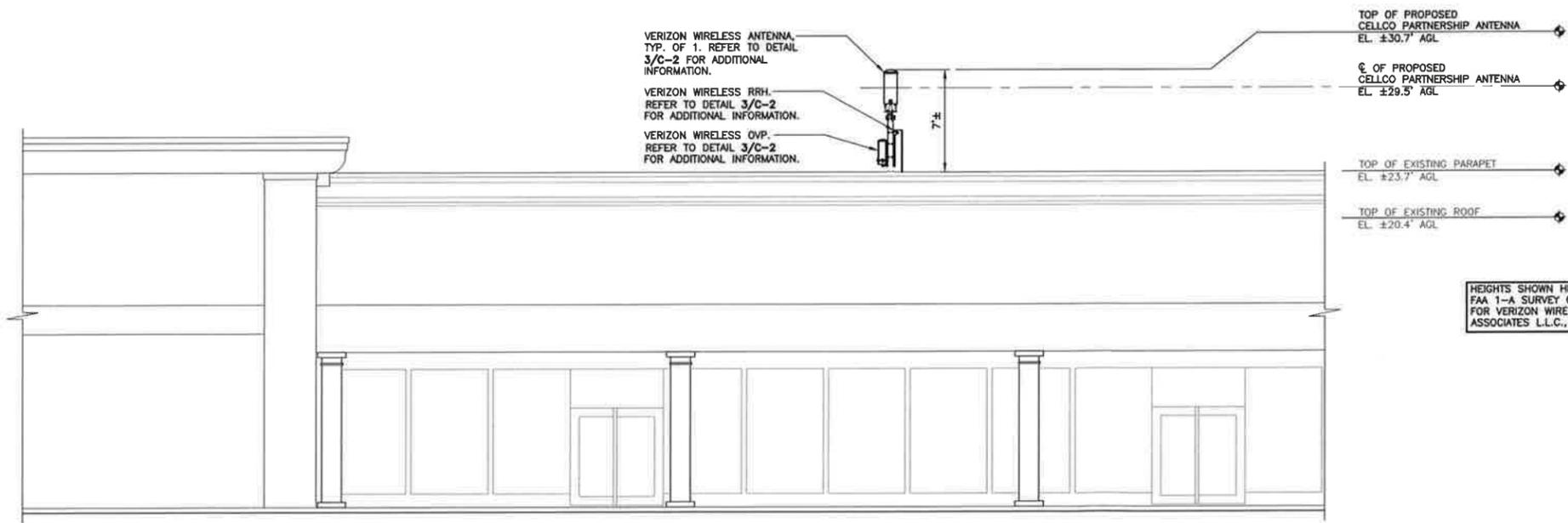


**RRH MOUNTING NOTE**

- AWS RRH (MODEL: ALJ RRH 2x60-AWS) (DIMS: 36.7"L x 10.6"W x 5.8"D) (TOTAL OF 1)
- OVP DISTRIBUTION BOX (MODEL: RC2DC-1064-PF-48) (DIMS: 20.58"L x 10.15"W x 8.2"D) (TOTAL OF 1)

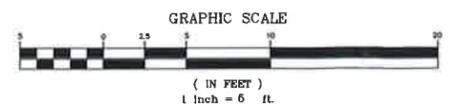
PIPE MOUNTED TO ANTENNA BALLAST. REFER PLAN AND ELEVATION FOR LOCATIONS

**3 TYP. ANTENNA MOUNTING CONFIGURATION**  
 C-2 NOT TO SCALE



HEIGHTS SHOWN HEREIN ARE REFERENCED FROM FAA 1-A SURVEY CERTIFICATION AS PREPARED FOR VERIZON WIRELESS, BY MARTINEZ COUCH AND ASSOCIATES L.L.C., DATED MAY 19, 2015.

**2 PARTIAL SOUTHEAST ELEVATION**  
 C-2 SCALE: 1" = 5'



REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
1	08/10/15	JTD	DMD	ISSUED FOR CSC
0	07/22/15	CTP	DMD	ISSUED FOR CSC - CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

Cellco Partnership  
 d.b.a. Verizon Wireless

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**BRISTOL SC2 CT**  
 597 FARMINGTON AVENUE  
 BRISTOL, CT 06010

DATE: 07/21/15  
 SCALE: AS NOTED  
 JOB NO. 15096.000

ROOF PLAN  
 ELEVATION &  
 ANTENNA CONFIG.

**C-2**  
 Sheet No. 3 of 3

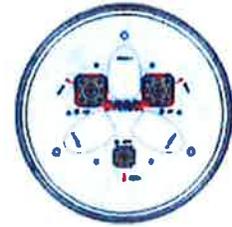
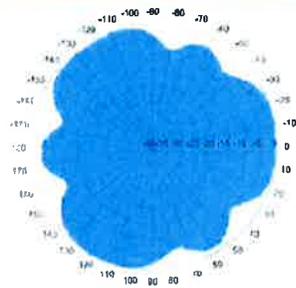
# **ATTACHMENT 3**

Metro Cell Antennas with Internal Diplexer and GPS Antenna

Dualband Quasi-Omni (360°), Metro Cell Antenna

NH360QS-DG-F0M

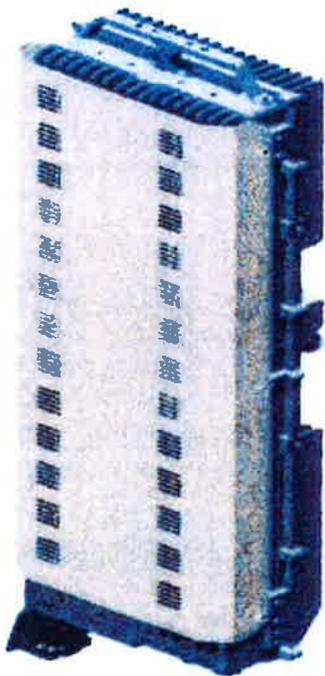
NH360QT-DG-F0



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										
Polarization	±45°	±45°	±45°	±45°	±45°	±45°	±45°	±45°	±45°	±45°
Gain, dBi	4.3	5.3	8.0	8.1	8.5	1.3	2.3	4.0	4.2	4.5
Beamwidth, Horizontal, degrees	360	360	360	360	360	360	360	360	360	360
Beamwidth, Vertical, degrees	30.0	24.0	16.0	15.0	14.0	60.0	55.0	32.5	30.0	28.5
USLS, dB	12	12	14	13	13	-	-	14	12	11
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)
PIM, 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										
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)	20.0 (44.1)					12.0 (26.5)				
AVAILABILITY										
Expected Ready Date for Manufacturing	March 2014					June 2014				

# ALCATEL-LUCENT WIRELESS PRODUCT DATASHEET RRH2x60-AWS

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.

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.

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).

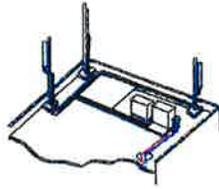
The Alcatel-Lucent RRH2x60-AWS is a very cost-effective solution to deploy LTE MIMO.

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.

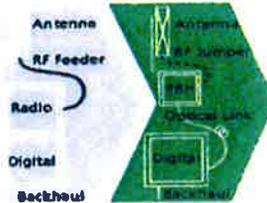
The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment. However, many of these sites can host an Alcatel-Lucent RRH2x60-AWS installation, providing more flexible site selection and improved network quality along with greatly reduced installation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

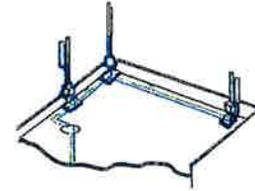
Installation can easily be done by a single person as the Alcatel-Lucent RRH2x60-AWS is compact and weighs about 20 kg, eliminating the need for a crane to hoist the BTS cabinet to the rooftop. A site can be in operation in less than one day.



Macro



RRH for space-constrained cell sites



Distributed

- 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

- 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.

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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AT THE SPEED OF IDEAS™

Alcatel-Lucent 

# **ATTACHMENT 4**

# Limited Visual Assessment and Photo-Simulations

BRISTOL SC 2 CT  
597 FARMINGTON AVENUE  
BRISTOL, CT 06010



Prepared in August 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 597 Farmington Avenue (US Highway 6) in Bristol, Connecticut (the "Property").

## Project Setting

The Property is located on the north side of Farmington Avenue in a mixed commercial and residential area. The Property is improved with a multi-tenant retail mall complex. The proposed Facility would include the installation of a pipe-mast mounted canister antenna affixed to the north central rooftop of the building, a space currently occupied by the Dress Barn store. The antenna would rise approximately seven (7) feet above the roof and about 32 feet above existing grade. Associated appurtenances would be affixed to the base of the pipe mast at rooftop level. Ground equipment would be located behind the building within an 8' x 8' lease area, next to an existing storage shed.

## Methodology

On July 31, 2015, APT personnel conducted a field reconnaissance to photo-document existing conditions. Five (5) locations south of the existing mall were selected to represent the general extent of visibility of 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."<sup>1</sup>*

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 format<sup>2</sup>. A photolog map and copies of the existing conditions and photo-simulations are attached.

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

<sup>2</sup> 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 southern parking areas on the Property. These locations also have existing infrastructure in the view scape, including light poles and other rooftop equipment. The potential exists for limited, seasonal views extending across Farmington Avenue farther to the south however the mall features extensive landscaping that buffer direct lines of sight. The ground equipment's placement behind the building off the perimeter service road would limit views to employees and delivery personnel. Residences to the north are provided dense landscape buffer such that the ground equipment would not be visible. 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**



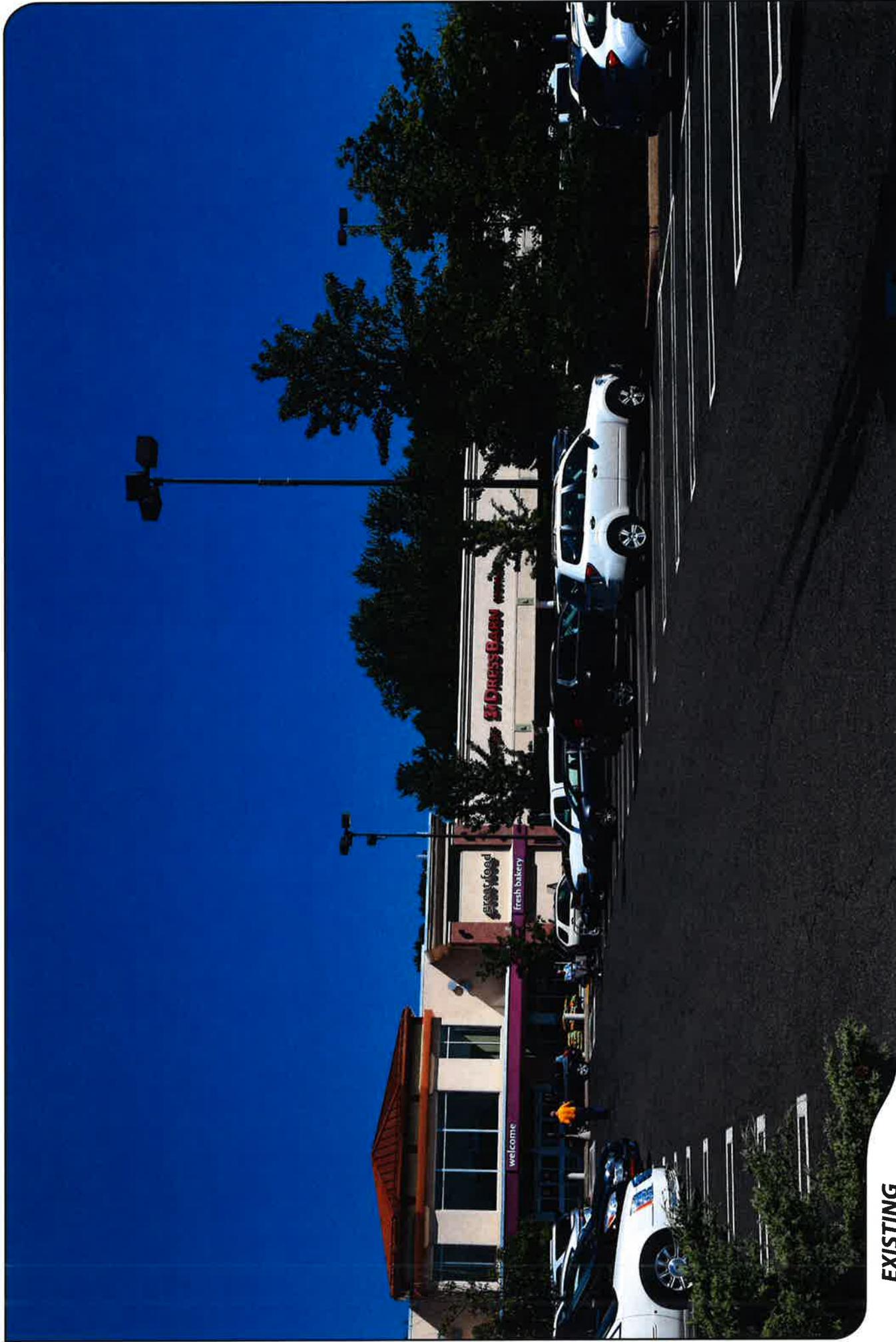
Base Map Source: 2012 Aerial Photograph (CTECO)



# PHOTO LOG

## Legend

- Site
- Photo Location



**EXISTING**

PHOTO	LOCATION	DISTANCE TO SITE
1	HOST PROPERTY	+/- 428 FEET



**PROPOSED**

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE
1	HOST PROPERTY	NORTHEAST	+/- 428 FEET



**EXISTING**

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE
2	HOST PROPERTY	NORTHWEST	+/- 408 FEET



**PROPOSED**

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE
2	<b>HOST PROPERTY</b>	<b>NORTHWEST</b>	<b>+/- 408 FEET</b>



**EXISTING**

PHOTO

3

LOCATION

**HOST PROPERTY**

ORIENTATION

**NORTHWEST**

DISTANCE TO SITE

**+/- 299 FEET**



**PROPOSED**

PHOTO

3

LOCATION

HOST PROPERTY

ORIENTATION

**NORTHWEST**

DISTANCE TO SITE

**+/- 299 FEET**



**EXISTING**

PHOTO  
**4**

LOCATION

**HOST PROPERTY**

ORIENTATION

**NORTHWEST**

DISTANCE TO SITE

**+/- 377 FEET**



**PROPOSED**

PHOTO  
**4**

LOCATION  
**HOST PROPERTY**

ORIENTATION  
**NORTHWEST**

DISTANCE TO SITE  
**+/- 377 FEET**





**EXISTING**

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE
5	<b>HOST PROPERTY</b>	<b>NORTHWEST</b>	<b>+/- 515 FEET</b>



**PROPOSED**

PHOTO

5

LOCATION

**HOST PROPERTY**

ORIENTATION

**NORTHWEST**

DISTANCE TO SITE

**+/- 515 FEET**

# **ATTACHMENT 5**

General Power Density

Site Name: Bristol SC 2, 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 <sup>2</sup> )	Maximum Permissible Exposure* (mW/cm <sup>2</sup> )	Fraction of MPE (%)
VZW AWS	2145	1	595	595	30	0.2377	1.0	23.77%

**Total Percentage of Maximum Permissible Exposure**

23.77%

\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1.1-1992

MHz = Megahertz

mW/cm<sup>2</sup> = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.

# **ATTACHMENT 6**

\*\*\*\*\*

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

\*

\*\*\*\*\*

Airspace User: Mark Brauer

File: BRISTOL\_SC\_2\_CT

Location: Bristol, CT

Latitude: 41°-41'-28.44" Longitude:  
72°-55'-20.63"

SITE ELEVATION AMSL.....262 ft.  
STRUCTURE HEIGHT.....32 ft.  
OVERALL HEIGHT AMSL.....294 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)
- FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for 4B8
- FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for N41
- FAR 77.9(d): NNR (Off 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: 4B8: ROBERTSON FIELD

Type: A RD: 15791.46 RE: 188.6

- 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

VFR TRAFFIC PATTERN AIRSPACE FOR: N41: WATERBURY

Type: A RD: 39749.98 RE: 849.3

- 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

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 1700 ft AMSL

PRIVATE LANDING FACILITIES

ARP FAA	FACIL	BEARING	RANGE	DELTA
ELEVATION IFR	IDENT TYP NAME	To FACIL	IN NM	
-112	CT03 HEL BRISTOL HOSPITAL	213.72	1.11	
	No Impact to Private Landing Facility Structure 0 ft below heliport.			
	CT60 HEL ULTIMATE	124.24	1.7	+41
	No Impact to Private Landing Facility Structure is beyond notice limit by 5329 feet.			
-656	CT96 AIR GREEN ACRES	295.11	2.42	
	No Impact to Private Landing Facility. DNE 200 ft AGL within 3 NM of Airport.			
	CT73 HEL SOUTH MEADOWS	55.74	3.39	+94
	No Impact to Private Landing Facility Structure is beyond notice limit by 15598 feet.			

23CT HEL BLANCHETTE 355.93 5.69  
 -206

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

AIR NAVIGATION ELECTRONIC FACILITIES

GRND	FAC	ST	DIST	DELTA			
ANGLE	APCH						
BEAR	IDNT	TYPE	AT	FREQ	VECTOR	(ft) ELEVA	ST LOCATION
	4B8	CO	Y	A/G	90.03	15275	+34 CT PALINFIELD
.13	HFD	VOR/DME	R	114.9	100.24	104077	-555 CT HARTFORD
-.31	BDL	VORTAC	D	109.0	34.93	111117	+134 CT BRADLEY
.07	BDL	RADAR	ON		35.89	111356	+58 CT BRADLEY INTL
.03	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: 40 NM. This location and height is within the Radar Line-Of-Sight.						
.03	MAD	VOR/DME	R	110.4	155.44	151287	+74 CT MADISON
.11	HVN	VOR/DME	R	109.8	176.28	156622	+288 CT NEW HAVEN
.01	BAF	VORTAC	R	113.0	18.05	180474	+27 MA BARNES
-.29	PWL	VOR/DME	I	114.3	279.01	187307	-956 NY PAWLING
.08	BDR	VOR/DME	R	108.8	195.93	201109	+285 CT BRIDGEPORT

CFR Title 47; §1.30000-§1.30004

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: WPRX @ 4214 meters.

Airspace® Summary Version 15.5.391

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06-11-2015

14:48:05

# **ATTACHMENT 7**

December 14, 2015

*Via Certificate of Mailing*

Kenneth B. Cockayne, Mayor  
City Hall  
111 North Main Street  
Bristol, CT 06010

**Re: Installation of a Small Cell Telecommunications Facility at 597 Farmington Avenue,  
Bristol, Connecticut**

Dear Mayor Cockayne:

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” telecommunications facility on the roof of the building at the Bristol Plaza, 597 Farmington Avenue in Bristol (the “Property”).

The proposed facility would consist of a small tower on the roof of the building, supporting a single canister-type antenna and a remote radio head (RRH). The tower, antenna and RRH will be located in the center of the roof and would extend approximately seven (7) feet above the existing parapet wall. Cellco’s radio equipment will be located on an 8’ x 8’ concrete pad located to the rear of the building.

A copy of Cellco’s Petition is attached for your review. Landowners whose property abuts the Property were also sent notice of this filing and a copy of the Petition.

# Robinson + Cole

Ken Cockayne  
December 14, 2015  
Page 2

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

Sincerely,



Kenneth C. Baldwin

KCB/kmd  
Attachment

December 14, 2015

*Via Certificate of Mailing*

Federal Realty Investment Trust  
1626 E Jefferson Street  
Rockville, MD 20852

Re: **Installation of a Small Cell Telecommunications Facility at 597 Farmington Avenue,  
Bristol, Connecticut**

Dear Sir or Madam:

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” telecommunications facility on the roof of the building at the Bristol Plaza, 597 Farmington Avenue in Bristol (the “Property”).

The proposed facility would consist of a small tower on the roof of the building, supporting a single canister-type antenna and a remote radio head (RRH). The tower, antenna and RRH will be located in the center of the roof and would extend approximately seven (7) feet above the existing parapet wall. Cellco’s radio equipment will be located on an 8’ x 8’ concrete pad located to the rear of the building.

A copy of Cellco’s Petition is attached for your review. Landowners whose property abuts the Property were also sent notice of this filing and a copy of the Petition.

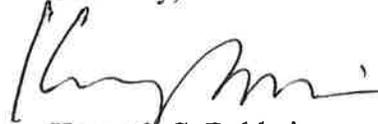
14034369-v1

# Robinson + Cole

Federal Realty Investment Trust  
December 14, 2015  
Page 2

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Ken Baldwin', written over a light blue horizontal line.

Kenneth C. Baldwin

KCB/kmd  
Attachment

# **ATTACHMENT 8**

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

December 14, 2015

*Via Certificate of Mailing*

«Name\_and\_Address»

**Re: Notice of Intent to File a Petition for Declaratory Ruling with the Connecticut Siting Council for the Installation of a “Small Cell” Telecommunications Facility at 597 Farmington Avenue, Bristol, 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” telecommunications facility on the roof of the building at the Bristol Plaza, 597 Farmington Avenue in Bristol (the “Property”).

The proposed facility would consist of a small tower on the roof of the building, supporting a single canister-type antenna and a remote radio head (RRH). The tower, antenna and RRH will be located in the center of the roof and would extend approximately seven (7) feet above the existing parapet wall. Cellco’s radio equipment will be located on an 8’ x 8’ concrete pad located to the rear of the building. A copy of the full Petition is attached for your review.

December 14, 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

**CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS**

**ABUTTING PROPERTY OWNERS**

**597 FARMINGTON AVENUE, BRISTOL, CONNECTICUT**

	<b>Property Address</b>	<b>Owner's and Mailing Address</b>
1.	728 Farmington Avenue	728 Farmington Avenue Associates LLC 5 Grey Fox Trail Avon, CT 06001
2.	720-724 Farmington Avenue	MOJ LLC 11 Intervale Road Burlington, CT 06013
3.	708 Farmington Avenue	Allstar Insurance Agency LLC 1818 Dixwell Avenue Hamden, CT 06514
4.	700 Farmington Avenue	BFS Retail Commercial Operations LLC c/o BFS Tax Dept. 535 Marriott Drive Nashville, TN 37214
5.	4 Morris Avenue	Bencivengo 2 LLC 418 Stove Road Burlington, CT 06013
6.	674 Farmington Avenue	FR & RD Associates LLC 674 Farmington Avenue Bristol, CT 06010
7.	656 Farmington Avenue	Monro Muffler Brake LLC 200 Holeder Parkway Rochester, NY 14615-3803
8.	650 Farmington Avenue	CNC Real Estate Holdings LLC 650 Farmington Avenue Bristol, CT 06010

	<b>Property Address</b>	<b>Owner's and Mailing Address</b>
9.	646 Farmington Avenue	Franchise Realty Interstate Corp. c/o McDonalds Corporation P.O. Box 66321 AMF O'Hare Airport Chicago, IL 60666
10.	594 Farmington Avenue	Federal Realty Investment Trust Attn: Director of Property Analysis 1626 East Jefferson Street Rockville, MD 20852
11.	576 Farmington Avenue	Federal Realty Investment Trust Attn: Director of Property Analysis 1626 East Jefferson Street Rockville, MD 20852
12.	562 Farmington Avenue	562 Farmington Avenue LLC 33 Wolcott Road Wolcott, CT 06716
13.	551 Farmington Avenue	Daily Mart Inc. P.O. Box 649 Farmington, CT 06034
14.	Dorothy Road	Federal Realty Investment Trust Attn: Director of Property Analysis 1626 East Jefferson Street Rockville, MD 20852
15.	294 Dorothy Road	Estate of Raymond Hunter c/o Raymond Hunter II 294 Dorothy Road Bristol, CT 06010
16.	54 Vance Road	Maria Riccardi and Glen Salvatore 80 Mountain Road Farmington, CT 06032
17.	63 Vance Road	James C. Stewart 63 Vance Road Bristol, CT 06010

	<b>Property Address</b>	<b>Owner's and Mailing Address</b>
18.	69 Vance Road	Robert W. McKissick 69 Vance Road Bristol, CT 06010
19.	75 Vance Road	Elwin J. Mckenney 75 Vance Road Bristol, CT 06010
20.	81 Vance Road	David and Iris M. Lopez 81 Vance Road Bristol, CT 06010
21.	87 Vance Road	Bernice Flanigan 87 Vance Road Bristol, CT 06010
22.	93 Vance Road	Ruth V. Bermudez and Alexander Cuascut 93 Vance Road Bristol, CT 06010
23.	101 Vance Road	Harold Simon 101 Vance Road Bristol, CT 06010
24.	115 Vance Road	Victor Parker 115 Vance Road Bristol, CT 06010
25.	109 Vance Road	Bristol Neighborhood Development Corporation 164 Jerome Avenue Bristol, CT 06010
26.	125 Vance Road	Pedro M. Gonzalez 125 Vance Road Bristol, CT 06010
27.	133 Vance Road	Anthony and Kelly Breton 133 Vance Road Bristol, CT 06010
28.	139 Vance Road	Michelle Pantaleo 139 Vance Road Bristol, CT 06010

	<b>Property Address</b>	<b>Owner's and Mailing Address</b>
29.	Vance Road	Housing Authority City of Bristol 98 Jerome Avenue Bristol, CT 06010
30.	147 Vance Road	Oleksandr Samoylyk 147 Vance Road Bristol, CT 06010
31.	165 Vance Road	Janette Damon 165 Vance Road Bristol, CT 06010
32.	171 Vance Road	Kevin Russaw 171 Vance Road Bristol, CT 06010
33.	6 Vance Road	Bristol Neighborhood Development Corporation 164 Jerome Avenue Bristol, CT 06010
34.	152 Dorothy Road	Richard A. and Pamela J. Nadeau 152 Dorothy Road Bristol, CT 06010
35.	148 Dorothy Road	Melissa Brown and Darion Sapp, Sr. 148 Dorothy Road Bristol, CT 06010
36.	142 Dorothy Road	David A. Carros, Sr. 142 Dorothy Road Bristol, CT 06010
37.	136 Dorothy Road	Arlan B. and Antoinette G. Helvie 136 Dorothy Road Bristol, CT 06010
38.	132 Dorothy Road	Gloria F. Smith 132 Dorothy Road Bristol, CT 06010
39.	127 Dorothy Road	Sean G. O'Neill 127 Dorothy Road Bristol, CT 06010

	<b>Property Address</b>	<b>Owner's and Mailing Address</b>
40.	731 Farmington Avenue	731 Elm LLC 731 Farmington Avenue Bristol, CT 06010