

October 16, 2017

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification
1375 North Road, Killingly, Connecticut**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains twelve (12) wireless telecommunications antennas at the 266-foot level of the existing 288-foot tower at 1375 North Road in Killingly, Connecticut (the “Property”). The tower and underlying property are owned by American Tower Corporation (“ATC”). The Council approved Cellco’s use of this tower in 2005. Cellco now intends to replace six (6) of its existing antennas with three (3) model SBNHH-1D65B, 700 MHz antennas and three (3) model SBNHH-1D65B, 2100 MHz antennas, all at the same level on the tower. Cellco also intends to install six (6) remote radio heads (“RRHs”) and two (2) HYBRIFLEX™ fiber optic antenna cables. Included in [Attachment 1](#) are specifications for Cellco’s replacement antennas, RRHs and HYBRIFLEX™ cables.

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 Sean Hendricks, Town Manager of the Town of Killingly; Ann-Marie Aubrey, Killingly’s Director of Planning and Development; and ATC, the owner of the tower and 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 the 266-foot level on the tower.

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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 cumulative General Power Density table with Cellco'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, with certain modifications, can support Cellco's proposed modifications. (See Post Modification Structural Report included in Attachment 3).

A copy of the parcel map and owner information for the Property is included in Attachment 4. A Certificate of Mailing verifying that this filing was sent to municipal officials and the owner of the Property is included in Attachment 5.

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:

Sean Hendricks, Killingly Town Manager
Ann-Marie Aubrey, Killingly Director of Planning and Development
ATC
Tim Parks

ATTACHMENT 1

SBNHH-1D65B

6-port sector antenna, 2x 698–896 and 4x 1695–2360 MHz, 65° HPBW, 2x RET. Both high bands share the same electrical tilt.



- Interleaved dipole technology providing for attractive, low wind load mechanical package

Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	14.9	14.7	17.7	18.2	18.6	18.6
Beamwidth, Horizontal, degrees	68	66	69	66	63	58
Beamwidth, Vertical, degrees	12.1	10.7	5.6	5.2	5.0	4.5
Beam Tilt, degrees	0–14	0–14	0–7	0–7	0–7	0–7
USLS (First Lobe), dB	14	13	15	15	15	13
Front-to-Back Ratio at 180°, dB	27	29	28	28	28	27
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
VSWR Return Loss, dB	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350	350	350	300
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

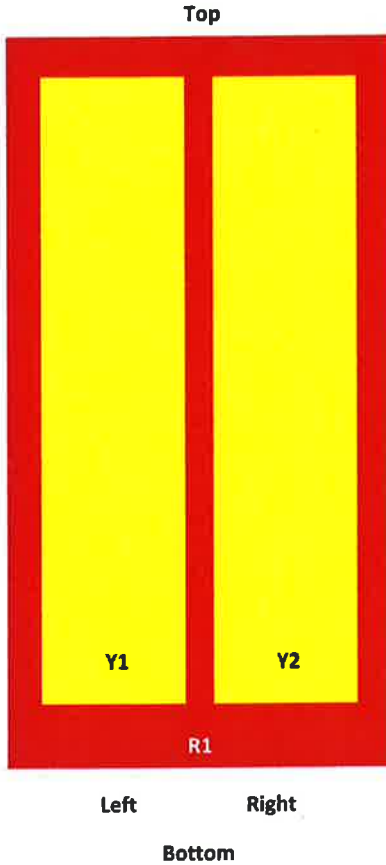
Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	14.5	14.3	17.4	17.9	18.2	18.3
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.8	±0.4	±0.3	±0.5	±0.3
Gain by Beam Tilt, average, dBi	0° 14.6	0° 14.5	0° 17.4	0° 17.8	0° 18.1	0° 18.2
	7° 14.6	7° 14.4	3° 17.5	3° 17.9	3° 18.3	3° 18.4
	14° 14.2	14° 13.6	7° 17.4	7° 17.9	7° 18.2	7° 18.4
Beamwidth, Horizontal Tolerance, degrees	±2.2	±3.4	±2	±4.6	±5.7	±4.3
Beamwidth, Vertical Tolerance, degrees	±0.8	±1	±0.3	±0.2	±0.3	±0.2
USLS, beampeak to 20° above beampeak, dB	16	14	16	16	16	15
Front-to-Back Total Power at 180° ± 30°, dB	25	26	27	26	26	26
CPR at Boresight, dB	22	23	21	20	20	22
CPR at Sector, dB	13	11	16	12	11	4

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, [download the whitepaper Time to Raise the Bar on BSAs.](#)

Array Layout

SBNHH-1D65B

SBNHH 65



Array	Freq (MHz)	Conns	RET (MRET)	AISG RET UID
R1	698-896	1-2	1	ANXXXXXXXXXXXXXXXXX.1
Y1	1695-2360	3-4	2	ANXXXXXXXXXXXXXXXXX.2
Y2	1695-2360	5-6		

View from the front of the antenna
(Sizes of colored boxes are not true depictions of array sizes)

General Specifications

Operating Frequency Band	1695 – 2360 MHz 698 – 896 MHz
Antenna Type	Sector
Band	Multiband
Performance Note	Outdoor usage

Mechanical Specifications

RF Connector Quantity, total	6
RF Connector Quantity, low band	2
RF Connector Quantity, high band	4
RF Connector Interface	7-16 DIN Female

SBNHH-1D65B

Color	Light gray
Grounding Type	RF connector inner conductor and body grounded to reflector and mounting bracket
Radiator Material	Aluminum Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Location	Bottom
Wind Loading, frontal	618.0 N @ 150 km/h 138.9 lbf @ 150 km/h
Wind Loading, lateral	197.0 N @ 150 km/h 44.3 lbf @ 150 km/h
Wind Loading, rear	728.0 N @ 150 km/h 163.7 lbf @ 150 km/h
Wind Speed, maximum	241 km/h 150 mph

Dimensions

Length	1851.0 mm 72.9 in
Width	301.0 mm 11.9 in
Depth	180.0 mm 7.1 in
Net Weight, without mounting kit	18.4 kg 40.6 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Internal RET	High band (1) Low band (1)
Power Consumption, idle state, maximum	2.0 W
Power Consumption, normal conditions, maximum	13.0 W
Protocol	3GPP/AISG 2.0 (Multi-RET)
RET Interface	8-pin DIN Female 8-pin DIN Male
RET Interface, quantity	1 female 1 male

Packed Dimensions

Length	2025.0 mm 79.7 in
Width	390.0 mm 15.4 in
Depth	296.0 mm 11.7 in
Shipping Weight	31.0 kg 68.3 lb

Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system



SBNHH-1D65B

Included Products

BSAMNT-1 — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Performance Note Severe environmental conditions may degrade optimum performance

ALCATEL-LUCENT B13 RRH4X30-4R

Alcatel-Lucent B13 Remote Radio Head 4x30-4R is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B13 RRH4x30-4R allows operators to have a compact radio solution to deploy LTE in the 700U band (700 MHz, 3GPP band 13), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B13 RRH4x30-4R product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity and up to 10MHz instantaneous bandwidth.

The Alcatel-Lucent B13 RRH4x30-4R is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

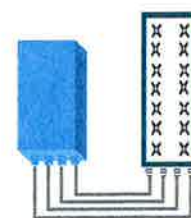


FEATURES

- Supporting LTE in 700 MHz band (700U, 3GPP band 13)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- 10MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in 700U band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through MIMO4
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



4x30W with 4T4R
or
2x60W with 2T4R

Can be switched between modes via SW w/o site visit

TECHNICAL SPECIFICATIONS

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	U700 (C) (3GPP bands 13): DL: 746 - 756 MHz / UL: 777 - 787 MHz
Instantaneous bandwidth - #carriers	10MHz – 1 LTE carrier (in 10MHz occupied bandwidth)
LTE carrier bandwidth	10 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure – RX Diversity scheme	2 dB typ. (<2.5 dB max) – 2 or 4 way Rx diversity
Sizes (HxWxD) in mm (in.)	550 x 305 x 230 (21.6" x 12.0" x 9") (with solar shield)
Volume in L	38 (with solar shield)
Weight in kg (lb) (w/o mounting HW)	26 (57.2) (with solar shield)
DC voltage range	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption
DC power consumption	550W typical @100% RF load (in 2Tx or 4Tx mode)
Environmental conditions	-40°C (-40°F) /+55°C (+131°F) IP65
Wind load (@150km/h or 93mph)	Frontal:<200N / Lateral :<150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5
CPRI ports	2 CPRI ports (HW ready for Rate7, 9.8 Gbps) SFP single mode dual fiber
AISG interfaces	1 AISG2.0 output (RS485) Integrated Smart Bias Tees (x2)
Misc. Interfaces	4 external alarms (1 connector) – 4 RF Tx & 4 RF Rx monitor ports - 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

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ALCATEL-LUCENT B66A RRH4X45

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

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

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



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

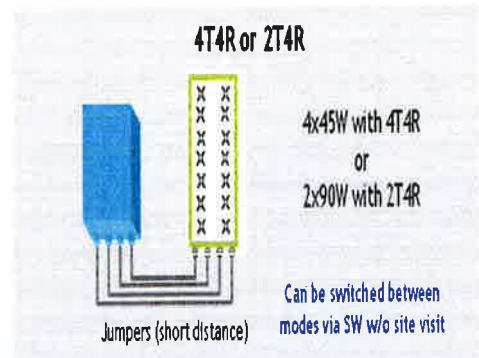
Its compactness and slim design makes the Alcatel-Lucent B66a RRH4x45 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the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

FEATURES

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

BENEFITS

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



TECHNICAL SPECIFICATIONS

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

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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)]	46.5 (1.83)
Jacket	Polyethylene, PE	[mm (in)]	50.3 (1.98)
UV-Protection	Individual and External Jacket		Yes
Weight and Bending			
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			
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)
Version			
Quantity, Fiber Count			Single-mode OM3 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
Power Cable			
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
Temperature			
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

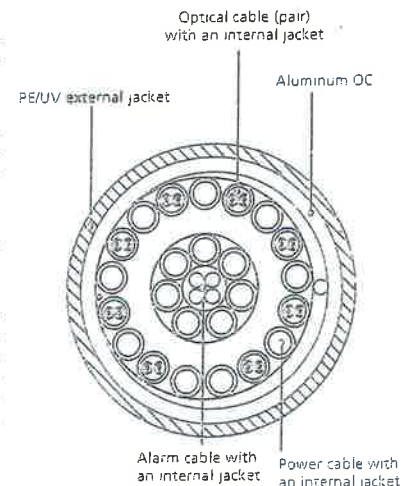


Figure 2: Construction Detail

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

ATTACHMENT 2

Site Name: Killingly Relo Tower Height: 288Ft.		General	Power	Density				
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total
*Sprint	12	100	300	851	0.0050	0.5673	0.09%	
*Sprint	11	411	300	1962	0.0188	1.0000	0.19%	
*AT&T	2	875	254	880	0.0102	0.5867	0.17%	
*AT&T	2	1294	254	1900	0.0151	1.0000	0.15%	
*AT&T	1	438	254	880	0.0026	0.5867	0.04%	
*AT&T	4	777	254	1900	0.0182	1.0000	0.18%	
*AT&T	1	1771	254	734	0.0104	0.4893	0.21%	
Verizon PCS	0	342	266	0.0000	1970	1.0000	0.00%	
Verizon Cellular	9	244	266	0.0112	869	0.5793	1.93%	
Verizon AWS	1	6907	266	0.0351	2145	1.0000	3.51%	
Verizon 700	1	1394	266	0.0071	746	0.4973	1.42%	
								7.90%
* Source: Siting Council								

ATTACHMENT 3



AMERICAN TOWER®
CORPORATION

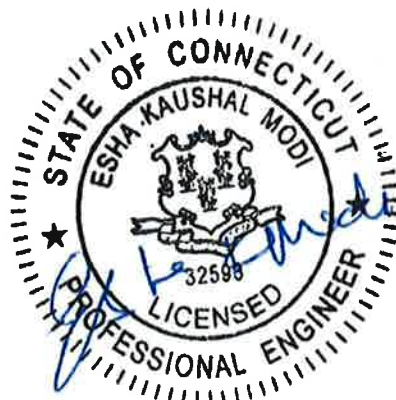
Post Modification Structural Analysis Report

Structure : 287.5 ft Self Supported Tower
ATC Site Name : East Killingly North, CT
ATC Site Number : 88011
Engineering Number : OAA686695_C4_09
Proposed Carrier : Verizon Wireless
Carrier Site Name : Killingly Relo CT
Carrier Site Number : 118646
Site Location : North Road
Dayville, CT 06241-1404
41.871500,-71.821500
County : Windham
Date : October 5, 2017
Max Usage : 99%
Result : Pass*

Prepared By:
Robert D. Barrett, E.I.
Structural Engineer I

Robert D. Barrett

Reviewed By:



Oct 6 2017 2:56 PM **cosign**

COA: PEC.0001553



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 287.5 ft self supported tower to reflect the change in loading by Verizon Wireless.

Supporting Documents

Tower Drawings	CSEI Analysis, ATC Job #26726321, dated September 13, 2006
Foundation Drawing	CSEI Analysis, ATC Job #26726321, dated September 13, 2006
Geotechnical Report	FDH Velocitel Project #17PXNW1600, dated February 27, 2017
Modifications	ATC Project #45432633, dated July 9, 2010 ATC Project #OAA686695_C6_04, dated November 28, 2016 (Pending)

Analysis

The tower was analyzed using Power Line Systems, Inc. tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	101 mph (3-Second Gust, V_{asd}) / 130 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	5*

*Wind speed and topographic effects have been adjusted per site specific wind study in accordance with ASCE 7-10 Section 26.5.3, IBC Section 1609.3, and TIA-222-G Section 2.6.6.2.5

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report. If the pending modifications cited in the Supporting Documents table are not completed, the results of this analysis are no longer valid, and Verizon Wireless should contact American Tower's Site Manager for further direction on how to proceed.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
293.0	293.0	3	72" x 8" Panel	Sector Frames	(15) 1 5/8" Coax	Sprint Nextel
		9	Decibel DB846G90A-XY			
266.0	266.0	6	RFS FD9R6004/2C-3L	Sector Frames	(10) 1 5/8" Coax	Verizon Wireless
		6	Antel LPA-80063-4CF-EDIN-X			
246.0	246.0	6	Powerwave TT19-08BP111-001	Sector Frames	(12) 2 1/4" Coax (2) 0.78" 8 AWG 6 (1) 3" conduit (1) 0.39" Fiber Trunk	AT&T Mobility
		3	Raycap DC2-48-60-0-9E			
		1	Raycap FC12-PC6-10E			
		3	Ericsson RRUS-11			
		6	Powerwave P65-15-XLH-RR			
		1	Kathrein 800 10766			
		2	KMW AM-X-CD-17-65-00T-RET			
206.0	206.0	1	Andrew DB264	Side Arm	(1) 7/8" Coax	US Department of Justice
50.0	50.0	1	MicroPulse GPS-QBW-26N	Side Arm	(1) 1/2" Coax	Verizon

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
266.0	266.0	3	Antel BXA-171063-8BF-EDIN-X	-	(2) 1 5/8" Coax	Verizon Wireless
		3	Antel BXA-70063-6CF-EDIN-X			

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
266.0	266.0	3	Alcatel-Lucent B13 RRH4x30-4R 700U	Sector Frames	(2) 1 1/4" Hybriflex Cable	Verizon Wireless
		3	Alcatel-Lucent B66A RRH4x45-4R w/ Solar Shield			
		2	Raycap RC3DC-3315-PF-48			
		6	Commscope SBNHH-1D65B			

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Install proposed coax stacked on top of existing Verizon Wireless coax.

**Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Legs	77%	Pass
Diagonals	99%	Pass
Truss Diagonals	91%	Pass
Horizontals	88%	Pass
Truss Horizontals	94%	Pass
Anchor Bolts	53%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Uplift (Kips)	357.1	98%
Axial (Kips)	463.1	71%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.



Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

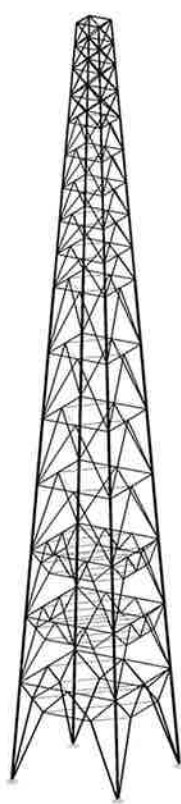
- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.



Summary of Maximum Usage by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type
W 0	98.52	D 8P	Angle
W 180	99.22	D 8Y	Angle
W 45	93.19	LH 1P	Angle
W -45	93.58	LH 1P	Angle
W 90	98.71	D 7P	Angle
W -90	99.36	D 7X	Angle
W 0 Ice	35.99	LH 1P	Angle
W 180 Ice	35.01	LH 1Y	Angle
W 45 Ice	30.55	LH 1P	Angle
W -45 Ice	30.63	LH 1P	Angle
W 90 Ice	35.96	LH 2P	Angle
W -90 Ice	35.04	LH 2X	Angle

*** Weight of structure (lbs):
Weight of Angles*Section DLF: 129533.0
Total: 129933.0

*** End of Report

Joint Label	Symmetry Code	X Coord. (ft)	Y Coord. (ft)	Z Coord. (ft)	X Disp. Rest.	Y Disp. Rest.	Z Disp. Rest.	X Rot. Rest.	Y Rot. Rest.	Z Rot. Rest.	Drop Sub-Brace (# or Blank)	# Vert	Drop (ft)	Height (ft)	Type	Count	Z-Eliev. (ft)	FW (ft)	# Sub-Brace
0	X1-Symmetry	22	22	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed		3	9.375	37.5	1	0	0	44	3
1	X1-Symmetry	19.7173913	19.7173913	37.5	Free	Free	Free	Free	Free	Free		2	7.03	25	2	2	37.5	39.43478261	3
2	X1-Symmetry	18.19565217	18.19565217	62.5	Free	Free	Free	Free	Free	Free		2	7.03	25	2	2	62.5	86.39130435	3
3	X1-Symmetry	16.67391304	16.67391304	87.5	Free	Free	Free	Free	Free	Free		4		25	A	4	87.5	33.34782609	2
4	X1-Symmetry	15.15217391	15.15217391	112.5	Free	Free	Free	Free	Free	Free		5		25	A	5	112.5	30.30434783	2
5	X1-Symmetry	13.63043478	13.63043478	137.5	Free	Free	Free	Free	Free	Free		6		25	A	6	137.5	27.26086957	2
6	X1-Symmetry	12.10869565	12.10869565	162.5	Free	Free	Free	Free	Free	Free		7		25	A	7	162.5	24.2173913	2
7	X1-Symmetry	10.58695652	10.58695652	187.5	Free	Free	Free	Free	Free	Free		8		12.5	A	8	187.5	21.17391304	1
8	X1-Symmetry	9.826086957	9.826086957	200	Free	Free	Free	Free	Free	Free		10		12.5	A	10	200	19.65217391	1
9	X1-Symmetry	9.065217391	9.065217391	212.5	Free	Free	Free	Free	Free	Free		11		12.5	A	11	212.5	18.13043478	1
10	X1-Symmetry	8.304347826	8.304347826	225	Free	Free	Free	Free	Free	Free		12		12.5	A	12	225	16.60869565	1
11	X1-Symmetry	7.543478261	7.543478261	237.5	Free	Free	Free	Free	Free	Free		13		10.1667	X	13	237.5	15.08695652	1
12	X1-Symmetry	6.782608696	6.782608696	250	Free	Free	Free	Free	Free	Free		14	1	10.1667	X	14	250	13.56521739	1
13	X1-Symmetry	6.163766087	6.163766087	260.1667	Free	Free	Free	Free	Free	Free		15	1	10.1667	X	15	260.1667	12.32733217	1
14	X1-Symmetry	5.544923478	5.544923478	270.3334	Free	Free	Free	Free	Free	Free		16	1	8.5833	X	16	270.3334	11.0894696	1
15	X1-Symmetry	5.022461739	5.022461739	278.9167	Free	Free	Free	Free	Free	Free		17	1	8.5833	X	17	278.9167	10.04492348	1
16	X1-Symmetry	4.5	4.5	287.5	Free	Free	Free	Free	Free	Free							287.5		9
A1	Y-Symmetry	19.7173913	0	37.5	Free	Free	Free	Free	Free	Free									
A2	X-Symmetry	0	19.7173913	37.5	Free	Free	Free	Free	Free	Free									
A3	X1-Symmetry	18.19565217	6.065217391	62.5	Free	Free	Free	Free	Free	Free									
A4	X1-Symmetry	18.19565217	18.19565217	62.5	Free	Free	Free	Free	Free	Free									
A5	X1-Symmetry	16.67391304	5.557971014	87.5	Free	Free	Free	Free	Free	Free									
A6	X1-Symmetry	5.557971014	16.67391304	87.5	Free	Free	Free	Free	Free	Free									
A7	X1-Symmetry	15.15217391	0	112.5	Free	Free	Free	Free	Free	Free									
A8	X-Symmetry	0	15.15217391	112.5	Free	Free	Free	Free	Free	Free									
A9	Y-Symmetry	13.63043478	0	137.5	Free	Free	Free	Free	Free	Free									
A10	X-Symmetry	0	13.63043478	137.5	Free	Free	Free	Free	Free	Free									
A11	Y-Symmetry	12.10869565	0	162.5	Free	Free	Free	Free	Free	Free									
A12	X-Symmetry	0	12.10869565	162.5	Free	Free	Free	Free	Free	Free									
A13	Y-Symmetry	10.58695652	0	187.5	Free	Free	Free	Free	Free	Free									
A14	X-Symmetry	0	10.58695652	187.5	Free	Free	Free	Free	Free	Free									
A15	Y-Symmetry	9.826086957	0	200	Free	Free	Free	Free	Free	Free									
A16	X-Symmetry	0	9.826086957	200	Free	Free	Free	Free	Free	Free									
A17	Y-Symmetry	9.065217391	0	212.5	Free	Free	Free	Free	Free	Free									
A18	X-Symmetry	0	9.065217391	212.5	Free	Free	Free	Free	Free	Free									
A19	Y-Symmetry	8.304347826	0	225	Free	Free	Free	Free	Free	Free									
A20	X-Symmetry	0	8.304347826	225	Free	Free	Free	Free	Free	Free									
A21	Y-Symmetry	7.543478261	0	237.5	Free	Free	Free	Free	Free	Free									
A22	X-Symmetry	0	7.543478261	237.5	Free	Free	Free	Free	Free	Free									
A23	Y-Symmetry	6.782608696	0	250	Free	Free	Free	Free	Free	Free									
A24	X-Symmetry	0	6.782608696	250	Free	Free	Free	Free	Free	Free									
H1	X1-Symmetry	20.28804348	9.858695652	28.125	Free	Free	Free	Free	Free	Free									
H2	X1-Symmetry	9.858695652	20.28804348	28.125	Free	Free	Free	Free	Free	Free									
H5	X1-Symmetry	18.62356522	9.904208696	55.47	Free	Free	Free	Free	Free	Free									
H6	X1-Symmetry	9.904208696	18.62356522	55.47	Free	Free	Free	Free	Free	Free									
H7	Y-Symmetry	0	0	55.47	Free	Free	Free	Free	Free	Free									
H8	X-Symmetry	0	18.62356522	55.47	Free	Free	Free	Free	Free	Free									
H9	X1-Symmetry	17.10182609	9.111686957	80.47	Free	Free	Free	Free	Free	Free									
H10	X1-Symmetry	9.111686957	17.10182609	80.47	Free	Free	Free	Free	Free	Free									
H11	Y-Symmetry	0	0	80.47	Free	Free	Free	Free	Free	Free									
H12	X-Symmetry	0	17.10182609	80.47	Free	Free	Free	Free	Free	Free									

NOTES:
 1: Built up Horis. w/ A
 2: Built up Horis. w/ M
 A: Typical A brace
 X: Typical X brace
 Drop: Use only for types 1 & 2
 # Sections: 16

Legs

Site No.:	88011
Engineer:	RDB
Date:	10/05/2017
Carrier:	Verizon Wireless

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter or Length (in)	Thickness ^[2] (in)	F _y (ksi)
1	0.000-37.50	L	8	1.125	36
2	37.50-62.50	L	8	1.125	36
3	62.50-87.50	L	8	1	36
4	87.50-112.5	L	8	0.875	36
5	112.5-137.5	L	8	0.875	36
6	137.5-162.5	L	8	0.75	36
7	162.5-187.5	L	8	0.625	36
8	187.5-200.0	L	6	0.75	36
9	200.0-212.5	L	6	0.75	36
10	212.5-225.0	L	6	0.5625	36
11	225.0-237.5	L	6	0.5625	36
12	237.5-250.0	L	6	0.4375	36
13	250.0-260.2	L	5	0.4375	36
14	260.2-270.3	L	5	0.4375	36
15	270.3-278.9	L	5	0.3125	36
16	278.9-287.5	L	5	0.3125	36

Notes:

^[1] Type of Leg Shape: R = Round or P = Bent Plate or S = Schifflerized Angle. L = Even Leg

^[2] For Solid Round Leg Shapes Thickness Equals Zero.

^[3] Adjust for Bent Plate Leg Shapes.

Diagonals

Site No.:	88011
Engineer:	RDB
Date:	10/05/2017
Carrier:	Verizon Wireless

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ^[2] (in)	Web Length ^[3] (in)	Flange Length ^[3] (in)	Thickness (in)	F _y (ksi)	Is Diag. Tension Only? (Y/N)
1	0.000-37.50	2L		5	5	0.3125	36	
2	37.50-62.50	2L		2.5	3.5	0.25	36	
3	62.50-87.50	2L		2.5	3.5	0.25	36	
4	87.50-112.5	2L		2.5	3	0.25	36	
5	112.5-137.5	2L		2.5	3	0.25	36	
6	137.5-162.5	2L		2.5	3	0.25	36	
7	162.5-187.5	2L		2.5	3	0.25	36	
8	187.5-200.0	2L		2.5	2.5	0.25	36	
9	200.0-212.5	2L		2.5	2.5	0.25	36	
10	212.5-225.0	2L		2.5	2	0.25	36	
11	225.0-237.5	2L		2.5	2	0.25	36	
12	237.5-250.0	2L		2.5	2	0.25	36	
13	250.0-260.2	L		3.5	3.5	0.25	36	
14	260.2-270.3	L		3.5	3.5	0.25	36	
15	270.3-278.9	L		3	3	0.25	36	
16	278.9-287.5	L		3	3	0.25	36	

Notes:

^[1] Type of Diagonal Shape: R = Round, L = Single-Angle or 2L = Double-Angle.

^[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

^[3] Applies to Single-Angle and Double-Angle Shapes only.

^[4] Applies to Double-Angle Shapes only.

^[5] Applies to Single-Angle Shapes only.

Horizontals

Site No.:	88011
Engineer:	RDB
Date:	10/05/2017
Carrier:	Verizon Wireless

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ^[2] (in)	Web Length ^[3] (in)	Flange Length ^[3] (in)	Thickness (in)	F_y (ksi)	
1	0.000-37.50	2L		3.5	2.5	0.25	36	
2	37.50-62.50	2L		3.5	2.5	0.25	36	
3	62.50-87.50	2L		3	2.5	0.25	36	
4	87.50-112.5	2L		3	2.5	0.25	36	
5	112.5-137.5	2L		3	2.5	0.25	36	
6	137.5-162.5	2L		2.5	2.5	0.25	36	
7	162.5-187.5	2L		2.5	2.5	0.25	36	
8	187.5-200.0	2L		2.5	2.5	0.25	36	
9	200.0-212.5	2L		2.5	2.5	0.25	36	
10	212.5-225.0	2L		2.5	2.5	0.25	36	
11	225.0-237.5	2L		2.5	2.5	0.25	36	
12	237.5-250.0	2L		2.5	2.5	0.25	36	
13	250.0-260.2	L		3	2.5	0.25	36	
14	260.2-270.3	2L		3	2.5	0.25	36	
15	270.3-278.9	L		3	2.5	0.25	36	
16	278.9-287.5	C		8	11.5		36	

Notes:

^[1] Type of Horizontal Shape: R = Round, L = Single-Angle, 2L = Double-Angle, C = Channel, W = W Shape

^[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

^[3] Applies to Single-Angle and Double-Angle Shapes only.

^[4] Applies to Double-Angle Shapes only.

^[5] Applies to Single-Angle Shapes only.

Built-up Diagonals

Site No.:	88011
Engineer:	RDB
Date:	10/05/2017
Carrier:	Verizon Wireless

When inputting thickness values, include all decimal places.
Input diags. from left to center & from base section upward.

Tower Built-up Diag. #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ^[2] (in)	Web Length ^[3] (in)	Flange Length ^[3] (in)	Thickness (in)	F _y (ksi)
1	0.000-37.50	2L		3.5	3.5	0.25	36
2	0.000-37.50	2L		4	4	0.3125	36
3	37.50-62.50	2L		2.5	2	0.25	36
4	37.50-62.50	2L		2.5	2	0.25	36
5	37.50-62.50	2L		3	2	0.25	36
6	62.50-87.50	2L		2.5	2	0.25	36
7	62.50-87.50	2L		2.5	2	0.25	36
8	62.50-87.50	2L		3	3	0.25	36

Notes:

^[1] Type of Diagonal Shape: R = Round, L = Single-Angle or 2L = Double-Angle.

^[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

^[3] Applies to Single-Angle and Double-Angle Shapes only.

^[4] Applies to Double-Angle Shapes only.

^[5] Applies to Single-Angle Shapes only.

Built-up Horizontals

Site No.:	88011
Engineer:	RDB
Date:	10/05/2017
Carrier:	Verizon Wireless

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape^[1]	Diameter^[2] (in)	Web Length^[3] (in)	Flange Length^[3] (in)	Thickness (in)	F_y (ksi)	Is Horiz. Tension Only? (Y/N)
1	0.000-37.50	2L		2.5	2.5	0.25	36	Y
2	37.50-62.50	2L		2.5	3	0.25	36	
3	62.50-87.50	2L		2.5	3	0.25	36	

Notes:

^[1] Type of Horizontal Shape: **R** = Round, **L** = Single-Angle or **2L** = Double-Angle.

^[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

^[3] Applies to Single-Angle and Double-Angle Shapes only.

^[4] Applies to Double-Angle Shapes only.

^[5] Applies to Single-Angle Shapes only.

Site No.:	88011
Engineer:	RDB
Date:	10/05/17
Carrier:	Verizon Wireless

Dish Types		Joint Orientation	
S	Standard	XY	Y
R	Standard w/ Radome		
H	High Performance		
G	Grid	X	P

Dish Elevation (ft)	Dish Dia. (ft)	Dish Angle (deg)	Dish Type	Joint Orientation

Equipment Label	Attach Label	Equipment Property Set	EIA Antenna Orientation Angle

Description	From (ft)	To (ft)	Quantity	Shape	Width or Diameter (in)	Perimeter (in)	Unit Weight (lb/ft)	Part of Face Solidity Ratio (Yes/No)	Include in Wind Load (Yes/No)
Sprint-293	5	287.5	1	Flat	17.13	55.6	16.2	Yes	Yes
Verizon-266	5	266	2	Round	1.54	4.8	0.32	No	No
Verizon2-266	5	266	10	Round	1.98	6.2	1.08	Yes	Yes
AT&T-246	5	246	1	Round	0.39	1.6	0.064	Yes	Yes
AT&T2-246	5	246	1	Round	0.78	4.7	0.288	Yes	Yes
AT&T3-246	5	246	1	Round	3.5	14.0	5.39	Yes	Yes
AT&T4-246	5	246	1	Flat	4.32	50.1	7.08	Yes	Yes
US Dept Just-206	5	206	1	Round	1.09	3.4	0.144	Yes	Yes
Verizon-50	5	50	1	Round	0.63	2.0	0.144	Yes	Yes
WG1	5	287.5	1	Flat	3	12.0	6	Yes	Yes
WG2	5	287.5	1	Flat	3	12.0	6	Yes	Yes
Coax Cage1	12.5	37.5	1	Round	18	108.0	50	Yes	Yes
Coax Cage2	12.5	37.5	1	Round	18	108.0	50	Yes	Yes
Climbing Ladder	0	287.5	1	Round	2	6.3	1.08	Yes	Yes

Tia Code: TIA-222-G
 Exposure: B
 Topo Cat: 1
 Crest Ht: 0

B	α
1	z_g
0	K_e

7 k_z max 2.01
 1200 k_z min 0.7
 0.9 K_t

Description	From (ft)	To (ft)	Quantity	Face # (1-4, A-D)	Coax Width (in)	Considered Coax Shape (Block / Flat / Ind)	% Exposed	Spacing (in)	Shape (Round/Flat)	Block Width (# coax)	Block Depth (# coax)	Perimeter (in)	Unit Weight (lb/ft)	In Face Zone		Include In	
														Yes/No	Yes/No	Wind Load (Yes/No)	
Sprint-293	5	287.5	15	1	1.98	Block	50	1	Flat	8	2	55.6	16.2	Yes	Yes	Yes	
Verizon-266	5	266	2	1	1.54	Ind	100	1	Round	2	1	4.8	0.32	No	No	No	
Verizon2-266	5	266	10	1	1.98	Ind	100		Round	10	1	6.2	1.08	Yes	Yes	Yes	
AT&T-246	5	246	1	2	0.39	Ind	100	1	Round	1	1	1.2	0.064	Yes	Yes	Yes	
AT&T2-246	5	246	2	2	0.78	Ind	100		Round	2	1	2.5	0.144	Yes	Yes	Yes	
AT&T3-246	5	246	1	2	3.5	Ind	100	1	Round	1	1	11.0	5.39	Yes	Yes	Yes	
AT&T4-246	5	246	12	2	2.38	Block	50	1	Flat	6	2	50.1	7.08	Yes	Yes	Yes	
US Dept Just-206	5	206	1	1	1.09	Ind	100	1	Round	1	1	3.4	0.144	Yes	Yes	Yes	
Verizon-50	5	50	1	1	0.63	Ind	100		Round	1	1	2.0	0.144	Yes	Yes	Yes	
WG1	5	287.5	1	1	3	Flat	100	0	Flat	1	1	12.0	6	Yes	Yes	Yes	
WG2	5	287.5	1	2	3	Flat	100		Flat	1	1	12.0	6	Yes	Yes	Yes	
Coax Cage1	12.5	37.5	2	4	18	Ind	100	0	Round	2	1	56.5	5.39	Yes	Yes	Yes	
Coax Cage2	12.5	37.5	2	2	18	Ind	100		Round	2	1	56.5	5.39	Yes	Yes	Yes	
Climbing Ladder	0	287.5	1	A	2	Ind	100	0	Round	1	1	6.3	1.08	Yes	Yes	Yes	
							100							No	Yes		
							100	0						No	Yes		
							100							No	Yes		
							100	0						No	Yes		
							100							No	Yes		
							100	0						No	Yes		
							100							No	Yes		
							100	0						No	Yes		
							100							No	Yes		
							100	0						No	Yes		
							100							No	Yes		
							100	0						No	Yes		
							100							No	Yes		
							100	0						No	Yes		
							100							No	Yes		
							100	0						No	Yes		
							100							No	Yes		
							100	0						No	Yes		
							100							No	Yes		
							100	0						No	Yes		
							100							No	Yes		
							100	0						No	Yes		
							100							No	Yes		
							100	0						No	Yes		
							100							No	Yes		
							100	0						No	Yes		
							100							No	Yes		

Site #: 88011
 Name: Verizon Wireless

Engineer: RDB
 Date: 10/05/17

Member Label	Group Label	Section Label	Symmetry Code	Origin Joint	End Joint	Ecc. Code	Rest. Code	Ratio RLX	Ratio RLY	Ratio RLZ
L 1	Leg S1		XY-Symmetry	0P	1P	1	4	0.25	0.25	0.25
L 2	Leg S2		XY-Symmetry	1P	2P	1	4	0.2812	0.2812	0.2812
L 3	Leg S3		XY-Symmetry	2P	3P	1	4	0.2812	0.2812	0.2812
L 4	Leg S4		XY-Symmetry	3P	4P	1	4	0.33333333	0.33333333	0.33333333
L 5	Leg S5		XY-Symmetry	4P	5P	1	4	0.33333333	0.33333333	0.33333333
L 6	Leg S6		XY-Symmetry	5P	6P	1	4	0.33333333	0.33333333	0.33333333
L 7	Leg S7		XY-Symmetry	6P	7P	1	4	0.33333333	0.33333333	0.33333333
L 8	Leg S8		XY-Symmetry	7P	8P	1	4	0.5	0.5	0.5
L 9	Leg S9		XY-Symmetry	8P	9P	1	4	0.5	0.5	0.5
L 10	Leg S10		XY-Symmetry	9P	10P	1	4	0.5	0.5	0.5
L 11	Leg S11		XY-Symmetry	10P	11P	1	4	0.5	0.5	0.5
L 12	Leg S12		XY-Symmetry	11P	12P	1	4	0.5	0.5	0.5
L 13	Leg S13		XY-Symmetry	12P	13P	1	4	0.5	0.5	0.5
L 14	Leg S14		XY-Symmetry	13P	14P	1	4	0.5	0.5	0.5
L 15	Leg S15		XY-Symmetry	14P	15P	1	4	0.5	0.5	0.5
L 16	Leg S16		XY-Symmetry	15P	16P	1	4	0.5	0.5	0.5
D 1	Diag S1		XY-Symmetry	0P	H2P	1	6	0.316	0.316	0.316
D 2	Diag S1		XY-Symmetry	0P	H1P	1	6	0.316	0.316	0.316
D 3	Diag S2		XY-Symmetry	1P	H6P	1	6	0.32	0.32	0.32
D 4	Diag S2		XY-Symmetry	1P	H5P	1	6	0.32	0.32	0.32
D 5	Diag S3		XY-Symmetry	2P	H10P	1	6	0.32	0.32	0.32
D 6	Diag S3		XY-Symmetry	2P	H9P	1	6	0.32	0.32	0.32
D 7	Diag S4		XY-Symmetry	3P	A7P	1	6	0.3	0.3	0.3
D 8	Diag S4		XY-Symmetry	3P	A8P	1	6	0.3	0.3	0.3
D 9	Diag S5		XY-Symmetry	4P	A9P	1	6	0.3	0.3	0.3
D 10	Diag S5		XY-Symmetry	4P	A10P	1	6	0.3	0.3	0.3
D 11	Diag S6		XY-Symmetry	5P	A11P	1	6	0.32	0.32	0.32
D 12	Diag S6		XY-Symmetry	5P	A12P	1	6	0.32	0.32	0.32
D 13	Diag S7		XY-Symmetry	6P	A13P	1	6	0.32	0.64	0.32
D 14	Diag S7		XY-Symmetry	6P	A14P	1	6	0.32	0.64	0.32
D 15	Diag S8		XY-Symmetry	7P	A15P	1	6	0.5	1	0.5
D 16	Diag S8		XY-Symmetry	7P	A16P	1	6	0.5	1	0.5
D 17	Diag S9		XY-Symmetry	8P	A17P	1	6	0.5	1	0.5
D 18	Diag S9		XY-Symmetry	8P	A18P	1	6	0.5	1	0.5
D 19	Diag S10		XY-Symmetry	9P	A19P	1	6	0.5	1	0.5
D 20	Diag S10		XY-Symmetry	9P	A20P	1	6	0.5	1	0.5
D 21	Diag S11		XY-Symmetry	10P	A21P	1	6	0.5	1	0.5
D 22	Diag S11		XY-Symmetry	10P	A22P	1	6	0.5	1	0.5
D 23	Diag S12		XY-Symmetry	11P	A23P	1	6	0.5	1	0.5
D 24	Diag S12		XY-Symmetry	11P	A24P	1	6	0.5	1	0.5
D 25	Diag S13		XY-Symmetry	12P	13Y	1	5	0.52	0.75	0.52
D 26	Diag S13		XY-Symmetry	12P	13X	1	5	0.52	0.75	0.52
D 27	Diag S14		XY-Symmetry	13P	14Y	1	5	0.52	0.75	0.52
D 28	Diag S14		XY-Symmetry	13P	14X	1	5	0.52	0.75	0.52
D 29	Diag S15		XY-Symmetry	14P	15Y	1	5	0.52	0.75	0.52
D 30	Diag S15		XY-Symmetry	14P	15X	1	5	0.52	0.75	0.52
D 31	Diag S16		XY-Symmetry	15P	16Y	1	5	0.52	0.75	0.52
D 32	Diag S16		XY-Symmetry	15P	16X	1	5	0.52	0.75	0.52
H 1	Horiz 1		XY-Symmetry	1P	A1P	1	6	0.5	0.5	0.5
H 2	Horiz 1		XY-Symmetry	1P	A2P	1	6	0.5	0.5	0.5
H 3	Horiz 2		XY-Symmetry	2P	A3P	1	6	0.94	0.94	0.94
H 4	Horiz 2		XY-Symmetry	2P	A4P	1	6	0.94	0.94	0.94
H 5	Horiz 3		XY-Symmetry	3P	A5P	1	6	0.94	0.94	0.94
H 6	Horiz 3		XY-Symmetry	3P	A6P	1	6	0.94	0.94	0.94
H 7	Horiz 4		XY-Symmetry	4P	A7P	1	5	1	1	1
H 8	Horiz 4		XY-Symmetry	4P	A8P	1	5	1	1	1
H 9	Horiz 5		XY-Symmetry	5P	A9P	1	5	1	1	1
H 10	Horiz 5		XY-Symmetry	5P	A10P	1	5	1	1	1
H 11	Horiz 6		XY-Symmetry	6P	A11P	1	5	1	1	1
H 12	Horiz 6		XY-Symmetry	6P	A12P	1	5	1	1	1
H 13	Horiz 7		XY-Symmetry	7P	A13P	1	5	1	1	1
H 14	Horiz 7		XY-Symmetry	7P	A14P	1	5	1	1	1

Member Label	Group Label	Section Label	Symmetry Code	Origin Joint	End Joint	Ecc. Code	Rest. Code	Ratio RLX	Ratio RLY	Ratio RLZ
H 15	Horiz 8		XY-Symmetry	8P	A15P	1	5	1	1	1
H 16	Horiz 8		XY-Symmetry	8P	A16P	1	5	1	1	1
H 17	Horiz 9		XY-Symmetry	9P	A17P	1	5	1	1	1
H 18	Horiz 9		XY-Symmetry	9P	A18P	1	5	1	1	1
H 19	Horiz 10		XY-Symmetry	10P	A19P	1	5	1	1	1
H 20	Horiz 10		XY-Symmetry	10P	A20P	1	5	1	1	1
H 21	Horiz 11		XY-Symmetry	11P	A21P	1	5	1	1	1
H 22	Horiz 11		XY-Symmetry	11P	A22P	1	5	1	1	1
H 23	Horiz 12		XY-Symmetry	12P	A23P	1	5	1	1	1
H 24	Horiz 12		XY-Symmetry	12P	A24P	1	5	1	1	1
H 25	Horiz 13		Y-Symmetry	13P	13X	1	5	0.5	0.5	0.5
H 26	Horiz 13		X-Symmetry	13P	13Y	1	5	0.5	0.5	0.5
H 27	Horiz 14		Y-Symmetry	14P	14X	1	5	0.5	0.5	0.5
H 28	Horiz 14		X-Symmetry	14P	14Y	1	5	0.5	0.5	0.5
H 29	Horiz 15		Y-Symmetry	15P	15X	1	5	0.5	0.5	0.5
H 30	Horiz 15		X-Symmetry	15P	15Y	1	5	0.5	0.5	0.5
H 31	Horiz 16		Y-Symmetry	16P	16X	1	5	0.5	1	0.5
H 32	Horiz 16		X-Symmetry	16P	16Y	1	5	0.5	1	0.5
H 35	Horiz 2		Y-Symmetry	A3P	A3X	1	5	1	1	1
H 36	Horiz 2		X-Symmetry	A4P	A4Y	1	5	1	1	1
H 37	Horiz 3		Y-Symmetry	A5P	A5X	1	5	1	1	1
H 38	Horiz 3		X-Symmetry	A6P	A6Y	1	5	1	1	1
LH 1	LH 1		Y-Symmetry	H1P	H1X	1	6	0.5	1	0.5
LH 2	LH 1		X-Symmetry	H2P	H2Y	1	6	0.5	1	0.5
LH 3	LH 2		XY-Symmetry	H5P	H7P	1	6	1	2	1
LH 4	LH 2		XY-Symmetry	H6P	H8P	1	6	1	2	1
LH 5	LH 3		XY-Symmetry	H9P	H11P	1	6	1	2	1
LH 6	LH 3		XY-Symmetry	H10P	H12P	1	6	1	2	1
LD 1	LD 1		XY-Symmetry	H1P	1P	1	6	0.9	0.9	0.9
LD 2	LD 1		XY-Symmetry	H2P	1P	1	6	0.9	0.9	0.9
LD 3	LD 2		XY-Symmetry	H1P	A1P	1	6	0.9	0.9	0.9
LD 4	LD 2		XY-Symmetry	H2P	A2P	1	6	0.9	0.9	0.9
LD 7	LD 4		XY-Symmetry	H5P	2P	1	6	0.91	0.91	0.91
LD 8	LD 4		XY-Symmetry	H6P	2P	1	6	0.91	0.91	0.91
LD 9	LD 5		XY-Symmetry	H5P	A3P	1	6	0.91	0.91	0.91
LD 10	LD 5		XY-Symmetry	H6P	A4P	1	6	0.91	0.91	0.91
LD 11	LD 6		XY-Symmetry	A3P	H7P	1	6	0.91	0.91	0.91
LD 12	LD 6		XY-Symmetry	A4P	H8P	1	6	0.91	0.91	0.91
LD 13	LD 7		XY-Symmetry	H9P	3P	1	6	0.91	0.91	0.91
LD 14	LD 7		XY-Symmetry	H10P	3P	1	6	0.91	0.91	0.91
LD 15	LD 8		XY-Symmetry	H9P	A5P	1	6	0.91	0.91	0.91
LD 16	LD 8		XY-Symmetry	H10P	A6P	1	6	0.91	0.91	0.91
LD 17	LD 9		XY-Symmetry	A5P	H11P	1	6	0.91	0.91	0.91
LD 18	LD 9		XY-Symmetry	A6P	H12P	1	6	0.91	0.91	0.91
BR 1	DUM 1		XY-Symmetry	A1P	A2P	1	4	1	1	1
BR 3	DUM 1		XY-Symmetry	A3P	A4P	1	4	1	1	1
BR 4	DUM 1		XY-Symmetry	A3P	A4XY	1	4	1	1	1
BR 5	DUM 1		XY-Symmetry	A5P	A6P	1	4	1	1	1
BR 6	DUM 1		XY-Symmetry	A5P	A6XY	1	4	1	1	1
BR 7	DUM 1		XY-Symmetry	A7P	A8P	1	4	1	1	1
BR 9	DUM 1		XY-Symmetry	A9P	A10P	1	4	1	1	1
BR 11	DUM 1		XY-Symmetry	A11P	A12P	1	4	1	1	1
BR 13	DUM 1		XY-Symmetry	A13P	A14P	1	4	1	1	1
BR 15	DUM 1		XY-Symmetry	A15P	A16P	1	4	1	1	1
BR 17	DUM 1		XY-Symmetry	A17P	A18P	1	4	1	1	1

Member Label	Group Label	Section Label	Symmetry Code	Origin Joint	End Joint	Ecc. Code	Rest. Code	Ratio RLX	Ratio RLY	Ratio RLZ
BR 19	DUM 1		XY-Symmetry	A19P	A20P	1	4	1	1	1
BR 21	DUM 1		XY-Symmetry	A21P	A22P	1	4	1	1	1
BR 23	DUM 1		XY-Symmetry	A23P	A24P	1	4	1	1	1
BR 61	DUM 1		XY-Symmetry	H1P	H2P	1	4	1	1	1
BR 62	DUM 1		XY-Symmetry	H1P	H2XY	1	4	1	1	1
BR 64	DUM 1		XY-Symmetry	H5P	H6P	1	4	1	1	1
BR 65	DUM 1		XY-Symmetry	H5P	H6XY	1	4	1	1	1
BR 66	DUM 1		XY-Symmetry	H7P	H8P	1	4	1	1	1
BR 67	DUM 1		XY-Symmetry	H9P	H10P	1	4	1	1	1
BR 68	DUM 1		XY-Symmetry	H9P	H10XY	1	4	1	1	1
BR 69	DUM 1		XY-Symmetry	H11P	H12P	1	4	1	1	1

No.	Elevation (ft)	C ₁ A ₁ (ft ²)	C ₂ A ₂ (ft ²)	Force (lb)	Force (lb)	Weight (lb)	Weight (lb)	60 Axl Mult.	Force mean	F (ft)	Height Flag	Sum of Forces (No I)	
												60 Axl	180 Axl
1	287.5	0.00	0.00	0.000	0.002	0	0	1.00	0.00	0.00			
	287.5	60.00	81.00	2420.414	500.496	7200	9360	1.00	1331.23	275.27		1.5034783	2420.414513
2	270	0.00	0.00	0.000	0.002	0	0	1.00	0.00	0.00		1.5034793	
	270	50.00	67.50	1981.143	409.663	5400	7020	1.00	1089.63	225.31		1.5037037	1981.143382
3	237.5	0.00	0.00	0.000	0.001	0	0	1.00	0.00	0.00		1.5037047	
	237.5	15.00	20.25	572.958	118.477	600	780	1.00	315.13	65.16		1.5042105	572.9580873
4	200	0.00	0.00	0.000	0.001	0	0	1.00	0.00	0.00		1.5042115	
	200	40.00	54.00	1454.681	300.801	5400	7020	1.00	800.07	165.44		1.5050000	1454.680702
5	187.5	0.00	0.00	0.000	0.001	0	0	1.00	0.00	0.00		1.5050010	
	187.5	15.00	20.25	535.539	110.739	600	780	1.00	294.55	60.91		1.5053333	535.5385719
6	137.5	0.00	0.00	0.000	0.001	0	0	1.00	0.00	0.00		1.5053343	
	137.5	15.00	20.25	490.123	101.348	600	780	1.00	269.57	55.74		1.5072727	490.1234133
7	87.5	0.00	0.00	0.000	0.001	0	0	1.00	0.00	0.00		1.5072737	
	87.5	40.00	54.00	1148.656	237.520	5400	7020	1.00	631.76	130.64		1.5114286	1148.655985
8	37.5	0.00	0.00	0.000	0.001	0	0	1.00	0.00	0.00		1.5114296	
	37.5	15.00	20.25	338.131	69.919	600	780	1.00	185.97	38.46		1.5266667	338.1310403
9		0.00	0.01	0.000	0.041	0	0	1.00	0.00	0.02		1.5266677	
								1.00	0.00	0.00			1.17399E-05
10	293	9.57	11.27	388.330	70.035	144	350	1.00	213.58	38.52			
	293	40.28	54.37	1633.524	253.336	1440	1872	1.00	898.44	139.34			2021.853991
11	293	31.68	37.30	1284.917	231.734	166	399	1.00	706.70	127.45			
	293	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00		1.5034130	3306.770889
12	266	3.49	4.90	137.670	29.590	206	330	1.00	75.72	16.27		1.5034140	
	266	40.28	54.37	1589.020	246.435	1440	1872	1.00	873.96	135.54		1.5034140	1726.690266
13	266	4.08	5.68	160.953	34.303	204	337	1.00	88.52	18.87		1.5034150	
	266	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00		1.5034150	1887.643785
14	266	4.05	5.45	159.921	32.933	77	227	1.00	87.96	18.11		1.5034160	
	266	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00		1.5037594	2047.564602
15	266	0.75	1.36	29.749	8.235	19	34	1.00	16.36	4.53		1.5037594	
	266	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00		1.5037594	2077.313151
16	266	22.11	28.58	872.313	172.729	144	407	1.00	479.77	95.00		1.5037604	
	266	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00		1.5037594	2949.625749
17	266	1.83	3.01	72.229	18.191	365	461	1.00	39.73	10.00		1.5037604	
	266	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00		1.5037594	3021.855011
18	246	2.12	3.25	81.865	19.201	115	170	1.00	45.03	10.56		1.5037604	
	246	40.28	54.37	1553.926	240.992	1440	1872	1.00	854.66	132.55		1.5040650	1635.791431
19	246	2.53	3.53	97.480	20.864	58	137	1.00	53.61	11.47		1.5040660	
	246	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00		1.5040650	1733.271163
20	246	2.03	2.72	78.413	16.077	24	148	1.00	43.13	8.84		1.5040660	
	246	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00		1.5040650	1811.684512
21	246	8.73	11.08	336.919	65.481	198	412	1.00	185.31	36.01		1.5040660	
	246	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00		1.5040650	2148.603281
22	246	35.83	40.25	1382.564	237.896	295	678	1.00	760.41	130.84		1.5040660	
	246	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00		1.5040650	3531.167471
23	246	6.15	6.91	237.410	40.851	74	413	1.00	130.58	22.47		1.5040660	
	246	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00		1.5040650	3768.577516
24	246	12.31	13.82	474.820	81.702	143	496	1.00	261.15	44.94		1.5040650	
	246	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00		1.5040660	4243.397566
25	206	6.45	9.73	236.557	54.667	43	395	1.00	130.11	30.07		1.5040660	
	206	5.20	7.02	190.712	39.436	180	234	1.00	104.89	21.69		1.5048544	427.2689954
26	50	2.175	0.17	61.183	12.651	1	7	1.00	1.20	0.35		1.5048554	
	50	2.50	3.38	61.183	12.651	90	117	1.00	33.65	6.96		1.5200000	63.35836287
27				#DIV/0!				1.00	#DIV/0!	0.00		1.5200010	
								1.00	0.00	0.00	#DIV/0!		#DIV/0!
28				#DIV/0!				1.00	#DIV/0!	0.00	#DIV/0!		#DIV/0!
								1.00	0.00	0.00	#DIV/0!		#DIV/0!
29				#DIV/0!				1.00	#DIV/0!	0.00	#DIV/0!		#DIV/0!
								1.00	0.00	0.00	#DIV/0!		#DIV/0!
30				#DIV/0!				1.00	#DIV/0!	0.00	#DIV/0!		#DIV/0!
								1.00	0.00	0.00	#DIV/0!		#DIV/0!
31				#DIV/0!				1.00	#DIV/0!	0.00	#DIV/0!		#DIV/0!
								1.00	0.00	0.00	#DIV/0!		#DIV/0!
32				#DIV/0!				1.00	#DIV/0!	0.00	#DIV/0!		#DIV/0!
								1.00	0.00	0.00	#DIV/0!		#DIV/0!
33				#DIV/0!				1.00	#DIV/0!	0.00	#DIV/0!		#DIV/0!
								1.00	0.00	0.00	#DIV/0!		#DIV/0!
34				#DIV/0!				1.00	#DIV/0!	0.00	#DIV/0!		#DIV/0!
								1.00	0.00	0.00	#DIV/0!		#DIV/0!
35				#DIV/0!				1.00	#DIV/0!	0.00	#DIV/0!		#DIV/0!
								1.00	0.00	0.00	#DIV/0!		#DIV/0!

Foundation

Design Loads (Factored)

Compression/Leg:	463.12 k
Uplift/Leg:	357.13 k
Shear/Leg:	69.28 k

Face Width @ Top of Pier (d_1):	3.50 ft
Face Width @ Bottom of Pier (d_2):	7.50 ft
Total Length of Pier (l):	8.50 ft
Height of Pedestal Above Ground (h):	0.50 ft
Width of Pad (W):	14.75 ft
Length of Pad (L):	14.75 ft
Thickness of Pad (t):	3.25 ft
Water Table Depth (w):	30 ft
Unit Weight of Concrete:	150.0 pcf
Unit Weight of Soil (Above Water Table):	110.0 pcf
Unit Weight of Soil (Below Water Table):	55.0 pcf
Friction Angle of Uplift (A):	30 °
Ultimate Compressive Bearing Pressure:	4000 psf

Volume Pier (Total):	268.46	ft ³
Volume Pad (Total):	707.08	ft ³
Volume Soil (Total):	2747.35	ft ³
Volume Pier (Buoyant):	0.00	ft ³
Volume Pad (Buoyant):	0.00	ft ³
Volume Soil (Buoyant):	0.00	ft ³
Weight Pier:	40.27	k
Weight Pad:	106.06	k
Weight Soil:	302.21	k
Skin Friction:	26.96	k

Uplift Check

ϕ_s Uplift Resistance (k)	Ratio	Result
363.37	0.98	OK

Axial Check

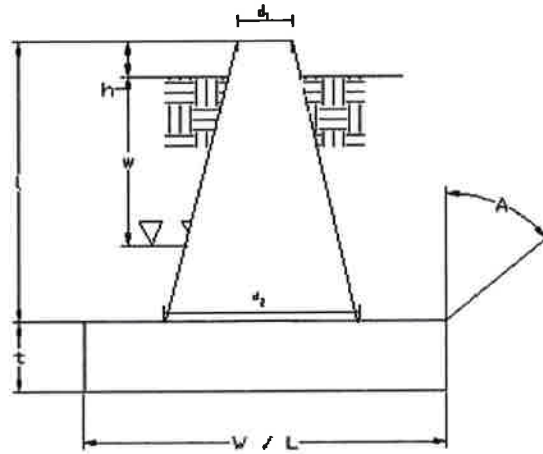
ϕ_s Axial Resistance (k)	Ratio	Result
652.69	0.71	OK

Anchor Bolt Check

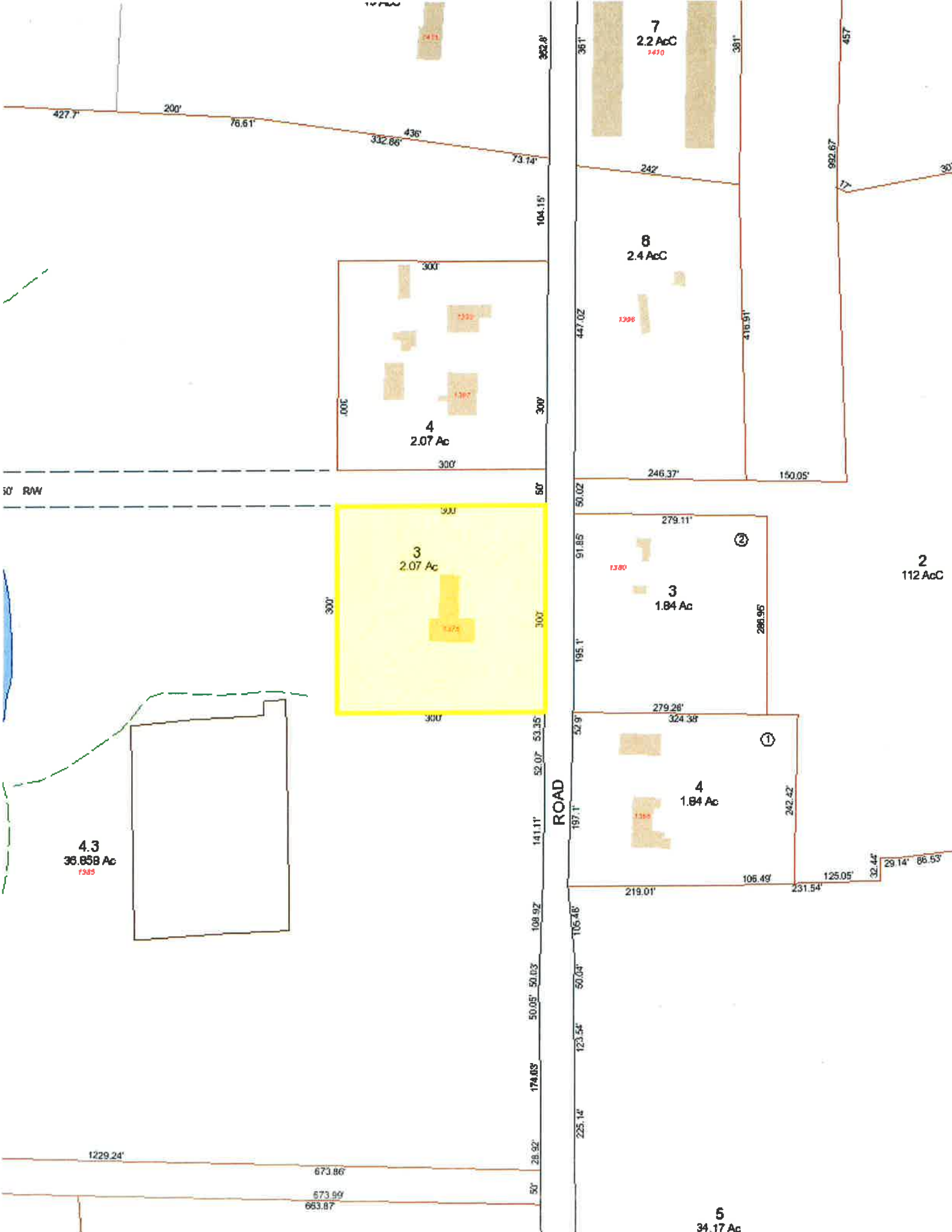
Bolt Diameter (in)	2.25
# of Bolts	6
Steel Grade	A36
Steel Fy	36
Steel Fu	58
Detail Type	C

Usage Ratio	Result
0.53	OK

Site No.:	88011
Engineer:	RDB
Date:	10/05/17
Carrier:	Verizon Wireless



ATTACHMENT 4



74.11

7
2.2 AcC
1410

8
2.4 AcC

4
2.07 Ac

3
2.07 Ac

3
1.84 Ac

4
1.84 Ac

2
112 AcC

4.3
36.858 Ac
1385

5
34.17 Ac

ROAD

30' RW

362.8'
104.15'
60'
50.02'
50.02'
91.85'
195.1'
52.9'
197.1'
225.14'
174.83'
28.92'
50'

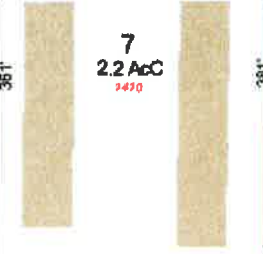
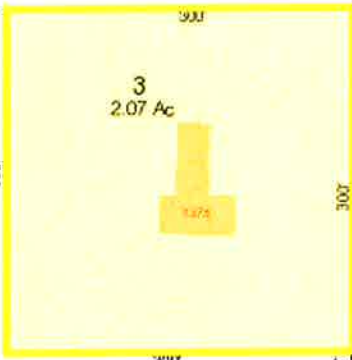
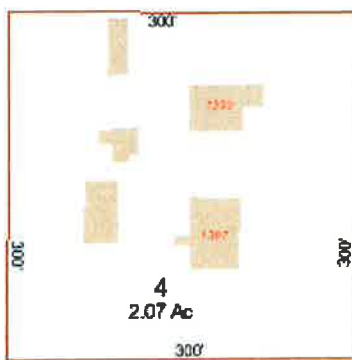
457'
992.67'

427.7'
200'
76.61'
332.66'
436'
73.14'

361'
381'
242'
447.02'
416.91'
246.37'
150.05'

279.11'
1380'
286.95'

279.26'
324.38'
242.42'
219.01'
106.49'
231.54'
125.05'
32.44'
29.14'
86.53'



Situs : 1375 NORTH RD

Map ID: 000072

Class: Communication Towers

Card: 1 of 1

Printed: April 27, 2017

CURRENT OWNER		GENERAL INFORMATION	
AMERICAN TOWERS INC PO BOX 723597 ATLANTA GA 31139		Living Units	117
		Neighborhood	50-3
		Alternate Id	772/5
		Vol / Pg	4
		District	RURAL DEVELOPMENT
		Zoning	COMMERCIAL
		Class	

Property Notes
AT&T TRANSFER STATION



Land Information			
Type	Size	Influence Factors	Influence % Value
Primary	AC 2.0700		49,870

Total Acres: 2.07
Spot: Location:

Assessment Information			
Assessed	Appraised	Cost	Income Market
Land	34,930	49,900	0
Building	188,160	268,800	0
Total	223,090	318,700	0

Manual Override Reason
Base Date of Value 10/01/2013
Effective Date of Value 10/01/2017

Value Flag COST APPROACH
Gross Building:

Entrance Information			
Date	ID	Entry Code	Source
05/17/12	DB	View ed	Other
05/16/12	DB	View ed	Other
12/11/06	DH	Exterior	Other

Permit Information			
Date Issued	Number	Price	Purpose % Complete
11/30/12	22122	25,000	BLDG Add 13 New Antennas & 6 Rrh'S (996
11/12/10	20889	12,000	52 CADD Build Out Of Rm For Cellular Equip 100
08/31/10	20753	50,000	52 CADD Addn 6 Antennas & Assoc Equip I 100
06/07/07	18646	25,000	52 CADD Install Antennas 100
08/27/98	13234	4,000	BLDG Nvc Tank Out 100

Sales/Ownership History			
Transfer Date	Price	Type	Validity
02/16/00	186,528	Land & Bldg	Love And Affection Sale
			772/5

Deed Reference			
Deed Reference	Deed Type	Grantee	
772/5		AMERICAN TOWERS INC	

Inspection Witnessed By

Situs : 1375 NORTH RD

Parcel Id: 000072

Class : Communication Towers

Card: 1 of 1

Printed: April 27, 2017

Building Information

Year Built/Eff Year 1960 /
 Building # 1
 Structure Type Radio/Tv Transmitter
 Identical Units 1
 Total Units
 Grade B-
 # Covered Parking
 # Uncovered Parking
 DBA AMERICAN TOWER

Building Other Features

Line Type	Meas1	Meas2	# Stops	Ident Units	Line Type	+/-	Meas1	Meas2	# Stops	Ident Units

Interior/Exterior Information

Line	Level	From - To	Int Fin	Area	Perim	Use Type	Wall Height	Ext Walls	Construction	Partitions	Heating	Cooling	Plumbing	Physical	Functional
1	01	01	100	2,048	158	Light Manufacturin	16	Concrete Bl	Wood Frame/Joist/B	Normal	None	None	Normal	4	4
2	01	01	100	1,575	151	Light Manufacturin	12	Concrete Bl	Wood Frame/Joist/B	Normal	None	None	Normal	4	4

Interior/Exterior Valuation Detail

Line	Area	Use Type	% Good	% Complete	Use Value/RCNLD
1	2,048	Light Manufacturing	60		73,210
2	1,575	Light Manufacturing	60		54,770

Outbuilding Data

Line	Type	Yr Blt	Meas1	Meas2	Qty	Area	Grade	Phy Fun	Value
1	Fence Chai	1960	6	240	1	1,440	C	3 3	1,780
2	Asph Pav	1960	1	3,700	1	3,700	C	3 3	4,000
3	Tower Cell	1960	1	300	1	300	C	3 3	135,000

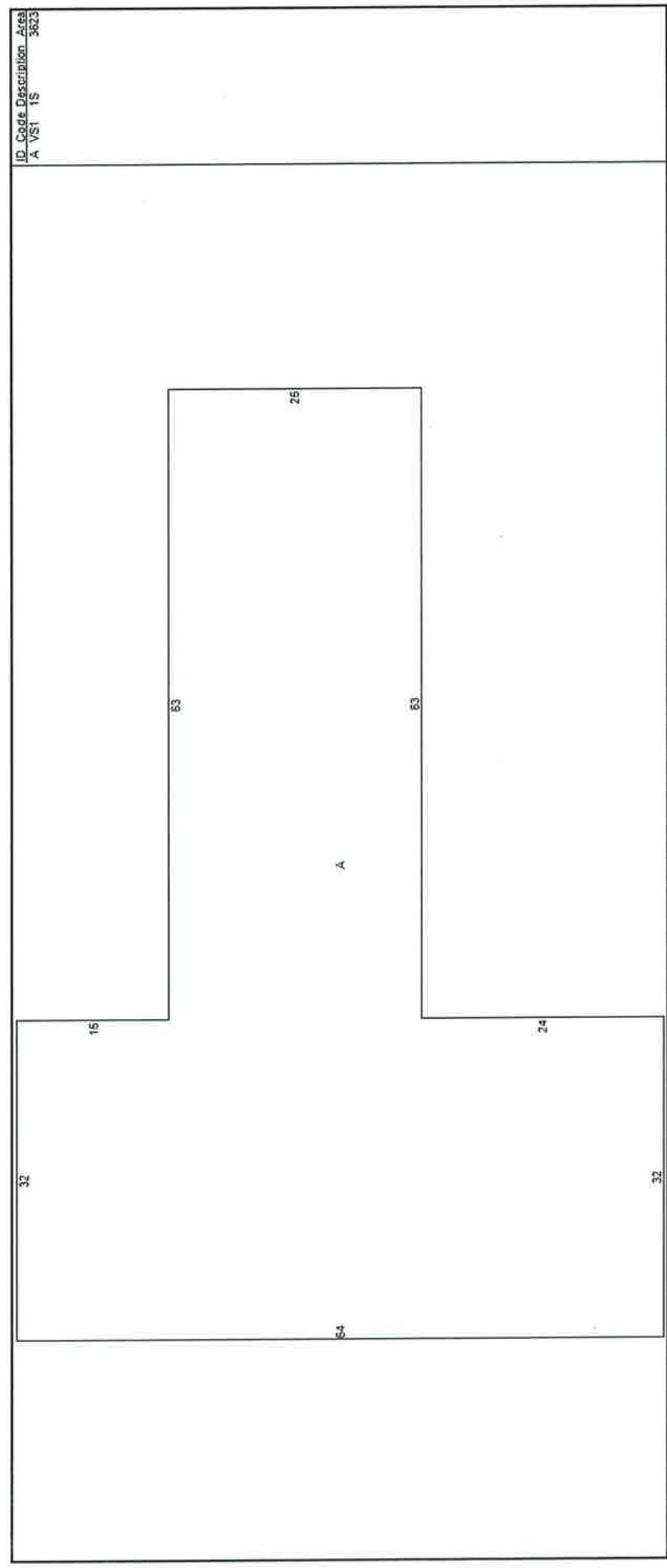
Situs : 1375 NORTH RD

Parcel Id: 000072

Class : Communication Towers

Card: 1 of 1

Printed: April 27, 2017



Additional Property Photos



Situs : 1375 NORTH RD

Parcel Id: 000072

Class: Communication Towers

Card: 1 of 1

Printed: April 27, 2017

Income Detail (Includes all Buildings on Parcel)

Use Mod Inc Model	Units	Net Area	Income Rate	Econ Adjust	Potential Gross Income	Vac Model	Vac Adj	Additional Income	Effective Gross Model %	Expense Adj %	Other Expenses	Total Expenses	Net Operating Income
-------------------	-------	----------	-------------	-------------	------------------------	-----------	---------	-------------------	-------------------------	---------------	----------------	----------------	----------------------

07 S Light Manuff/Warehouse	0	3,623						0					
-----------------------------	---	-------	--	--	--	--	--	---	--	--	--	--	--

Apartment Detail - Building 1 of 1

Line	Use Type	Per Bldg	Beds	Baths	Units	Rent	Income
------	----------	----------	------	-------	-------	------	--------

Building Cost Detail - Building 1 of 1							
Total Gross Building Area 3,623							
Replace, Cost New Less Depr 127,980							
Percent Complete 100							
Number of Identical Units 1							
Economic Condition Factor							
Final Building Value 127,980							
Value per SF 35.32							

Notes - Building 1 of 1

Income Summary (Includes all Buildings on Parcel)	
Total Net Income	0.000000
Capitalization Rate	
Sub total	
Residual Land Value	
Final Income Value	
Total Gross Rent Area	3,623
Total Gross Building Area	3,623

ATTACHMENT 5



Certificate of Mailing — Firm

K/O

Name and Address of Sender

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103

TOTAL NO. of Pieces Listed by Sender

3

TOTAL NO. of Pieces Received at Post Office™

3

Postmaster, per (name of receiving employee)

DP

Affix Stamp Here
Postmark with Date of Receipt.

neopost
10/16/2017
US POSTAGE \$002.38
ZIP 06103
041L122033

USPS® Tracking Number
Firm-specific Identifier

Address
(Name, Street, City, State, and ZIP Code™)

Postage

Fee

Special Handling

Parcel Airlift

1.

Sean Hendricks, Town Manger
Town of Killingly
172 Main Street
Danielson, CT 06239

2.

Ann-Marie Aubrey, Director of Planning and
Development
Town of Killingly
172 Main Street
Danielson, CT 06239

3.

American Tower Corporation
10 Presidential Way
Woburn, MA 01801

4.

5.

6.

