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Also admitted in Massachusetts

January 31, 2014

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification**
52 Stadley Rough Road, Danbury, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains six (6) flush-mounted wireless telecommunications antennas at the 97-foot level on the existing 140-foot tower at 52 Stadley Rough Road in Danbury (the "Property"). The tower is owned by SBA. Cellco's shared use of this tower was approved on January 5, 2012. Cellco now intends to modify its facility by adding three (3) model BXA-171063-12CF, 2100 MHz antennas, for a total of nine (9) antennas in a flush-mounted configuration, all at the same 97-foot level. Cellco also intends to install three (3) remote radio heads ("RRHs") installed behind its 2100 MHz antennas; six (6) coaxial cable diplexers; an AWS electric distribution box; and one (1) HYBRIFLEX™ antenna cable inside the monopole shaft. Included in Attachment 1 are design exhibits showing the proposed modifications and specifications for Cellco's new antennas, cable diplexers, RRHs and HYBRIFLEX™ cable.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this filing is being sent to Mark D. Boughton, Mayor for the City of Danbury and Christ The Shepherd Church, the owners of the Property.

In addition, on January 24, 2014, Cellco notified Assistant Corporation Counsel Robin Edwards and Jose and Christina Carvalheiro of its intent to modify the existing Cellco wireless facility, as described above. (*See* Notice letters included in Attachment 2). This notification was sent in accordance with paragraph no. 3 of the Stipulation of Judgment entered into by the Council, SBA, the City of Danbury and Jose and Christina Carvalheiro on January 6, 2010.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's proposed antennas, diplexers and RRHs will be located at the same 97-foot level on the 140-foot tower.

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative RF emissions calculation (General Power Density table) for Cellco's modified facility is included in Attachment 3.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The tower and its foundation can support Cellco's proposed modifications. (*See* Structural Analysis included in Attachment 4).

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Mark D. Boughton, Danbury Mayor
Christ The Shepherd Church
Robin L. Edwards, Esq., Assistant Corporation Counsel
Jose and Christina Carvalheiro
Sandy M. Carter

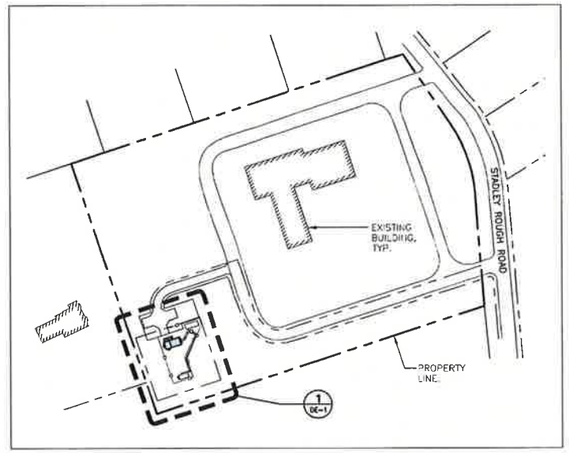
ATTACHMENT 1

NOTES:

1. THE PROPOSED VERIZON WIRELESS ANTENNA UPGRADE TO CONSIST OF THE INSTALLATION OF (3) PANEL ANTENNAS TO THE EXISTING (6) FOR A TOTAL OF (9). ADDITIONALLY (3) REMOTE RADIO HEADS, (1) MAIN DISTRIBUTION BOX & FIBER W/ POWER ANTENNA CABLES WILL BE INSTALLED.
2. THE EXISTING ANTENNA MOUNTS TO BE REMOVED AND REPLACED.
3. THE PROPOSED ANTENNAS TO BE MOUNTED WITH A CENTERLINE HEIGHT AND AZIMUTH ORIENTATION EQUAL TO THE EXISTING ANTENNAS.

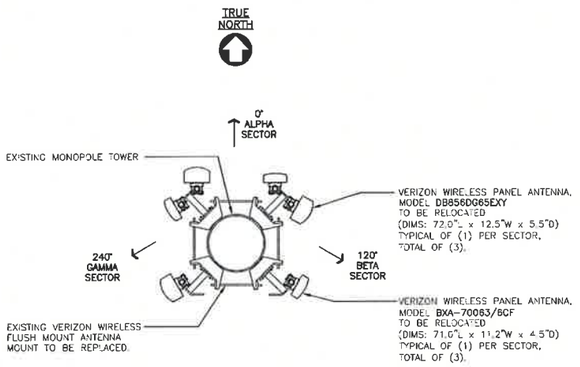
DESIGN EXHIBIT

THIS PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED FOR VISUAL REPRESENTATION OF THE PROPOSED ANTENNA UPGRADE.

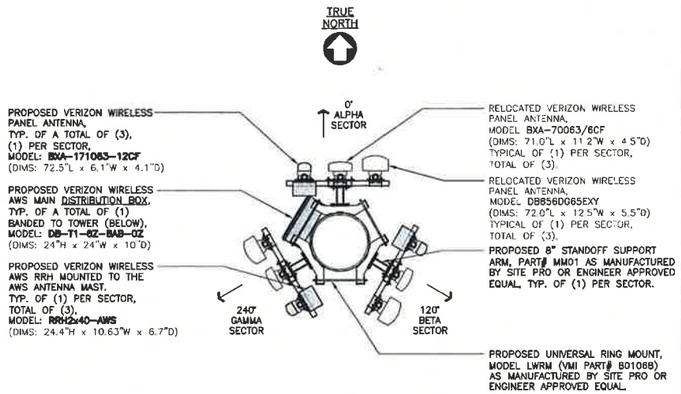


SITE/KEY PLAN
SCALE: 1" = 100'

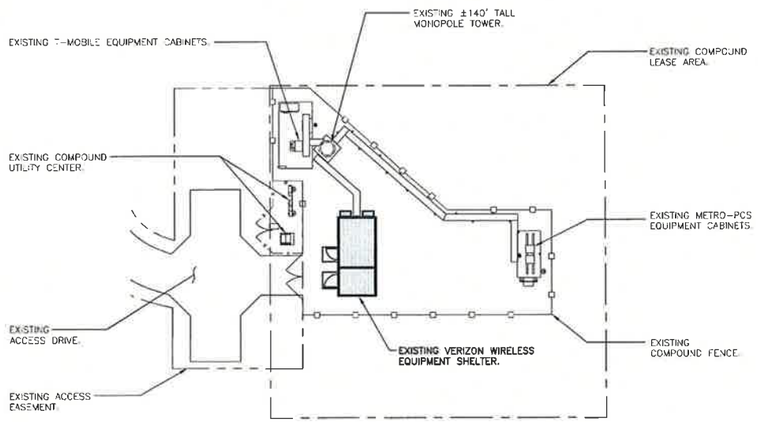
APPROX. NORTH



3 DE-1 **ANTENNA CONFIGURATION - EXISTING**
NOT TO SCALE



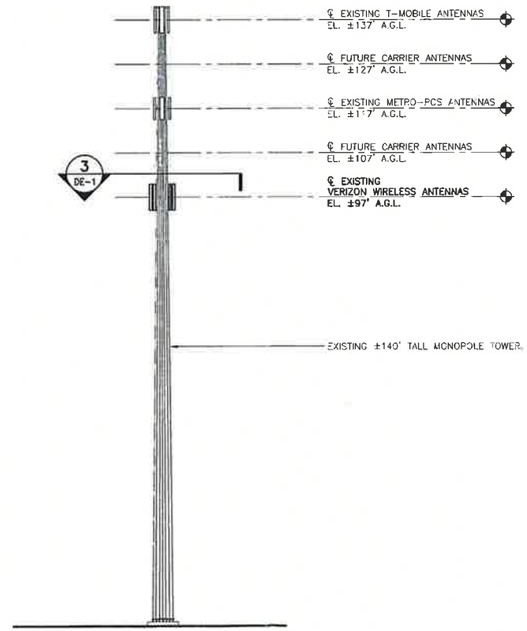
5 DE-1 **ANTENNA CONFIGURATION - PROPOSED**
NOT TO SCALE



1 DE-1 **COMPOUND PLAN**
SCALE: 1" = 20'-0"

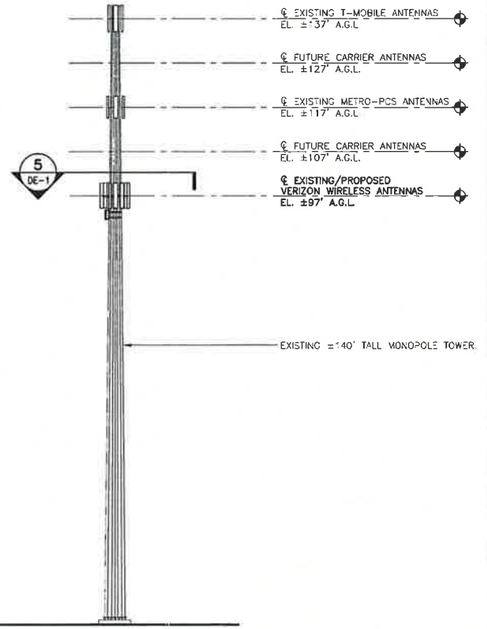
APPROX. NORTH

GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft



2 DE-1 **TOWER ELEVATION - EXISTING**
SCALE: 1" = 15'-0"

GRAPHIC SCALE
(IN FEET)
1 inch = 15 ft



4 DE-1 **TOWER ELEVATION - PROPOSED**
SCALE: 1" = 15'-0"

GRAPHIC SCALE
(IN FEET)
1 inch = 15 ft

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	01/24/14	CLT	DMD	DESIGN EXHIBIT - ISSUED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

Cellco Partnership d.b.a. verizonwireless

CENTEK engineering
Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
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Branford, CT 06405
www.CentekEng.com

VERIZON WIRELESS
WIRELESS COMMUNICATIONS FACILITY
BROOKFIELD WEST
52 STADLEY ROUGH RD
DANBURY, CT 06811

DATE: 01/22/14
SCALE: AS NOTED
JOB NO. 14001.019

DESIGN EXHIBIT

DE-1

Sheet No. 1 of 1

Amphenol ANTENNA SOLUTIONS

BXA-171063-12CF-EDIN-X

X-Pol | FET Panel | 63° | 19.0 dBi

Replace "X" with desired electrical downtilt

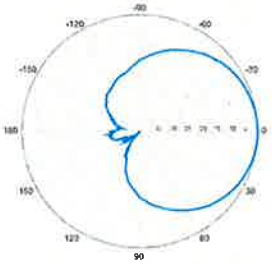
Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.

Electrical Characteristics	1710-2170 MHz		
Frequency bands	1710-1880 MHz	1850-1990 MHz	1920-2170 MHz
Polarization	±45°	±45°	±45°
Horizontal beamwidth	68°	65°	60°
Vertical beamwidth	4.5°	4.5°	4.5°
Gain	16.1 dBd / 18.2 dBi	16.5 dBd / 18.6 dBi	16.9 dBd / 19.0 dBi
Electrical downtilt (X)	0, 2, 5		
Impedance	50Ω		
VSWR	≤1.5:1		
First upper sidelobe	< -17 dB		
Front-to-back ratio	> 30 dB		
In-band isolation	< -25 dB		
IM3 (20W carrier)	< -150 dBc		
Input power	300 W		
Lightning protection	Direct Ground		
Connector(s)	2 Ports / EDIN or NE / Female / Center (Back)		
Operating temperature	-40° to +60° C / -40° to +140° F		

Mechanical Characteristics		
Dimensions Length x Width x Depth	1842 x 154 x 105 mm	72.5 x 6.1 x 4.1 in
Depth with z-brackets	133 mm	5.2 in
Weight without mounting brackets	5.8 kg	12.8 lbs
Survival wind speed	> 201 km/hr	> 125 mph
Wind area	Front: 0.28 m² Side: 0.19 m²	Front: 3.1 ft² Side: 2.1 ft²
Wind load @ 161 km/hr (100 mph)	Front: 460 N Side: 304 N	Front: 103 lbf Side: 68 lbf

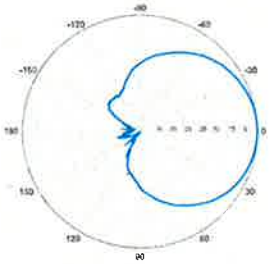
Mounting Options	Part Number	Fits Pipe Diameter	Weight
2-Point Mounting Bracket Kit	26799997	50-102 mm 2.0-4.0 in	2.3 kg 5 lbs
2-Point Mounting & Downtilt Bracket Kit	26799999	50-102 mm 2.0-4.0 in	3.6 kg 8 lbs
Concealment Configurations	For concealment configurations, order BXA-171063-12CF-EDIN-X-FP		

BXA-171063-12CF-EDIN-X



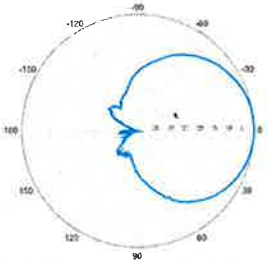
Horizontal | 1710-1880 MHz

BXA-171063-12CF-EDIN-X



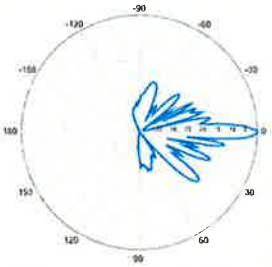
Horizontal | 1850-1990 MHz

BXA-171063-12CF-EDIN-X



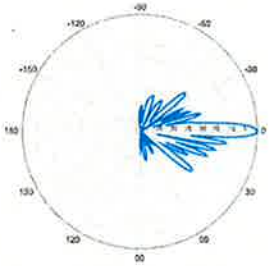
Horizontal | 1920-2170 MHz

BXA-171063-12CF-EDIN-0



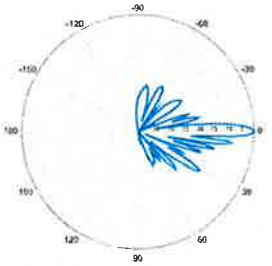
0° | Vertical | 1710-1880 MHz

BXA-171063-12CF-EDIN-0



0° | Vertical | 1850-1990 MHz

BXA-171063-12CF-EDIN-0

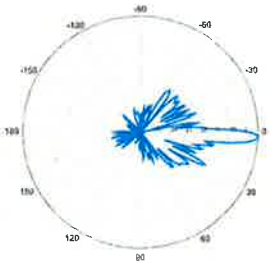


0° | Vertical | 1920-2170 MHz

BXA-171063-12CF-EDIN-X

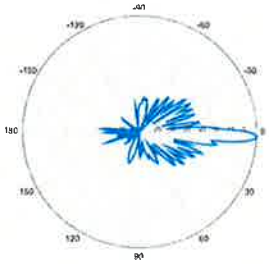
X-Pol | FET Panel | 63° | 19.0 dBi

BXA-171063-12CF-EDIN-2



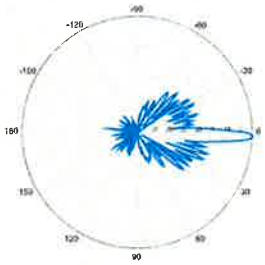
2° | Vertical | 1710-1880 MHz

BXA-171063-12CF-EDIN-2



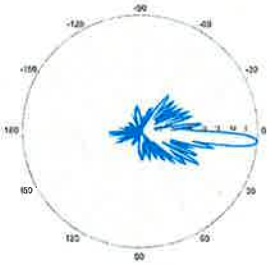
2° | Vertical | 1850-1990 MHz

BXA-171063-12CF-EDIN-2



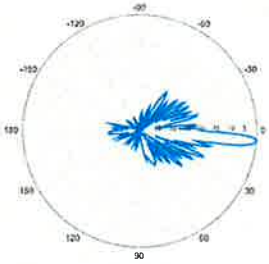
2° | Vertical | 1920-2170 MHz

BXA-171063-12CF-EDIN-5



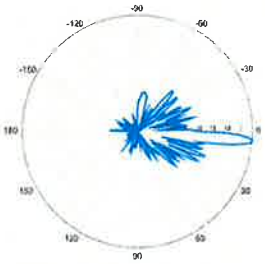
5° | Vertical | 1710-1880 MHz

BXA-171063-12CF-EDIN-5



5° | Vertical | 1850-1990 MHz

BXA-171063-12CF-EDIN-5



5° | Vertical | 1920-2170 MHz

Product Data Sheet FD9R6004/2C-3L

ShareLite Wideband Diplexer – In-line 698-960 MHz/1710-2200 MHz, DC pass in high frequency path

Product Description

The ShareLite FD9R6004 Series of diplexers are designed to enable feeder sharing between systems in the 698-960 MHz range and in the 1710-2200 MHz range. The diplexer is equipped with in-line connector placement so it can be installed in the BTS cabinet or at the tower top. This is especially valuable in crowded sites or when the feeders are not easily accessible. Due to its wideband design, the FD9R6004 Series can accommodate many combining solutions between 698-960 MHz and 1710-2200 MHz systems such as LTE 700 MHz, Cellular 800 MHz with PCS, GSM900 with GSM1800, or GSM900 with UMTS. This diplexer features a highly selective filter. It provides a high level of isolation between ports, while keeping the insertion loss on both paths at an extremely low level. The FD9R6004 diplexers are available with various DC pass options, helpful in configurations with or without the Tower Mount Amplifiers installed.

Features/Benefits

- **LTE ready design**
- **Extremely Low Insertion Loss**
- **High level of Rejection between bands – Protection against interferences**
- **Extremely High Power Handling Capability**
- **Integrated DC block/bypass versions available**
- **Very compact & small size design – Easy installation and reduced tower load**
- **In-line long-neck connectors for easy connection & waterproofing**
- **Exceptional reliability & environmental protection (IP 67)**
- **Equipped with 1 * Breathable Vent – Prevent any humidity inside the product**
- **Mounting hardware for Wall and Pole mount provided (P/N SEM2-1A)**
- **Grounding already provided through the mounting bracket**
- **Kit available for easy dual mount**

Technical Specifications

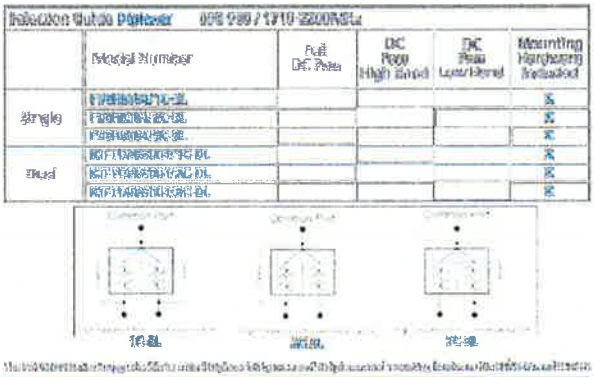
Product Type	Diplexer/Cross Band Coupler
Application	LTE700, GSM900, UMTS, GSM1800, Cellular 800, PCS
Frequency Range 1, MHz	698-960
Frequency Range 2, MHz	1710-2200
Configuration	Sharelite Single diplexer, outdoor, DC pass in the 1710-2170MHz path, with mounting hardware SEM2-1A
Mounting	Wall Mounting: With 4 screws (maximum 6mm diameter); Pole Mounting: With included clamp set 40-110mm (1.57-4.33)
Return Loss All Ports Min/Typ, dB	19/23
Power Handling Continuous, Max, W	1250 at common port; 750 in low frequency path & 500 in high frequency path
Power Handling Peak, Max, W	15000 in low frequency path & 8000 in high frequency path
Impedance, Ohms	50
Insertion Loss, Path 1, dB	0.07 typ.
Insertion Loss, Path 2, dB	0.13 typ.
Rejection Between Bands Min/Typ, dB	58/64@698-960MHz; 57/70@1710-2200MHz
IMP Level at the COM Port, Typ, dBm	-112 @ 2x43
DC Pass in Low Frequency Path	No
DC Pass in High Frequency Path	Yes
Temperature Range, °C (°F)	-40 to +60 (-40 to +140)
Environmental	ETSI 300-019-2-4 Class 4.1E
Ingress Protection	IP 67
Lightning Protection	EN/IEC61000-4-5 Level 4
Connectors	In-line long-neck 7-16-Female
Weight, kg (lb)	1.2 (2.6)
Shipping Weight, kg (lb)	3.2 (7) for 2 * single units in 1 * box, 9.8 (21.6) for 6 * units = 3 * Boxes in 1 * overwrap
Dimensions, H x W x D, mm (in)	147 x 164 x 37 (5.8 x 6.5 x 1.5)
Shipping Dimensions, H x W x D, mm (in)	254 x 406 x 82 (10 x 16 x 3.2) for 2 * Single Units in 1 * box, 280 x 406 x 241 (11 x 16 x 9.5) for 6 * units = 3 * Boxes in 1 * overwrap
Volume, L	0.43
Housing	Aluminum

Notes

ShareLite Wideband Diplexer – In-line 698-960 MHz/1710-2200 MHz, DC pass in high frequency path

Other Documentation

FD9R6004/2C-3L Installation Instructions: Wideband_Diplexer_Installation_Rev5.pdf



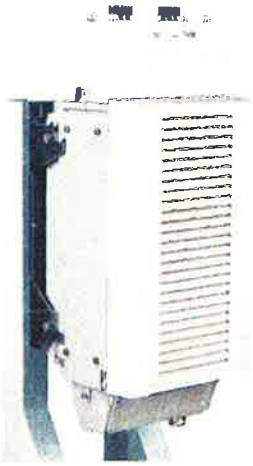
	Model Number	Pair DC Pass	DC Pass High Band	DC Pass Low Band	Mounting Hardware Included
Single					X
					X
					X
Dual					X
					X
					X

Model Number	Description	

Alcatel-Lucent RRH2x40-AWS

REMOTE RADIO HEAD

The Alcatel-Lucent RRH2x40-AWS is a high-power, small form-factor Remote Radio Head (RRH) operating in the AWS frequency band (1700/2100MHz - 3GPP Band 4). The Alcatel-Lucent RRH2x40-AWS is designed with an eco-efficient approach, providing operators with the means to achieve high quality and capacity coverage with minimum site requirements.



A distributed eNodeB expands 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 an eNodeB to be installed separately, within the same site or several kilometres apart.

The Alcatel-Lucent RRH2x40-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 RRH2x40-AWS has two transmit RF paths, 40 W RF output power per transmit path, and is designed to manage up to four-way receive diversity. The device is ideally suited to support macro coverage, with multiple-input multiple-output (MIMO) 2x2 operation in up to 20 MHz of bandwidth.

The Alcatel-Lucent RRH2x40-AWS is designed to make available all the benefits of a distributed eNodeB, with excellent RF characteristics, with low capital expenditures (CAPEX) and low operating expenditures (OPEX). The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment or require costly cranes to be employed, leaving coverage holes. However, many of these sites can host an Alcatel-Lucent RRH2x40-AWS installation, providing more flexible site selection and improved network quality along with greatly reduced installation time and costs.

Fast, low-cost installation and deployment

The Alcatel-Lucent RRH2x40-AWS is a zero-footprint solution and operates noise-free, simplifying negotiations with site property owners and minimizing environmental impacts. Installation can easily be done by a single person because the Alcatel-Lucent RRH2x40-AWS is compact and weighs less than 20 kg (44 lb), 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 — a fraction of the time required for a traditional BTS.

Excellent RF performance

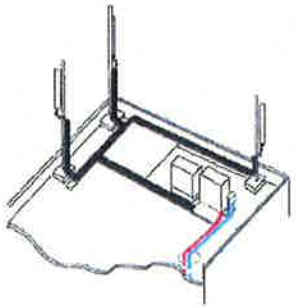
Because of its small size and weight, the Alcatel-Lucent RRH2x40-AWS can be installed close to the antenna. Operators can therefore locate the Alcatel-Lucent RRH2x40-AWS where RF engineering is deemed ideal, minimizing trade-offs between available sites and RF optimum sites. The RF feeder cost and installation costs are reduced or eliminated, and there is no need for a Tower Mounted Amplifier (TMA) because losses introduced by the RF feeder are greatly reduced. The Alcatel-Lucent RRH2x40-AWS provides more RF power while at the same time consuming less electricity.

Features

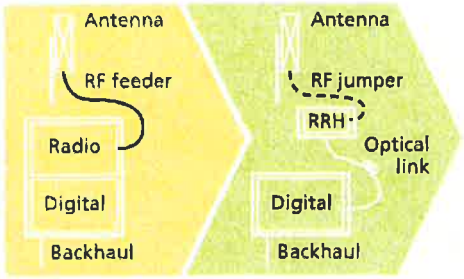
- Zero-footprint deployment
- Easy installation, with a lightweight unit can be carried and set up by one person
- Optimized RF power, with flexible site selection and elimination of a TMA
- Convection-cooled (fanless)
- Noise-free
- Best-in-class power efficiency, with significantly reduced energy consumption

Benefits

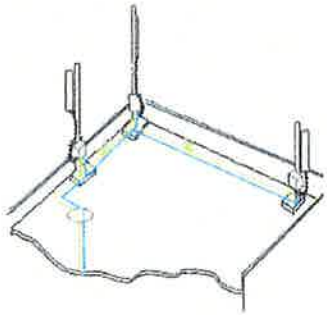
- Leverages existing real estate with lower site costs
- Reduces installation costs, with fewer installation materials and simplified logistics
- Decreases power costs and minimizes environmental impacts, with the potential for eco-sustainable power options
- Improves RF performance and adds flexibility to network planning



Macro



RRH for space-constrained cell sites



Distributed

Technical specifications

Physical dimensions

- Height: 620 mm (24.4 in.)
- Width: 270 mm (10.63 in.)
- Depth: 170m (6.7 in.)
- Weight (without mounting kit): less than 20 kg (44 lb)

Power

- Power supply: -48VDC

Operating environment

- Outdoor temperature range:
  - ¬ With solar load: -40°C to +50°C (-40°F to +122°F)
  - ¬ Without solar load: -40°C to +55°C (-40°F to +131°F)
- Passive convection cooling (no fans)
- Enclosure protection
  - ¬ IP65 (International Protection rating)

RF characteristics

- Frequency band: 1700/2100 MHz (AWS); 3GPP Band 4
- Bandwidth: up to 20 MHz
- RF output power at antenna port: 40 W nominal RF power for each Tx port
- Rx diversity: 2-way or 4-way with optional Rx Diversity module
- Noise figure: below 2.0 dB typical
- Antenna Line Device features
  - ¬ TMA and Remote electrical tilt (RET) support via AISG v2.0

Optical characteristics

Type/number of fibers

- Single-mode variant
  - ¬ One Single Mode Single Fiber per RRH2x, carrying UL and DL using CWDM
  - ¬ Single mode dual fiber (SM/DF)
- Multi-mode variant
  - ¬ Two Multi-mode fibers per RRH2x: one carrying UL, the other carrying DL

Optical fiber length

- Up to 500 m (0.31 mi), using MM fiber
- Up to 20 km (12.43 mi), using SM fiber

Digital Ports and Alarms

- Two optical ports to support daisy-chaining
- Six external alarms

CPG2809100912 (09)

Alcatel·Lucent

Product Data Sheet **HB158-1-08U8-S8J18**

HYBRIFLEX™ RRH Hybrid Feeder Cabling Solution, 1-5/8", Single-Mode Fiber

Product Description

RFS' HYBRIFLEX Remote Radio Head (RRH) hybrid feeder cabling solution combines optical fiber and DC power for RRHs in a single lightweight aluminum corrugated cable, making it the world's most innovative solution for RRH deployments.

It was developed to reduce installation complexity and costs at Cellular sites. HYBRIFLEX allows mobile operators deploying an RRH architecture to standardize the RRH installation process and eliminate the need for and cost of cable grounding. HYBRIFLEX combines optical fiber (multi-mode or single-mode) and power in a single corrugated cable. It eliminates the need for junction boxes and can connect multiple RRHs with a single feeder. Standard RFS CELLFLEX® accessories can be used with HYBRIFLEX cable. Both pre-connectorized and on-site options are available.

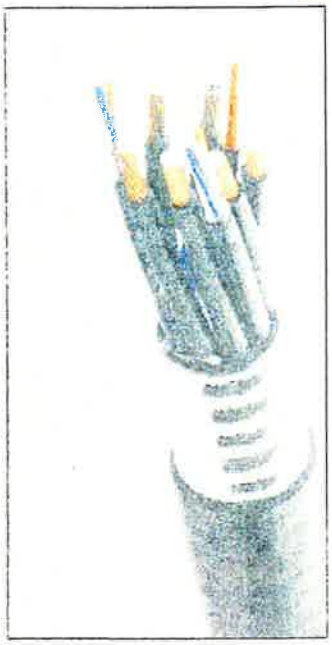


Figure 1: HYBRIFLEX Series

Features/Benefits

- Aluminum corrugated armor with outstanding bending characteristics – minimizes installation time and enables mechanical protection and shielding
- Same accessories as 1 5/8" coaxial cable
- Outer conductor grounding – Eliminates typical grounding requirements and saves on installation costs
- Lightweight solution and compact design – Decreases tower loading
- Robust cabling – Eliminates need for expensive cable trays and ducts
- Installation of tight bundled fiber optic cable pairs directly to the RRH – Reduces CAPEX and wind load by eliminating need for interconnection
- Optical fiber and power cables housed in single corrugated cable – Saves CAPEX by standardizing RRH cable installation and reducing installation requirements
- Outdoor polyethylene jacket – Ensures long-lasting cable protection

Technical Specifications

Outer Conductor Armor	Corrugated Aluminum	[mm (in)]	46.5 (1.83)
Jacket	Polyethylene, PE	[mm (in)]	50.3 (1.98)
UV-Protection	Individual and External Jacket		Yes
Weight, Approximate		[kg/m (lb/ft)]	1.9 (1.30)
Minimum Bending Radius, Single Bending		[mm (in)]	200 (8)
Minimum Bending Radius, Repeated Bending		[mm (in)]	500 (20)
Recommended/Maximum Clamp Spacing		[m (ft)]	1.0 / 1.2 (3.25 / 4.0)
DC-Resistance Outer Conductor Armor		[Ω/km (Ω/1000ft)]	068 (0.205)
DC-Resistance Power Cable, 8.4mm² (8AWG)		[Ω/km (Ω/1000ft)]	2.1 (0.307)
Version			Single-mode OM3
Quantity, Fiber Count			16 (8 pairs)
Core/Clad		[µm]	50/125
Primary Coating (Acrylate)		[µm]	245
Buffer Diameter, Nominal		[µm]	900
Secondary Protection, Jacket, Nominal		[mm (in)]	2.0 (0.08)
Minimum Bending Radius		[mm (in)]	104 (4.1)
Insertion Loss @ wavelength 850nm		dB/km	3.0
Insertion Loss @ wavelength 1310nm		dB/km	1.0
Standards (Meets or exceeds)			UL94-V0, UL1666 RoHS Compliant
Size (Power)		[mm² (AWG)]	8.4 (8)
Quantity, Wire Count (Power)			16 (8 pairs)
Size (Alarm)		[mm² (AWG)]	0.8 (18)
Quantity, Wire Count (Alarm)			4 (2 pairs)
Type			UV protected
Strands			19
Primary Jacket Diameter, Nominal		[mm (in)]	6.8 (0.27)
Standards (Meets or exceeds)			NFPA 130, ICEA S-95-658 UL Type XHHW-2, UL 44 UL-LS Limited Smoke, UL VW-1 IEEE-383 (1974), IEEE1202/FT4 RoHS Compliant
Installation Temperature		[°C (°F)]	-40 to +65 (-40 to149)
Operation Temperature		[°C (°F)]	-40 to +65 (-40 to149)

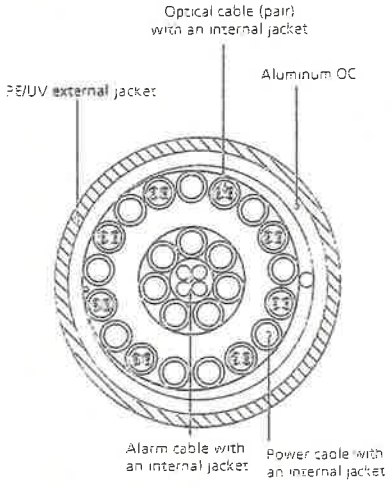


Figure 2: Construction Detail

* This data is provisional and subject to change

ATTACHMENT 2

ROBINSON & COLE LLP

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

January 24, 2014

Via Electronic Mail and
Certified Mail, Return Receipt Requested

Robin L. Edwards, Esq.
Assistant Corporation Counsel
City of Danbury
155 Deer Hill Avenue
Danbury, CT 06810

Re: **Proposed Modifications to the Existing Cellco Partnership d/b/a Verizon Wireless Telecommunications Facility at 52 Stadley Rough Road, Danbury, Connecticut**

Dear Robin:

As you may recall, on January 5, 2012, the Connecticut Siting Council ("Council") approved the request of Cellco Partnership d/b/a Verizon Wireless ("Cellco") to share the existing telecommunications facility at 52 Stadley Rough Road in Danbury. Prior to filing that tower share application with the Council, Cellco complied with the requirements of the January 6, 2010 Stipulation for Judgment which included, among other things, notification to the City Attorney's Office and to Jose and Christina Carvalheiro of the proposed tower share filing.

The purpose of this letter is to notify you of Cellco's plans to modify its existing Stadley Rough Road facility further. These modifications will include the installation of three (3) additional antennas, for a total of nine (9) antennas, in a flush-mounted configuration; remote radio heads and cable diplexers installed behind its antennas; a new electric distribution box; and one new antenna cable installed inside the monopole tower. This facility modification will allow Cellco to provide customers in the City of Danbury with enhanced wireless services. Attached to this letter is a plan showing the existing antenna configuration and the location of the new antennas and related equipment, in the flush-mounted configuration. Cellco's current modification proposal does not involve any changes to ground-mounted equipment

and does not modify Cellco's existing back-up power system (generator) previously installed at this site.

Pursuant to R.C.S.A. § 16-50j-72(b)(2), Cellco intends to file a notice of exempt modification with the Council for the above-referenced antenna modifications on or about January 31, 2014. I will send you a copy of that filing. The Council typically takes 30 days to review and acknowledge these notices. If you have any questions regarding the modifications please contact me as soon as possible.

Thank you in advance for your assistance and cooperation.

Sincerely,

Kenneth C. Baldwin

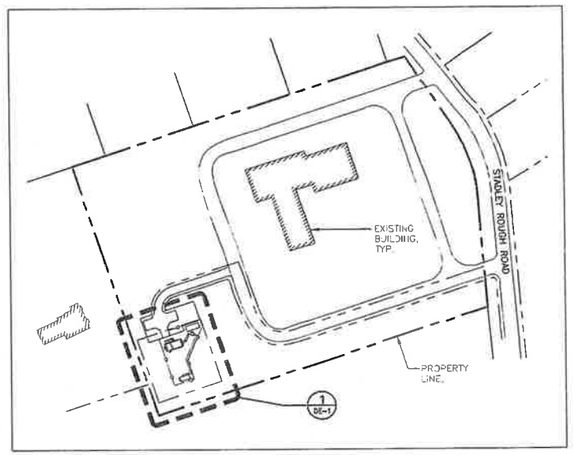
KCB/kmd
Attachment
Copy to:
Melanie A. Bachman, Acting Executive Director
Sandy M. Carter

NOTES:

1. THE PROPOSED VERIZON WIRELESS ANTENNA UPGRADE TO CONSIST OF THE INSTALLATION OF (3) PANEL ANTENNAS TO THE EXISTING (6) FOR A TOTAL OF (9). ADDITIONALLY (3) REMOTE RADIO HEADS, (1) MAIN DISTRIBUTION BOX & FIBER W/ POWER ANTENNA CABLES WILL BE INSTALLED.
2. THE EXISTING ANTENNA MOUNTS TO BE REMOVED AND REPLACED.
3. THE PROPOSED ANTENNAS TO BE MOUNTED WITH A CENTERLINE HEIGHT AND AZIMUTH ORIENTATION EQUAL TO THE EXISTING ANTENNAS.

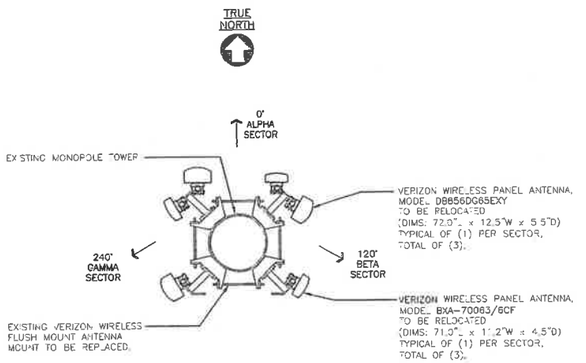
DESIGN EXHIBIT

THIS PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED FOR VISUAL REPRESENTATION OF THE PROPOSED ANTENNA UPGRADE.

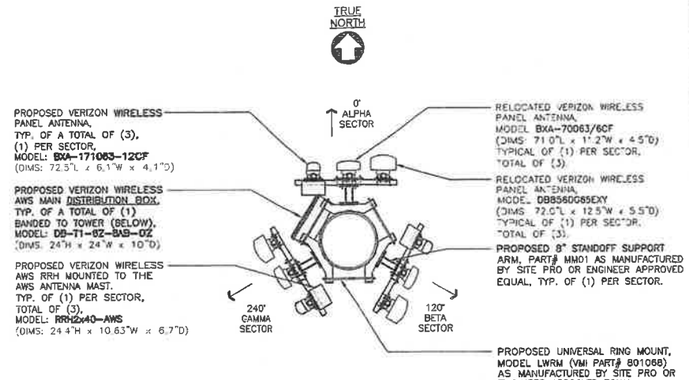


SITE/KEY PLAN
SCALE: 1" = 100'

APPROX. NORTH



3 DE-1 ANTENNA CONFIGURATION - EXISTING
NOT TO SCALE



5 DE-1 ANTENNA CONFIGURATION - PROPOSED
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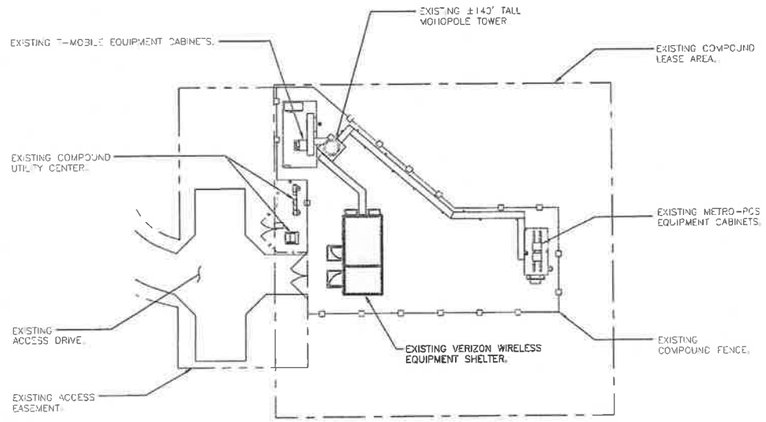
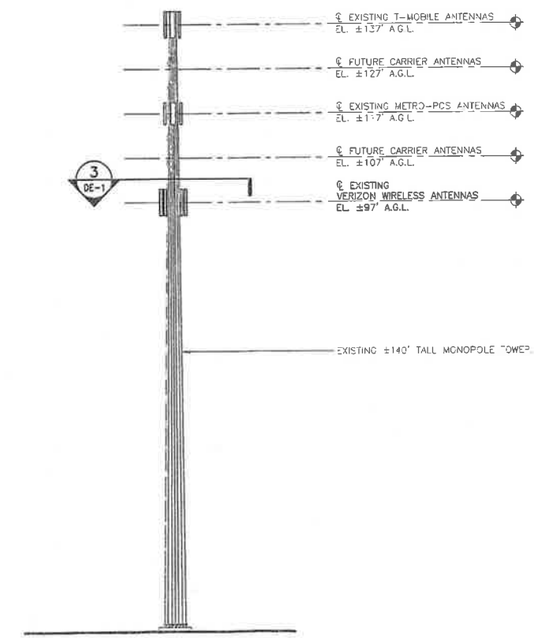


1 DE-1 COMPOUND PLAN
SCALE: 1" = 20'-0"

APPROX. NORTH

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.



2 DE-1 TOWER ELEVATION - EXISTING
SCALE: 1" = 15'-0"

GRAPHIC SCALE
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(IN FEET)
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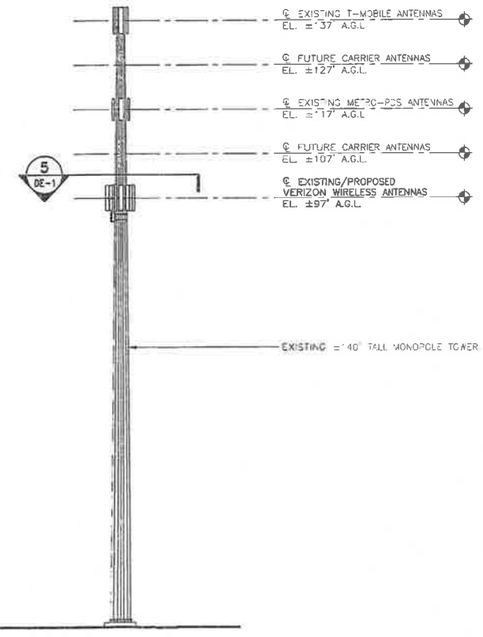

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15 0 7.5 15 30 60
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REV:	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	01/24/14	CLT	RVD	DESIGN EXHIBIT - ISSUED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

Cellco Partnership d.b.a. Verizon wireless

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

VERIZON WIRELESS
WIRELESS COMMUNICATIONS FACILITY
BROOKFIELD WEST
52 STADLEY ROUGH RD
DANBURY, CT 06811

DATE: 01/22/14
SCALE: AS NOTED
JOB NO. 14001.019

DESIGN EXHIBIT

DE-1

Sheet No. 1 of 1

ROBINSON & COLE LLP

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

January 24, 2014

Via Certified Mail, Return Receipt Requested

Jose and Christina Carvalheiro
14 Indian Spring Road
Danbury, CT 06811

Re: **Proposed Modifications to the Existing Cellco Partnership d/b/a Verizon Wireless Telecommunications Facility at 52 Stadley Rough Road, Danbury, Connecticut**

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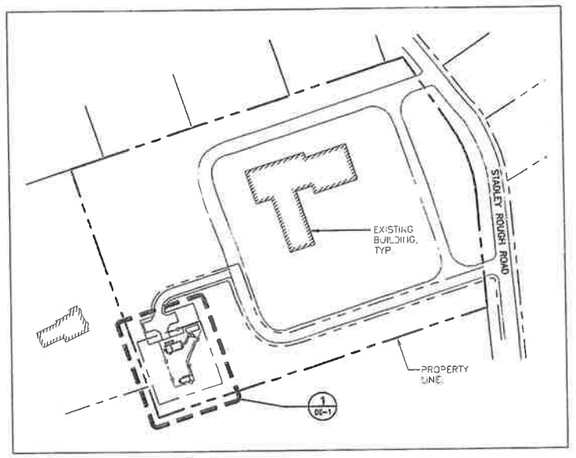

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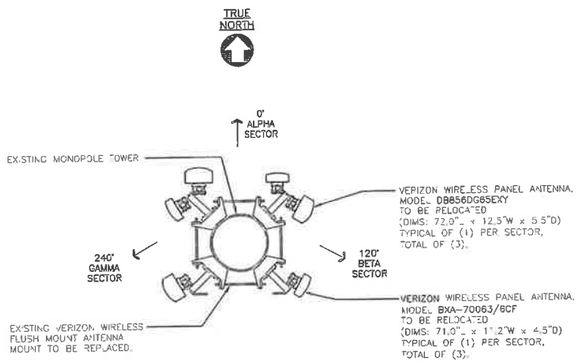

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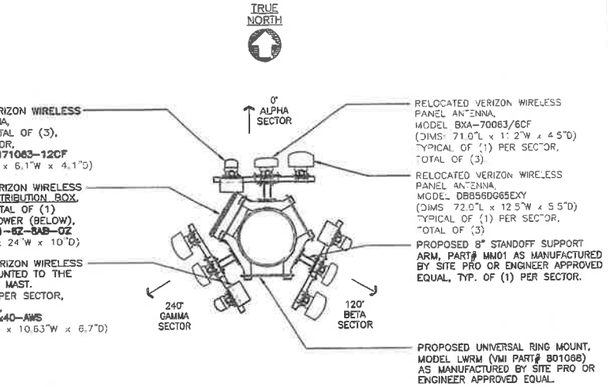

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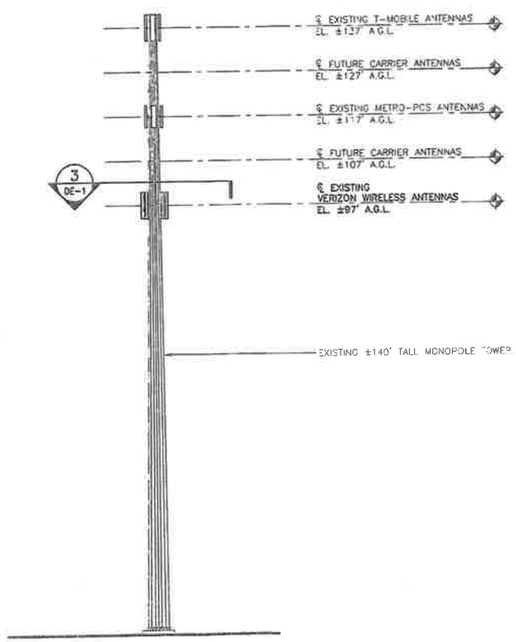

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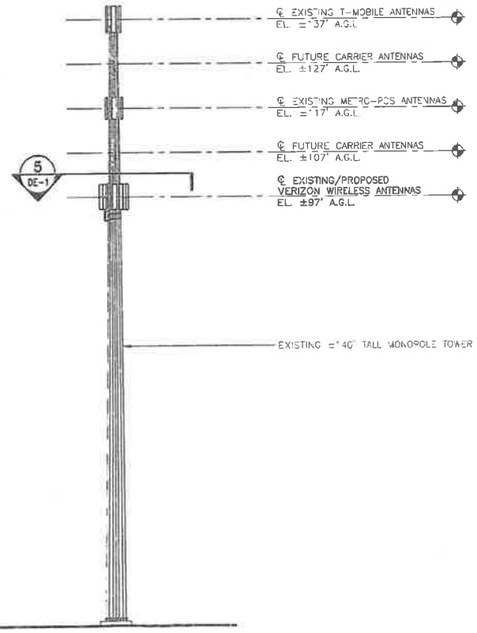

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GRAPHIC SCALE
(IN FEET)
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0	01/24/14	CLT	DMD	DESIGN EXHIBIT - ISSUED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

Cellco Partnership d.b.a. verizonwireless

CENTEK engineering
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(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
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DATE:	01/22/14
SCALE:	AS NOTED
JOB NO.	14001.019

DESIGN EXHIBIT

DE-1

Sheet No. 1 of 1

ATTACHMENT 3

	General	Power	Density					
Site Name: Brookfield W (Danbury)								
Tower Height: Verizon @ 97'								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*T-Mobile GSM/UMTS	4	10.8	137	0.0008	1950	1.0000	0.08%	
*T-Mobile UMTS/LTE	4	12	137	0.0009	2100	1.0000	0.09%	
*AT&T UMTS	2	500	107	0.0314	850	0.5667	5.54%	
*AT&T UMTS	2	500	107	0.0314	1900	1.0000	3.14%	
*AT&T LTE	2	500	107	0.0314	700	0.4667	6.73%	
*AT&T LTE	2	500	107	0.0314	2100	1.0000	3.14%	
*Clearwire	2	153	107	0.0096	2496	1.0000	0.96%	
*Clearwire	1	211	109	0.0064	18 GHz	1.0000	0.64%	
*MetroPCS	3	443.61	117	0.0350	2140	1.0000	3.50%	
Verizon	**15**	**367**	**97**	**0.2104**	**1970**	**1.0000**	**21.04%**	
Verizon	**9**	**263**	**97**	**0.0905**	**869**	**0.5793**	**15.61%**	
Verizon	**1**	**1750**	**97**	**0.0669**	**2145**	**1.0000**	**6.69%**	
Verizon	**1**	**860**	**97**	**0.0329**	**698**	**0.4650**	**7.07%**	
								74.2%
* Source: Siting Council								

ATTACHMENT 4

FDH Engineering, Inc., 6521 Meridien Drive Raleigh, NC 27616, Ph. 919.755.1012

Structural Analysis for SBA Network Services, Inc.

139' Monopole Tower

SBA Site Name: Danbury 1
SBA Site ID: CT13549-S-01
Verizon Site Name: Brookfield West

FDH Project Number 13SFYV1400

Analysis Results

Tower Components	82.4%	Sufficient
Foundation	87.0%	Sufficient

Prepared By:

Adam Bryan, EI
Project Engineer

Reviewed By:

Christopher M Murphy, PE
President
CT PE License No. 25842

FDH Engineering, Inc.
6521 Meridien Drive
Raleigh, NC 27616
(919) 755-1012
info@fdh-inc.com

November 6, 2013

Prepared pursuant to TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures and 2005 Connecticut Building Code

TABLE OF CONTENTS

EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Engineering, Inc. performed a structural analysis of the monopole located in Danbury, CT to determine whether the tower is structurally adequate to support both the existing and proposed loads pursuant to the *Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, TIA/EIA-222-F* and *2005 Connecticut Building Code (CBC)*. Information pertaining to the existing/proposed antenna loading, current tower geometry, foundation dimensions, geotechnical data, and member sizes was obtained from:

- Sabre Towers & Poles (Job No. 10-01206) Structural Design Report dated January 28, 2010
- Tower Engineering Professionals (Project 091184.01) Subsurface Exploration Report dated May 13, 2009
- SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standards and *2005 CBC* is 85 mph without ice and 38 mph with 3/4" radial ice. Ice is considered to increase in thickness with height.

Conclusions

With the existing and proposed antennas from Verizon in place at 97 ft, the tower meets the requirements of the *TIA/EIA-222-F* standards and *2005 CBC* provided the **Recommendations** listed below are satisfied. Furthermore, provided the foundation is designed and constructed to support the original design reactions (see Sabre Towers & Poles Job No. 10-01206), the foundation should have the necessary capacity to support the reserved and proposed loading. For a more detailed description of the analysis of the tower, see the **Results** section of this report.

Our structural analysis has been performed assuming all information provided to FDH Engineering, Inc. is accurate (i.e., the steel data, tower layout, existing antenna loading, and proposed antenna loading) and that the tower has been properly erected and maintained per the original design drawings.

Recommendations

To ensure the requirements of the *TIA/EIA-222-F* standards and *2005 CBC* are met with the existing and proposed loading in place, we have the following recommendations:

1. The proposed coax should be installed inside the monopole's shaft.
2. The proposed diplexers should be installed directly behind the existing and proposed panel antennas.
3. RRU/RRH Stipulation: The proposed equipment may be installed in any arrangement determined by the client.

APPURTENANCE LISTING

The proposed and existing antennas with their corresponding cables/coax lines are shown in **Table 1**. *If the actual layout determined in the field deviates from the layout, FDH Engineering, Inc. should be contacted to perform a revised analysis.*

Table 1 - Appurtenance Loading

Existing Loading:

Antenna Elevation (ft)	Description	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
137	(3) Ericsson Air 21 B2A/B4P (3) Ericsson KRY 112 144/1 TMAs	(12) 1-5/8" (1) 1-5/8" Fiber	T-Mobile	137	Flush
127	(6) Decibel DB848H90E-XY	(12) 1-5/8"	Sprint	127	Flush
117	(3) Kathrein 800-10504 (3) Kathrein 742-351	(12) 1-5/8"	Metro PCS	117	Flush
107	(3) Andrew SBNHH-1D6565B (3) Ericsson KRC 118 005/1 (15) Ericsson RRUS (3) Raycap DC6-48-60-18-8F Surge Suppressors	(8) 3/4" DC (2) 1/2" Fiber	New Cingular	107	(1) Commsocpe MC-HPM1250-B Standoff Mount (1) Commscope RR-RM1560 Collar Mount
97	(3) Decibel DB856DG65E-XY (3) Antel BXA-70063/6CF	(12) 1-5/8"	Verizon	97	Flush

1. Coax installed inside pole's shaft unless otherwise noted.

Proposed Loading:

Antenna Elevation (ft)	Description	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
97	(3) Antel BXA-70063/6CF (3) Andrew DBXNH-6565A-VTM (3) Antel BXA-171063/12CF (3) ALU RRH 2X40-AWS RRHs (6) RFS FD9R6004/2C-3L Diplexers (1) RFS DB-T1-6Z-8AB-OZ Junction Box	(12) 1-5/8" (1) 1-5/8" Fiber	Verizon	97	Flush

RESULTS

The following yield strength of steel for individual members was used for analysis:

Table 2 - Material Strength

Member Type	Yield Strength
Tower Shaft Sections	65 ksi
Base Plate	50 ksi
Anchor Bolts	75 ksi

Table 3 displays the summary of the ratio (as a percentage) of force in the member to their capacities. Values greater than 100% indicate locations where the maximum force in the member exceeds its capacity. *Note: Capacities up to 100% are considered acceptable.* **Table 4** displays the maximum foundation reactions.

If the assumptions outlined in this report differ from actual field conditions, FDH Engineering, Inc. should be contacted to perform a revised analysis. Furthermore, as no information pertaining to the allowable twist and sway requirements for the existing or proposed appurtenances was provided, deflection and rotation were not taken into consideration when performing this analysis.

See the **Appendix** for detailed modeling information.

Table 3 - Summary of Working Percentage of Structural Components

Section No.	Elevation ft	Component Type	Size	% Capacity*	Pass Fail
L1	139 - 98.75	Pole	TP25.3x16x0.1875	44.7	Pass
L2	98.75 - 48.5	Pole	TP36.53x24.1741x0.25	82.4	Pass
L3	48.5 - 0	Pole	TP47.23x34.933x0.3125	78.2	Pass
		Anchor Bolts	(12) 2.25" Ø w/ BC = 53.5"	51.2	Pass
		Base Plate	51.5" SQ PL x 2.75" thk.	67.3	Pass

*Capacities include 1/3 allowable increase for wind.

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis *(TIA/EIA-222-F)*	Original Design *(TIA/EIA-222-F)*
Axial	23 k	22 k
Shear	19 k	21 k
Moment	1,804 k-ft	2,074 k-ft

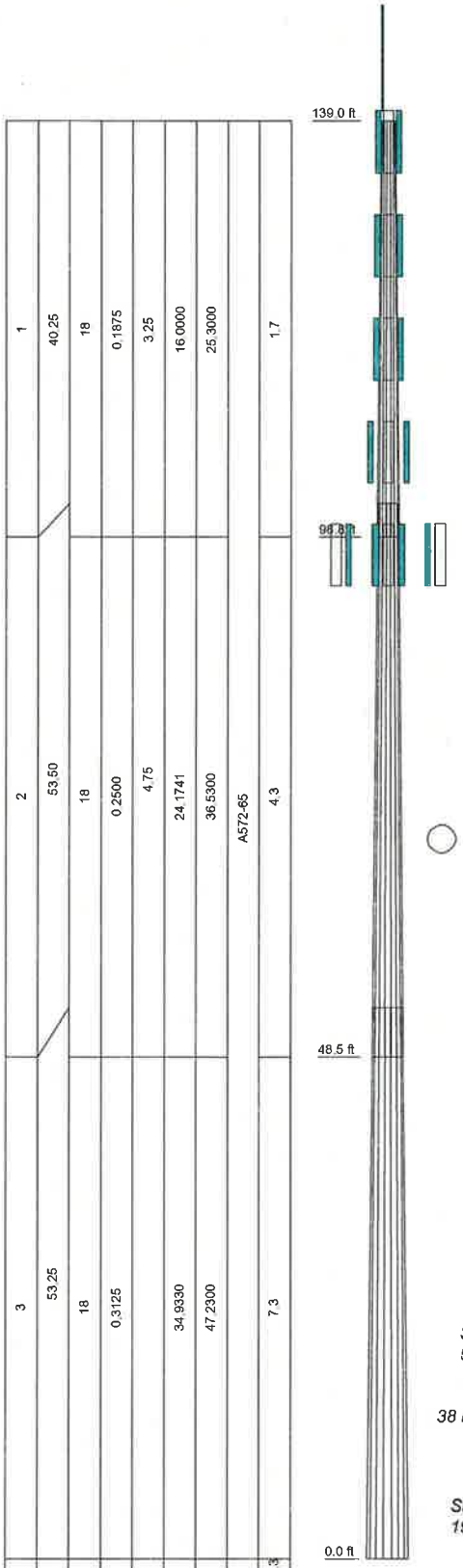
GENERAL COMMENTS

This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading information) modeled. If there are substantial modifications to be made or the assumptions made in this analysis are not accurate, FDH Engineering, Inc. should be notified immediately to perform a revised analysis.

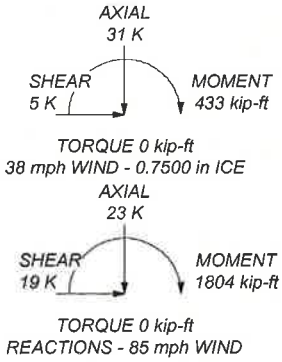
LIMITATIONS

All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of this report. All opinions and conclusions are subject to revision based upon receipt of new or additional/updated information. All services are provided exercising a level of care and diligence equivalent to the standard and care of our profession. No other warranty or guarantee, expressed or implied, is offered. Our services are confidential in nature and we will not release this report to any other party without the client's consent. The use of this engineering work is limited to the express purpose for which it was commissioned and it may not be reused, copied, or distributed for any other purpose without the written consent of FDH Engineering, Inc.

APPENDIX



Section	1	2	3
Length (ft)	40.25	53.50	53.25
Number of Sides	18	18	18
Thickness (in)	0.1875	0.2500	0.3125
Socket Length (ft)	3.25	4.75	
Top Dia (in)	16.0000	24.1741	34.9330
Bot Dia (in)	25.3000	36.5300	47.2300
Grade		A572-65	
Weight (K)	1.7	4.3	7.3



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	140	RRUS 01	107
AIR 21 B2A/B4P w/Mount Pipe	137	RRUS 01	107
AIR 21 B2A/B4P w/Mount Pipe	137	DC6-48-60-18-8F Surge Arrestor	107
AIR 21 B2A/B4P w/Mount Pipe	137	DC6-48-60-18-8F Surge Arrestor	107
KRY 112 144/1	137	DC6-48-60-18-8F Surge Arrestor	107
KRY 112 144/1	137	Commscope MC-HPM1250-B	107
KRY 112 144/1	137	Commscope RR-RM1560	107
(2) DB848H90E-XY w/ mount pipe	127	BXA-70063/6CF w/ mount pipe	97
(2) DB848H90E-XY w/ mount pipe	127	BXA-70063/6CF w/ mount pipe	97
(2) DB848H90E-XY w/ mount pipe	127	BXA-70063/6CF w/ mount pipe	97
800-10504 w/ mount pipe	117	DBXNH-6565A-VTM w/ Mount Pipe	97
800-10504 w/ mount pipe	117	DBXNH-6565A-VTM w/ Mount Pipe	97
800-10504 w/ mount pipe	117	DBXNH-6565A-VTM w/ Mount Pipe	97
742-351 w/ mount pipe	117	BXA-171063/12CF w/ Mount Pipe	97
742-351 w/ mount pipe	117	BXA-171063/12CF w/ Mount Pipe	97
742-351 w/ mount pipe	117	BXA-171063/12CF w/ Mount Pipe	97
SBNHH-1D6565B w/Mount Pipe	107	RRH2X40-AWS	97
SBNHH-1D6565B w/Mount Pipe	107	RRH2X40-AWS	97
SBNHH-1D6565B w/Mount Pipe	107	RRH2X40-AWS	97
KRC 118 005/1 w/ Mount Pipe	107	(2) FD9R6004/2C-3L Diplexer	97
KRC 118 005/1 w/ Mount Pipe	107	(2) FD9R6004/2C-3L Diplexer	97
KRC 118 005/1 w/ Mount Pipe	107	(2) FD9R6004/2C-3L Diplexer	97
RRUS 01	107	DB-T1-6Z-8AB-0Z	97

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TIA-G Addendum 2, Table 4-8 was used in this anlaysis.
6. TOWER RATING: 82.4%

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Raleigh, NC 27616
Phone: 919-7551012
FAX: 919-7551031
Tower Analysis

Job: Danbury 1, CT13549-S-01			
Project: 13SFYV1400			
Client: SBA Network Services, Inc.	Drawn by: Adam Bryan	App'd:	
Code: TIA/EIA-222-F	Date: 11/06/13	Scale: NTS	
Path:		Dwg No. E-1	