Robinson+Cole

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Also admitted in Massachusetts

September 20, 2016

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

Re: **Notice of Exempt Modification – Facility Modification**
484 Meriden Road, Middlefield, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains twelve (12) antennas at the top of the existing 150-foot tower at 484 Meriden Road in Middlefield, Connecticut (the "Property"). The tower is owned by American Tower Corporation ("ATC"). The Council approved Cellco's use of this tower in 1999 (Docket No. 223). Cellco now intends to modify its facility by replacing all of its existing antennas with two (2) model SBNHH-1D45B, 700 MHz antennas; one (1) model SBNHH-1D65B, 700 MHz antenna; six (6) model LPA-80063-6CF, 850 MHz antennas; and three (3) model BXA-171063-12CF, 1900 MHz antennas, all at the same level on the tower. Included in Attachment 1 are specifications for Cellco's replacement antennas.

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 notice is being sent to Edward P. Bailey, First Selectman of the Town of Middlefield. A copy of this letter is also being sent to Land Management, Inc., the owner of the Property and ATC, the tower owner.

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 structure. Cellco's replacement antennas will be installed at a centerline height of 147 feet on the 150-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 replacement antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative General Power Density table for Cellco's modified facility is included in Attachment 2.

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

6. The tower and its foundation can support 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:
Edward P. Bailey, Middlefield First Selectman
Land Management, Inc.
ATC
Tim Parks

ATTACHMENT 1

Product Specifications

COMMSCOPE®

SBNHH-1D45B

Multiband Antenna, 698–896 and 2x 1695–2360 MHz, 45° horizontal beamwidth, internal RETs.

- Interleaved dipole technology providing for attractive, low wind load mechanical package
- Three internal RETs for independent tilt on all three bands

Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	16.9	17.6	19.6	20.1	20.5	21.0
Beamwidth, Horizontal, degrees	47	43	45	42	42	39
Beamwidth, Vertical, degrees	12.4	11.4	5.8	5.3	5.1	4.5
Beam Tilt, degrees	0–14	0–14	0–8	0–8	0–8	0–8
USLS (First Lobe), dB	16	16	18	17	17	16
Front-to-Back Ratio at 180°, dB	34	33	35	37	37	39
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	16.6	17.3	19.2	19.8	20.1	20.8
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.3	±0.5	±0.4	±0.5	±0.4
Gain by Beam Tilt, average, dBi	0 ° | 16.6	0 ° | 17.3	0 ° | 19.3	0 ° | 19.9	0 ° | 20.1	0 ° | 20.7
	7 ° | 16.7	7 ° | 17.4	4 ° | 19.3	4 ° | 19.9	4 ° | 20.2	4 ° | 20.9
	14 ° | 16.4	14 ° | 17.1	8 ° | 19.0	8 ° | 19.6	8 ° | 20.0	8 ° | 20.4
Beamwidth, Horizontal Tolerance, degrees	±1.5	±2.8	±2.1	±1.7	±1	±1.7
Beamwidth, Vertical Tolerance, degrees	±0.8	±0.6	±0.3	±0.2	±0.4	±0.1
USLS, beampeak to 20° above beampeak, dB	19	23	16	15	16	16
Front-to-Back Total Power at 180° ± 30°, dB	24	24	28	30	31	30
CPR at Boresight, dB	28	29	23	24	20	19
CPR at 10 dB Horizontal Beamwidth, dB	13	17	13	13	13	13

* 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.

General Specifications

Antenna Type	Sector with internal RET
Band	Multiband
Brand	DualPol®
Operating Frequency Band	1695 – 2360 MHz | 698 – 896 MHz
Performance Note	Outdoor usage

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground

Product Specifications

SBNHH-1D45B

Radiator Material	Aluminum | Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	6
Wind Loading, frontal	1038.0 N @ 150 km/h 233.4 lbf @ 150 km/h
Wind Loading, lateral	234.0 N @ 150 km/h 52.6 lbf @ 150 km/h
Wind Loading, rear	1091.0 N @ 150 km/h 245.3 lbf @ 150 km/h
Wind Speed, maximum	241 km/h | 150 mph

Dimensions

Depth	178.0 mm | 7.0 in
Length	1829.0 mm | 72.0 in
Width	457.0 mm | 18.0 in
Net Weight, without mounting kit	29.2 kg | 64.4 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Internal RET	High band (2) | 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

Depth	311.0 mm | 12.2 in
Length	1950.0 mm | 76.8 in
Width	567.0 mm | 22.3 in
Shipping Weight	42.5 kg | 93.7 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-1D45B

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

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.

General Specifications

Antenna Type	Sector with internal RET
Band	Multiband
Brand	DualPol®
Operating Frequency Band	1695 – 2360 MHz | 698 – 896 MHz
Performance Note	Outdoor usage

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground

Product Specifications

SBNHH-1D65B

Radiator Material	Aluminum | Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	6
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

Depth	180.0 mm | 7.1 in
Length	1851.0 mm | 72.9 in
Width	301.0 mm | 11.9 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

Depth	296.0 mm | 11.7 in
Length	2025.0 mm | 79.7 in
Width	390.0 mm | 15.4 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

Vertically Polarized, Log Periodic 63° / 14.5 dBd

LPA-80063/6CF ___

When ordering, replace "___" with connector type.

Mechanical specifications

	Length	1800 mm	70.87	in
	Width	380 mm	14.96	in
	Depth	332 mm	13.07	in
4)	Weight	12.25 kg	27	lbs
	Wind Area			
	Front	0.684 m^2	7.39	ft^2
	Side	0.598 m^2	6.45	ft^2
	Rated Wind Velocity (Safety factor 2.0)			
		>235 km/hr	>146	mph
	Wind load @ 100 mph (161 km/hr)			
	Front	993 N	223.3	lbs
	Side	872 N	196.1	lbs

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

Mounting & Downtilting:

Mounting brackets attach to a pipe diameter of Ø50-102 mm (2.0-4.0 in).

Mounting bracket kit #21699999

Downtilt bracket kit #21699999
The downtilt bracket kit includes the mounting bracket kit.

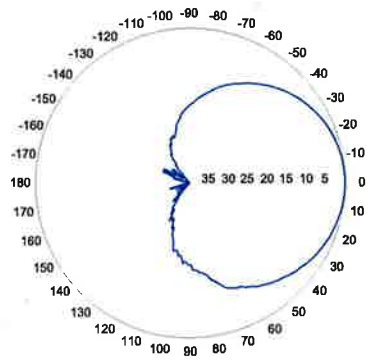
Electrical specifications

	Frequency Range	806-960 MHz
	Impedance	50Ω
3)	Connector	NE, E-DIN
1)	VSWR	≤1.4:1
	Polarization	Vertical
1)	Gain	14.5 dBd
2)	Power Rating	500 W
1)	Half Power Angle	
	H-Plane	63°
	E-Plane	10°
1)	Electrical Downtilt	0°
1)	Null Fill	10%
	Lightning Protection	Direct Ground

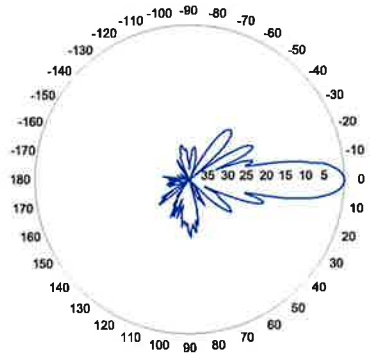
1) Typical Values
2) Power Rating limited by connector only.
3) NE indicates an elongated N Connector.
E-DIN indicates an elongated DIN Connector.
4) The antenna weight listed above does not include the bracket weight.

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

Radiation-pattern[1)]



Horizontal



Vertical

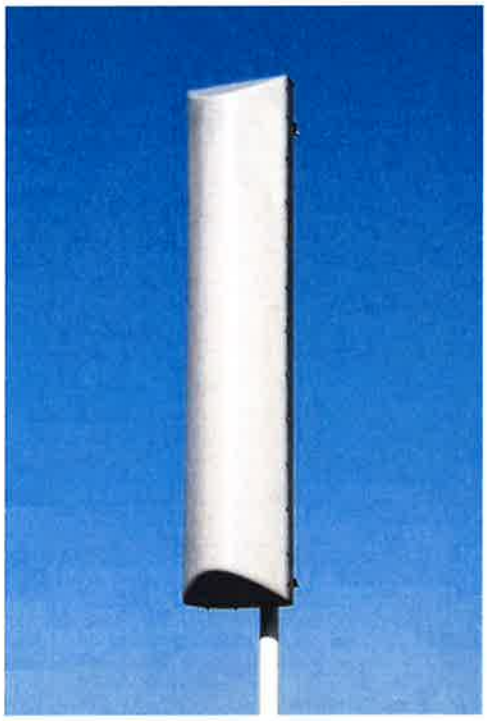
Featuring upper side lobe suppression.

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.

CF Denotes a Center-Fed Connector.

806-960 MHz



Amphenol Antel's Exclusive 3T (True Transmission Line 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.

Every Amphenol Antel antenna is under a five-year limited warranty for repair or replacement.

Antenna available with center-fed connector only.

Amphenol Antel, Inc.
The Antenna Technology Company

1300 Capital Drive Rockford, IL 61109 Toll-Free (888) 417-9562 Tel. (815) 399-0001
Fax. (815) 399-0156 Email: antel@antelinc.com www.antelinc.com

Revision Date: 12/1/05

BXA-171063-12CF-EDIN-X

X-Pol | FET Panel | 63° | 19.0 dBi

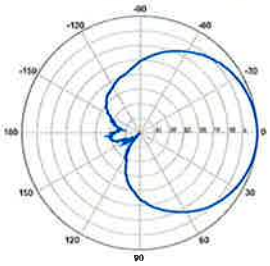
Replace "X" with desired electrical downtilt.

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

Electrical Characteristics	1710-2170 MHz		
Frequency bands	1710-1880 MHz	1850-1990 MHz	1920-2170 MHz
Polarization	±45°	±45°	±45°
Horizontal beamwidth	68°	65°	60°
Vertical beamwidth	4.5°	4.5°	4.5°
Gain	16.1 dBd / 18.2 dBi	16.5 dBd / 18.6 dBi	16.9 dBd / 19.0 dBi
Electrical downtilt (X)	0, 2, 5		
Impedance	50Ω		
VSWR	≤1.5:1		
First upper sidelobe	< -17 dB		
Front-to-back ratio	> 30 dB		
In-band isolation	< -25 dB		
IM3 (20W carrier)	< -150 dBc		
Input power	300 W		
Lightning protection	Direct Ground		
Connector(s)	2 Ports / EDIN or NE / Female / Center (Back)		
Operating temperature	-40° to +60° C / -40° to +140° F		
Mechanical Characteristics			
Dimensions Length x Width x Depth	1842 x 154 x 105 mm		72.5 x 6.1 x 4.1 in
Depth with z-brackets	133 mm		5.2 in
Weight without mounting brackets	5.8 kg		12.8 lbs
Survival wind speed	> 201 km/hr		> 125 mph
Wind area	Front: 0.28 m² Side: 0.19 m²		Front: 3.1 ft² Side: 2.1 ft²
Wind load @ 161 km/hr (100 mph)	Front: 460 N Side: 304 N		Front: 103 lbf Side: 68 lbf

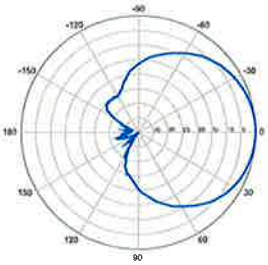
Mounting Options	Part Number	Fits Pipe Diameter	Weight
2-Point Mounting Bracket Kit	26799997	50-102 mm 2.0-4.0 in	2.3 kg 5 lbs
2-Point Mounting & Downtilt Bracket Kit	26799999	50-102 mm 2.0-4.0 in	3.6 kg 8 lbs
Concealment Configurations	For concealment configurations, order BXA-171063-12CF-EDIN-X-FP		

BXA-171063-12CF-EDIN-X



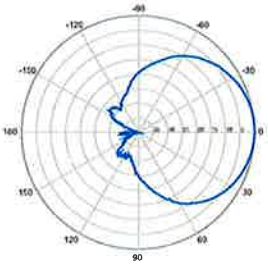
Horizontal | 1710-1880 MHz

BXA-171063-12CF-EDIN-X



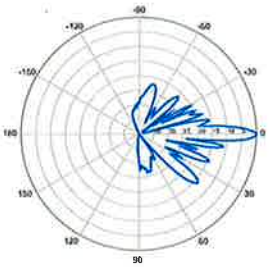
Horizontal | 1850-1990 MHz

BXA-171063-12CF-EDIN-X



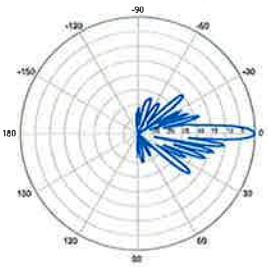
Horizontal | 1920-2170 MHz

BXA-171063-12CF-EDIN-0



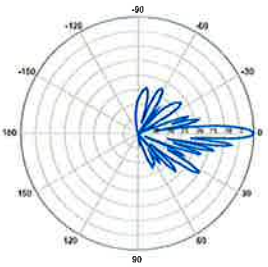
0° | Vertical | 1710-1880 MHz

BXA-171063-12CF-EDIN-0



0° | Vertical | 1850-1990 MHz

BXA-171063-12CF-EDIN-0

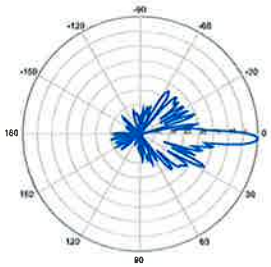


0° | Vertical | 1920-2170 MHz

BXA-171063-12CF-EDIN-X

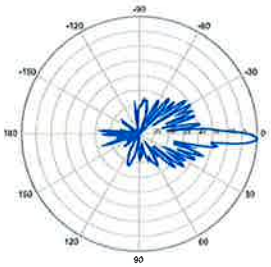
X-Pol | FET Panel | 63° | 19.0 dBi

BXA-171063-12CF-EDIN-2



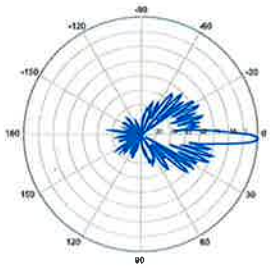
2° | Vertical | 1710-1880 MHz

BXA-171063-12CF-EDIN-2



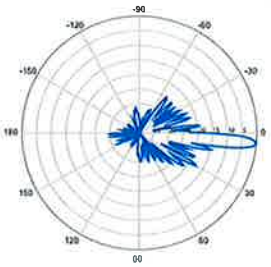
2° | Vertical | 1850-1990 MHz

BXA-171063-12CF-EDIN-2



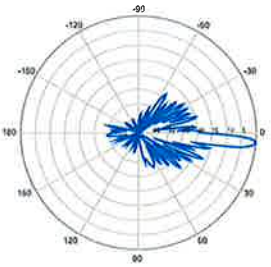
2° | Vertical | 1920-2170 MHz

BXA-171063-12CF-EDIN-5



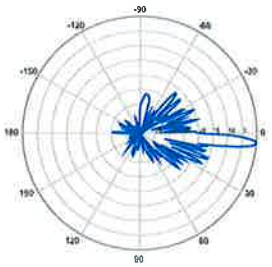
5° | Vertical | 1710-1880 MHz

BXA-171063-12CF-EDIN-5



5° | Vertical | 1850-1990 MHz

BXA-171063-12CF-EDIN-5



5° | Vertical | 1920-2170 MHz

ATTACHMENT 2

Site Name: Middlefield								
Tower Height: 150Ft.								
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total
*AT&T	2	565	134	880	0.0248	0.5867	0.42%	
*AT&T	2	875	134	1900	0.0384	1.0000	0.38%	
*AT&T	1	283	134	880	0.0062	0.5867	0.11%	
*AT&T	4	525	134	1900	0.0461	1.0000	0.46%	
*AT&T	1	1313	134	734	0.0288	0.4893	0.59%	
*T-Mobile	6	1706	140	1935	0.2050	1.0000	2.05%	
Verizon PCS	**11**	**410**	**147**	**0.0750**	**1970**	**1.0000**	**7.50%**	
Verizon Cellular	**9**	**387**	**147**	**0.0580**	**869**	**0.5793**	**10.00%**	
Verizon AWS	**1**	**3500**	**147**	**0.0582**	**2145**	**1.0000**	**5.82%**	
Verizon 700	**1**	**2100**	**147**	**0.0349**	**746**	**0.4973**	**7.03%**	
								34.37%
* Source: Siting Council								

ATTACHMENT 3

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Structural Analysis Report

Structure	:	**150 ft Monopole**
ATC Site Name	:	**Middlefield CT, CT**
ATC Site Number	:	**411260**
Engineering Number	:	**65104221**
Proposed Carrier	:	**Verizon**
Carrier Site Name	:	**Middlefield**
Carrier Site Number	:	**N/A**
Site Location	:	**484 Meriden Rd.** **Middlefield, CT 06455-1013** **41.535514,-72.732094**
County	:	**Middlesex**
Date	:	**April 18, 2016**
Max Usage	:	**65%**
Result	:	**Pass**

Reviewed by:
Scott Wirgau, PE
Structural Team Leader

STATE OF CONNECTICUT
SCOTT A. WIRGAU
30576
LICENSED
PROFESSIONAL ENGINEER

Prepared By:
Steffen Schilstra

Steffen Schilstra

Apr 21 2016 2:24 PM

COA: PEC.0001553

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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 150 ft monopole to reflect the change in loading by Verizon.

Supporting Documents

Tower Drawings	EEI Project #11121, dated September 17, 2002
Foundation Drawing	EEI Project #11121, dated September 19, 2002
Geotechnical Report	Clarence Welti Project #Tower at Guidas Drive-In, dated September 12, 2002

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)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2003 IBC w/ 2005 CT Supplement & 2009 CT Amendment
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.24, 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					
150.5	-	-	-	Low Profile Platform	(18) 1 5/8" Coax	Verizon
143.0	143.0	9	EMS RR90-17-02DP	T-Arms	(24) 1 5/8" Coax	T-Mobile
140.0	140.0	6	Remec GSM-PCS1900			
130.0	130.0	6	Ericsson RRUS-11 (50 lbs.)	Low Profile Platform	(12) 1 5/8" Coax (1) 3" Conduit (2) 0.78" 8 AWG 6 (1) 0.39" Fiber Trunk	AT&T Mobility
		1	Raycap DC6-48-60-18-8F			
		6	Powerwave 7770.00			
		3	KMW AM-X-CD-16-65-00T-RET			
		3	Spinner Bias-T			
		6	Powerwave LGP 21902			
		6	Powerwave LGP21401			
78.0	78.0	1	2" x 8" GPS	Flush	-	

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
150.5	150.5	3	60" x 6" Panel	-	-	Verizon
		3	60" x 12" Panel			
		6	60" x 14" Panel			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
150.5	150.5	3	Antel BXA-171063/12CF	Low Profile Platform	-	Verizon
		1	Commscope SBNHH-1D65B			
		6	Antel LPA-80063/6CF			
		2	Commscope SBNHH-1D45B			

[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).

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	47%	Pass
Shaft	57%	Pass
Base Plate	65%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	3,405.8	4,597.8	2,529.7	55%
Shear (Kips)	31.3	42.2	23.4	56%

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

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required. There is, at least, a factor safety of 2 in this design.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
150.5	Antel BXA-171063/12CF	Verizon	1.245	0.993
	Commscope SBNHH-1D65B			
	Antel LPA-80063/6CF			
	Commscope SBNHH-1D45B			

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

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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:

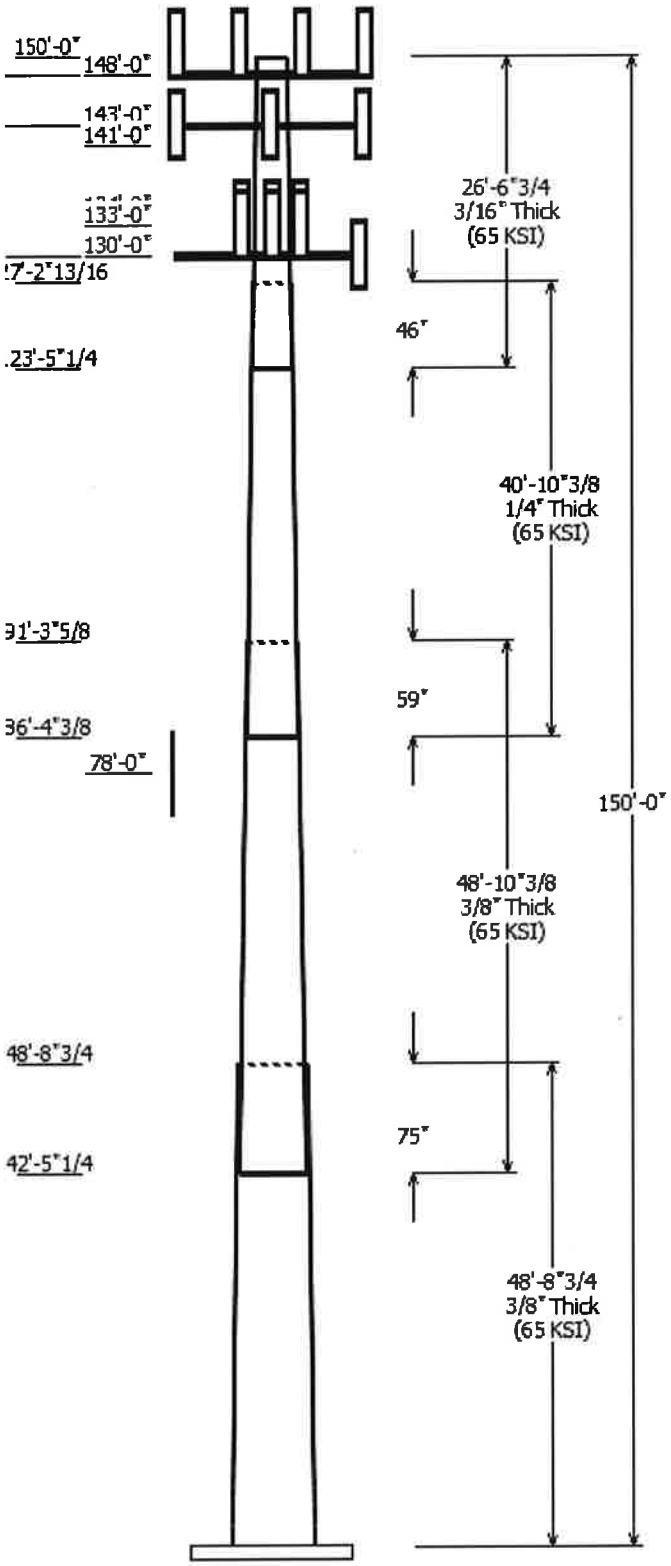
-- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

-- 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 :	411260	Code:	ANSI/TIA-222-G
Description :			
Client :	VERIZON WIRELESS	Struct Class :	II
Location :	Middlefield CT, CT		
Shape :	18 Sides	Exposure :	B
Height :	150.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.25747 (in/ft)		

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
1	48.729	43.95	56.49	0.375		0.000	0.257500	65
2	48.865	33.73	46.31	0.375	Slip Joint	75.469	0.257500	65
3	40.867	24.98	35.50	0.250	Slip Joint	59.250	0.257500	65
4	26.560	19.50	26.33	0.188	Slip Joint	45.531	0.257500	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
148.000	150.500	2	Commscope SBNHH-1D45B
148.000	150.500	1	Commscope SBNHH-1D65B
148.000	150.500	6	Antel LPA-80063/6CF
148.000	150.500	3	Antel BXA-171063/12CF
148.000	148.000	1	Flat Low Profile Platform
143.000	143.000	4	Round T-Arm
143.000	143.000	9	EMS RR90-17-02DP
141.000	141.000	6	Remec GSM-PCS1900
134.000	134.000	6	Ericsson RRUS-11 (50 lbs.)
133.000	133.000	3	KMW AM-X-CD-16-65-00T-RET
133.000	133.000	6	Powerwave Allgon 7770.00
133.000	133.000	1	Raycap DC6-48-60-18-8F
130.000	130.000	1	Round Low Profile Platform
130.000	130.000	6	Powerwave Allgon LGP21401
130.000	130.000	6	Powerwave Allgon LGP 21902
130.000	130.000	3	Spinner Bias-T
78.000	78.000	1	2" x 8" GPS

Linear Appurtenance

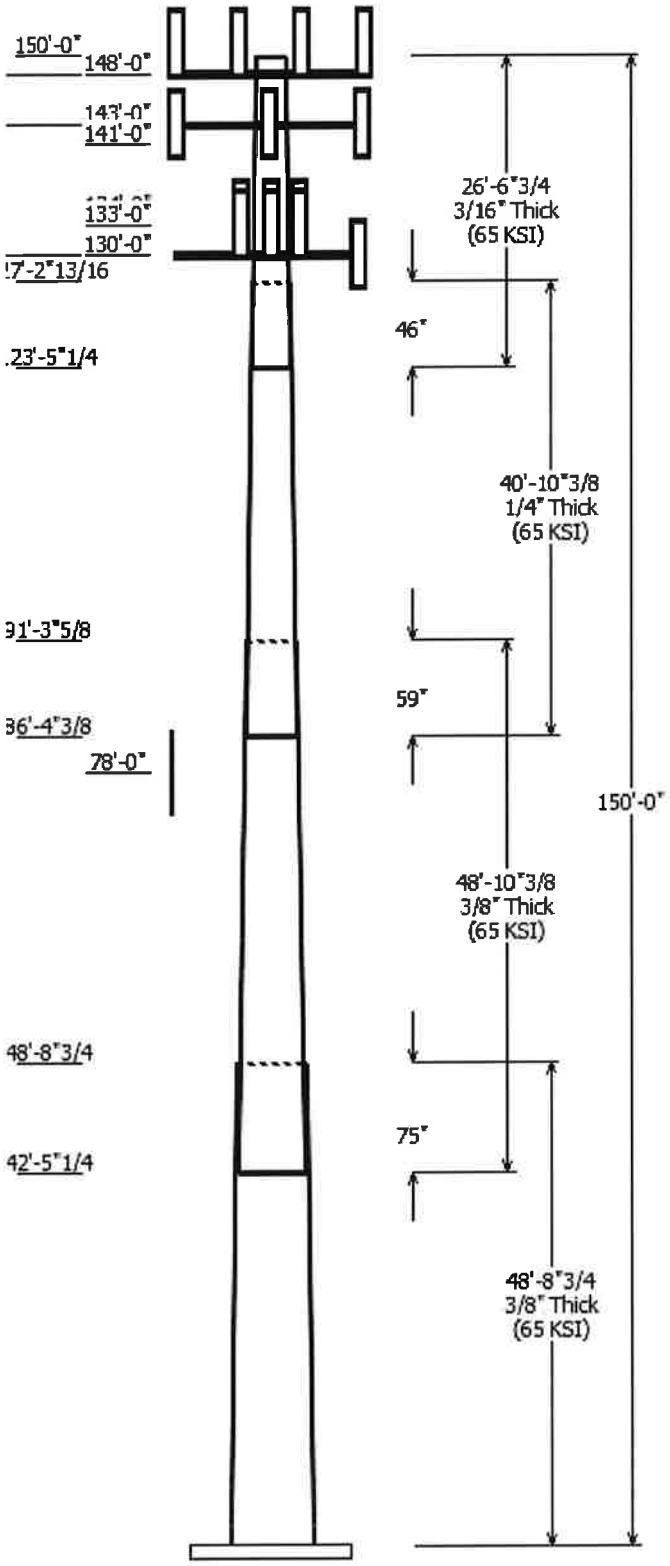
Elev (ft) From	To	Description	Exposed To Wind
0.000	130.0	0.39" Fiber Trunk	No
0.000	130.0	0.78" 8 AWG 6	No
0.000	133.0	1 5/8" Coax	No
0.000	133.0	3" Conduit	No
0.000	143.0	1 5/8" Coax	No
0.000	148.0	1 5/8" Coax	Yes
0.000	148.0	1 5/8" Coax	No

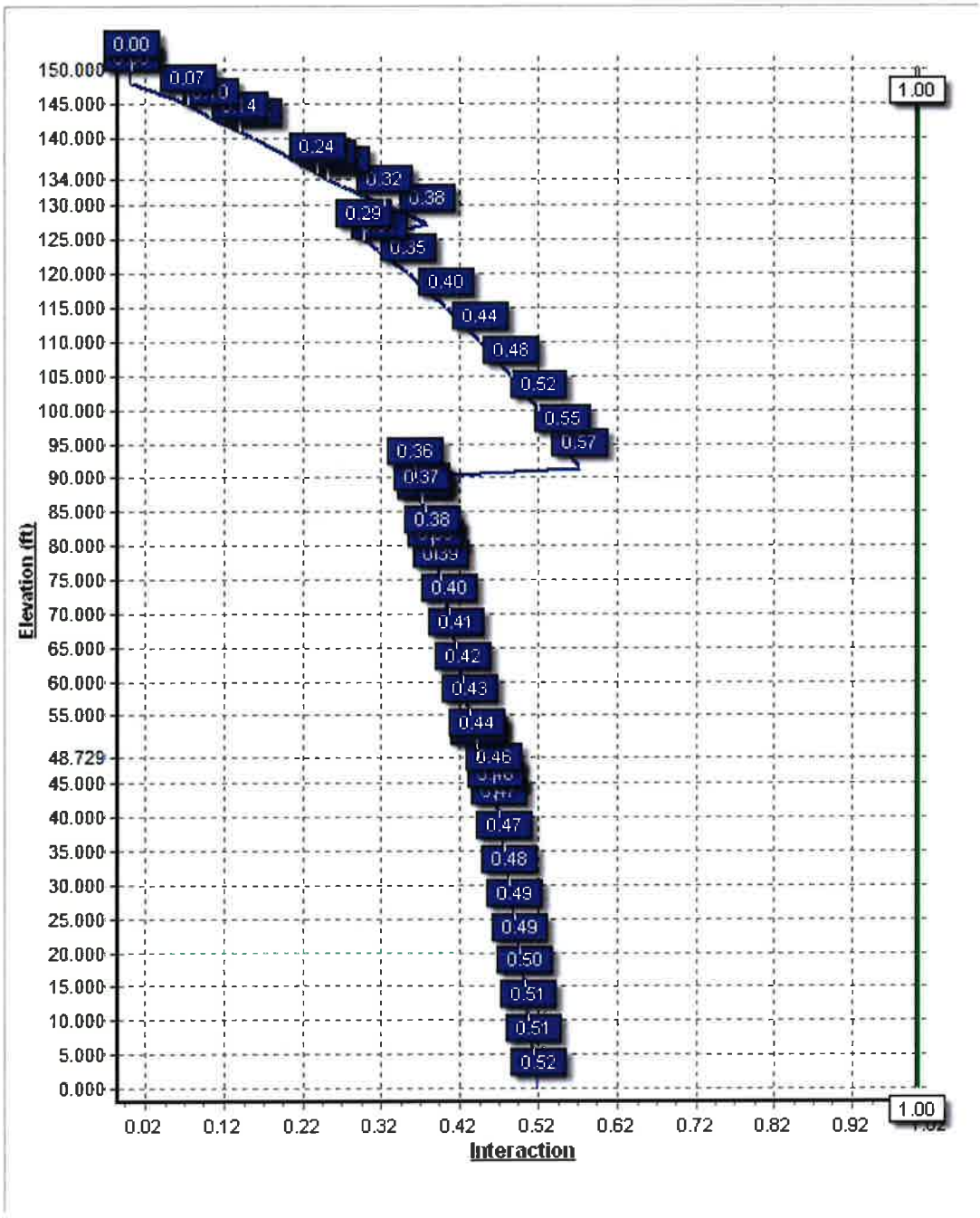
Load Cases

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	2529.74	23.44	41.99
0.9D + 1.6W	2507.81	23.43	31.49
1.2D + 1.0Di + 1.0Wi	599.21	5.72	63.60
(1.2 + 0.2Sds) * DL + E ELFM	175.76	1.52	42.06
(1.2 + 0.2Sds) * DL + E EMAM	274.24	2.51	42.06
(0.9 - 0.2Sds) * DL + E ELFM	173.89	1.52	28.56
(0.9 - 0.2Sds) * DL + E EMAM	271.08	2.50	28.56
1.0D + 1.0W	513.59	4.78	35.02

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




0.00
0.07
0.24
0.32
0.38
0.29
0.40
0.44
0.48
0.52
0.55
0.57
0.36
0.37
0.38
0.40
0.41
0.42
0.43
0.44
0.46
0.47
0.48
0.49
0.49
0.50
0.51
0.51
0.52
1.00
1.00
150.000
145.000
140.000
134.000
130.000
125.000
120.000
115.000
110.000
105.000
100.000
95.000
90.000
85.000
80.000
75.000
70.000
65.000
60.000
55.000
48.729
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
Elevation (ft)
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
Interaction

Site Number:	**411260**	**Code: ANSI/TIA-222-G**	
Site Name:	**Middlefield CT, CT**	**Engineering Number: 65104221**	**4/18/2016 8:51:11 AM**
Customer:	**VERIZON WIRELESS**		

Analysis Parameters

Location:	**Middlesex County, CT**		
Code:	**ANSI/TIA-222-G**	**Height (ft):**	**150**
Shape:	**18 Sides**	**Base Diameter (in):**	**56.50**
Pole Type:	**Taper**	**Top Diameter (in):**	**19.50**
Pole Manfacturer:	**EEI**	**Taper (in/ft) :**	**0.257**

Ice & Wind Parameters

Structure Class:	**II**	**Design Wind Speed Without Ice:**	**105 mph**
Exposure Category:	**B**	**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):	**1.98**				
T_L (sec):	**6**	**p:**	**1.3**	**C_s:**	**0.033**
S_s:	**0.238**	**S_1:**	**0.062**	**C_s Max:**	**0.033**
F_a:	**1.600**	**F_v:**	**2.400**	**C_s Min:**	**0.030**
S_{ds}:	**0.254**	**S_{d1}:**	**0.099**		

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: 411260 | Code: ANSI/TIA-222-G |

Site Name: Middlefield CT, CT | Engineering Number: 65104221 | 4/18/2016 8:51:11 AM

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	48.729	0.3750	65		0.00	9,838	56.49	0.00	66.80	26580.7	25.15	150.66	43.95	48.73	51.86	12441.9	19.25	117.20	0.257477
2-18	48.865	0.3750	65	Slip	75.47	7,848	46.31	42.44	54.68	14583.7	20.37	123.52	33.73	91.30	39.71	5584.2	14.45	89.97	0.257477
3-18	40.867	0.2500	65	Slip	59.25	3,310	35.50	86.37	27.98	4394.4	23.63	142.04	24.98	127.23	19.63	1517.4	16.21	99.95	0.257477
4-18	26.560	0.1875	65	Slip	45.53	1,223	26.33	123.44	15.56	1344.7	23.36	140.47	19.50	150.00	11.49	541.6	16.93	104.00	0.257477
				Shaft Weight		22,218													

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)
148.00	Antel BXA-171063/12CF	3	15.00	4.790	0.88	135.03	5.997	0.88	0.000	2.500
148.00	Antel LPA-80063/6CF	6	27.00	9.590	0.95	313.19	10.912	0.95	0.000	2.500
148.00	Commscope SBNHH-1D45B	2	61.70	11.400	0.73	281.28	14.719	0.73	0.000	2.500
148.00	Commscope SBNHH-1D65B	1	50.70	8.170	0.83	253.57	9.474	0.83	0.000	2.500
148.00	Flat Low Profile Platform	1	1500.00	26.100	1.00	2,147.69	45.186	1.00	0.000	0.000
143.00	EMS RR90-17-02DP	9	13.50	4.360	0.73	111.19	5.344	0.73	0.000	0.000
143.00	Round T-Arm	4	250.00	9.700	0.67	458.28	17.916	0.67	0.000	0.000
141.00	Remec GSM-PCS1900	6	9.90	0.760	0.50	34.95	1.034	0.50	0.000	0.000
134.00	Ericsson RRUS-11 (50 lbs.)	6	50.00	2.570	0.67	130.33	3.213	0.67	0.000	0.000
133.00	KMW AM-X-CD-16-65-00T-	3	48.50	8.020	0.79	234.36	9.297	0.79	0.000	0.000
133.00	Powerwave Allgon 7770.00	6	27.00	5.510	0.77	159.92	6.545	0.77	0.000	0.000
133.00	Raycap DC6-48-60-18-8F	1	20.00	1.110	1.00	99.21	2.513	1.00	0.000	0.000
130.00	Powerwave Allgon LGP 21902	6	5.50	0.270	0.50	18.72	0.467	0.50	0.000	0.000
130.00	Powerwave Allgon LGP21401	6	14.10	1.100	0.50	47.04	1.556	0.50	0.000	0.000
130.00	Round Low Profile Platform	1	1500.00	21.700	1.00	2,139.31	40.645	1.00	0.000	0.000
130.00	Spinner Bias-T	3	1.50	0.170	0.50	10.98	0.303	0.50	0.000	0.000
78.00	2" x 8" GPS	1	10.00	0.160	1.00	19.10	0.289	1.00	0.000	0.000
	Totals	65	5321.60			13,421.23			Number of Loadings :	17

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	148.00	6	1 5/8" Coax	1.98	0.82	N	1.98	Y	Verizon
0.00	148.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon
0.00	143.00	24	1 5/8" Coax	1.98	0.82	N	0.00	N	T-Mobile
0.00	133.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
0.00	133.00	1	3" Conduit	3.50	7.58	N	0.00	N	AT&T Mobility
0.00	130.00	1	0.39" Fiber Trunk	0.39	0.06	N	0.00	N	AT&T Mobility
0.00	130.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility

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	Fy (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.3750	56.497	66.796	26,580.7	25.15	150.66	71.8	926.7	0.0	0.0
5.00		0.3750	55.209	65.264	24,793.1	24.55	147.22	72.5	884.5	0.0	1,123.4
10.00		0.3750	53.922	63.732	23,087.5	23.94	143.79	73.2	843.3	0.0	1,097.4
15.00		0.3750	52.634	62.200	21,462.0	23.34	140.36	74.0	803.1	0.0	1,071.3
20.00		0.3750	51.347	60.667	19,914.6	22.73	136.93	74.7	763.9	0.0	1,045.2
25.00		0.3750	50.060	59.135	18,443.5	22.13	133.49	75.4	725.7	0.0	1,019.2
30.00		0.3750	48.772	57.603	17,046.6	21.52	130.06	76.1	688.4	0.0	993.1
35.00		0.3750	47.485	56.071	15,722.2	20.92	126.63	76.8	652.1	0.0	967.0
40.00		0.3750	46.198	54.538	14,468.1	20.31	123.19	77.5	616.8	0.0	940.9
42.44	Bot - Section 2	0.3750	45.569	53.791	13,881.1	20.02	121.52	77.9	600.0	0.0	449.7
45.00		0.3750	44.910	53.006	13,282.6	19.71	119.76	78.2	582.5	0.0	938.1
48.73	Top - Section 1	0.3750	44.700	52.756	13,095.4	19.61	119.20	78.3	577.0	0.0	1,342.1
50.00		0.3750	44.373	52.366	12,807.6	19.45	118.33	78.5	568.5	0.0	227.3
55.00		0.3750	43.085	50.834	11,715.9	18.85	114.89	79.2	535.6	0.0	877.9
60.00		0.3750	41.798	49.302	10,688.1	18.24	111.46	79.9	503.6	0.0	851.9
65.00		0.3750	40.511	47.770	9,722.2	17.64	108.03	80.7	472.7	0.0	825.8
70.00		0.3750	39.223	46.237	8,816.3	17.03	104.60	81.4	442.7	0.0	799.7
75.00		0.3750	37.936	44.705	7,968.6	16.43	101.16	82.1	413.7	0.0	773.6
78.00		0.3750	37.163	43.786	7,487.0	16.06	99.10	82.5	396.8	0.0	451.7
80.00		0.3750	36.648	43.173	7,177.0	15.82	97.73	82.6	385.7	0.0	295.9
85.00		0.3750	35.361	41.641	6,439.6	15.22	94.30	82.6	358.7	0.0	721.5
86.37	Bot - Section 3	0.3750	35.009	41.222	6,247.2	15.05	93.36	82.6	351.5	0.0	192.7
90.00		0.3750	34.074	40.108	5,754.6	14.61	90.86	82.6	332.6	0.0	843.9
91.30	Top - Section 2	0.2500	34.238	26.968	3,936.0	22.74	136.95	74.7	226.4	0.0	297.5
95.00		0.2500	33.286	26.213	3,614.6	22.07	133.15	75.4	213.9	0.0	334.4
100.0		0.2500	31.999	25.192	3,208.3	21.16	128.00	76.5	197.5	0.0	437.3
105.0		0.2500	30.711	24.170	2,833.6	20.25	122.85	77.6	181.7	0.0	419.9
110.0		0.2500	29.424	23.149	2,489.3	19.34	117.70	78.7	166.6	0.0	402.5
115.0		0.2500	28.137	22.127	2,174.1	18.43	112.55	79.7	152.2	0.0	385.2
120.0		0.2500	26.849	21.106	1,886.7	17.53	107.40	80.8	138.4	0.0	367.8
123.4	Bot - Section 4	0.2500	25.964	20.403	1,704.4	16.90	103.85	81.5	129.3	0.0	242.9
125.0		0.2500	25.562	20.084	1,625.8	16.62	102.25	81.9	125.3	0.0	189.4
127.2	Top - Section 3	0.1875	25.362	14.981	1,199.5	22.44	135.26	75.0	93.2	0.0	266.2
130.0		0.1875	24.650	14.557	1,100.6	21.77	131.46	75.8	87.9	0.0	139.0
133.0		0.1875	23.877	14.098	999.6	21.04	127.34	76.6	82.5	0.0	146.3
134.0		0.1875	23.620	13.945	967.3	20.80	125.97	76.9	80.7	0.0	47.7
135.0		0.1875	23.362	13.791	935.8	20.56	124.60	77.2	78.9	0.0	47.2
140.0		0.1875	22.075	13.025	788.4	19.35	117.73	78.6	70.3	0.0	228.1
141.0		0.1875	21.817	12.872	760.9	19.11	116.36	78.9	68.7	0.0	44.1
143.0		0.1875	21.302	12.566	707.8	18.62	113.61	79.5	65.4	0.0	86.6
145.0		0.1875	20.787	12.259	657.3	18.14	110.87	80.1	62.3	0.0	84.5
148.0		0.1875	20.015	11.799	586.1	17.41	106.75	80.9	57.7	0.0	122.8
150.0		0.1875	19.500	11.493	541.6	16.93	104.00	81.5	54.7	0.0	79.3
											22,217.9

Site Number: 411260 | Code: ANSI/TIA-222-G |

Site Name: Middlefield CT, CT | Engineering Number: 65104221 | 4/18/2016 8:51:11 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W | 105 mph with No Ice | 25 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		253.7	0.0					0.0	0.0	253.7	0.0	0.0	0.0
5.00		501.6	1,348.1					0.0	318.6	501.6	1,666.7	0.0	0.0
10.00		489.9	1,316.8					0.0	318.6	489.9	1,635.4	0.0	0.0
15.00		478.2	1,285.5					0.0	318.6	478.2	1,604.1	0.0	0.0
20.00		466.5	1,254.3					0.0	318.6	466.5	1,572.9	0.0	0.0
25.00		454.8	1,223.0					0.0	318.6	454.8	1,541.6	0.0	0.0
30.00		448.3	1,191.7					0.0	318.6	448.3	1,510.3	0.0	0.0
35.00		450.8	1,160.4					0.0	318.6	450.8	1,479.0	0.0	0.0
40.00		338.4	1,129.1					0.0	318.6	338.4	1,447.7	0.0	0.0
42.44	Bot - Section 2	230.7	539.7					0.0	155.5	230.7	695.2	0.0	0.0
45.00		293.2	1,125.7					0.0	163.1	293.2	1,288.8	0.0	0.0
48.73	Top - Section 1	233.3	1,610.5					0.0	237.6	233.3	1,848.1	0.0	0.0
50.00		292.6	272.8					0.0	81.0	292.6	353.7	0.0	0.0
55.00		465.6	1,053.5					0.0	318.6	465.6	1,372.1	0.0	0.0
60.00		463.1	1,022.2					0.0	318.6	463.1	1,340.8	0.0	0.0
65.00		459.2	990.9					0.0	318.6	459.2	1,309.5	0.0	0.0
70.00		454.2	959.7					0.0	318.6	454.2	1,278.3	0.0	0.0
75.00		359.5	928.4					0.0	318.6	359.5	1,247.0	0.0	0.0
78.00	Appertunance(s)	222.3	542.0	7.0	0.0	0.0	12.0	0.0	191.2	229.3	745.2	0.0	0.0
80.00		307.0	355.1					0.0	127.4	307.0	482.5	0.0	0.0
85.00		277.6	865.8					0.0	318.6	277.6	1,184.4	0.0	0.0
86.37	Bot - Section 3	216.5	231.3					0.0	87.1	216.5	318.4	0.0	0.0
90.00		213.5	1,012.7					0.0	231.5	213.5	1,244.2	0.0	0.0
91.30	Top - Section 2	212.8	357.0					0.0	83.1	212.8	440.1	0.0	0.0
95.00		364.6	401.2					0.0	235.5	364.6	636.7	0.0	0.0
100.00		410.3	524.8					0.0	318.6	410.3	843.4	0.0	0.0
105.00		399.3	503.9					0.0	318.6	399.3	822.5	0.0	0.0
110.00		387.7	483.0					0.0	318.6	387.7	801.6	0.0	0.0
115.00		375.5	462.2					0.0	318.6	375.5	780.8	0.0	0.0
120.00		307.8	441.3					0.0	318.6	307.8	759.9	0.0	0.0
123.44	Bot - Section 4	178.9	291.5					0.0	219.2	178.9	510.7	0.0	0.0
125.00		134.2	227.3					0.0	99.4	134.2	326.7	0.0	0.0
127.23	Top - Section 3	173.8	319.4					0.0	142.4	173.8	461.8	0.0	0.0
130.00	Appertunance(s)	196.3	166.8	1,266.3	0.0	0.0	1,946.5	0.0	176.2	1,462.5	2,289.5	0.0	0.0
133.00	Appertunance(s)	134.0	175.5	1,844.6	0.0	0.0	393.0	0.0	186.7	1,978.6	755.2	0.0	0.0
134.00	Appertunance(s)	65.9	57.3	419.1	0.0	0.0	360.0	0.0	41.3	484.9	458.6	0.0	0.0
135.00		192.4	56.6					0.0	41.3	192.4	98.0	0.0	0.0
140.00		190.6	273.8					0.0	206.6	190.6	480.4	0.0	0.0
141.00	Appertunance(s)	92.1	52.9	93.8	0.0	0.0	71.3	0.0	41.3	186.0	165.5	0.0	0.0
143.00	Appertunance(s)	121.0	103.9	2,190.8	0.0	0.0	1,345.8	0.0	82.7	2,311.8	1,532.3	0.0	0.0
145.00		147.5	101.4					0.0	35.4	147.5	136.8	0.0	0.0
148.00	Appertunance(s)	144.3	147.4	5,165.9	0.0	9,511.2	2,257.3	0.0	53.1	5,310.3	2,457.8	0.0	0.0
150.00		56.8	95.1					0.0	0.0	56.8	95.1	0.0	0.0
								Totals:		23,643.7	42,019.4	0.00	0.00

Site Number: 411260 Code: ANSI/TIA-222-G

Site Name: Middlefield CT, CT Engineering Number: 65104221 4/18/2016 8:51:12 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W 105 mph with No Ice 25 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	-41.99	-23.44	0.00	-2,529.74	0.00	2,529.74	4,317.26	2,158.63	9,967.46	4,991.14	0.00	0.00	0.517
5.00	-40.27	-23.03	0.00	-2,412.55	0.00	2,412.55	4,260.05	2,130.02	9,608.26	4,811.27	0.07	-0.13	0.511
10.00	-38.58	-22.63	0.00	-2,297.40	0.00	2,297.40	4,200.87	2,100.44	9,250.82	4,632.29	0.28	-0.27	0.505
15.00	-36.93	-22.23	0.00	-2,184.27	0.00	2,184.27	4,139.73	2,069.86	8,895.48	4,454.35	0.64	-0.41	0.499
20.00	-35.31	-21.84	0.00	-2,073.13	0.00	2,073.13	4,076.62	2,038.31	8,542.54	4,277.62	1.14	-0.55	0.493
25.00	-33.71	-21.45	0.00	-1,963.95	0.00	1,963.95	4,011.55	2,005.78	8,192.33	4,102.25	1.79	-0.69	0.487
30.00	-32.16	-21.07	0.00	-1,856.69	0.00	1,856.69	3,944.52	1,972.26	7,845.14	3,928.40	2.59	-0.84	0.481
35.00	-30.63	-20.67	0.00	-1,751.36	0.00	1,751.36	3,875.52	1,937.76	7,501.31	3,756.23	3.55	-0.99	0.474
40.00	-29.15	-20.37	0.00	-1,647.99	0.00	1,647.99	3,804.56	1,902.28	7,161.13	3,585.89	4.67	-1.14	0.467
42.44	-28.43	-20.16	0.00	-1,598.29	0.00	1,598.29	3,769.21	1,884.61	6,996.54	3,503.47	5.27	-1.22	0.464
45.00	-27.11	-19.89	0.00	-1,546.68	0.00	1,546.68	3,731.63	1,865.82	6,824.93	3,417.54	5.95	-1.30	0.460
48.73	-25.24	-19.65	0.00	-1,472.52	0.00	1,472.52	3,719.54	1,859.77	6,770.44	3,390.25	7.01	-1.42	0.441
50.00	-24.86	-19.39	0.00	-1,447.55	0.00	1,447.55	3,700.61	1,850.31	6,685.84	3,347.89	7.40	-1.47	0.439
55.00	-23.45	-18.95	0.00	-1,350.60	0.00	1,350.60	3,624.90	1,812.45	6,355.81	3,182.63	9.02	-1.62	0.431
60.00	-22.07	-18.51	0.00	-1,255.85	0.00	1,255.85	3,547.23	1,773.62	6,030.52	3,019.74	10.80	-1.78	0.422
65.00	-20.73	-18.07	0.00	-1,163.30	0.00	1,163.30	3,467.60	1,733.80	5,710.28	2,859.38	12.75	-1.94	0.413
70.00	-19.42	-17.62	0.00	-1,072.97	0.00	1,072.97	3,386.00	1,693.00	5,395.40	2,701.71	14.87	-2.10	0.403
75.00	-18.14	-17.26	0.00	-984.85	0.00	984.85	3,302.43	1,651.22	5,086.19	2,546.88	17.16	-2.27	0.392
78.00	-17.38	-17.03	0.00	-933.07	0.00	933.07	3,251.35	1,625.68	4,903.53	2,455.41	18.62	-2.37	0.385
80.00	-16.88	-16.73	0.00	-899.02	0.00	899.02	3,207.53	1,603.76	4,769.03	2,388.06	19.63	-2.44	0.382
85.00	-15.68	-16.43	0.00	-815.35	0.00	815.35	3,093.69	1,546.84	4,434.85	2,220.72	22.28	-2.61	0.372
86.37	-15.34	-16.23	0.00	-792.88	0.00	792.88	3,062.56	1,531.28	4,345.59	2,176.03	23.04	-2.66	0.369
90.00	-14.09	-15.98	0.00	-733.93	0.00	733.93	2,979.85	1,489.93	4,112.81	2,059.46	25.11	-2.79	0.361
91.30	-13.63	-15.76	0.00	-713.09	0.00	713.09	1,812.04	906.02	2,531.89	1,267.83	25.88	-2.83	0.570
95.00	-12.97	-15.41	0.00	-654.84	0.00	654.84	1,779.94	889.97	2,416.90	1,210.25	28.12	-2.96	0.549
100.00	-12.08	-15.01	0.00	-577.79	0.00	577.79	1,734.79	867.39	2,263.11	1,133.24	31.35	-3.21	0.517
105.00	-11.22	-14.61	0.00	-502.76	0.00	502.76	1,687.67	843.84	2,111.68	1,057.41	34.84	-3.44	0.482
110.00	-10.39	-14.21	0.00	-429.74	0.00	429.74	1,638.60	819.30	1,962.92	982.92	38.57	-3.68	0.444
115.00	-9.58	-13.82	0.00	-358.69	0.00	358.69	1,587.56	793.78	1,817.14	909.92	42.55	-3.90	0.401
120.00	-8.81	-13.49	0.00	-289.58	0.00	289.58	1,534.55	767.28	1,674.67	838.58	46.75	-4.12	0.351
123.44	-8.29	-13.29	0.00	-243.19	0.00	243.19	1,496.95	748.47	1,578.72	790.53	49.76	-4.25	0.313
125.00	-7.96	-13.14	0.00	-222.46	0.00	222.46	1,479.59	739.79	1,535.80	769.04	51.16	-4.31	0.295
127.23	-7.49	-12.94	0.00	-193.11	0.00	193.11	1,011.33	505.67	1,046.56	524.06	53.20	-4.40	0.377
130.00	-5.30	-11.31	0.00	-157.32	0.00	157.32	993.05	496.52	998.35	499.92	55.77	-4.49	0.321
133.00	-4.69	-9.29	0.00	-123.38	0.00	123.38	972.53	486.26	946.62	474.01	58.63	-4.60	0.265
134.00	-4.27	-8.77	0.00	-114.09	0.00	114.09	965.53	482.77	929.51	465.45	59.59	-4.63	0.250
135.00	-4.17	-8.58	0.00	-105.32	0.00	105.32	958.46	479.23	912.48	456.92	60.56	-4.66	0.235
140.00	-3.70	-8.35	0.00	-62.44	0.00	62.44	921.91	460.95	828.54	414.88	65.52	-4.79	0.155
141.00	-3.55	-8.15	0.00	-54.09	0.00	54.09	914.36	457.18	812.01	406.61	66.52	-4.81	0.137
143.00	-2.21	-5.72	0.00	-37.78	0.00	37.78	899.03	449.52	779.22	390.19	68.54	-4.84	0.099
145.00	-2.09	-5.56	0.00	-26.34	0.00	26.34	883.39	441.70	746.83	373.97	70.58	-4.87	0.073
148.00	-0.09	-0.06	0.00	-0.13	0.00	0.13	859.34	429.67	699.01	350.02	73.64	-4.89	0.000
150.00	0.00	-0.06	0.00	0.00	0.00	0.00	842.91	421.46	667.67	334.33	75.69	-4.89	0.000

Site Number: 411260 | Code: ANSI/TIA-222-G |

Site Name: Middlefield CT, CT | Engineering Number: 65104221 | 4/18/2016 8:51:12 AM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W — 105 mph with No Ice (Reduced DL) — 25 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance 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		253.7	0.0					0.0	0.0	253.7	0.0	0.0	0.0
5.00		501.6	1,011.1					0.0	238.9	501.6	1,250.0	0.0	0.0
10.00		489.9	987.6					0.0	238.9	489.9	1,226.6	0.0	0.0
15.00		478.2	964.2					0.0	238.9	478.2	1,203.1	0.0	0.0
20.00		466.5	940.7					0.0	238.9	466.5	1,179.6	0.0	0.0
25.00		454.8	917.2					0.0	238.9	454.8	1,156.2	0.0	0.0
30.00		448.3	893.8					0.0	238.9	448.3	1,132.7	0.0	0.0
35.00		450.8	870.3					0.0	238.9	450.8	1,109.3	0.0	0.0
40.00		338.4	846.8					0.0	238.9	338.4	1,085.8	0.0	0.0
42.44	Bot - Section 2	230.7	404.8					0.0	116.6	230.7	521.4	0.0	0.0
45.00		293.2	844.3					0.0	122.3	293.2	966.6	0.0	0.0
48.73	Top - Section 1	233.3	1,207.9					0.0	178.2	233.3	1,386.1	0.0	0.0
50.00		292.6	204.6					0.0	60.7	292.6	265.3	0.0	0.0
55.00		465.6	790.1					0.0	238.9	465.6	1,029.1	0.0	0.0
60.00		463.1	766.7					0.0	238.9	463.1	1,005.6	0.0	0.0
65.00		459.2	743.2					0.0	238.9	459.2	982.2	0.0	0.0
70.00		454.2	719.7					0.0	238.9	454.2	958.7	0.0	0.0
75.00		359.5	696.3					0.0	238.9	359.5	935.2	0.0	0.0
78.00	Appertunance(s)	222.3	406.5	7.0	0.0	0.0	9.0	0.0	143.4	229.3	558.9	0.0	0.0
80.00		307.0	266.3					0.0	95.6	307.0	361.9	0.0	0.0
85.00		277.6	649.4					0.0	238.9	277.6	888.3	0.0	0.0
86.37	Bot - Section 3	216.5	173.5					0.0	65.3	216.5	238.8	0.0	0.0
90.00		213.5	759.6					0.0	173.6	213.5	933.2	0.0	0.0
91.30	Top - Section 2	212.8	267.7					0.0	62.4	212.8	330.1	0.0	0.0
95.00		364.6	300.9					0.0	176.6	364.6	477.5	0.0	0.0
100.00		410.3	393.6					0.0	238.9	410.3	632.5	0.0	0.0
105.00		399.3	377.9					0.0	238.9	399.3	616.9	0.0	0.0
110.00		387.7	362.3					0.0	238.9	387.7	601.2	0.0	0.0
115.00		375.5	346.6					0.0	238.9	375.5	585.6	0.0	0.0
120.00		307.8	331.0					0.0	238.9	307.8	570.0	0.0	0.0
123.44	Bot - Section 4	178.9	218.7					0.0	164.4	178.9	383.1	0.0	0.0
125.00		134.2	170.5					0.0	74.5	134.2	245.0	0.0	0.0
127.23	Top - Section 3	173.8	239.6					0.0	106.8	173.8	346.3	0.0	0.0
130.00	Appertunance(s)	196.3	125.1	1,266.3	0.0	0.0	1,459.9	0.0	132.2	1,462.5	1,717.2	0.0	0.0
133.00	Appertunance(s)	134.0	131.6	1,844.6	0.0	0.0	294.8	0.0	140.0	1,978.6	566.4	0.0	0.0
134.00	Appertunance(s)	65.9	42.9	419.1	0.0	0.0	270.0	0.0	31.0	484.9	343.9	0.0	0.0
135.00		192.4	42.5					0.0	31.0	192.4	73.5	0.0	0.0
140.00		190.6	205.3					0.0	155.0	190.6	360.3	0.0	0.0
141.00	Appertunance(s)	92.1	39.7	93.8	0.0	0.0	53.5	0.0	31.0	186.0	124.1	0.0	0.0
143.00	Appertunance(s)	121.0	77.9	2,190.8	0.0	0.0	1,009.3	0.0	62.0	2,311.8	1,149.2	0.0	0.0
145.00		147.5	76.0					0.0	26.6	147.5	102.6	0.0	0.0
148.00	Appertunance(s)	144.3	110.5	5,165.9	0.0	9,511.2	1,693.0	0.0	39.9	5,310.3	1,843.4	0.0	0.0
150.00		56.8	71.3					0.0	0.0	56.8	71.3	0.0	0.0
								Totals:		23,643.7	31,514.6	0.00	0.00

Site Number: 411260 Code: ANSI/TIA-222-G

Site Name: Middlefield CT, CT Engineering Number: 65104221 4/18/2016 8:51:13 AM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W 105 mph with No Ice (Reduced DL) 25 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	-31.49	-23.43	0.00	-2,507.81	0.00	2,507.81	4,317.26	2,158.63	9,967.46	4,991.14	0.00	0.00	0.510
5.00	-30.18	-22.99	0.00	-2,390.68	0.00	2,390.68	4,260.05	2,130.02	9,608.26	4,811.27	0.07	-0.13	0.504
10.00	-28.91	-22.57	0.00	-2,275.71	0.00	2,275.71	4,200.87	2,100.44	9,250.82	4,632.29	0.28	-0.26	0.498
15.00	-27.65	-22.15	0.00	-2,162.87	0.00	2,162.87	4,139.73	2,069.86	8,895.48	4,454.35	0.63	-0.40	0.492
20.00	-26.42	-21.74	0.00	-2,052.13	0.00	2,052.13	4,076.62	2,038.31	8,542.54	4,277.62	1.13	-0.54	0.486
25.00	-25.22	-21.33	0.00	-1,943.44	0.00	1,943.44	4,011.55	2,005.78	8,192.33	4,102.25	1.77	-0.68	0.480
30.00	-24.04	-20.93	0.00	-1,836.77	0.00	1,836.77	3,944.52	1,972.26	7,845.14	3,928.40	2.57	-0.83	0.474
35.00	-22.88	-20.53	0.00	-1,732.10	0.00	1,732.10	3,875.52	1,937.76	7,501.31	3,756.23	3.51	-0.98	0.467
40.00	-21.76	-20.21	0.00	-1,629.48	0.00	1,629.48	3,804.56	1,902.28	7,161.13	3,585.89	4.62	-1.13	0.460
42.44	-21.22	-20.00	0.00	-1,580.16	0.00	1,580.16	3,769.21	1,884.61	6,996.54	3,503.47	5.22	-1.21	0.457
45.00	-20.22	-19.72	0.00	-1,528.97	0.00	1,528.97	3,731.63	1,865.82	6,824.93	3,417.54	5.89	-1.29	0.453
48.73	-18.82	-19.48	0.00	-1,455.43	0.00	1,455.43	3,719.54	1,859.77	6,770.44	3,390.25	6.95	-1.41	0.434
50.00	-18.53	-19.21	0.00	-1,430.68	0.00	1,430.68	3,700.61	1,850.31	6,685.84	3,347.89	7.33	-1.45	0.432
55.00	-17.46	-18.77	0.00	-1,334.62	0.00	1,334.62	3,624.90	1,812.45	6,355.81	3,182.63	8.93	-1.60	0.424
60.00	-16.42	-18.32	0.00	-1,240.78	0.00	1,240.78	3,547.23	1,773.62	6,030.52	3,019.74	10.69	-1.76	0.416
65.00	-15.40	-17.87	0.00	-1,149.18	0.00	1,149.18	3,467.60	1,733.80	5,710.28	2,859.38	12.62	-1.92	0.406
70.00	-14.41	-17.43	0.00	-1,059.82	0.00	1,059.82	3,386.00	1,693.00	5,395.40	2,701.71	14.72	-2.08	0.397
75.00	-13.45	-17.06	0.00	-972.69	0.00	972.69	3,302.43	1,651.22	5,086.19	2,546.88	16.99	-2.25	0.386
78.00	-12.87	-16.83	0.00	-921.50	0.00	921.50	3,251.35	1,625.68	4,903.53	2,455.41	18.43	-2.35	0.379
80.00	-12.49	-16.53	0.00	-887.84	0.00	887.84	3,207.53	1,603.76	4,769.03	2,388.06	19.43	-2.42	0.376
85.00	-11.58	-16.24	0.00	-805.17	0.00	805.17	3,093.69	1,546.84	4,434.85	2,220.72	22.05	-2.58	0.366
86.37	-11.33	-16.03	0.00	-782.97	0.00	782.97	3,062.56	1,531.28	4,345.59	2,176.03	22.79	-2.63	0.364
90.00	-10.39	-15.79	0.00	-724.74	0.00	724.74	2,979.85	1,489.93	4,112.81	2,059.46	24.84	-2.76	0.356
91.30	-10.04	-15.58	0.00	-704.14	0.00	704.14	1,812.04	906.02	2,531.89	1,267.83	25.60	-2.80	0.561
95.00	-9.54	-15.22	0.00	-646.58	0.00	646.58	1,779.94	889.97	2,416.90	1,210.25	27.82	-2.93	0.540
100.00	-8.86	-14.81	0.00	-570.49	0.00	570.49	1,734.79	867.39	2,263.11	1,133.24	31.02	-3.17	0.509
105.00	-8.21	-14.41	0.00	-496.44	0.00	496.44	1,687.67	843.84	2,111.68	1,057.41	34.46	-3.40	0.475
110.00	-7.58	-14.02	0.00	-424.38	0.00	424.38	1,638.60	819.30	1,962.92	982.92	38.15	-3.64	0.437
115.00	-6.97	-13.63	0.00	-354.29	0.00	354.29	1,587.56	793.78	1,817.14	909.92	42.08	-3.86	0.394
120.00	-6.38	-13.30	0.00	-286.14	0.00	286.14	1,534.55	767.28	1,674.67	838.58	46.23	-4.07	0.346
123.44	-5.99	-13.11	0.00	-240.38	0.00	240.38	1,496.95	748.47	1,578.72	790.53	49.21	-4.20	0.308
125.00	-5.74	-12.96	0.00	-219.93	0.00	219.93	1,479.59	739.79	1,535.80	769.04	50.60	-4.26	0.290
127.23	-5.39	-12.77	0.00	-190.97	0.00	190.97	1,011.33	505.67	1,046.56	524.06	52.61	-4.34	0.370
130.00	-3.77	-11.19	0.00	-155.65	0.00	155.65	993.05	496.52	998.35	499.92	55.15	-4.43	0.316
133.00	-3.35	-9.18	0.00	-122.08	0.00	122.08	972.53	486.26	946.62	474.01	57.97	-4.54	0.261
134.00	-3.04	-8.67	0.00	-112.91	0.00	112.91	965.53	482.77	929.51	465.45	58.93	-4.58	0.246
135.00	-2.97	-8.47	0.00	-104.24	0.00	104.24	958.46	479.23	912.48	456.92	59.89	-4.61	0.232
140.00	-2.62	-8.26	0.00	-61.87	0.00	61.87	921.91	460.95	828.54	414.88	64.78	-4.73	0.152
141.00	-2.50	-8.06	0.00	-53.62	0.00	53.62	914.36	457.18	812.01	406.61	65.78	-4.75	0.135
143.00	-1.55	-5.66	0.00	-37.49	0.00	37.49	899.03	449.52	779.22	390.19	67.78	-4.79	0.098
145.00	-1.46	-5.51	0.00	-26.16	0.00	26.16	883.39	441.70	746.83	373.97	69.79	-4.81	0.072
148.00	-0.07	-0.06	0.00	-0.13	0.00	0.13	859.34	429.67	699.01	350.02	72.82	-4.84	0.000
150.00	0.00	-0.06	0.00	0.00	0.00	0.00	842.91	421.46	667.67	334.33	74.84	-4.84	0.000

Site Number: 411260 | Code: ANSI/TIA-222-G |

Site Name: Middlefield CT, CT | Engineering Number: 65104221 | 4/18/2016 8:51:13 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 0.75 in Radial Ice — 24 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00
Ice Importance 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		69.1	0.0					0.0	0.0	69.1	0.0	0.0	0.0
5.00		137.0	1,757.3					0.0	390.2	137.0	2,147.5	0.0	0.0
10.00		134.4	1,764.2					0.0	398.4	134.4	2,162.6	0.0	0.0
15.00		131.6	1,746.0					0.0	402.6	131.6	2,148.6	0.0	0.0
20.00		128.7	1,719.5					0.0	405.6	128.7	2,125.1	0.0	0.0
25.00		125.8	1,688.7					0.0	407.8	125.8	2,096.6	0.0	0.0
30.00		124.3	1,655.3					0.0	409.7	124.3	2,065.0	0.0	0.0
35.00		125.3	1,619.9					0.0	411.3	125.3	2,031.2	0.0	0.0
40.00		94.3	1,583.2					0.0	412.7	94.3	1,995.9	0.0	0.0
42.44	Bot - Section 2	64.3	760.5					0.0	201.9	64.3	962.4	0.0	0.0
45.00		81.9	1,359.2					0.0	212.1	81.9	1,571.3	0.0	0.0
48.73	Top - Section 1	65.2	1,946.2					0.0	309.5	65.2	2,255.6	0.0	0.0
50.00		81.9	386.9					0.0	105.6	81.9	492.5	0.0	0.0
55.00		130.6	1,493.0					0.0	416.1	130.6	1,909.1	0.0	0.0
60.00		130.3	1,453.1					0.0	417.0	130.3	1,870.1	0.0	0.0
65.00		129.5	1,412.6					0.0	417.9	129.5	1,830.5	0.0	0.0
70.00		128.5	1,371.7					0.0	418.7	128.5	1,790.4	0.0	0.0
75.00		102.0	1,330.4					0.0	419.5	102.0	1,749.9	0.0	0.0
78.00	Appertunance(s)	63.2	779.8	1.8	0.0	0.0	21.1	0.0	252.0	65.0	1,053.0	0.0	0.0
80.00		87.5	512.1					0.0	168.2	87.5	680.2	0.0	0.0
85.00		79.2	1,246.8					0.0	420.9	79.2	1,667.6	0.0	0.0
86.37	Bot - Section 3	61.9	334.9					0.0	115.2	61.9	450.1	0.0	0.0
90.00		61.1	1,285.5					0.0	306.3	61.1	1,591.9	0.0	0.0
91.30	Top - Section 2	61.0	454.3					0.0	110.1	61.0	564.4	0.0	0.0
95.00		104.9	670.4					0.0	312.0	104.9	982.4	0.0	0.0
100.00		118.4	877.2					0.0	422.7	118.4	1,299.9	0.0	0.0
105.00		115.8	844.7					0.0	423.3	115.8	1,267.9	0.0	0.0
110.00		112.9	811.9					0.0	423.8	112.9	1,235.7	0.0	0.0
115.00		109.9	778.9					0.0	424.3	109.9	1,203.3	0.0	0.0
120.00		90.6	745.8					0.0	424.8	90.6	1,170.6	0.0	0.0
123.44	Bot - Section 4	52.8	495.3					0.0	292.6	52.8	787.8	0.0	0.0
125.00		39.7	319.8					0.0	132.7	39.7	452.5	0.0	0.0
127.23	Top - Section 3	51.6	449.3					0.0	190.2	51.6	639.5	0.0	0.0
130.00	Appertunance(s)	58.4	323.7	326.7	0.0	0.0	2,691.2	0.0	235.6	385.1	3,250.5	0.0	0.0
133.00	Appertunance(s)	40.0	341.1	314.3	0.0	0.0	1,827.3	0.0	251.2	354.3	2,419.7	0.0	0.0
134.00	Appertunance(s)	19.7	112.0	74.2	0.0	0.0	842.0	0.0	62.9	94.0	1,016.8	0.0	0.0
135.00		57.8	110.9					0.0	62.9	57.8	173.7	0.0	0.0
140.00		57.4	531.6					0.0	314.7	57.4	846.2	0.0	0.0
141.00	Appertunance(s)	27.9	104.0	18.1	0.0	0.0	221.6	0.0	63.0	46.0	388.5	0.0	0.0
143.00	Appertunance(s)	36.8	204.0	469.2	0.0	0.0	2,802.1	0.0	126.0	506.0	3,132.1	0.0	0.0
145.00		45.0	199.4					0.0	78.9	45.0	278.2	0.0	0.0
148.00	Appertunance(s)	44.2	289.6	972.2	0.0	1,595.3	5,247.2	0.0	118.4	1,016.4	5,655.3	0.0	0.0
150.00		17.4	187.9					0.0	0.0	17.4	187.9	0.0	0.0
								Totals:		5,776.29	63,600.3	0.00	0.00

Site Number: 411260 | Code: ANSI/TIA-222-G |

Site Name: Middlefield CT, CT | Engineering Number: 65104221 | 4/18/2016 8:51:14 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 0.75 in Radial Ice — 24 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	-63.60	-5.72	0.00	-599.21	0.00	599.21	4,317.26	2,158.63	9,967.46	4,991.14	0.00	0.00	0.135
5.00	-61.45	-5.62	0.00	-570.59	0.00	570.59	4,260.05	2,130.02	9,608.26	4,811.27	0.02	-0.03	0.133
10.00	-59.28	-5.52	0.00	-542.49	0.00	542.49	4,200.87	2,100.44	9,250.82	4,632.29	0.07	-0.06	0.131
15.00	-57.13	-5.42	0.00	-514.90	0.00	514.90	4,139.73	2,069.86	8,895.48	4,454.35	0.15	-0.10	0.129
20.00	-55.00	-5.32	0.00	-487.82	0.00	487.82	4,076.62	2,038.31	8,542.54	4,277.62	0.27	-0.13	0.128
25.00	-52.90	-5.22	0.00	-461.24	0.00	461.24	4,011.55	2,005.78	8,192.33	4,102.25	0.42	-0.16	0.126
30.00	-50.84	-5.12	0.00	-435.16	0.00	435.16	3,944.52	1,972.26	7,845.14	3,928.40	0.61	-0.20	0.124
35.00	-48.80	-5.01	0.00	-409.58	0.00	409.58	3,875.52	1,937.76	7,501.31	3,756.23	0.84	-0.23	0.122
40.00	-46.80	-4.93	0.00	-384.51	0.00	384.51	3,804.56	1,902.28	7,161.13	3,585.89	1.10	-0.27	0.120
42.44	-45.84	-4.88	0.00	-372.48	0.00	372.48	3,769.21	1,884.61	6,996.54	3,503.47	1.24	-0.29	0.118
45.00	-44.27	-4.81	0.00	-359.99	0.00	359.99	3,731.63	1,865.82	6,824.93	3,417.54	1.40	-0.31	0.117
48.73	-42.01	-4.74	0.00	-342.06	0.00	342.06	3,719.54	1,859.77	6,770.44	3,390.25	1.65	-0.33	0.112
50.00	-41.52	-4.67	0.00	-336.04	0.00	336.04	3,700.61	1,850.31	6,685.84	3,347.89	1.74	-0.34	0.112
55.00	-39.61	-4.56	0.00	-312.66	0.00	312.66	3,624.90	1,812.45	6,355.81	3,182.63	2.12	-0.38	0.109
60.00	-37.73	-4.44	0.00	-289.88	0.00	289.88	3,547.23	1,773.62	6,030.52	3,019.74	2.54	-0.42	0.107
65.00	-35.90	-4.32	0.00	-267.69	0.00	267.69	3,467.60	1,733.80	5,710.28	2,859.38	3.00	-0.45	0.104
70.00	-34.11	-4.20	0.00	-246.10	0.00	246.10	3,386.00	1,693.00	5,395.40	2,701.71	3.49	-0.49	0.101
75.00	-32.36	-4.10	0.00	-225.11	0.00	225.11	3,302.43	1,651.22	5,086.19	2,546.88	4.03	-0.53	0.098
78.00	-31.30	-4.03	0.00	-212.82	0.00	212.82	3,251.35	1,625.68	4,903.53	2,455.41	4.37	-0.55	0.096
80.00	-30.62	-3.95	0.00	-204.75	0.00	204.75	3,207.53	1,603.76	4,769.03	2,388.06	4.60	-0.57	0.095
85.00	-28.96	-3.87	0.00	-184.99	0.00	184.99	3,093.69	1,546.84	4,434.85	2,220.72	5.22	-0.61	0.093
86.37	-28.50	-3.81	0.00	-179.70	0.00	179.70	3,062.56	1,531.28	4,345.59	2,176.03	5.39	-0.62	0.092
90.00	-26.91	-3.74	0.00	-165.85	0.00	165.85	2,979.85	1,489.93	4,112.81	2,059.46	5.88	-0.65	0.090
91.30	-26.35	-3.68	0.00	-160.96	0.00	160.96	1,812.04	906.02	2,531.89	1,267.83	6.05	-0.66	0.142
95.00	-25.36	-3.59	0.00	-147.35	0.00	147.35	1,779.94	889.97	2,416.90	1,210.25	6.57	-0.69	0.136
100.00	-24.06	-3.48	0.00	-129.41	0.00	129.41	1,734.79	867.39	2,263.11	1,133.24	7.32	-0.74	0.128
105.00	-22.79	-3.36	0.00	-112.04	0.00	112.04	1,687.67	843.84	2,111.68	1,057.41	8.13	-0.79	0.119
110.00	-21.56	-3.25	0.00	-95.22	0.00	95.22	1,638.60	819.30	1,962.92	982.92	8.99	-0.85	0.110
115.00	-20.35	-3.14	0.00	-78.96	0.00	78.96	1,587.56	793.78	1,817.14	909.92	9.90	-0.90	0.100
120.00	-19.18	-3.04	0.00	-63.25	0.00	63.25	1,534.55	767.28	1,674.67	838.58	10.87	-0.94	0.088
123.44	-18.39	-2.99	0.00	-52.78	0.00	52.78	1,496.95	748.47	1,578.72	790.53	11.56	-0.97	0.079
125.00	-17.94	-2.94	0.00	-48.12	0.00	48.12	1,479.59	739.79	1,535.80	769.04	11.88	-0.99	0.075
127.23	-17.30	-2.89	0.00	-41.55	0.00	41.55	1,011.33	505.67	1,046.56	524.06	12.34	-1.00	0.096
130.00	-14.06	-2.45	0.00	-33.57	0.00	33.57	993.05	496.52	998.35	499.92	12.93	-1.02	0.081
133.00	-11.64	-2.05	0.00	-26.22	0.00	26.22	972.53	486.26	946.62	474.01	13.58	-1.05	0.067
134.00	-10.63	-1.94	0.00	-24.17	0.00	24.17	965.53	482.77	929.51	465.45	13.80	-1.05	0.063
135.00	-10.45	-1.88	0.00	-22.23	0.00	22.23	958.46	479.23	912.48	456.92	14.02	-1.06	0.060
140.00	-9.61	-1.81	0.00	-12.80	0.00	12.80	921.91	460.95	828.54	414.88	15.15	-1.09	0.041
141.00	-9.22	-1.76	0.00	-10.99	0.00	10.99	914.36	457.18	812.01	406.61	15.38	-1.09	0.037
143.00	-6.10	-1.20	0.00	-7.47	0.00	7.47	899.03	449.52	779.22	390.19	15.83	-1.10	0.026
145.00	-5.82	-1.15	0.00	-5.08	0.00	5.08	883.39	441.70	746.83	373.97	16.30	-1.10	0.020
148.00	-0.19	-0.02	0.00	-0.04	0.00	0.04	859.34	429.67	699.01	350.02	16.99	-1.11	0.000
150.00	0.00	-0.02	0.00	0.00	0.00	0.00	842.91	421.46	667.67	334.33	17.45	-1.11	0.000

Site Number: 411260 Code: ANSI/TIA-222-G

Site Name: Middlefield CT, CT Engineering Number: 65104221 4/18/2016 8:51:14 AM

Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W Serviceability 60 mph 23 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

		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		51.8	0.0					0.0	0.0	51.8	0.0	0.0	0.0
5.00		102.4	1,123.4					0.0	265.5	102.4	1,388.9	0.0	0.0
10.00		100.0	1,097.4					0.0	265.5	100.0	1,362.9	0.0	0.0
15.00		97.6	1,071.3					0.0	265.5	97.6	1,336.8	0.0	0.0
20.00		95.2	1,045.2					0.0	265.5	95.2	1,310.7	0.0	0.0
25.00		92.8	1,019.2					0.0	265.5	92.8	1,284.7	0.0	0.0
30.00		91.5	993.1					0.0	265.5	91.5	1,258.6	0.0	0.0
35.00		92.0	967.0					0.0	265.5	92.0	1,232.5	0.0	0.0
40.00		69.1	940.9					0.0	265.5	69.1	1,206.4	0.0	0.0
42.44	Bot - Section 2	47.1	449.7					0.0	129.6	47.1	579.3	0.0	0.0
45.00		59.8	938.1					0.0	135.9	59.8	1,074.0	0.0	0.0
48.73	Top - Section 1	47.6	1,342.1					0.0	198.0	47.6	1,540.1	0.0	0.0
50.00		59.7	227.3					0.0	67.5	59.7	294.8	0.0	0.0
55.00		95.0	877.9					0.0	265.5	95.0	1,143.4	0.0	0.0
60.00		94.5	851.9					0.0	265.5	94.5	1,117.4	0.0	0.0
65.00		93.7	825.8					0.0	265.5	93.7	1,091.3	0.0	0.0
70.00		92.7	799.7					0.0	265.5	92.7	1,065.2	0.0	0.0
75.00		73.4	773.6					0.0	265.5	73.4	1,039.1	0.0	0.0
78.00	Appertunance(s)	45.4	451.7	1.4	0.0	0.0	10.0	0.0	159.3	46.8	621.0	0.0	0.0
80.00		62.7	295.9					0.0	106.2	62.7	402.1	0.0	0.0
85.00		56.6	721.5					0.0	265.5	56.6	987.0	0.0	0.0
86.37	Bot - Section 3	44.2	192.7					0.0	72.6	44.2	265.3	0.0	0.0
90.00		43.6	843.9					0.0	192.9	43.6	1,036.8	0.0	0.0
91.30	Top - Section 2	43.4	297.5					0.0	69.3	43.4	366.8	0.0	0.0
95.00		74.4	334.4					0.0	196.2	74.4	530.6	0.0	0.0
100.00		83.7	437.3					0.0	265.5	83.7	702.8	0.0	0.0
105.00		81.5	419.9					0.0	265.5	81.5	685.4	0.0	0.0
110.00		79.1	402.5					0.0	265.5	79.1	668.0	0.0	0.0
115.00		76.6	385.2					0.0	265.5	76.6	650.7	0.0	0.0
120.00		62.8	367.8					0.0	265.5	62.8	633.3	0.0	0.0
123.44	Bot - Section 4	36.5	242.9					0.0	182.7	36.5	425.6	0.0	0.0
125.00		27.4	189.4					0.0	82.8	27.4	272.3	0.0	0.0
127.23	Top - Section 3	35.5	266.2					0.0	118.6	35.5	384.8	0.0	0.0
130.00	Appertunance(s)	40.1	139.0	258.4	0.0	0.0	1,622.1	0.0	146.9	298.5	1,907.9	0.0	0.0
133.00	Appertunance(s)	27.4	146.3	376.4	0.0	0.0	327.5	0.0	155.6	403.8	629.3	0.0	0.0
134.00	Appertunance(s)	13.4	47.7	85.5	0.0	0.0	300.0	0.0	34.4	99.0	382.2	0.0	0.0
135.00		39.3	47.2					0.0	34.4	39.3	81.6	0.0	0.0
140.00		38.9	228.1					0.0	172.2	38.9	400.3	0.0	0.0
141.00	Appertunance(s)	18.8	44.1	19.2	0.0	0.0	59.4	0.0	34.4	38.0	137.9	0.0	0.0
143.00	Appertunance(s)	24.7	86.6	447.1	0.0	0.0	1,121.5	0.0	68.9	471.8	1,276.9	0.0	0.0
145.00		30.1	84.5					0.0	29.5	30.1	114.0	0.0	0.0
148.00	Appertunance(s)	29.5	122.8	1,054.3	0.0	1,941.1	1,881.1	0.0	44.3	1,083.7	2,048.2	0.0	0.0
150.00		11.6	79.3					0.0	0.0	11.6	79.3	0.0	0.0
								Totals:		4,825.25	35,016.2	0.00	0.00

Site Number: 411260 Code: ANSI/TIA-222-G

Site Name: Middlefield CT, CT Engineering Number: 65104221 4/18/2016 8:51:15 AM

Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W Serviceability 60 mph 23 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	-35.02	-4.78	0.00	-513.59	0.00	513.59	4,317.26	2,158.63	9,967.46	4,991.14	0.00	0.00	0.111
5.00	-33.62	-4.69	0.00	-489.69	0.00	489.69	4,260.05	2,130.02	9,608.26	4,811.27	0.01	-0.03	0.110
10.00	-32.26	-4.61	0.00	-466.22	0.00	466.22	4,200.87	2,100.44	9,250.82	4,632.29	0.06	-0.05	0.108
15.00	-30.92	-4.52	0.00	-443.18	0.00	443.18	4,139.73	2,069.86	8,895.48	4,454.35	0.13	-0.08	0.107
20.00	-29.61	-4.44	0.00	-420.55	0.00	420.55	4,076.62	2,038.31	8,542.54	4,277.62	0.23	-0.11	0.106
25.00	-28.32	-4.36	0.00	-398.34	0.00	398.34	4,011.55	2,005.78	8,192.33	4,102.25	0.36	-0.14	0.104
30.00	-27.06	-4.28	0.00	-376.54	0.00	376.54	3,944.52	1,972.26	7,845.14	3,928.40	0.53	-0.17	0.103
35.00	-25.83	-4.20	0.00	-355.13	0.00	355.13	3,875.52	1,937.76	7,501.31	3,756.23	0.72	-0.20	0.101
40.00	-24.62	-4.14	0.00	-334.14	0.00	334.14	3,804.56	1,902.28	7,161.13	3,585.89	0.95	-0.23	0.100
42.44	-24.04	-4.09	0.00	-324.05	0.00	324.05	3,769.21	1,884.61	6,996.54	3,503.47	1.07	-0.25	0.099
45.00	-22.96	-4.04	0.00	-313.58	0.00	313.58	3,731.63	1,865.82	6,824.93	3,417.54	1.21	-0.26	0.098
48.73	-21.42	-3.99	0.00	-298.53	0.00	298.53	3,719.54	1,859.77	6,770.44	3,390.25	1.42	-0.29	0.094
50.00	-21.13	-3.93	0.00	-293.46	0.00	293.46	3,700.61	1,850.31	6,685.84	3,347.89	1.50	-0.30	0.093
55.00	-19.98	-3.84	0.00	-273.79	0.00	273.79	3,624.90	1,812.45	6,355.81	3,182.63	1.83	-0.33	0.092
60.00	-18.86	-3.75	0.00	-254.58	0.00	254.58	3,547.23	1,773.62	6,030.52	3,019.74	2.19	-0.36	0.090
65.00	-17.77	-3.66	0.00	-235.81	0.00	235.81	3,467.60	1,733.80	5,710.28	2,859.38	2.59	-0.39	0.088
70.00	-16.70	-3.57	0.00	-217.51	0.00	217.51	3,386.00	1,693.00	5,395.40	2,701.71	3.02	-0.43	0.085
75.00	-15.66	-3.50	0.00	-199.65	0.00	199.65	3,302.43	1,651.22	5,086.19	2,546.88	3.48	-0.46	0.083
78.00	-15.04	-3.45	0.00	-189.16	0.00	189.16	3,251.35	1,625.68	4,903.53	2,455.41	3.78	-0.48	0.082
80.00	-14.64	-3.39	0.00	-182.26	0.00	182.26	3,207.53	1,603.76	4,769.03	2,388.06	3.98	-0.50	0.081
85.00	-13.65	-3.33	0.00	-165.31	0.00	165.31	3,093.69	1,546.84	4,434.85	2,220.72	4.52	-0.53	0.079
86.37	-13.38	-3.29	0.00	-160.75	0.00	160.75	3,062.56	1,531.28	4,345.59	2,176.03	4.67	-0.54	0.078
90.00	-12.35	-3.24	0.00	-148.81	0.00	148.81	2,979.85	1,489.93	4,112.81	2,059.46	5.09	-0.57	0.076
91.30	-11.98	-3.19	0.00	-144.59	0.00	144.59	1,812.04	906.02	2,531.89	1,267.83	5.25	-0.57	0.121
95.00	-11.45	-3.12	0.00	-132.78	0.00	132.78	1,779.94	889.97	2,416.90	1,210.25	5.70	-0.60	0.116
100.00	-10.74	-3.04	0.00	-117.17	0.00	117.17	1,734.79	867.39	2,263.11	1,133.24	6.36	-0.65	0.110
105.00	-10.06	-2.96	0.00	-101.97	0.00	101.97	1,687.67	843.84	2,111.68	1,057.41	7.07	-0.70	0.102
110.00	-9.39	-2.88	0.00	-87.18	0.00	87.18	1,638.60	819.30	1,962.92	982.92	7.83	-0.75	0.094
115.00	-8.73	-2.80	0.00	-72.79	0.00	72.79	1,587.56	793.78	1,817.14	909.92	8.63	-0.79	0.086
120.00	-8.10	-2.73	0.00	-58.78	0.00	58.78	1,534.55	767.28	1,674.67	838.58	9.48	-0.83	0.075
123.44	-7.67	-2.69	0.00	-49.38	0.00	49.38	1,496.95	748.47	1,578.72	790.53	10.10	-0.86	0.068
125.00	-7.40	-2.66	0.00	-45.18	0.00	45.18	1,479.59	739.79	1,535.80	769.04	10.38	-0.88	0.064
127.23	-7.02	-2.62	0.00	-39.23	0.00	39.23	1,011.33	505.67	1,046.56	524.06	10.79	-0.89	0.082
130.00	-5.11	-2.30	0.00	-31.97	0.00	31.97	993.05	496.52	998.35	499.92	11.32	-0.91	0.069
133.00	-4.49	-1.89	0.00	-25.07	0.00	25.07	972.53	486.26	946.62	474.01	11.90	-0.93	0.058
134.00	-4.11	-1.78	0.00	-23.19	0.00	23.19	965.53	482.77	929.51	465.45	12.09	-0.94	0.054
135.00	-4.03	-1.74	0.00	-21.41	0.00	21.41	958.46	479.23	912.48	456.92	12.29	-0.95	0.051
140.00	-3.63	-1.70	0.00	-12.70	0.00	12.70	921.91	460.95	828.54	414.88	13.30	-0.97	0.035
141.00	-3.49	-1.66	0.00	-11.00	0.00	11.00	914.36	457.18	812.01	406.61	13.50	-0.98	0.031
143.00	-2.22	-1.16	0.00	-7.69	0.00	7.69	899.03	449.52	779.22	390.19	13.91	-0.98	0.022
145.00	-2.11	-1.13	0.00	-5.36	0.00	5.36	883.39	441.70	746.83	373.97	14.32	-0.99	0.017
148.00	-0.08	-0.01	0.00	-0.03	0.00	0.03	859.34	429.67	699.01	350.02	14.95	-0.99	0.000
150.00	0.00	-0.01	0.00	0.00	0.00	0.00	842.91	421.46	667.67	334.33	15.36	-0.99	0.000

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.24
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}):	0.25
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
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):	1.98
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.74
Total Unfactored Dead Load:	35.02 k
Seismic Base Shear (E):	1.52 k

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):	0.24
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}):	0.25
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	1.98
Redundancy Factor (p):	1.30

Load Case (1.2 + 0.2Sds) * DL + E ELFM **Seismic Equivalent Lateral Forces Method**

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
42	149.00	79	1.865	1.850	1.093	0.459	32	67
41	146.50	167	1.803	1.551	0.982	0.407	59	142
40	144.00	114	1.742	1.287	0.880	0.359	35	97
39	142.00	155	1.694	1.099	0.805	0.322	43	132
38	140.50	79	1.658	0.970	0.752	0.295	20	67
37	137.50	400	1.588	0.742	0.654	0.245	85	340
36	134.50	82	1.520	0.550	0.566	0.199	14	69
35	133.50	82	1.497	0.494	0.539	0.184	13	70
34	131.50	302	1.453	0.391	0.488	0.156	41	256
33	128.62	286	1.390	0.264	0.421	0.119	30	243
32	126.12	385	1.336	0.174	0.369	0.090	30	327
31	124.22	272	1.296	0.115	0.333	0.069	16	231
30	121.72	426	1.245	0.051	0.289	0.044	16	361
29	117.50	633	1.160	-0.030	0.226	0.007	4	538
28	112.50	651	1.063	-0.088	0.165	-0.026	-15	553
27	107.50	668	0.971	-0.116	0.117	-0.050	-29	567
26	102.50	685	0.883	-0.121	0.081	-0.064	-38	582
25	97.50	703	0.799	-0.112	0.053	-0.067	-41	597
24	93.15	531	0.729	-0.095	0.036	-0.062	-29	451
23	90.65	367	0.690	-0.084	0.028	-0.056	-18	311
22	88.18	1,037	0.653	-0.072	0.022	-0.048	-43	881
21	85.68	265	0.617	-0.059	0.017	-0.038	-9	225
20	82.50	987	0.572	-0.043	0.012	-0.023	-20	838
19	79.00	402	0.524	-0.025	0.008	-0.005	-2	341
18	76.50	611	0.492	-0.013	0.007	0.007	4	519
17	72.50	1,039	0.442	0.005	0.006	0.026	23	882
16	67.50	1,065	0.383	0.023	0.007	0.045	42	905
15	62.50	1,091	0.328	0.039	0.010	0.059	56	927
14	57.50	1,117	0.278	0.050	0.014	0.067	65	949
13	52.50	1,143	0.232	0.058	0.019	0.071	70	971
12	49.36	295	0.205	0.062	0.023	0.072	18	250
11	46.86	1,540	0.184	0.065	0.025	0.072	96	1,308
10	43.72	1,074	0.161	0.067	0.029	0.072	67	912
9	41.22	579	0.143	0.068	0.031	0.071	36	492

8	37.50	1,206	0.118	0.070	0.035	0.070	73	1,025
7	32.50	1,233	0.089	0.071	0.039	0.068	73	1,047
6	27.50	1,259	0.064	0.072	0.041	0.067	73	1,069
5	22.50	1,285	0.043	0.070	0.042	0.064	72	1,091
4	17.50	1,311	0.026	0.067	0.040	0.061	70	1,113
3	12.50	1,337	0.013	0.059	0.034	0.056	64	1,135
2	7.50	1,363	0.005	0.044	0.025	0.044	52	1,157
1	2.50	1,389	0.001	0.018	0.010	0.021	25	1,180
Antel BXA-171063/12C	148.00	45	1.840	1.726	1.048	0.438	17	38
Commscope SBNHH-	148.00	51	1.840	1.726	1.048	0.438	19	43
Antel LPA-80063/6CF	148.00	162	1.840	1.726	1.048	0.438	61	138
Commscope SBNHH-	148.00	123	1.840	1.726	1.048	0.438	47	105
Flat Low Profile Pla	148.00	1,500	1.840	1.726	1.048	0.438	569	1,274
EMS RR90-17-02DP	143.00	122	1.718	1.191	0.842	0.340	36	103
Round T-Arm	143.00	1,000	1.718	1.191	0.842	0.340	295	849
Remec GSM-PCS1900	141.00	59	1.670	1.012	0.769	0.304	16	50
Ericsson RRUS-11 (50	134.00	300	1.508	0.522	0.553	0.192	50	255
Raycap DC6-48-60-18-	133.00	20	1.486	0.467	0.526	0.177	3	17
Powerwave Allgon 777	133.00	162	1.486	0.467	0.526	0.177	25	138
KMW AM-X-CD-16-65-00	133.00	146	1.486	0.467	0.526	0.177	22	124
Spinner Bias-T	130.00	4	1.420	0.322	0.452	0.137	1	4
Powerwave Allgon LGP	130.00	33	1.420	0.322	0.452	0.137	4	28
Powerwave Allgon LGP	130.00	85	1.420	0.322	0.452	0.137	10	72
Round Low Profile Pl	130.00	1,500	1.420	0.322	0.452	0.137	178	1,274
2" x 8" GPS	78.00	10	0.511	-0.020	0.008	0.000	0	8
		35,016	58.408	24.804	21.011	7.972	2,527	29,737

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	149.00	79	1.865	1.850	1.093	0.459	32	67
41	146.50	167	1.803	1.551	0.982	0.407	59	142
40	144.00	114	1.742	1.287	0.880	0.359	35	97
39	142.00	155	1.694	1.099	0.805	0.322	43	132
38	140.50	79	1.658	0.970	0.752	0.295	20	67
37	137.50	400	1.588	0.742	0.654	0.245	85	340
36	134.50	82	1.520	0.550	0.566	0.199	14	69
35	133.50	82	1.497	0.494	0.539	0.184	13	70
34	131.50	302	1.453	0.391	0.488	0.156	41	256
33	128.62	286	1.390	0.264	0.421	0.119	30	243
32	126.12	385	1.336	0.174	0.369	0.090	30	327
31	124.22	272	1.296	0.115	0.333	0.069	16	231
30	121.72	426	1.245	0.051	0.289	0.044	16	361
29	117.50	633	1.160	-0.030	0.226	0.007	4	538
28	112.50	651	1.063	-0.088	0.165	-0.026	-15	553
27	107.50	668	0.971	-0.116	0.117	-0.050	-29	567
26	102.50	685	0.883	-0.121	0.081	-0.064	-38	582
25	97.50	703	0.799	-0.112	0.053	-0.067	-41	597
24	93.15	531	0.729	-0.095	0.036	-0.062	-29	451
23	90.65	367	0.690	-0.084	0.028	-0.056	-18	311
22	88.18	1,037	0.653	-0.072	0.022	-0.048	-43	881
21	85.68	265	0.617	-0.059	0.017	-0.038	-9	225
20	82.50	987	0.572	-0.043	0.012	-0.023	-20	838
19	79.00	402	0.524	-0.025	0.008	-0.005	-2	341
18	76.50	611	0.492	-0.013	0.007	0.007	4	519
17	72.50	1,039	0.442	0.005	0.006	0.026	23	882
16	67.50	1,065	0.383	0.023	0.007	0.045	42	905
15	62.50	1,091	0.328	0.039	0.010	0.059	56	927
14	57.50	1,117	0.278	0.050	0.014	0.067	65	949

13	52.50	1,143	0.232	0.058	0.019	0.071	70	971
12	49.36	295	0.205	0.062	0.023	0.072	18	250
11	46.86	1,540	0.184	0.065	0.025	0.072	96	1,308
10	43.72	1,074	0.161	0.067	0.029	0.072	67	912
9	41.22	579	0.143	0.068	0.031	0.071	36	492
8	37.50	1,206	0.118	0.070	0.035	0.070	73	1,025
7	32.50	1,233	0.089	0.071	0.039	0.068	73	1,047
6	27.50	1,259	0.064	0.072	0.041	0.067	73	1,069
5	22.50	1,285	0.043	0.070	0.042	0.064	72	1,091
4	17.50	1,311	0.026	0.067	0.040	0.061	70	1,113
3	12.50	1,337	0.013	0.059	0.034	0.056	64	1,135
2	7.50	1,363	0.005	0.044	0.025	0.044	52	1,157
1	2.50	1,389	0.001	0.018	0.010	0.021	25	1,180
Antel BXA-171063/12C	148.00	45	1.840	1.726	1.048	0.438	17	38
Commscope SBNHH-	148.00	51	1.840	1.726	1.048	0.438	19	43
Antel LPA-80063/6CF	148.00	162	1.840	1.726	1.048	0.438	61	138
Commscope SBNHH-	148.00	123	1.840	1.726	1.048	0.438	47	105
Flat Low Profile Pla	148.00	1,500	1.840	1.726	1.048	0.438	569	1,274
EMS RR90-17-02DP	143.00	122	1.718	1.191	0.842	0.340	36	103
Round T-Arm	143.00	1,000	1.718	1.191	0.842	0.340	295	849
Remec GSM-PCS1900	141.00	59	1.670	1.012	0.769	0.304	16	50
Ericsson RRUS-11 (50	134.00	300	1.508	0.522	0.553	0.192	50	255
Raycap DC6-48-60-18-	133.00	20	1.486	0.467	0.526	0.177	3	17
Powerwave Allgon 777	133.00	162	1.486	0.467	0.526	0.177	25	138
KMW AM-X-CD-16-65-00	133.00	146	1.486	0.467	0.526	0.177	22	124
Spinner Bias-T	130.00	4	1.420	0.322	0.452	0.137	1	4
Powerwave Allgon LGP	130.00	33	1.420	0.322	0.452	0.137	4	28
Powerwave Allgon LGP	130.00	85	1.420	0.322	0.452	0.137	10	72
Round Low Profile Pl	130.00	1,500	1.420	0.322	0.452	0.137	178	1,274
2" x 8" GPS	78.00	10	0.511	-0.020	0.008	0.000	0	8
		35,016	58.408	24.804	21.011	7.972	2,527	29,737

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

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
42	149.00	79	1.865	1.850	1.093	0.459	32	67
41	146.50	167	1.803	1.551	0.982	0.407	59	142
40	144.00	114	1.742	1.287	0.880	0.359	35	97
39	142.00	155	1.694	1.099	0.805	0.322	43	132
38	140.50	79	1.658	0.970	0.752	0.295	20	67
37	137.50	400	1.588	0.742	0.654	0.245	85	340
36	134.50	82	1.520	0.550	0.566	0.199	14	69
35	133.50	82	1.497	0.494	0.539	0.184	13	70
34	131.50	302	1.453	0.391	0.488	0.156	41	256
33	128.62	286	1.390	0.264	0.421	0.119	30	243
32	126.12	385	1.336	0.174	0.369	0.090	30	327
31	124.22	272	1.296	0.115	0.333	0.069	16	231
30	121.72	426	1.245	0.051	0.289	0.044	16	361
29	117.50	633	1.160	-0.030	0.226	0.007	4	538
28	112.50	651	1.063	-0.088	0.165	-0.026	-15	553
27	107.50	668	0.971	-0.116	0.117	-0.050	-29	567
26	102.50	685	0.883	-0.121	0.081	-0.064	-38	582
25	97.50	703	0.799	-0.112	0.053	-0.067	-41	597
24	93.15	531	0.729	-0.095	0.036	-0.062	-29	451
23	90.65	367	0.690	-0.084	0.028	-0.056	-18	311
22	88.18	1,037	0.653	-0.072	0.022	-0.048	-43	881
21	85.68	265	0.617	-0.059	0.017	-0.038	-9	225
20	82.50	987	0.572	-0.043	0.012	-0.023	-20	838
19	79.00	402	0.524	-0.025	0.008	-0.005	-2	341

18	76.50	611	0.492	-0.013	0.007	0.007	4	519
17	72.50	1,039	0.442	0.005	0.006	0.026	23	882
16	67.50	1,065	0.383	0.023	0.007	0.045	42	905
15	62.50	1,091	0.328	0.039	0.010	0.059	56	927
14	57.50	1,117	0.278	0.050	0.014	0.067	65	949
13	52.50	1,143	0.232	0.058	0.019	0.071	70	971
12	49.36	295	0.205	0.062	0.023	0.072	18	250
11	46.86	1,540	0.184	0.065	0.025	0.072	96	1,308
10	43.72	1,074	0.161	0.067	0.029	0.072	67	912
9	41.22	579	0.143	0.068	0.031	0.071	36	492
8	37.50	1,206	0.118	0.070	0.035	0.070	73	1,025
7	32.50	1,233	0.089	0.071	0.039	0.068	73	1,047
6	27.50	1,259	0.064	0.072	0.041	0.067	73	1,069
5	22.50	1,285	0.043	0.070	0.042	0.064	72	1,091
4	17.50	1,311	0.026	0.067	0.040	0.061	70	1,113
3	12.50	1,337	0.013	0.059	0.034	0.056	64	1,135
2	7.50	1,363	0.005	0.044	0.025	0.044	52	1,157
1	2.50	1,389	0.001	0.018	0.010	0.021	25	1,180
Antel BXA-171063/12C	148.00	45	1.840	1.726	1.048	0.438	17	38
Commscope SBNHH-	148.00	51	1.840	1.726	1.048	0.438	19	43
Antel LPA-80063/6CF	148.00	162	1.840	1.726	1.048	0.438	61	138
Commscope SBNHH-	148.00	123	1.840	1.726	1.048	0.438	47	105
Flat Low Profile Pla	148.00	1,500	1.840	1.726	1.048	0.438	569	1,274
EMS RR90-17-02DP	143.00	122	1.718	1.191	0.842	0.340	36	103
Round T-Arm	143.00	1,000	1.718	1.191	0.842	0.340	295	849
Remec GSM-PCS1900	141.00	59	1.670	1.012	0.769	0.304	16	50
Ericsson RRUS-11 (50	134.00	300	1.508	0.522	0.553	0.192	50	255
Raycap DC6-48-60-18-	133.00	20	1.486	0.467	0.526	0.177	3	17
Powerwave Allgon 777	133.00	162	1.486	0.467	0.526	0.177	25	138
KMW AM-X-CD-16-65-00	133.00	146	1.486	0.467	0.526	0.177	22	124
Spinner Bias-T	130.00	4	1.420	0.322	0.452	0.137	1	4
Powerwave Allgon LGP	130.00	33	1.420	0.322	0.452	0.137	4	28
Powerwave Allgon LGP	130.00	85	1.420	0.322	0.452	0.137	10	72
Round Low Profile Pl	130.00	1,500	1.420	0.322	0.452	0.137	178	1,274
2" x 8" GPS	78.00	10	0.511	-0.020	0.008	0.000	0	8
		35,016	58.408	24.804	21.011	7.972	2,527	29,737

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	149.00	79	1.865	1.850	1.093	0.459	32	67
41	146.50	167	1.803	1.551	0.982	0.407	59	142
40	144.00	114	1.742	1.287	0.880	0.359	35	97
39	142.00	155	1.694	1.099	0.805	0.322	43	132
38	140.50	79	1.658	0.970	0.752	0.295	20	67
37	137.50	400	1.588	0.742	0.654	0.245	85	340
36	134.50	82	1.520	0.550	0.566	0.199	14	69
35	133.50	82	1.497	0.494	0.539	0.184	13	70
34	131.50	302	1.453	0.391	0.488	0.156	41	256
33	128.62	286	1.390	0.264	0.421	0.119	30	243
32	126.12	385	1.336	0.174	0.369	0.090	30	327
31	124.22	272	1.296	0.115	0.333	0.069	16	231
30	121.72	426	1.245	0.051	0.289	0.044	16	361
29	117.50	633	1.160	-0.030	0.226	0.007	4	538
28	112.50	651	1.063	-0.088	0.165	-0.026	-15	553
27	107.50	668	0.971	-0.116	0.117	-0.050	-29	567
26	102.50	685	0.883	-0.121	0.081	-0.064	-38	582
25	97.50	703	0.799	-0.112	0.053	-0.067	-41	597
24	93.15	531	0.729	-0.095	0.036	-0.062	-29	451

23	90.65	367	0.690	-0.084	0.028	-0.056	-18	311
22	88.18	1,037	0.653	-0.072	0.022	-0.048	-43	881
21	85.68	265	0.617	-0.059	0.017	-0.038	-9	225
20	82.50	987	0.572	-0.043	0.012	-0.023	-20	838
19	79.00	402	0.524	-0.025	0.008	-0.005	-2	341
18	76.50	611	0.492	-0.013	0.007	0.007	4	519
17	72.50	1,039	0.442	0.005	0.006	0.026	23	882
16	67.50	1,065	0.383	0.023	0.007	0.045	42	905
15	62.50	1,091	0.328	0.039	0.010	0.059	56	927
14	57.50	1,117	0.278	0.050	0.014	0.067	65	949
13	52.50	1,143	0.232	0.058	0.019	0.071	70	971
12	49.36	295	0.205	0.062	0.023	0.072	18	250
11	46.86	1,540	0.184	0.065	0.025	0.072	96	1,308
10	43.72	1,074	0.161	0.067	0.029	0.072	67	912
9	41.22	579	0.143	0.068	0.031	0.071	36	492
8	37.50	1,206	0.118	0.070	0.035	0.070	73	1,025
7	32.50	1,233	0.089	0.071	0.039	0.068	73	1,047
6	27.50	1,259	0.064	0.072	0.041	0.067	73	1,069
5	22.50	1,285	0.043	0.070	0.042	0.064	72	1,091
4	17.50	1,311	0.026	0.067	0.040	0.061	70	1,113
3	12.50	1,337	0.013	0.059	0.034	0.056	64	1,135
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Antel LPA-80063/6CF	148.00	162	1.840	1.726	1.048	0.438	61	138
Commscope SBNHH-	148.00	123	1.840	1.726	1.048	0.438	47	105
Flat Low Profile Pla	148.00	1,500	1.840	1.726	1.048	0.438	569	1,274
EMS RR90-17-02DP	143.00	122	1.718	1.191	0.842	0.340	36	103
Round T-Arm	143.00	1,000	1.718	1.191	0.842	0.340	295	849
Remec GSM-PCS1900	141.00	59	1.670	1.012	0.769	0.304	16	50
Ericsson RRUS-11 (50	134.00	300	1.508	0.522	0.553	0.192	50	255
Raycap DC6-48-60-18-	133.00	20	1.486	0.467	0.526	0.177	3	17
Powerwave Allgon 777	133.00	162	1.486	0.467	0.526	0.177	25	138
KMW AM-X-CD-16-65-00	133.00	146	1.486	0.467	0.526	0.177	22	124
Spinner Bias-T	130.00	4	1.420	0.322	0.452	0.137	1	4
Powerwave Allgon LGP	130.00	33	1.420	0.322	0.452	0.137	4	28
Powerwave Allgon LGP	130.00	85	1.420	0.322	0.452	0.137	10	72
Round Low Profile Pl	130.00	1,500	1.420	0.322	0.452	0.137	178	1,274
2" x 8" GPS	78.00	10	0.511	-0.020	0.008	0.000	0	8
		35,016	58.408	24.804	21.011	7.972	2,527	29,737

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	23.44	0.00	41.99	0.00	0.00	2529.74	91.30	0.57
0.9D + 1.6W	23.43	0.00	31.49	0.00	0.00	2507.81	91.30	0.56
1.2D + 1.0Di + 1.0Wi	5.72	0.00	63.60	0.00	0.00	599.21	91.30	0.14
(1.2 + 0.2Sds) * DL + E ELFM	1.52	0.00	42.06	0.00	0.00	175.76	0.00	0.04
(1.2 + 0.2Sds) * DL + E EMAM	2.51	0.00	42.06	0.00	0.00	274.24	91.30	0.08
(0.9 - 0.2Sds) * DL + E ELFM	1.52	0.00	28.56	0.00	0.00	173.89	0.00	0.04
(0.9 - 0.2Sds) * DL + E EMAM	2.50	0.00	28.56	0.00	0.00	271.08	91.30	0.08
1.0D + 1.0W	4.78	0.00	35.02	0.00	0.00	513.59	91.30	0.12

Base Summary

Reactions

Original Design			Analysis			
Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment Design %
3,405.80	32.30	31.28	2,529.74	63.60	23.44	55.02

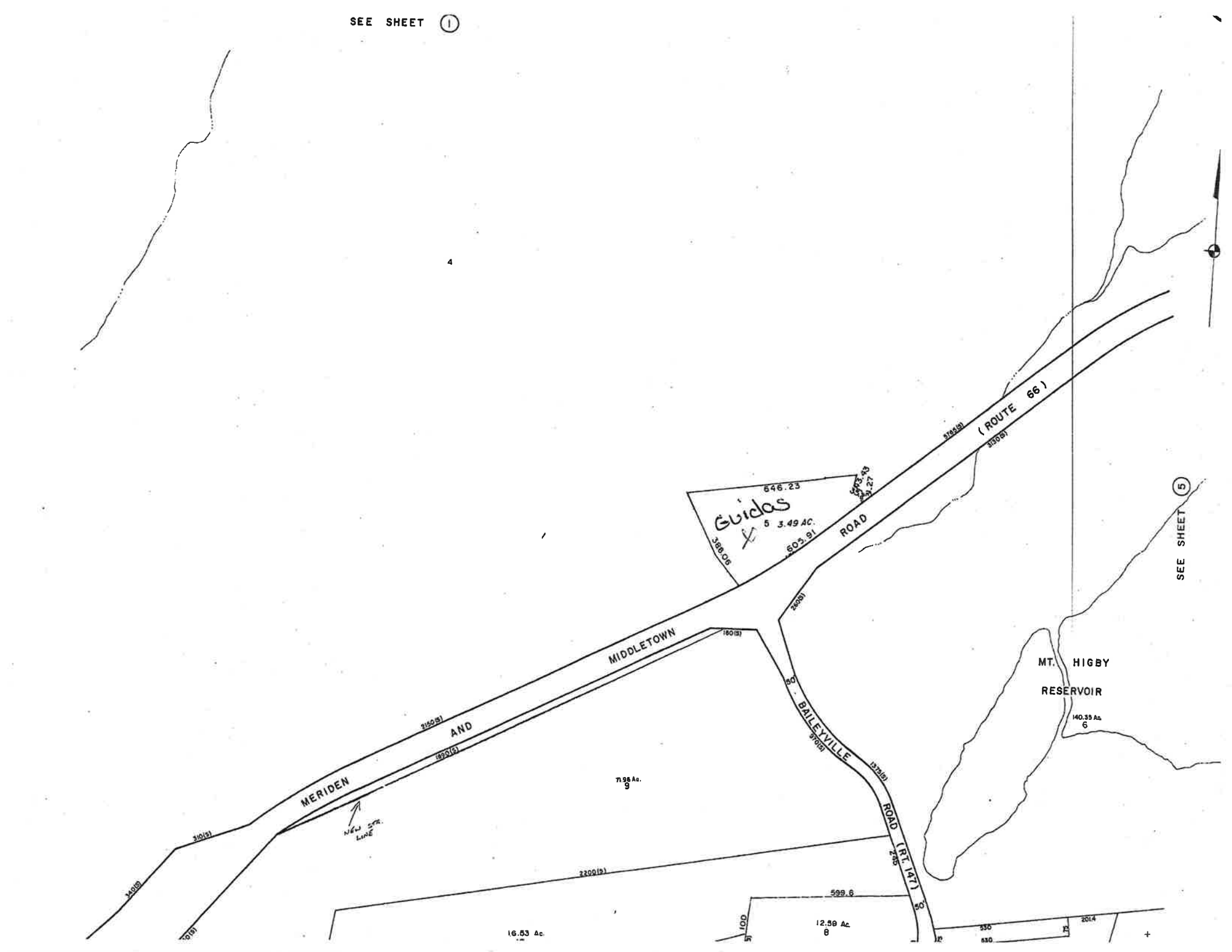
Base Plate

Yield (ksi)	Thick (in)	Width (in)	Style	Poly Sides	Clip Len (in)	Effective Len (in)	Mu (kip-in)	Phi Mn (kip-in)	Ratio
60.0	2.000	72.000	Round	0	0.00	11.207	394.22	605.18	0.65

Anchor Bolts

Bolt Circle	Num Bolts	Bolt Type	Bolt Dia (in)	Yield (ksi)	Ultimate (ksi)	Arrange	Cluster Dist (in)	Start Angle (deg)	Compression Force (kip)	Compression Allow (kip)	Compression Ratio	Tension Force (kip)	Tension Allow (kip)	Tension Ratio
66.00	16	2.25" 18J	2.25	75.00	100.00	Radial	0.00	0.0	118.96	260.00	0.47	111.01	260.00	0.44

ATTACHMENT 4


SEE SHEET (1)
4
646.23
Guidas
5 3.49 AC.
503.91
388.05
ROAD
(ROUTE 66)
MIDDLETOWN
AND
MERIDEN
BAILEYVILLE
ROAD (RT. 147)
MT. HIGBY
RESERVOIR
140.35 Ac.
6
71.98 Ac.
9
16.53 Ac.
12.58 Ac.
8
599.6
2200(S)
NEW STR. LINE
SEE SHEET (5)

484 MERIDEN RD & RT 66

Location 484 MERIDEN RD & RT 66 **Mblu** 4/ / 5/ /

Acct# 00146700 **Owner** LAND MANAGMENT INC

Assessment $393,900 **PID** 1566

Building Count 3

Current Value

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2014	$160,600	$233,300	$393,900

Owner of Record

Owner LAND MANAGMENT INC
Co-Owner
Address 482 RT 66 & MERIDEN RD
MIDDLEFIELD, CT 06455

Sale Price $0
Certificate
Book & Page 66/ 682
Sale Date 09/30/1988

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
LAND MANAGMENT INC	$0		66/ 682	09/30/1988

Building Information

Building 1 : Section 1

Year Built: 1958
Living Area: 1,878
Replacement Cost: $166,389
Building Percent Good: 50
Replacement Cost Less Depreciation: $83,200

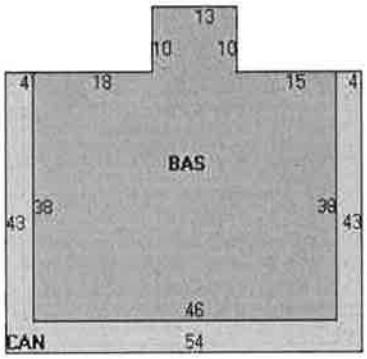
Building Attributes	
Field	**Description**
STYLE	Restaurant
MODEL	Comm/Ind
Grade	Average

Stories:	1
Occupancy	1
Exterior Wall 1	Single Siding
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Rolled Compos
Interior Wall 1	Plywood Panel
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	Terrazzo Monol
Heating Fuel	Gas/Oil
Heating Type	Forced Air-Duc
AC Type	Heat Pump
Bldg Use	REST/CLUBS
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	3260
Heat/AC	HEAT/AC PKGS
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	9
% Comn Wall	

Building Photo

(http://images.vgsi.com/photos/MiddlefieldCTPhotos//\01\00\2:

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	1,878	1,878
CAN	Canopy	574	0
		2,452	1,878

Building 2 : Section 1

Year Built: 1969
Living Area: 2,400
Replacement Cost: $166,298
Building Percent Good: 55
Replacement Cost Less Depreciation: $91,500

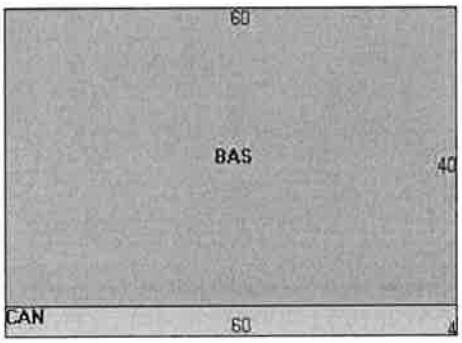
Building Attributes : Bldg 2 of 3	
Field	Description
STYLE	Store
MODEL	Ind/Comm
Grade	Below Average

Stories:	1
Occupancy	2
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	Brick
Roof Structure	Flat
Roof Cover	Rolled Compos
Interior Wall 1	Drywall
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	Carpet
Heating Fuel	Gas/Oil
Heating Type	Forced Air-Duc
AC Type	None
Bldg Use	STORE/SHOP
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	3220
Heat/AC	NONE
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
Ceiling/Wall	SUS-CEIL & WL
Rooms/Prtns	AVERAGE
Wall Height	9
% Comn Wall	

Building Photo

(http://images.vgsi.com/photos/MiddlefieldCTPhotos//\01\00\17

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	2,400	2,400
CAN	Canopy	240	0
		2,640	2,400

Building 3 : Section 1

Year Built: 1953
Living Area: 984
Replacement Cost: $85,800
Building Percent Good: 40
Replacement Cost Less Depreciation: $34,300

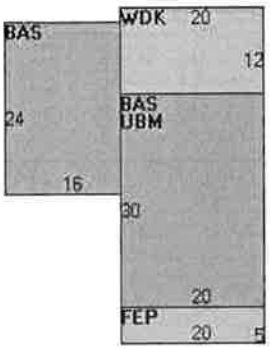
Building Attributes : Bldg 3 of 3	
Field	Description
Style	Ranch
Model	Residential
Grade:	Below Average

Stories:	1 Story
Occupancy	1
Exterior Wall 1	Aluminum Sidng
Exterior Wall 2	Pre-Fab Wood
Roof Structure:	Gable
Roof Cover	Asphalt Shingl
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Linoleum
Interior Flr 2	Carpet
Heat Fuel	Electric
Heat Type:	Electr Basebrd
AC Type:	None
Total Bedrooms:	2 Bedrooms
Total Bthrms:	1
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	5 Rooms
Bath Style:	Average
Kitchen Style:	Average
Whirlpool	

Building Photo

(http://images.vgsi.com/photos/MiddlefieldCTPhotos//\01\00\17

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	984	984
FEP	Porch, Enclosed	100	0
UBM	Basement, Unfinished	600	0
WDK	Deck, Wood	240	0
		1,924	984

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Land Line Valuation

Use Code	3260	**Size (Acres)**	3.49
Description	REST/CLUBS	**Frontage**	605
Zone	PC	**Depth**	
Neighborhood	A	**Assessed Value**	$233,300
Alt Land Appr	No		
Category			

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV1	PAVING-ASPHALT			20000 S.F.	$17,500	1
SHD2	SHED FR GD			280 S.F.	$1,700	1
SHD7	COM MAS			64 S.F.	$1,200	1