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Also admitted in Massachusetts

May 21, 2014

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

Re: **Notice of Exempt Modification – Facility Modification
1605 Durham Road, Wallingford, Connecticut**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains twelve (12) antennas at the 132-foot level of the existing 162-foot tower at 1605 Durham Road in Wallingford, Connecticut (the “Property”). The tower is owned by SBA. The Council approved Cellco’s use of this tower in 2001. Cellco now intends to install three (3) model 742 213V01, 2100 MHz antennas, for a total of fifteen (15) antennas at the same 132-foot level on the tower. Cellco also intends to install three (3) remote radio heads (“RRHs”) behind its new 2100 MHz antennas and one (1) HYBRIFLEX™ antenna cable inside the monopole. Included in Attachment 1 are specifications for Cellco’s replacement antennas, 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 letter is being sent to William W. Dickinson, Jr., Mayor of the Town of Wallingford. A copy of this letter is also being sent to Tilcon Connecticut, the owner of the Property.

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 three (3) new antennas and RRHs will be located at the 132-foot level on the 162-foot tower.



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Melanie A. Bachman
May 21, 2014
Page 2

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.

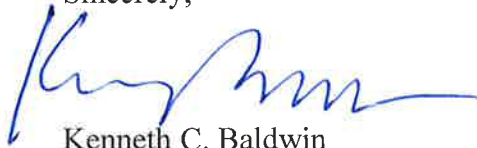
4. The operation of the replacement antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative power density table for Cellco's modified facility is included behind Attachment 2.

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 3).

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:

William W. Dickinson, Jr., Mayor
Tilcon Connecticut
Sandy M. Carter



ATTACHMENT 1

KATHREIN SCALA DIVISION

742 213V01

65° Panel Antenna

Kathrein's X-polarized adjustable electrical downtilt antennas offer the wireless carrier the ability to tailor polarization diversity sites for optimum performance. Using variable downtilt, only a few models need be procured to accommodate the needs of widely varying conditions. Remotely controlled downtilt is available as a retrofitable option.

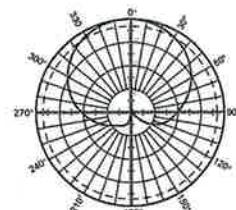
- 0-6° downtilt range.
- UV resistant pultruded fiberglass radome.
- DC Grounded metallic parts for impulse suppression.
- No moving electrical connections.
- Wideband vector dipole technology.
- Optional remote downtilt Control.
- Will accommodate future 3G / UMTS applications.

General specifications:

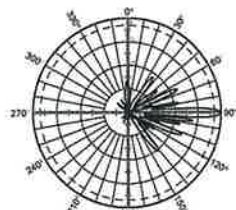
Frequency range	1710–2200 MHz	
VSWR	< 1.5:1	
Impedance	50 ohms	
Intermodulation (2x20w)	IM3: <-150 dBc	
Polarization	+45° and -45°	
Front-to-back ratio (180°±30°)	>30 dB (co-polar) >25 dB (total power)	
Maximum input power	300 watts per input (at 50°C)	
Electrical downtilt continuously adjustable	0–6 degrees	
Connector	2 x 7-16 DIN female	
Isolation	>30 dB	
Cross polar ratio		
Main direction	0°	25 dB (typical)
Sector	±60°	>10 dB
Tracking, average	0.5 dB	
Squint	±2.0°	
Weight	19.8 lb (9 kg) 24.3 lb (11 kg) clamps included	
Dimensions	76.9 x 6.1 x 2.8 inches (1954 x 155 x 70 mm)	
Wind load	at 93 mph (150kph)	
Front/Side/Rear	115 lbf / 32 lbf / 115 lbf (510 N) / (140 N) / (510 N)	
Mounting category	M (Medium)	
Wind survival rating*	120 mph (200 kph)	
Shipping dimensions	88 x 6.8 x 3.6 inches (2235 x 172 x 92 mm)	
Shipping weight	28.7 lb (13 kg)	
Mounting	Fixed mounts for 2 to 4.6 inch (50 to 115 mm) OD masts are included and tilt options are available.	

See reverse for order information.

Specifications:	1710–1880 MHz				1850–1990 MHz				1920–2200 MHz			
Gain	19 dBi				19.2 dBi				19.5 dBi			
+45° and -45° polarization horizontal beamwidth	67° (half-power)				65° (half-power)				63° (half-power)			
+45° and -45° polarization vertical beamwidth	4.7° (half-power)				4.5° (half-power)				4.3° (half-power)			
Sidelobe suppression for first sidelobe above main beam	0°	2°	4°	6° T	0°	2°	4°	6° T	0°	2°	4°	6° T
	18	18	16	15 dB	18	18	17	16 dB	18	18	18	18 dB



Horizontal pattern
±45°- polarization



Vertical pattern
±45°- polarization
0°–6° electrical downtilt



* Mechanical design is based on environmental conditions as stipulated in TIA-222-G-2 (December 2009) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

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

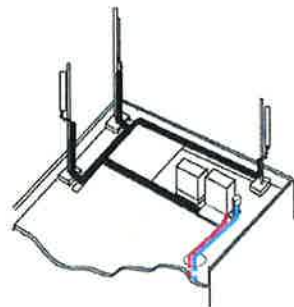
capital expenditures (CAPEX) and low operating expenditures (OPEX). The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment or require costly cranes to be employed, leaving coverage holes. However, many of these sites can host an Alcatel-Lucent 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

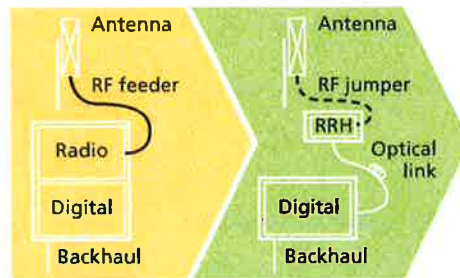
Because of its small size and weight, the Alcatel-Lucent RRH2x40-AWS can be installed close to the antenna. Operators can therefore locate the Alcatel-Lucent RRH2x40-AWS where RF engineering is deemed ideal, minimizing trade-offs between available sites and RF optimum sites. The RF feeder cost and installation 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.



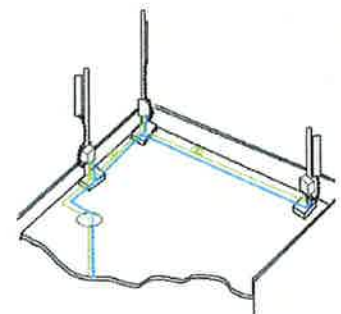
Macro

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



RRH for space-constrained cell sites



Distributed

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

Technical specifications

Physical dimensions

- Height: 620 mm (24.4 in.)
- Width: 270 mm (10.63 in.)
- Depth: 170mm (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

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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.

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

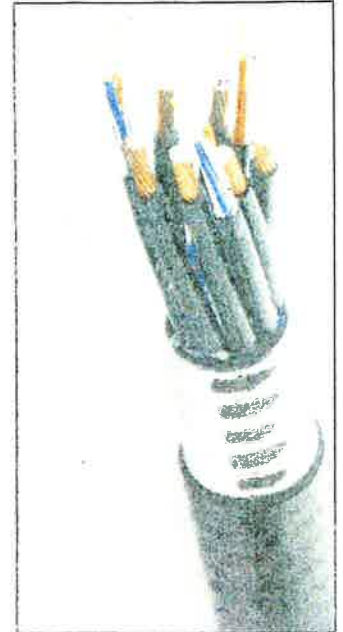


Figure 1: HYBRIFLEX Series

Technical Specifications

Structure			
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
Key Physical Properties			
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)
Electrical Properties			
DC-Resistance Outer Conductor Armor		(Ω/km (Ω/1000ft))	0.68 (0.205)
DC-Resistance Power Cable: 8.4mm ² (8AWG)		(Ω/km (Ω/1000ft))	2.1 (0.307)
Optical Properties			
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
DC Power Cable Properties			
Size (Power)		(mm (AWG))	8.4 (8)
Quantity, Wire Count (Power)			16 (8 pairs)
Size (Alarm)		(mm (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
Operating Range			
Installation Temperature		(°C (°F))	-40 to +65 (-40 to 149)
Operation Temperature		(°C (°F))	-40 to +65 (-40 to 149)

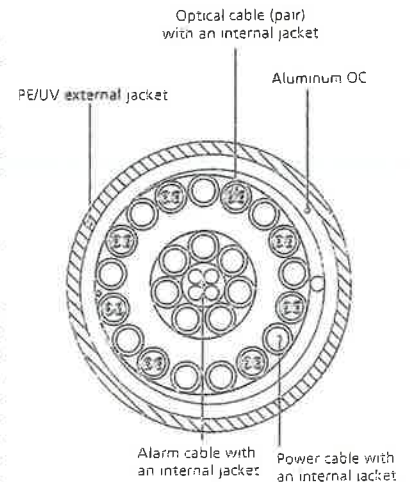


Figure 2: Construction Detail

All information contained in the present datasheet is subject to confirmation at time of ordering.

* This data is provisional and subject to change

RFS The Clear Choice®

HB158-1-08U8-5&J18

Rev: P1

Print Date: 27.6.2012

ATTACHMENT 2

General Power Density

Site Name: WALLINGFORD 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 ²)	Maximum Permissible Exposure*	Fraction of MPE (%)
VZW PCS	1970	7	291	2039	132	0.0421	1.0	4.21%
VZW Cellular	869	9	393	3540	132	0.0731	0.5793333333	12.61%
VZW AWS	2145	1	2198	2198	132	0.0454	1.0	4.54%
VZW 700	698	1	817	817	132	0.0169	0.4653333333	3.62%

Total Percentage of Maximum Permissible Exposure

24.98%

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

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.

ATTACHMENT 3



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

**Structural Analysis for
SBA Network Services, Inc.**

162' Monopole Tower

**SBA Site Name: Durham
SBA Site ID: CT01698-S-00
Verizon Site Name: Wallingford 2**

FDH Project Number 1422CQ1400

Analysis Results

Tower Components	92.5%	Sufficient
Foundation	94.8%	Sufficient

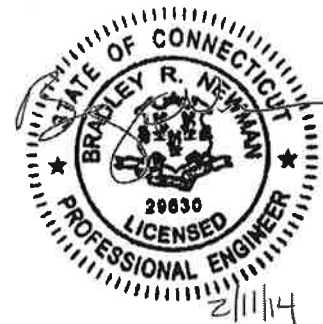
Prepared By:

Jeffrey B. Ray, EI
Project Engineer

Reviewed By:

Bradley Newman, PE
Senior Project Engineer

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



February 11, 2014

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 3

 Conclusions..... 3

 Recommendations 3

APPURTENANCE LISTING 4

RESULTS 5

GENERAL COMMENTS 6

LIMITATIONS 6

APPENDIX 7

EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Engineering, Inc. performed a structural analysis of the monopole located in Wallingford, 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:

- Paul J. Ford & Company (Job No. 29299-949) original design drawings dated December 22, 1999
- Jaworski Geotech, Inc. (Project No. 99407G) Geotechnical Evaluation dated September 2, 1999
- SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standards 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 132 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 was designed and constructed to support the original design reactions (see Paul J. Ford & Company Job No. 29299-949), the foundation should have the necessary capacity to support the existing 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. Feed lines must be installed as shown in **Figure 1**.
2. RRU/RRH Stipulation: The equipment may be installed in any arrangement as 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	Feed lines ¹	Carrier	Mount Elevation (ft)	Mount Type
162.5	(3) RFS APXVTM14-C-I20 (3) TD-RRH8x20-25 RRHs	(3) 1-1/4" (1) 0.7" ALU Fiber	Sprint	162	(1) Low Profile Platform
162	(3) RFS APXVSP18-C-A20 (3) Alcatel lucent 1900 MHz RRHs (3) Alcatel lucent 800 MHz Filters (3) Alcatel lucent 800 MHz RRUs (4) RFS ACU-A20-N RETs				
152	(12) EMS RR90-17-00DP	(12) 1-5/8"	T-Mobile	152	(1) Low Profile Platform
142	(12) Decibel DB844H90	(9) 1-5/8"	Nextel	142	(1) Low Profile Platform
132	(3) Antel BXA-70063-6CF-EDIN (2) Antel BXA-171063-8BF (1) Antel BXA-171063-12BF (2) Antel LPA-80080-4CF (4) Andrew DB846F65ZAXY (6) RFS FD9R6004/2C-3 Diplexers	(12) 1-5/8"	Verizon	132	(1) Low Profile Platform
124.5	(6) Ericsson RRUS-11 RRUs (1) Raycap DC6-48-60-18-8F Surge Arrestors	(12) 1-5/8" (1) 3" Conduit (1) 10 mm (2) DC Cables	AT&T	124.5	(1) Andrew MTC3335 Collar Mount
122	(6) Powerwave 7770.00 (6) Powerwave LGP21401 TMA (6) Powerwave LGP21903 Diplexer (3) KMW AM-X-CD-16-65-00T			122	(1) Low Profile Platform
105	---	---	---	105	(1) Low Profile Platform
95	---	---	---	95	(1) Low Profile Platform
80	(1) Kathrein 738-449	(1) 1/2"	AT&T	80	Flush Mount

¹ See Figure 1 for feed line layout.

Proposed Loading:

Antenna Elevation (ft)	Description	Feed lines	Carrier	Mount Elevation (ft)	Mount Type
132	(3) Antel BXA-70063-6CF-EDIN (2) Antel BXA-171063-8BF (1) Antel BXA-171063-12BF (2) Antel LPA-80080-4CF (4) Andrew DB846F65ZAXY (3) Kathrein 742-213 (3) ALU RRH 2x40-AWS RRHs (6) RFS FD9R6004/2C-3 Diplexers (1) RFS DB-T1-6Z-8AB-0Z Distribution Box	(12) 1-5/8" (1) 1-5/8" Fiber	Verizon	132	(1) Low Profile Platform

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	162 - 119.25	Pole	TP33.406x24x0.25	48.2	Pass
L2	119.25 - 78.5	Pole	TP41.873x31.9709x0.3125	86.1	Pass
L3	78.5 - 38.75	Pole	TP49.994x40.0928x0.375	92.5	Pass
L4	38.75 - 0	Pole	TP57.77x47.8688x0.4375	89.6	Pass
---	0	Anchor Bolts	(20) 2.25" Ø on a 65" BC	63.6	Pass
		Base Plate	PL 3" x 64" Sq.	59.9	Pass

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis (TIA/EIA-222-F)	Original Design (TIA/EIA-222-F)
Axial	48 k*	36 k
Shear	37 k**	37 k
Moment	4,314 k-ft	4,550 k-ft

*Per experience with foundations of similar type, the axial loading should not control the foundation analysis.

**Per experience with foundations of similar type, the shear loading should not control the foundation analysis.

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

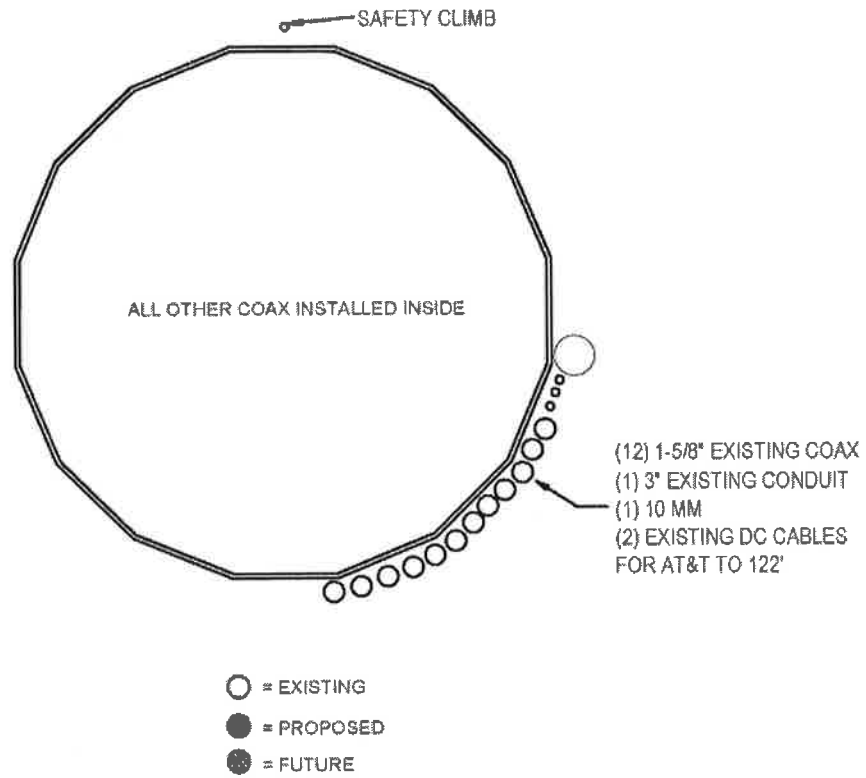
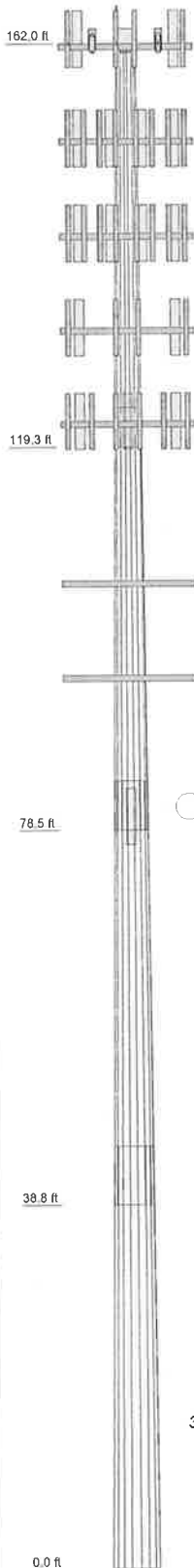


Figure 1 – Coax Layout

Section	1	2	3	4	Grade	Weight (K)
Length (ft)	42.75	45.00	45.00	45.00	A607-65	28.1
Number of Sides	18	18	18	18		
Thickness (in)	0.2500	0.3125	0.3750	0.4375		
Socket Length (ft)	4.25	5.25	6.25	47.8688		
Top Dia (in)	24.0000	31.9709	40.0928	57.7700		
Bot Dia (in)	33.4060	41.8730	48.9940	11.1		
Grade						
Weight (K)	3.3	5.6	8.1	11.1		



DESIGNED APPURTENANCE LOADING

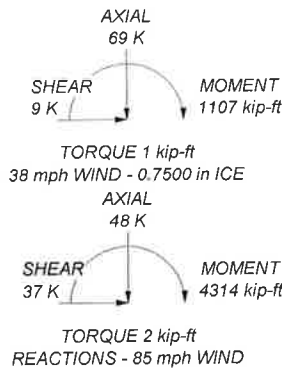
TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	162	DB846F65ZAXY w/ Mount Pipe	132
APXVTM14-C-I20 w/ Mount Pipe	162	DB846F65ZAXY w/ Mount Pipe	132
APXVTM14-C-I20 w/ Mount Pipe	162	(2) DB846F65ZAXY w/ Mount Pipe	132
APXVTM14-C-I20 w/ Mount Pipe	162	(2) FD9R6004/2C-3 Diplexer	132
TD-RRH8x20-25	162	(2) FD9R6004/2C-3 Diplexer	132
TD-RRH8x20-25	162	(2) FD9R6004/2C-3 Diplexer	132
TD-RRH8x20-25	162	742 213 w/ Mount Pipe	132
APXVSP18-C-A20 w/ Mount Pipe	162	742 213 w/ Mount Pipe	132
APXVSP18-C-A20 w/ Mount Pipe	162	742 213 w/ Mount Pipe	132
APXVSP18-C-A20 w/ Mount Pipe	162	RRH2X40-AWS	132
1900 MHz RRH	162	RRH2X40-AWS	132
1900 MHz RRH	162	RRH2X40-AWS	132
1900 MHz RRH	162	DB-T1-6Z-8A8-0Z	132
800 MHz Filter	162	(1) Low Profile Platform	132
800 MHz Filter	162	(2) RRUS-11	124.5
800 MHz Filter	162	(2) RRUS-11	124.5
800 MHz RRH	162	(2) RRUS-11	124.5
800 MHz RRH	162	DC6-48-60-18-8F Surge Arrestor	124.5
800 MHz RRH	162	Andrew MTC3335 Collar Mount	124.5
ACU-A20-N RET	162	AM-X-CD-16-65-00T w/ Mount Pipe	122
ACU-A20-N RET	162	(2) LGP21401 TMA	122
(2) ACU-A20-N RET	162	(2) LGP21401 TMA	122
(1) Low Profile Platform	162	(2) LGP21401 TMA	122
(4) RR90-17-00DP w/ Mount Pipe	152	(2) 7770.00 w/ Mount Pipe	122
(4) RR90-17-00DP w/ Mount Pipe	152	(2) 7770.00 w/ Mount Pipe	122
(1) Low Profile Platform	152	(2) 7770.00 w/ Mount Pipe	122
(4) DB844H90 w/ Mount Pipe	142	(2) LGP21903 Diplexer	122
(4) DB844H90 w/ Mount Pipe	142	(2) LGP21903 Diplexer	122
(4) DB844H90 w/ Mount Pipe	142	AM-X-CD-16-65-00T w/ Mount Pipe	122
(1) Low Profile Platform	142	AM-X-CD-16-65-00T w/ Mount Pipe	122
BXA-70063-6CF-EDIN w/ Mount Pipe	132	(1) Low Profile Platform	122
BXA-70063-6CF-EDIN w/ Mount Pipe	132	(3) Empty Mount Pipe	105
BXA-70063-6CF-EDIN w/ Mount Pipe	132	(3) Empty Mount Pipe	105
BXA-171063-8BF w/ Mount Pipe	132	(3) Empty Mount Pipe	105
BXA-171063-8BF w/ Mount Pipe	132	(1) Low Profile Platform	105
BXA-171063-12BF w/ Mount Pipe	132	(1) Low Profile Platform	95
LPA-80080-4CF	132	738-449	80
LPA-80080-4CF	132		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in New Haven 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. TOWER RATING: 92.5%



 FDH Engineering, Inc. 6521 Meriden Drive, Suite 107 Raleigh, North Carolina Phone: 9197551012 FAX: 9197551031 Tower Analysis	Job: Durham, CT01698-S
	Project: 1422CQ1400
	Client: SBA Network Services, Inc Drawn by: Jeffrey B. Ray App'd:
	Code: TIA/EIA-222-F Date: 02/11/14 Scale: NTS
	Path: Dwg No. E-1