# STATE OF CONNECTICUT CONNECTICUT SITING COUNCIL

IN RE:	*	
	:	
A PETITION OF CELLCO PARTNERSHIP	:	PETITION NO
D/B/A VERIZON WIRELESS FOR A	1	
DECLARATORY RULING ON THE NEED TO	:	
OBTAIN A SITING COUNCIL CERTIFICATE	:	
FOR THE INSTALLATION OF A SMALL	:	
CELL TELECOMMUNICATIONS FACILITY	:	
AT 1245 FARMINGTON AVENUE, WEST	•	
HARTFORD, CONNECTICUT	:	JULY 19, 2017

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

#### I. <u>Introduction</u>

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 "small cell" telecommunications facility at 1245 Farmington Avenue in West Hartford, Connecticut (the "Property"). The Property is owned by Udolf Investments, LLC and is used for commercial purposes. Cellco refers to the proposed facility as its "West Hartford SC5 Facility".

#### II. Factual Background

The Property is an approximately 3.29-acre parcel in West Hartford's Special Design

District # 83 General Business (SDD/BG) zone district. See Attachment 1 – Site Vicinity and

Site Schematic Maps (Aerial Photograph). Cellco is licensed to provide wireless

telecommunications services in the 700 MHz, 850 MHz, 1900 MHz and 2100 MHz frequency ranges in West Hartford and throughout the State of Connecticut. Initially, the proposed West Hartford SC5 Facility will provide wireless service in Cellco's 2100 MHz frequency range only.

### A. Proposed West Hartford SC5 Facility

The proposed West Hartford SC5 Facility would consist of a tower mast in the northerly portion of the roof of the building. The tower will support a single panel antenna (Model HBXX-6516DS MHz) and a remote radio head ("RRH") (Model B66-RRH4x45). The tower, antenna and RRH will be concealed within a faux chimney structure designed to match the building. Equipment associated with the antenna would be installed with the RF enclosure. The faux chimney structure will extend to a height of approximately 34'-9" above ground level (AGL); approximately 9'-6" above the roof parapet. Additional radio equipment will be located in a basement meter room. (See Cellco's Project Plans included in Attachment 2). Power and telephone service to the West Hartford SC5 Facility will extend from existing service at the Property. Specifications for the West Hartford SC5 Facility antenna and RRH are included in Attachment 3.

#### III. <u>Discussion</u>

## 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).

#### Physical Environmental Effects

Cellco respectfully submits that the installation of a small tower mast attached to the roof, supporting a single panel antenna and RRH, all concealed within a RF transparent faux chimney, and the installation of radio and electrical equipment inside the building, will not involve a significant alteration in the physical and environmental characteristics of the Property. No tree removal or ground disturbance is required to install the proposed wireless facility.

#### Visual Effects

The visibility of the proposed "small cell" facility would be limited to locations primarily within the Property. (See Visual Assessment & Photo-Simulations ("Visual Assessment") included in <a href="Attachment 4">Attachment 4</a>). The radio and electrical equipment would be screened by the faux chimney. Based on the results of a Visual Assessment, Cellco has determined that the proposed "small cell" facility will not have an adverse visual impact on the views of the building or the character of the existing community.

#### 3. FCC Compliance

Radio frequency ("RF") emissions from the proposed installation will be well below the standards adopted by the Federal Communications Commission ("FCC"). Included in <a href="https://example.com/Attachment.5">Attachment.5</a> is a Far Field Approximation table for Cellco's "small cell" antenna at a centerline height of approximately 34 feet AGL. This calculation indicates that the West Hartford SC5 Facility will operate well within (50.76% of the standard at a distance of 85.8 feet) the RF emission standards established by the FCC.

#### FAA Summary Report

Included in Attachment 6 of this Petition is a Federal Airways & Airspace Summary

Report verifying that the new tower and concealment structure described in this Petition would not constitute an obstruction or hazard to air navigation and that notification to the FAA is not required.

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

On July 19, 2017, a copy of this Petition was sent to West Hartford Mayor Shari Cantor; Todd Dumais, West Hartford Town Planner; and Udolf Investments, LLC, the owner of the Property. Notice of Cellco's intent to file the Petition was also sent to the owners of land that abuts the Property. Included in <u>Attachment 7</u> are copies of the letters sent to Mayor Cantor, Mr. Dumais and Udolf Investments, LLC. Included in <u>Attachment 8</u> is a sample abutter's letter and the list of those abutting landowners who were sent notice of the filing of the Petition.

#### IV. 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 tower mast used to support a "small cell" wireless antenna and related radio equipment 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

Kenneth C. Baldwin, Esq.

Robinson & Cole LLP 280 Trumbull Street

Hartford, CT 06103-3597

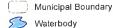
(860) 275-8200

Its Attorneys

# ATTACHMENT 1



- Proposed Verizon Wireless Small Cell Facility
- Surrounding Verizon Wireless Facilities



Base Map Source: 2016 Aerial Photograph (CTECO) Map Scale: 1 inch = 5,000 feet Map Date: June 2017

Proposed Small Cell Installation West Hartford SC5 CT 1245 Farmington Avenue West Hartford, Connecticut

5,000

2,500

5.000

verizon/





#### Legend

☑ Proposed Antenna within RF Chimney Enclosure

Approximate Subject Property

Approximate Parcel Boundary (CTDEEP GIS)

#### Site Schematic

Proposed Small Cell Installation West Hartford SC5 CT 1245 Farmington Avenue West Hartford, Connecticut

verizon√



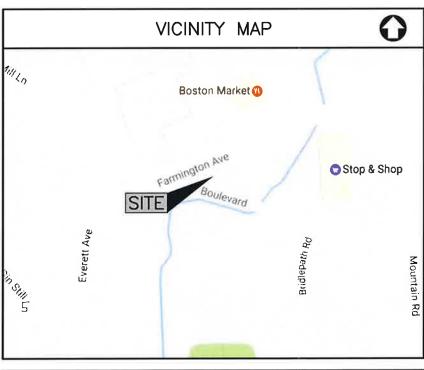
# **ATTACHMENT 2**



# WEST HARTFORD SC5 CT 20141134205

1245 FARMINGTON AVE WEST HARTFORD, CT 06107

## INSTALLATION OF SMALL CELL ANTENNA(S) AND RELATED EQUIPMENT



MILD		Boston Ma	arket (1)	\	
		SITE Boule	vard	Stop & Shop	
in Stay 5	Everett Ave		BridlePath R <sub>G</sub>		Mountain Ru

## PROJECT INFORMATION

SITE NAME:

WEST HARTFORD SC5 CT

SITE ADDRESS:

1245 FARMINGTON AVE WEST HARTFORD, CT 06107

COORDINATES:

LATITUDE: 41° 45' 15.29" N (NAD 83) LONGITUDE: 72° 45' 59.55" W (NAD 83)

GROUND ELEVATION:

171'± A.M.S.L. (NAVD88)

#### SCOPE OF WORK

THIS IS AN UNMANNED TELECOMMUNICATIONS FACILITY FOR VERIZON WIRELESS CONSISTING OF THE INSTALLATION AND OPERATION OF AN ANTENNA AND ASSOCIATED

- INSTALL (1) NON-PENETRATING BALLAST MOUNT WITHIN CHIMNEY STEALTH ENCLOSURE, (1) PANEL ANTENNA, (1) REMOTE RADIO HEAD ON PIPE MAST, (1) HOFFMAN BOX AND (1) DISCONNECT MOUNTED TO CONCEALMENT ENCLOSURE.
- 2. INSTALL NON-PENETRATING PLATFORM FOR ADEQUIRE ACCESS TO ACCESS WINDOW.
- 3. INSTALL SAFETY HANDRAIL TO IMPROVE EXISTING ACCESS LADDER.

	SHEET INDEX		
SHEET	DESCRIPTION		
T-1	TITLE SHEET		
Z-1	KEY PLAN & ROOF PLAN		
Z-2	ELEVATION		
Z-3	ABUTTERS LIST AND AERIAL MAP		
Z-4	DETAILS		
Z-5	FRP CHIMNEY ELEVATIONS		
Z-6	Z-6 FRP CHIMNEY SECTIONS & DETAIL		

#### PROJECT TEAM

APPLICANT:

VERIZON WIRELESS 99 EAST RIVER DRIVE

9th FLOOR EAST HARTFORD, CT 06108

UDOLF INVESTMENTS LLC PROPERTY OWNER:

2475 ALABANY AVENUE SUITE 205 WEST HARTFORD, CT 06117

ARCHITECT &

EBI CONSULTING 21 B STREET

BURLINGTON, MA 01803

(781) 273-2500

SITE ACQUISITION:

EBI CONSULTING 21 B STREET BURLINGTON, MA 01803

(781) 273-2500

LEGAL COUNSEL:

KENNETH C. BALDWIN, ESQ ROBINSON & COLE LLP (860) 275-8345



99 EAST RIVER DRIVE — 9th FLOOR EAST HARTFORD, CT 06108

PREPARED BY:



21 B Street | Burlington, MA 01803 Tel: (781) 273-2500 | Fax: (781) 273-3311 www.ebiconsulting.com



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#### SUBMITTALS

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EBI JOB NO:

8117000241

WEST HARTFORD SC5

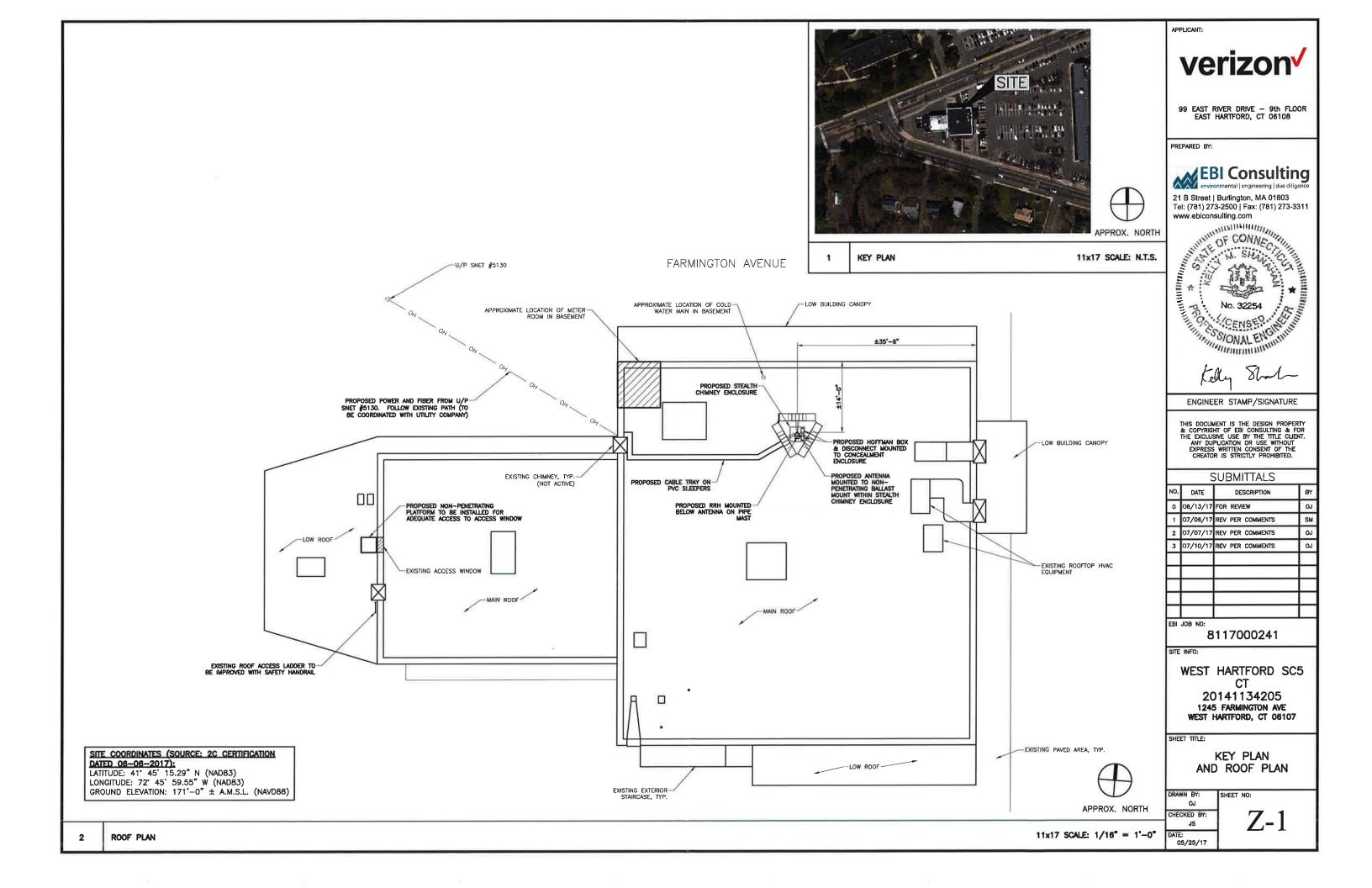
20141134205 1245 FARMINGTON AVE WEST HARTFORD, CT 06107

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99 EAST RIVER DRIVE — 9th FLOOR EAST HARTFORD, CT 06108 PREPARED BY: EBI Consulting 21 B Street | Burlington, MA 01803 Tel: (781) 273-2500 | Fax: (781) 273-3311 www.ebiconsulting.com No. 32254

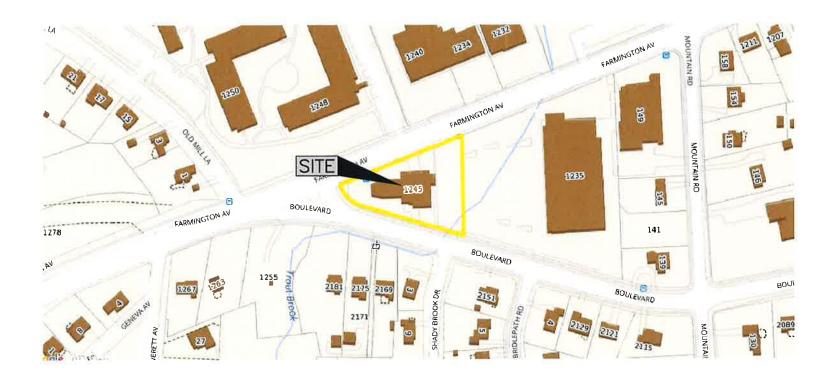
No. 32254 TOP OF PROPOSED STEALTH CHIMNEY ENCLOSURE ELEV. = 34'-9"± A.G.L. ELEV. = 205'-9"± A.M.S.L. PROPOSED PANEL ANTENNA AND RRH-MOUNTED ON PIPE MAST WITHIN PROPOSED STEALTH CHIMNEY ENCLOSURE ATOP MAIN ROOF TOP OF PROPOSED ANTENNA CELEV. = 34'-3"± A.G.L. ELEV. = 205'-3"± A.M.S.L. CENTERLINE OF PROPOSED ANTENNA PELEV. = 32'-2"± A.G.L. ELEV. = 203'-2"± A.M.S.L. ENGINEER STAMP/SIGNATURE TOP OF MAIN ROOF PARAPET ELEV. = 25'-3"± A.G.L. ELEV. = 195'-3"± A.M.S.L. THIS DOCUMENT IS THE DESIGN PROPERTY & COPYRIGHT OF EBI CONSULTING & FOR THE EXCLUSIVE USE BY THE TITLE CLIENT. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT OF THE CREATOR IS STRICTLY PROHIBITED. TOP OF MAIN ROOF ELEV. = 24'-0"± A.G.L. ELEV. = 195'-0"± A.M.S.L. SUBMITTALS ELEV. = 0'-0"± A.G.L. ELEV. = 171'-0"± A.M.S.L. PROPOSED CONDUIT ROUTED VERTICALLY ALONG BUILDING EXTERIOR (PAINT TO MATCH) TO MAIN ROOF LEVEL EBI JOB NO: 8117000241 WEST HARTFORD SC5 CT 20141134205 1245 FARMINGTON AVE WEST HARTFORD, CT 06107 SHEET TITLE: **ELEVATION** SHEET NO: OJ Z-2CHECKED BY: JS 11x17 SCALE: 1/16" = 1'-0" DATE: 05/25/17 ELEVATION

APPLICANT:





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3	07/10/17	REV PER COMMENTS	٥
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APPROX. NORTH

Owner's Mailing Address Owner Address 2 City State Zip Property Address Owner Name WEST HARTFORD, CT 06107 3 SHADY BROOK DRIVE LUNDBERG GEORGE III 3 SHADY BROOK LANE WEST HARTFORD, CT 06117 2475 ALBANY AVENUE SUITE 205 1235 FARMINGTON AVENUE UDOLF FAMILY ENTERPRISES LLC WEST HARTFORD, CT 06107 2175 BOULEVARD 2175 BOULEVARD HOCK JUDITH C WEST HARTFORD, CT 06107 FRITZ FREDERICK M JR 2169 BOULEVARD 2169 BOULEVARD 3333 EAST BAYAUD #318 DENVER, CO 80209 BFN WESTGATE LLC 1248 FARMINGTON AVENUE FARMINGTON, CT 06032 1240 FARMINGTON AVENUE STONEMEADOW REALTY LLC C/O JRI ADVISORS 10 EXECUTIVE DRIVE WEST HARTFORD, CT 06107 2151 BOULEVARD FROMER ROBERT TR 2151 BOULEVARD WEST HARTFORD, CT 06117 UDOLF INVESTMENTS LLC 2475 ALBANY AVENUE SUITE 205 1234 FARMINGTON AVENUE HARTFORD, CT 06141-0270 1255 FARMINGTON AVENUE CONN LIGHT AND POWER CO ATTN-PROPERTY TAX DEPT P O BOX 270

2181 BOULEVARD

2171 BOULEVARD

BROUILLETTE CARL R

BROUILLETTE CARL R

2181 BOULEVARD

2171 BOULEVARD

WEST HARTFORD, CT 06107

WEST HARTFORD, CT 06107

APPLICANT:



99 EAST RIVER DRIVE — 9th FLOOR EAST HARTFORD, CT 06108

## EBI Consulting

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#### SUBMITTALS

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SITE INFO:

WEST HARTFORD SC5 CT

20141134205 1245 FARMINGTON AVE WEST HARTFORD, CT 06107

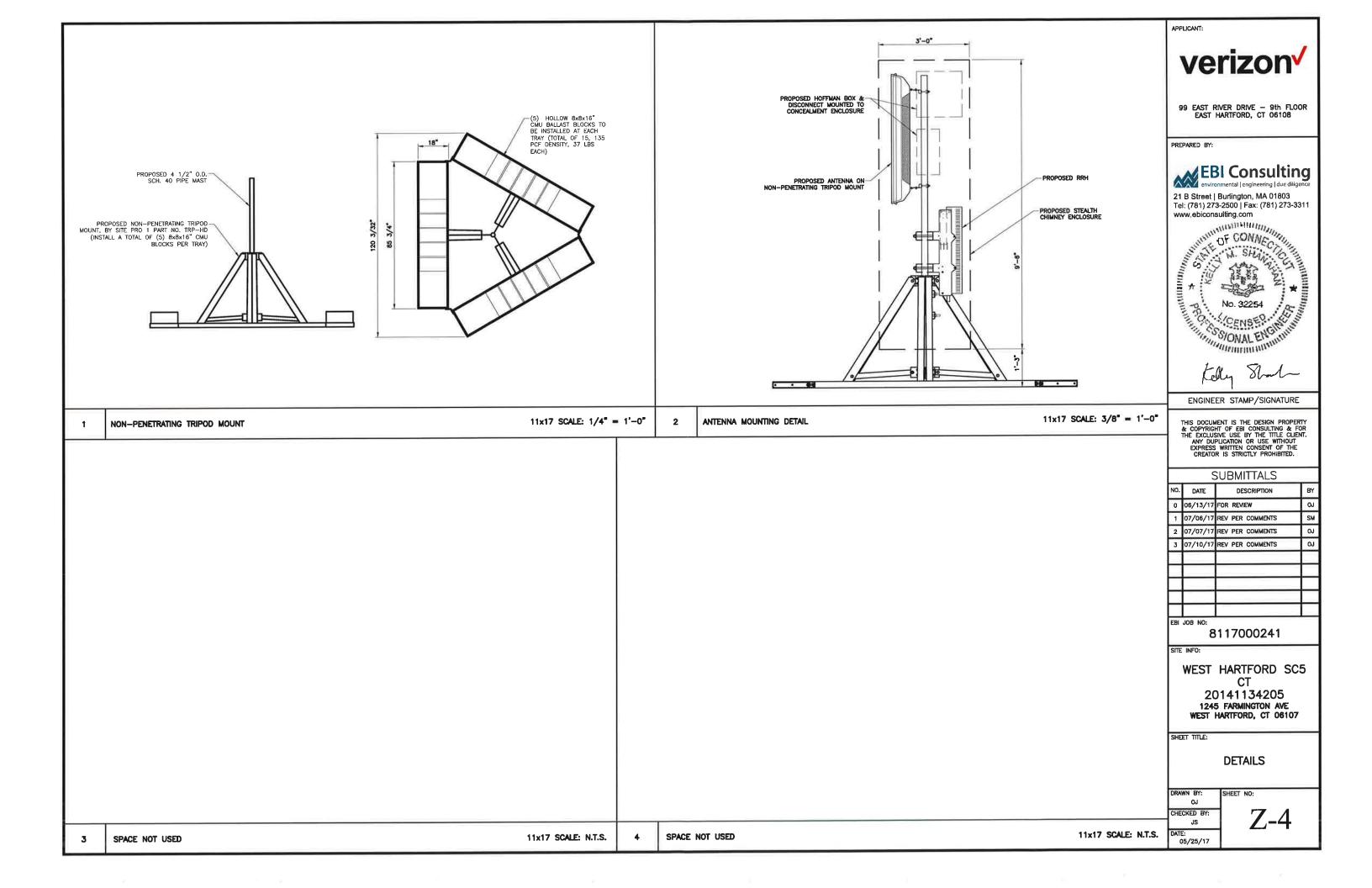
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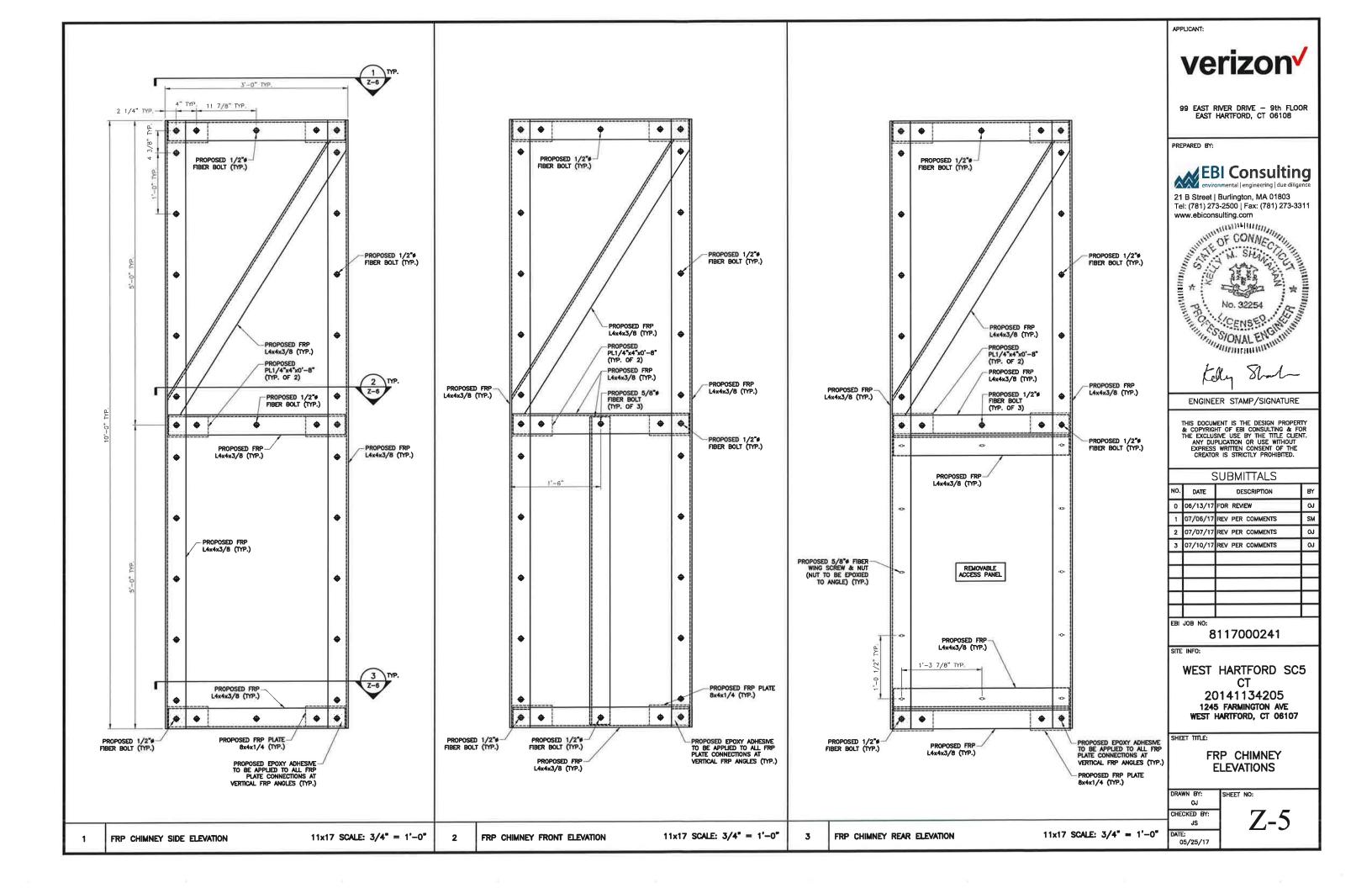
ABUTTERS LIST AND AERIAL MAP

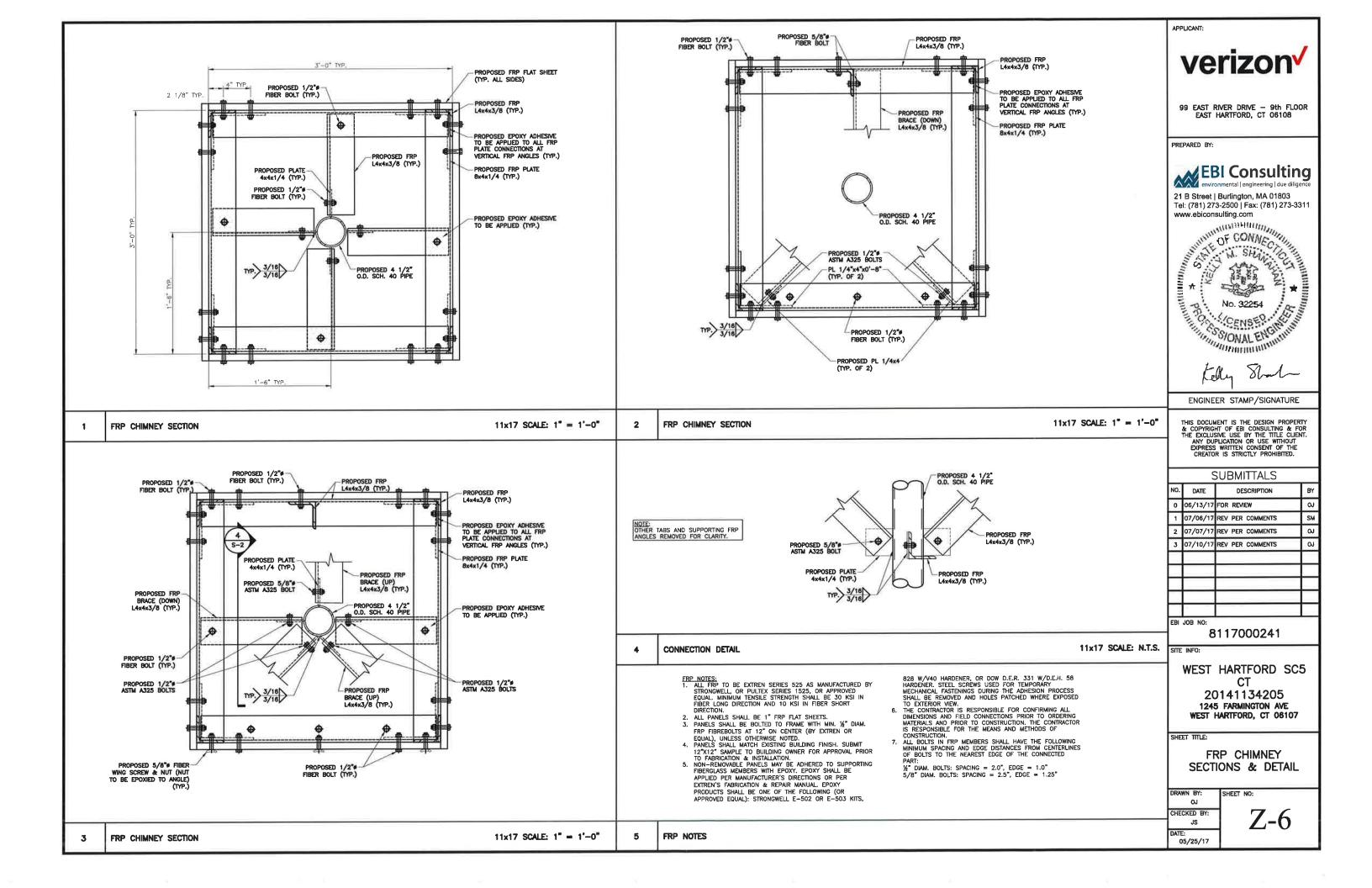
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	JS
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05/25/17

ABUTTERS AERIAL MAP







# **ATTACHMENT 3**

# Product Specifications





#### HBXX-6516DS-VTM | HBXX-6516DS-A2M

Single Band Quad Port Antenna, 1710–2180 MHz, 65° horizontal beamwidth, RET compatible

- Each DualPol® array can be independently adjusted for greater flexibility
- Excellent gain, VSWR, front-to-back ratio, and PIM specifications for robust network performance
- Ideal choice for site collocations and tough zoning restrictions
- Great solution to maximize network coverage and capacity

#### **Electrical Specifications**

Frequency Band, MHz	1710-1880	1850-1990	1920-2180
Gain, dBi	17.7	18.0	18.0
Beamwidth, Horizontal, degrees	67	66	64
Beamwidth, Vertical, degrees	7.5	7.0	6.6
Beam Tilt, degrees	0-10	0-10	0-10
USLS (First Lobe), dB	18	18	18
Front-to-Back Ratio at 180°, dB	30	30	30
CPR at Boresight, dB	22	22	21
CPR at Sector, dB	8	9	9
Isolation, dB	30	30	30
VSWR   Return Loss, dB	1.4   15.6	1.4   15.6	1.4   15.6
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350
Polarization	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm

#### **Electrical Specifications, BASTA\***

Frequency Band, MHz	1710-1880	1850-1990	1920-2180
Gain by all Beam Tilts, average, dBi	17.2	17.2	17.5
Gain by all Beam Tilts Tolerance, dB	±0.3	±0.3	±0.5
•	0 °   17.0	0 °   17.1	0 °   17.4
Gain by Beam Tilt, average, dBi	5 °   17.3	5 °   17.4	5° 17.7
n	10 °   17.0	10 °   17.0	10 °   17.2
Beamwidth, Horizontal Tolerance, degrees	±2.7	±2.3	±3.5
Beamwidth, Vertical Tolerance, degrees	±0.5	±0.4	±0.4
USLS, beampeak to 20° above beampeak, dB	18	19	19
Front-to-Back Total Power at 180° ± 30°, dB	26	26	26
CPR at Boresight, dB	22	22	22
CPR at Sector, dB	9	9	9

<sup>\*</sup> CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper Time to Raise the Bar on BSAs.

#### **General Specifications**

Antenna Type
Band
Brand
Operating Frequency Band
Performance Note

Sector
Single band
DualPol®
1710 - 2180 MHz
Outdoor usage

# **Product Specifications**



HBXX-6516DS-VTM | HBXX-6516DS-A2M

#### **Mechanical Specifications**

Light gray Color dc Ground Lightning Protection

Low loss circuit board Radiator Material PVC, UV resistant Radome Material 7-16 DIN Female **RF Connector Interface** 

**Bottom** RF Connector Location RF Connector Quantity, total

419.0 N @ 150 km/h Wind Loading, frontal 94.2 lbf @ 150 km/h 113.0 N @ 150 km/h Wind Loading, lateral 25.4 lbf @ 150 km/h

488.0 N @ 150 km/h Wind Loading, rear 109.7 lbf @ 150 km/h 241 km/h | 150 mph Wind Speed, maximum

#### **Dimensions**

166.0 mm | 6.5 in Depth 1297.0 mm | 51.1 in Length 305.0 mm | 12.0 in Width 13.9 kg | 30.6 lb Net Weight, without mounting kit

#### Remote Electrical Tilt (RET) Information

Model with Factory Installed AISG 2.0 Actuator HBXX-6516DS-A2M

#### **Packed Dimensions**

292.0 mm | 11.5 in Depth 1427.0 mm | 56.2 in Length 402.0 mm | 15.8 in Width 23.5 kg | 51.8 lb Shipping Weight

#### Regulatory Compliance/Certifications

#### Agency

RoHS 2011/65/EU

China RoHS SJ/T 11364-2006

ISO 9001:2008

#### Classification

Compliant by Exemption

Above Maximum Concentration Value (MCV)

Designed, manufactured and/or distributed under this quality management system





#### **Included Products**

600899A-2 — Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

# Product Specifications



HBXX-6516DS-VTM | HBXX-6516DS-A2M

#### \* Footnotes

Performance Note

Severe environmental conditions may degrade optimum performance

## **ALCATEL-LUCENT B66A RRH4X45**

The Alcatel-Lucent B66a Remote Radio Head 4x45 is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering. Its operational range covers beyond that of B4 (AWS) and B10 (AWS+).

Supporting 2Tx/4Tx MIMO and 2-way/4-way Rx diversity, the Alcatel-Lucent B66a RRH4x45 allows operators to have a compact radio solution to deploy LTE in the 2100 band (3GPP band 4, 10, and 66), providing them with the means to achieve high capacity, high quality, high reliability, large instantaneous bandwidth, and high coverage with minimum site requirements.

The Alcatel-Lucent B66a RRH4x45 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x90W or 4x45W RF output power. It also supports 4-way Rx diversity at the 70 MHz instantaneous bandwidth.

The Alcatel-Lucent B66a RRH4x45 is a compact (near zero-footprint) solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

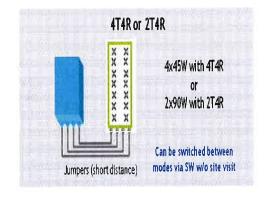
Its compactness and slim design makes the Alcatel-Lucent B66a RRH4x45 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

#### **FEATURES**

- Supporting LTE in 2110 2180 MHz band/DL, 1710-1780MHz/UL (3GPP band 4, 10, and 66a)
- LTE 2Tx or 4Tx MIMO (SW selectable)
- Configuration: 2T2R/2T4R/4T4R
- Output power: Up to 2x90W or 4x45W (SW configurable)
- 70MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

#### BENEFITS

- Compact to reduce additional footprint when adding LTE in AWS 1-3 band
- Selection of MIMO configuration (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through 4Tx MIMO
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- · Flexible mounting options: Pole or Wall





Features & Performance			
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R selectable by SW)		
Frequency band	AWS 1-3, B4/B66a DL: 2110-2180 MHz / UL: 1710-1780 MHz		
Instantaneous bandwidth - #carriers	70 MHz – 4 LTE MIMO carriers (in 70 MHz occupied bandwidth)		
LTE carrier bandwidth	5, 10, 15, 20 MHz		
RF output power	2x90W or 4x45W (selectable by SW)		
Noise figure — RX Diversity scheme Receiver Sensivity (FRC A1-3)	2 dB typical (<2.5 dB max) – 2 or 4 way Rx diversity -104.5 dBm maximum		
Sizes (HxWxD) in mm (in.)  Volume in Liters	655x299x182 (25.8x11.8x7.2) (with solar shield) 640x290x160 (25.2x11.4x6.3) (without solar shield) 35.5 (with solar shield) 29.7 (without solar shield)		
Weight in kg (lb) (w/o mounting HW)	25.8kg (56.8lb) (with solar shield)		
DC voltage range	Nominal: -48V, -40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption		
DC power consumption	750W typical @100% RF load (in 2Tx or 4Tx mode); Add 58W for 2A*29V for AISG		
Environmental conditions  Wind load (@150km/h or 93mph)	-40°C (-40°F) /+55°C (+131°F) UL50E Type 4 Enclosure 250N (56lb) Frontal/150N (34lb) Lateral		
Antenna ports	4 ports 4.3-10 female (50 ohms)  VSWR < 1.5		
CPRI ports	2 CPRI ports (HW ready for Rate 7, 9.8 Gbps) SFP: SMDF (HW supports also SMSF and MMDF)		
AISG interfaces	1 AISG 2.0 output (RS485) Integrated Smart Bias Tees (x2)		
Misc. Interfaces	4 external alarms (1 connector) 1 DC connector (2 pins)		
Installation conditions	Pole and wall mounting		
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-487 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27 / FCC Part 15 / GR-3178-CORE		

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# **ATTACHMENT 4**

# Visual Assessment & Photo-Simulations

WEST HARTFORD SC5 1245 FARMINGTON AVENUE WEST HARTFORD, CT



All-Points Technology Corporation, P.C. 3 Saddlebrook Drive Killingworth, CT 06419

Prepared for Verizon Wireless



#### **VISUAL ASSESSMENT & PHOTO-SIMULATIONS**

At the request of Cellco partnership LLC d/b/a Verizon Wireless, All-Points Technology Corporation, P.C. ("APT") completed this visual assessment and prepared computer-generated photo-simulations depicting the proposed installation of a small cell wireless telecommunications facility ("Facility") at 1245 Farmington Avenue in West Hartford, Connecticut (the "Host Property").

#### **Project Setting**

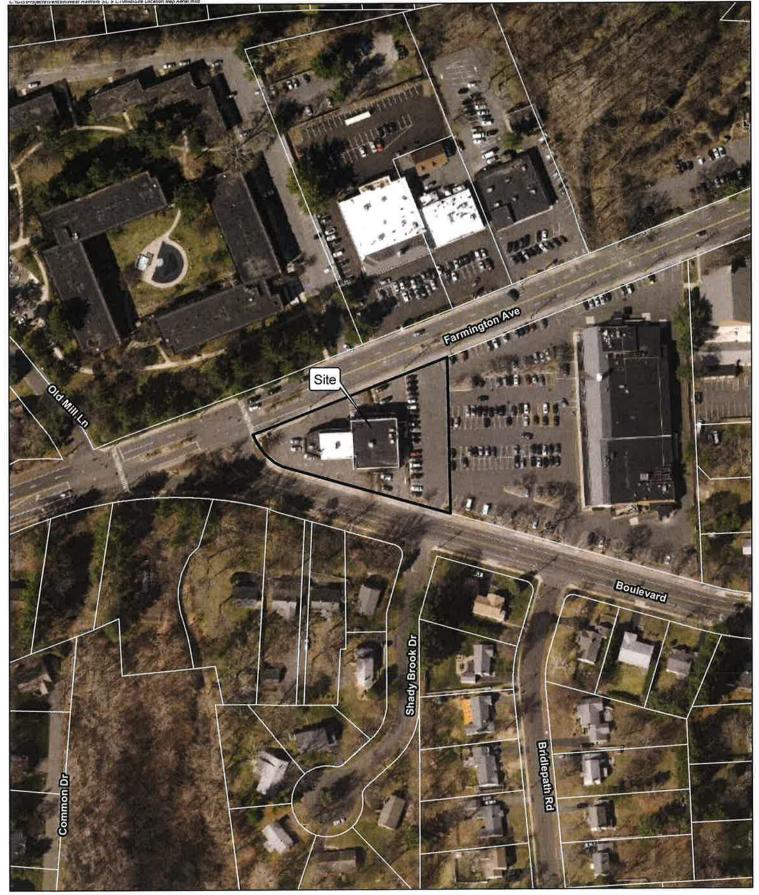
The Host Property is located on the eastern side of the intersection of Farmington Avenue (to the north) and Boulevard (to the south). The surrounding land use is a mix of medium density commercial and residential development with an existing apartment complex to the north and several small businesses located to the northeast and east. The location of the proposed Facility is on the roof of the western most building located within a shopping plaza surrounded by paved parking areas. See Figure 1 – Site Location Map.

The proposed Facility would include one (1) panel antenna and one (1) remote radio head ("RRH") attached to a non-penetrating tripod ballast-mount shrouded behind radio-frequency compatible screening on the building's north side roof. The proposed screening would be made to resemble a faux brick chimney and mimic an existing chimney located on the buildings northwest corner. The height of the proposed chimney concealment would be ±34.75 feet above ground level ("AGL"), extending approximately 9.5 feet above the building's upper roof line. Utilities would be routed overhead from an existing utility pole (SNET #5130) to four (4) new two (2) inch, ground-to-roof wall-mounted PVC conduit, installed on the façade of the building's northwest corner, next to the existing chimney. The proposed conduit would be painted to match the existing buildings façade. The Facility components and their locations are illustrated in *Figure 2 – Proposed Equipment Location and Elevation Plan*.

#### Methodology

On July 7, 2017, APT personnel conducted field reconnaissance and photo-documented existing conditions. 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 using a focal length of 50 mm for consistency.

Three-dimensional computer models were developed for the building and proposed Facility 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.



#### Legend

Approximate Subject Property
Approximate Parcel Boundary (CTDEEP GIS)

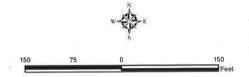


Figure 1 - Site Location Map

Proposed Small Cell Installation West Hartford SC5 CT 1245 Farmington Avenue West Hartford, Connecticut

verizon√



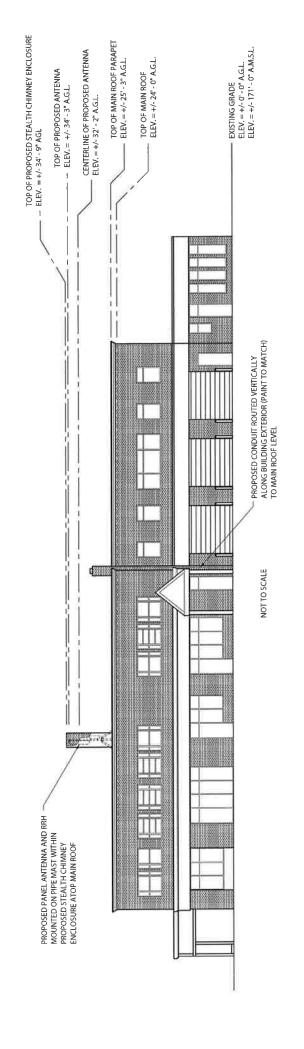


FIGURE 2: PROPOSED EQUIPMENT LOCATION AND ELEVATION PLAN Details extracted and modified from technical drawings provided by EBI Consulting dated 4-06-17.

#### **Photograph Locations**

Four (4) of the five (5) photo-locations were simulated and present generally unobstructed view lines towards at least a portion of the proposed installation(s). The table below summarizes characteristics of the photographs and simulations presented in the attachment to this report including a description of each location, view orientation, and the distance from where the photo was taken relative to the proposed Facility. A photo-log map depicting the photo locations and corresponding photo-simulations are provided in the attachment to this report.

View	Location	Orientation	Distance to Site
1	Stop & Shop Parking Lot	Northwest	±204 Feet
2	Farmington Avenue	Southwest	±332 Feet
3	Farmington Avenue	Southeast	±199 Feet
4	Boulevard	Northeast	±173 Feet
5	Boulevard*	North	±199 Feet

\*Not Visible from this Location

#### **Conclusions**

The visibility of the proposed Facility would be limited to locations primarily within the immediate vicinity of the Host Property. The location and design of the proposed Facility would appear to be a component of the building and barely discernible as a telecommunications site.

Based on the results of this assessment, it is our opinion that the proposed installation of the Verizon Wireless communications Facility will not have an adverse visual impact on existing views of this building or the character of the community.

#### Limitations

The photo-simulations provide a representation of the Facility under similar settings as those encountered during the reconnaissance. They are however static in nature and do not necessarily fairly characterize the prevailing views from all locations within a given area. 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.

#### **Attachments**



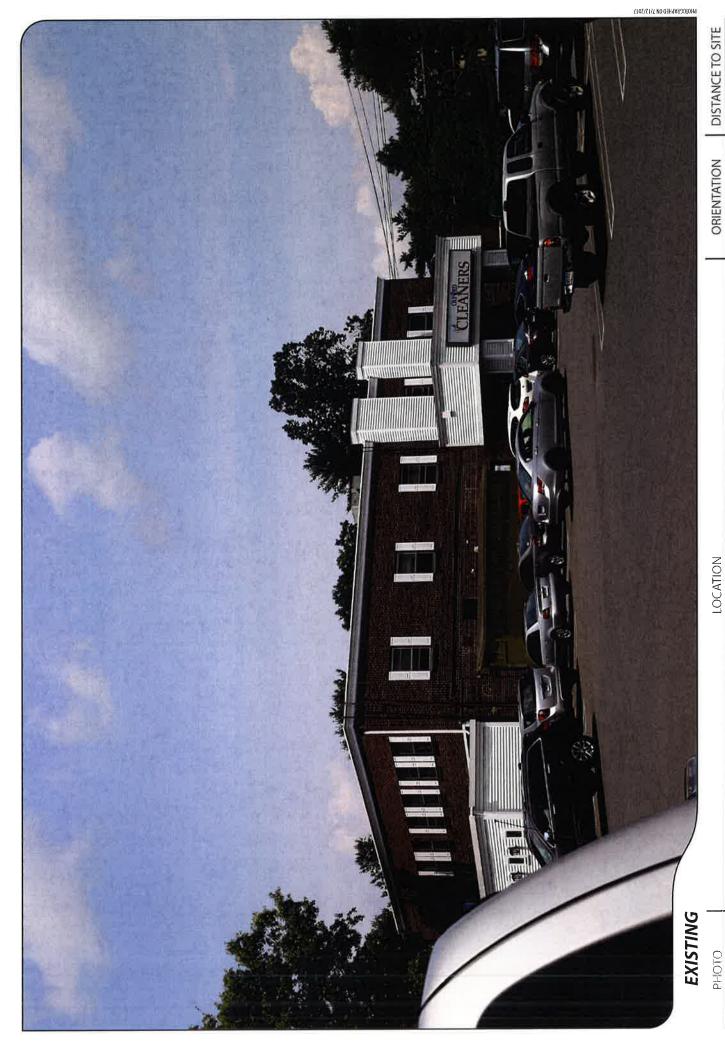


Legend

Site Not Visible O Year-Round Visibility









+/- 204 FEET

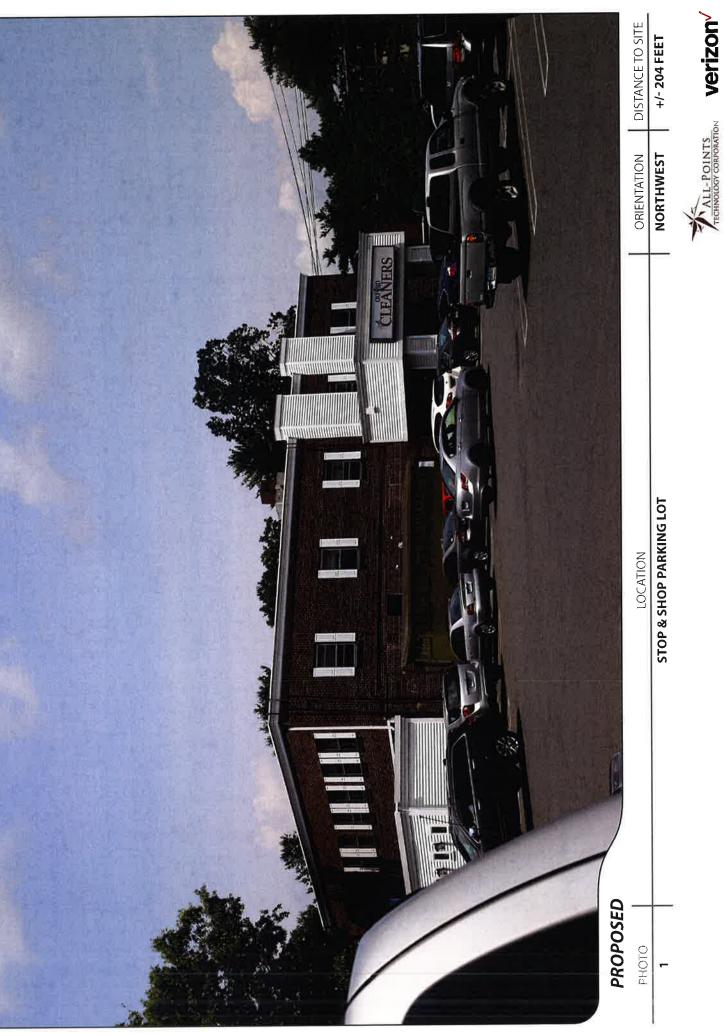
NORTHWEST



STOP & SHOP PARKING LOT









ALL-POINTS TECHNOLOGY CORPORATION







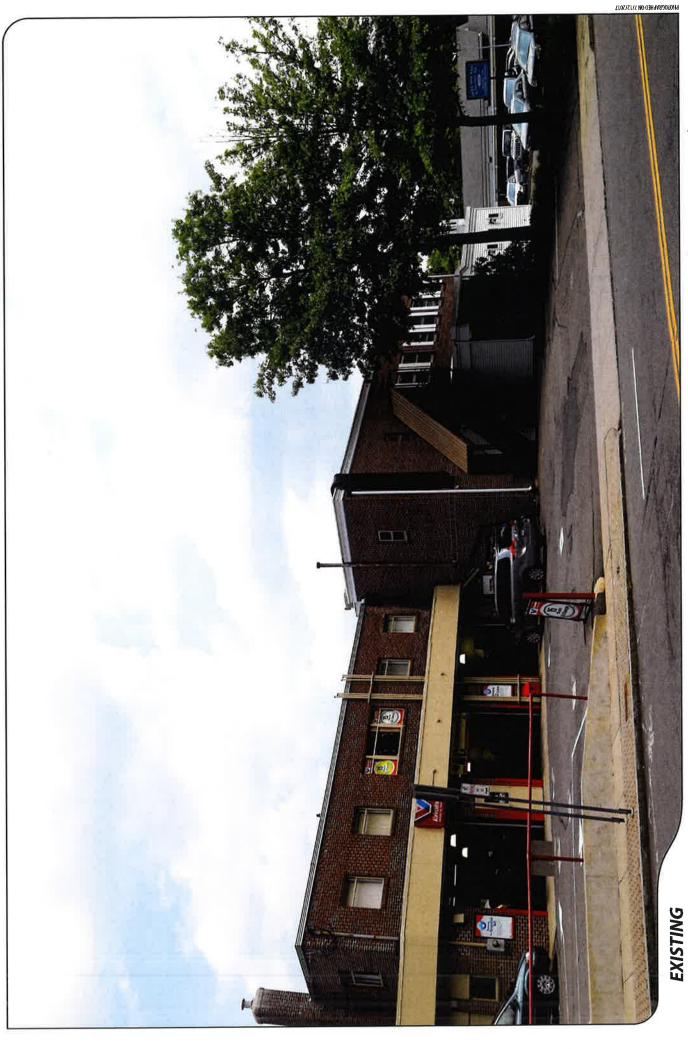












verizon

BOULEVARD LOCATION

РНОТО

DISTANCE TO SITE +/- 173 FEET ALL-POINTS TECHNOLOGY CORPORATION ORIENTATION NORTHEAST





+/- 173 FEET

NORTHEAST



BOULEVARD

ALL-POINTS TECHNOLOGY CORPORATION



EXISTING

РНОТО

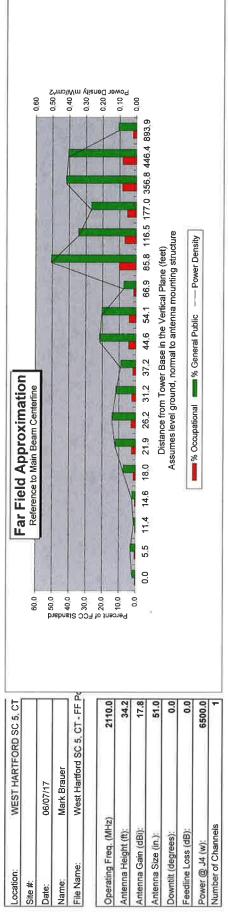
'n

# **Estimated Radiated Emission**

# Single Emitter Far Field Model

# Dipole / Wire/ Yagi Antenna Types

**erryon**wireless



		71																Δ	Distance in feet below:
Calc Angle	0.06	80.0 70.0		65.0	0.09	55.0	50.0	45.0	45,0 40,0 35,0 30.0	35.0		25.0 2	20.0	15.0 1	10.0 5.0		4.0 2	2.0	
Solve for r, dx to antenna	31.2	31.7 33.2	33.2	34.4	36.0	38.1	40.7	44.1	48.6	54.4	62.4	73.9	91.3	120.6	79.8	179.8 358.2 447.5	47.5 8	894.4	
Distance from Antenna Structure Base in Horizontal plane 0.0		5,5	11,4	14.6	18,0	21.9	26.2	31.2	37.2	44.6	54.1	6.99	85.8	16.5	77.0	116.5 177.0 356.8 446.4	46.4 8	893.9	
Angle from Main Beam (reference to horizontal plane)	06	80	20	65	09	55	50	45	40	35	30	25	20	15 1	10 5	4	2		
dB down from centerline (referenced to centerline)	36.76 34.35 38.52	34.35	38.52	35.34 29.54 26.8	29.54		25.59	25.63	25.59 25.63 25.99 21.21 20.29 23.24 13.03 12.3	21.21	20.29	3.24	3.03		9.92		0.2 0		
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2,56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56 2	2.56 2	2.56	
Power Density (mW/cm^2)	0.02	0.03	0.01	0.02	20.0	0.12	0.14	0.12	0.09	0.22	0.20	0.07	0.51	0.34 0	0.27	0.42 0	0.41 0	0.11	
Percent of Occupational Standard	0.4	9.0	0.2	0.4	1.5	2.4	2.8	2.4	1.8	4.3	4.1	1.5	10.2	6.9	5.4	8.4 8	8.1 2.1	_	
Percent of General Population Standard	1.8	3.1	17	2.1	7.3	12.2 14.1 11.9 9.1	14.1	11.9	9.1	21.7	21.7 20.4 7.4	4.	0.8	4.4	6.8	50.8 34.4 26.8 41.8 40.5		10.6	

Antenna Type HBXX-6516DS-A2M Max% 50,76%

Instructions:

1) Fill in Site Location, Site number, Date, Name of Person Responsible for Date, and enter File Name to ba saved as.

- 2) References to J4 refer to a point where the transmission line exits the equipment shelter and proceeds to the antenna(s). There is typically a connector located here where power measurements are made.
- 3) Enter Antenna Height (in feet to bottom of antenna), Antenna Gain (expressed as dBi, add 2.17 to dBd to obtain dBi), Antenna Size (vertical size in inches), Downtilt (in Degrees, enter zero if none), Feedline loss from J4 to Antenna, and J4 Pov
  - 4) From manufacturer's plots, or data sheet, input Angle from mainbeam and dB below mainbeam centerline.
    - 5) Enter Reflection coefficient (2.56 would be typical, 1 for free space)
- 6) Spreadsheet calculates actual power density, then relates as Occupational or General Population percentage of FCC Standard.
  - 7) An odd distance may be entered in the rightmost column of the lower table.

\*\*\*\*\*\*\*\*\*\*\*\*\*

\* Federal Airways & Airspace

\* Summary Report: New Construction

Antenna Structure

\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Airspace User: Mark Brauer

File: WEST\_HARTFORD\_SC\_5\_CT

Location: Hartford, CT

Latitude: 41°-45'-15.86" Longitude:

72°-45'-59.08"

SITE ELEVATION AMSL.....166 ft.
STRUCTURE HEIGHT......35 ft.
OVERALL HEIGHT AMSL.....201 ft.
SURVEY HEIGHT AMSL.....201 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 HFD

FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for 4B8

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: HFD: HARTFORD-BRAINARD

DNE

Type: A RD: 30601.18 RE: 13.9

FAR 77.17(a)(1):

DNE - Height No Greater Than 200 feet AGL. FAR 77.17(a)(2):

VFR Horizontal Surface: DNE VFR Conical Surface: DNE VFR Approach Slope: DNE VFR Transitional Slope: DNE

VFR TRAFFIC PATTERN AIRSPACE FOR: 4B8: ROBERTSON FIELD

Type: A RD: 34491.96 RE: 201.6

FAR 77.17(a)(1): DNE FAR 77.17(a)(2): DNE 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): DNE - No Airway Found

PRIVATE LANDING FACILITIES

CT06 HEL DELTA ONE

	FACIL		BEARING	RANGE	DELTA
ARP FA	A				
	IDENT TYP	NAME	To FACIL	IN NM	
ELEVAT:	ION IFR				
	CT04 HEL	CHASE	325.02	2.56	
-499					
	_	to Private Landing Facility			
	Structure	0 ft below heliport.			
	OOME HEE	dm anangid nogramai	60	2 26	. 1 77
		ST FRANCIS HOSPITAL to Private Landing Facility	68	3.26	+1/
	_	is beyond notice limit by 148	200 feet		
	BCTuccute	is beyond notice inmit by 146	ovo reet.		
	OCT9 HEL	HARTFORD HOSPITAL	89.94	3 94	-10
		to Private Landing Facility	03.31	3.31	
	_	1 ft below heliport.			
	CT73 HEL	SOUTH MEADOWS	245.87	4.61	+1
	No Impact	to Private Landing Facility			
	Structure	is beyond notice limit by 230	011 feet.		

66.45 5.18

.06

- . 4

CTR VOR/DME

No Impact to Private Landing Facility Structure is beyond notice limit by 26474 feet.

	FAC	VIGATION ELE	ECTRO ST	NIC FA	CILITIE	S DIST	DELTA		
GRND .	APCH IDNT	TYPE	AT	FREQ	VECTOR	(ft)	ELEVA	ST	LOCATION
ANGLE									
03	BDL	- RADAR	ON		18.79	70894	-35	СТ	BRADLEY INTL
	The The	mpact. This studied loca calculated R location an	tion adar	is wi Line-	thin 20 Of-Sigh	NM of a	a Rada: dista:	r fa	is: 36 NM.
.03	BDL	VORTAC	D	109.0	17.3	71226	+41	СТ	BRADLEY
51	HFD	VOR/DME	R	114.9	124.69	72679	-648	CT	HARTFORD
03	BAF	VORTAC	R	113.0	5.24	149136	-66	MA	BARNES
	MAD	VOR/DME	R	110.4	172.81	161816	-19	CT	MADISON
01	CEF	VORTAC	R	114.0	21.94	174176	-40	MA	WESTOVER
.01	HVN	VOR/DME	R	109.8	190.24	182235	+195	CT	NEW HAVEN

I 115.1 345.8 201869 -1399 MA CHESTER

### Robinson - Cole

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

July 19, 2017

#### Via Certificate of Mailing

Shari Cantor, Mayor Town of West Hartford 50 South Main Street West Hartford, CT 06107

Re: Proposed Installation of a Wireless Telecommunications Facility at 1245 Farmington Avenue, West Hartford, Connecticut

Dear Mayor Cantor:

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 1245 Farmington Avenue in West Hartford (the "Property"). The facility will consist of a tower mast attached to the building and supporting a canister antenna and remote radio head. The mast, antenna and radio head will be concealed within a radio frequency transparent enclosure, designed to resemble a chimney. The top of the faux chimney would extend to a height of approximately 34'-9" above grade, approximately 9'-6" above the top of the roof. Additional radio equipment will be located inside the building.

A copy of the Petition is attached for your review. In accordance with Council requirements, abutting landowners were also sent notice of this filing and a copy of the Petition.

16680738-v1

## Robinson Cole

Shari Cantor, Mayor July 19, 2017 Page 2

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

Sincerely,

Kenneth C. Baldwin

Attachment

### Robinson - Cole

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

July 19, 2017

Via Certificate of Mailing

Udolf Investments, LLC 2475 Albany Avenue, Suite 205 West Hartford, CT 06117

Re: Proposed Installation of a Wireless Telecommunications Facility at 1245 Farmington Avenue, West Hartford, 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 wireless telecommunications facility at 1245 Farmington Avenue in West Hartford (the "Property"). The facility will consist of a tower mast attached to the building and supporting a canister antenna and remote radio head. The mast, antenna and radio head will be concealed within a radio frequency transparent enclosure, designed to resemble a chimney. The top of the faux chimney would extend to a height of approximately 34'-9" above grade, approximately 9'-6" above the top of the roof. Additional radio equipment will be located inside the building.

A copy of the Petition is attached for your review. In accordance with Council requirements, abutting landowners were also sent notice of this filing and a copy of the Petition.

16680764-v1

### Robinson Cole

Udolf Investments, LLC July 19, 2017 Page 2

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

Sincerely,

Kenneth C. Baldwin

Attachment

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

July 19, 2017

#### 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 Wireless Telecommunications Facility at 1245 Farmington Avenue, West Hartford, 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 1245 Farmington Avenue in West Hartford (the "Property"). The facility will consist of a tower mast attached to the building and supporting a canister antenna and remote radio head. The mast, antenna and radio head will be concealed within a radio frequency transparent enclosure, designed to resemble a chimney. The top of the faux chimney would extend to a height of approximately 34'-9" above grade, approximately 9'-6" above the top of the roof. Additional radio equipment will be located inside the building. A copy of the Petition is attached for your review.

This notice is being sent to you because you are listed on the Town Assessor's records 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.

July 19, 2017 Page 2

Sincerely,

Kenneth C. Baldwin

Attachment

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

#### ABUTTING PROPERTY OWNERS

#### 1245 FARMINGTON AVENUE, WEST HARTFORD, CONNECTICUT

	Property Address	Owner's and Mailing Address
1.	1255 Farmington Avenue	Connecticut Light & Power Company Attn: Property Tax Dept. P.O. Box 270 Hartford, CT 06141-0270
2.	2181 Boulevard	Carl R. Brouillette 2181 Boulevard West Hartford, CT 06107
3.	2175 Boulevard	Judith C. Hock 2175 Boulevard West Hartford, CT 06107
4.	2171 Boulevard	Carl R. Brouillette, Et Al. 2181 Boulevard West Hartford, CT 06107
5.	2169 Boulevard	Frederick M. Fitzpatrick, Jr. 2169 Boulevard West Hartford, CT 06107
6.	3 Shady Brook Drive	George Lundberg III 3 Shady Brook Drive West Hartford, CT 06107
7.	2151 Boulevard	Robert Fromer Tr. 2151 Boulevard West Hartford, CT 06107
8.	1235 Farmington Avenue	Udolf Family Enterprises LLC c/o AFS – Lease Accounting P.O. Box 17013 – 6500 Carlisle, PA 17013-6500
9.	1234 Farmington Avenue	Udolf Investments LLC 2475 Albany Avenue, Suite 205 West Hartford, CT 06117

	Property Address	Owner's and Mailing Address
10.	1240 Farmington Avenue	Stonemeadow Realty LLC c/o JRI Advisors 10 Executive Drive Farmington, CT 06032
11,	1248 Farmington Avenue	BFN Westgate LLC 3333 East Bayaud #318 Denver, CO 80209