Robinson+Cole

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Also admitted in Massachusetts

January 27, 2017

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

Re: **Notice of Exempt Modification – Facility Modification**
125 Mile Creek Road, Old Lyme, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains fifteen (15) wireless telecommunications antennas at the 158-foot level on the existing 171.5-foot tower at 125 Mile Creek Road in Old Lyme (the "Property"). The Council approved Cellco's shared use of the tower in 2001 in Docket No. 202. The tower is owned by Cellco. Cellco now intends to modify its facility by replacing all of its existing antennas with two (2) model BXA-70063-6CF, 700 MHz antennas; one (1) model BXA-70063-4CF, 700 MHz antenna; four (4) model APL866513, 850 MHz antennas; two (2) model LPA-80080-6CF, 850 MHz antennas; three (3) model SBNHH-1D65B, 1900 MHz antennas; and three (3) model SBNHH-1D65B, 2100 MHz antennas, all at the same 158-foot level on the tower. Cellco also intends to install nine (9) remote radio heads ("RRHs") behind its antennas and two (2) HYBRIFLEX™ antenna cables, inside the monopole. Included in Attachment 1 are specifications for the 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 Bonnie Reemsnyder, First Selectwoman of the Town of Old Lyme. A copy of this letter is also being sent to Harold Thompson, Chair of the Old Lyme Planning Commission, Jane Cable, Chair of the Old Lyme Zoning Commission, and Todd and Rebecca Machnik, the owners of the Property.

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

1. The proposed modifications will not result in an increase in the height of the existing tower. The replacement antennas and RRHs will be located at the 158-foot level on the 171.5-foot tower.

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

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

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

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

6. The tower and its foundation can support Cellco's proposed modifications. (*See* Structural Analysis Report included in Attachment 3).

A copy of the Town Assessor's Parcel Map and property owner information is included in Attachment 4.

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Bonnie Reemsnyder, Old Lyme First Selectwoman
Harold Thompson, Chair of the Old Lyme Planning Commission
Jane Cable, Chair of the Old Lyme Zoning Commission
Todd and Rebecca Machnik
ATC
Tim Parks

ATTACHMENT 1

BXA-70063-6CF-EDIN-X

X-Pol | FET Panel | 63° | 14.5 dBd

Replace "X" with desired electrical downtilt.

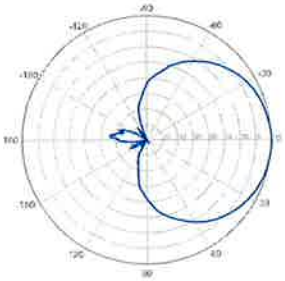
Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.

Electrical Characteristics	696-900 MHz	
Frequency bands	696-806 MHz	806-900 MHz
Polarization	±45°	
Horizontal beamwidth	65°	63°
Vertical beamwidth	13°	11°
Gain	14.0 dBd (16.1 dBi)	14.5 dBd (16.6 dBi)
Electrical downtilt (X)	0, 2, 3, 4, 5, 6, 8, 10	
Impedance	50Ω	
VSWR	≤1.35:1	
Upper sidelobe suppression (0°)	-18.3 dB	-18.2 dB
Front-to-back ratio (+/-30°)	-33.4 dB	-36.3 dB
Null fill	5% (-26.02 dB)	
Isolation between ports	< -25 dB	
Input power	500 W	
Lightning protection	Direct Ground	
Connector(s)	2 Ports / EDIN or NE / Female / Center (Back)	

Mechanical Characteristics		
Dimensions Length x Width x Depth	1804 x 285 x 132 mm	71.0 x 11.2 x 5.2 in
Depth with z-brackets	172 mm	6.8 in
Weight without mounting brackets	7.9 kg	17 lbs
Survival wind speed	> 201 km/hr	> 125 mph
Wind area	Front: 0.51 m² Side: 0.24 m²	Front: 5.5 ft² Side: 2.6 ft²
Wind load @ 161 km/hr (100 mph)	Front: 759 N Side: 391 N	Front: 169 lbf Side: 89 lbf

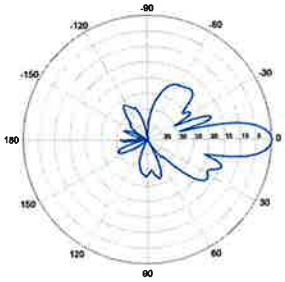
Mounting Options	Part Number	Fits Pipe Diameter	Weight
3-Point Mounting Bracket Kit	36210003	50-160 mm 2.0-6.3 in	6.3 kg 14 lbs
3-Point Downtilt Bracket Kit (0-14°)	36210004	50-160 mm 2.0-6.3 in	7.3 kg 16 lbs
Downtilt Mounting Applications	A mounting bracket and downtilt bracket kit must be ordered for downtilt applications		
Concealment Configurations	For concealment configurations, order BXA-70063-6CF-EDIN-X-FP		

BXA-70063-6CF-EDIN-X



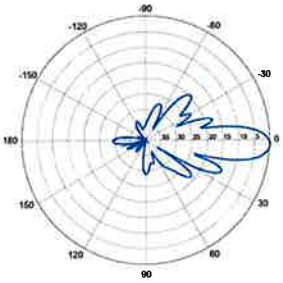
Horizontal | 750 MHz

BXA-70063-6CF-EDIN-0

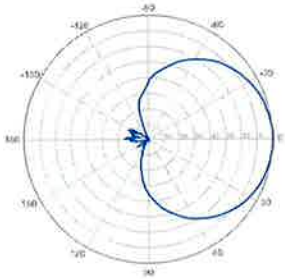


0° | Vertical | 750 MHz

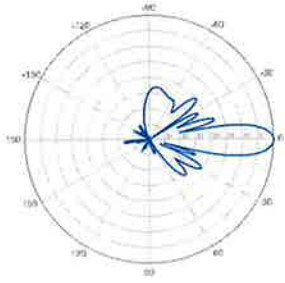
BXA-70063-6CF-EDIN-2



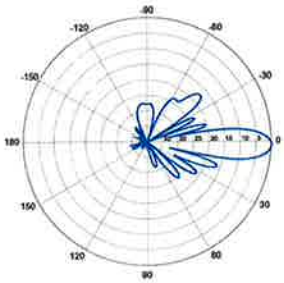
2° | Vertical | 750 MHz



Horizontal | 850 MHz



0° | Vertical | 850 MHz



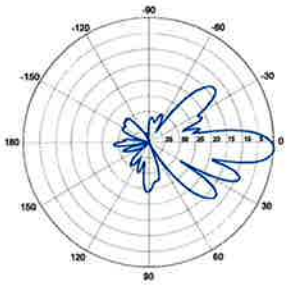
2° | Vertical | 850 MHz

Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

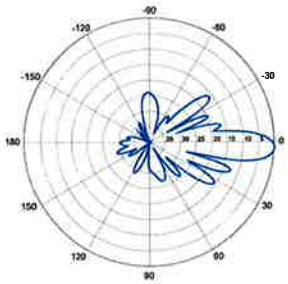
BXA-70063-6CF-EDIN-X

X-Pol | FET Panel | 63° | 14.5 dBd

BXA-70063-6CF-EDIN-3

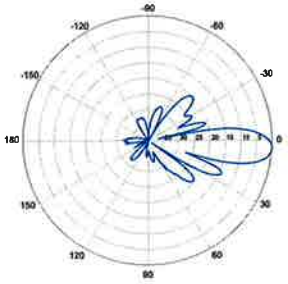


3° | Vertical | 750 MHz

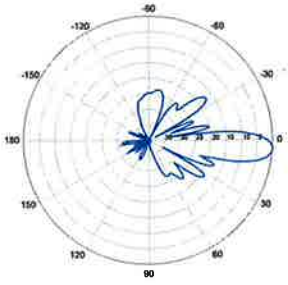


3° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-4

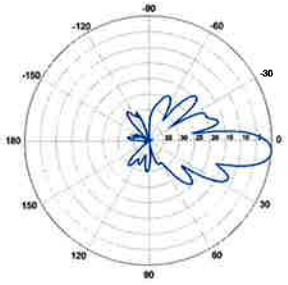


4° | Vertical | 750 MHz

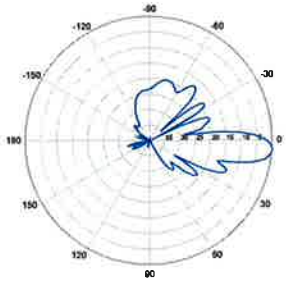


4° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-5

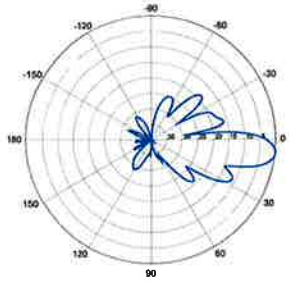


5° | Vertical | 750 MHz

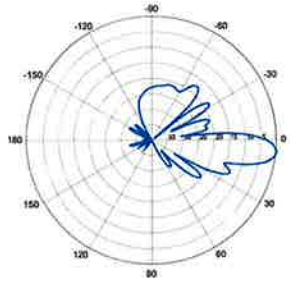


5° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-6

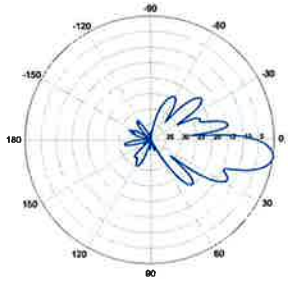


6° | Vertical | 750 MHz

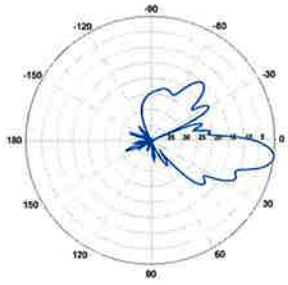


6° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-8

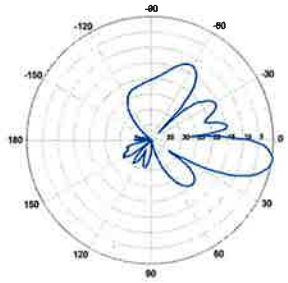


8° | Vertical | 750 MHz

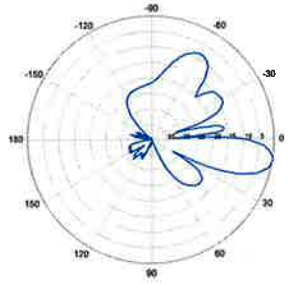


8° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-10



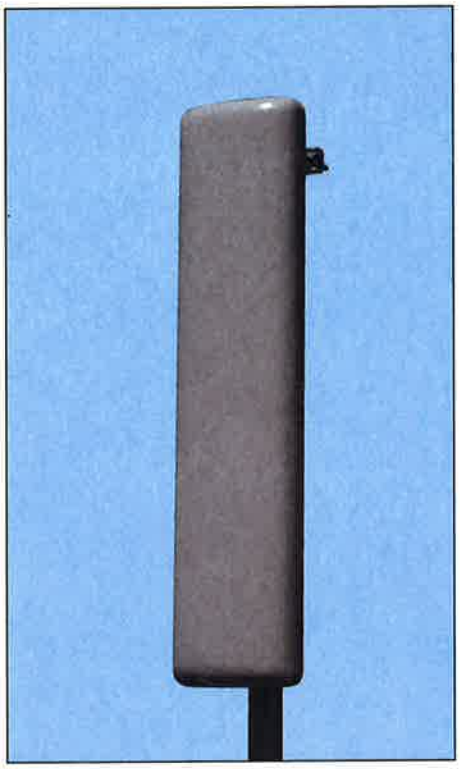
10° | Vertical | 750 MHz



10° | Vertical | 850 MHz

Slant ±45° Dual Polarized FET Panel 63° / 13 dBd
696-900 MHz

BXA-70063/4CF __
When ordering replace "__" with connector type.



Mechanical specifications

Length	1205	mm	47.4	in
Width	285	mm	11.2	in
Depth	126	mm	5.0	in
Depth with z-bracket	166	mm	6.5	in
Weight [4]	4.5	kg	9.9	lbs
Wind Area Fore/Aft	0.36	m^2	3.9	ft^2
Wind Area Side	0.15	m^2	1.7	ft^2
Max Wind Survivability	>201	km/hr	>125	mph
Wind Load @ 100 mph (161 km/hr)				
Fore/Aft	522	N	117	lbf
Side	244	N	55	lbf

Antenna consisting of aluminum alloy with brass feedlines covered by a UV safe fiber-glass radome. RoHS compliant.

Mounting & Downtilting

Mounting hardware attaches to pipe diameter Ø50-160 mm; Ø2.0-6.3 in.

Mounting Bracket Kit	36210002
Downtilt Bracket Kit	36114003

Electrical specifications

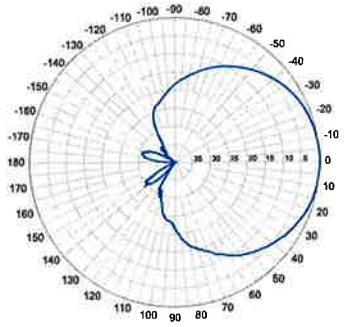
Frequency Range	696-900 MHz
Impedance	50Ω
Connector [3]	NE or E-DIN Female 2 ports / Center
VSWR [1]	≤ 1.35:1
Polarization	Slant ±45°
Isolation Between Ports [1]	< -30 dB
Gain [1]	13.0 dBd 15.0 dBi
Power Rating [2]	500 W
Half Power Angle [1]	
Horizontal Beamwidth	63°
Vertical Beamwidth	15°
Electrical downtilt [5]	0°
Null fill [1]	5%
Lightning protection	Direct ground

Patented Dipole Design: U.S. Patent No. 6,608,600 B2

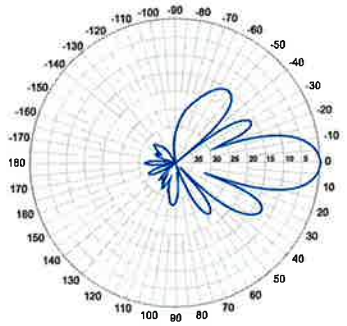
1) Typical values.
2) Power rating limited by connector only.
3) NE indicates an elongated N connector.
E-DIN indicates an elongated DIN connector.
4) Antenna weight does not include brackets.
5) Add'l downtilts may be available. Check website for details.

Improvements to mechanical and/or electrical performance of the antenna may be made without notice.

Radiation-pattern[1]
750 MHz

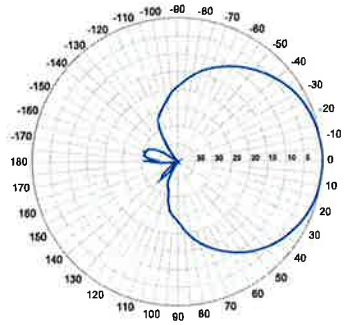


Horizontal

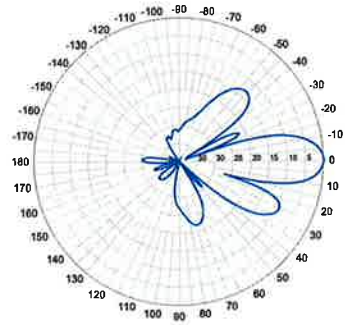


Vertical

850 MHz



Horizontal



Vertical

696-900 MHz

Featuring our Exclusive 3T Technology™ Antenna Design:

- Watercut brass feedline assembly for consistent performance.
- Unique feedline design eliminates the need for conventional solder joints in the signal path.
- A non-collinear system with access to every radiating element for broad band-width and superior performance.
- Air as insulation for virtually no internal signal loss.

Warranty:
This antenna is under a five-year limited warranty for repair or replacement.

Revision Date: 1/8/09

815.399.0001 • antel@antelinc.com • www.antelinc.com

Amphenol Antel, Inc. The Antenna Technology Company

Product Data Sheet APL866513-42T0

Maximizer® Log Periodic Antenna, 806-894, 65deg, 15.1dBi, 1.2m, FET, 0deg

Product Description

The Maximizer series is a log periodic dipole array which uses a patented design to achieve a front-to-back ratio of 45 dB, the highest front-to-back ratio in the industry. Maximizers are available to cover ESMR, AMPS, PCS and DCS frequency ranges. They use RFS's patented monolithic technology, which eliminates cable and soldered joints to reduce the possibility of inter-modulation products. This technology assures high reliability and excellent repeatability of electrical characteristics. The cellular Maximizers are available in 65°, 80° and 90° horizontal beamwidths and the PCS/DCS Maximizers are available in 65° and 90° horizontal beamwidths. Patent number 6,133,889.

Features/Benefits

• 45 dB front-to-back ratio reduces co-channel interference.• Monolithic construction reduces IM.• No solder joints, high reliability.• Surface treated components prevent galvanic corrosion.• UV stabilized radome assures long life without radome deterioration due to UV exposure.

Technical Specifications

Electrical Specifications

Frequency Range, MHz	806-894
Horizontal Beamwidth, deg	65
Vertical Beamwidth, deg	15
Electrical Downtilt Range, deg	0
Gain, dBi (dBd)	15.1 (13)
1st Upper Sidelobe Suppression, dB	>20
Upper Sidelobe Suppression, dB	>20
Front-To-Back Ratio, dB	45
Polarization	Vertical
VSWR	< 1.5:1
3rd Order IMP @ 2 x 43 dBm, dBc	< -100
Impedance, Ohms	50
Maximum Power Input, W	500
Lightning Protection	Direct Ground
Connector Type/Location	7-16 DIN Female/Back

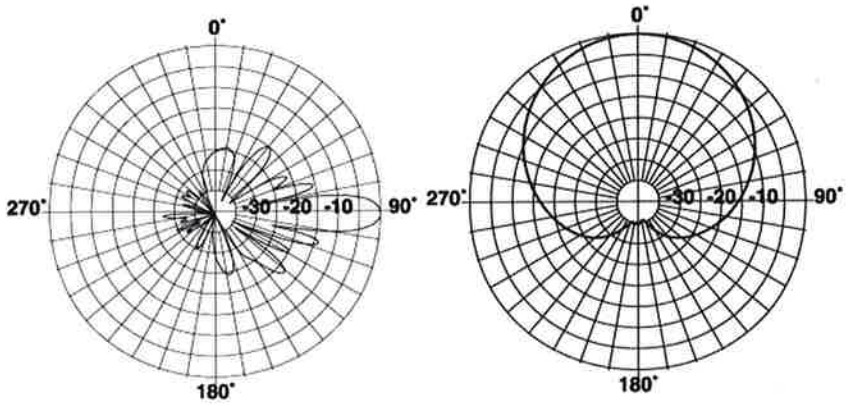
Mechanical Specifications

Dimensions - HxWxD, mm (in)	1219 x 234 x 203 (48 x 9.2 x 8)
Weight w/o Mtg Hardware, kg (lb)	7 (15.7)
Survival/Rated Wind Speed, km/h (mph)	200 (125) / 180 (112)
Wind Load @ Rated Wind, Max., N (lbf)	903 (203)
Wind Load @ Rated Wind, Side, N (lbf)	594 (133.5)
Operation temperature, °C (°F)	-40 to +60 (-40 to +140)
Radome Material/Color	UV Stabilized High Impact ABS/Light Grey
Radiating Element Material	Aluminum Alloy
Reflector Material	5052-H32 Aluminum
Shipping Weight, kg (lb)	9.1 (20)
Packing Dimensions, HxWxD, mm (in)	1594 x 343 x 349 (62.75 x 13.5 x 13.75)

Ordering Information

Mounting Hardware	APM21-3

Maximizer® Log Periodic Antenna, 806-894, 65deg, 15.1dBi, 1.2m, FET, 0deg



Vertical Pattern

Horizontal Pattern

Notes

External Document Links

Vertically Polarized, Log-Periodic 80° / 14 dBd
806-960 MHz

LPA-80080/6CF __
When ordering replace "__" with connector type.

Mechanical specifications

Length	1800	mm	70.9	in
Width	140	mm	5.5	in
Depth	335	mm	13.2	in
Depth with z-bracket	375	mm	14.8	in
Weight [4]	9.5	kg	21.0	lbs
Wind Area Fore/Aft [6]	0.25	m^2	2.7	ft^2
Wind Area Side [6]	0.61	m^2	6.6	ft^2
Max Wind Survivability [6]	>201	km/hr	>125	mph
Wind Load @ 100 mph (161 km/hr) [6]				
Fore/Aft	415	N	93	lbf
Side	878	N	198	lbf

Antenna consisting of aluminum alloy with brass feedlines covered by a gray, UV safe fiberglass radome. RoHS compliant.

Mounting & Downtilting

Mounting hardware attaches to pipe diameter Ø50-102 mm; Ø2.0-4.0 in. If the lock-down brace is used, the maximum diameter is Ø88.9 mm (3.5 in).

Mechanical downtilt angle 0-22°
Mounting & Downtilt Bracket Kit 21700000

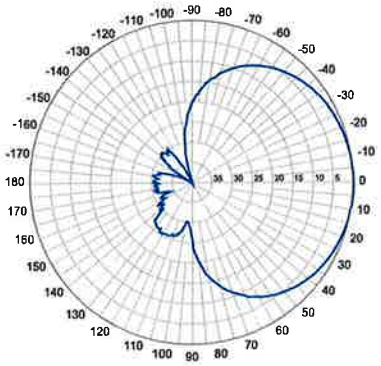
Electrical specifications

Frequency Range	806-960 MHz
Impedance	50Ω
Connector [3]	NE or E-DIN Female 1 port / Center
VSWR [1]	≤ 1.4:1
Polarization	Vertical
Gain [1]	14 dBd
Power Rating [2]	500 W
Half Power Angle [1]	
Horizontal Beamwidth	80°
Vertical Beamwidth	10°
Electrical downtilt [5]	0°
Null fill [1]	10%
Lightning protection	Direct ground

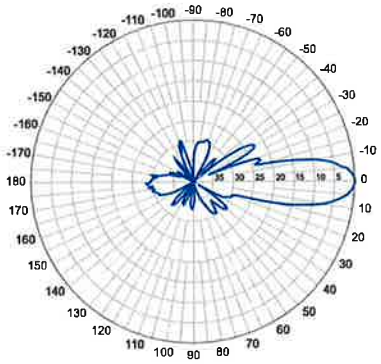
1) Typical values.
2) Power rating limited by connector only.
3) NE indicates an elongated N connector.
E-DIN indicates an elongated DIN connector.
4) Antenna weight does not include brackets.
5) Add'l downtilts may be available. Check website for details.
6) Values reflect installation with all three brackets utilized.

Improvements to mechanical and/or electrical performance of the antenna may be made without notice.

Radiation-pattern[1]



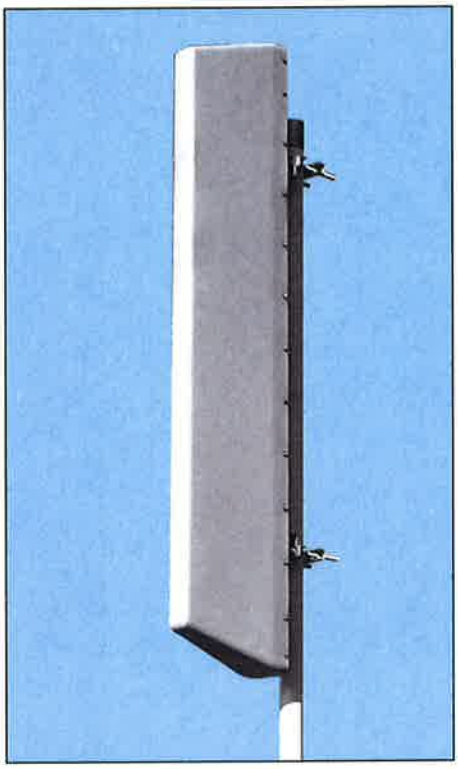
Horizontal



Vertical

Radiation patterns for all antennas are measured with the antenna mounted on a fiberglass pole.

Mounting on a metal pole will typically improve the front-to-back ratio.



Featuring our Exclusive 3T Technology™ Antenna Design:

- True log-periodic design allows for superior front-to-side characteristics to minimize sector overlap.
- Unique feedline design eliminates the need for conventional solder joints in the signal path.
- A non-collinear system with access to every radiating element for broad bandwidth and superior performance.
- Air as insulation for virtually no internal signal loss.

Warranty:
This antenna is under a five-year limited warranty for repair or replacement.

Revision Date: 08/18/08

806-960 MHz

815.399.0001 • antel@antelinc.com • www.antelinc.com

Amphenol Antel, Inc. The Antenna Technology Company

Product Specifications

COMMSCOPE®

SBNHH-1D65B

Multiband Antenna, 698–896 and 2x 1695–2360 MHz, 65° horizontal beamwidth, internal RET. Both high bands share the same electrical tilt.

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

Electrical Specifications

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

Electrical Specifications, BASTA*

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

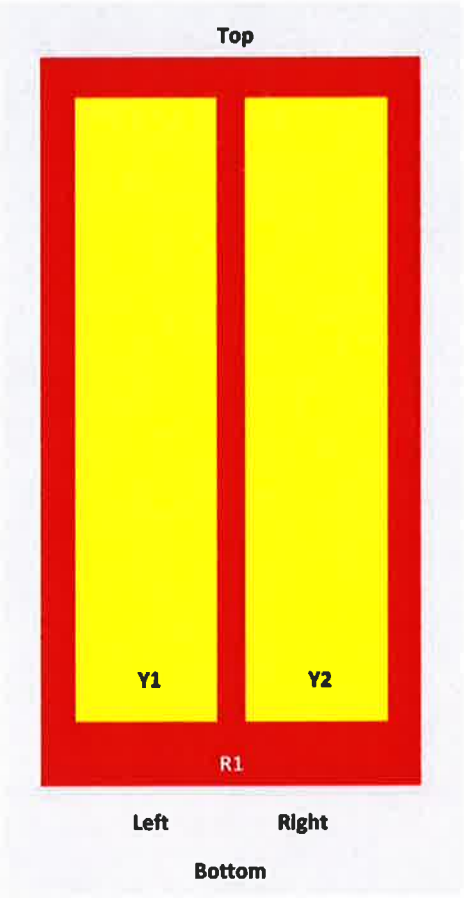
* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper Time to Raise the Bar on BSAs.

Array Layout

Product Specifications

SBNHH-1D65B

SBNHH 65



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

View from the front of the antenna

(Sizes of colored boxes are not true depictions of array sizes)

General Specifications

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

Mechanical Specifications

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

Product Specifications

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

Product Specifications

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.

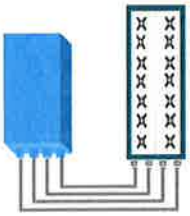
Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the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

Alcatel·Lucent

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.) Volume in L Weight in kg (lb) (w/o mounting HW)	550 x 305 x 230 (21.6" x 12.0" x 9") (with solar shield) 38 (with solar shield) 26 (57.2) (with solar shield)
DC voltage range DC power consumption	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 550W typical @100% RF load (in 2Tx or 4TX mode)
Environmental conditions Wind load (@150km/h or 93mph)	-40°C (-40°F) /+55°C (+131°F) IP65 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

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.

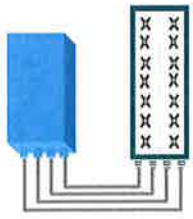
Its compactness and slim design makes the Alcatel-Lucent B25 RRH4x30 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the 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

Alcatel·Lucent

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) **RX Diversity scheme**	2.0 dB typ. (<2.5 dB max) 2 or 4 way Rx diversity
Sizes (HxWxD)(w/ solar shield) in mm (in.) **Volume (w/ solar shield) in L** **Weight (w/ solar shield) in kg (lb)**	538 x 304 x 182 (21.2" x 12.0" x 7.2") 30 24 (53)
DC voltage range **DC power consumption**	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 580W typical @100% RF load
Environmental conditions **Wind load (@150km/h or 93mph)**	-40°C (-40°F) /+55°C (+131°F) IP65 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

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.

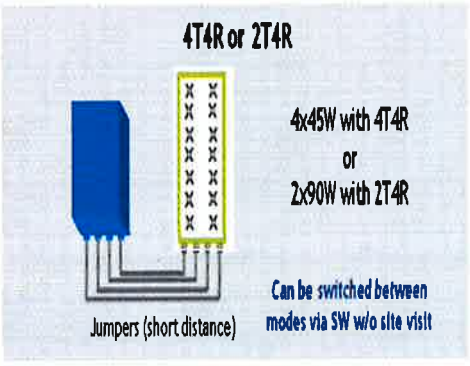
The Alcatel-Lucent B66a RRH4x45 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x90W or 4x45W RF output power. It also supports 4-way Rx diversity at the 70 MHz instantaneous bandwidth.

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.) Volume in Liters Weight in kg (lb) (w/o mounting HW)	655x299x182 (25.8x11.8x7.2) (with solar shield) 640x290x160 (25.2x11.4x6.3) (without solar shield) 35.5 (with solar shield) 29.7 (without solar shield) 25.8kg (56.8lb) (with solar shield)
DC voltage range DC power consumption	Nominal: -48V, -40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 750W typical @100% RF load (In 2Tx or 4Tx mode); Add 58W for 2A*29V for AISG
Environmental conditions Wind load (@150km/h or 93mph)	-40°C (-40°F) /+55°C (+131°F) UL50E Type 4 Enclosure 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

Alcatel·Lucent

Product Data Sheet HB158-1-08U8-S8J18

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

Product Description

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

It was developed to reduce installation complexity and costs at Cellular sites. HYBRIFLEX allows mobile operators deploying an RRH architecture to standardize the RRH installation process and eliminate the need for and cost of cable grounding. HYBRIFLEX combines optical fiber (multi-mode or single-mode) and power in a single corrugated cable. It eliminates the need for junction boxes and can connect multiple RRHs with a single feeder. Standard RFS CELLFLEX² accessories can be used with HYBRIFLEX cable. Both pre-connectorized and on-site options are available.

Figure 1: HYBRIFLEX Series

Features/Benefits

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

Technical Specifications

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

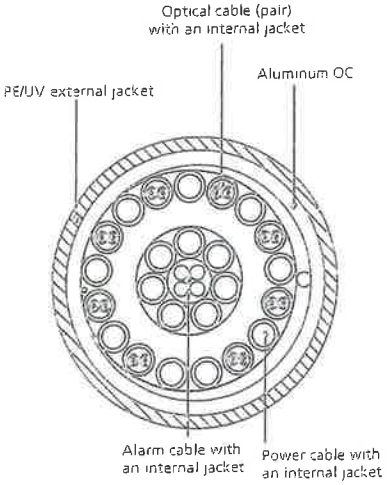


Figure 2: Construction Detail

* This data is provisional and subject to change

ATTACHMENT 2

	General	Power	Density					
Site Name: Old Lyme S								
Tower Height: 171.5'								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*T-Mobile	2	16	170	2100	0.0004	1.0000	0.00%	
*T-Mobile	2	12	170	1950	0.0003	1.0000	0.00%	
*T-Mobile	2	24	170	2100	0.0006	1.0000	0.01%	
*AT&T	1	500	140	880	0.0100	0.5867	0.17%	
*AT&T	2	296	140	880	0.0119	0.5867	0.20%	
*AT&T	2	427	140	1900	0.0171	1.0000	0.17%	
*AT&T	1	500	140	740	0.0100	0.4933	0.20%	
Verizon	**11**	**410**	**158**	**0.0650**	**1970**	**1.0000**	**6.50%**	
Verizon	**9**	**361**	**158**	**0.0468**	**869**	**0.5793**	**8.08%**	
Verizon	**1**	**4658**	**158**	**0.0671**	**2145**	**1.0000**	**6.71%**	
Verizon	**1**	**1588**	**158**	**0.0229**	**746**	**0.4973**	**4.60%**	
								26.6%
* Source: Siting Council								

ATTACHMENT 3

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**171.5 ft Monopole**
ATC Site Name	:	**Old Lyme South CT, CT**
ATC Site Number	:	**411178**
Engineering Number	:	**OAA682574_C3_02**
Proposed Carrier	:	**Verizon**
Carrier Site Name	:	**Old Lyme South**
Carrier Site Number	:	**N/A**
Site Location	:	**129 Mile Creek Road** **Old Lyme, CT 06371-1718** **41.305653,-72.297361**
County	:	**New London**
Date	:	**November 15, 2016**
Max Usage	:	**69%**
Result	:	**Pass**

Prepared By:
Annika A. Venning, E.I.
Structural Engineer I

Reviewed By:
Reviewed by:
Scott Wirgau, PE
Structural Team Leader

STATE OF CONNECTICUT
SCOTT A. WIRGAU
30676
LICENSED
PROFESSIONAL ENGINEER

Nov 15 2016 4:24 PM

cosign

COA: PEC.0001553

AMERICAN TOWER®
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Table of Contents

AMERICAN TOWER®
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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 171.5 ft monopole to reflect the change in loading by Verizon.

Supporting Documents

Tower Drawings	EEI Project #11723, dated September 19, 2003 Mapping by TEP Job #68269-80551, dated April 25, 2016
Foundation Drawing	EEI Project #11723, dated October 21, 2003
Geotechnical Report	Clarence Welti Site #CT54XC701, dated October 17, 2003

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:	105 mph (3-Second Gust, Vasd) / 135 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.16, 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					
170.0	170.0	3	Andrew ETW200VS12UB	T-Arms	(12) 1 5/8" Coax (8) 1/2" Coax (2) 1 5/8" Fiber	T-Mobile
		1	E-911 GPS			
	169.0	6	Ericsson AIR 21			
		3	RFS APX16DWV-16DWVS-E-A20			
	177.0	1	12' Dipole			Town Of Old Lyme, CT
	176.0	1	Decibel DB201-A			
160.0	161.0	1	VZW Unused Reserve: 520 sq in	Low Profile Platform	-	Verizon
147.5	148.0	12	Andrew DB980F90E-M	Low Profile Platform	(12) 1 5/8" Coax	Sprint Nextel
140.0	143.0	1	Raycap DC6-48-60-18-8F	Low Profile Platform	(12) 1 5/8" Coax (2) 0.78" 8 AWG 6 (1) 0.39" Fiber Trunk (1) 2" Conduit	AT&T Mobility
		6	Ericsson RRUS-11			
	140.0	6	Powerwave TT19-08BP111-001			
		6	KMW AM-X-CD-14-65-00T-RET			
		3	Powerwave 7770.00			
117.0	111.0	1	12' Dipole	Flush	(2) 1/2" Coax	Town Of Old Lyme, CT
74.0	74.0	1	GPS	Flush	(1) 1/2" Coax	Sprint Nextel

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
160.0	162.0	2	ADC CG-1900/800-DB-FB-DIN	Low Profile Platform	(18) 1 5/8" Coax	Verizon
	161.0	5	Amphenol Antel LPA-80080-6CF-EDIN-2			
		2	RFS APL866513-42T0			
		4	Antel BXA-70063-4CF-EDIN-10			
	160.0	4	Amphenol Antel LPA-171063-12CF-EDIN-X			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
160.0	161.0	3	Alcatel-Lucent RRH2X60-1900	Low Profile Platform	(12) 1 5/8" Coax (2) 1 5/8" Hybriflex	Verizon
		3	Alcatel-Lucent RRH2x60 700			
		3	Alcatel-Lucent B66 RRH4x45			
		4	RFS APL866513-42T0			
		1	Antel BXA-70063-4CF-EDIN-10			
		2	RFS DB-T1-6Z-8AB-0Z			
		2	Antel BXA-70063/6CF_			
		6	Commscope SBNHH-1D65B			
		2	Antel LPA-80080-6CF-EDIN-2			

[1]Mount 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	51%	Pass
Shaft	53%	Pass
Base Plate	69%	Pass
Flanges	9%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	5,101.5	37%
Axial (Kips)	62.2	19%
Shear (Kips)	43.5	20%

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

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
160.0	Alcatel-Lucent RRH2X60-1900	Verizon	1.173	0.837
	Alcatel-Lucent RRH2x60 700			
	Alcatel-Lucent B66 RRH4x45			
	RFS APL866513-42T0			
	Antel BXA-70063-4CF-EDIN-10			
	RFS DB-T1-6Z-8AB-0Z			
	Antel BXA-70063/6CF_			
	Commscope SBNHH-1D65B			
	Antel LPA-80080-6CF-EDIN-2			

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

AMERICAN TOWER®
CORPORATION

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:

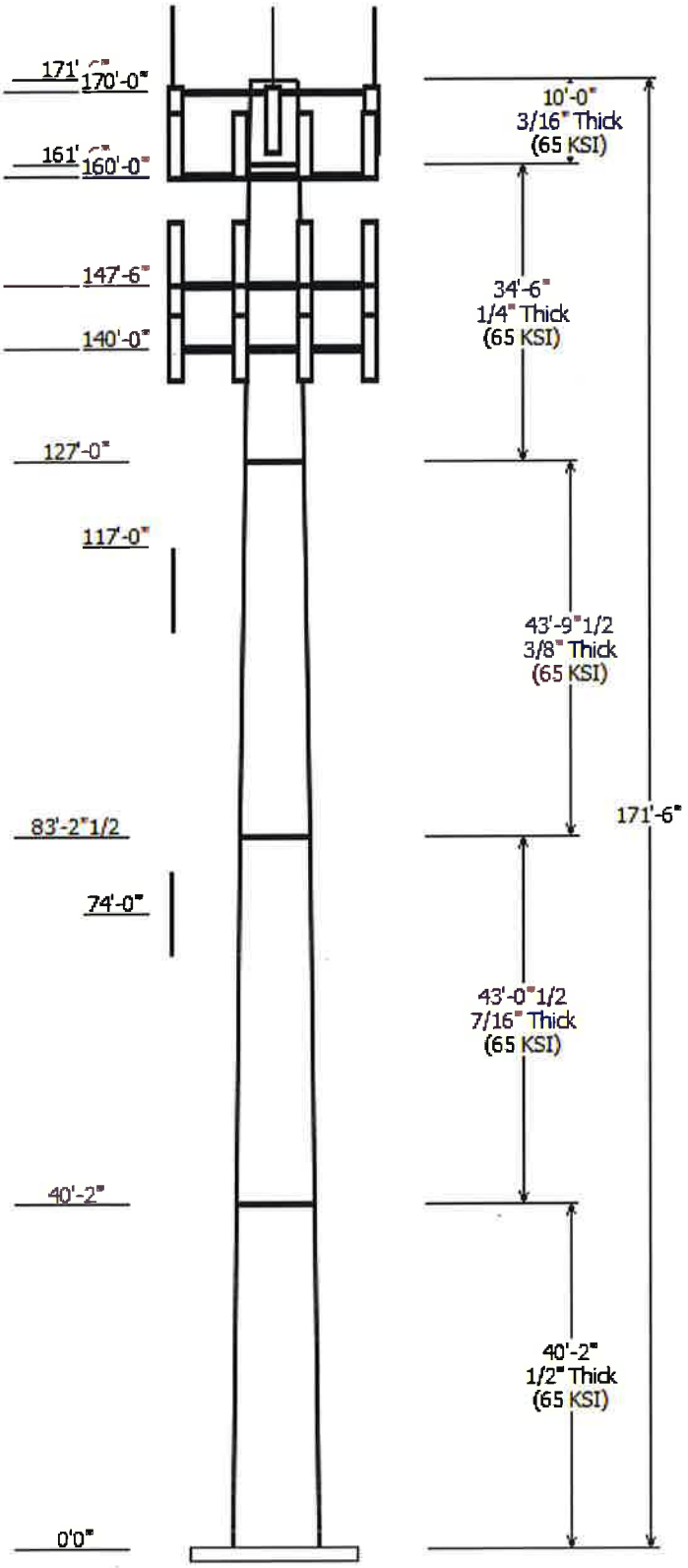
-- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

-- 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.



Job Information

Pole :	411178	Code:	ANSI/TIA-222-G
Description :	171.5 ft Monopole		
Client :	Verizon Wireless	Struct Class :	II
Location :	Old Lyme South CT, CT		
Shape :	18 Sides	Exposure :	C
Height :	171.50 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.250727 (in/ft)		

Sections Properties

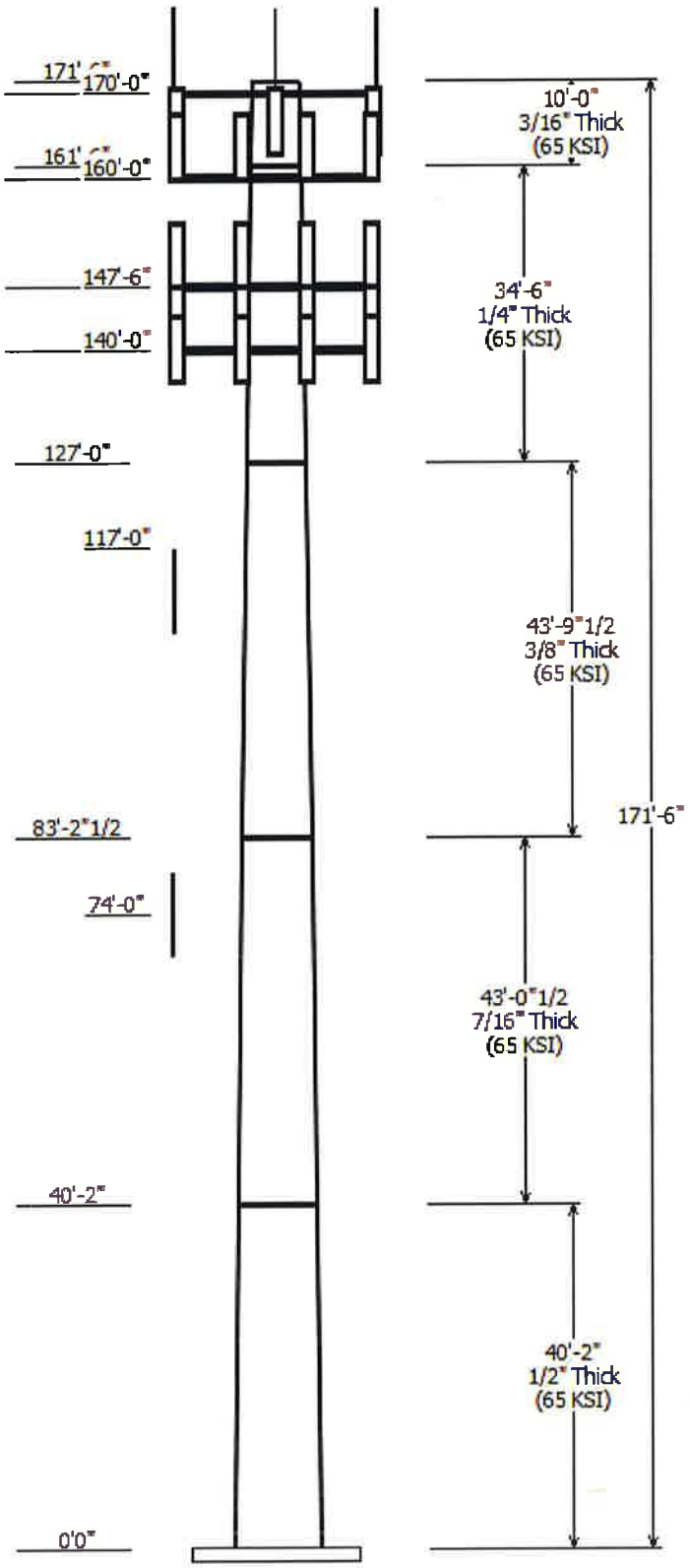
Shaft Section	Length (ft)	Diameter (in) Across Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
1	40.167	58.92	69.00	0.500		0.000	0.250700	65
2	43.042	48.13	58.92	0.438	Butt Joint	0.000	0.250700	65
3	43.792	37.15	48.13	0.375	Butt Joint	0.000	0.250700	65
4	34.500	28.50	37.15	0.250	Butt Joint	0.000	0.250700	65
5	9.999	26.00	28.50	0.188	Butt Joint	0.000	0.250700	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
170.000	177.000	1	12' Dipole
170.000	176.000	1	Decibel DB201-A
170.000	170.000	3	Round T-Arm
170.000	169.000	3	RFS APX16DWV-16DWVS-E-A20
170.000	169.000	6	Ericsson AIR 21
170.000	170.000	3	Andrew ETW200VS12UB
170.000	170.000	1	E-911 GPS
160.000	161.000	1	VZW Unused Reserve: 520 sq
160.000	161.000	6	Commscope SBNHH-1D65B
160.000	161.000	2	Antel BXA-70063/6CF_
160.000	161.000	2	RFS DB-T1-6Z-8AB-0Z
160.000	161.000	4	RFS APL866513-42T0
160.000	161.000	3	Alcatel-Lucent B66 RRH4x45
160.000	161.000	3	Alcatel-Lucent RRH2x60 700
160.000	161.000	3	Alcatel-Lucent RRH2X60-1900
160.000	160.000	1	Flat Low Profile Platform
160.000	161.000	2	Antel LPA-80080-6CF-EDIN-2
160.000	161.000	1	Antel BXA-70063-4CF-EDIN-10
147.500	147.500	1	Flat Low Profile Platform
147.500	148.000	12	Andrew DB980F90E-M
140.000	140.000	1	Flat Low Profile Platform
140.000	140.000	3	Powerwave Allgon 7770.00
140.000	140.000	6	KMW AM-X-CD-14-65-00T-RET
140.000	143.000	6	Ericsson RRUS-11
140.000	143.000	1	Raycap DC6-48-60-18-8F
140.000	140.000	6	Powerwave TT19-08BP111-001
117.000	111.000	1	12' Dipole
74.000	74.000	1	GPS

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	74.000	1/2" Coax	No
0.000	117.0	1/2" Coax	No
0.000	140.0	0.39" Fiber Trunk	No
0.000	140.0	0.78" 8 AWG 6	No
0.000	140.0	1 5/8" Coax	No
0.000	140.0	2" Conduit	No
0.000	147.5	1 5/8" Coax	No



0.000	160.0	1 5/8" Coax	No
0.000	160.0	1 5/8" Hybriflex	No
0.000	170.0	1 5/8" Coax	No
0.000	170.0	1 5/8" Fiber	No
0.000	170.0	1/2" Coax	No
0.000	170.0	1/2" Coax	No
0.000	170.0	1/2" Coax	No

Load Cases

1.2D + 1.6W	105 mph with No Ice
0.9D + 1.6W	105 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 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

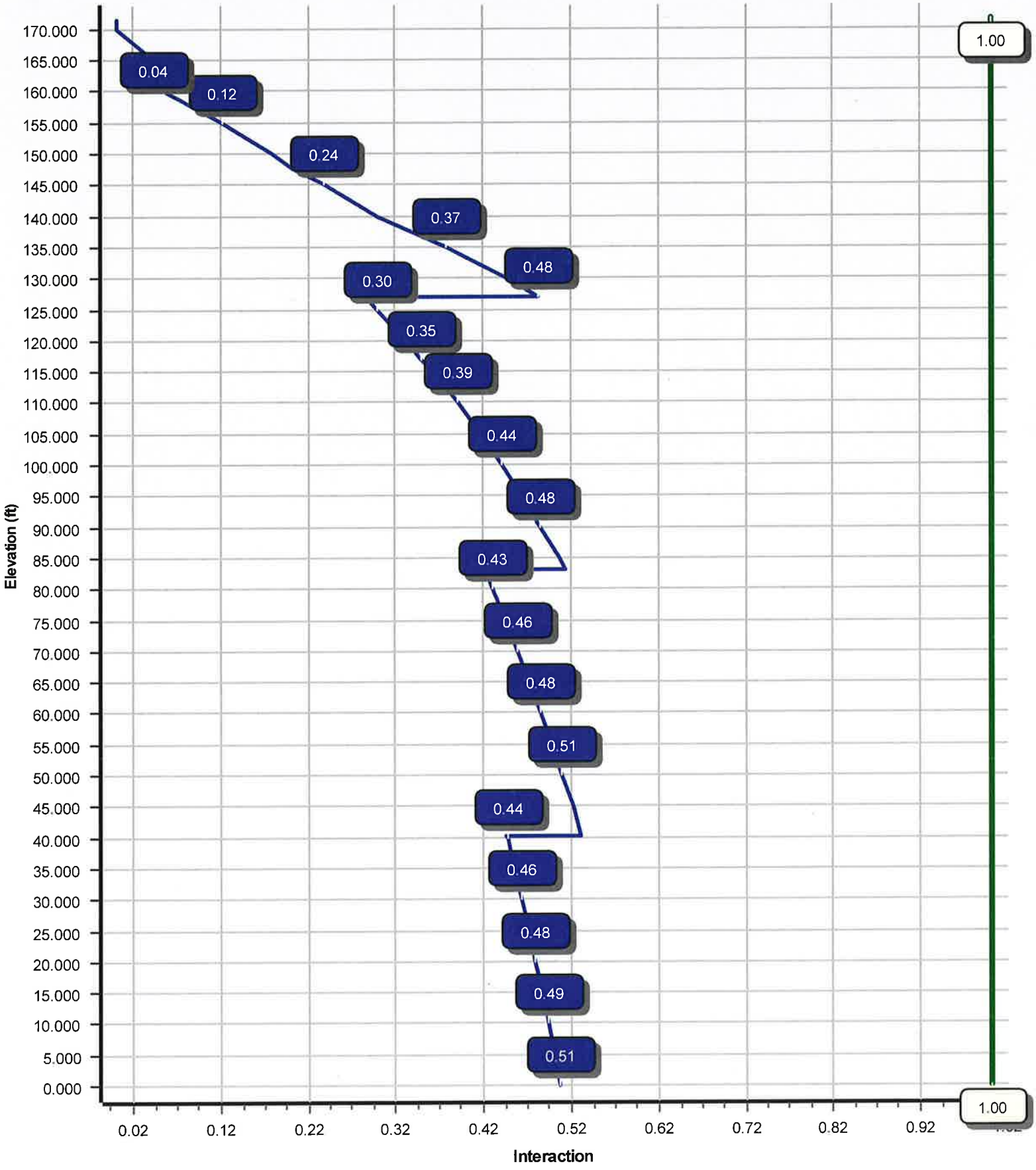
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	5101.50	43.46	62.16
0.9D + 1.6W	5069.03	43.44	46.61
1.2D + 1.0Di + 1.0Wi	1212.98	10.65	89.01
(1.2 + 0.2Sds) * DL + E ELFM	290.98	2.28	61.42
(1.2 + 0.2Sds) * DL + E EMAM	285.70	2.36	61.42
(0.9 - 0.2Sds) * DL + E ELFM	288.83	2.28	43.04
(0.9 - 0.2Sds) * DL + E EMAM	283.45	2.36	43.04
1.0D + 1.0W	1037.33	8.87	51.83

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 52.95% at 40.2 ft



Site Number:	**411178**	**Code: ANSI/TIA-222-G**	
Site Name:	**Old Lyme South CT, CT**	**Engineering Number:OAA682574_C3_02**	**11/15/2016 1:36:33 PM**
Customer:	**Verizon Wireless**		

Analysis Parameters

Location:	**New London County, CT**		
Code:	**ANSI/TIA-222-G**	**Height (ft):**	**171.**
Shape:	**18 Sides**	**Base Diameter (in):**	**69.00**
Pole Type:	**Taper**	**Top Diameter (in):**	**26.00**
Pole Manfacturer:		**Taper (in/ft) :**	**0.251**

Ice & Wind Parameters

Structure Class:	**II**	**Design Wind Speed Without Ice:**	**105 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:**	**0.75 in**

Seismic Parameters

Analysis Method:	**Equivalent Modal Analysis & Equivalent Lateral Force Methods**				
Site Class:	**D - Stiff Soil**				
Period Based on Rayleigh Method (sec):	**1.83**				
T_L (sec):	**6**	**p:**	**1.3**	**C_s:**	**0.034**
S_s:	**0.163**	**S_1:**	**0.058**	**C_s Max:**	**0.034**
F_a:	**1.600**	**F_v:**	**2.400**	**C_s Min:**	**0.030**
S_{ds}:	**0.174**	**S_{d1}:**	**0.093**		

Load Cases

1.2D + 1.6W	**105 mph with No Ice**
0.9D + 1.6W	**105 mph with No Ice (Reduced DL)**
1.2D + 1.0Di + 1.0Wi	**50 mph with 0.75 in Radial Ice**
(1.2 + 0.2Sds) * DL + E ELFM	**Seismic Equivalent Lateral Forces Method**
(1.2 + 0.2Sds) * DL + E EMAM	**Seismic Equivalent Modal Analysis Method**
(0.9 - 0.2Sds) * DL + E ELFM	**Seismic (Reduced DL) Equivalent Lateral Forces Method**
(0.9 - 0.2Sds) * DL + E EMAM	**Seismic (Reduced DL) Equivalent Modal Analysis Method**
1.0D + 1.0W	**Serviceability 60 mph**

Site Number: 411178 | Code: ANSI/TIA-222-G |

Site Name: Old Lyme South CT, CT | Engineering Number:OAA682574_C3_02 | 11/15/2016 1:36:33 PM

Customer: Verizon Wireless

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	40.167	0.5000	65		0.00	13,766	69.00	0.00	108.71	64444.5	22.92	138.00	58.92	40.17	92.72	39994.5	19.37	117.86	0.250727
2-18	43.042	0.4375	65	Butt	0.00	10,798	58.92	40.17	81.22	35107.6	22.34	134.69	48.13	83.21	66.23	19040.1	17.99	110.03	0.250727
3-18	43.792	0.3750	65	Butt	0.00	7,497	48.13	83.21	56.85	16384.3	21.22	128.37	37.15	127.00	43.78	7483.3	16.06	99.09	0.250727
4-18	34.500	0.2500	65	Butt	0.00	3,035	37.15	127.00	29.28	5039.9	24.80	148.63	28.50	161.50	22.42	2261.9	18.70	114.03	0.250727
5-18	9.999	0.1875	65	Butt	0.00	548	28.50	161.50	16.85	1707.7	25.40	152.04	26.00	171.50	15.36	1293.1	23.04	138.67	0.250727
				Shaft Weight		35,644													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor	Distance From Face (ft)	Vert Ecc (ft)
170.00	12' Dipole	1	40.00	4.510	1.00	175.10	11.762	1.00	0.000	7.000
170.00	Andrew ETW200VS12UB	3	11.00	0.470	0.50	29.74	0.380	0.50	0.000	0.000
170.00	Decibel DB201-A	1	25.00	3.130	1.00	42.65	5.339	1.00	0.000	6.000
170.00	E-911 GPS	1	5.00	0.580	0.50	41.91	0.948	0.50	0.000	0.000
170.00	Ericsson AIR 21	6	91.00	6.050	0.86	261.46	7.161	0.86	0.000	-1.000
170.00	RFS APX16DWV-16DWVS-E-	3	40.70	6.590	0.66	180.92	7.724	0.66	0.000	-1.000
170.00	Round T-Arm	3	250.00	9.700	0.67	461.75	18.053	0.67	0.000	0.000
160.00	Alcatel-Lucent B66 RRH4x45	3	67.00	2.580	0.67	152.94	3.284	0.67	0.000	1.000
160.00	Alcatel-Lucent RRH2x60 700	3	56.70	2.150	0.67	138.59	2.779	0.67	0.000	1.000
160.00	Alcatel-Lucent RRH2X60-	3	43.00	1.880	0.50	111.10	2.476	0.50	0.000	1.000
160.00	Antel BXA-70063-4CF-EDIN-10	1	9.90	4.710	0.77	131.72	5.673	0.77	0.000	1.000
160.00	Antel BXA-70063/6CF_	2	17.00	7.570	0.75	185.49	8.842	0.75	0.000	1.000
160.00	Antel LPA-80080-6CF-EDIN-2	2	21.00	8.630	0.75	217.13	9.953	0.75	0.000	1.000
160.00	Commscope SBNHH-1D65B	6	50.70	8.170	0.83	255.32	9.484	0.83	0.000	1.000
160.00	Flat Low Profile Platform	1	1500.00	26.100	1.00	2,152.40	45.325	1.00	0.000	0.000
160.00	RFS APL866513-42T0	4	15.70	4.050	0.95	145.30	4.978	0.95	0.000	1.000
160.00	RFS DB-T1-6Z-8AB-0Z	2	44.00	4.800	0.67	188.56	5.678	0.67	0.000	1.000
160.00	VZW Unused Reserve: 520	1	209.00	3.610	1.00	355.61	6.142	1.00	0.000	1.000
147.50	Andrew DB980F90E-M	12	9.50	3.750	0.81	100.93	4.799	0.81	0.000	0.500
147.50	Flat Low Profile Platform	1	1500.00	26.100	1.00	2,147.58	45.183	1.00	0.000	0.000
140.00	Ericsson RRUS-11	6	55.00	3.790	0.67	159.17	4.576	0.67	0.000	3.000
140.00	Flat Low Profile Platform	1	1500.00	26.100	1.00	2,143.60	45.065	1.00	0.000	0.000
140.00	KMW AM-X-CD-14-65-00T-	6	36.40	4.990	0.78	166.31	5.966	0.78	0.000	0.000
140.00	Powerwave Allgon 7770.00	3	35.00	5.510	0.77	168.65	6.550	0.77	0.000	0.000
140.00	Powerwave TT19-08BP111-	6	16.00	0.640	0.50	43.47	0.895	0.50	0.000	0.000
140.00	Raycap DC6-48-60-18-8F	1	31.80	1.280	1.00	123.77	2.847	1.00	0.000	3.000
117.00	12' Dipole	1	40.00	4.510	1.00	170.22	11.500	1.00	0.000	-6.000
74.00	GPS	1	10.00	1.000	1.00	44.91	0.907	1.00	0.000	0.000
	Totals	84	8216.30			19,549.71			Number of Loadings :	28

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
0.00	170.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	T-Mobile
0.00	170.00	2	1 5/8" Fiber	1.63	1.61	N	0.00	N	T-Mobile
0.00	170.00	1	1/2" Coax	0.63	0.15	N	0.00	N	T-Mobile
0.00	170.00	1	1/2" Coax	0.63	0.15	N	0.00	N	Town of Old Lyme, CT
0.00	170.00	6	1/2" Coax	0.63	0.15	N	0.00	N	Town of Old Lyme, CT
0.00	160.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon
0.00	160.00	2	1 5/8" Hybriflex Cable	1.98	1.30	N	0.00	N	Verizon

0.00	147.50	12	1 5/8" Coax	1.98	0.82	N	0.00	N	Sprint Nextel
0.00	140.00	1	0.39" Fiber Trunk	0.39	0.06	N	0.00	N	AT&T Mobility
0.00	140.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	140.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
0.00	140.00	1	2" Conduit	2.38	3.65	N	0.00	N	AT&T Mobility
0.00	117.00	2	1/2" Coax	0.63	0.15	N	0.00	N	Town of Old Lyme, CT
0.00	74.00	1	1/2" Coax	0.63	0.15	N	0.00	N	Sprint Nextel

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	69.000	108.706	64,444.5	22.92	138.00	74.4	1839.	0.0	0.0
5.00		0.5000	67.746	106.716	60,970.6	22.48	135.49	75.0	1772.	0.0	1,832.6
10.00		0.5000	66.493	104.727	57,623.9	22.04	132.99	75.5	1706.	0.0	1,798.7
15.00		0.5000	65.239	102.737	54,401.9	21.60	130.48	76.0	1642.	0.0	1,764.9
20.00		0.5000	63.985	100.748	51,302.3	21.15	127.97	76.5	1579.	0.0	1,731.0
25.00		0.5000	62.732	98.758	48,322.8	20.71	125.46	77.0	1517.	0.0	1,697.2
30.00		0.5000	61.478	96.769	45,460.9	20.27	122.96	77.6	1456.	0.0	1,663.3
35.00		0.5000	60.225	94.779	42,714.3	19.83	120.45	78.1	1396.	0.0	1,629.5
40.00		0.5000	58.971	92.790	40,080.6	19.39	117.94	78.6	1338.	0.0	1,595.6
40.17	Top - Section 1	0.5000	58.929	92.724	39,994.5	19.37	117.86	78.6	1336.	0.0	52.7
40.17	Bot - Section 2	0.4375	58.929	81.220	35,107.6	22.34	134.69	75.1	1173.	0.0	
45.00		0.4375	57.717	79.537	32,970.5	21.85	131.93	75.7	1125.	0.0	1,321.9
50.00		0.4375	56.464	77.796	30,852.8	21.35	129.06	76.3	1076.	0.0	1,338.4
55.00		0.4375	55.210	76.056	28,827.7	20.84	126.19	76.9	1028.	0.0	1,308.8
60.00		0.4375	53.956	74.315	26,893.2	20.34	123.33	77.5	981.7	0.0	1,279.2
65.00		0.4375	52.703	72.574	25,047.3	19.83	120.46	78.1	936.1	0.0	1,249.6
70.00		0.4375	51.449	70.833	23,287.8	19.33	117.60	78.7	891.5	0.0	1,220.0
74.00		0.4375	50.446	69.441	21,941.1	18.92	115.31	79.1	856.7	0.0	954.6
75.00		0.4375	50.195	69.093	21,612.7	18.82	114.73	79.3	848.1	0.0	235.7
80.00		0.4375	48.942	67.352	20,020.0	18.31	111.87	79.9	805.7	0.0	1,160.7
83.21	Top - Section 2	0.4375	48.137	66.235	19,040.1	17.99	110.03	80.2	779.1	0.0	729.3
83.21	Bot - Section 3	0.3750	48.137	56.847	16,384.3	21.22	128.37	76.4	670.4	0.0	
85.00		0.3750	47.688	56.312	15,926.5	21.01	127.17	76.7	657.8	0.0	344.8
90.00		0.3750	46.435	54.820	14,693.8	20.42	123.83	77.4	623.3	0.0	945.4
95.00		0.3750	45.181	53.328	13,526.4	19.83	120.48	78.1	589.7	0.0	920.0
100.0		0.3750	43.927	51.836	12,422.5	19.24	117.14	78.8	557.0	0.0	894.6
105.0		0.3750	42.674	50.344	11,380.3	18.65	113.80	79.5	525.3	0.0	869.2
110.0		0.3750	41.420	48.852	10,398.1	18.07	110.45	80.2	494.5	0.0	843.9
115.0		0.3750	40.166	47.360	9,474.2	17.48	107.11	80.8	464.6	0.0	818.5
117.0		0.3750	39.665	46.763	9,120.5	17.24	105.77	81.1	452.9	0.0	320.3
120.0		0.3750	38.913	45.868	8,606.6	16.89	103.77	81.5	435.6	0.0	472.8
125.0		0.3750	37.659	44.376	7,793.7	16.30	100.42	82.2	407.6	0.0	767.7
127.0	Top - Section 3	0.3750	37.157	43.779	7,483.3	16.06	99.09	82.5	396.7	0.0	300.1
127.0	Bot - Section 4	0.2500	37.157	29.285	5,039.9	24.80	148.63	72.2	267.2	0.0	
130.0		0.2500	36.405	28.688	4,738.1	24.27	145.62	72.9	256.3	0.0	295.8
135.0		0.2500	35.152	27.694	4,262.1	23.38	140.61	73.9	238.8	0.0	479.6
140.0		0.2500	33.898	26.699	3,819.2	22.50	135.59	74.9	221.9	0.0	462.7
145.0		0.2500	32.645	25.704	3,408.0	21.61	130.58	76.0	205.6	0.0	445.8
147.5		0.2500	32.018	25.207	3,214.0	21.17	128.07	76.5	197.7	0.0	216.5
150.0		0.2500	31.391	24.709	3,027.5	20.73	125.56	77.0	190.0	0.0	212.3
155.0		0.2500	30.137	23.715	2,676.3	19.85	120.55	78.1	174.9	0.0	411.9
160.0		0.2500	28.884	22.720	2,353.5	18.96	115.53	79.1	160.5	0.0	395.0
161.5	Top - Section 4	0.2500	28.507	22.421	2,261.9	18.70	114.03	79.4	156.3	0.0	115.3
161.5	Bot - Section 5	0.1875	28.507	16.853	1,707.7	25.40	152.04	71.5	118.0	0.0	
165.0		0.1875	27.630	16.331	1,553.9	24.57	147.36	72.5	110.8	0.0	197.6
170.0		0.1875	26.376	15.585	1,350.5	23.39	140.67	73.9	100.8	0.0	271.5
171.5		0.1875	26.000	15.361	1,293.1	23.04	138.67	74.3	98.0	0.0	79.0
											35,644.3

Site Number: 411178 Code: ANSI/TIA-222-G

Site Name: Old Lyme South CT, CT Engineering Number:OAA682574_C3_02 11/15/2016 1:36:33 PM

Customer: Verizon Wireless

Load Case: 1.2D + 1.6W 105 mph with No Ice 22 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

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	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		377.1	0.0					0.0	0.0	377.1	0.0	0.0	0.0
5.00		747.3	2,199.1					0.0	310.3	747.3	2,509.4	0.0	0.0
10.00		733.5	2,158.5					0.0	310.3	733.5	2,468.8	0.0	0.0
15.00		730.9	2,117.9					0.0	310.3	730.9	2,428.2	0.0	0.0
20.00		747.8	2,077.2					0.0	310.3	747.8	2,387.6	0.0	0.0
25.00		768.8	2,036.6					0.0	310.3	768.8	2,346.9	0.0	0.0
30.00		783.1	1,996.0					0.0	310.3	783.1	2,306.3	0.0	0.0
35.00		792.6	1,955.4					0.0	310.3	792.6	2,265.7	0.0	0.0
40.00		411.5	1,914.8					0.0	310.3	411.5	2,225.1	0.0	0.0
40.17	Top - Section 1	400.2	63.3					0.0	10.4	400.2	73.6	0.0	0.0
45.00		787.7	1,586.3					0.0	300.0	787.7	1,886.2	0.0	0.0
50.00		801.2	1,606.1					0.0	310.3	801.2	1,916.4	0.0	0.0
55.00		799.4	1,570.6					0.0	310.3	799.4	1,880.9	0.0	0.0
60.00		795.7	1,535.0					0.0	310.3	795.7	1,845.4	0.0	0.0
65.00		790.4	1,499.5					0.0	310.3	790.4	1,809.8	0.0	0.0
70.00		706.1	1,464.0					0.0	310.3	706.1	1,774.3	0.0	0.0
74.00	Appertunance(s)	390.0	1,145.6	56.1	0.0	0.0	12.0	0.0	248.3	446.1	1,405.8	0.0	0.0
75.00		463.5	282.8					0.0	61.9	463.5	344.7	0.0	0.0
80.00		630.9	1,392.9					0.0	309.4	630.9	1,702.3	0.0	0.0
83.21	Top - Section 2	381.0	875.2					0.0	198.6	381.0	1,073.8	0.0	0.0
85.00		511.7	413.8					0.0	110.8	511.7	524.6	0.0	0.0
90.00		745.9	1,134.5					0.0	309.4	745.9	1,443.9	0.0	0.0
95.00		734.0	1,104.0					0.0	309.4	734.0	1,413.4	0.0	0.0
100.00		721.4	1,073.6					0.0	309.4	721.4	1,383.0	0.0	0.0
105.00		708.1	1,043.1					0.0	309.4	708.1	1,352.5	0.0	0.0
110.00		694.0	1,012.6					0.0	309.4	694.0	1,322.0	0.0	0.0
115.00		478.7	982.2					0.0	309.4	478.7	1,291.6	0.0	0.0
117.00	Appertunance(s)	335.9	384.3	275.3	0.0	-1,652.1	48.0	0.0	123.8	611.3	556.1	0.0	0.0
120.00		528.8	567.4					0.0	184.6	528.8	751.9	0.0	0.0
125.00		457.2	921.2					0.0	307.6	457.2	1,228.9	0.0	0.0
127.00	Top - Section 3	320.1	360.1					0.0	123.1	320.1	483.3	0.0	0.0
130.00		502.8	355.0					0.0	184.5	502.8	539.5	0.0	0.0
135.00		615.0	575.6					0.0	307.6	615.0	883.2	0.0	0.0
140.00	Appertunance(s)	597.6	555.3	4,473.1	0.0	2,552.5	2,737.4	0.0	307.6	5,070.7	3,600.3	0.0	0.0
145.00		438.2	534.9					0.0	219.2	438.2	754.2	0.0	0.0
147.50	Appertunance(s)	285.4	259.9	3,583.2	0.0	945.7	1,936.8	0.0	109.6	3,868.5	2,306.3	0.0	0.0
150.00		417.7	254.8					0.0	80.1	417.7	334.9	0.0	0.0
155.00		542.8	494.3					0.0	160.2	542.8	654.5	0.0	0.0
160.00	Appertunance(s)	344.9	474.0	7,387.1	0.0	5,666.2	3,300.0	0.0	160.2	7,732.0	3,934.2	0.0	0.0
161.50	Top - Section 4	257.0	138.3					0.0	25.7	257.0	164.0	0.0	0.0
165.00		426.1	237.1					0.0	59.9	426.1	296.9	0.0	0.0
170.00	Appertunance(s)	319.4	325.8	3,906.1	0.0	1,027.7	1,825.3	0.0	85.6	4,225.6	2,236.7	0.0	0.0
171.50		72.2	94.8					0.0	0.0	72.2	94.8	0.0	0.0
								Totals:		43,774.3	62,201.9	0.00	0.00

Site Number: 411178 Code: ANSI/TIA-222-G

Site Name: Old Lyme South CT, CT Engineering Number:OAA682574_C3_02 11/15/2016 1:36:35 PM

Customer: Verizon Wireless

Load Case: 1.2D + 1.6W 105 mph with No Ice 22 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	-62.16	-43.46	0.00	-5,101.50	0.00	5,101.50	7,282.81	3,641.41	20,510.1	10,270.3	0.00	0.00	0.505
5.00	-59.57	-42.82	0.00	-4,884.21	0.00	4,884.21	7,199.47	3,599.74	19,901.7	9,965.65	0.06	-0.11	0.499
10.00	-57.02	-42.19	0.00	-4,670.10	0.00	4,670.10	7,114.27	3,557.13	19,296.8	9,662.76	0.24	-0.22	0.491
15.00	-54.51	-41.56	0.00	-4,459.13	0.00	4,459.13	7,027.20	3,513.60	18,695.8	9,361.83	0.53	-0.33	0.484
20.00	-52.05	-40.90	0.00	-4,251.33	0.00	4,251.33	6,938.27	3,469.13	18,099.0	9,062.99	0.94	-0.45	0.477
25.00	-49.63	-40.21	0.00	-4,046.83	0.00	4,046.83	6,847.47	3,423.74	17,506.7	8,766.39	1.47	-0.56	0.469
30.00	-47.25	-39.50	0.00	-3,845.78	0.00	3,845.78	6,754.82	3,377.41	16,919.2	8,472.18	2.13	-0.68	0.461
35.00	-44.91	-38.77	0.00	-3,648.29	0.00	3,648.29	6,660.30	3,330.15	16,336.7	8,180.49	2.90	-0.80	0.453
40.00	-42.65	-38.37	0.00	-3,454.45	0.00	3,454.45	6,563.93	3,281.96	15,759.5	7,891.49	3.80	-0.91	0.444
40.17	-42.55	-38.01	0.00	-3,448.04	0.00	3,448.04	6,560.67	3,280.34	15,740.3	7,881.88	3.83	-0.92	0.444
40.17	-42.55	-38.01	0.00	-3,448.04	0.00	3,448.04	5,491.49	2,745.75	13,203.3	6,611.51	3.83	-0.92	0.529
45.00	-40.59	-37.28	0.00	-3,264.33	0.00	3,264.33	5,418.84	2,709.42	12,756.7	6,387.88	4.82	-1.03	0.519
50.00	-38.60	-36.54	0.00	-3,077.91	0.00	3,077.91	5,341.85	2,670.93	12,298.2	6,158.26	5.98	-1.17	0.507
55.00	-36.66	-35.79	0.00	-2,895.23	0.00	2,895.23	5,263.00	2,631.50	11,843.4	5,930.54	7.28	-1.31	0.495
60.00	-34.74	-35.03	0.00	-2,716.30	0.00	2,716.30	5,182.29	2,591.14	11,392.8	5,704.87	8.73	-1.45	0.483
65.00	-32.87	-34.27	0.00	-2,541.15	0.00	2,541.15	5,099.71	2,549.86	10,946.5	5,481.40	10.32	-1.59	0.470
70.00	-31.05	-33.58	0.00	-2,369.79	0.00	2,369.79	5,015.27	2,507.64	10,504.9	5,260.27	12.05	-1.73	0.457
74.00	-29.61	-33.13	0.00	-2,235.46	0.00	2,235.46	4,946.38	2,473.19	10,155.1	5,085.15	13.55	-1.84	0.446
75.00	-29.24	-32.70	0.00	-2,202.33	0.00	2,202.33	4,928.97	2,464.49	10,068.2	5,041.62	13.94	-1.87	0.443
80.00	-27.49	-32.07	0.00	-2,038.83	0.00	2,038.83	4,840.81	2,420.41	9,636.89	4,825.61	15.97	-2.01	0.428
83.21	-26.39	-31.68	0.00	-1,935.93	0.00	1,935.93	4,783.25	2,391.62	9,362.93	4,688.42	17.35	-2.10	0.419
83.21	-26.39	-31.68	0.00	-1,935.93	0.00	1,935.93	3,910.73	1,955.36	7,675.09	3,843.25	17.35	-2.10	0.511
85.00	-25.83	-31.20	0.00	-1,879.20	0.00	1,879.20	3,886.54	1,943.27	7,555.36	3,783.30	18.15	-2.15	0.504
90.00	-24.33	-30.46	0.00	-1,723.21	0.00	1,723.21	3,817.77	1,908.89	7,223.47	3,617.10	20.48	-2.31	0.483
95.00	-22.87	-29.73	0.00	-1,570.90	0.00	1,570.90	3,747.13	1,873.57	6,895.30	3,452.77	22.99	-2.47	0.461
100.00	-21.44	-29.01	0.00	-1,422.22	0.00	1,422.22	3,674.64	1,837.32	6,571.13	3,290.45	25.66	-2.63	0.438
105.00	-20.05	-28.29	0.00	-1,277.17	0.00	1,277.17	3,600.28	1,800.14	6,251.25	3,130.27	28.49	-2.78	0.414
110.00	-18.69	-27.58	0.00	-1,135.71	0.00	1,135.71	3,524.05	1,762.03	5,935.96	2,972.39	31.49	-2.93	0.388
115.00	-17.38	-27.07	0.00	-997.79	0.00	997.79	3,445.97	1,722.99	5,625.55	2,816.95	34.63	-3.08	0.359
117.00	-16.82	-26.45	0.00	-943.66	0.00	943.66	3,414.22	1,707.11	5,502.81	2,755.49	35.94	-3.14	0.348
120.00	-16.05	-25.91	0.00	-864.32	0.00	864.32	3,366.02	1,683.01	5,320.30	2,664.10	37.93	-3.22	0.329
125.00	-14.81	-25.41	0.00	-734.77	0.00	734.77	3,284.22	1,642.11	5,020.50	2,513.98	41.38	-3.35	0.297
127.00	-14.32	-25.07	0.00	-683.93	0.00	683.93	3,250.95	1,625.48	4,902.12	2,454.70	42.79	-3.40	0.283
127.00	-14.32	-25.07	0.00	-683.93	0.00	683.93	1,903.87	951.93	2,890.39	1,447.34	42.79	-3.40	0.481
130.00	-13.76	-24.57	0.00	-608.74	0.00	608.74	1,881.18	940.59	2,797.37	1,400.77	44.96	-3.48	0.443
135.00	-12.85	-23.93	0.00	-485.90	0.00	485.90	1,841.88	920.94	2,643.30	1,323.62	48.69	-3.64	0.375
140.00	-9.55	-18.66	0.00	-363.67	0.00	363.67	1,800.71	900.35	2,490.74	1,247.22	52.58	-3.78	0.297
145.00	-8.80	-18.19	0.00	-270.36	0.00	270.36	1,757.68	878.84	2,339.97	1,171.72	56.61	-3.90	0.236
147.50	-6.75	-14.18	0.00	-223.95	0.00	223.95	1,735.46	867.73	2,265.35	1,134.36	58.67	-3.95	0.202
150.00	-6.43	-13.74	0.00	-188.51	0.00	188.51	1,712.78	856.39	2,191.28	1,097.27	60.75	-4.00	0.176
155.00	-5.80	-13.16	0.00	-119.80	0.00	119.80	1,666.03	833.01	2,044.98	1,024.01	64.98	-4.07	0.121
160.00	-2.43	-5.17	0.00	-48.33	0.00	48.33	1,617.41	808.70	1,901.34	952.08	69.27	-4.12	0.052
161.50	-2.28	-4.90	0.00	-40.57	0.00	40.57	1,602.45	801.23	1,858.78	930.77	70.56	-4.13	0.045
161.50	-2.28	-4.90	0.00	-40.57	0.00	40.57	1,084.93	542.47	1,264.05	632.97	70.56	-4.13	0.066
165.00	-2.01	-4.46	0.00	-23.42	0.00	23.42	1,065.59	532.79	1,202.80	602.29	73.59	-4.14	0.041
170.00	-0.09	-0.08	0.00	-0.12	0.00	0.12	1,036.36	518.18	1,116.00	558.83	77.93	-4.15	0.000
171.50	0.00	-0.07	0.00	0.00	0.00	0.00	1,027.22	513.61	1,090.17	545.90	79.23	-4.15	0.000

Site Number: 411178 | Code: ANSI/TIA-222-G |

Site Name: Old Lyme South CT, CT | Engineering Number:OAA682574_C3_02 | 11/15/2016 1:36:35 PM

Customer: Verizon Wireless

Load Case: 0.9D + 1.6W | 105 mph with No Ice (Reduced DL) | 22 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

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	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		377.1	0.0					0.0	0.0	377.1	0.0	0.0	0.0
5.00		747.3	1,649.3					0.0	232.7	747.3	1,882.1	0.0	0.0
10.00		733.5	1,618.9					0.0	232.7	733.5	1,851.6	0.0	0.0
15.00		730.9	1,588.4					0.0	232.7	730.9	1,821.1	0.0	0.0
20.00		747.8	1,557.9					0.0	232.7	747.8	1,790.7	0.0	0.0
25.00		768.8	1,527.5					0.0	232.7	768.8	1,760.2	0.0	0.0
30.00		783.1	1,497.0					0.0	232.7	783.1	1,729.7	0.0	0.0
35.00		792.6	1,466.5					0.0	232.7	792.6	1,699.3	0.0	0.0
40.00		411.5	1,436.1					0.0	232.7	411.5	1,668.8	0.0	0.0
40.17	Top - Section 1	400.2	47.4					0.0	7.8	400.2	55.2	0.0	0.0
45.00		787.7	1,189.7					0.0	225.0	787.7	1,414.7	0.0	0.0
50.00		801.2	1,204.6					0.0	232.7	801.2	1,437.3	0.0	0.0
55.00		799.4	1,177.9					0.0	232.7	799.4	1,410.7	0.0	0.0
60.00		795.7	1,151.3					0.0	232.7	795.7	1,384.0	0.0	0.0
65.00		790.4	1,124.6					0.0	232.7	790.4	1,357.4	0.0	0.0
70.00		706.1	1,098.0					0.0	232.7	706.1	1,330.7	0.0	0.0
74.00	Appertunance(s)	390.0	859.2	56.1	0.0	0.0	9.0	0.0	186.2	446.1	1,054.4	0.0	0.0
75.00		463.5	212.1					0.0	46.4	463.5	258.5	0.0	0.0
80.00		630.9	1,044.7					0.0	232.1	630.9	1,276.7	0.0	0.0
83.21	Top - Section 2	381.0	656.4					0.0	148.9	381.0	805.4	0.0	0.0
85.00		511.7	310.3					0.0	83.1	511.7	393.5	0.0	0.0
90.00		745.9	850.9					0.0	232.1	745.9	1,082.9	0.0	0.0
95.00		734.0	828.0					0.0	232.1	734.0	1,060.1	0.0	0.0
100.00		721.4	805.2					0.0	232.1	721.4	1,037.2	0.0	0.0
105.00		708.1	782.3					0.0	232.1	708.1	1,014.4	0.0	0.0
110.00		694.0	759.5					0.0	232.1	694.0	991.5	0.0	0.0
115.00		478.7	736.6					0.0	232.1	478.7	968.7	0.0	0.0
117.00	Appertunance(s)	335.9	288.3	275.3	0.0	-1,652.1	36.0	0.0	92.8	611.3	417.1	0.0	0.0
120.00		528.8	425.5					0.0	138.4	528.8	564.0	0.0	0.0
125.00		457.2	690.9					0.0	230.7	457.2	921.6	0.0	0.0
127.00	Top - Section 3	320.1	270.1					0.0	92.3	320.1	362.4	0.0	0.0
130.00		502.8	266.2					0.0	138.4	502.8	404.6	0.0	0.0
135.00		615.0	431.7					0.0	230.7	615.0	662.4	0.0	0.0
140.00	Appertunance(s)	597.6	416.4	4,473.1	0.0	2,552.5	2,053.1	0.0	230.7	5,070.7	2,700.2	0.0	0.0
145.00		438.2	401.2					0.0	164.4	438.2	565.6	0.0	0.0
147.50	Appertunance(s)	285.4	194.9	3,583.2	0.0	945.7	1,452.6	0.0	82.2	3,868.5	1,729.7	0.0	0.0
150.00		417.7	191.1					0.0	60.1	417.7	251.2	0.0	0.0
155.00		542.8	370.7					0.0	120.1	542.8	490.9	0.0	0.0
160.00	Appertunance(s)	344.9	355.5	7,387.1	0.0	5,666.2	2,475.0	0.0	120.1	7,732.0	2,950.7	0.0	0.0
161.50	Top - Section 4	257.0	103.8					0.0	19.3	257.0	123.0	0.0	0.0
165.00		426.1	177.8					0.0	44.9	426.1	222.7	0.0	0.0
170.00	Appertunance(s)	319.4	244.4	3,906.1	0.0	1,027.7	1,369.0	0.0	64.2	4,225.6	1,677.5	0.0	0.0
171.50		72.2	71.1					0.0	0.0	72.2	71.1	0.0	0.0
								Totals:		43,774.3	46,651.4	0.00	0.00

Site Number: 411178 Code: ANSI/TIA-222-G

Site Name: Old Lyme South CT, CT Engineering Number:OAA682574_C3_02 11/15/2016 1:36:36 PM

Customer: Verizon Wireless

Load Case: 0.9D + 1.6W — 105 mph with No Ice (Reduced DL) — 22 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	-46.61	-43.44	0.00	-5,069.03	0.00	5,069.03	7,282.81	3,641.41	20,510.1	10,270.3	0.00	0.00	0.500
5.00	-44.65	-42.78	0.00	-4,851.82	0.00	4,851.82	7,199.47	3,599.74	19,901.7	9,965.65	0.06	-0.11	0.493
10.00	-42.71	-42.12	0.00	-4,637.93	0.00	4,637.93	7,114.27	3,557.13	19,296.8	9,662.76	0.23	-0.22	0.486
15.00	-40.81	-41.46	0.00	-4,427.31	0.00	4,427.31	7,027.20	3,513.60	18,695.8	9,361.83	0.53	-0.33	0.479
20.00	-38.95	-40.78	0.00	-4,219.99	0.00	4,219.99	6,938.27	3,469.13	18,099.0	9,062.99	0.93	-0.45	0.471
25.00	-37.12	-40.07	0.00	-4,016.09	0.00	4,016.09	6,847.47	3,423.74	17,506.7	8,766.39	1.46	-0.56	0.464
30.00	-35.31	-39.34	0.00	-3,815.73	0.00	3,815.73	6,754.82	3,377.41	16,919.2	8,472.18	2.11	-0.67	0.456
35.00	-33.55	-38.60	0.00	-3,619.03	0.00	3,619.03	6,660.30	3,330.15	16,336.7	8,180.49	2.88	-0.79	0.448
40.00	-31.84	-38.19	0.00	-3,426.05	0.00	3,426.05	6,563.93	3,281.96	15,759.5	7,891.49	3.77	-0.91	0.439
40.17	-31.76	-37.82	0.00	-3,419.68	0.00	3,419.68	6,560.67	3,280.34	15,740.3	7,881.88	3.80	-0.91	0.439
40.17	-31.76	-37.82	0.00	-3,419.68	0.00	3,419.68	5,491.49	2,745.75	13,203.3	6,611.51	3.80	-0.91	0.523
45.00	-30.27	-37.08	0.00	-3,236.87	0.00	3,236.87	5,418.84	2,709.42	12,756.7	6,387.88	4.79	-1.03	0.512
50.00	-28.77	-36.32	0.00	-3,051.47	0.00	3,051.47	5,341.85	2,670.93	12,298.2	6,158.26	5.94	-1.16	0.501
55.00	-27.29	-35.56	0.00	-2,869.88	0.00	2,869.88	5,263.00	2,631.50	11,843.4	5,930.54	7.23	-1.30	0.489
60.00	-25.84	-34.79	0.00	-2,692.10	0.00	2,692.10	5,182.29	2,591.14	11,392.8	5,704.87	8.66	-1.44	0.477
65.00	-24.42	-34.02	0.00	-2,518.16	0.00	2,518.16	5,099.71	2,549.86	10,946.5	5,481.40	10.24	-1.57	0.464
70.00	-23.04	-33.33	0.00	-2,348.05	0.00	2,348.05	5,015.27	2,507.64	10,504.9	5,260.27	11.96	-1.71	0.451
74.00	-21.96	-32.88	0.00	-2,214.74	0.00	2,214.74	4,946.38	2,473.19	10,155.1	5,085.15	13.45	-1.82	0.440
75.00	-21.67	-32.44	0.00	-2,181.87	0.00	2,181.87	4,928.97	2,464.49	10,068.2	5,041.62	13.83	-1.85	0.437
80.00	-20.35	-31.80	0.00	-2,019.68	0.00	2,019.68	4,840.81	2,420.41	9,636.89	4,825.61	15.85	-1.99	0.423
83.21	-19.52	-31.42	0.00	-1,917.63	0.00	1,917.63	4,783.25	2,391.62	9,362.93	4,688.42	17.22	-2.08	0.413
83.21	-19.52	-31.42	0.00	-1,917.63	0.00	1,917.63	3,910.73	1,955.36	7,675.09	3,843.25	17.22	-2.08	0.504
85.00	-19.09	-30.93	0.00	-1,861.36	0.00	1,861.36	3,886.54	1,943.27	7,555.36	3,783.30	18.01	-2.13	0.497
90.00	-17.95	-30.19	0.00	-1,706.72	0.00	1,706.72	3,817.77	1,908.89	7,223.47	3,617.10	20.32	-2.29	0.477
95.00	-16.84	-29.46	0.00	-1,555.77	0.00	1,555.77	3,747.13	1,873.57	6,895.30	3,452.77	22.81	-2.45	0.455
100.00	-15.76	-28.74	0.00	-1,408.47	0.00	1,408.47	3,674.64	1,837.32	6,571.13	3,290.45	25.45	-2.60	0.433
105.00	-14.71	-28.02	0.00	-1,264.80	0.00	1,264.80	3,600.28	1,800.14	6,251.25	3,130.27	28.26	-2.76	0.408
110.00	-13.68	-27.31	0.00	-1,124.70	0.00	1,124.70	3,524.05	1,762.03	5,935.96	2,972.39	31.23	-2.91	0.383
115.00	-12.69	-26.81	0.00	-988.14	0.00	988.14	3,445.97	1,722.99	5,625.55	2,816.95	34.35	-3.05	0.355
117.00	-12.28	-26.19	0.00	-934.52	0.00	934.52	3,414.22	1,707.11	5,502.81	2,755.49	35.64	-3.11	0.343
120.00	-11.69	-25.65	0.00	-855.96	0.00	855.96	3,366.02	1,683.01	5,320.30	2,664.10	37.62	-3.19	0.325
125.00	-10.76	-25.16	0.00	-727.70	0.00	727.70	3,284.22	1,642.11	5,020.50	2,513.98	41.04	-3.32	0.293
127.00	-10.39	-24.83	0.00	-677.35	0.00	677.35	3,250.95	1,625.48	4,902.12	2,454.70	42.44	-3.37	0.279
127.00	-10.39	-24.83	0.00	-677.35	0.00	677.35	1,903.87	951.93	2,890.39	1,447.34	42.44	-3.37	0.474
130.00	-9.96	-24.33	0.00	-602.89	0.00	602.89	1,881.18	940.59	2,797.37	1,400.77	44.58	-3.45	0.436
135.00	-9.28	-23.70	0.00	-481.26	0.00	481.26	1,841.88	920.94	2,643.30	1,323.62	48.28	-3.61	0.369
140.00	-6.87	-18.48	0.00	-360.23	0.00	360.23	1,800.71	900.35	2,490.74	1,247.22	52.14	-3.75	0.293
145.00	-6.31	-18.01	0.00	-267.84	0.00	267.84	1,757.68	878.84	2,339.97	1,171.72	56.14	-3.87	0.233
147.50	-4.83	-14.04	0.00	-221.86	0.00	221.86	1,735.46	867.73	2,265.35	1,134.36	58.17	-3.92	0.199
150.00	-4.60	-13.61	0.00	-186.77	0.00	186.77	1,712.78	856.39	2,191.28	1,097.27	60.24	-3.96	0.173
155.00	-4.13	-13.04	0.00	-118.72	0.00	118.72	1,666.03	833.01	2,044.98	1,024.01	64.43	-4.04	0.119
160.00	-1.73	-5.12	0.00	-47.86	0.00	47.86	1,617.41	808.70	1,901.34	952.08	68.68	-4.08	0.051
161.50	-1.63	-4.85	0.00	-40.18	0.00	40.18	1,602.45	801.23	1,858.78	930.77	69.96	-4.09	0.044
161.50	-1.63	-4.85	0.00	-40.18	0.00	40.18	1,084.93	542.47	1,264.05	632.97	69.96	-4.09	0.065
165.00	-1.44	-4.41	0.00	-23.20	0.00	23.20	1,065.59	532.79	1,202.80	602.29	72.97	-4.10	0.040
170.00	-0.07	-0.08	0.00	-0.12	0.00	0.12	1,036.36	518.18	1,116.00	558.83	77.27	-4.12	0.000
171.50	0.00	-0.07	0.00	0.00	0.00	0.00	1,027.22	513.61	1,090.17	545.90	78.56	-4.12	0.000

Site Number: 411178 | Code: ANSI/TIA-222-G |

Site Name: Old Lyme South CT, CT | Engineering Number:OAA682574_C3_02 | 11/15/2016 1:36:37 PM

Customer: Verizon Wireless

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 0.75 in Radial Ice — 21 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

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	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		102.0	0.0					0.0	0.0	102.0	0.0	0.0	0.0
5.00		202.5	2,699.4					0.0	310.3	202.5	3,009.7	0.0	0.0
10.00		199.5	2,707.8					0.0	310.3	199.5	3,018.1	0.0	0.0
15.00		199.2	2,685.8					0.0	310.3	199.2	2,996.1	0.0	0.0
20.00		204.2	2,654.0					0.0	310.3	204.2	2,964.3	0.0	0.0
25.00		210.4	2,617.0					0.0	310.3	210.4	2,927.3	0.0	0.0
30.00		214.6	2,576.8					0.0	310.3	214.6	2,887.2	0.0	0.0
35.00		217.6	2,534.5					0.0	310.3	217.6	2,844.8	0.0	0.0
40.00		113.1	2,490.5					0.0	310.3	113.1	2,800.8	0.0	0.0
40.17	Top - Section 1	110.1	82.6					0.0	10.4	110.1	93.0	0.0	0.0
45.00		217.0	2,138.3					0.0	300.0	217.0	2,438.3	0.0	0.0
50.00		221.1	2,171.5					0.0	310.3	221.1	2,481.8	0.0	0.0
55.00		220.9	2,129.4					0.0	310.3	220.9	2,439.8	0.0	0.0
60.00		220.3	2,086.7					0.0	310.3	220.3	2,397.0	0.0	0.0
65.00		219.2	2,043.3					0.0	310.3	219.2	2,353.7	0.0	0.0
70.00		196.1	1,999.5					0.0	310.3	196.1	2,309.8	0.0	0.0
74.00	Appertunance(s)	108.5	1,568.7	7.2	0.0	0.0	46.9	0.0	248.3	115.7	1,863.9	0.0	0.0
75.00		129.1	388.5					0.0	61.9	129.1	450.4	0.0	0.0
80.00		175.9	1,910.4					0.0	309.4	175.9	2,219.8	0.0	0.0
83.21	Top - Section 2	106.4	1,203.8					0.0	198.6	106.4	1,402.4	0.0	0.0
85.00		143.1	596.1					0.0	110.8	143.1	706.9	0.0	0.0
90.00		208.9	1,632.5					0.0	309.4	208.9	1,942.0	0.0	0.0
95.00		206.0	1,591.9					0.0	309.4	206.0	1,901.3	0.0	0.0
100.00		202.9	1,551.0					0.0	309.4	202.9	1,860.4	0.0	0.0
105.00		199.7	1,509.8					0.0	309.4	199.7	1,819.2	0.0	0.0
110.00		196.2	1,468.4					0.0	309.4	196.2	1,777.8	0.0	0.0
115.00		135.6	1,426.7					0.0	309.4	135.6	1,736.2	0.0	0.0
117.00	Appertunance(s)	95.3	560.6	99.5	0.0	-597.0	140.0	0.0	123.8	194.9	824.4	0.0	0.0
120.00		150.4	827.5					0.0	184.6	150.4	1,012.1	0.0	0.0
125.00		130.2	1,342.9					0.0	307.6	130.2	1,650.5	0.0	0.0
127.00	Top - Section 3	91.4	527.2					0.0	123.1	91.4	650.3	0.0	0.0
130.00		143.9	601.0					0.0	184.5	143.9	785.6	0.0	0.0
135.00		176.5	973.6					0.0	307.6	176.5	1,281.2	0.0	0.0
140.00	Appertunance(s)	172.1	941.2	897.0	0.0	465.3	5,243.3	0.0	307.6	1,069.1	6,492.2	0.0	0.0
145.00		126.6	908.7					0.0	219.2	126.6	1,128.0	0.0	0.0
147.50	Appertunance(s)	82.7	443.8	758.1	0.0	171.5	3,481.6	0.0	109.6	840.7	4,035.0	0.0	0.0
150.00		121.4	435.7					0.0	80.1	121.4	515.8	0.0	0.0
155.00		158.3	843.3					0.0	160.2	158.3	1,003.5	0.0	0.0
160.00	Appertunance(s)	100.9	810.4	1,395.9	0.0	972.4	7,441.1	0.0	160.2	1,496.8	8,411.8	0.0	0.0
161.50	Top - Section 4	75.5	238.3					0.0	25.7	75.5	264.0	0.0	0.0
165.00		125.6	463.7					0.0	59.9	125.6	523.6	0.0	0.0
170.00	Appertunance(s)	94.4	636.7	823.8	0.0	696.2	3,885.7	0.0	85.6	918.2	4,607.9	0.0	0.0
171.50		21.4	187.0					0.0	0.0	21.4	187.0	0.0	0.0
								Totals:		10,727.9	89,014.6	0.00	0.00

Site Number: 411178 | Code: ANSI/TIA-222-G |

Site Name: Old Lyme South CT, CT | Engineering Number:OAA682574_C3_02 | 11/15/2016 1:36:38 PM

Customer: Verizon Wireless

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 0.75 in Radial Ice — 21 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	-89.01	-10.65	0.00	-1,212.98	0.00	1,212.98	7,282.81	3,641.41	20,510.1	10,270.3	0.00	0.00	0.130
5.00	-86.00	-10.48	0.00	-1,159.75	0.00	1,159.75	7,199.47	3,599.74	19,901.7	9,965.65	0.01	-0.03	0.128
10.00	-82.97	-10.32	0.00	-1,107.34	0.00	1,107.34	7,114.27	3,557.13	19,296.8	9,662.76	0.06	-0.05	0.126
15.00	-79.97	-10.15	0.00	-1,055.74	0.00	1,055.74	7,027.20	3,513.60	18,695.8	9,361.83	0.13	-0.08	0.124
20.00	-77.01	-9.98	0.00	-1,004.97	0.00	1,004.97	6,938.27	3,469.13	18,099.0	9,062.99	0.22	-0.11	0.122
25.00	-74.07	-9.80	0.00	-955.07	0.00	955.07	6,847.47	3,423.74	17,506.7	8,766.39	0.35	-0.13	0.120
30.00	-71.18	-9.61	0.00	-906.07	0.00	906.07	6,754.82	3,377.41	16,919.2	8,472.18	0.50	-0.16	0.117
35.00	-68.33	-9.42	0.00	-858.01	0.00	858.01	6,660.30	3,330.15	16,336.7	8,180.49	0.69	-0.19	0.115
40.00	-65.53	-9.31	0.00	-810.91	0.00	810.91	6,563.93	3,281.96	15,759.5	7,891.49	0.90	-0.22	0.113
40.17	-65.44	-9.22	0.00	-809.36	0.00	809.36	6,560.67	3,280.34	15,740.3	7,881.88	0.91	-0.22	0.113
40.17	-65.44	-9.22	0.00	-809.36	0.00	809.36	5,491.49	2,745.75	13,203.3	6,611.51	0.91	-0.22	0.134
45.00	-62.99	-9.02	0.00	-764.81	0.00	764.81	5,418.84	2,709.42	12,756.7	6,387.88	1.14	-0.24	0.131
50.00	-60.51	-8.83	0.00	-719.69	0.00	719.69	5,341.85	2,670.93	12,298.2	6,158.26	1.41	-0.28	0.128
55.00	-58.07	-8.62	0.00	-675.56	0.00	675.56	5,263.00	2,631.50	11,843.4	5,930.54	1.72	-0.31	0.125
60.00	-55.66	-8.42	0.00	-632.44	0.00	632.44	5,182.29	2,591.14	11,392.8	5,704.87	2.06	-0.34	0.122
65.00	-53.31	-8.22	0.00	-590.33	0.00	590.33	5,099.71	2,549.86	10,946.5	5,481.40	2.44	-0.37	0.118
70.00	-51.00	-8.03	0.00	-549.24	0.00	549.24	5,015.27	2,507.64	10,504.9	5,260.27	2.84	-0.41	0.115
74.00	-49.13	-7.92	0.00	-517.11	0.00	517.11	4,946.38	2,473.19	10,155.1	5,085.15	3.20	-0.43	0.112
75.00	-48.68	-7.80	0.00	-509.19	0.00	509.19	4,928.97	2,464.49	10,068.2	5,041.62	3.29	-0.44	0.111
80.00	-46.46	-7.63	0.00	-470.18	0.00	470.18	4,840.81	2,420.41	9,636.89	4,825.61	3.76	-0.47	0.107
83.21	-45.05	-7.52	0.00	-445.70	0.00	445.70	4,783.25	2,391.62	9,362.93	4,688.42	4.09	-0.49	0.104
83.21	-45.05	-7.52	0.00	-445.70	0.00	445.70	3,910.73	1,955.36	7,675.09	3,843.25	4.09	-0.49	0.128
85.00	-44.34	-7.39	0.00	-432.23	0.00	432.23	3,886.54	1,943.27	7,555.36	3,783.30	4.27	-0.50	0.126
90.00	-42.40	-7.19	0.00	-395.26	0.00	395.26	3,817.77	1,908.89	7,223.47	3,617.10	4.82	-0.54	0.120
95.00	-40.50	-7.00	0.00	-359.29	0.00	359.29	3,747.13	1,873.57	6,895.30	3,452.77	5.41	-0.58	0.115
100.00	-38.63	-6.80	0.00	-324.31	0.00	324.31	3,674.64	1,837.32	6,571.13	3,290.45	6.03	-0.61	0.109
105.00	-36.81	-6.60	0.00	-290.33	0.00	290.33	3,600.28	1,800.14	6,251.25	3,130.27	6.69	-0.65	0.103
110.00	-35.03	-6.40	0.00	-257.33	0.00	257.33	3,524.05	1,762.03	5,935.96	2,972.39	7.39	-0.68	0.097
115.00	-33.30	-6.26	0.00	-225.31	0.00	225.31	3,445.97	1,722.99	5,625.55	2,816.95	8.12	-0.71	0.090
117.00	-32.47	-6.06	0.00	-212.79	0.00	212.79	3,414.22	1,707.11	5,502.81	2,755.49	8.42	-0.73	0.087
120.00	-31.46	-5.91	0.00	-194.60	0.00	194.60	3,366.02	1,683.01	5,320.30	2,664.10	8.88	-0.75	0.082
125.00	-29.81	-5.77	0.00	-165.03	0.00	165.03	3,284.22	1,642.11	5,020.50	2,513.98	9.68	-0.78	0.075
127.00	-29.16	-5.68	0.00	-153.48	0.00	153.48	3,250.95	1,625.48	4,902.12	2,454.70	10.01	-0.79	0.072
127.00	-29.16	-5.68	0.00	-153.48	0.00	153.48	1,903.87	951.93	2,890.39	1,447.34	10.01	-0.79	0.121
130.00	-28.37	-5.54	0.00	-136.44	0.00	136.44	1,881.18	940.59	2,797.37	1,400.77	10.51	-0.80	0.113
135.00	-27.09	-5.36	0.00	-108.75	0.00	108.75	1,841.88	920.94	2,643.30	1,323.62	11.38	-0.84	0.097
140.00	-20.61	-4.20	0.00	-81.49	0.00	81.49	1,800.71	900.35	2,490.74	1,247.22	12.28	-0.87	0.077
145.00	-19.49	-4.07	0.00	-60.47	0.00	60.47	1,757.68	878.84	2,339.97	1,171.72	13.21	-0.90	0.063
147.50	-15.46	-3.16	0.00	-50.13	0.00	50.13	1,735.46	867.73	2,265.35	1,134.36	13.68	-0.91	0.053
150.00	-14.95	-3.04	0.00	-42.22	0.00	42.22	1,712.78	856.39	2,191.28	1,097.27	14.16	-0.92	0.047
155.00	-13.95	-2.87	0.00	-27.03	0.00	27.03	1,666.03	833.01	2,044.98	1,024.01	15.14	-0.94	0.035
160.00	-5.56	-1.23	0.00	-11.72	0.00	11.72	1,617.41	808.70	1,901.34	952.08	16.12	-0.95	0.016
161.50	-5.30	-1.15	0.00	-9.87	0.00	9.87	1,602.45	801.23	1,858.78	930.77	16.42	-0.95	0.014
161.50	-5.30	-1.15	0.00	-9.87	0.00	9.87	1,084.93	542.47	1,264.05	632.97	16.42	-0.95	0.020
165.00	-4.78	-1.02	0.00	-5.83	0.00	5.83	1,065.59	532.79	1,202.80	602.29	17.12	-0.95	0.014
170.00	-0.19	-0.02	0.00	-0.04	0.00	0.04	1,036.36	518.18	1,116.00	558.83	18.12	-0.96	0.000
171.50	0.00	-0.02	0.00	0.00	0.00	0.00	1,027.22	513.61	1,090.17	545.90	18.42	-0.96	0.000

Load Case: 1.0D + 1.0W Serviceability 60 mph 21 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 Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		77.0	0.0					0.0	0.0	77.0	0.0	0.0	0.0
5.00		152.5	1,832.6					0.0	258.6	152.5	2,091.2	0.0	0.0
10.00		149.7	1,798.7					0.0	258.6	149.7	2,057.3	0.0	0.0
15.00		149.2	1,764.9					0.0	258.6	149.2	2,023.5	0.0	0.0
20.00		152.6	1,731.0					0.0	258.6	152.6	1,989.6	0.0	0.0
25.00		156.9	1,697.2					0.0	258.6	156.9	1,955.8	0.0	0.0
30.00		159.8	1,663.3					0.0	258.6	159.8	1,921.9	0.0	0.0
35.00		161.8	1,629.5					0.0	258.6	161.8	1,888.1	0.0	0.0
40.00		84.0	1,595.6					0.0	258.6	84.0	1,854.2	0.0	0.0
40.17	Top - Section 1	81.7	52.7					0.0	8.6	81.7	61.3	0.0	0.0
45.00		160.7	1,321.9					0.0	250.0	160.7	1,571.8	0.0	0.0
50.00		163.5	1,338.4					0.0	258.6	163.5	1,597.0	0.0	0.0
55.00		163.1	1,308.8					0.0	258.6	163.1	1,567.4	0.0	0.0
60.00		162.4	1,279.2					0.0	258.6	162.4	1,537.8	0.0	0.0
65.00		161.3	1,249.6					0.0	258.6	161.3	1,508.2	0.0	0.0
70.00		144.1	1,220.0					0.0	258.6	144.1	1,478.6	0.0	0.0
74.00	Appertunance(s)	79.6	954.6	11.4	0.0	0.0	10.0	0.0	206.9	91.0	1,171.5	0.0	0.0
75.00		94.6	235.7					0.0	51.6	94.6	287.3	0.0	0.0
80.00		128.8	1,160.7					0.0	257.9	128.8	1,418.6	0.0	0.0
83.21	Top - Section 2	77.8	729.3					0.0	165.5	77.8	894.8	0.0	0.0
85.00		104.4	344.8					0.0	92.4	104.4	437.2	0.0	0.0
90.00		152.2	945.4					0.0	257.9	152.2	1,203.3	0.0	0.0
95.00		149.8	920.0					0.0	257.9	149.8	1,177.9	0.0	0.0
100.00		147.2	894.6					0.0	257.9	147.2	1,152.5	0.0	0.0
105.00		144.5	869.2					0.0	257.9	144.5	1,127.1	0.0	0.0
110.00		141.6	843.9					0.0	257.9	141.6	1,101.7	0.0	0.0
115.00		97.7	818.5					0.0	257.9	97.7	1,076.3	0.0	0.0
117.00	Appertunance(s)	68.6	320.3	56.2	0.0	-337.2	40.0	0.0	103.1	124.7	463.4	0.0	0.0
120.00		107.9	472.8					0.0	153.8	107.9	626.6	0.0	0.0
125.00		93.3	767.7					0.0	256.4	93.3	1,024.0	0.0	0.0
127.00	Top - Section 3	65.3	300.1					0.0	102.6	65.3	402.7	0.0	0.0
130.00		102.6	295.8					0.0	153.8	102.6	449.6	0.0	0.0
135.00		125.5	479.6					0.0	256.4	125.5	736.0	0.0	0.0
140.00	Appertunance(s)	122.0	462.7	912.9	0.0	520.9	2,281.2	0.0	256.4	1,034.8	3,000.3	0.0	0.0
145.00		89.4	445.8					0.0	182.7	89.4	628.5	0.0	0.0
147.50	Appertunance(s)	58.2	216.5	731.3	0.0	193.0	1,614.0	0.0	91.4	789.5	1,921.9	0.0	0.0
150.00		85.2	212.3					0.0	66.8	85.2	279.1	0.0	0.0
155.00		110.8	411.9					0.0	133.5	110.8	545.4	0.0	0.0
160.00	Appertunance(s)	70.4	395.0	1,507.6	0.0	1,156.4	2,750.0	0.0	133.5	1,578.0	3,278.5	0.0	0.0
161.50	Top - Section 4	52.5	115.3					0.0	21.4	52.5	136.7	0.0	0.0
165.00		86.9	197.6					0.0	49.9	86.9	247.4	0.0	0.0
170.00	Appertunance(s)	65.2	271.5	797.2	0.0	209.7	1,521.1	0.0	71.3	862.4	1,863.9	0.0	0.0
171.50		14.7	79.0					0.0	0.0	14.7	79.0	0.0	0.0
								Totals:		8,933.55	51,834.9	0.00	0.00

Site Number: 411178 Code: ANSI/TIA-222-G

Site Name: Old Lyme South CT, CT Engineering Number:OAA682574_C3_02 11/15/2016 1:36:40 PM

Customer: Verizon Wireless

Load Case: 1.0D + 1.0W Serviceability 60 mph 21 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	-51.83	-8.87	0.00	-1,037.33	0.00	1,037.33	7,282.81	3,641.41	20,510.1	10,270.3	0.00	0.00	0.108
5.00	-49.74	-8.73	0.00	-993.00	0.00	993.00	7,199.47	3,599.74	19,901.7	9,965.65	0.01	-0.02	0.107
10.00	-47.68	-8.60	0.00	-949.34	0.00	949.34	7,114.27	3,557.13	19,296.8	9,662.76	0.05	-0.05	0.105
15.00	-45.65	-8.47	0.00	-906.33	0.00	906.33	7,027.20	3,513.60	18,695.8	9,361.83	0.11	-0.07	0.103
20.00	-43.66	-8.33	0.00	-863.99	0.00	863.99	6,938.27	3,469.13	18,099.0	9,062.99	0.19	-0.09	0.102
25.00	-41.70	-8.19	0.00	-822.34	0.00	822.34	6,847.47	3,423.74	17,506.7	8,766.39	0.30	-0.11	0.100
30.00	-39.77	-8.04	0.00	-781.40	0.00	781.40	6,754.82	3,377.41	16,919.2	8,472.18	0.43	-0.14	0.098
35.00	-37.88	-7.89	0.00	-741.20	0.00	741.20	6,660.30	3,330.15	16,336.7	8,180.49	0.59	-0.16	0.096
40.00	-36.03	-7.81	0.00	-701.76	0.00	701.76	6,563.93	3,281.96	15,759.5	7,891.49	0.77	-0.19	0.094
40.17	-35.97	-7.73	0.00	-700.45	0.00	700.45	6,560.67	3,280.34	15,740.3	7,881.88	0.78	-0.19	0.094
40.17	-35.97	-7.73	0.00	-700.45	0.00	700.45	5,491.49	2,745.75	13,203.3	6,611.51	0.78	-0.19	0.113
45.00	-34.39	-7.58	0.00	-663.08	0.00	663.08	5,418.84	2,709.42	12,756.7	6,387.88	0.98	-0.21	0.110
50.00	-32.79	-7.43	0.00	-625.17	0.00	625.17	5,341.85	2,670.93	12,298.2	6,158.26	1.22	-0.24	0.108
55.00	-31.22	-7.27	0.00	-588.03	0.00	588.03	5,263.00	2,631.50	11,843.4	5,930.54	1.48	-0.27	0.105
60.00	-29.68	-7.12	0.00	-551.66	0.00	551.66	5,182.29	2,591.14	11,392.8	5,704.87	1.77	-0.29	0.102
65.00	-28.17	-6.96	0.00	-516.07	0.00	516.07	5,099.71	2,549.86	10,946.5	5,481.40	2.10	-0.32	0.100
70.00	-26.69	-6.82	0.00	-481.26	0.00	481.26	5,015.27	2,507.64	10,504.9	5,260.27	2.45	-0.35	0.097
74.00	-25.52	-6.73	0.00	-453.97	0.00	453.97	4,946.38	2,473.19	10,155.1	5,085.15	2.75	-0.37	0.094
75.00	-25.23	-6.64	0.00	-447.24	0.00	447.24	4,928.97	2,464.49	10,068.2	5,041.62	2.83	-0.38	0.094
80.00	-23.81	-6.51	0.00	-414.04	0.00	414.04	4,840.81	2,420.41	9,636.89	4,825.61	3.25	-0.41	0.091
83.21	-22.91	-6.43	0.00	-393.14	0.00	393.14	4,783.25	2,391.62	9,362.93	4,688.42	3.53	-0.43	0.089
83.21	-22.91	-6.43	0.00	-393.14	0.00	393.14	3,910.73	1,955.36	7,675.09	3,843.25	3.53	-0.43	0.108
85.00	-22.47	-6.33	0.00	-381.62	0.00	381.62	3,886.54	1,943.27	7,555.36	3,783.30	3.69	-0.44	0.107
90.00	-21.27	-6.18	0.00	-349.95	0.00	349.95	3,817.77	1,908.89	7,223.47	3,617.10	4.16	-0.47	0.102
95.00	-20.09	-6.04	0.00	-319.03	0.00	319.03	3,747.13	1,873.57	6,895.30	3,452.77	4.67	-0.50	0.098
100.00	-18.93	-5.89	0.00	-288.84	0.00	288.84	3,674.64	1,837.32	6,571.13	3,290.45	5.21	-0.53	0.093
105.00	-17.80	-5.74	0.00	-259.40	0.00	259.40	3,600.28	1,800.14	6,251.25	3,130.27	5.79	-0.56	0.088
110.00	-16.70	-5.60	0.00	-230.68	0.00	230.68	3,524.05	1,762.03	5,935.96	2,972.39	6.40	-0.60	0.082
115.00	-15.62	-5.50	0.00	-202.69	0.00	202.69	3,445.97	1,722.99	5,625.55	2,816.95	7.04	-0.63	0.076
117.00	-15.16	-5.37	0.00	-191.70	0.00	191.70	3,414.22	1,707.11	5,502.81	2,755.49	7.30	-0.64	0.074
120.00	-14.53	-5.26	0.00	-175.59	0.00	175.59	3,366.02	1,683.01	5,320.30	2,664.10	7.71	-0.65	0.070
125.00	-13.51	-5.16	0.00	-149.28	0.00	149.28	3,284.22	1,642.11	5,020.50	2,513.98	8.41	-0.68	0.064
127.00	-13.11	-5.09	0.00	-138.96	0.00	138.96	3,250.95	1,625.48	4,902.12	2,454.70	8.70	-0.69	0.061
127.00	-13.11	-5.09	0.00	-138.96	0.00	138.96	1,903.87	951.93	2,890.39	1,447.34	8.70	-0.69	0.103
130.00	-12.65	-4.99	0.00	-123.69	0.00	123.69	1,881.18	940.59	2,797.37	1,400.77	9.14	-0.71	0.095
135.00	-11.92	-4.86	0.00	-98.74	0.00	98.74	1,841.88	920.94	2,643.30	1,323.62	9.89	-0.74	0.081
140.00	-8.93	-3.79	0.00	-73.91	0.00	73.91	1,800.71	900.35	2,490.74	1,247.22	10.69	-0.77	0.064
145.00	-8.30	-3.70	0.00	-54.95	0.00	54.95	1,757.68	878.84	2,339.97	1,171.72	11.50	-0.79	0.052
147.50	-6.39	-2.88	0.00	-45.52	0.00	45.52	1,735.46	867.73	2,265.35	1,134.36	11.92	-0.80	0.044
150.00	-6.11	-2.79	0.00	-38.32	0.00	38.32	1,712.78	856.39	2,191.28	1,097.27	12.35	-0.81	0.039
155.00	-5.57	-2.68	0.00	-24.36	0.00	24.36	1,666.03	833.01	2,044.98	1,024.01	13.21	-0.83	0.027
160.00	-2.31	-1.05	0.00	-9.82	0.00	9.82	1,617.41	808.70	1,901.34	952.08	14.08	-0.84	0.012
161.50	-2.18	-1.00	0.00	-8.25	0.00	8.25	1,602.45	801.23	1,858.78	930.77	14.34	-0.84	0.010
161.50	-2.18	-1.00	0.00	-8.25	0.00	8.25	1,084.93	542.47	1,264.05	632.97	14.34	-0.84	0.015
165.00	-1.93	-0.91	0.00	-4.76	0.00	4.76	1,065.59	532.79	1,202.80	602.29	14.96	-0.84	0.010
170.00	-0.08	-0.02	0.00	-0.02	0.00	0.02	1,036.36	518.18	1,116.00	558.83	15.84	-0.84	0.000
171.50	0.00	-0.01	0.00	0.00	0.00	0.00	1,027.22	513.61	1,090.17	545.90	16.11	-0.84	0.000

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.16
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coeffiecient F_v:	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.17
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	1.83
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.67
Total Unfactored Dead Load:	51.84 k
Seismic Base Shear (E):	2.27 k

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

Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
42	170.75	79	415	0.004	10	98
41	167.50	343	1,746	0.018	42	423
40	163.25	247	1,207	0.013	29	306
39	160.75	137	650	0.007	16	169
38	157.50	529	2,429	0.026	58	653
37	152.50	545	2,375	0.025	57	673
36	148.75	279	1,166	0.012	28	345
35	146.25	308	1,251	0.013	30	380
34	142.50	628	2,445	0.026	59	776
33	137.50	719	2,635	0.028	63	888
32	132.50	736	2,536	0.027	61	909
31	128.50	450	1,472	0.016	35	555
30	126.00	403	1,276	0.013	31	497
29	122.50	1,024	3,096	0.033	74	1,264
28	118.50	627	1,792	0.019	43	774
27	116.00	423	1,169	0.012	28	523
26	112.50	1,076	2,823	0.030	68	1,329
25	107.50	1,102	2,679	0.028	64	1,360
24	102.50	1,127	2,531	0.027	61	1,392
23	97.50	1,152	2,381	0.025	57	1,423
22	92.50	1,178	2,229	0.024	54	1,454
21	87.50	1,203	2,076	0.022	50	1,486
20	84.10	437	706	0.007	17	540

19	81.60	895	1,374	0.015	33	1,105
18	77.50	1,419	1,999	0.021	48	1,752
17	74.50	287	379	0.004	9	355
16	72.00	1,162	1,448	0.015	35	1,434
15	67.50	1,479	1,655	0.017	40	1,826
14	62.50	1,508	1,485	0.016	36	1,862
13	57.50	1,538	1,318	0.014	32	1,899
12	52.50	1,567	1,154	0.012	28	1,935
11	47.50	1,597	995	0.011	24	1,972
10	42.58	1,572	817	0.009	20	1,941
9	40.08	61	29	0.000	1	76
8	37.50	1,854	779	0.008	19	2,290
7	32.50	1,888	625	0.007	15	2,331
6	27.50	1,922	482	0.005	12	2,373
5	22.50	1,956	351	0.004	8	2,415
4	17.50	1,990	235	0.002	6	2,457
3	12.50	2,023	136	0.001	3	2,499
2	7.50	2,057	59	0.001	1	2,540
1	2.50	2,091	10	0.000	0	2,582
Andrew ETW200VS12UB	170.00	33	172	0.002	4	41
E-911 GPS	170.00	5	26	0.000	1	6
Decibel DB201-A	170.00	25	130	0.001	3	31
12' Dipole	170.00	40	209	0.002	5	49
Ericsson AIR 21	170.00	546	2,850	0.030	68	674
RFS APX16DWV-16DWVS-	170.00	122	637	0.007	15	151
Round T-Arm	170.00	750	3,915	0.041	94	926
Alcatel-Lucent RRH2X	160.00	129	609	0.006	15	159
Alcatel-Lucent RRH2x	160.00	170	803	0.008	19	210
Alcatel-Lucent B66 R	160.00	201	948	0.010	23	248
VZW Unused Reserve:	160.00	209	986	0.010	24	258
RFS APL866513-42T0	160.00	63	296	0.003	7	78
Antel BXA-70063-4CF-	160.00	10	47	0.000	1	12
RFS DB-T1-6Z-8AB-0Z	160.00	88	415	0.004	10	109
Antel BXA-70063/6CF_	160.00	34	160	0.002	4	42
Commscope SBNHH-1D65	160.00	304	1,435	0.015	34	376
Antel LPA-80080-6CF-	160.00	42	198	0.002	5	52
Flat Low Profile Pla	160.00	1,500	7,077	0.075	170	1,852
Andrew DB980F90E-M	147.50	114	470	0.005	11	141
Flat Low Profile Pla	147.50	1,500	6,180	0.065	148	1,852
Powerwave TT19-08BP1	140.00	96	363	0.004	9	119
Raycap DC6-48-60-18-	140.00	32	120	0.001	3	39
Ericsson RRUS-11	140.00	330	1,246	0.013	30	407
KMW AM-X-CD-14-65-00	140.00	218	825	0.009	20	270
Powerwave Allgon 777	140.00	105	397	0.004	10	130
Flat Low Profile Pla	140.00	1,500	5,665	0.060	136	1,852
12' Dipole	117.00	40	112	0.001	3	49
GPS	74.00	10	13	0.000	0	12
		51,835	94,719	1.000	2,274	64,004

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)
42	170.75	79	415	0.004	10	68
41	167.50	343	1,746	0.018	42	297
40	163.25	247	1,207	0.013	29	214
39	160.75	137	650	0.007	16	118
38	157.50	529	2,429	0.026	58	457
37	152.50	545	2,375	0.025	57	472
36	148.75	279	1,166	0.012	28	241

35	146.25	308	1,251	0.013	30	266
34	142.50	628	2,445	0.026	59	544
33	137.50	719	2,635	0.028	63	622
32	132.50	736	2,536	0.027	61	637
31	128.50	450	1,472	0.016	35	389
30	126.00	403	1,276	0.013	31	348
29	122.50	1,024	3,096	0.033	74	886
28	118.50	627	1,792	0.019	43	542
27	116.00	423	1,169	0.012	28	366
26	112.50	1,076	2,823	0.030	68	931
25	107.50	1,102	2,679	0.028	64	953
24	102.50	1,127	2,531	0.027	61	975
23	97.50	1,152	2,381	0.025	57	997
22	92.50	1,178	2,229	0.024	54	1,019
21	87.50	1,203	2,076	0.022	50	1,041
20	84.10	437	706	0.007	17	378
19	81.60	895	1,374	0.015	33	774
18	77.50	1,419	1,999	0.021	48	1,227
17	74.50	287	379	0.004	9	249
16	72.00	1,162	1,448	0.015	35	1,005
15	67.50	1,479	1,655	0.017	40	1,279
14	62.50	1,508	1,485	0.016	36	1,305
13	57.50	1,538	1,318	0.014	32	1,331
12	52.50	1,567	1,154	0.012	28	1,356
11	47.50	1,597	995	0.011	24	1,382
10	42.58	1,572	817	0.009	20	1,360
9	40.08	61	29	0.000	1	53
8	37.50	1,854	779	0.008	19	1,604
7	32.50	1,888	625	0.007	15	1,634
6	27.50	1,922	482	0.005	12	1,663
5	22.50	1,956	351	0.004	8	1,692
4	17.50	1,990	235	0.002	6	1,721
3	12.50	2,023	136	0.001	3	1,751
2	7.50	2,057	59	0.001	1	1,780
1	2.50	2,091	10	0.000	0	1,809
Andrew ETW200VS12UB	170.00	33	172	0.002	4	29
E-911 GPS	170.00	5	26	0.000	1	4
Decibel DB201-A	170.00	25	130	0.001	3	22
12' Dipole	170.00	40	209	0.002	5	35
Ericsson AIR 21	170.00	546	2,850	0.030	68	472
RFS APX16DWV-16DWVS-	170.00	122	637	0.007	15	106
Round T-Arm	170.00	750	3,915	0.041	94	649
Alcatel-Lucent RRH2X	160.00	129	609	0.006	15	112
Alcatel-Lucent RRH2x	160.00	170	803	0.008	19	147
Alcatel-Lucent B66 R	160.00	201	948	0.010	23	174
VZW Unused Reserve:	160.00	209	986	0.010	24	181
RFS APL866513-42T0	160.00	63	296	0.003	7	54
Antel BXA-70063-4CF-	160.00	10	47	0.000	1	9
RFS DB-T1-6Z-8AB-0Z	160.00	88	415	0.004	10	76
Antel BXA-70063/6CF_	160.00	34	160	0.002	4	29
Commscope SBNHH-1D65	160.00	304	1,435	0.015	34	263
Antel LPA-80080-6CF-	160.00	42	198	0.002	5	36
Flat Low Profile Pla	160.00	1,500	7,077	0.075	170	1,298
Andrew DB980F90E-M	147.50	114	470	0.005	11	99
Flat Low Profile Pla	147.50	1,500	6,180	0.065	148	1,298
Powerwave TT19-08BP1	140.00	96	363	0.004	9	83
Raycap DC6-48-60-18-	140.00	32	120	0.001	3	28
Ericsson RRUS-11	140.00	330	1,246	0.013	30	286
KMW AM-X-CD-14-65-00	140.00	218	825	0.009	20	189
Powerwave Allgon 777	140.00	105	397	0.004	10	91
Flat Low Profile Pla	140.00	1,500	5,665	0.060	136	1,298
12' Dipole	117.00	40	112	0.001	3	35
GPS	74.00	10	13	0.000	0	9

51,835	94,719	1.000	2,274	44,849	

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	-61.42	-2.28	0.00	-290.98	0.00	290.98	7,282.81	3,641.41	20,510.1	10,270.3	0.00	0.00	0.037
5.00	-58.88	-2.28	0.00	-279.60	0.00	279.60	7,199.47	3,599.74	19,901.7	9,965.65	0.00	-0.01	0.036
10.00	-56.38	-2.28	0.00	-268.19	0.00	268.19	7,114.27	3,557.13	19,296.8	9,662.76	0.01	-0.01	0.036
15.00	-53.93	-2.28	0.00	-256.77	0.00	256.77	7,027.20	3,513.60	18,695.8	9,361.83	0.03	-0.02	0.035
20.00	-51.51	-2.28	0.00	-245.35	0.00	245.35	6,938.27	3,469.13	18,099.0	9,062.99	0.05	-0.03	0.034
25.00	-49.14	-2.27	0.00	-233.95	0.00	233.95	6,847.47	3,423.74	17,506.7	8,766.39	0.08	-0.03	0.034
30.00	-46.81	-2.26	0.00	-222.59	0.00	222.59	6,754.82	3,377.41	16,919.2	8,472.18	0.12	-0.04	0.033
35.00	-44.52	-2.25	0.00	-211.27	0.00	211.27	6,660.30	3,330.15	16,336.7	8,180.49	0.17	-0.05	0.033
40.00	-44.44	-2.25	0.00	-200.04	0.00	200.04	6,563.93	3,281.96	15,759.5	7,891.49	0.22	-0.05	0.032
40.17	-42.50	-2.23	0.00	-199.66	0.00	199.66	6,560.67	3,280.34	15,740.3	7,881.88	0.22	-0.05	0.032
40.17	-42.50	-2.23	0.00	-199.66	0.00	199.66	5,491.49	2,745.75	13,203.3	6,611.51	0.22	-0.05	0.038
45.00	-40.53	-2.21	0.00	-188.88	0.00	188.88	5,418.84	2,709.42	12,756.7	6,387.88	0.28	-0.06	0.037
50.00	-38.59	-2.19	0.00	-177.83	0.00	177.83	5,341.85	2,670.93	12,298.2	6,158.26	0.34	-0.07	0.036
55.00	-36.69	-2.16	0.00	-166.91	0.00	166.91	5,263.00	2,631.50	11,843.4	5,930.54	0.42	-0.08	0.035
60.00	-34.83	-2.12	0.00	-156.13	0.00	156.13	5,182.29	2,591.14	11,392.8	5,704.87	0.50	-0.08	0.034
65.00	-33.00	-2.09	0.00	-145.51	0.00	145.51	5,099.71	2,549.86	10,946.5	5,481.40	0.59	-0.09	0.033
70.00	-31.57	-2.05	0.00	-135.09	0.00	135.09	5,015.27	2,507.64	10,504.9	5,260.27	0.69	-0.10	0.032
74.00	-31.20	-2.04	0.00	-126.88	0.00	126.88	4,946.38	2,473.19	10,155.1	5,085.15	0.78	-0.11	0.031
75.00	-29.45	-2.00	0.00	-124.84	0.00	124.84	4,928.97	2,464.49	10,068.2	5,041.62	0.80	-0.11	0.031
80.00	-28.35	-1.96	0.00	-114.86	0.00	114.86	4,840.81	2,420.41	9,636.89	4,825.61	0.92	-0.12	0.030
83.21	-27.81	-1.95	0.00	-108.56	0.00	108.56	4,783.25	2,391.62	9,362.93	4,688.42	1.00	-0.12	0.029
83.21	-27.81	-1.95	0.00	-108.56	0.00	108.56	3,910.73	1,955.36	7,675.09	3,843.25	1.00	-0.12	0.035
85.00	-26.32	-1.90	0.00	-105.07	0.00	105.07	3,886.54	1,943.27	7,555.36	3,783.30	1.04	-0.12	0.035
90.00	-24.86	-1.84	0.00	-95.59	0.00	95.59	3,817.77	1,908.89	7,223.47	3,617.10	1.18	-0.13	0.033
95.00	-23.44	-1.79	0.00	-86.37	0.00	86.37	3,747.13	1,873.57	6,895.30	3,452.77	1.32	-0.14	0.031
100.00	-22.05	-1.73	0.00	-77.44	0.00	77.44	3,674.64	1,837.32	6,571.13	3,290.45	1.47	-0.15	0.030
105.00	-20.69	-1.66	0.00	-68.81	0.00	68.81	3,600.28	1,800.14	6,251.25	3,130.27	1.64	-0.16	0.028
110.00	-19.36	-1.59	0.00	-60.50	0.00	60.50	3,524.05	1,762.03	5,935.96	2,972.39	1.81	-0.17	0.026
115.00	-18.84	-1.56	0.00	-52.54	0.00	52.54	3,445.97	1,722.99	5,625.55	2,816.95	1.98	-0.17	0.024
117.00	-18.01	-1.52	0.00	-49.41	0.00	49.41	3,414.22	1,707.11	5,502.81	2,755.49	2.06	-0.18	0.023
120.00	-16.75	-1.44	0.00	-44.86	0.00	44.86	3,366.02	1,683.01	5,320.30	2,664.10	2.17	-0.18	0.022
125.00	-16.25	-1.41	0.00	-37.66	0.00	37.66	3,284.22	1,642.11	5,020.50	2,513.98	2.36	-0.19	0.020
127.00	-15.70	-1.37	0.00	-34.84	0.00	34.84	3,250.95	1,625.48	4,902.12	2,454.70	2.44	-0.19	0.019
127.00	-15.70	-1.37	0.00	-34.84	0.00	34.84	1,903.87	951.93	2,890.39	1,447.34	2.44	-0.19	0.032
130.00	-14.79	-1.31	0.00	-30.72	0.00	30.72	1,881.18	940.59	2,797.37	1,400.77	2.56	-0.19	0.030
135.00	-13.90	-1.25	0.00	-24.16	0.00	24.16	1,841.88	920.94	2,643.30	1,323.62	2.77	-0.20	0.026
140.00	-10.31	-0.97	0.00	-17.93	0.00	17.93	1,800.71	900.35	2,490.74	1,247.22	2.99	-0.21	0.020
145.00	-9.93	-0.94	0.00	-13.08	0.00	13.08	1,757.68	878.84	2,339.97	1,171.72	3.21	-0.22	0.017
147.50	-7.59	-0.74	0.00	-10.73	0.00	10.73	1,735.46	867.73	2,265.35	1,134.36	3.33	-0.22	0.014
150.00	-6.92	-0.68	0.00	-8.88	0.00	8.88	1,712.78	856.39	2,191.28	1,097.27	3.44	-0.22	0.012
155.00	-6.27	-0.62	0.00	-5.46	0.00	5.46	1,666.03	833.01	2,044.98	1,024.01	3.67	-0.22	0.009
160.00	-2.70	-0.28	0.00	-2.35	0.00	2.35	1,617.41	808.70	1,901.34	952.08	3.91	-0.23	0.004
161.50	-2.40	-0.25	0.00	-1.92	0.00	1.92	1,602.45	801.23	1,858.78	930.77	3.98	-0.23	0.004
161.50	-2.40	-0.25	0.00	-1.92	0.00	1.92	1,084.93	542.47	1,264.05	632.97	3.98	-0.23	0.005
165.00	-1.97	-0.21	0.00	-1.04	0.00	1.04	1,065.59	532.79	1,202.80	602.29	4.15	-0.23	0.004
170.00	0.00	0.00	0.00	0.00	0.00	0.00	1,036.36	518.18	1,116.00	558.83	4.38	-0.23	0.000
171.50	0.00	0.00	0.00	0.00	0.00	0.00	1,027.22	513.61	1,090.17	545.90	4.46	-0.23	0.000

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	-43.04	-2.28	0.00	-288.83	0.00	288.83	7,282.81	3,641.41	20,510.1	10,270.3	0.00	0.00	0.034
5.00	-41.26	-2.28	0.00	-277.46	0.00	277.46	7,199.47	3,599.74	19,901.7	9,965.65	0.00	-0.01	0.034
10.00	-39.51	-2.28	0.00	-266.06	0.00	266.06	7,114.27	3,557.13	19,296.8	9,662.76	0.01	-0.01	0.033
15.00	-37.79	-2.28	0.00	-254.67	0.00	254.67	7,027.20	3,513.60	18,695.8	9,361.83	0.03	-0.02	0.033
20.00	-36.09	-2.27	0.00	-243.28	0.00	243.28	6,938.27	3,469.13	18,099.0	9,062.99	0.05	-0.03	0.032
25.00	-34.43	-2.26	0.00	-231.92	0.00	231.92	6,847.47	3,423.74	17,506.7	8,766.39	0.08	-0.03	0.031
30.00	-32.80	-2.25	0.00	-220.60	0.00	220.60	6,754.82	3,377.41	16,919.2	8,472.18	0.12	-0.04	0.031
35.00	-31.19	-2.24	0.00	-209.34	0.00	209.34	6,660.30	3,330.15	16,336.7	8,180.49	0.17	-0.05	0.030
40.00	-31.14	-2.24	0.00	-198.16	0.00	198.16	6,563.93	3,281.96	15,759.5	7,891.49	0.22	-0.05	0.030
40.17	-29.78	-2.22	0.00	-197.79	0.00	197.79	6,560.67	3,280.34	15,740.3	7,881.88	0.22	-0.05	0.030
40.17	-29.78	-2.22	0.00	-197.79	0.00	197.79	5,491.49	2,745.75	13,203.3	6,611.51	0.22	-0.05	0.035
45.00	-28.40	-2.20	0.00	-187.07	0.00	187.07	5,418.84	2,709.42	12,756.7	6,387.88	0.28	-0.06	0.035
50.00	-27.04	-2.17	0.00	-176.09	0.00	176.09	5,341.85	2,670.93	12,298.2	6,158.26	0.34	-0.07	0.034
55.00	-25.71	-2.14	0.00	-165.24	0.00	165.24	5,263.00	2,631.50	11,843.4	5,930.54	0.42	-0.07	0.033
60.00	-24.40	-2.11	0.00	-154.54	0.00	154.54	5,182.29	2,591.14	11,392.8	5,704.87	0.50	-0.08	0.032
65.00	-23.13	-2.07	0.00	-144.00	0.00	144.00	5,099.71	2,549.86	10,946.5	5,481.40	0.59	-0.09	0.031
70.00	-22.12	-2.03	0.00	-133.66	0.00	133.66	5,015.27	2,507.64	10,504.9	5,260.27	0.69	-0.10	0.030
74.00	-21.86	-2.03	0.00	-125.52	0.00	125.52	4,946.38	2,473.19	10,155.1	5,085.15	0.77	-0.10	0.029
75.00	-20.64	-1.98	0.00	-123.50	0.00	123.50	4,928.97	2,464.49	10,068.2	5,041.62	0.80	-0.11	0.029
80.00	-19.86	-1.95	0.00	-113.61	0.00	113.61	4,840.81	2,420.41	9,636.89	4,825.61	0.91	-0.11	0.028
83.21	-19.48	-1.93	0.00	-107.37	0.00	107.37	4,783.25	2,391.62	9,362.93	4,688.42	0.99	-0.12	0.027
83.21	-19.48	-1.93	0.00	-107.37	0.00	107.37	3,910.73	1,955.36	7,675.09	3,843.25	0.99	-0.12	0.033
85.00	-18.44	-1.88	0.00	-103.91	0.00	103.91	3,886.54	1,943.27	7,555.36	3,783.30	1.04	-0.12	0.032
90.00	-17.42	-1.83	0.00	-94.52	0.00	94.52	3,817.77	1,908.89	7,223.47	3,617.10	1.17	-0.13	0.031
95.00	-16.42	-1.77	0.00	-85.39	0.00	85.39	3,747.13	1,873.57	6,895.30	3,452.77	1.31	-0.14	0.029
100.00	-15.45	-1.71	0.00	-76.54	0.00	76.54	3,674.64	1,837.32	6,571.13	3,290.45	1.46	-0.15	0.027
105.00	-14.50	-1.64	0.00	-68.01	0.00	68.01	3,600.28	1,800.14	6,251.25	3,130.27	1.62	-0.16	0.026
110.00	-13.56	-1.57	0.00	-59.79	0.00	59.79	3,524.05	1,762.03	5,935.96	2,972.39	1.79	-0.16	0.024
115.00	-13.20	-1.55	0.00	-51.92	0.00	51.92	3,445.97	1,722.99	5,625.55	2,816.95	1.97	-0.17	0.022
117.00	-12.62	-1.50	0.00	-48.83	0.00	48.83	3,414.22	1,707.11	5,502.81	2,755.49	2.04	-0.18	0.021
120.00	-11.74	-1.42	0.00	-44.33	0.00	44.33	3,366.02	1,683.01	5,320.30	2,664.10	2.15	-0.18	0.020
125.00	-11.39	-1.39	0.00	-37.20	0.00	37.20	3,284.22	1,642.11	5,020.50	2,513.98	2.34	-0.19	0.018
127.00	-11.00	-1.36	0.00	-34.42	0.00	34.42	3,250.95	1,625.48	4,902.12	2,454.70	2.42	-0.19	0.017
127.00	-11.00	-1.36	0.00	-34.42	0.00	34.42	1,903.87	951.93	2,890.39	1,447.34	2.42	-0.19	0.030
130.00	-10.36	-1.30	0.00	-30.35	0.00	30.35	1,881.18	940.59	2,797.37	1,400.77	2.54	-0.19	0.027
135.00	-9.74	-1.23	0.00	-23.87	0.00	23.87	1,841.88	920.94	2,643.30	1,323.62	2.75	-0.20	0.023
140.00	-7.22	-0.96	0.00	-17.71	0.00	17.71	1,800.71	900.35	2,490.74	1,247.22	2.96	-0.21	0.018
145.00	-6.96	-0.93	0.00	-12.92	0.00	12.92	1,757.68	878.84	2,339.97	1,171.72	3.18	-0.21	0.015
147.50	-5.32	-0.73	0.00	-10.61	0.00	10.61	1,735.46	867.73	2,265.35	1,134.36	3.29	-0.22	0.012
150.00	-4.85	-0.68	0.00	-8.77	0.00	8.77	1,712.78	856.39	2,191.28	1,097.27	3.41	-0.22	0.011
155.00	-4.39	-0.62	0.00	-5.40	0.00	5.40	1,666.03	833.01	2,044.98	1,024.01	3.64	-0.22	0.008
160.00	-1.89	-0.28	0.00	-2.32	0.00	2.32	1,617.41	808.70	1,901.34	952.08	3.87	-0.22	0.004
161.50	-1.68	-0.25	0.00	-1.90	0.00	1.90	1,602.45	801.23	1,858.78	930.77	3.94	-0.22	0.003
161.50	-1.68	-0.25	0.00	-1.90	0.00	1.90	1,084.93	542.47	1,264.05	632.97	3.94	-0.22	0.005
165.00	-1.38	-0.21	0.00	-1.03	0.00	1.03	1,065.59	532.79	1,202.80	602.29	4.11	-0.22	0.003
170.00	0.00	0.00	0.00	0.00	0.00	0.00	1,036.36	518.18	1,116.00	558.83	4.34	-0.22	0.000
171.50	0.00	0.00	0.00	0.00	0.00	0.00	1,027.22	513.61	1,090.17	545.90	4.41	-0.22	0.000

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):	0.16
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}):	0.17
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Period Based on Rayleigh Method (sec):	1.83
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)
42	170.75	79	1.874	1.894	1.109	0.327	22	98
41	167.50	343	1.803	1.552	0.982	0.287	85	423
40	163.25	247	1.713	1.170	0.834	0.239	51	306
39	160.75	137	1.660	0.978	0.755	0.212	25	169
38	157.50	529	1.594	0.760	0.662	0.180	83	653
37	152.50	545	1.494	0.487	0.536	0.135	64	673
36	148.75	279	1.422	0.326	0.455	0.106	26	345
35	146.25	308	1.374	0.237	0.406	0.088	23	380
34	142.50	628	1.305	0.127	0.340	0.063	35	776
33	137.50	719	1.215	0.019	0.266	0.036	22	888
32	132.50	736	1.128	-0.053	0.205	0.014	9	909
31	128.50	450	1.061	-0.089	0.164	0.000	0	555
30	126.00	403	1.020	-0.104	0.142	-0.007	-2	497
29	122.50	1,024	0.964	-0.117	0.114	-0.014	-12	1,264
28	118.50	627	0.902	-0.122	0.088	-0.019	-10	774
27	116.00	423	0.865	-0.120	0.074	-0.021	-8	523
26	112.50	1,076	0.813	-0.114	0.058	-0.021	-19	1,329
25	107.50	1,102	0.743	-0.099	0.039	-0.018	-17	1,360
24	102.50	1,127	0.675	-0.079	0.025	-0.011	-11	1,392
23	97.50	1,152	0.611	-0.057	0.016	-0.003	-3	1,423
22	92.50	1,178	0.550	-0.034	0.010	0.007	7	1,454
21	87.50	1,203	0.492	-0.013	0.007	0.016	17	1,486
20	84.10	437	0.455	0.000	0.006	0.022	8	540
19	81.60	895	0.428	0.009	0.006	0.026	20	1,105
18	77.50	1,419	0.386	0.022	0.007	0.032	39	1,752
17	74.50	287	0.357	0.031	0.008	0.035	9	355
16	72.00	1,162	0.333	0.037	0.010	0.037	37	1,434
15	67.50	1,479	0.293	0.047	0.013	0.040	51	1,826
14	62.50	1,508	0.251	0.055	0.017	0.042	54	1,862
13	57.50	1,538	0.212	0.061	0.022	0.042	56	1,899
12	52.50	1,567	0.177	0.065	0.026	0.042	57	1,935
11	47.50	1,597	0.145	0.068	0.031	0.041	57	1,972
10	42.58	1,572	0.117	0.070	0.035	0.040	55	1,941
9	40.08	61	0.103	0.071	0.037	0.040	2	76

8	37.50	1,854	0.090	0.071	0.038	0.039	63	2,290
7	32.50	1,888	0.068	0.072	0.041	0.038	62	2,331
6	27.50	1,922	0.049	0.071	0.042	0.037	61	2,373
5	22.50	1,956	0.033	0.069	0.041	0.035	59	2,415
4	17.50	1,990	0.020	0.064	0.038	0.033	56	2,457
3	12.50	2,023	0.010	0.055	0.032	0.028	50	2,499
2	7.50	2,057	0.004	0.040	0.022	0.021	38	2,540
1	2.50	2,091	0.000	0.016	0.009	0.009	17	2,582
Andrew ETW200VS12UB	170.00	33	1.857	1.811	1.079	0.317	9	41
E-911 GPS	170.00	5	1.857	1.811	1.079	0.317	1	6
Decibel DB201-A	170.00	25	1.857	1.811	1.079	0.317	7	31
12' Dipole	170.00	40	1.857	1.811	1.079	0.317	11	49
Ericsson AIR 21	170.00	546	1.857	1.811	1.079	0.317	150	674
RFS APX16DWV-	170.00	122	1.857	1.811	1.079	0.317	34	151
Round T-Arm	170.00	750	1.857	1.811	1.079	0.317	206	926
Alcatel-Lucent RRH2X	160.00	129	1.645	0.925	0.733	0.205	23	159
Alcatel-Lucent RRH2x	160.00	170	1.645	0.925	0.733	0.205	30	210
Alcatel-Lucent B66 R	160.00	201	1.645	0.925	0.733	0.205	36	248
VZW Unused Reserve:	160.00	209	1.645	0.925	0.733	0.205	37	258
RFS APL866513-42T0	160.00	63	1.645	0.925	0.733	0.205	11	78
Antel BXA-70063-4CF-	160.00	10	1.645	0.925	0.733	0.205	2	12
RFS DB-T1-6Z-8AB-0Z	160.00	88	1.645	0.925	0.733	0.205	16	109
Antel BXA-70063/6CF_	160.00	34	1.645	0.925	0.733	0.205	6	42
Commscope SBNHH-	160.00	304	1.645	0.925	0.733	0.205	54	376
Antel LPA-80080-6CF-	160.00	42	1.645	0.925	0.733	0.205	7	52
Flat Low Profile Pla	160.00	1,500	1.645	0.925	0.733	0.205	266	1,852
Andrew DB980F90E-M	147.50	114	1.398	0.280	0.430	0.097	10	141
Flat Low Profile Pla	147.50	1,500	1.398	0.280	0.430	0.097	126	1,852
Powerwave TT19-	140.00	96	1.259	0.068	0.301	0.049	4	119
Raycap DC6-48-60-18-	140.00	32	1.259	0.068	0.301	0.049	1	39
Ericsson RRUS-11	140.00	330	1.259	0.068	0.301	0.049	14	407
KMW AM-X-CD-14-65-00	140.00	218	1.259	0.068	0.301	0.049	9	270
Powerwave Allgon 777	140.00	105	1.259	0.068	0.301	0.049	4	130
Flat Low Profile Pla	140.00	1,500	1.259	0.068	0.301	0.049	64	1,852
12' Dipole	117.00	40	0.880	-0.121	0.080	-0.020	-1	49
GPS	74.00	10	0.352	0.032	0.009	0.035	0	12
		51,835	71.487	31.273	26.136	7.251	2,377	64,004

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)
42	170.75	79	1.874	1.894	1.109	0.327	22	68
41	167.50	343	1.803	1.552	0.982	0.287	85	297
40	163.25	247	1.713	1.170	0.834	0.239	51	214
39	160.75	137	1.660	0.978	0.755	0.212	25	118
38	157.50	529	1.594	0.760	0.662	0.180	83	457
37	152.50	545	1.494	0.487	0.536	0.135	64	472
36	148.75	279	1.422	0.326	0.455	0.106	26	241
35	146.25	308	1.374	0.237	0.406	0.088	23	266
34	142.50	628	1.305	0.127	0.340	0.063	35	544
33	137.50	719	1.215	0.019	0.266	0.036	22	622
32	132.50	736	1.128	-0.053	0.205	0.014	9	637
31	128.50	450	1.061	-0.089	0.164	0.000	0	389
30	126.00	403	1.020	-0.104	0.142	-0.007	-2	348
29	122.50	1,024	0.964	-0.117	0.114	-0.014	-12	886
28	118.50	627	0.902	-0.122	0.088	-0.019	-10	542
27	116.00	423	0.865	-0.120	0.074	-0.021	-8	366
26	112.50	1,076	0.813	-0.114	0.058	-0.021	-19	931

25	107.50	1,102	0.743	-0.099	0.039	-0.018	-17	953
24	102.50	1,127	0.675	-0.079	0.025	-0.011	-11	975
23	97.50	1,152	0.611	-0.057	0.016	-0.003	-3	997
22	92.50	1,178	0.550	-0.034	0.010	0.007	7	1,019
21	87.50	1,203	0.492	-0.013	0.007	0.016	17	1,041
20	84.10	437	0.455	0.000	0.006	0.022	8	378
19	81.60	895	0.428	0.009	0.006	0.026	20	774
18	77.50	1,419	0.386	0.022	0.007	0.032	39	1,227
17	74.50	287	0.357	0.031	0.008	0.035	9	249
16	72.00	1,162	0.333	0.037	0.010	0.037	37	1,005
15	67.50	1,479	0.293	0.047	0.013	0.040	51	1,279
14	62.50	1,508	0.251	0.055	0.017	0.042	54	1,305
13	57.50	1,538	0.212	0.061	0.022	0.042	56	1,331
12	52.50	1,567	0.177	0.065	0.026	0.042	57	1,356
11	47.50	1,597	0.145	0.068	0.031	0.041	57	1,382
10	42.58	1,572	0.117	0.070	0.035	0.040	55	1,360
9	40.08	61	0.103	0.071	0.037	0.040	2	53
8	37.50	1,854	0.090	0.071	0.038	0.039	63	1,604
7	32.50	1,888	0.068	0.072	0.041	0.038	62	1,634
6	27.50	1,922	0.049	0.071	0.042	0.037	61	1,663
5	22.50	1,956	0.033	0.069	0.041	0.035	59	1,692
4	17.50	1,990	0.020	0.064	0.038	0.033	56	1,721
3	12.50	2,023	0.010	0.055	0.032	0.028	50	1,751
2	7.50	2,057	0.004	0.040	0.022	0.021	38	1,780
1	2.50	2,091	0.000	0.016	0.009	0.009	17	1,809
Andrew ETW200VS12UB	170.00	33	1.857	1.811	1.079	0.317	9	29
E-911 GPS	170.00	5	1.857	1.811	1.079	0.317	1	4
Decibel DB201-A	170.00	25	1.857	1.811	1.079	0.317	7	22
12' Dipole	170.00	40	1.857	1.811	1.079	0.317	11	35
Ericsson AIR 21	170.00	546	1.857	1.811	1.079	0.317	150	472
RFS APX16DWV-	170.00	122	1.857	1.811	1.079	0.317	34	106
Round T-Arm	170.00	750	1.857	1.811	1.079	0.317	206	649
Alcatel-Lucent RRH2X	160.00	129	1.645	0.925	0.733	0.205	23	112
Alcatel-Lucent RRH2x	160.00	170	1.645	0.925	0.733	0.205	30	147
Alcatel-Lucent B66 R	160.00	201	1.645	0.925	0.733	0.205	36	174
VZW Unused Reserve:	160.00	209	1.645	0.925	0.733	0.205	37	181
RFS APL866513-42T0	160.00	63	1.645	0.925	0.733	0.205	11	54
Antel BXA-70063-4CF-	160.00	10	1.645	0.925	0.733	0.205	2	9
RFS DB-T1-6Z-8AB-0Z	160.00	88	1.645	0.925	0.733	0.205	16	76
Antel BXA-70063/6CF_	160.00	34	1.645	0.925	0.733	0.205	6	29
Commscope SBNHH-	160.00	304	1.645	0.925	0.733	0.205	54	263
Antel LPA-80080-6CF-	160.00	42	1.645	0.925	0.733	0.205	7	36
Flat Low Profile Pla	160.00	1,500	1.645	0.925	0.733	0.205	266	1,298
Andrew DB980F90E-M	147.50	114	1.398	0.280	0.430	0.097	10	99
Flat Low Profile Pla	147.50	1,500	1.398	0.280	0.430	0.097	126	1,298
Powerwave TT19-	140.00	96	1.259	0.068	0.301	0.049	4	83
Raycap DC6-48-60-18-	140.00	32	1.259	0.068	0.301	0.049	1	28
Ericsson RRUS-11	140.00	330	1.259	0.068	0.301	0.049	14	286
KMW AM-X-CD-14-65-00	140.00	218	1.259	0.068	0.301	0.049	9	189
Powerwave Allgon 777	140.00	105	1.259	0.068	0.301	0.049	4	91
Flat Low Profile Pla	140.00	1,500	1.259	0.068	0.301	0.049	64	1,298
12' Dipole	117.00	40	0.880	-0.121	0.080	-0.020	-1	35
GPS	74.00	10	0.352	0.032	0.009	0.035	0	9
		51,835	71.487	31.273	26.136	7.251	2,377	44,849

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	-61.42	-2.36	0.00	-285.70	0.00	285.70	7,282.81	3,641.41	20,510.1	10,270.3	0.00	0.00	0.036
5.00	-58.88	-2.33	0.00	-273.88	0.00	273.88	7,199.47	3,599.74	19,901.7	9,965.65	0.00	-0.01	0.036
10.00	-56.38	-2.29	0.00	-262.23	0.00	262.23	7,114.27	3,557.13	19,296.8	9,662.76	0.01	-0.01	0.035
15.00	-53.93	-2.24	0.00	-250.79	0.00	250.79	7,027.20	3,513.60	18,695.8	9,361.83	0.03	-0.02	0.034
20.00	-51.51	-2.18	0.00	-239.61	0.00	239.61	6,938.27	3,469.13	18,099.0	9,062.99	0.05	-0.03	0.034
25.00	-49.14	-2.12	0.00	-228.70	0.00	228.70	6,847.47	3,423.74	17,506.7	8,766.39	0.08	-0.03	0.033
30.00	-46.81	-2.07	0.00	-218.08	0.00	218.08	6,754.82	3,377.41	16,919.2	8,472.18	0.12	-0.04	0.033
35.00	-44.52	-2.01	0.00	-207.75	0.00	207.75	6,660.30	3,330.15	16,336.7	8,180.49	0.16	-0.04	0.032
40.00	-44.44	-2.01	0.00	-197.71	0.00	197.71	6,563.93	3,281.96	15,759.5	7,891.49	0.21	-0.05	0.032
40.17	-42.50	-1.95	0.00	-197.37	0.00	197.37	6,560.67	3,280.34	15,740.3	7,881.88	0.22	-0.05	0.032
40.17	-42.50	-1.95	0.00	-197.37	0.00	197.37	5,491.49	2,745.75	13,203.3	6,611.51	0.22	-0.05	0.038
45.00	-40.53	-1.90	0.00	-187.93	0.00	187.93	5,418.84	2,709.42	12,756.7	6,387.88	0.27	-0.06	0.037
50.00	-38.59	-1.85	0.00	-178.43	0.00	178.43	5,341.85	2,670.93	12,298.2	6,158.26	0.34	-0.07	0.036
55.00	-36.69	-1.79	0.00	-169.20	0.00	169.20	5,263.00	2,631.50	11,843.4	5,930.54	0.41	-0.07	0.036
60.00	-34.83	-1.74	0.00	-160.24	0.00	160.24	5,182.29	2,591.14	11,392.8	5,704.87	0.49	-0.08	0.035
65.00	-33.00	-1.69	0.00	-151.53	0.00	151.53	5,099.71	2,549.86	10,946.5	5,481.40	0.58	-0.09	0.034
70.00	-31.57	-1.66	0.00	-143.07	0.00	143.07	5,015.27	2,507.64	10,504.9	5,260.27	0.68	-0.10	0.033
74.00	-31.20	-1.65	0.00	-136.45	0.00	136.45	4,946.38	2,473.19	10,155.1	5,085.15	0.77	-0.11	0.033
75.00	-29.45	-1.61	0.00	-134.80	0.00	134.80	4,928.97	2,464.49	10,068.2	5,041.62	0.79	-0.11	0.033
80.00	-28.35	-1.59	0.00	-126.75	0.00	126.75	4,840.81	2,420.41	9,636.89	4,825.61	0.91	-0.12	0.032
83.21	-27.81	-1.58	0.00	-121.65	0.00	121.65	4,783.25	2,391.62	9,362.93	4,688.42	0.99	-0.12	0.032
83.21	-27.81	-1.58	0.00	-121.65	0.00	121.65	3,910.73	1,955.36	7,675.09	3,843.25	0.99	-0.12	0.039
85.00	-26.32	-1.57	0.00	-118.81	0.00	118.81	3,886.54	1,943.27	7,555.36	3,783.30	1.04	-0.13	0.038
90.00	-24.87	-1.56	0.00	-110.98	0.00	110.98	3,817.77	1,908.89	7,223.47	3,617.10	1.17	-0.14	0.037
95.00	-23.44	-1.56	0.00	-103.18	0.00	103.18	3,747.13	1,873.57	6,895.30	3,452.77	1.32	-0.15	0.036
100.00	-22.05	-1.58	0.00	-95.36	0.00	95.36	3,674.64	1,837.32	6,571.13	3,290.45	1.48	-0.16	0.035
105.00	-20.69	-1.59	0.00	-87.49	0.00	87.49	3,600.28	1,800.14	6,251.25	3,130.27	1.65	-0.17	0.034
110.00	-19.36	-1.61	0.00	-79.52	0.00	79.52	3,524.05	1,762.03	5,935.96	2,972.39	1.83	-0.18	0.032
115.00	-18.84	-1.62	0.00	-71.47	0.00	71.47	3,445.97	1,722.99	5,625.55	2,816.95	2.02	-0.19	0.031
117.00	-18.01	-1.63	0.00	-68.23	0.00	68.23	3,414.22	1,707.11	5,502.81	2,755.49	2.10	-0.19	0.030
120.00	-16.75	-1.64	0.00	-63.34	0.00	63.34	3,366.02	1,683.01	5,320.30	2,664.10	2.22	-0.20	0.029
125.00	-16.25	-1.64	0.00	-55.14	0.00	55.14	3,284.22	1,642.11	5,020.50	2,513.98	2.43	-0.21	0.027
127.00	-15.70	-1.64	0.00	-51.85	0.00	51.85	3,250.95	1,625.48	4,902.12	2,454.70	2.52	-0.21	0.026
127.00	-15.70	-1.64	0.00	-51.85	0.00	51.85	1,903.87	951.93	2,890.39	1,447.34	2.52	-0.21	0.044
130.00	-14.79	-1.63	0.00	-46.93	0.00	46.93	1,881.18	940.59	2,797.37	1,400.77	2.66	-0.22	0.041
135.00	-13.90	-1.61	0.00	-38.77	0.00	38.77	1,841.88	920.94	2,643.30	1,323.62	2.89	-0.23	0.037
140.00	-10.31	-1.46	0.00	-30.73	0.00	30.73	1,800.71	900.35	2,490.74	1,247.22	3.14	-0.24	0.030
145.00	-9.93	-1.44	0.00	-23.41	0.00	23.41	1,757.68	878.84	2,339.97	1,171.72	3.40	-0.25	0.026
147.50	-7.59	-1.27	0.00	-19.80	0.00	19.80	1,735.46	867.73	2,265.35	1,134.36	3.53	-0.26	0.022
150.00	-6.92	-1.20	0.00	-16.63	0.00	16.63	1,712.78	856.39	2,191.28	1,097.27	3.67	-0.26	0.019
155.00	-6.26	-1.12	0.00	-10.61	0.00	10.61	1,666.03	833.01	2,044.98	1,024.01	3.94	-0.27	0.014
160.00	-2.70	-0.59	0.00	-5.01	0.00	5.01	1,617.41	808.70	1,901.34	952.08	4.23	-0.27	0.007
161.50	-2.40	-0.54	0.00	-4.13	0.00	4.13	1,602.45	801.23	1,858.78	930.77	4.31	-0.27	0.006
161.50	-2.40	-0.54	0.00	-4.13	0.00	4.13	1,084.93	542.47	1,264.05	632.97	4.31	-0.27	0.009
165.00	-1.97	-0.45	0.00	-2.25	0.00	2.25	1,065.59	532.79	1,202.80	602.29	4.51	-0.27	0.006
170.00	0.00	0.00	0.00	0.00	0.00	0.00	1,036.36	518.18	1,116.00	558.83	4.80	-0.27	0.000
171.50	0.00	0.00	0.00	0.00	0.00	0.00	1,027.22	513.61	1,090.17	545.90	4.88	-0.27	0.000

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

Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

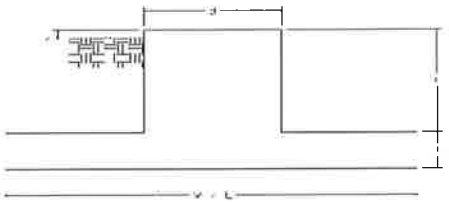
Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-43.04	-2.36	0.00	-283.45	0.00	283.45	7,282.81	3,641.41	20,510.1	10,270.3	0.00	0.00	0.034
5.00	-41.26	-2.33	0.00	-271.64	0.00	271.64	7,199.47	3,599.74	19,901.7	9,965.65	0.00	-0.01	0.033
10.00	-39.51	-2.28	0.00	-260.00	0.00	260.00	7,114.27	3,557.13	19,296.8	9,662.76	0.01	-0.01	0.032
15.00	-37.79	-2.23	0.00	-248.59	0.00	248.59	7,027.20	3,513.60	18,695.8	9,361.83	0.03	-0.02	0.032
20.00	-36.09	-2.17	0.00	-237.44	0.00	237.44	6,938.27	3,469.13	18,099.0	9,062.99	0.05	-0.02	0.031
25.00	-34.43	-2.12	0.00	-226.57	0.00	226.57	6,847.47	3,423.74	17,506.7	8,766.39	0.08	-0.03	0.031
30.00	-32.80	-2.06	0.00	-215.99	0.00	215.99	6,754.82	3,377.41	16,919.2	8,472.18	0.12	-0.04	0.030
35.00	-31.19	-2.00	0.00	-205.71	0.00	205.71	6,660.30	3,330.15	16,336.7	8,180.49	0.16	-0.04	0.030
40.00	-31.14	-2.00	0.00	-195.73	0.00	195.73	6,563.93	3,281.96	15,759.5	7,891.49	0.21	-0.05	0.030
40.17	-29.78	-1.94	0.00	-195.40	0.00	195.40	6,560.67	3,280.34	15,740.3	7,881.88	0.21	-0.05	0.029
40.17	-29.78	-1.94	0.00	-195.40	0.00	195.40	5,491.49	2,745.75	13,203.3	6,611.51	0.21	-0.05	0.035
45.00	-28.40	-1.89	0.00	-186.01	0.00	186.01	5,418.84	2,709.42	12,756.7	6,387.88	0.27	-0.06	0.034
50.00	-27.04	-1.83	0.00	-176.58	0.00	176.58	5,341.85	2,670.93	12,298.2	6,158.26	0.33	-0.07	0.034
55.00	-25.71	-1.78	0.00	-167.42	0.00	167.42	5,263.00	2,631.50	11,843.4	5,930.54	0.41	-0.07	0.033
60.00	-24.41	-1.72	0.00	-158.54	0.00	158.54	5,182.29	2,591.14	11,392.8	5,704.87	0.49	-0.08	0.032
65.00	-23.13	-1.68	0.00	-149.91	0.00	149.91	5,099.71	2,549.86	10,946.5	5,481.40	0.58	-0.09	0.032
70.00	-22.12	-1.64	0.00	-141.54	0.00	141.54	5,015.27	2,507.64	10,504.9	5,260.27	0.68	-0.10	0.031
74.00	-21.86	-1.63	0.00	-134.98	0.00	134.98	4,946.38	2,473.19	10,155.1	5,085.15	0.76	-0.10	0.031
75.00	-20.64	-1.59	0.00	-133.35	0.00	133.35	4,928.97	2,464.49	10,068.2	5,041.62	0.78	-0.11	0.031
80.00	-19.86	-1.57	0.00	-125.39	0.00	125.39	4,840.81	2,420.41	9,636.89	4,825.61	0.90	-0.12	0.030
83.21	-19.48	-1.56	0.00	-120.34	0.00	120.34	4,783.25	2,391.62	9,362.93	4,688.42	0.98	-0.12	0.030
83.21	-19.48	-1.56	0.00	-120.34	0.00	120.34	3,910.73	1,955.36	7,675.09	3,843.25	0.98	-0.12	0.036
85.00	-18.44	-1.55	0.00	-117.54	0.00	117.54	3,886.54	1,943.27	7,555.36	3,783.30	1.03	-0.12	0.036
90.00	-17.42	-1.54	0.00	-109.80	0.00	109.80	3,817.77	1,908.89	7,223.47	3,617.10	1.16	-0.13	0.035
95.00	-16.43	-1.54	0.00	-102.10	0.00	102.10	3,747.13	1,873.57	6,895.30	3,452.77	1.31	-0.14	0.034
100.00	-15.45	-1.56	0.00	-94.37	0.00	94.37	3,674.64	1,837.32	6,571.13	3,290.45	1.46	-0.15	0.033
105.00	-14.50	-1.57	0.00	-86.59	0.00	86.59	3,600.28	1,800.14	6,251.25	3,130.27	1.63	-0.17	0.032
110.00	-13.56	-1.59	0.00	-78.72	0.00	78.72	3,524.05	1,762.03	5,935.96	2,972.39	1.81	-0.18	0.030
115.00	-13.20	-1.60	0.00	-70.76	0.00	70.76	3,445.97	1,722.99	5,625.55	2,816.95	2.00	-0.19	0.029
117.00	-12.62	-1.61	0.00	-67.56	0.00	67.56	3,414.22	1,707.11	5,502.81	2,755.49	2.08	-0.19	0.028
120.00	-11.73	-1.62	0.00	-62.73	0.00	62.73	3,366.02	1,683.01	5,320.30	2,664.10	2.20	-0.20	0.027
125.00	-11.39	-1.62	0.00	-54.62	0.00	54.62	3,284.22	1,642.11	5,020.50	2,513.98	2.41	-0.21	0.025
127.00	-11.00	-1.62	0.00	-51.37	0.00	51.37	3,250.95	1,625.48	4,902.12	2,454.70	2.50	-0.21	0.024
127.00	-11.00	-1.62	0.00	-51.37	0.00	51.37	1,903.87	951.93	2,890.39	1,447.34	2.50	-0.21	0.041
130.00	-10.36	-1.61	0.00	-46.50	0.00	46.50	1,881.18	940.59	2,797.37	1,400.77	2.63	-0.22	0.039
135.00	-9.74	-1.59	0.00	-38.43	0.00	38.43	1,841.88	920.94	2,643.30	1,323.62	2.86	-0.23	0.034
140.00	-7.22	-1.45	0.00	-30.48	0.00	30.48	1,800.71	900.35	2,490.74	1,247.22	3.11	-0.24	0.028
145.00	-6.95	-1.43	0.00	-23.22	0.00	23.22	1,757.68	878.84	2,339.97	1,171.72	3.36	-0.25	0.024
147.50	-5.32	-1.26	0.00	-19.65	0.00	19.65	1,735.46	867.73	2,265.35	1,134.36	3.50	-0.25	0.020
150.00	-4.84	-1.19	0.00	-16.50	0.00	16.50	1,712.78	856.39	2,191.28	1,097.27	3.63	-0.26	0.018
155.00	-4.39	-1.11	0.00	-10.53	0.00	10.53	1,666.03	833.01	2,044.98	1,024.01	3.90	-0.26	0.013
160.00	-1.89	-0.59	0.00	-4.98	0.00	4.98	1,617.41	808.70	1,901.34	952.08	4.18	-0.27	0.006
161.50	-1.68	-0.53	0.00	-4.10	0.00	4.10	1,602.45	801.23	1,858.78	930.77	4.27	-0.27	0.005
161.50	-1.68	-0.53	0.00	-4.10	0.00	4.10	1,084.93	542.47	1,264.05	632.97	4.27	-0.27	0.008
165.00	-1.38	-0.45	0.00	-2.24	0.00	2.24	1,065.59	532.79	1,202.80	602.29	4.47	-0.27	0.005
170.00	0.00	0.00	0.00	0.00	0.00	0.00	1,036.36	518.18	1,116.00	558.83	4.75	-0.27	0.000
171.50	0.00	0.00	0.00	0.00	0.00	0.00	1,027.22	513.61	1,090.17	545.90	4.84	-0.27	0.000

Analysis Summary

	Reactions						Max Usage	
Load Case	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	43.46	0.00	62.16	0.00	0.00	5101.50	40.17	0.53
0.9D + 1.6W	43.44	0.00	46.61	0.00	0.00	5069.03	40.17	0.52
1.2D + 1.0Di + 1.0Wi	10.65	0.00	89.01	0.00	0.00	1212.98	40.17	0.13
(1.2 + 0.2Sds) * DL + E ELFM	2.28	0.00	61.42	0.00	0.00	290.98	40.17	0.04
(1.2 + 0.2Sds) * DL + E EMAM	2.36	0.00	61.42	0.00	0.00	285.70	127.00	0.04
(0.9 - 0.2Sds) * DL + E ELFM	2.28	0.00	43.04	0.00	0.00	288.83	40.17	0.04
(0.9 - 0.2Sds) * DL + E EMAM	2.36	0.00	43.04	0.00	0.00	283.45	127.00	0.04
1.0D + 1.0W	8.87	0.00	51.83	0.00	0.00	1037.33	40.17	0.11

Site Name:	Old Lyme South CT, CT
Site Number:	411178
Engineering Number:	OAA682574_C3_02
Engineer:	AAV
Date:	11/15/16
Tower Type:	MP

Program Last Updated: *5/13/2014*



Design Loads (Factored) - Analysis per TIA-222-G Standards

Design / Analysis / Mapping:	Analysis				
Compression/Leg:	62.2	k	Concrete Strength (f'_c):	4000	psi
Uplift/Leg:	0.0	k	Pad Tension Steel Depth:	38.00	in
Total Shear:	43.5	k	ϕ_{Shear}:	0.75	
Moment:	5101.5	k-ft	$\phi_{Flexure\ /\ Tension}$:	0.90	
Tower + Appurtenance Weight:	62.2	k	$\phi_{Compression}$:	0.65	
Depth to Base of Foundation (l + t - h):	7.00	ft	β:	0.85	
Diameter of Pier (d):	8.50	ft	Bottom Pad Rebar Size #:	9	
Height of Pier above Ground (h):	1.00		# of Bottom Pad Rebar:	54	
Width of Pad (W):	31.00	ft	Pad Bottom Steel Area:	54.00	in^2
Length of Pad (L):	31.00	ft	Pad Steel F_y:	60000	psi
Thickness of Pad (t):	3.50	ft	Top Pad Rebar Size #:	9	
Tower Leg Center to Center:	0.00	ft	# of Top Pad Rebar:	54	
Number of Tower Legs:	1.0	(1 if MP or GT)	Pad Top Steel Area:	54.00	in^2
Tower Center from Mat Center:	0.00	ft	Pier Rebar Size #:	9	
Depth Below Ground Surface to Water Table:	99.00	ft	Pier Steel Area (Single Bar):	1.00	in^2
Unit Weight of Concrete:	150.0	pcf	# of Pier Rebar:	52	
Unit Weight of Soil Above Water Table:	125.0	pcf	Pier Steel F_y:	60000	psi
Unit Weight of Water:	62.4	pcf	Pier Cage Diameter:	94.0	in
Unit Weight of Soil Below Water Table:	62.6	pcf	Rebar Strain Limit:	0.008	
Friction Angle of Uplift:	15.0	Degrees	Steel Elastic Modulus:	29000	ksi
Ultimate Coefficient of Shear Friction:	0.35		Tie Rebar Size #:	4	
Ultimate Compressive Bearing Pressure:	12000.0	psf	Tie Steel Area (Single Bar):	0.20	in^2
Ultimate Passive Pressure on Pad Face:	0.0	psf	Tie Spacing:	12	in
$\phi_{Soil\ and\ Concrete\ Weight}$:	0.9		Tie Steel F_y:	60000	psi
ϕ_{Soil}:	0.75				

Overturning Moment Usage

Design OTM:	5449.2	k-ft
OTM Resistance:	14538.4	k-ft
Design OTM / OTM Resistance:	0.37	Result: OK

Soil Bearing Pressure Usage

Net Bearing Pressure:	1733	psf
Factored Nominal Bearing Pressure:	9000	psf
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.19	Result: OK
Load Direction Controling Design Bearing Pressure:	Diagonal to Pad Edge	

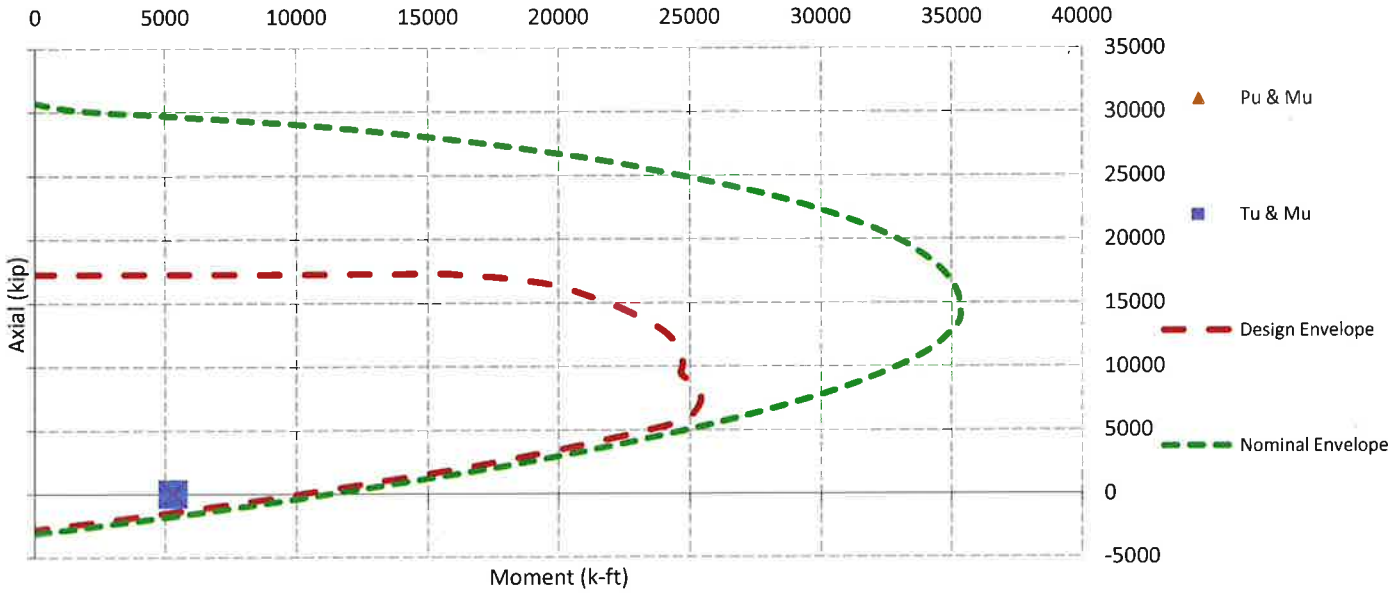
Sliding Factor of Safety

Total Factored Sliding Resistance:	259.9	k
Sliding Design / Sliding Resistance:	0.17	Result: OK

One Way Shear, Flexual Capacity, and Punching Shear

Factored One Way Shear (V_u):	263.9	k
One Way Shear Capacity (ϕV_c):	1341.1	k - ACI11.3.1.1
$V_u / \phi V_c$:	0.20	Result: OK
Load Direction Controling Shear Capacity:	Parallel to Pad Edge	
Lower Steel Pad Factored Moment (M_u):	2106.2	k-ft
Lower Steel Pad Moment Capacity (ϕM_n):	8969.4	k-ft - ACI10.3
$M_u / \phi M_n$:	0.23	Result: OK
Load Direction Controling Flexural Capacity:	Parallel to Pad Edge	
Upper Steel Pad Factored Moment (M_u):	1404.9	k-ft
Upper Steel Pad Moment Capacity (ϕM_n):	8969.4	k-ft
$M_u / \phi M_n$:	0.16	Result: OK
Lower Pad Flexural Reinforcement Ratio:	0.0038	OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0038	OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Lower Pad Reinforcement Spacing:	7	in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Upper Pad Reinforcement Spacing:	7	in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Factored Punching Shear (V_u):	0.0	k
Nominal Punching Shear Capacity ($\phi_c V_n$):	3171.1	k - ACI11.12.2.1
$V_u / \phi V_c$:	0.00	Result: OK
Factored Moment in Pier (M_u):	5297.1	k-ft
Pier Moment Capacity (ϕM_n):	10755.0	k-ft
$M_u / \phi M_n$:	0.49	Result: OK
Factored Shear in Pier (V_u):	43.5	k
Pier Shear Capacity (ϕV_n):	778.1	k
$V_u / \phi V_c$:	0.06	Result: OK
Pier Shear Reinforcement Ratio:	0.0002	No Ties Necessary for Shear - ACI11.5.6.1
Factored Tension in Pier (T_u):	0.0	k
Pier Tension Capacity (ϕT_n):	2808.0	k
$T_u / \phi T_n$:	0.00	Result: OK
Factored Compression in Pier (P_u):	62.2	k
Pier Compression Capacity (ϕP_n):	14354.9	k - ACI10.3.6.2
$P_u / \phi P_n$:	0.00	Result: OK
Pier Compression Reinforcement Ratio:	0.006	OK - Reinforcement Ratio Met - ACI10.9.1 & 10.8.4
$M_u/\phi_B M_n + T_u/\phi_T T_n$:	0.49	Result: OK

Nominal and Design Moment Capacity and Factored Design Loads



Base/Flange Plate	Plate Type	***Baseplate***	
	Pole Diameter	69	in
	Pole Thickness	0.5	in
	Plate Diameter	85	in
	Plate Thickness	2.25	in
	Plate Fy	60	ksi
	Weld Length	0.4375	in
	ϕ_s Resistance	617.29	k-in
	Applied	428.02	k-in
Stiffeners	#	***0***	

Bolts	#	***24***	
	Bolt Circle	79	in
	(R)adial / (S)quare	R	
	Diameter	2.25	in
	Hole Diameter	2.625	in
	Type	A615	
	Fy	75	ksi
	Fu	100	ksi
	ϕ_s Resistance	259.82	k
	Applied	131.70	k
Reinforcement ●	#		
Extra Bolts O	#	***0***	

Code Rev. ***G***

Moment 5101.5 k-ft
Axial 62.2 k

Date	11/15/2016
Engineer	AAV
Site #	411178
Carrier	Verizon

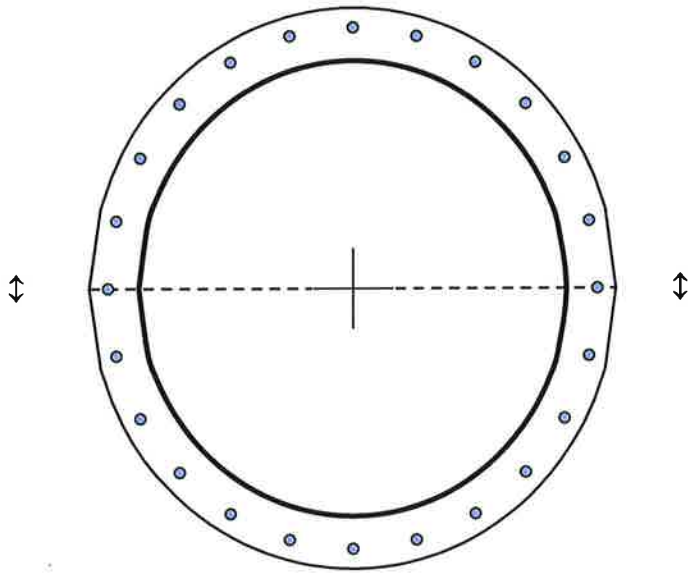


Plate Stress Ratio:
0.69 (Pass)

Bolt Stress Ratio:
0.51 (Pass)

Base/Flange Plate	Plate Type	*Flange @ 161.5 ft*	
	Pole Diameter	28.51	in
	Pole Thickness	0.1875	in
	Plate Diameter	36	in
	Plate Thickness	1.25	in
	Plate Fy	36	ksi
	Weld Length	0.1875	in
	ϕ_s Resistance	90.27	k-in
	Applied	6.92	k-in
Stiffeners	#	*0*	

Bolts	#	*12*	
	Bolt Circle	33	in
	(R)adial / (S)quare	R	
	Diameter	1	in
	Hole Diameter	1.1875	in
	Type	A325	
	Fy	92	ksi
	Fu	120	ksi
	ϕ_s Resistance	54.52	k
	Applied	4.73	k
Reinforcement ●	#		
Extra Bolts O	#	*0*	

Code Rev. **G**

Moment 40.6 k-ft
Axial 2.3 k

Date	11/15/2016
Engineer	AD
Site #	411178
Carrier	Verizon

Required Flange Thickness:
0.35 in OK

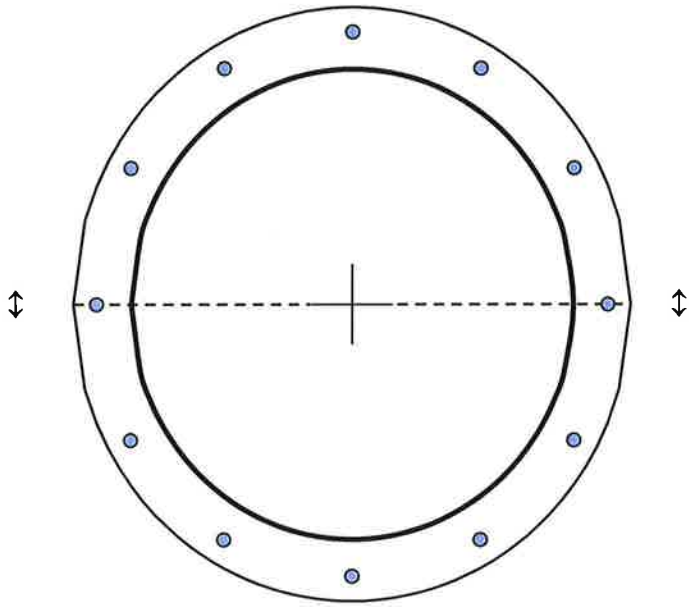
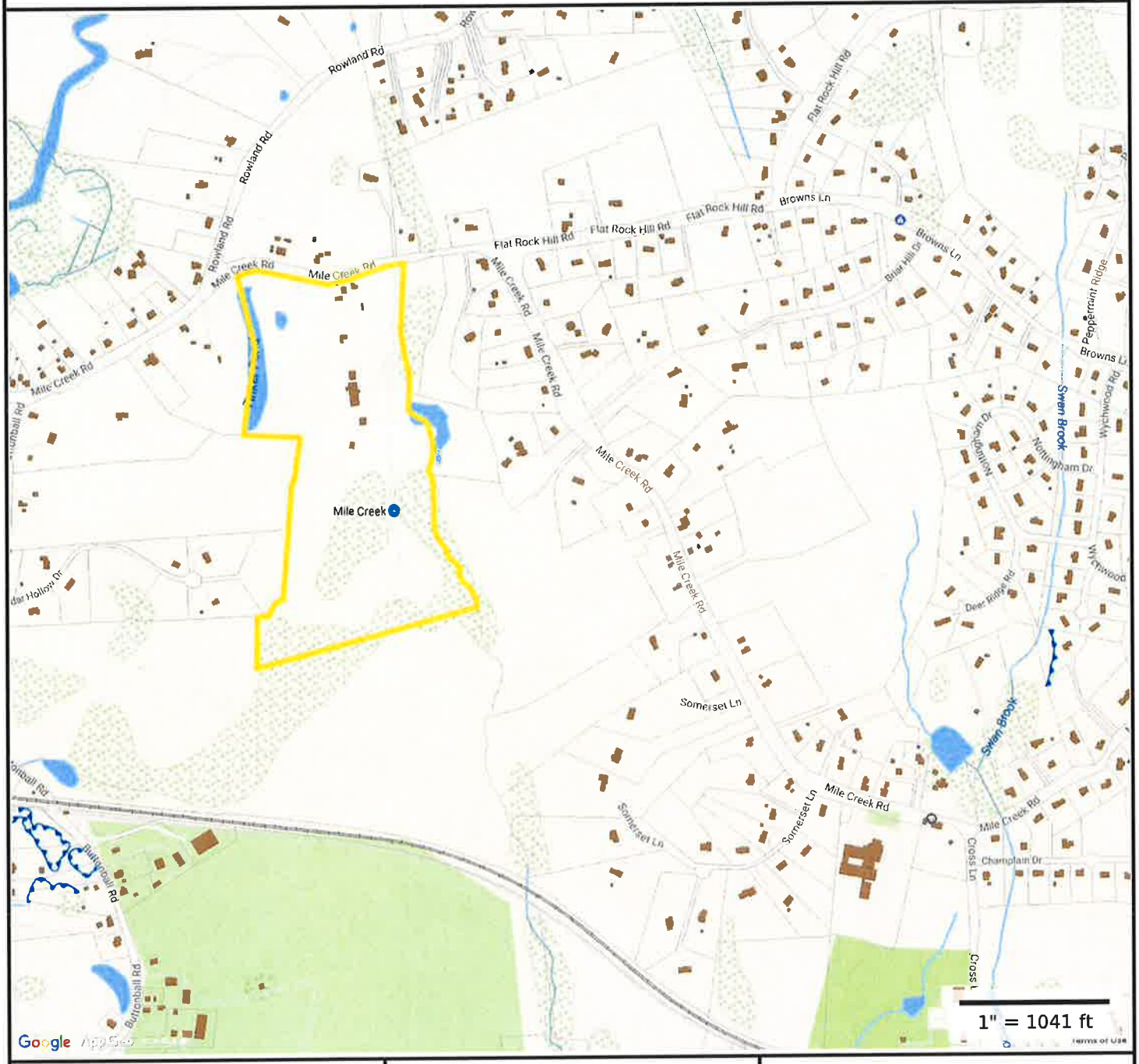


Plate Stress Ratio:
0.08 (Pass)

Bolt Stress Ratio:
0.09 (Pass)

ATTACHMENT 4



Property Information

Property ID	13-93
Location	125 MILE CREEK RD
Owner	MACHNIK TODD & REBECCA L Q/C/S

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

Town of Old Lyme, CT makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Parcels updated 2/1/2016
Properties updated 01/26/2017

125 MILE CREEK RD

Location	125 MILE CREEK RD	**Mblu**	13/ / 93/ /
Acct#	00044800	**Owner**	MACHNIK TODD & REBECCA L Q/C/S
Assessment	$407,000	**Appraisal**	$813,400
PID	474	**Building Count**	3

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2014	$402,800	$410,600	$813,400
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2014	$282,100	$124,900	$407,000

Owner of Record

Owner	MACHNIK TODD & REBECCA L Q/C/S	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	126 MILE CREEK RD OLD LYME, CT 06371	**Book & Page**	309/ 432
		Sale Date	01/06/2004

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
MACHNIK TODD & REBECCA L Q/C/S	$0		309/ 432	01/06/2004
MACHNIK LEON & TODD H & REBECCCA L Q/	$0		291/ 852	01/06/2003
MACHNIK LEON & TODD & REBECCA Q/C/S T	$0		284/ 764	07/22/2002
MACHNIK LEON & Q/C/S	$0		267/ 227	01/02/2001
MACHNIK LEON ET AL	$0		261/ 299	01/19/2000

Building Information

Building 1 : Section 1

Year Built:	1975
Living Area:	678
Replacement Cost:	$75,048

Building Percent Good: 74

Replacement Cost Less Depreciation: $55,500

Building Attributes	
Field	**Description**
STYLE	Commercial
MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Inlaid Sht Gds
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	None
Bldg Use	OFFICE BLD MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	3400
Heat/AC	NONE
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
Ceiling/Wall	SUS-CEIL & WL
Rooms/Prtns	AVERAGE
Wall Height	8
% Comn Wall	0

Building Photo

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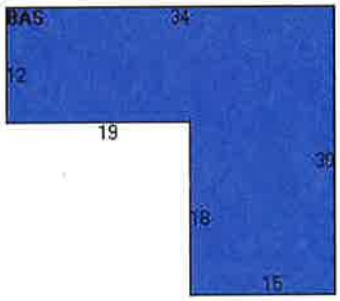
Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	678	678
		678	678

Building 2 : Section 1

Year Built: 1994

Living Area: 1,512

Replacement Cost: $62,842

Building Percent Good: 87

Replacement Cost Less Depreciation: $54,700

Building Attributes : Bldg 2 of 3

Field	Description
STYLE	Pre-Eng Gar
MODEL	Ind/Comm
Grade	Below Average
Stories:	1
Occupancy	0
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Metal/Tin
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Hot Air-no Duc
AC Type	None
Bldg Use	COM WHS/GAR
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	316I
Heat/AC	NONE
Frame Type	STEEL
Baths/Plumbing	NONE
Ceiling/Wall	NONE
Rooms/Prtns	AVERAGE
Wall Height	12
% Comn Wall	

Building 3 : Section 1

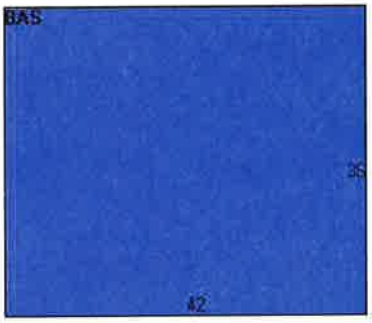
Year Built: 1975
Living Area: 7,500
Replacement Cost: $307,125
Building Percent Good: 74
Replacement Cost Less Depreciation: $227,300

Building Attributes : Bldg 3 of 3	
Field	**Description**
STYLE	Pre-Eng Gar
MODEL	Ind/Comm

Building Photo

(http://images.vgsi.com/photos/OldLymeCTPhotos//\00\00\51/

Building Layout



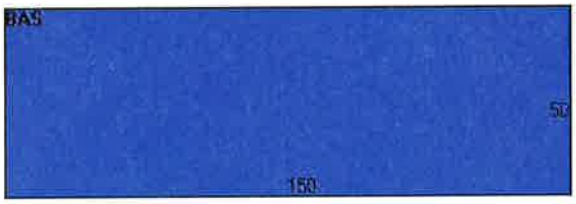
Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,512	1,512
		1,512	1,512

Grade	Average
Stories:	1
Occupancy	1
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Metal/Tin
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	None
Bldg Use	AUTO REPR
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	3320
Heat/AC	HEAT/AC SPLIT
Frame Type	STEEL
Baths/Plumbing	LIGHT
Ceiling/Wall	NONE
Rooms/Prtns	AVERAGE
Wall Height	12
% Comn Wall	

Building Photo

(http://images.vgsi.com/photos/OldLymeCTPhotos//\00\00\51/

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	7,500	7,500
		7,500	7,500

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	3400
Description	OFFICE BLD MDL-94
Zone	RU40
Neighborhood	0060

Land Line Valuation

Size (Acres)	62.00
Frontage	0
Depth	0
Assessed Value	$124,900

Alt Land Appr Category No

Appraised Value $410,600

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FGR2	GARAGE-GOOD			864 S.F.	$10,800	1
PAV1	PAVING-ASPHALT			1008 S.F.	$1,000	2
PAV1	PAVING-ASPHALT			792 S.F.	$600	3
BRN8	POLE BARN			1092 S.F.	$7,600	3
BRN8	POLE BARN			792 S.F.	$4,000	2
SHD2	W/LIGHTS ETC			600 S.F.	$5,400	1
SHD1	SHED FRAME			100 S.F.	$800	3
SHD2	W/LIGHTS ETC			572 S.F.	$5,100	1
PAV1	PAVING-ASPHALT			100 S.F.	$100	3
LNT	LEAN-TO			300 S.F.	$600	3
	TOWER			50	$29,300	3

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2011	$285,600	$410,600	$696,200
2010	$285,600	$410,600	$696,200
2009	$285,600	$410,600	$696,200

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2011	$200,000	$122,790	$322,790
2010	$200,000	$125,950	$325,950
2009	$200,000	$125,950	$325,950