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Also admitted in Massachusetts

June 4, 2014

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

Re: **Notice of Exempt Modification – Facility Modification
26 Commerce Drive, North Branford, Connecticut**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains twelve (12) antennas at the 135-foot level on the existing 155-foot tower at 26 Commerce Drive in North Branford, Connecticut (the “Property”). The tower is owned by SBA. The Council approved Cellco’s use of this tower in 2006. Cellco now intends to modify its facility by adding three (3) model 742 213V01, 2100 MHz antennas, at the same 135-foot level on the tower. Cellco also intends to install three (3) remote radio heads (“RRHs”) behind its 2100 MHz antennas and one (1) HYBRIFLEX™ antenna cable inside the monopole. Included in Attachment 1 are specifications for Cellco’s new antenna, 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 Michael T. Paulhus, Town Manager for the Town of North Branford. A copy of this letter is also being sent to Artec Machinery Corp., 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 replacement antennas and RRHs will be installed at a centerline height of 135 feet on the existing 155-foot tower.



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Melanie A. Bachman
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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.

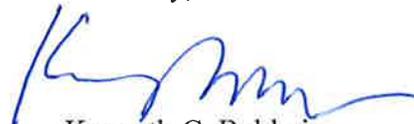
4. The operation of the replacement antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A General Power Density table for Celco's modified facility is included in Attachment 2.

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 Celco's proposed modifications. (See Structural Analysis included in Attachment 3).

For the foregoing reasons, Celco 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:

Michael T. Paulhus, Town Manager
Artec Machinery Corp.
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.

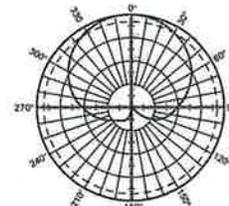
- 0-6° downtilt range.
- UV resistant pulltruded fiberglass radome.
- DC Grounded metallic parts for impulse suppression.
- No moving electrical connections.
- Wideband vector dipole technology.
- Optional remote downtilt Control.
- Will accommodate future 3G / UMTS applications.

General specifications:

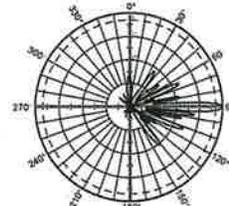
Frequency range	1710–2200 MHz
VSWR	< 1.5:1
Impedance	50 ohms
Intermodulation (2x20w)	IM3: <-150 dBc
Polarization	+45° and -45°
Front-to-back ratio (180°±30°)	>30 dB (co-polar) >25 dB (total power)
Maximum input power	300 watts per input (at 50°C)
Electrical downtilt continuously adjustable	0–6 degrees
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 18 18 16 15 dB	0° 2° 4° 6° T 18 18 17 16 dB	0° 2° 4° 6° T 18 18 18 18 dB



Horizontal pattern
±45°- polarization



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



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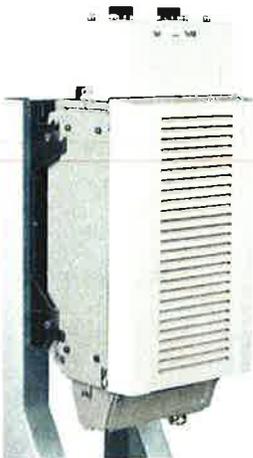


* Mechanical design is based on environmental conditions as stipulated in TIA-222-G-2 (December 2009) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

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

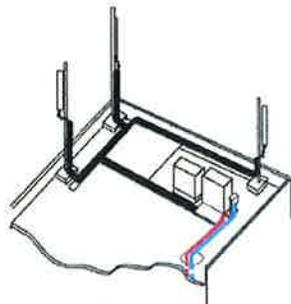
capital expenditures (CAPEX) and low operating expenditures (OPEX). The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment or require costly cranes to be employed, leaving coverage holes. However, many of these sites can host an Alcatel-Lucent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

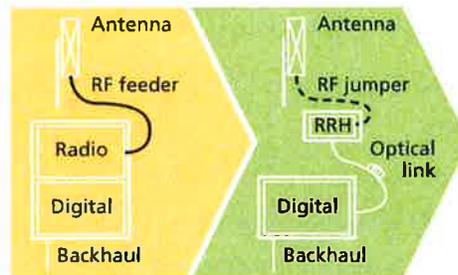
Because of its small size and weight, the Alcatel-Lucent RRH2x40-AWS can be installed close to the antenna. Operators can therefore locate the Alcatel-Lucent RRH2x40-AWS where RF engineering is deemed ideal, minimizing trade-offs between available sites and RF optimum sites. The RF feeder cost and installation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

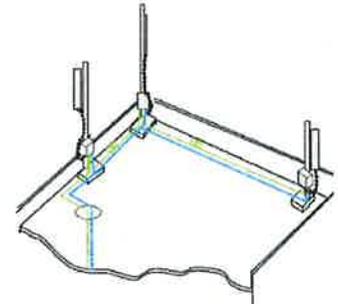
- Zero-footprint deployment
- Easy installation, with a lightweight unit can be carried and set up by one person
- Optimized RF power, with flexible site selection and elimination of a TMA
- Convection-cooled (fanless)
- Noise-free
- Best-in-class power efficiency, with significantly reduced energy consumption



RRH for space-constrained cell sites

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



Distributed

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

Outer Conductor Armor	Corrugated Aluminum	[mm (in.)]	45.5 (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)]	0.68 (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)	[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

Installation Temperature	[°C (°F)]	-40 to +65 (-40 to 149)
Operation Temperature	[°C (°F)]	-40 to +65 (-40 to 149)

* This data is provisional and subject to change

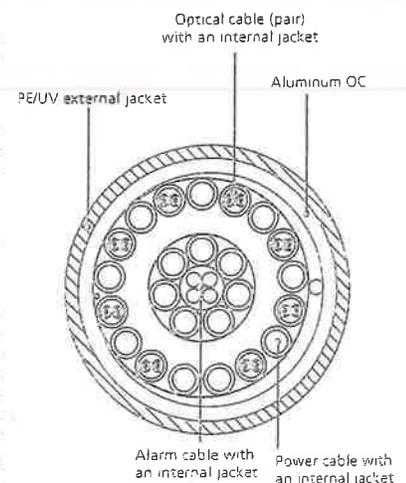


Figure 2: Construction Detail

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

ATTACHMENT 2

General Power Density

Site Name: NORTH BRANFORD 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* (mW/cm ²)	Fraction of MPE (%)
VZW PCS	1970	7	422	2955	135	0.0583	1.0	5.83%
VZW Cellular	869	9	351	3160	135	0.0624	0.5793333333	10.76%
VZW AWS	2145	1	2198	2198	135	0.0434	1.0	4.34%
VZW 700	698	1	818	818	135	0.0161	0.4653333333	3.47%

Total Percentage of Maximum Permissible Exposure

24.40%

*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 Meridien Dr. Raleigh, NC 27616, Ph. 919.755.1012

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

155' Monopole Tower

**SBA Site Name: Artec
SBA Site ID: CT13610-A
Verizon Site Name: North Branford 2**

FDH Project Number 14247V1400 (R1)

Analysis Results

Tower Components	58.6%	Sufficient
Foundation	55.1%	Sufficient

Prepared By:

Jarel Duncan

Jarel Duncan, EI
Project Engineer

Reviewed By:

Bradley R. Newman

Bradley R. Newman, PE
Senior Project Engineer
CT PE License No. 29630

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



March 12, 2014

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

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EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Engineering, Inc. performed a structural analysis of the monopole located in N. Branford, 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 the 2005 Connecticut State Building Code (CSBC)*. Information pertaining to the existing/proposed antenna loading, current tower geometry, geotechnical data, foundation dimensions, and member sizes was obtained from:

- Paul J. Ford and Co. (Job No. 29205-0122) original design drawings dated March 31, 2005
- JGI Eastern, Inc. (Project No. 05267G) Geotechnical Evaluation dated May 16, 2005
- FDH, Inc. (Job No. 08-07069T) TIA Inspection Report dated September 9, 2008
- SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standards and the *2005 CSBC* 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 133 ft, the tower meets the requirements of the *TIA/EIA-222-F* standards and the *2005 CSBC* provided the **Recommendations** listed below are satisfied. Furthermore, provided the foundation was designed and constructed to support the original design reactions (Paul J. Ford job No. 29205-0122), 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 the *2005 CSBC* are met with the existing and proposed loading in place, we have the following recommendations:

1. The proposed coax should be installed inside the pole's shaft.
2. The existing diplexers should be installed directly behind the existing/proposed panel antennas.
3. RRU/RRH Stipulation: The proposed 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	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
154	(3) Ericsson A (3) RFS ATMPP1412D-1CWA Twin PCS (3) RFS - ATMAA1412D-1A20 TMAs	(24) 1-5/8"	T-Mobile	154	(3) 15' T-Arms
145.5	(6) Ericsson RRUS11 RRUs (1) Raycap DC6-48-60-18-8-F Surge Arrestor	(12) 1-5/8" (1) FB-L98B-002 Fiber Trunk	New Cingular	145.5	(1) Andrew MTC3335 Collar Mount
143	(6) Powerwave 7770.00 (3) KMW AM-X-CD-16-65-00T (6) Powerwave LGP21401 TMAs (6) Powerwave LGP13519 Diplexers			143	(3) 15' T-Arms
133	(2) Antel BXA-70063/4CF (1) Antel BXA-70063/6CF (3) Antel BXA-171063/12BF (6) Antel LPA-80080/6CF (6) RFS FDR6004/2C-3L Diplexers	(12) 1-5/8"	Verizon	133	(3) 12.5' T-Arms
85	(1) Radiowaves SP4-4.7NS RD4 Dish	(4) 7/8"	Town of North Branford	85	(1) Pipe Mount
	(2) Sinclair SD222 Dipoles			80	Direct
	(1) Andrew DB408 Dipole				(1) Andrew DB365-OS Mount

Proposed Loading:

Antenna Elevation (ft)	Description	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
133	(2) Antel BXA-70063/4CF (1) Antel BXA-70063/6CF (3) Antel BXA-171063/12BF (6) Antel LPA-80080/6CF (3) Kathrein 742213_2110_P45_02.0 (3) Alcatel Lucent RRH2x40-AWS RRHs (6) RFS FDR6004/2C-3L Diplexers (1) RFS DB-T1-6Z-8AB-0Z Distribution Box	(12) 1-5/8" (1) 1-5/8" Fiber	Verizon	133	(3) 12.5' T-Arms

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. **Table 5** displays the maximum antenna rotations at service wind speeds (dishes only).

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	155 - 127	Pole	TP29.725x22.5x0.1875	28.3	Pass
L2	127 - 90.75	Pole	TP38.704x28.3824x0.25	58.6	Pass
L3	90.75 - 44.75	Pole	TP50.073x36.9138x0.375	53.7	Pass
L4	44.75 - 0	Pole	TP60.879x47.7104x0.4375	52.3	Pass
		Anchor Bolts	(24) 2.25"Ø w/ BC = 68"Ø	41.2	Pass
		Base Plate	70" Sq. PL x 3" thk.	35.1	Pass

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis (TIA/EIA-222-F)	Original Design (TIA/EIA-222-F)
Axial	40 k	39 k
Shear	26 k	45 k
Moment	2,789 k-ft	5,060 k-ft

Table 5 - Maximum Antenna Rotations at Service Wind Speeds (Dishes Only)

Centerline Elevation (ft)	Dish	Tilt (deg)	Twist (deg)
85	(1) Radiowaves SP4-4.7NS RD4 Dish	0.6543	0.0005

GENERAL COMMENTS

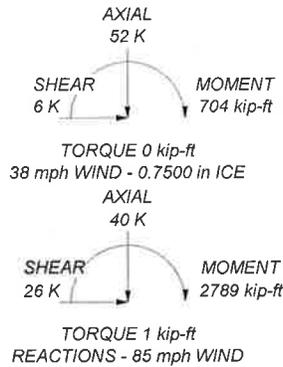
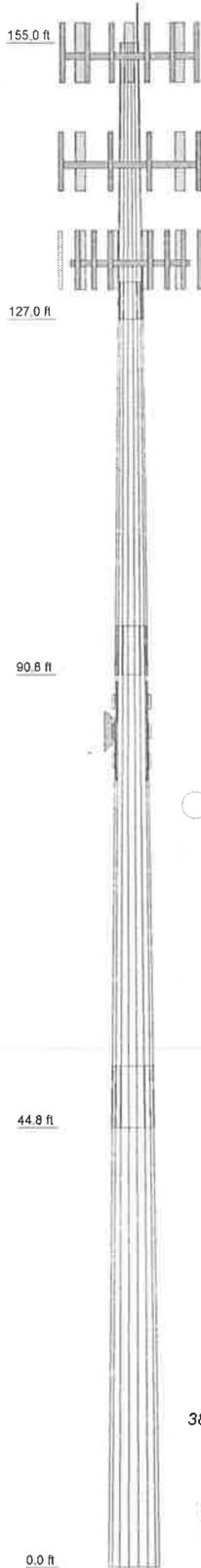
This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading 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	4	
Length (ft)	25.00	40.00	51.00	51.00	
Number of Stiles	18	18	18	18	
Thickness (in)	0.1875	0.2500	0.3750	0.4375	
Socket Length (ft)	3.75	5.00	6.25	47.7104	
Top Dia (in)	22.5000	28.3824	36.9138	60.8790	
Bot Dia (in)	29.7250	38.7040	50.0730		
Grade			A572-65		
Weight (K)	1.5	3.6	8.9	13.0	27.0



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	155	(2) LGP21401 TMA	143
(2) APXV18-209014 W/Mount Pipe	154	(2) LGP21401 TMA	143
(2) APXV18-209014 W/Mount Pipe	154	(2) BXA-70063/4CF W/ Mount Pipe	133
(2) APXV18-209014 W/Mount Pipe	154	BXA-70063/6CF W/Mount Pipe	133
ATMPP1412D-1CWA Twin PCS	154	BXA-171063/12BF W/ Mount Pipe	133
ATMPP1412D-1CWA Twin PCS	154	(2) BXA-171063/12BF W/ Mount Pipe	133
ATMPP1412D-1CWA Twin PCS	154	(2) LPA-80080/6CF W/Mount Pipe	133
RFS - ATMAA1412D-1A20 TMA	154	(2) LPA-80080/6CF W/Mount Pipe	133
RFS - ATMAA1412D-1A20 TMA	154	(2) LPA-80080/6CF W/Mount Pipe	133
RFS - ATMAA1412D-1A20 TMA	154	742 213_2110_P45_02.0 w/Mount Pipe	133
(3) 15' T-Arms	154	742 213_2110_P45_02.0 w/Mount Pipe	133
(2) RRUS-11	145.5	742 213_2110_P45_02.0 w/Mount Pipe	133
(2) RRUS-11	145.5	RRH2X40-AWS	133
(2) RRUS-11	145.5	RRH2X40-AWS	133
DC6-48-60-18-8F	145.5	RRH2X40-AWS	133
(1) Andrew MTC3335 Collar Mount	145.5	DB-T1-6Z-8AB-0Z Distribution Box	133
(2) LGP21401 TMA	143	(2) FDR6004/2C-3L Diplexer	133
(2) LGP13519 Diplexer	143	(2) FDR6004/2C-3L Diplexer	133
(2) LGP13519 Diplexer	143	(2) FDR6004/2C-3L Diplexer	133
(2) LGP13519 Diplexer	143	(3) 12.5' T-Arms	133
(3) 15' T-Arms	143	(1) Pipe Mount	85
AM-X-CD-16-65-00T w/ Mount Pipe	143	SP4-4.7NS RD4 Dish	85
AM-X-CD-16-65-00T w/ Mount Pipe	143	DB409	80
AM-X-CD-16-65-00T w/ Mount Pipe	143	(1) Andrew DB365-OS Mount	80
(2) 7770.00 W/Mount Pipe	143	SD222 Dipole	80
(2) 7770.00 W/Mount Pipe	143	SD222 Dipole	80
(2) 7770.00 W/Mount Pipe	143		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	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: 58.6%

 Tower Analysis	FDH Engineering, Inc. 6521 Meridien Drive Raleigh, NC 27616 Phone: (919) 755-1012 FAX: (919) 755-1031	Job: Artec, CT13610-A Project: 14247V1400 (R1) Client: SBA Network Services, Inc. Code: TIA/EIA-222-F Path:	Drawn by: Jarel Duncan Date: 03/12/14	App'd: Scale: NTS Dwg No. E-1
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