

November 20, 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
199 Town Farm Road, Farmington, Connecticut**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains fifteen (15) antennas at the top of an existing 111-foot tree tower at 199 Town Farm Road in Farmington, Connecticut (the “Property”). The tower is owned by Cellco and is managed American Tower Corporation (“ATC”). The Council approved Cellco’s use of this tower in 2009 (Docket No. 374). Cellco now intends to remove nine (9) of its existing antennas and install three (3) model SBNHH-1D65B, 700/1900 MHz antennas and three (3) model SBNHH-1D65B, 2100 MHz antennas, all at the same level on the tower. Cellco also intends to install nine (9) remote radio heads (“RRHs”) behind its antennas 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 Kathleen Eagen, Town Manager of the Town of Farmington; William Warner, Farmington’s Town Planner; and ATC, the tower manager. The Town is 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 tree tower. Cellco’s replacement antennas and RRHs will be installed at the 111-foot level of the existing 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 for the 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 Cellco's proposed modifications. (See Structural Analysis 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 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:

Kathleen Eagen, Farmington Town Manager
William Warner, Farmington Town Planner
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
	0° 14.6	0° 14.5	0° 17.4	0° 17.8	0° 18.1	0° 18.2
Gain by Beam Tilt, average, dBi	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

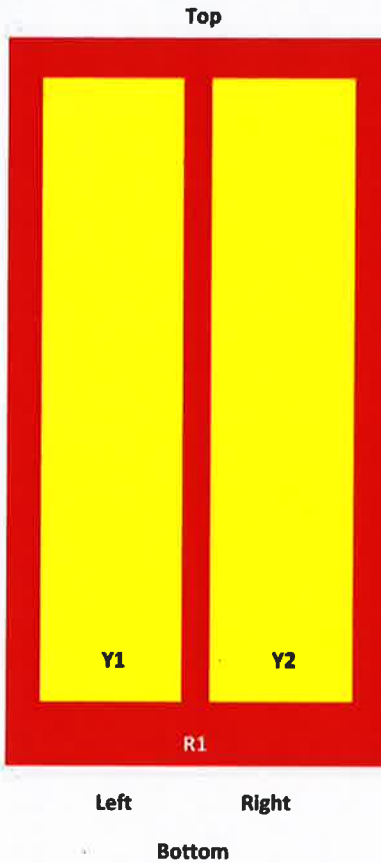
* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, [download the whitepaper Time to Raise the Bar on BSAs.](#)

Array Layout

SBNHH-1D65B

SBNHH 65

Array	Freq (MHz)	Conns	RET (MRET)	AISG RET UID
R1	698-896	1-2	1	A\XXXXXXXXXXXXXXXXX.1
Y1	1695-2360	3-4	2	A\XXXXXXXXXXXXXXXXX.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.

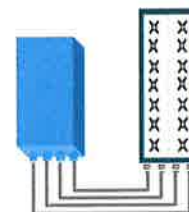


FEATURES

- 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 B25 RRH4X30

Alcatel-Lucent Band 25 Remote Radio Head 4x30W is the new 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 B25 RRH4x30 allows operators to have a compact radio solution to deploy LTE in the PCS band (1.9 GHz, 3GPP band 25), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B25 RRH4x30 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, LTE carriers from 3 MHz up to 20 MHz and up to 65 MHz instantaneous bandwidth.

The Alcatel-Lucent B25 RRH4x30 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 B25 RRH4x30 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.

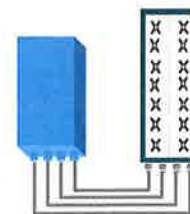


FEATURES

- Supporting LTE in 1.9 GHz band (PCS, 3GPP band 2 & 25)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- Ready for 3, 5, 10, 15 or 20MHz LTE carrier operation with 4Rx Diversity
- Ready to support up to 4 carriers anywhere in 65MHz instantaneous bandwidth
- Convection-cooled (fan-less)
- Supports AISG 2.0 devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in PCS band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Full flexibility for multiple carriers operation over entire PCS spectrum
- Improves downlink spectral efficiency and cell edge throughput through MIMO4
- Increases LTE coverage thanks to 4-way Rx 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	3GPP bands 2 & 25 (PCS-G) DL: 1930 - 1995 MHz UL: 1850 - 1915 MHz
Instantaneous bandwidth - #carriers	65MHz – Up to 4 LTE carriers (in 40MHz occupied bandwidth)
LTE carrier bandwidth	3, 5, 10, 15 or 20 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure (3GPP band 2)	2.0 dB typ. (<2.5 dB max)
RX Diversity scheme	2 or 4 way Rx diversity
Sizes (HxWxD)(w/ solar shield) in mm (in.)	538 x 304 x 182 (21.2" x 12.0" x 7.2")
Volume (w/ solar shield) in L	30
Weight (w/ solar shield) in kg (lb)	24 (53)
DC voltage range	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption
DC power consumption	580W typical @100% RF load
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 (> 14dB)
CPRI ports	2 CPRI ports (HW ready for Rate7 / 9.8 Gbps)
AISG interfaces	1 AISG2.0 output (RS485), +24V/2A DC power Integrated Smart Bias Tees (x2)
Misc. Interfaces	1 external alarms connector (4 alarms) 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.

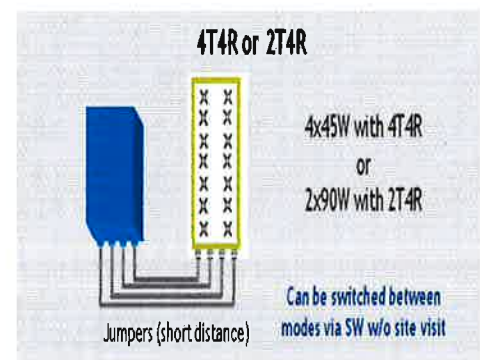
Its compactness and slim design makes the Alcatel-Lucent B66a RRH4x45 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the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

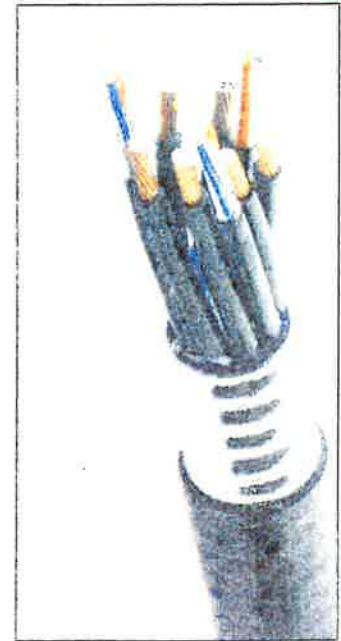


Figure 1: HYBRIFLEX Series

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

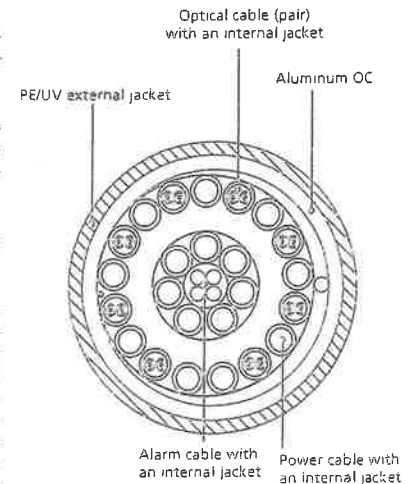


Figure 3: Construction Detail

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

ATTACHMENT 2

Site Name: Farmington N 2 Tower Height: 111ft		General	Power	Density						
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total		
*AT&T	1	427	100	880	0.0174	0.5867	0.30%			
*AT&T	1	500	100	1900	0.0203	1.0000	0.20%			
*AT&T	1	500	100	740	0.0203	0.4933	0.41%			
Verizon PCS	1	5000	109	0.1513	1970	1.0000	15.13%			
Verizon Cellular	9	389	109	0.1060	869	0.5793	18.29%			
Verizon AWS	1	7400	109	0.2240	2145	1.0000	22.40%			
Verizon 700	1	2200	109	0.0666	746	0.4973	13.39%			70.12%
* Source: Siting Council										

ATTACHMENT 3



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 111 ft Monopole
ATC Site Name : Farmington North 2 CT, CT
ATC Site Number : 411258
Engineering Number : OAA706793_C3_01
Proposed Carrier : Verizon
Carrier Site Name : Farmington N2, CT
Carrier Site Number : 467261
Site Location : 199 Town Farm Road
Farmington, CT 06032-1554
41.757800,-72.829900
County : Hartford
Date : July 25, 2017
Max Usage : 66%
Result : Pass

Prepared By:
Trevor Corns
Engineer Intern

Trevor Corns

Reviewed By:



Jul 28 2017 10:11 AM **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 111 ft monopole to reflect the change in loading by Verizon.

Supporting Documents

Tower Drawings	EEI Project #16046 Rev. 3, dated February 8, 2011
Foundation Drawing	EEI Project #16046 Rev. 2, dated December 14, 2010
Geotechnical Report	Dr. Clarence Welti Job #16046, dated September 11, 2009

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	97 mph (3-Second Gust, Vasd) / 125 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.18, S_1 = 0.06$
Site Class:	D - Stiff Soil

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 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					
109.0	109.0	6	Antel LPA-80063/4CF	T-Arms	(12) 1 5/8" Coax	Verizon
		1	VZW Unused Reserve: 17,116 sq in			
101.0	101.0	18	RCU	T-Arm	(18) 1 5/8" Coax (2) 0.78" 8 AWG 6 (1) 3" Conduit (1) 0.39" Fiber Trunk	AT&T Mobility
		1	Raycap DC6-48-60-18-8F			
		9	CCI DTMABP7819VG12A (w/ Bracket)			
		6	Ericsson RRUS-11			
		9	Andrew SBNH-1D6565C			

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
109.0	109.0	3	Antel BXA-70063/6CF	-	(6) 1 1/4" Coax	Verizon
		6	Antel LPA-185063/8CF			

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
109.0	109.0	3	Alcatel-Lucent B25 RRH4x30	T-Arms	(2) 1 1/4" Hybriflex	Verizon
		3	Alcatel-Lucent B13 RRH4x30-4R			
		3	Alcatel-Lucent B66A RRH 4x45			
		2	Raycap RC2DC-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 inside the pole shaft.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	62%	Pass
Shaft	55%	Pass
Base Plate	66%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	6,395.5	8,633.9	4,253.0	49%
Shear (Kips)	68.9	93.0	49.7	53%

* The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
109.0	Alcatel-Lucent B25 RRH4x30	Verizon	0.730	0.676
	Alcatel-Lucent B13 RRH4x30-4R			
	Alcatel-Lucent B66A RRH 4x45			
	Raycap RC2DC-3315-PF-48			
	Commscope SBNHH-1D65B			

*Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G



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.

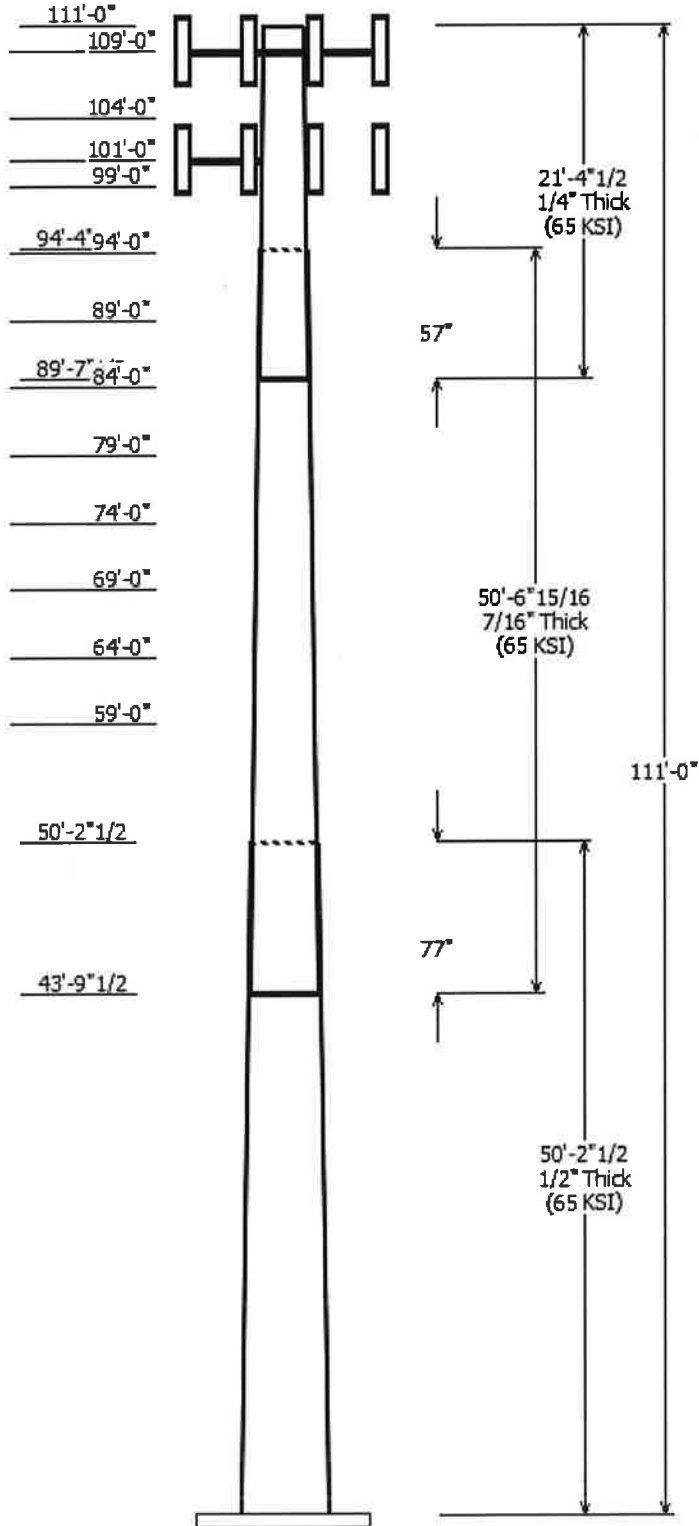
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

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.

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Job Information	
Pole :	411258
Code:	ANSI/TIA-222-G
Description :	
Client :	VERIZON WIRELESS
Struct Class :	II
Location :	Farmington North 2 CT, CT
Shape :	18 Sides
Exposure :	C
Height :	111.00 (ft)
Topo :	1
Base Elev (ft):	0.00
Taper:	0.300225(in/ft)

Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
		Accross Flats Top	Bottom					
1	50.210	43.92	59.00	0.500		0.000	0.300200	65
2	50.580	31.54	46.72	0.438	Slip Joint	77.000	0.300200	65
3	21.377	27.05	33.46	0.250	Slip Joint	57.000	0.300200	65

Discrete Appurtenance				
Attach Elev (ft)	Force Elev (ft)	Qty	Description	
109.000	109.000	6	Commscope SBNHH-1D65B	
109.000	109.000	2	Raycap RC2DC-3315-PF-48	
109.000	109.000	3	Alcatel-Lucent B66A RRH 4x45	
109.000	109.000	3	Alcatel-Lucent B13 RRH4x30-4R	
109.000	109.000	3	Alcatel-Lucent B25 RRH4x30	
109.000	109.000	1	VZW Unused Reserve: 17,116	
109.000	109.000	3	Flat T-Arm	
109.000	109.000	6	Antel LPA-80063/4CF	
109.000	109.000	1	Pine Branch	
104.000	104.000	1	Pine Branch	
101.000	101.000	18	RCU	
101.000	101.000	1	Round T-Arm	
101.000	101.000	9	Andrew SBNH-1D6565C (60.8	
101.000	101.000	6	Ericsson RRUS-11 (50 lbs.)	
101.000	101.000	9	CCI DTMABP7819VG12A (w/	
101.000	101.000	1	Raycap DC6-48-60-18-8F(32.8 lb	
99.000	99.000	1	Pine Branch	
94.000	94.000	1	Pine Branch	
89.000	89.000	1	Pine Branch	
84.000	84.000	1	Pine Branch	
79.000	79.000	1	Pine Branch	
74.000	74.000	1	Pine Branch	
69.000	69.000	1	Pine Branch	
64.000	64.000	1	Pine Branch	
59.000	59.000	1	Pine Branch	

Linear Appurtenance			
Elev (ft)		Description	Exposed To Wind
From	To		
0.000	101.0	0.39" Fiber Trunk	No
0.000	101.0	0.78" (19.7mm) 8	No
0.000	101.0	1 5/8" Coax	No
0.000	101.0	3" Conduit	No
0.000	109.0	1 1/4" Hybriflex	No
0.000	109.0	1 5/8" Coax	No

Load Cases	
1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method

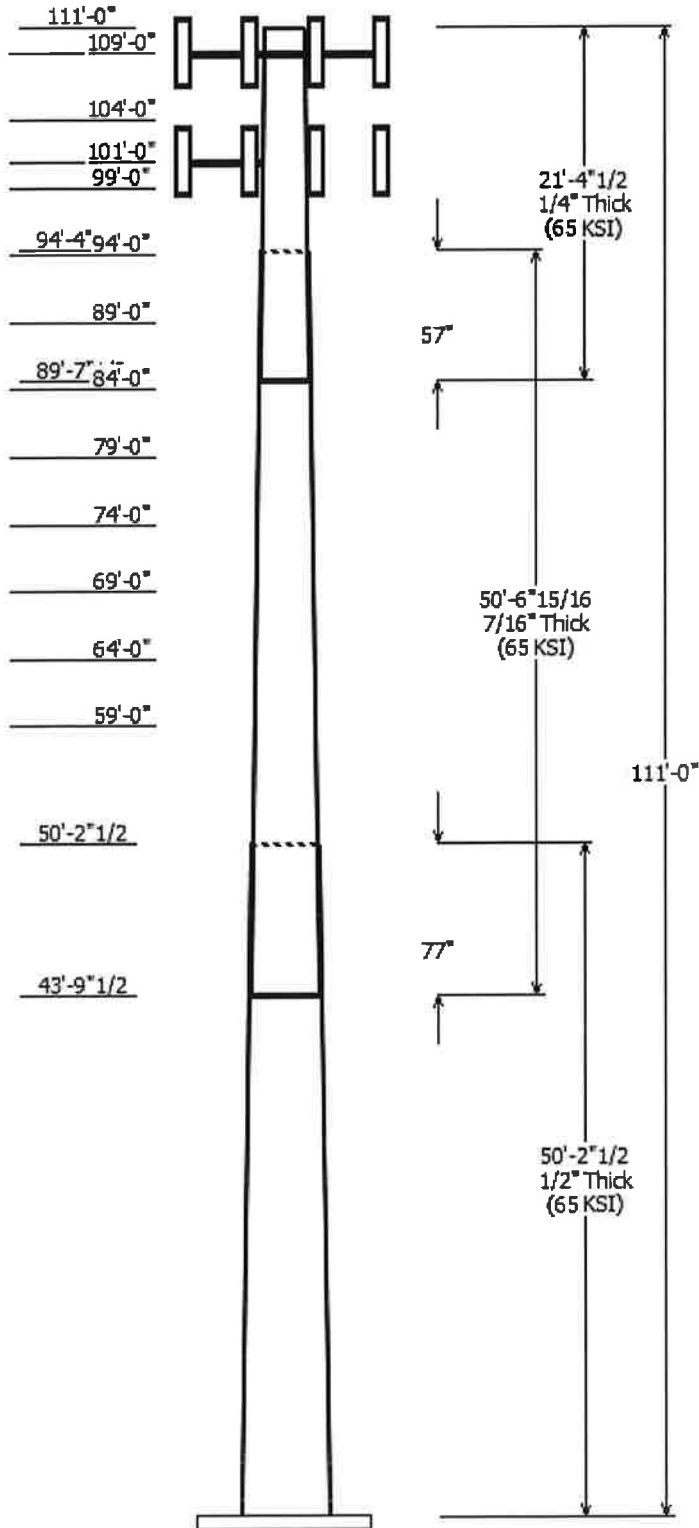
$(1.2 + 0.2Sds) * DL + E$	Seismic Equivalent Modal Analysis Method
$(0.9 - 0.2Sds) * DL + E$	Seismic (Reduced DL) Equivalent Lateral
$(0.9 - 0.2Sds) * DL + E$	Seismic (Reduced DL) Equivalent Modal
$1.0D + 1.0W$	Serviceability 60 mph

Reactions

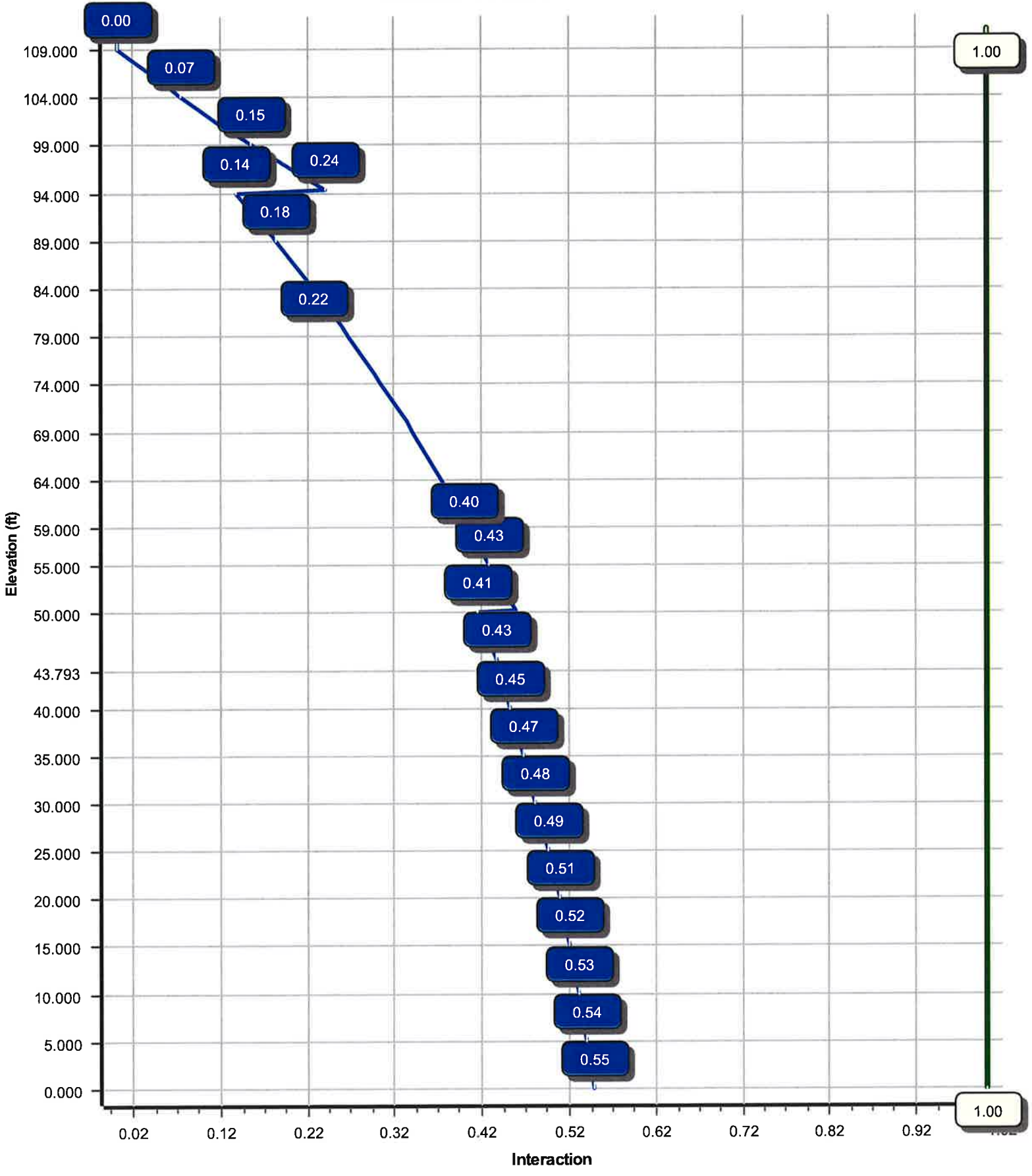
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	4253.02	49.73	47.50
0.9D + 1.6W	4237.83	49.71	35.61
1.2D + 1.0Di + 1.0Wi	1298.97	15.18	80.71
$(1.2 + 0.2Sds) * DL + E$ ELM	258.39	3.14	46.96
$(1.2 + 0.2Sds) * DL + E$ EMAM	278.00	3.10	46.96
$(0.9 - 0.2Sds) * DL + E$ ELM	257.33	3.14	32.64
$(0.9 - 0.2Sds) * DL + E$ EMAM	276.76	3.09	32.64
1.0D + 1.0W	1014.99	11.89	39.64

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000



Load Case : 1.2D + 1.6W
Max Ratio 54.59% at 0.0 ft



Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

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Customer: VERIZON WIRELESS

Analysis Parameters

Location:	HARTFORD County, CT	Height (ft):	111
Code:	ANSI/TIA-222-G	Base Diameter (in):	59.00
Shape:	18 Sides	Top Diameter (in):	27.05
Pole Type:	Taper	Taper (in/ft) :	0.300
Pole Manufacturer:		Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	97 mph
Exposure Category:	C	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0.0 ft	Design Ice Thickness:	1.00 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	1.12		
T _L (sec):	6	p:	1.3
S _s :	0.182	S ₁ :	0.064
F _a :	1.600	F _v :	2.400
S _{ds} :	0.194	S _{d1} :	0.102
		C _s :	0.061
		C _s Max:	0.061
		C _s Min:	0.030

Load Cases

1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2S _{ds}) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2S _{ds}) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2S _{ds}) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2S _{ds}) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

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Customer: VERIZON WIRELESS

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip			Bottom						Top							
				Joint Type	Joint Len (in)	Weight (lb)	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)	
1-18	50.210	0.5000	65		0.00	13,818	59.00	0.00	92.84	40140.4	19.40	118.00	43.92	50.21	68.91	16419.3	14.08	87.85	0.300225	
2-18	50.580	0.4375	65	Slip	77.00	9,248	46.72	43.79	64.28	17401.0	17.42	106.80	31.54	94.37	43.19	5279.4	11.30	72.10	0.300225	
3-18	21.377	0.2500	65	Slip	57.00	1,732	33.46	89.62	26.36	3674.5	22.19	133.87	27.05	111.00	21.27	1929.7	17.67	108.20	0.300225	
Shaft Weight						24,798														

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice			Ice			Distance From Face (ft)	Vert Ecc (ft)
			Weight (lb)	EPAa (sf)	Orientation Factor	Weight (lb)	EPAa (sf)	Orientation Factor		
109.00	Alcatel-Lucent B13 RRH4x30-	3	57.80	2.140	0.67	169.14	2.964	0.67	0.000	0.000
109.00	Alcatel-Lucent B25 RRH4x30	3	53.00	2.120	0.67	154.54	2.949	0.67	0.000	0.000
109.00	Alcatel-Lucent B66A RRH	3	67.00	2.580	0.67	184.92	3.505	0.67	0.000	0.000
109.00	Antel LPA-80063/4CF	6	20.00	6.140	0.76	298.22	7.508	0.76	0.000	0.000
109.00	Commscope SBNHH-1D65B	6	50.70	8.170	0.69	327.61	9.887	0.69	0.000	0.000
109.00	Flat T-Arm	3	250.00	12.900	0.67	519.96	23.463	0.67	0.000	0.000
109.00	Pine Branch	1	600.00	45.000	1.00	1,139.92	85.494	1.00	0.000	0.000
109.00	Raycap RC2DC-3315-PF-48	2	32.00	3.780	0.67	204.20	4.858	0.67	0.000	0.000
109.00	VZW Unused Reserve:	1	1478.40	118.96	1.00	2,808.76	226.008	1.00	0.000	0.000
104.00	Pine Branch	1	600.00	45.000	1.00	1,137.60	85.320	1.00	0.000	0.000
101.00	Andrew SBNH-1D6565C (60.8	9	60.80	11.450	0.70	355.32	15.607	0.70	0.000	0.000
101.00	CCI DTMABP7819VG12A (w/	9	19.20	1.370	0.50	62.91	2.372	0.50	0.000	0.000
101.00	Ericsson RRUS-11 (50 lbs.)	6	50.00	2.570	0.67	137.50	3.917	0.67	0.000	0.000
101.00	Raycap DC6-48-60-18-	1	32.80	1.280	1.00	111.99	2.061	1.00	0.000	0.000
101.00	RCU	18	1.00	0.160	0.50	16.89	0.448	0.50	0.000	0.000
101.00	Round T-Arm	1	250.00	9.700	0.67	518.27	20.282	0.67	0.000	0.000
99.00	Pine Branch	1	600.00	45.000	1.00	1,134.65	85.099	1.00	0.000	0.000
94.00	Pine Branch	1	600.00	45.000	1.00	1,131.82	84.887	1.00	0.000	0.000
89.00	Pine Branch	1	600.00	45.000	1.00	1,128.86	84.665	1.00	0.000	0.000
84.00	Pine Branch	1	600.00	45.000	1.00	1,125.74	84.430	1.00	0.000	0.000
79.00	Pine Branch	1	600.00	45.000	1.00	1,122.44	84.183	1.00	0.000	0.000
74.00	Pine Branch	1	600.00	45.000	1.00	1,118.95	83.921	1.00	0.000	0.000
69.00	Pine Branch	1	600.00	45.000	1.00	1,115.23	83.642	1.00	0.000	0.000
64.00	Pine Branch	1	600.00	45.000	1.00	1,111.24	83.343	1.00	0.000	0.000
59.00	Pine Branch	1	600.00	45.000	1.00	1,106.96	83.022	1.00	0.000	0.000
Totals		82	11170.80			27,954.61			Number of Loadings : 25	

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Projected Width (in)	Exposed To Wind	Carrier
0.00	109.00	2	1 1/4" Hybriflex Cable	1.54	1.00	N	0.00	Verizon
0.00	109.00	12	1 5/8" Coax	1.98	0.82	N	0.00	Verizon
0.00	101.00	1	0.39" Fiber Trunk	0.39	0.06	N	0.00	AT&T Mobility
0.00	101.00	2	0.78" (19.7mm) 8	0.78	0.59	N	0.00	AT&T MOBILITY
0.00	101.00	18	1 5/8" Coax	1.98	0.82	N	0.00	AT&T Mobility
0.00	101.00	1	3" Conduit	3.50	7.58	N	0.00	AT&T Mobility

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

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Customer: VERIZON WIRELESS

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.5000	59.000	92.836	40,140.4	19.40	118.00	78.6	1340.	0.0	0.0
5.00		0.5000	57.499	90.454	37,129.0	18.87	115.00	79.2	1271.	0.0	1,559.2
10.00		0.5000	55.998	88.072	34,272.1	18.34	112.00	79.8	1205.	0.0	1,518.7
15.00		0.5000	54.497	85.690	31,565.6	17.81	108.99	80.5	1140.	0.0	1,478.2
20.00		0.5000	52.995	83.307	29,005.5	17.28	105.99	81.1	1078.	0.0	1,437.6
25.00		0.5000	51.494	80.925	26,587.7	16.75	102.99	81.7	1017.	0.0	1,397.1
30.00		0.5000	49.993	78.543	24,308.2	16.22	99.99	82.3	957.7	0.0	1,356.6
35.00		0.5000	48.492	76.161	22,162.8	15.69	96.98	82.6	900.2	0.0	1,316.1
40.00		0.5000	46.991	73.779	20,147.5	15.16	93.98	82.6	844.5	0.0	1,275.5
43.79	Bot - Section 2	0.5000	45.852	71.971	18,702.8	14.76	91.70	82.6	803.4	0.0	940.7
45.00		0.5000	45.490	71.396	18,258.2	14.63	90.98	82.6	790.5	0.0	557.2
50.00		0.5000	43.989	69.014	16,490.9	14.10	87.98	82.6	738.4	0.0	2,261.8
50.21	Top - Section 1	0.4375	44.801	61.602	15,317.6	16.65	102.40	81.8	673.4	0.0	93.3
55.00		0.4375	43.363	59.605	13,875.8	16.07	99.11	82.5	630.3	0.0	987.8
59.00		0.4375	42.162	57.937	12,743.4	15.58	96.37	82.6	595.3	0.0	799.9
60.00		0.4375	41.861	57.520	12,470.3	15.46	95.68	82.6	586.7	0.0	196.4
64.00		0.4375	40.661	55.853	11,416.9	14.98	92.94	82.6	553.0	0.0	771.6
65.00		0.4375	40.360	55.436	11,163.2	14.86	92.25	82.6	544.8	0.0	189.3
69.00		0.4375	39.159	53.768	10,185.8	14.37	89.51	82.6	512.3	0.0	743.2
70.00		0.4375	38.859	53.351	9,950.7	14.25	88.82	82.6	504.4	0.0	182.3
74.00		0.4375	37.658	51.684	9,046.5	13.77	86.08	82.6	473.2	0.0	714.8
75.00		0.4375	37.358	51.267	8,829.4	13.65	85.39	82.6	465.5	0.0	175.2
79.00		0.4375	36.157	49.599	7,995.5	13.16	82.65	82.6	435.5	0.0	686.5
80.00		0.4375	35.857	49.183	7,795.6	13.04	81.96	82.6	428.2	0.0	168.1
84.00		0.4375	34.656	47.515	7,029.2	12.56	79.21	82.6	399.5	0.0	658.1
85.00		0.4375	34.356	47.098	6,845.8	12.44	78.53	82.6	392.5	0.0	161.0
89.00		0.4375	33.155	45.431	6,144.1	11.95	75.78	82.6	365.0	0.0	629.7
89.62	Bot - Section 3	0.4375	32.968	45.171	6,039.3	11.88	75.35	82.6	360.8	0.0	96.1
90.00		0.4375	32.855	45.014	5,976.5	11.83	75.10	82.6	358.3	0.0	91.5
94.00		0.4375	31.654	43.346	5,336.6	11.35	72.35	82.6	332.1	0.0	952.4
94.37	Top - Section 2	0.2500	32.042	25.226	3,221.3	21.19	128.17	76.5	198.0	0.0	87.1
95.00		0.2500	31.854	25.077	3,164.4	21.06	127.41	76.6	195.7	0.0	53.6
99.00		0.2500	30.653	24.124	2,817.2	20.21	122.61	77.6	181.0	0.0	334.8
100.0		0.2500	30.352	23.885	2,734.6	20.00	121.41	77.9	177.5	0.0	81.7
101.0		0.2500	30.052	23.647	2,653.6	19.79	120.21	78.1	173.9	0.0	80.9
104.0		0.2500	29.152	22.933	2,420.2	19.15	116.61	78.9	163.5	0.0	237.8
105.0		0.2500	28.851	22.694	2,345.5	18.94	115.41	79.1	160.1	0.0	77.6
109.0		0.2500	27.650	21.741	2,062.3	18.09	110.60	80.1	146.9	0.0	302.4
110.0		0.2500	27.350	21.503	1,995.3	17.88	109.40	80.4	143.7	0.0	73.6
111.0		0.2500	27.050	21.265	1,929.7	17.67	108.20	80.6	140.5	0.0	72.8
24,798.0											

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

7/28/2017 9:44:47 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W

97 mph with No Ice

18 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces			Sum of Forces			
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		274.2	0.0					0.0	0.0	274.2	0.0	0.0	0.0
5.00		541.3	1,871.1					0.0	212.5	541.3	2,083.6	0.0	0.0
10.00		527.2	1,822.4					0.0	212.5	527.2	2,035.0	0.0	0.0
15.00		521.1	1,773.8					0.0	212.5	521.1	1,986.3	0.0	0.0
20.00		528.5	1,725.2					0.0	212.5	528.5	1,937.7	0.0	0.0
25.00		538.5	1,676.5					0.0	212.5	538.5	1,889.1	0.0	0.0
30.00		543.4	1,627.9					0.0	212.5	543.4	1,840.4	0.0	0.0
35.00		544.6	1,579.3					0.0	212.5	544.6	1,791.8	0.0	0.0
40.00		477.7	1,530.6					0.0	212.5	477.7	1,743.2	0.0	0.0
43.79	Bot - Section 2	271.9	1,128.8					0.0	161.2	271.9	1,290.0	0.0	0.0
45.00		339.7	668.7					0.0	51.3	339.7	720.0	0.0	0.0
50.00		284.7	2,714.1					0.0	212.5	284.7	2,926.6	0.0	0.0
50.21	Top - Section 1	270.0	112.0					0.0	8.9	270.0	120.9	0.0	0.0
55.00		471.6	1,185.3					0.0	203.6	471.6	1,388.9	0.0	0.0
59.00	Appertunance(s)	265.8	959.9	2,052.5	0.0	0.0	720.0	0.0	170.0	2,318.4	1,849.9	0.0	0.0
60.00		262.0	235.7					0.0	42.5	262.0	278.2	0.0	0.0
64.00	Appertunance(s)	261.0	925.9	2,088.0	0.0	0.0	720.0	0.0	170.0	2,349.0	1,815.9	0.0	0.0
65.00		256.7	227.2					0.0	42.5	256.7	269.7	0.0	0.0
69.00	Appertunance(s)	255.6	891.8	2,121.3	0.0	0.0	720.0	0.0	170.0	2,376.9	1,781.9	0.0	0.0
70.00		250.8	218.7					0.0	42.5	250.8	261.2	0.0	0.0
74.00	Appertunance(s)	249.6	857.8	2,152.8	0.0	0.0	720.0	0.0	170.0	2,402.4	1,747.8	0.0	0.0
75.00		244.5	210.2					0.0	42.5	244.5	252.7	0.0	0.0
79.00	Appertunance(s)	243.2	823.7	2,182.6	0.0	0.0	720.0	0.0	170.0	2,425.8	1,713.8	0.0	0.0
80.00		237.7	201.7					0.0	42.5	237.7	244.2	0.0	0.0
84.00	Appertunance(s)	236.3	789.7	2,211.0	0.0	0.0	720.0	0.0	170.0	2,447.3	1,679.7	0.0	0.0
85.00		230.5	193.2					0.0	42.5	230.5	235.7	0.0	0.0
89.00	Appertunance(s)	212.0	755.7	2,238.1	0.0	0.0	720.0	0.0	170.0	2,450.1	1,645.7	0.0	0.0
89.62	Bot - Section 3	45.5	115.3					0.0	26.5	45.5	141.8	0.0	0.0
90.00		197.7	109.8					0.0	16.0	197.7	125.8	0.0	0.0
94.00	Appertunance(s)	197.0	1,142.9	2,264.0	0.0	0.0	720.0	0.0	170.0	2,461.1	2,032.9	0.0	0.0
94.37	Top - Section 2	44.3	104.5					0.0	15.9	44.3	120.4	0.0	0.0
95.00		201.9	64.4					0.0	26.6	201.9	91.0	0.0	0.0
99.00	Appertunance(s)	216.8	401.8	2,288.8	0.0	0.0	720.0	0.0	170.0	2,505.7	1,291.8	0.0	0.0
100.00		85.1	98.0					0.0	42.5	85.1	140.5	0.0	0.0
101.00	Appertunance(s)	167.5	97.0	3,981.8	0.0	0.0	1,585.0	0.0	42.5	4,149.3	1,724.5	0.0	0.0
104.00	Appertunance(s)	166.2	285.3	2,312.7	0.0	0.0	720.0	0.0	42.6	2,478.9	1,047.9	0.0	0.0
105.00		201.7	93.2					0.0	14.2	201.7	107.4	0.0	0.0
109.00	Appertunance(s)	200.0	362.9	12,867.8	0.0	0.0	4,620.0	0.0	56.8	13,067.8	5,039.7	0.0	0.0
110.00		78.2	88.3					0.0	0.0	78.2	88.3	0.0	0.0
111.00		38.9	87.3					0.0	0.0	38.9	87.3	0.0	0.0
Totals:										49,942.3	47,569.1	0.00	0.00

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

7/28/2017 9:44:48 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W

97 mph with No Ice

18 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-47.50	-49.73	0.00	-4,253.02	0.00	4,253.02	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.546
5.00	-45.29	-49.30	0.00	-4,004.37	0.00	4,004.37	6,448.38	3,224.19	15,089.0	7,555.74	0.08	-0.15	0.537
10.00	-43.13	-48.88	0.00	-3,757.87	0.00	3,757.87	6,327.91	3,163.95	14,413.8	7,217.61	0.31	-0.30	0.528
15.00	-41.02	-48.46	0.00	-3,513.47	0.00	3,513.47	6,204.77	3,102.38	13,747.6	6,884.02	0.70	-0.45	0.517
20.00	-38.96	-48.01	0.00	-3,271.20	0.00	3,271.20	6,078.95	3,039.48	13,090.9	6,555.22	1.26	-0.60	0.506
25.00	-36.95	-47.55	0.00	-3,031.14	0.00	3,031.14	5,950.47	2,975.24	12,444.4	6,231.45	1.97	-0.75	0.493
30.00	-34.99	-47.08	0.00	-2,793.38	0.00	2,793.38	5,819.32	2,909.66	11,808.4	5,912.97	2.84	-0.91	0.479
35.00	-33.08	-46.59	0.00	-2,557.99	0.00	2,557.99	5,658.36	2,829.18	11,130.0	5,573.30	3.88	-1.07	0.465
40.00	-31.23	-46.16	0.00	-2,325.02	0.00	2,325.02	5,481.38	2,740.69	10,441.2	5,228.37	5.08	-1.22	0.451
43.79	-29.89	-45.90	0.00	-2,149.94	0.00	2,149.94	5,347.10	2,673.55	9,933.28	4,974.02	6.10	-1.34	0.438
45.00	-29.10	-45.59	0.00	-2,094.56	0.00	2,094.56	5,304.39	2,652.20	9,774.36	4,894.45	6.45	-1.38	0.434
50.00	-26.12	-45.27	0.00	-1,866.61	0.00	1,866.61	5,127.41	2,563.70	9,129.52	4,571.55	7.98	-1.54	0.414
50.21	-25.94	-45.03	0.00	-1,857.10	0.00	1,857.10	4,536.35	2,268.18	8,252.88	4,132.58	8.05	-1.54	0.455
55.00	-24.46	-44.58	0.00	-1,641.42	0.00	1,641.42	4,425.87	2,212.93	7,788.33	3,899.95	9.67	-1.69	0.427
59.00	-22.63	-42.23	0.00	-1,463.11	0.00	1,463.11	4,304.44	2,152.22	7,360.60	3,685.77	11.14	-1.81	0.403
60.00	-22.30	-41.99	0.00	-1,420.88	0.00	1,420.88	4,273.47	2,136.74	7,254.51	3,632.65	11.52	-1.85	0.397
64.00	-20.51	-39.61	0.00	-1,252.91	0.00	1,252.91	4,149.58	2,074.79	6,837.85	3,424.01	13.12	-1.97	0.371
65.00	-20.20	-39.37	0.00	-1,213.30	0.00	1,213.30	4,118.61	2,059.30	6,735.61	3,372.81	13.54	-2.00	0.365
69.00	-18.46	-36.96	0.00	-1,055.81	0.00	1,055.81	3,994.72	1,997.36	6,334.35	3,171.88	15.27	-2.12	0.338
70.00	-18.16	-36.72	0.00	-1,018.85	0.00	1,018.85	3,963.75	1,981.87	6,235.97	3,122.62	15.71	-2.14	0.331
74.00	-16.47	-34.27	0.00	-871.98	0.00	871.98	3,839.86	1,919.93	5,850.11	2,929.41	17.56	-2.25	0.302
75.00	-16.19	-34.03	0.00	-837.71	0.00	837.71	3,808.88	1,904.44	5,755.57	2,882.07	18.03	-2.28	0.295
79.00	-14.54	-31.56	0.00	-701.58	0.00	701.58	3,684.99	1,842.50	5,385.13	2,696.57	19.99	-2.38	0.264
80.00	-14.27	-31.32	0.00	-670.03	0.00	670.03	3,654.02	1,827.01	5,294.44	2,651.15	20.49	-2.40	0.257
84.00	-12.67	-28.82	0.00	-544.74	0.00	544.74	3,530.13	1,765.07	4,939.39	2,473.37	22.54	-2.49	0.224
85.00	-12.42	-28.59	0.00	-515.93	0.00	515.93	3,499.16	1,749.58	4,852.56	2,429.89	23.07	-2.51	0.216
89.00	-10.87	-26.07	0.00	-401.58	0.00	401.58	3,375.27	1,687.63	4,512.92	2,259.81	25.21	-2.59	0.181
89.62	-10.73	-26.02	0.00	-385.32	0.00	385.32	3,355.96	1,677.98	4,461.10	2,233.86	25.55	-2.60	0.176
90.00	-10.59	-25.83	0.00	-375.52	0.00	375.52	3,344.30	1,672.15	4,429.93	2,218.26	25.75	-2.61	0.173
94.00	-8.66	-23.28	0.00	-272.21	0.00	272.21	3,220.41	1,610.20	4,105.69	2,055.90	27.96	-2.67	0.135
94.37	-8.54	-23.23	0.00	-263.52	0.00	263.52	1,736.32	868.16	2,268.20	1,135.78	28.17	-2.67	0.238
95.00	-8.44	-23.03	0.00	-248.96	0.00	248.96	1,729.57	864.78	2,245.90	1,124.62	28.52	-2.68	0.227
99.00	-7.26	-20.47	0.00	-156.83	0.00	156.83	1,685.48	842.74	2,104.83	1,053.98	30.81	-2.76	0.154
100.00	-7.11	-20.38	0.00	-136.36	0.00	136.36	1,674.19	837.09	2,069.91	1,036.50	31.39	-2.77	0.136
101.00	-5.59	-16.16	0.00	-115.98	0.00	115.98	1,662.79	831.39	2,035.15	1,019.09	31.97	-2.78	0.118
104.00	-4.66	-13.63	0.00	-67.50	0.00	67.50	1,627.96	813.98	1,931.80	967.34	33.73	-2.81	0.073
105.00	-4.56	-13.43	0.00	-53.87	0.00	53.87	1,616.13	808.07	1,897.68	950.25	34.32	-2.82	0.060
109.00	-0.17	-0.13	0.00	-0.17	0.00	0.17	1,567.77	783.88	1,762.92	882.77	36.69	-2.83	0.000
110.00	-0.09	-0.04	0.00	-0.04	0.00	0.04	1,555.41	777.71	1,729.69	866.13	37.28	-2.83	0.000
111.00	0.00	-0.04	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	37.88	-2.83	0.000

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

7/28/2017 9:44:48 AM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

18 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces			Sum of Forces			
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		274.2	0.0					0.0	0.0	274.2	0.0	0.0	0.0
5.00		541.3	1,403.3					0.0	159.4	541.3	1,562.7	0.0	0.0
10.00		527.2	1,366.8					0.0	159.4	527.2	1,526.2	0.0	0.0
15.00		521.1	1,330.4					0.0	159.4	521.1	1,489.7	0.0	0.0
20.00		528.5	1,293.9					0.0	159.4	528.5	1,453.3	0.0	0.0
25.00		538.5	1,257.4					0.0	159.4	538.5	1,416.8	0.0	0.0
30.00		543.4	1,220.9					0.0	159.4	543.4	1,380.3	0.0	0.0
35.00		544.6	1,184.5					0.0	159.4	544.6	1,343.8	0.0	0.0
40.00		477.7	1,148.0					0.0	159.4	477.7	1,307.4	0.0	0.0
43.79	Bot - Section 2	271.9	846.6					0.0	120.9	271.9	967.5	0.0	0.0
45.00		339.7	501.5					0.0	38.5	339.7	540.0	0.0	0.0
50.00		284.7	2,035.6					0.0	159.4	284.7	2,195.0	0.0	0.0
50.21	Top - Section 1	270.0	84.0					0.0	6.7	270.0	90.7	0.0	0.0
55.00		471.6	889.0					0.0	152.7	471.6	1,041.7	0.0	0.0
59.00	Appertunance(s)	265.8	719.9	2,052.5	0.0	0.0	540.0	0.0	127.5	2,318.4	1,387.5	0.0	0.0
60.00		262.0	176.8					0.0	31.9	262.0	208.7	0.0	0.0
64.00	Appertunance(s)	261.0	694.4	2,088.0	0.0	0.0	540.0	0.0	127.5	2,349.0	1,361.9	0.0	0.0
65.00		256.7	170.4					0.0	31.9	256.7	202.3	0.0	0.0
69.00	Appertunance(s)	255.6	668.9	2,121.3	0.0	0.0	540.0	0.0	127.5	2,376.9	1,336.4	0.0	0.0
70.00		250.8	164.0					0.0	31.9	250.8	195.9	0.0	0.0
74.00	Appertunance(s)	249.6	643.3	2,152.8	0.0	0.0	540.0	0.0	127.5	2,402.4	1,310.9	0.0	0.0
75.00		244.5	157.6					0.0	31.9	244.5	189.5	0.0	0.0
79.00	Appertunance(s)	243.2	617.8	2,182.6	0.0	0.0	540.0	0.0	127.5	2,425.8	1,285.3	0.0	0.0
80.00		237.7	151.3					0.0	31.9	237.7	183.1	0.0	0.0
84.00	Appertunance(s)	236.3	592.3	2,211.0	0.0	0.0	540.0	0.0	127.5	2,447.3	1,259.8	0.0	0.0
85.00		230.5	144.9					0.0	31.9	230.5	176.8	0.0	0.0
89.00	Appertunance(s)	212.0	566.7	2,238.1	0.0	0.0	540.0	0.0	127.5	2,450.1	1,234.3	0.0	0.0
89.62	Bot - Section 3	45.5	86.5					0.0	19.9	45.5	106.3	0.0	0.0
90.00		197.7	82.4					0.0	12.0	197.7	94.4	0.0	0.0
94.00	Appertunance(s)	197.0	857.1	2,264.0	0.0	0.0	540.0	0.0	127.5	2,461.1	1,524.7	0.0	0.0
94.37	Top - Section 2	44.3	78.4					0.0	11.9	44.3	90.3	0.0	0.0
95.00		201.9	48.3					0.0	20.0	201.9	68.2	0.0	0.0
99.00	Appertunance(s)	216.8	301.4	2,288.8	0.0	0.0	540.0	0.0	127.5	2,505.7	968.9	0.0	0.0
100.00		85.1	73.5					0.0	31.9	85.1	105.4	0.0	0.0
101.00	Appertunance(s)	167.5	72.8	3,981.8	0.0	0.0	1,188.7	0.0	31.9	4,149.3	1,293.4	0.0	0.0
104.00	Appertunance(s)	166.2	214.0	2,312.7	0.0	0.0	540.0	0.0	32.0	2,478.9	785.9	0.0	0.0
105.00		201.7	69.9					0.0	10.7	201.7	80.5	0.0	0.0
109.00	Appertunance(s)	200.0	272.2	12,867.8	0.0	0.0	3,465.0	0.0	42.6	13,067.8	3,779.8	0.0	0.0
110.00		78.2	66.2					0.0	0.0	78.2	66.2	0.0	0.0
111.00		38.9	65.5					0.0	0.0	38.9	65.5	0.0	0.0
Totals:										49,942.3	35,676.8	0.00	0.00

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

7/28/2017 9:44:48 AM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

18 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-35.61	-49.71	0.00	-4,237.83	0.00	4,237.83	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.542
5.00	-33.92	-49.26	0.00	-3,989.27	0.00	3,989.27	6,448.38	3,224.19	15,089.0	7,555.74	0.08	-0.15	0.533
10.00	-32.27	-48.81	0.00	-3,742.98	0.00	3,742.98	6,327.91	3,163.95	14,413.8	7,217.61	0.31	-0.29	0.524
15.00	-30.66	-48.36	0.00	-3,498.94	0.00	3,498.94	6,204.77	3,102.38	13,747.6	6,884.02	0.70	-0.44	0.513
20.00	-29.08	-47.90	0.00	-3,257.15	0.00	3,257.15	6,078.95	3,039.48	13,090.9	6,555.22	1.25	-0.60	0.502
25.00	-27.54	-47.41	0.00	-3,017.68	0.00	3,017.68	5,950.47	2,975.24	12,444.4	6,231.45	1.96	-0.75	0.489
30.00	-26.04	-46.92	0.00	-2,780.61	0.00	2,780.61	5,819.32	2,909.66	11,808.4	5,912.97	2.83	-0.91	0.475
35.00	-24.58	-46.42	0.00	-2,546.00	0.00	2,546.00	5,658.36	2,829.18	11,130.0	5,573.30	3.86	-1.06	0.461
40.00	-23.18	-45.97	0.00	-2,313.90	0.00	2,313.90	5,481.38	2,740.69	10,441.2	5,228.37	5.06	-1.22	0.447
43.79	-22.15	-45.71	0.00	-2,139.51	0.00	2,139.51	5,347.10	2,673.55	9,933.28	4,974.02	6.08	-1.34	0.435
45.00	-21.54	-45.39	0.00	-2,084.35	0.00	2,084.35	5,304.39	2,652.20	9,774.36	4,894.45	6.42	-1.38	0.430
50.00	-19.29	-45.08	0.00	-1,857.38	0.00	1,857.38	5,127.41	2,563.70	9,129.52	4,571.55	7.94	-1.53	0.410
50.21	-19.15	-44.83	0.00	-1,847.91	0.00	1,847.91	4,536.35	2,268.18	8,252.88	4,132.58	8.01	-1.54	0.452
55.00	-18.02	-44.38	0.00	-1,633.16	0.00	1,633.16	4,425.87	2,212.93	7,788.33	3,899.95	9.63	-1.68	0.423
59.00	-16.64	-42.04	0.00	-1,455.66	0.00	1,455.66	4,304.44	2,152.22	7,360.60	3,685.77	11.09	-1.81	0.399
60.00	-16.39	-41.79	0.00	-1,413.62	0.00	1,413.62	4,273.47	2,136.74	7,254.51	3,632.65	11.47	-1.84	0.393
64.00	-15.05	-39.42	0.00	-1,246.44	0.00	1,246.44	4,149.58	2,074.79	6,837.85	3,424.01	13.07	-1.96	0.368
65.00	-14.81	-39.18	0.00	-1,207.02	0.00	1,207.02	4,118.61	2,059.30	6,735.61	3,372.81	13.48	-1.99	0.362
69.00	-13.51	-36.77	0.00	-1,050.32	0.00	1,050.32	3,994.72	1,997.36	6,334.35	3,171.88	15.20	-2.11	0.335
70.00	-13.28	-36.53	0.00	-1,013.55	0.00	1,013.55	3,963.75	1,981.87	6,235.97	3,122.62	15.65	-2.13	0.328
74.00	-12.02	-34.09	0.00	-867.44	0.00	867.44	3,839.86	1,919.93	5,850.11	2,929.41	17.48	-2.24	0.300
75.00	-11.81	-33.85	0.00	-833.35	0.00	833.35	3,808.88	1,904.44	5,755.57	2,882.07	17.96	-2.27	0.293
79.00	-10.59	-31.39	0.00	-697.94	0.00	697.94	3,684.99	1,842.50	5,385.13	2,696.57	19.90	-2.37	0.262
80.00	-10.38	-31.15	0.00	-666.56	0.00	666.56	3,654.02	1,827.01	5,294.44	2,651.15	20.40	-2.39	0.255
84.00	-9.20	-28.66	0.00	-541.95	0.00	541.95	3,530.13	1,765.07	4,939.39	2,473.37	22.44	-2.48	0.222
85.00	-9.01	-28.43	0.00	-513.28	0.00	513.28	3,499.16	1,749.58	4,852.56	2,429.89	22.96	-2.50	0.214
89.00	-7.87	-25.94	0.00	-399.55	0.00	399.55	3,375.27	1,687.63	4,512.92	2,259.81	25.09	-2.58	0.179
89.62	-7.76	-25.89	0.00	-383.39	0.00	383.39	3,355.96	1,677.98	4,461.10	2,233.86	25.43	-2.59	0.174
90.00	-7.66	-25.69	0.00	-373.63	0.00	373.63	3,344.30	1,672.15	4,429.93	2,218.26	25.64	-2.60	0.171
94.00	-6.24	-23.17	0.00	-270.87	0.00	270.87	3,220.41	1,610.20	4,105.69	2,055.90	27.84	-2.66	0.134
94.37	-6.14	-23.12	0.00	-262.23	0.00	262.23	1,736.32	868.16	2,268.20	1,135.78	28.05	-2.66	0.235
95.00	-6.07	-22.92	0.00	-247.74	0.00	247.74	1,729.57	864.78	2,245.90	1,124.62	28.40	-2.67	0.224
99.00	-5.20	-20.37	0.00	-156.07	0.00	156.07	1,685.48	842.74	2,104.83	1,053.98	30.67	-2.74	0.152
100.00	-5.10	-20.28	0.00	-135.70	0.00	135.70	1,674.19	837.09	2,069.91	1,036.50	31.25	-2.76	0.135
101.00	-4.00	-16.08	0.00	-115.41	0.00	115.41	1,662.79	831.39	2,035.15	1,019.09	31.83	-2.77	0.116
104.00	-3.33	-13.57	0.00	-67.17	0.00	67.17	1,627.96	813.98	1,931.80	967.34	33.58	-2.80	0.072
105.00	-3.26	-13.36	0.00	-53.61	0.00	53.61	1,616.13	808.07	1,897.68	950.25	34.16	-2.81	0.059
109.00	-0.13	-0.12	0.00	-0.17	0.00	0.17	1,567.77	783.88	1,762.92	882.77	36.52	-2.82	0.000
110.00	-0.06	-0.04	0.00	-0.04	0.00	0.04	1,555.41	777.71	1,729.69	866.13	37.12	-2.82	0.000
111.00	0.00	-0.04	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	37.71	-2.82	0.000

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

7/28/2017 9:44:49 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

18 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor :1.00

Wind Importance Factor :1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		88.5	0.0					0.0	0.0	88.5	0.0	0.0	0.0
5.00		175.2	2,442.6					0.0	212.5	175.2	2,655.1	0.0	0.0
10.00		171.7	2,446.0					0.0	212.5	171.7	2,658.5	0.0	0.0
15.00		170.4	2,414.0					0.0	212.5	170.4	2,626.5	0.0	0.0
20.00		173.5	2,370.3					0.0	212.5	173.5	2,582.8	0.0	0.0
25.00		177.4	2,320.5					0.0	212.5	177.4	2,533.1	0.0	0.0
30.00		179.6	2,267.0					0.0	212.5	179.6	2,479.5	0.0	0.0
35.00		180.6	2,210.7					0.0	212.5	180.6	2,423.2	0.0	0.0
40.00		158.9	2,152.5					0.0	212.5	158.9	2,365.0	0.0	0.0
43.79	Bot - Section 2	90.6	1,595.0					0.0	161.2	90.6	1,756.2	0.0	0.0
45.00		113.4	819.5					0.0	51.3	113.4	870.7	0.0	0.0
50.00		95.1	3,323.8					0.0	212.5	95.1	3,536.3	0.0	0.0
50.21	Top - Section 1	90.5	137.7					0.0	8.9	90.5	146.6	0.0	0.0
55.00		158.3	1,756.8					0.0	203.6	158.3	1,960.4	0.0	0.0
59.00	Appertunance(s)	89.5	1,428.4	628.9	0.0	0.0	1,827.0	0.0	170.0	718.3	3,425.4	0.0	0.0
60.00		88.5	352.6					0.0	42.5	88.5	395.1	0.0	0.0
64.00	Appertunance(s)	88.2	1,382.5	642.2	0.0	0.0	1,831.2	0.0	170.0	730.4	3,383.8	0.0	0.0
65.00		87.0	341.0					0.0	42.5	87.0	383.5	0.0	0.0
69.00	Appertunance(s)	86.7	1,336.0	654.8	0.0	0.0	1,835.2	0.0	170.0	741.5	3,341.3	0.0	0.0
70.00		85.4	329.4					0.0	42.5	85.4	371.9	0.0	0.0
74.00	Appertunance(s)	85.1	1,289.1	666.7	0.0	0.0	1,838.9	0.0	170.0	751.8	3,298.1	0.0	0.0
75.00		83.7	317.6					0.0	42.5	83.7	360.1	0.0	0.0
79.00	Appertunance(s)	83.3	1,241.7	678.1	0.0	0.0	1,842.4	0.0	170.0	761.4	3,254.2	0.0	0.0
80.00		81.7	305.7					0.0	42.5	81.7	348.2	0.0	0.0
84.00	Appertunance(s)	81.3	1,194.0	688.9	0.0	0.0	1,845.7	0.0	170.0	770.2	3,209.7	0.0	0.0
85.00		79.7	293.7					0.0	42.5	79.7	336.2	0.0	0.0
89.00	Appertunance(s)	73.4	1,145.9	699.3	0.0	0.0	1,848.9	0.0	170.0	772.7	3,164.8	0.0	0.0
89.62	Bot - Section 3	15.8	176.0					0.0	26.5	15.8	202.5	0.0	0.0
90.00		68.7	146.9					0.0	16.0	68.7	162.9	0.0	0.0
94.00	Appertunance(s)	68.5	1,524.3	709.2	0.0	0.0	1,851.8	0.0	170.0	777.7	3,546.2	0.0	0.0
94.37	Top - Section 2	15.4	140.1					0.0	15.9	15.4	155.9	0.0	0.0
95.00		70.5	123.8					0.0	26.6	70.5	150.4	0.0	0.0
99.00	Appertunance(s)	75.9	768.6	718.8	0.0	0.0	1,854.6	0.0	170.0	794.6	2,793.3	0.0	0.0
100.00		29.9	189.1					0.0	42.5	29.9	231.6	0.0	0.0
101.00	Appertunance(s)	59.0	187.4	974.3	0.0	0.0	4,907.5	0.0	42.5	1,033.2	5,137.4	0.0	0.0
104.00	Appertunance(s)	58.6	549.4	728.2	0.0	0.0	1,857.6	0.0	42.6	786.8	2,449.6	0.0	0.0
105.00		71.5	180.5					0.0	14.2	71.5	194.7	0.0	0.0
109.00	Appertunance(s)	71.0	699.7	3,683.6	0.0	0.0	10,729.2	0.0	56.8	3,754.6	11,485.7	0.0	0.0
110.00		27.9	171.9					0.0	0.0	27.9	171.9	0.0	0.0
111.00		13.9	170.1					0.0	0.0	13.9	170.1	0.0	0.0
Totals:										15,236.4	80,718.6	0.00	0.00

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

7/28/2017 9:44:49 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

18 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor :1.00

Wind Importance Factor :1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-80.71	-15.18	0.00	-1,298.97	0.00	1,298.97	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.177
5.00	-78.05	-15.07	0.00	-1,223.07	0.00	1,223.07	6,448.38	3,224.19	15,089.0	7,555.74	0.02	-0.04	0.174
10.00	-75.38	-14.95	0.00	-1,147.74	0.00	1,147.74	6,327.91	3,163.95	14,413.8	7,217.61	0.10	-0.09	0.171
15.00	-72.74	-14.83	0.00	-1,072.99	0.00	1,072.99	6,204.77	3,102.38	13,747.6	6,884.02	0.22	-0.14	0.168
20.00	-70.14	-14.71	0.00	-998.83	0.00	998.83	6,078.95	3,039.48	13,090.9	6,555.22	0.38	-0.18	0.164
25.00	-67.60	-14.58	0.00	-925.27	0.00	925.27	5,950.47	2,975.24	12,444.4	6,231.45	0.60	-0.23	0.160
30.00	-65.11	-14.44	0.00	-852.38	0.00	852.38	5,819.32	2,909.66	11,808.4	5,912.97	0.87	-0.28	0.155
35.00	-62.67	-14.30	0.00	-780.16	0.00	780.16	5,658.36	2,829.18	11,130.0	5,573.30	1.18	-0.33	0.151
40.00	-60.30	-14.17	0.00	-708.65	0.00	708.65	5,481.38	2,740.69	10,441.2	5,228.37	1.55	-0.37	0.147
43.79	-58.54	-14.10	0.00	-654.89	0.00	654.89	5,347.10	2,673.55	9,933.28	4,974.02	1.86	-0.41	0.143
45.00	-57.66	-14.01	0.00	-637.88	0.00	637.88	5,304.39	2,652.20	9,774.36	4,894.45	1.97	-0.42	0.141
50.00	-54.12	-13.91	0.00	-567.85	0.00	567.85	5,127.41	2,563.70	9,129.52	4,571.55	2.44	-0.47	0.135
50.21	-53.97	-13.84	0.00	-564.93	0.00	564.93	4,536.35	2,268.18	8,252.88	4,132.58	2.46	-0.47	0.149
55.00	-52.00	-13.70	0.00	-498.66	0.00	498.66	4,425.87	2,212.93	7,788.33	3,899.95	2.95	-0.51	0.140
59.00	-48.57	-12.97	0.00	-443.87	0.00	443.87	4,304.44	2,152.22	7,360.60	3,685.77	3.40	-0.55	0.132
60.00	-48.18	-12.90	0.00	-430.90	0.00	430.90	4,273.47	2,136.74	7,254.51	3,632.65	3.52	-0.56	0.130
64.00	-44.79	-12.15	0.00	-379.31	0.00	379.31	4,149.58	2,074.79	6,837.85	3,424.01	4.01	-0.60	0.122
65.00	-44.41	-12.08	0.00	-367.16	0.00	367.16	4,118.61	2,059.30	6,735.61	3,372.81	4.13	-0.61	0.120
69.00	-41.07	-11.31	0.00	-318.86	0.00	318.86	3,994.72	1,997.36	6,334.35	3,171.88	4.66	-0.64	0.111
70.00	-40.69	-11.24	0.00	-307.55	0.00	307.55	3,963.75	1,981.87	6,235.97	3,122.62	4.79	-0.65	0.109
74.00	-37.40	-10.46	0.00	-262.60	0.00	262.60	3,839.86	1,919.93	5,850.11	2,929.41	5.36	-0.69	0.099
75.00	-37.04	-10.39	0.00	-252.14	0.00	252.14	3,808.88	1,904.44	5,755.57	2,882.07	5.50	-0.69	0.097
79.00	-33.79	-9.59	0.00	-210.60	0.00	210.60	3,684.99	1,842.50	5,385.13	2,696.57	6.10	-0.72	0.087
80.00	-33.44	-9.52	0.00	-201.00	0.00	201.00	3,654.02	1,827.01	5,294.44	2,651.15	6.25	-0.73	0.085
84.00	-30.24	-8.72	0.00	-162.93	0.00	162.93	3,530.13	1,765.07	4,939.39	2,473.37	6.87	-0.76	0.074
85.00	-29.90	-8.64	0.00	-154.21	0.00	154.21	3,499.16	1,749.58	4,852.56	2,429.89	7.03	-0.76	0.072
89.00	-26.75	-7.83	0.00	-119.66	0.00	119.66	3,375.27	1,687.63	4,512.92	2,259.81	7.68	-0.79	0.061
89.62	-26.54	-7.81	0.00	-114.78	0.00	114.78	3,355.96	1,677.98	4,461.10	2,233.86	7.79	-0.79	0.059
90.00	-26.38	-7.75	0.00	-111.84	0.00	111.84	3,344.30	1,672.15	4,429.93	2,218.26	7.85	-0.79	0.058
94.00	-22.84	-6.92	0.00	-80.85	0.00	80.85	3,220.41	1,610.20	4,105.69	2,055.90	8.52	-0.81	0.046
94.37	-22.69	-6.91	0.00	-78.27	0.00	78.27	1,736.32	868.16	2,268.20	1,135.78	8.58	-0.81	0.082
95.00	-22.54	-6.84	0.00	-73.94	0.00	73.94	1,729.57	864.78	2,245.90	1,124.62	8.69	-0.81	0.079
99.00	-19.76	-6.01	0.00	-46.59	0.00	46.59	1,685.48	842.74	2,104.83	1,053.98	9.38	-0.84	0.056
100.00	-19.52	-5.98	0.00	-40.58	0.00	40.58	1,674.19	837.09	2,069.91	1,036.50	9.56	-0.84	0.051
101.00	-14.40	-4.87	0.00	-34.61	0.00	34.61	1,662.79	831.39	2,035.15	1,019.09	9.74	-0.84	0.043
104.00	-11.96	-4.05	0.00	-20.00	0.00	20.00	1,627.96	813.98	1,931.80	967.34	10.27	-0.85	0.028
105.00	-11.77	-3.97	0.00	-15.96	0.00	15.96	1,616.13	808.07	1,897.68	950.25	10.45	-0.86	0.024
109.00	-0.34	-0.05	0.00	-0.06	0.00	0.06	1,567.77	783.88	1,762.92	882.77	11.17	-0.86	0.000
110.00	-0.17	-0.02	0.00	-0.02	0.00	0.02	1,555.41	777.71	1,729.69	866.13	11.35	-0.86	0.000
111.00	0.00	-0.01	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	11.53	-0.86	0.000

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

7/28/2017 9:44:50 AM

Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W

Serviceability 60 mph

18 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces			Sum of Forces			
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		65.6	0.0					0.0	0.0	65.6	0.0	0.0	0.0
5.00		129.4	1,559.2					0.0	177.1	129.4	1,736.3	0.0	0.0
10.00		126.1	1,518.7					0.0	177.1	126.1	1,695.8	0.0	0.0
15.00		124.6	1,478.2					0.0	177.1	124.6	1,655.3	0.0	0.0
20.00		126.4	1,437.6					0.0	177.1	126.4	1,614.7	0.0	0.0
25.00		128.8	1,397.1					0.0	177.1	128.8	1,574.2	0.0	0.0
30.00		130.0	1,356.6					0.0	177.1	130.0	1,533.7	0.0	0.0
35.00		130.2	1,316.1					0.0	177.1	130.2	1,493.2	0.0	0.0
40.00		114.2	1,275.5					0.0	177.1	114.2	1,452.6	0.0	0.0
43.79	Bot - Section 2	65.0	940.7					0.0	134.4	65.0	1,075.0	0.0	0.0
45.00		81.2	557.2					0.0	42.7	81.2	600.0	0.0	0.0
50.00		68.1	2,261.8					0.0	177.1	68.1	2,438.9	0.0	0.0
50.21	Top - Section 1	64.6	93.3					0.0	7.4	64.6	100.8	0.0	0.0
55.00		112.8	987.8					0.0	169.7	112.8	1,157.5	0.0	0.0
59.00	Appertunance(s)	63.6	799.9	490.8	0.0	0.0	600.0	0.0	141.7	554.4	1,541.6	0.0	0.0
60.00		62.7	196.4					0.0	35.4	62.7	231.9	0.0	0.0
64.00	Appertunance(s)	62.4	771.6	499.3	0.0	0.0	600.0	0.0	141.7	561.7	1,513.2	0.0	0.0
65.00		61.4	189.3					0.0	35.4	61.4	224.8	0.0	0.0
69.00	Appertunance(s)	61.1	743.2	507.3	0.0	0.0	600.0	0.0	141.7	568.4	1,484.9	0.0	0.0
70.00		60.0	182.3					0.0	35.4	60.0	217.7	0.0	0.0
74.00	Appertunance(s)	59.7	714.8	514.8	0.0	0.0	600.0	0.0	141.7	574.5	1,456.5	0.0	0.0
75.00		58.5	175.2					0.0	35.4	58.5	210.6	0.0	0.0
79.00	Appertunance(s)	58.1	686.5	521.9	0.0	0.0	600.0	0.0	141.7	580.1	1,428.1	0.0	0.0
80.00		56.8	168.1					0.0	35.4	56.8	203.5	0.0	0.0
84.00	Appertunance(s)	56.5	658.1	528.7	0.0	0.0	600.0	0.0	141.7	585.2	1,399.8	0.0	0.0
85.00		55.1	161.0					0.0	35.4	55.1	196.4	0.0	0.0
89.00	Appertunance(s)	50.7	629.7	535.2	0.0	0.0	600.0	0.0	141.7	585.9	1,371.4	0.0	0.0
89.62	Bot - Section 3	10.9	96.1					0.0	22.1	10.9	118.2	0.0	0.0
90.00		47.3	91.5					0.0	13.3	47.3	104.9	0.0	0.0
94.00	Appertunance(s)	47.1	952.4	541.4	0.0	0.0	600.0	0.0	141.7	588.5	1,694.1	0.0	0.0
94.37	Top - Section 2	10.6	87.1					0.0	13.2	10.6	100.3	0.0	0.0
95.00		48.3	53.6					0.0	22.2	48.3	75.8	0.0	0.0
99.00	Appertunance(s)	51.9	334.8	547.3	0.0	0.0	600.0	0.0	141.7	599.2	1,076.5	0.0	0.0
100.00		20.3	81.7					0.0	35.4	20.3	117.1	0.0	0.0
101.00	Appertunance(s)	40.1	80.9	952.2	0.0	0.0	1,320.8	0.0	35.4	992.2	1,437.1	0.0	0.0
104.00	Appertunance(s)	39.7	237.8	553.0	0.0	0.0	600.0	0.0	35.5	592.8	873.3	0.0	0.0
105.00		48.2	77.6					0.0	11.8	48.2	89.5	0.0	0.0
109.00	Appertunance(s)	47.8	302.4	3,077.1	0.0	0.0	3,850.0	0.0	47.4	3,124.9	4,199.8	0.0	0.0
110.00		18.7	73.6					0.0	0.0	18.7	73.6	0.0	0.0
111.00		9.3	72.8					0.0	0.0	9.3	72.8	0.0	0.0
Totals:										11,942.8	39,640.9	0.00	0.00

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

7/28/2017 9:44:50 AM

Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W

Serviceability 60 mph

18 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-39.64	-11.89	0.00	-1,014.99	0.00	1,014.99	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.135
5.00	-37.89	-11.78	0.00	-955.55	0.00	955.55	6,448.38	3,224.19	15,089.0	7,555.74	0.02	-0.03	0.132
10.00	-36.19	-11.68	0.00	-896.63	0.00	896.63	6,327.91	3,163.95	14,413.8	7,217.61	0.07	-0.07	0.130
15.00	-34.53	-11.57	0.00	-838.25	0.00	838.25	6,204.77	3,102.38	13,747.6	6,884.02	0.17	-0.11	0.127
20.00	-32.91	-11.46	0.00	-780.39	0.00	780.39	6,078.95	3,039.48	13,090.9	6,555.22	0.30	-0.14	0.124
25.00	-31.33	-11.35	0.00	-723.07	0.00	723.07	5,950.47	2,975.24	12,444.4	6,231.45	0.47	-0.18	0.121
30.00	-29.78	-11.23	0.00	-666.32	0.00	666.32	5,819.32	2,909.66	11,808.4	5,912.97	0.68	-0.22	0.118
35.00	-28.28	-11.12	0.00	-610.15	0.00	610.15	5,658.36	2,829.18	11,130.0	5,573.30	0.93	-0.25	0.114
40.00	-26.83	-11.01	0.00	-554.56	0.00	554.56	5,481.38	2,740.69	10,441.2	5,228.37	1.21	-0.29	0.111
43.79	-25.75	-10.95	0.00	-512.80	0.00	512.80	5,347.10	2,673.55	9,933.28	4,974.02	1.46	-0.32	0.108
45.00	-25.14	-10.87	0.00	-499.58	0.00	499.58	5,304.39	2,652.20	9,774.36	4,894.45	1.54	-0.33	0.107
50.00	-22.70	-10.80	0.00	-445.21	0.00	445.21	5,127.41	2,563.70	9,129.52	4,571.55	1.90	-0.37	0.102
50.21	-22.60	-10.74	0.00	-442.95	0.00	442.95	4,536.35	2,268.18	8,252.88	4,132.58	1.92	-0.37	0.112
55.00	-21.44	-10.63	0.00	-391.50	0.00	391.50	4,425.87	2,212.93	7,788.33	3,899.95	2.31	-0.40	0.105
59.00	-19.90	-10.07	0.00	-348.97	0.00	348.97	4,304.44	2,152.22	7,360.60	3,685.77	2.66	-0.43	0.099
60.00	-19.66	-10.02	0.00	-338.89	0.00	338.89	4,273.47	2,136.74	7,254.51	3,632.65	2.75	-0.44	0.098
64.00	-18.15	-9.45	0.00	-298.83	0.00	298.83	4,149.58	2,074.79	6,837.85	3,424.01	3.13	-0.47	0.092
65.00	-17.92	-9.39	0.00	-289.39	0.00	289.39	4,118.61	2,059.30	6,735.61	3,372.81	3.23	-0.48	0.090
69.00	-16.44	-8.81	0.00	-251.83	0.00	251.83	3,994.72	1,997.36	6,334.35	3,171.88	3.64	-0.50	0.084
70.00	-16.22	-8.76	0.00	-243.02	0.00	243.02	3,963.75	1,981.87	6,235.97	3,122.62	3.75	-0.51	0.082
74.00	-14.77	-8.17	0.00	-207.99	0.00	207.99	3,839.86	1,919.93	5,850.11	2,929.41	4.19	-0.54	0.075
75.00	-14.55	-8.12	0.00	-199.82	0.00	199.82	3,808.88	1,904.44	5,755.57	2,882.07	4.30	-0.54	0.073
79.00	-13.13	-7.53	0.00	-167.36	0.00	167.36	3,684.99	1,842.50	5,385.13	2,696.57	4.77	-0.57	0.066
80.00	-12.92	-7.47	0.00	-159.83	0.00	159.83	3,654.02	1,827.01	5,294.44	2,651.15	4.89	-0.57	0.064
84.00	-11.53	-6.87	0.00	-129.95	0.00	129.95	3,530.13	1,765.07	4,939.39	2,473.37	5.38	-0.59	0.056
85.00	-11.33	-6.82	0.00	-123.08	0.00	123.08	3,499.16	1,749.58	4,852.56	2,429.89	5.50	-0.60	0.054
89.00	-9.97	-6.22	0.00	-95.81	0.00	95.81	3,375.27	1,687.63	4,512.92	2,259.81	6.01	-0.62	0.045
89.62	-9.85	-6.21	0.00	-91.93	0.00	91.93	3,355.96	1,677.98	4,461.10	2,233.86	6.10	-0.62	0.044
90.00	-9.74	-6.16	0.00	-89.59	0.00	89.59	3,344.30	1,672.15	4,429.93	2,218.26	6.14	-0.62	0.043
94.00	-8.05	-5.55	0.00	-64.95	0.00	64.95	3,220.41	1,610.20	4,105.69	2,055.90	6.67	-0.64	0.034
94.37	-7.95	-5.54	0.00	-62.88	0.00	62.88	1,736.32	868.16	2,268.20	1,135.78	6.72	-0.64	0.060
95.00	-7.88	-5.50	0.00	-59.40	0.00	59.40	1,729.57	864.78	2,245.90	1,124.62	6.81	-0.64	0.057
99.00	-6.81	-4.89	0.00	-37.42	0.00	37.42	1,685.48	842.74	2,104.83	1,053.98	7.35	-0.66	0.040
100.00	-6.69	-4.86	0.00	-32.54	0.00	32.54	1,674.19	837.09	2,069.91	1,036.50	7.49	-0.66	0.035
101.00	-5.26	-3.86	0.00	-27.67	0.00	27.67	1,662.79	831.39	2,035.15	1,019.09	7.63	-0.66	0.030
104.00	-4.40	-3.25	0.00	-16.11	0.00	16.11	1,627.96	813.98	1,931.80	967.34	8.05	-0.67	0.019
105.00	-4.31	-3.20	0.00	-12.86	0.00	12.86	1,616.13	808.07	1,897.68	950.25	8.19	-0.67	0.016
109.00	-0.15	-0.03	0.00	-0.04	0.00	0.04	1,567.77	783.88	1,762.92	882.77	8.75	-0.68	0.000
110.00	-0.07	-0.01	0.00	-0.01	0.00	0.01	1,555.41	777.71	1,729.69	866.13	8.90	-0.68	0.000
111.00	0.00	-0.01	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	9.04	-0.68	0.000

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

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Customer: VERIZON WIRELESS

Equivalent Lateral Forces Method Analysis

(Based on ASCE7-10 Chapters 11, 12, 15)

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.06
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.06
Upper Limit C_s	0.06
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	1.12
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.31
Total Unfactored Dead Load:	39.64 k
Seismic Base Shear (E):	3.14 k

Load Case (1.2 + 0.2Sds) * DL + E ELM

Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	110.50	73	35	0.004	12	90
38	109.50	74	35	0.004	12	91
37	107.00	350	159	0.018	56	433
36	104.50	89	40	0.004	14	111
35	102.50	273	118	0.013	41	339
34	100.50	116	49	0.005	17	144
33	99.50	117	48	0.005	17	145
32	97.00	477	191	0.021	67	590
31	94.69	76	29	0.003	10	94
30	94.19	100	39	0.004	14	124
29	92.00	1,094	409	0.046	143	1,355
28	89.81	105	38	0.004	13	130
27	89.31	118	42	0.005	15	146
26	87.00	771	268	0.030	94	956
25	84.50	196	66	0.007	23	243
24	82.00	800	257	0.029	90	991
23	79.50	203	63	0.007	22	252
22	77.00	828	245	0.027	86	1,026
21	74.50	211	60	0.007	21	261
20	72.00	857	232	0.026	81	1,061
19	69.50	218	56	0.006	20	270
18	67.00	885	218	0.024	76	1,096
17	64.50	225	53	0.006	18	278

Site Number: 411258

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

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Customer: VERIZON WIRELESS

16	62.00	913	204	0.023	71	1,131
15	59.50	232	49	0.005	17	287
14	57.00	942	188	0.021	66	1,167
13	52.60	1,157	208	0.023	73	1,434
12	50.10	101	17	0.002	6	125
11	47.50	2,439	383	0.043	134	3,021
10	44.40	600	86	0.010	30	743
9	41.90	1,075	143	0.016	50	1,332
8	37.50	1,453	168	0.019	59	1,800
7	32.50	1,493	143	0.016	50	1,850
6	27.50	1,534	118	0.013	41	1,900
5	22.50	1,574	93	0.010	33	1,950
4	17.50	1,615	69	0.008	24	2,000
3	12.50	1,655	45	0.005	16	2,051
2	7.50	1,696	24	0.003	8	2,101
1	2.50	1,736	6	0.001	2	2,151
Alcatel-Lucent B25 R	109.00	159	74	0.008	26	197
Alcatel-Lucent B13 R	109.00	173	81	0.009	28	215
Alcatel-Lucent B66A	109.00	201	94	0.010	33	249
Raycap RC2DC-3315-PF	109.00	64	30	0.003	10	79
Antel LPA-80063/4CF	109.00	120	56	0.006	20	149
Commscope SBNHH-1D65	109.00	304	142	0.016	50	377
Flat T-Arm	109.00	750	350	0.039	123	929
Pine Branch	109.00	600	280	0.031	98	743
VZW Unused Reserve:	109.00	1,478	690	0.077	242	1,831
Pine Branch	104.00	600	263	0.029	92	743
RCU	101.00	18	8	0.001	3	22
Raycap DC6-48-60-18-	101.00	33	14	0.002	5	41
CCI DTMAPB7819VG12A	101.00	173	73	0.008	26	214
Ericsson RRUS-11 (50	101.00	300	127	0.014	44	372
Round T-Arm	101.00	250	106	0.012	37	310
Andrew SBNH-1D6565C	101.00	547	231	0.026	81	678
Pine Branch	99.00	600	247	0.028	86	743
Pine Branch	94.00	600	231	0.026	81	743
Pine Branch	89.00	600	215	0.024	75	743
Pine Branch	84.00	600	199	0.022	70	743
Pine Branch	79.00	600	184	0.020	64	743
Pine Branch	74.00	600	169	0.019	59	743
Pine Branch	69.00	600	154	0.017	54	743
Pine Branch	64.00	600	139	0.016	49	743
Pine Branch	59.00	600	125	0.014	44	743
		39,641	8,973	1.000	3,141	49,108

Load Case (0.9 - 0.2Sds) * DL + E ELFM

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	110.50	73	35	0.004	12	63
38	109.50	74	35	0.004	12	63
37	107.00	350	159	0.018	56	301
36	104.50	89	40	0.004	14	77
35	102.50	273	118	0.013	41	235
34	100.50	116	49	0.005	17	100
33	99.50	117	48	0.005	17	101
32	97.00	477	191	0.021	67	410
31	94.69	76	29	0.003	10	65
30	94.19	100	39	0.004	14	86
29	92.00	1,094	409	0.046	143	942
28	89.81	105	38	0.004	13	90
27	89.31	118	42	0.005	15	102

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

7/28/2017 9:44:51 AM

Customer: VERIZON WIRELESS

26	87.00	771	268	0.030	94	664
25	84.50	196	66	0.007	23	169
24	82.00	800	257	0.029	90	689
23	79.50	203	63	0.007	22	175
22	77.00	828	245	0.027	86	713
21	74.50	211	60	0.007	21	181
20	72.00	857	232	0.026	81	738
19	69.50	218	56	0.006	20	187
18	67.00	885	218	0.024	76	762
17	64.50	225	53	0.006	18	194
16	62.00	913	204	0.023	71	786
15	59.50	232	49	0.005	17	200
14	57.00	942	188	0.021	66	811
13	52.60	1,157	208	0.023	73	997
12	50.10	101	17	0.002	6	87
11	47.50	2,439	383	0.043	134	2,100
10	44.40	600	86	0.010	30	517
9	41.90	1,075	143	0.016	50	926
8	37.50	1,453	168	0.019	59	1,251
7	32.50	1,493	143	0.016	50	1,286
6	27.50	1,534	118	0.013	41	1,321
5	22.50	1,574	93	0.010	33	1,356
4	17.50	1,615	69	0.008	24	1,391
3	12.50	1,655	45	0.005	16	1,425
2	7.50	1,696	24	0.003	8	1,460
1	2.50	1,736	6	0.001	2	1,495
Alcatel-Lucent B25 R	109.00	159	74	0.008	26	137
Alcatel-Lucent B13 R	109.00	173	81	0.009	28	149
Alcatel-Lucent B66A	109.00	201	94	0.010	33	173
Raycap RC2DC-3315-PF	109.00	64	30	0.003	10	55
Antel LPA-80063/4CF	109.00	120	56	0.006	20	103
Commscope SBNHH-1D65	109.00	304	142	0.016	50	262
Flat T-Arm	109.00	750	350	0.039	123	646
Pine Branch	109.00	600	280	0.031	98	517
VZW Unused Reserve:	109.00	1,478	690	0.077	242	1,273
Pine Branch	104.00	600	263	0.029	92	517
RCU	101.00	18	8	0.001	3	16
Raycap DC6-48-60-18-	101.00	33	14	0.002	5	28
CCI DTMABP7819VG12A	101.00	173	73	0.008	26	149
Ericsson RRUS-11 (50	101.00	300	127	0.014	44	258
Round T-Arm	101.00	250	106	0.012	37	215
Andrew SBNH-1D6565C	101.00	547	231	0.026	81	471
Pine Branch	99.00	600	247	0.028	86	517
Pine Branch	94.00	600	231	0.026	81	517
Pine Branch	89.00	600	215	0.024	75	517
Pine Branch	84.00	600	199	0.022	70	517
Pine Branch	79.00	600	184	0.020	64	517
Pine Branch	74.00	600	169	0.019	59	517
Pine Branch	69.00	600	154	0.017	54	517
Pine Branch	64.00	600	139	0.016	49	517
Pine Branch	59.00	600	125	0.014	44	517
		39,641	8,973	1.000	3,141	34,138

Site Number: 411258

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

7/28/2017 9:44:51 AM

Customer: VERIZON WIRELESS

Load Case (1.2 + 0.2Sds) * DL + E ELFM

Seismic Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-46.96	-3.14	0.00	-258.39	0.00	258.39	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.040
5.00	-44.86	-3.14	0.00	-242.68	0.00	242.68	6,448.38	3,224.19	15,089.0	7,555.74	0.00	-0.01	0.039
10.00	-42.80	-3.13	0.00	-226.98	0.00	226.98	6,327.91	3,163.95	14,413.8	7,217.61	0.02	-0.02	0.038
15.00	-40.80	-3.11	0.00	-211.32	0.00	211.32	6,204.77	3,102.38	13,747.6	6,884.02	0.04	-0.03	0.037
20.00	-38.85	-3.09	0.00	-195.76	0.00	195.76	6,078.95	3,039.48	13,090.9	6,555.22	0.08	-0.04	0.036
25.00	-36.95	-3.05	0.00	-180.33	0.00	180.33	5,950.47	2,975.24	12,444.4	6,231.45	0.12	-0.05	0.035
30.00	-35.10	-3.00	0.00	-165.09	0.00	165.09	5,819.32	2,909.66	11,808.4	5,912.97	0.17	-0.05	0.034
35.00	-33.30	-2.95	0.00	-150.07	0.00	150.07	5,658.36	2,829.18	11,130.0	5,573.30	0.23	-0.06	0.033
40.00	-31.97	-2.90	0.00	-135.34	0.00	135.34	5,481.38	2,740.69	10,441.2	5,228.37	0.31	-0.07	0.032
43.79	-31.23	-2.87	0.00	-124.33	0.00	124.33	5,347.10	2,673.55	9,933.28	4,974.02	0.37	-0.08	0.031
45.00	-28.21	-2.74	0.00	-120.87	0.00	120.87	5,304.39	2,652.20	9,774.36	4,894.45	0.39	-0.08	0.030
50.00	-28.08	-2.73	0.00	-107.19	0.00	107.19	5,127.41	2,563.70	9,129.52	4,571.55	0.48	-0.09	0.029
50.21	-26.65	-2.66	0.00	-106.61	0.00	106.61	4,536.35	2,268.18	8,252.88	4,132.58	0.48	-0.09	0.032
55.00	-25.48	-2.59	0.00	-93.88	0.00	93.88	4,425.87	2,212.93	7,788.33	3,899.95	0.58	-0.10	0.030
59.00	-24.45	-2.53	0.00	-83.50	0.00	83.50	4,304.44	2,152.22	7,360.60	3,685.77	0.67	-0.11	0.028
60.00	-23.32	-2.46	0.00	-80.97	0.00	80.97	4,273.47	2,136.74	7,254.51	3,632.65	0.69	-0.11	0.028
64.00	-22.30	-2.39	0.00	-71.12	0.00	71.12	4,149.58	2,074.79	6,837.85	3,424.01	0.78	-0.12	0.026
65.00	-21.20	-2.32	0.00	-68.72	0.00	68.72	4,118.61	2,059.30	6,735.61	3,372.81	0.81	-0.12	0.026
69.00	-20.19	-2.24	0.00	-59.45	0.00	59.45	3,994.72	1,997.36	6,334.35	3,171.88	0.91	-0.12	0.024
70.00	-19.13	-2.16	0.00	-57.21	0.00	57.21	3,963.75	1,981.87	6,235.97	3,122.62	0.93	-0.13	0.023
74.00	-18.12	-2.08	0.00	-48.56	0.00	48.56	3,839.86	1,919.93	5,850.11	2,929.41	1.04	-0.13	0.021
75.00	-17.10	-1.99	0.00	-46.48	0.00	46.48	3,808.88	1,904.44	5,755.57	2,882.07	1.07	-0.13	0.021
79.00	-16.10	-1.91	0.00	-38.51	0.00	38.51	3,684.99	1,842.50	5,385.13	2,696.57	1.18	-0.14	0.019
80.00	-15.11	-1.81	0.00	-36.61	0.00	36.61	3,654.02	1,827.01	5,294.44	2,651.15	1.21	-0.14	0.018
84.00	-14.12	-1.72	0.00	-29.35	0.00	29.35	3,530.13	1,765.07	4,939.39	2,473.37	1.33	-0.14	0.016
85.00	-13.17	-1.62	0.00	-27.63	0.00	27.63	3,499.16	1,749.58	4,852.56	2,429.89	1.36	-0.15	0.015
89.00	-12.28	-1.53	0.00	-21.14	0.00	21.14	3,375.27	1,687.63	4,512.92	2,259.81	1.49	-0.15	0.013
89.62	-12.15	-1.52	0.00	-20.18	0.00	20.18	3,355.96	1,677.98	4,461.10	2,233.86	1.51	-0.15	0.013
90.00	-10.79	-1.37	0.00	-19.61	0.00	19.61	3,344.30	1,672.15	4,429.93	2,218.26	1.52	-0.15	0.012
94.00	-9.93	-1.28	0.00	-14.13	0.00	14.13	3,220.41	1,610.20	4,105.69	2,055.90	1.65	-0.15	0.010
94.37	-9.83	-1.27	0.00	-13.65	0.00	13.65	1,736.32	868.16	2,268.20	1,135.78	1.66	-0.15	0.018
95.00	-9.24	-1.20	0.00	-12.86	0.00	12.86	1,729.57	864.78	2,245.90	1,124.62	1.68	-0.16	0.017
99.00	-8.35	-1.09	0.00	-8.07	0.00	8.07	1,685.48	842.74	2,104.83	1,053.98	1.81	-0.16	0.013
100.00	-8.21	-1.07	0.00	-6.98	0.00	6.98	1,674.19	837.09	2,069.91	1,036.50	1.84	-0.16	0.012
101.00	-6.24	-0.83	0.00	-5.90	0.00	5.90	1,662.79	831.39	2,035.15	1,019.09	1.88	-0.16	0.010
104.00	-5.38	-0.72	0.00	-3.41	0.00	3.41	1,627.96	813.98	1,931.80	967.34	1.98	-0.16	0.007
105.00	-4.95	-0.67	0.00	-2.68	0.00	2.68	1,616.13	808.07	1,897.68	950.25	2.01	-0.16	0.006
109.00	-0.09	-0.01	0.00	-0.01	0.00	0.01	1,567.77	783.88	1,762.92	882.77	2.15	-0.16	0.000
110.00	0.00	0.00	0.00	0.00	0.00	0.00	1,555.41	777.71	1,729.69	866.13	2.18	-0.16	0.000
111.00	0.00	0.00	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	2.22	-0.16	0.000

Site Number: 411258

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

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Customer: VERIZON WIRELESS

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-32.64	-3.14	0.00	-257.33	0.00	257.33	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.038
5.00	-31.18	-3.14	0.00	-241.62	0.00	241.62	6,448.38	3,224.19	15,089.0	7,555.74	0.00	-0.01	0.037
10.00	-29.76	-3.13	0.00	-225.93	0.00	225.93	6,327.91	3,163.95	14,413.8	7,217.61	0.02	-0.02	0.036
15.00	-28.36	-3.11	0.00	-210.30	0.00	210.30	6,204.77	3,102.38	13,747.6	6,884.02	0.04	-0.03	0.035
20.00	-27.01	-3.08	0.00	-194.77	0.00	194.77	6,078.95	3,039.48	13,090.9	6,555.22	0.08	-0.04	0.034
25.00	-25.69	-3.04	0.00	-179.39	0.00	179.39	5,950.47	2,975.24	12,444.4	6,231.45	0.12	-0.05	0.033
30.00	-24.40	-2.99	0.00	-164.19	0.00	164.19	5,819.32	2,909.66	11,808.4	5,912.97	0.17	-0.05	0.032
35.00	-23.15	-2.94	0.00	-149.24	0.00	149.24	5,658.36	2,829.18	11,130.0	5,573.30	0.23	-0.06	0.031
40.00	-22.22	-2.89	0.00	-134.56	0.00	134.56	5,481.38	2,740.69	10,441.2	5,228.37	0.30	-0.07	0.030
43.79	-21.71	-2.86	0.00	-123.61	0.00	123.61	5,347.10	2,673.55	9,933.28	4,974.02	0.36	-0.08	0.029
45.00	-19.61	-2.72	0.00	-120.16	0.00	120.16	5,304.39	2,652.20	9,774.36	4,894.45	0.39	-0.08	0.028
50.00	-19.52	-2.72	0.00	-106.54	0.00	106.54	5,127.41	2,563.70	9,129.52	4,571.55	0.48	-0.09	0.027
50.21	-18.52	-2.65	0.00	-105.97	0.00	105.97	4,536.35	2,268.18	8,252.88	4,132.58	0.48	-0.09	0.030
55.00	-17.71	-2.58	0.00	-93.30	0.00	93.30	4,425.87	2,212.93	7,788.33	3,899.95	0.58	-0.10	0.028
59.00	-16.99	-2.52	0.00	-82.98	0.00	82.98	4,304.44	2,152.22	7,360.60	3,685.77	0.66	-0.11	0.026
60.00	-16.21	-2.45	0.00	-80.46	0.00	80.46	4,273.47	2,136.74	7,254.51	3,632.65	0.68	-0.11	0.026
64.00	-15.50	-2.38	0.00	-70.67	0.00	70.67	4,149.58	2,074.79	6,837.85	3,424.01	0.78	-0.12	0.024
65.00	-14.74	-2.30	0.00	-68.29	0.00	68.29	4,118.61	2,059.30	6,735.61	3,372.81	0.80	-0.12	0.024
69.00	-14.03	-2.23	0.00	-59.07	0.00	59.07	3,994.72	1,997.36	6,334.35	3,171.88	0.90	-0.12	0.022
70.00	-13.29	-2.15	0.00	-56.84	0.00	56.84	3,963.75	1,981.87	6,235.97	3,122.62	0.93	-0.13	0.022
74.00	-12.60	-2.07	0.00	-48.25	0.00	48.25	3,839.86	1,919.93	5,850.11	2,929.41	1.04	-0.13	0.020
75.00	-11.88	-1.98	0.00	-46.18	0.00	46.18	3,808.88	1,904.44	5,755.57	2,882.07	1.06	-0.13	0.019
79.00	-11.19	-1.89	0.00	-38.26	0.00	38.26	3,684.99	1,842.50	5,385.13	2,696.57	1.18	-0.14	0.017
80.00	-10.50	-1.80	0.00	-36.37	0.00	36.37	3,654.02	1,827.01	5,294.44	2,651.15	1.21	-0.14	0.017
84.00	-9.82	-1.71	0.00	-29.16	0.00	29.16	3,530.13	1,765.07	4,939.39	2,473.37	1.33	-0.14	0.015
85.00	-9.15	-1.61	0.00	-27.45	0.00	27.45	3,499.16	1,749.58	4,852.56	2,429.89	1.36	-0.15	0.014
89.00	-8.53	-1.52	0.00	-21.00	0.00	21.00	3,375.27	1,687.63	4,512.92	2,259.81	1.48	-0.15	0.012
89.62	-8.44	-1.51	0.00	-20.05	0.00	20.05	3,355.96	1,677.98	4,461.10	2,233.86	1.50	-0.15	0.011
90.00	-7.50	-1.36	0.00	-19.49	0.00	19.49	3,344.30	1,672.15	4,429.93	2,218.26	1.51	-0.15	0.011
94.00	-6.90	-1.27	0.00	-14.03	0.00	14.03	3,220.41	1,610.20	4,105.69	2,055.90	1.64	-0.15	0.009
94.37	-6.83	-1.26	0.00	-13.56	0.00	13.56	1,736.32	868.16	2,268.20	1,135.78	1.65	-0.15	0.016
95.00	-6.42	-1.19	0.00	-12.77	0.00	12.77	1,729.57	864.78	2,245.90	1,124.62	1.67	-0.15	0.015
99.00	-5.81	-1.08	0.00	-8.02	0.00	8.02	1,685.48	842.74	2,104.83	1,053.98	1.80	-0.16	0.011
100.00	-5.71	-1.07	0.00	-6.93	0.00	6.93	1,674.19	837.09	2,069.91	1,036.50	1.84	-0.16	0.010
101.00	-4.33	-0.83	0.00	-5.86	0.00	5.86	1,662.79	831.39	2,035.15	1,019.09	1.87	-0.16	0.008
104.00	-3.74	-0.72	0.00	-3.38	0.00	3.38	1,627.96	813.98	1,931.80	967.34	1.97	-0.16	0.006
105.00	-3.44	-0.66	0.00	-2.66	0.00	2.66	1,616.13	808.07	1,897.68	950.25	2.00	-0.16	0.005
109.00	-0.06	-0.01	0.00	-0.01	0.00	0.01	1,567.77	783.88	1,762.92	882.77	2.14	-0.16	0.000
110.00	0.00	0.00	0.00	0.00	0.00	0.00	1,555.41	777.71	1,729.69	866.13	2.17	-0.16	0.000
111.00	0.00	0.00	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	2.21	-0.16	0.000

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

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Customer: VERIZON WIRELESS

Equivalent Modal Forces Analysis

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	1.12
Redundancy Factor (p):	1.30

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
39	110.50	73	1.873	1.892	1.108	0.388	24	90
38	109.50	74	1.839	1.723	1.046	0.367	23	91
37	107.00	350	1.756	1.347	0.904	0.318	96	433
36	104.50	89	1.675	1.030	0.777	0.272	21	111
35	102.50	273	1.612	0.815	0.686	0.239	57	339
34	100.50	116	1.549	0.630	0.603	0.208	21	144
33	99.50	117	1.519	0.548	0.565	0.194	20	145
32	97.00	477	1.443	0.371	0.478	0.160	66	590
31	94.69	76	1.375	0.239	0.407	0.133	9	94
30	94.19	100	1.361	0.214	0.392	0.128	11	124
29	92.00	1,094	1.298	0.118	0.335	0.106	100	1,355
28	89.81	105	1.237	0.043	0.284	0.087	8	130
27	89.31	118	1.224	0.028	0.273	0.083	8	146
26	87.00	771	1.161	-0.029	0.227	0.066	44	956
25	84.50	196	1.095	-0.073	0.184	0.052	9	243
24	82.00	800	1.031	-0.101	0.148	0.041	28	991
23	79.50	203	0.970	-0.116	0.117	0.033	6	252
22	77.00	828	0.909	-0.122	0.091	0.028	20	1,026
21	74.50	211	0.851	-0.119	0.070	0.025	5	261
20	72.00	857	0.795	-0.111	0.052	0.024	18	1,061
19	69.50	218	0.741	-0.099	0.039	0.025	5	270
18	67.00	885	0.689	-0.083	0.028	0.027	21	1,096
17	64.50	225	0.638	-0.067	0.019	0.030	6	278
16	62.00	913	0.590	-0.049	0.013	0.033	26	1,131
15	59.50	232	0.543	-0.032	0.009	0.036	7	287
14	57.00	942	0.498	-0.016	0.007	0.039	31	1,167
13	52.60	1,157	0.424	0.010	0.006	0.042	43	1,434
12	50.10	101	0.385	0.023	0.007	0.044	4	125
11	47.50	2,439	0.346	0.034	0.009	0.045	95	3,021
10	44.40	600	0.302	0.045	0.012	0.045	23	743
9	41.90	1,075	0.269	0.052	0.015	0.044	41	1,332
8	37.50	1,453	0.216	0.061	0.021	0.043	54	1,800
7	32.50	1,493	0.162	0.067	0.028	0.040	52	1,850
6	27.50	1,534	0.116	0.070	0.035	0.037	49	1,900

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

7/28/2017 9:44:51 AM

Customer: VERIZON WIRELESS

5	22.50	1,574	0.078	0.072	0.040	0.034	46	1,950
4	17.50	1,615	0.047	0.071	0.042	0.031	43	2,000
3	12.50	1,655	0.024	0.066	0.039	0.027	39	2,051
2	7.50	1,696	0.009	0.053	0.030	0.021	31	2,101
1	2.50	1,736	0.001	0.024	0.013	0.010	14	2,151
Alcatel-Lucent B25 R	109.00	159	1.823	1.643	1.016	0.357	49	197
Alcatel-Lucent B13 R	109.00	173	1.823	1.643	1.016	0.357	54	215
Alcatel-Lucent B66A	109.00	201	1.823	1.643	1.016	0.357	62	249
Raycap RC2DC-3315-PF	109.00	64	1.823	1.643	1.016	0.357	20	79
Antel LPA-80063/4CF	109.00	120	1.823	1.643	1.016	0.357	37	149
Commscope SBNHH-Flat T-Arm	109.00	304	1.823	1.643	1.016	0.357	94	377
Pine Branch	109.00	750	1.823	1.643	1.016	0.357	232	929
VZW Unused Reserve:	109.00	600	1.823	1.643	1.016	0.357	186	743
Pine Branch	109.00	1,478	1.823	1.643	1.016	0.357	458	1,831
RCU	104.00	600	1.659	0.973	0.753	0.264	137	743
Raycap DC6-48-60-18-	101.00	18	1.565	0.674	0.623	0.216	3	22
CCI DTMABP7819VG12A	101.00	33	1.565	0.674	0.623	0.216	6	41
Ericsson RRUS-11 (50	101.00	173	1.565	0.674	0.623	0.216	32	214
Round T-Arm	101.00	300	1.565	0.674	0.623	0.216	56	372
Andrew SBNH-1D6565C	101.00	250	1.565	0.674	0.623	0.216	47	310
Pine Branch	101.00	547	1.565	0.674	0.623	0.216	102	678
Pine Branch	99.00	600	1.503	0.510	0.547	0.187	97	743
Pine Branch	94.00	600	1.355	0.205	0.387	0.126	65	743
Pine Branch	89.00	600	1.215	0.019	0.266	0.080	42	743
Pine Branch	84.00	600	1.082	-0.079	0.176	0.049	26	743
Pine Branch	79.00	600	0.957	-0.118	0.111	0.032	16	743
Pine Branch	74.00	600	0.840	-0.118	0.066	0.025	13	743
Pine Branch	69.00	600	0.730	-0.096	0.036	0.025	13	743
Pine Branch	64.00	600	0.628	-0.063	0.018	0.030	16	743
Pine Branch	59.00	600	0.534	-0.029	0.009	0.036	19	743
		39,641	68.950	28.659	24.417	8.964	3,106	49,108

Load Case (0.9 - 0.2Sds) * DL + E EMAM

Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
39	110.50	73	1.873	1.892	1.108	0.388	24	63
38	109.50	74	1.839	1.723	1.046	0.367	23	63
37	107.00	350	1.756	1.347	0.904	0.318	96	301
36	104.50	89	1.675	1.030	0.777	0.272	21	77
35	102.50	273	1.612	0.815	0.686	0.239	57	235
34	100.50	116	1.549	0.630	0.603	0.208	21	100
33	99.50	117	1.519	0.548	0.565	0.194	20	101
32	97.00	477	1.443	0.371	0.478	0.160	66	410
31	94.69	76	1.375	0.239	0.407	0.133	9	65
30	94.19	100	1.361	0.214	0.392	0.128	11	86
29	92.00	1,094	1.298	0.118	0.335	0.106	100	942
28	89.81	105	1.237	0.043	0.284	0.087	8	90
27	89.31	118	1.224	0.028	0.273	0.083	8	102
26	87.00	771	1.161	-0.029	0.227	0.066	44	664
25	84.50	196	1.095	-0.073	0.184	0.052	9	169
24	82.00	800	1.031	-0.101	0.148	0.041	28	689
23	79.50	203	0.970	-0.116	0.117	0.033	6	175
22	77.00	828	0.909	-0.122	0.091	0.028	20	713
21	74.50	211	0.851	-0.119	0.070	0.025	5	181
20	72.00	857	0.795	-0.111	0.052	0.024	18	738
19	69.50	218	0.741	-0.099	0.039	0.025	5	187
18	67.00	885	0.689	-0.083	0.028	0.027	21	762
17	64.50	225	0.638	-0.067	0.019	0.030	6	194

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

7/28/2017 9:44:51 AM

Customer: VERIZON WIRELESS

16	62.00	913	0.590	-0.049	0.013	0.033	26	786
15	59.50	232	0.543	-0.032	0.009	0.036	7	200
14	57.00	942	0.498	-0.016	0.007	0.039	31	811
13	52.60	1,157	0.424	0.010	0.006	0.042	43	997
12	50.10	101	0.385	0.023	0.007	0.044	4	87
11	47.50	2,439	0.346	0.034	0.009	0.045	95	2,100
10	44.40	600	0.302	0.045	0.012	0.045	23	517
9	41.90	1,075	0.269	0.052	0.015	0.044	41	926
8	37.50	1,453	0.216	0.061	0.021	0.043	54	1,251
7	32.50	1,493	0.162	0.067	0.028	0.040	52	1,286
6	27.50	1,534	0.116	0.070	0.035	0.037	49	1,321
5	22.50	1,574	0.078	0.072	0.040	0.034	46	1,356
4	17.50	1,615	0.047	0.071	0.042	0.031	43	1,391
3	12.50	1,655	0.024	0.066	0.039	0.027	39	1,425
2	7.50	1,696	0.009	0.053	0.030	0.021	31	1,460
1	2.50	1,736	0.001	0.024	0.013	0.010	14	1,495
Alcatel-Lucent B25 R	109.00	159	1.823	1.643	1.016	0.357	49	137
Alcatel-Lucent B13 R	109.00	173	1.823	1.643	1.016	0.357	54	149
Alcatel-Lucent B66A	109.00	201	1.823	1.643	1.016	0.357	62	173
Raycap RC2DC-3315-PF	109.00	64	1.823	1.643	1.016	0.357	20	55
Antel LPA-80063/4CF	109.00	120	1.823	1.643	1.016	0.357	37	103
Commscope SBNHH-	109.00	304	1.823	1.643	1.016	0.357	94	262
Flat T-Arm	109.00	750	1.823	1.643	1.016	0.357	232	646
Pine Branch	109.00	600	1.823	1.643	1.016	0.357	186	517
VZW Unused Reserve:	109.00	1,478	1.823	1.643	1.016	0.357	458	1,273
Pine Branch	104.00	600	1.659	0.973	0.753	0.264	137	517
RCU	101.00	18	1.565	0.674	0.623	0.216	3	16
Raycap DC6-48-60-18-	101.00	33	1.565	0.674	0.623	0.216	6	28
CCI DTMABP7819VG12A	101.00	173	1.565	0.674	0.623	0.216	32	149
Ericsson RRUS-11 (50	101.00	300	1.565	0.674	0.623	0.216	56	258
Round T-Arm	101.00	250	1.565	0.674	0.623	0.216	47	215
Andrew SBNH-1D6565C	101.00	547	1.565	0.674	0.623	0.216	102	471
Pine Branch	99.00	600	1.503	0.510	0.547	0.187	97	517
Pine Branch	94.00	600	1.355	0.205	0.387	0.126	65	517
Pine Branch	89.00	600	1.215	0.019	0.266	0.080	42	517
Pine Branch	84.00	600	1.082	-0.079	0.176	0.049	26	517
Pine Branch	79.00	600	0.957	-0.118	0.111	0.032	16	517
Pine Branch	74.00	600	0.840	-0.118	0.066	0.025	13	517
Pine Branch	69.00	600	0.730	-0.096	0.036	0.025	13	517
Pine Branch	64.00	600	0.628	-0.063	0.018	0.030	16	517
Pine Branch	59.00	600	0.534	-0.029	0.009	0.036	19	517
		39,641	68.950	28.659	24.417	8.964	3,106	34,138

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

7/28/2017 9:44:51 AM

Customer: VERIZON WIRELESS

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-46.96	-3.10	0.00	-278.00	0.00	278.00	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.042
5.00	-44.86	-3.07	0.00	-262.52	0.00	262.52	6,448.38	3,224.19	15,089.0	7,555.74	0.01	-0.01	0.042
10.00	-42.80	-3.04	0.00	-247.16	0.00	247.16	6,327.91	3,163.95	14,413.8	7,217.61	0.02	-0.02	0.041
15.00	-40.80	-3.00	0.00	-231.96	0.00	231.96	6,204.77	3,102.38	13,747.6	6,884.02	0.05	-0.03	0.040
20.00	-38.85	-2.96	0.00	-216.94	0.00	216.94	6,078.95	3,039.48	13,090.9	6,555.22	0.08	-0.04	0.039
25.00	-36.95	-2.92	0.00	-202.13	0.00	202.13	5,950.47	2,975.24	12,444.4	6,231.45	0.13	-0.05	0.039
30.00	-35.10	-2.87	0.00	-187.53	0.00	187.53	5,819.32	2,909.66	11,808.4	5,912.97	0.19	-0.06	0.038
35.00	-33.30	-2.82	0.00	-173.17	0.00	173.17	5,658.36	2,829.18	11,130.0	5,573.30	0.26	-0.07	0.037
40.00	-31.97	-2.78	0.00	-159.06	0.00	159.06	5,481.38	2,740.69	10,441.2	5,228.37	0.34	-0.08	0.036
43.79	-31.23	-2.76	0.00	-148.50	0.00	148.50	5,347.10	2,673.55	9,933.28	4,974.02	0.40	-0.09	0.036
45.00	-28.21	-2.67	0.00	-145.16	0.00	145.16	5,304.39	2,652.20	9,774.36	4,894.45	0.43	-0.09	0.035
50.00	-28.08	-2.67	0.00	-131.83	0.00	131.83	5,127.41	2,563.70	9,129.52	4,571.55	0.53	-0.10	0.034
50.21	-26.65	-2.62	0.00	-131.27	0.00	131.27	4,536.35	2,268.18	8,252.88	4,132.58	0.53	-0.10	0.038
55.00	-25.48	-2.59	0.00	-118.70	0.00	118.70	4,425.87	2,212.93	7,788.33	3,899.95	0.64	-0.11	0.036
59.00	-24.45	-2.57	0.00	-108.33	0.00	108.33	4,304.44	2,152.22	7,360.60	3,685.77	0.74	-0.12	0.035
60.00	-23.32	-2.54	0.00	-105.76	0.00	105.76	4,273.47	2,136.74	7,254.51	3,632.65	0.77	-0.13	0.035
64.00	-22.29	-2.52	0.00	-95.59	0.00	95.59	4,149.58	2,074.79	6,837.85	3,424.01	0.88	-0.13	0.033
65.00	-21.20	-2.50	0.00	-93.07	0.00	93.07	4,118.61	2,059.30	6,735.61	3,372.81	0.91	-0.14	0.033
69.00	-20.19	-2.48	0.00	-83.07	0.00	83.07	3,994.72	1,997.36	6,334.35	3,171.88	1.03	-0.15	0.031
70.00	-19.12	-2.46	0.00	-80.59	0.00	80.59	3,963.75	1,981.87	6,235.97	3,122.62	1.06	-0.15	0.031
74.00	-18.12	-2.44	0.00	-70.74	0.00	70.74	3,839.86	1,919.93	5,850.11	2,929.41	1.18	-0.16	0.029
75.00	-17.09	-2.42	0.00	-68.30	0.00	68.30	3,808.88	1,904.44	5,755.57	2,882.07	1.22	-0.16	0.028
79.00	-16.10	-2.40	0.00	-58.61	0.00	58.61	3,684.99	1,842.50	5,385.13	2,696.57	1.35	-0.17	0.026
80.00	-15.11	-2.37	0.00	-56.21	0.00	56.21	3,654.02	1,827.01	5,294.44	2,651.15	1.39	-0.17	0.025
84.00	-14.12	-2.33	0.00	-46.73	0.00	46.73	3,530.13	1,765.07	4,939.39	2,473.37	1.53	-0.18	0.023
85.00	-13.16	-2.29	0.00	-44.40	0.00	44.40	3,499.16	1,749.58	4,852.56	2,429.89	1.57	-0.18	0.022
89.00	-12.28	-2.23	0.00	-35.25	0.00	35.25	3,375.27	1,687.63	4,512.92	2,259.81	1.73	-0.19	0.019
89.62	-12.15	-2.23	0.00	-33.86	0.00	33.86	3,355.96	1,677.98	4,461.10	2,233.86	1.75	-0.19	0.019
90.00	-10.79	-2.12	0.00	-33.02	0.00	33.02	3,344.30	1,672.15	4,429.93	2,218.26	1.76	-0.19	0.018
94.00	-9.92	-2.04	0.00	-24.54	0.00	24.54	3,220.41	1,610.20	4,105.69	2,055.90	1.92	-0.19	0.015
94.37	-9.83	-2.03	0.00	-23.77	0.00	23.77	1,736.32	868.16	2,268.20	1,135.78	1.94	-0.19	0.027
95.00	-9.24	-1.97	0.00	-22.50	0.00	22.50	1,729.57	864.78	2,245.90	1,124.62	1.96	-0.19	0.025
99.00	-8.35	-1.85	0.00	-14.63	0.00	14.63	1,685.48	842.74	2,104.83	1,053.98	2.13	-0.20	0.019
100.00	-8.21	-1.83	0.00	-12.78	0.00	12.78	1,674.19	837.09	2,069.91	1,036.50	2.17	-0.20	0.017
101.00	-6.23	-1.52	0.00	-10.96	0.00	10.96	1,662.79	831.39	2,035.15	1,019.09	2.21	-0.20	0.015
104.00	-5.38	-1.36	0.00	-6.41	0.00	6.41	1,627.96	813.98	1,931.80	967.34	2.34	-0.21	0.010
105.00	-4.95	-1.26	0.00	-5.05	0.00	5.05	1,616.13	808.07	1,897.68	950.25	2.39	-0.21	0.008
109.00	-0.09	-0.02	0.00	-0.02	0.00	0.02	1,567.77	783.88	1,762.92	882.77	2.56	-0.21	0.000
110.00	0.00	0.00	0.00	0.00	0.00	0.00	1,555.41	777.71	1,729.69	866.13	2.60	-0.21	0.000
111.00	0.00	0.00	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	2.65	-0.21	0.000

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-32.64	-3.09	0.00	-276.76	0.00	276.76	6,566.18	3,283.09	15,772.8	7,898.16	0.00	0.00	0.040
5.00	-31.18	-3.07	0.00	-261.29	0.00	261.29	6,448.38	3,224.19	15,089.0	7,555.74	0.01	-0.01	0.039
10.00	-29.76	-3.03	0.00	-245.94	0.00	245.94	6,327.91	3,163.95	14,413.8	7,217.61	0.02	-0.02	0.039
15.00	-28.36	-3.00	0.00	-230.77	0.00	230.77	6,204.77	3,102.38	13,747.6	6,884.02	0.05	-0.03	0.038
20.00	-27.01	-2.95	0.00	-215.79	0.00	215.79	6,078.95	3,039.48	13,090.9	6,555.22	0.08	-0.04	0.037
25.00	-25.69	-2.91	0.00	-201.03	0.00	201.03	5,950.47	2,975.24	12,444.4	6,231.45	0.13	-0.05	0.037
30.00	-24.40	-2.86	0.00	-186.49	0.00	186.49	5,819.32	2,909.66	11,808.4	5,912.97	0.19	-0.06	0.036
35.00	-23.15	-2.81	0.00	-172.19	0.00	172.19	5,658.36	2,829.18	11,130.0	5,573.30	0.25	-0.07	0.035
40.00	-22.22	-2.77	0.00	-158.14	0.00	158.14	5,481.38	2,740.69	10,441.2	5,228.37	0.33	-0.08	0.034
43.79	-21.71	-2.75	0.00	-147.64	0.00	147.64	5,347.10	2,673.55	9,933.28	4,974.02	0.40	-0.09	0.034
45.00	-19.61	-2.65	0.00	-144.32	0.00	144.32	5,304.39	2,652.20	9,774.36	4,894.45	0.42	-0.09	0.033
50.00	-19.52	-2.65	0.00	-131.06	0.00	131.06	5,127.41	2,563.70	9,129.52	4,571.55	0.53	-0.10	0.032
50.21	-18.52	-2.61	0.00	-130.50	0.00	130.50	4,536.35	2,268.18	8,252.88	4,132.58	0.53	-0.10	0.036
55.00	-17.71	-2.58	0.00	-118.01	0.00	118.01	4,425.87	2,212.93	7,788.33	3,899.95	0.64	-0.11	0.034
59.00	-16.99	-2.55	0.00	-107.70	0.00	107.70	4,304.44	2,152.22	7,360.60	3,685.77	0.74	-0.12	0.033
60.00	-16.21	-2.53	0.00	-105.15	0.00	105.15	4,273.47	2,136.74	7,254.51	3,632.65	0.76	-0.12	0.033
64.00	-15.50	-2.50	0.00	-95.05	0.00	95.05	4,149.58	2,074.79	6,837.85	3,424.01	0.87	-0.13	0.031
65.00	-14.73	-2.48	0.00	-92.54	0.00	92.54	4,118.61	2,059.30	6,735.61	3,372.81	0.90	-0.14	0.031
69.00	-14.03	-2.47	0.00	-82.61	0.00	82.61	3,994.72	1,997.36	6,334.35	3,171.88	1.02	-0.15	0.030
70.00	-13.29	-2.45	0.00	-80.14	0.00	80.14	3,963.75	1,981.87	6,235.97	3,122.62	1.05	-0.15	0.029
74.00	-12.59	-2.43	0.00	-70.36	0.00	70.36	3,839.86	1,919.93	5,850.11	2,929.41	1.18	-0.16	0.027
75.00	-11.88	-2.41	0.00	-67.93	0.00	67.93	3,808.88	1,904.44	5,755.57	2,882.07	1.21	-0.16	0.027
79.00	-11.19	-2.38	0.00	-58.30	0.00	58.30	3,684.99	1,842.50	5,385.13	2,696.57	1.35	-0.17	0.025
80.00	-10.50	-2.35	0.00	-55.91	0.00	55.91	3,654.02	1,827.01	5,294.44	2,651.15	1.38	-0.17	0.024
84.00	-9.81	-2.32	0.00	-46.49	0.00	46.49	3,530.13	1,765.07	4,939.39	2,473.37	1.53	-0.18	0.022
85.00	-9.15	-2.27	0.00	-44.18	0.00	44.18	3,499.16	1,749.58	4,852.56	2,429.89	1.56	-0.18	0.021
89.00	-8.53	-2.22	0.00	-35.08	0.00	35.08	3,375.27	1,687.63	4,512.92	2,259.81	1.72	-0.18	0.018
89.62	-8.44	-2.21	0.00	-33.70	0.00	33.70	3,355.96	1,677.98	4,461.10	2,233.86	1.74	-0.19	0.018
90.00	-7.50	-2.11	0.00	-32.86	0.00	32.86	3,344.30	1,672.15	4,429.93	2,218.26	1.75	-0.19	0.017
94.00	-6.90	-2.03	0.00	-24.42	0.00	24.42	3,220.41	1,610.20	4,105.69	2,055.90	1.91	-0.19	0.014
94.37	-6.83	-2.02	0.00	-23.66	0.00	23.66	1,736.32	868.16	2,268.20	1,135.78	1.93	-0.19	0.025
95.00	-6.42	-1.96	0.00	-22.39	0.00	22.39	1,729.57	864.78	2,245.90	1,124.62	1.95	-0.19	0.024
99.00	-5.80	-1.84	0.00	-14.56	0.00	14.56	1,685.48	842.74	2,104.83	1,053.98	2.12	-0.20	0.017
100.00	-5.70	-1.82	0.00	-12.73	0.00	12.73	1,674.19	837.09	2,069.91	1,036.50	2.16	-0.20	0.016
101.00	-4.33	-1.51	0.00	-10.91	0.00	10.91	1,662.79	831.39	2,035.15	1,019.09	2.20	-0.20	0.013
104.00	-3.74	-1.35	0.00	-6.38	0.00	6.38	1,627.96	813.98	1,931.80	967.34	2.33	-0.20	0.009
105.00	-3.44	-1.25	0.00	-5.03	0.00	5.03	1,616.13	808.07	1,897.68	950.25	2.37	-0.21	0.007
109.00	-0.06	-0.02	0.00	-0.02	0.00	0.02	1,567.77	783.88	1,762.92	882.77	2.55	-0.21	0.000
110.00	0.00	0.00	0.00	0.00	0.00	0.00	1,555.41	777.71	1,729.69	866.13	2.59	-0.21	0.000
111.00	0.00	0.00	0.00	0.00	0.00	0.00	1,542.95	771.47	1,696.65	849.58	2.63	-0.21	0.000

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

7/28/2017 9:44:51 AM

Customer: VERIZON WIRELESS

Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	49.73	0.00	47.50	0.00	0.00	4253.02	0.00	0.55
0.9D + 1.6W	49.71	0.00	35.61	0.00	0.00	4237.83	0.00	0.54
1.2D + 1.0Di + 1.0Wi	15.18	0.00	80.71	0.00	0.00	1298.97	0.00	0.18
(1.2 + 0.2Sds) * DL + E ELFM	3.14	0.00	46.96	0.00	0.00	258.39	0.00	0.04
(1.2 + 0.2Sds) * DL + E EMAM	3.10	0.00	46.96	0.00	0.00	278.00	0.00	0.04
(0.9 - 0.2Sds) * DL + E ELFM	3.14	0.00	32.64	0.00	0.00	257.33	0.00	0.04
(0.9 - 0.2Sds) * DL + E EMAM	3.09	0.00	32.64	0.00	0.00	276.76	0.00	0.04
1.0D + 1.0W	11.89	0.00	39.64	0.00	0.00	1014.99	0.00	0.13

Site Number: 411258

Code: ANSI/TIA-222-G

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Site Name: Farmington North 2 CT, CT

Engineering Number: OAA706793_C3_01

7/28/2017 9:44:51 AM

Customer: VERIZON WIRELESS

Base Summary

Reactions

Original Design			Analysis			
Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment Design %
6,395.50	48.80	68.90	4,253.02	80.71	49.73	49.26

Base Plate

Yield (ksi)	Thick (in)	Width (in)	Style	Poly Sides	Clip Len (in)	Effective Len (in)	Mu (kip-in)	Phi Mn (kip-in)	Ratio
50.0	3.000	73.000	Round	0	0.00	9.363	625.53	948.00	0.66

Anchor Bolts

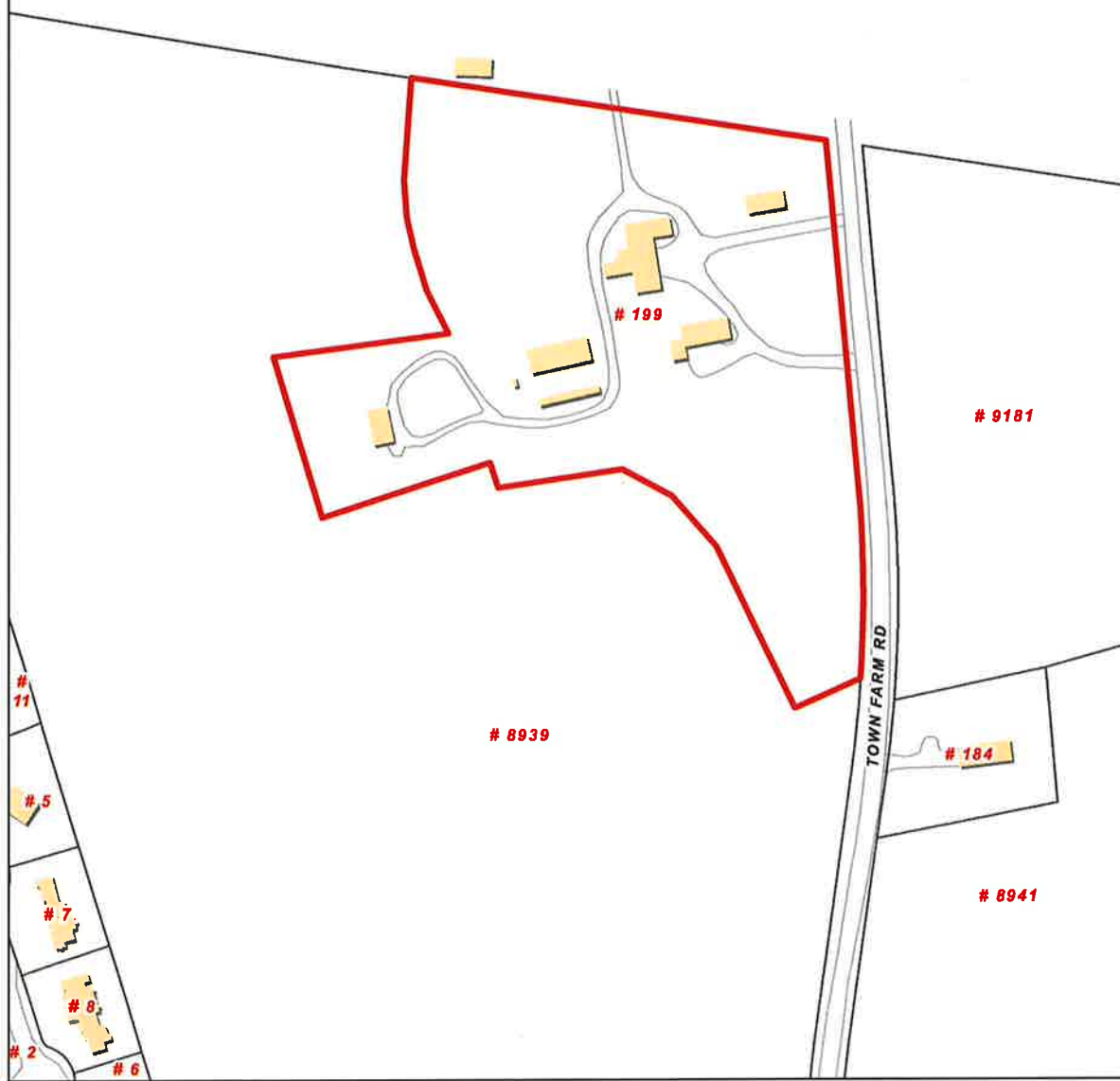
Bolt Circle	Num Bolts	Bolt Type	Bolt Dia (in)	Yield (ksi)	Ultimate (ksi)	Cluster Arrange	Cluster Dist (in)	Start Angle (deg)	Compression			Tension		
									Force (kip)	Allow (kip)	Ratio	Force (kip)	Allow (kip)	Ratio
67.00	20	2.25" 18J	2.25	75.00	100.00	Clustered	0.00	0.0	156.38	260.00	0.62	148.31	260.00	0.59

ATTACHMENT 4

Town of Farmington, Connecticut - Assessment Parcel Map

UNIQUE ID: 19200199

Address: 199 TOWN FARM RD



Approximate Scale: 1 Inch = 200 feet

Map Produced Aug 2017

Disclaimer: This map is for informational purposes only. All information is subject to verification by any user. The Town of Farmington and its mapping contractors assume no legal responsibility for the information contained herein.

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2012.



Information on the Property Records for the Municipality of Farmington was last updated on 11/13/2017.

Property Summary Information

[Parcel Data And Values](#)
[Building](#)
[Outbuildings](#)
[Sales](#)
[Google Map](#)

Parcel Information

Location:	199 TOWN FARM RD	Property Use:	Residential	Primary Use:	Residential
Unique ID:	19200199	Map Block Lot:	0017 27	Acres:	9.94
490 Acres:	0.00	Zone:	R40	Volume / Page:	0690/0666
Developers Map / Lot:		Census:	4602-01		

Value Information

	Appraised Value	70% Assessed Value
Land	224,878	157,420
Buildings	126,086	88,260
Detached Outbuildings	230,120	161,080
Total	581,084	406,760

Owner's Information

Owner's Data

FARMINGTON TOWN OF
C/O RODGER PHILLIPS
199 TOWN FARM RD
FARMINGTON, CT 06032

[Back To Search \(JavaScript:window.history.back\(1\);\)](#)

[Print View \(PrintPage.aspx?towncode=052&uniqueid=19200199\)](#)

ATTACHMENT 5



Certificate of Mailing — Firm

Affix Stamp Here
Postmark with Date of Receipt.

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

2

TOTAL NO. of Pieces Received at Post Office™

2

Postmaster, per (name of receiving employee)

[Signature]



USPS® Tracking Number
Firm-specific Identifier

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

Postage

Fee

Special Handling

Parcel Airlift

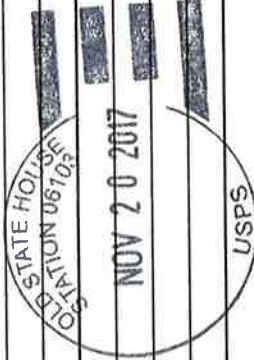
1.

Kathleen A. Eagen, Town Manager
Town of Farmington
1 Monteth Drive
Farmington, CT 06032

2.

William Warner, Town Planner
Town of Farmington
1 Monteth Drive
Farmington, CT 06032

3.



4.

5.

6.