



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 190 ft Self Support Tower
ATC Asset Name : Bowdoinham
ATC Asset Number : 371959
Engineering Number : 15398867_C3_02
Proposed Carrier : VERIZON WIRELESS
Carrier Site Name : BOWDOINHAM_ME
Carrier Site Number : 5000166567
Site Location : Hilltop 88 Pond Rd
Bowdoinham, ME 04008-4224
44.0217° N, 69.9241° W
County : Sagadahoc
Date : November 7, 2025
Max Usage : 47%
Analysis Result : Pass

Created By:
Kobby Gyimah
Structural Engineer I



**Scott
Wirgau** Digitally signed
by Scott Wirgau
Date: 2025.11.10
09:29:13 -05'00'



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 190 ft Self Support tower to reflect the change in loading by VERIZON WIRELESS.

Supporting Documents

Tower:	Pirod Drawing #176272-B, dated August 14, 2003
Foundation:	Pirod Drawing #176272-B, dated August 14, 2003
Geotechnical:	Summit Project #7203, dated September 12, 2000

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:	109 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.23" radial ice concurrent
Code(s):	ANSI/TIA-222-I / 2021 IBC / Maine Uniform Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	$S_{05} = 0.23, S_{01} = 0.09$
Site Class:	Default

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 reach out to your American Tower contact. If you do not have an American Tower contact and have an Engineering question, please contact Engineering@americantower.com. Please include the American Tower asset name, asset number, and engineering number in the subject line for any questions.

Structure Usages

Structural Component	Usage	Control	Location	Result
Leg	47.1%	Member X	Section 8	Pass
Diagonal	47.4%	Block Shear	Section 8	Pass
Horizontal	7.4%	Bolt Bear	Section 10	Pass
Bolt	34.1%	-	Section 2	Pass
Serviceability Usage	7.7%	Rotation	Elevation 190 ft	Pass
Mat & Pier	27.0%	Moment [Soil]	Node 1	Pass

Maximum Reactions

Foundation	Moment (k-ft)	Axial (k)	Uplift (k)	Shear (k)
Self Support Base (Global)	4,273.3	70.3	-	39.9
Self Support Base (Local)	-	247.7	198.1	30.1

**Reactions shown are maximum overall and not limited by Load Case excluding Overstrength Load Cases*

Structure base reactions were analyzed using available geotechnical and foundation information.

VERIZON WIRELESS Final Loading

Elev (ft)	Qty	Equipment	Lines
153.0	1	Raycap RTH-0306-PFC	(1) 1 1/4" Hybriflex Cable (18) 1 5/8" Coax (1) 1 5/8" Hybriflex
	1	Raycap RVZDC-3315-PF-48	
	3	Sector Frame	
	3	Samsung MT6413-77A	
	3	Samsung RF4461d-13A	
	3	Samsung RF4801d-25A	
	6	Commscope NHH-65B-R2B	

Install proposed lines in the place of the existing VERIZON WIRELESS lines.

Other Existing/Reserved Loading

Elev (ft)	Qty	Equipment	Lines
190.0	3	Andrew HBXX-9014DS-A2M	(3) 1.99" (50.7mm) Hybrid
	3	Ericsson 4460 BAND 2/25	
	3	Ericsson AIR 6419 B41	
	3	Ericsson Radio 4449 B71 B85A	
	3	Sector Frame	
	3	RFS APXVAARR24_43-U-NA20	
178.0	3	Sector Frame	-
170.0	3	Sector Frame	-
169.1	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	-
	3	Commscope DT465B-2XR	-
168.7	3	RFS APXVSP18-C-A20 (62 lbs)	-
168.6	3	Alcatel-Lucent 1900MHz RRH (65MHz)	-
168.5	6	Alcatel-Lucent 2X50W RRH w/o Filter	-
168.0	-	-	(4) 1 1/4" Hybriflex Cable
164.4	3	Raycap DC6-48-60-18-8C-EV (Enclosure)	-
164.3	-	-	(1) 2" conduit
160.0	2	CCI DMP65R-BU8D	(2) 0.39" (10mm) Fiber Trunk (2) 0.61" (15.4mm) 8 AWG 2C (4) 0.78" (19.7mm) 8 AWG 6 (12) 1 5/8" Coax (1) 3/8" (0.38"- 9.5mm) RET Control Cable
	3	Ericsson RRUS 4449 B5, B12	
	3	Ericsson RRUS 4478 B14 (18.1" Height)	
	3	Ericsson RRUS 8843 B2, B66A	
	3	Sector Frame	
	3	Powerwave Allgon 7770.00	
	3	Powerwave Allgon LGP21401	
	3	Powerwave Allgon TT08-19DB111-001	
	4	CCI DMP65R-BU6DA	
139.0	1	Aviat Networks ODU 600v2	(2) 3/8" Coax
	1	Side Arm	
	1	Radio Waves SP2-10	
130.0	1	Stand-Off	(1) 7/8" Coax
	1	Sinclair SD212-HF2P4LDF(D00B)	
90.0	1	Side Arm	(1) 7/8" Coax
	1	Sinclair SD212-HF2P4LDF(D00B)	

(If table breaks across pages, please see previous page for data in merged cells)



Standard Conditions

All engineering services performed by ATC Tower Services, LLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts, and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of ATC Tower Services, LLC

It is the responsibility of the client to ensure that the information provided to ATC Tower Services, LLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and ATC Tower Services, LLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Tower Services, LLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

ASSET: Bowdoinham, 371959
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-1
 PROJECT: 15398867

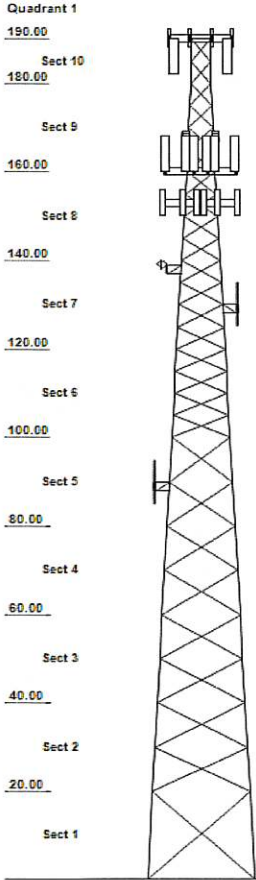
ANALYSIS PARAMETERS

Design Wind:	109 mph	Ice Wind:	50 mph w/ 1.23" ice	Service Wind:	60 mph
Risk Category:	II	Exposure:	B	S _{DS} :	0.230
Topo Factor:	Method 1	Topo Feature:	Flat	S _{DI} :	0.092
Structure Height:	190 ft	Base Elevation:	0 ft	Shape:	Triangle
Base Width:	22.00 ft	Top Width:	4.00 ft		

TOWER SECTION PROPERTIES

Section	Leg Members	Diagonal Members	Horizontal Members
1	18B 50 ksi 18"BD 2.5"	DAE 36 ksi 3.5X3.5X0.3125	
2	12B 50 ksi 12"BD 2.25"	SAE 36 ksi 4X4X0.25	
3	12B 50 ksi 12"BD 2.25"	SAE 36 ksi 3.5X3.5X0.3125	
4	12B 50 ksi 12"BD 2"	SAE 36 ksi 3.5X3.5X0.3125	
5	12B 50 ksi 12"BD 2"	SAE 36 ksi 3X3X0.3125	
6	SOL 50 ksi 3 1/4" SOLID	SAE 36 ksi 2.5X2.5X0.375	
7	SOL 50 ksi 3" SOLID	SAE 36 ksi 2.5X2.5X0.375	
8	SOL 50 ksi 2 1/2" SOLID	SAE 36 ksi 1.75X1.75X0.25	
9	SOL 50 ksi 2 1/4" SOLID	SAE 36 ksi 1.75X1.75X0.25	
10	SOL 50 ksi 1 1/2" SOLID	SAE 36 ksi 1.75X1.75X0.125	SAE 36 ksi 2.5X2.5X0.1875

Tower Elevation View



DISCRETE APPURTENANCE

LINEAR APPURTENANCE

Elev (ft)	Description	Elev (ft)	Description
190.0	(3) RFS APXVAARR24_43-U-NA20	190.0	(3) 1.99" (50.7mm) Hybrid
190.0	(3) Ericsson Radio 4449 B71 B85A	187.0	(1) Waveguide
190.0	(3) Ericsson 4460 BAND 2/25	181.0	(1) Waveguide
190.0	(3) Generic Round Sector Frame	168.0	(4) 1 1/4" Hybriflex Cable
190.0	(3) Andrew HBXX-9014DS-A2M	164.3	(1) 2" conduit
190.0	(3) Ericsson AIR 6419 B41	160.0	(1) 3/8" (0.38" - 9.5mm) RET Cont
178.0	(3) Generic Round Sector Frame	160.0	(2) 0.39" (10mm) Fiber Trunk
170.0	(3) Generic Round Sector Frame	160.0	(1) Waveguide
169.1	(3) Commscope DT465B-2XR	160.0	(12) 1 5/8" Coax
169.1	(3) Alcatel-Lucent TD-RRH8x20-25 w/ Sol	160.0	(2) 0.61" (15.4mm) 8 AWG 2C
168.7	(3) RFS APXVSPP18-C-A20 (62 lbs)	160.0	(4) 0.78" (19.7mm) 8 AWG 6
168.6	(3) Alcatel-Lucent 1900MHz RRH (65MHz)	153.0	(1) 1 5/8" Hybriflex
168.5	(6) Alcatel-Lucent 2X50W RRH w/o Filter	153.0	(1) 1 1/4" Hybriflex Cable
164.4	(3) Raycap DC6-48-60-18-8C-EV (Enclos	153.0	(18) 1 5/8" Coax
160.0	(3) Ericsson RRUS 4478 B14 (18.1" Heig	150.0	(1) Waveguide
160.0	(4) CCI DMP65R-BU6DA	140.0	(1) Waveguide
160.0	(3) Powerwave Allgon LGP21401	139.0	(2) 3/8" Coax
160.0	(3) Powerwave Allgon TT08-19DB111-00	130.0	(1) 7/8" Coax
160.0	(3) Ericsson RRUS 8843 B2, B66A	90.0	(1) 7/8" Coax
160.0	(3) Generic Round Sector Frame		
160.0	(2) CCI DMP65R-BU8D		
160.0	(3) Powerwave Allgon 7770.00		
160.0	(3) Ericsson RRUS 4449 B5, B12		
153.0	(1) Raycap RTH-0306-PFC		
153.0	(3) Samsung RF4461d-13A		
153.0	(3) Samsung MT6413-77A		
153.0	(3) Samsung RF4801d-25A		
153.0	(3) Generic Sector Frame		
153.0	(1) Raycap RVZDC-3315-PF-48		
153.0	(6) Commscope NHH-65B-R2B		
139.0	(1) Radio Waves SP2-10		
139.0	(1) Aviat Networks ODU 600v2		
139.0	(1) Generic Flat Side Arm		
130.0	(1) Sinclair SD212-HF2P4LDF(D00B)		
130.0	(1) Generic Flat Stand-Off		
90.0	(1) Generic Flat Side Arm		
90.0	(1) Sinclair SD212-HF2P4LDF(D00B)		

GLOBAL BASE REACTIONS

	DL+WL	DL+WL+IL
Moment (k-ft):	4,273.26	1,742.16
Axial (k):	70.29	143.61
Shear (k):	39.86	16.65

INDIVIDUAL BASE REACTIONS

Comp (k):	247.72
Uplift (k):	198.12
Shear (k):	30.06

ASSET: 371959, Bowdoinham
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-1
PROJECT: 15398867_C3_02

ANALYSIS PARAMETERS

Location:	Sagadahoc County, ME	Height:	190 ft
Type and Shape:	Self Support, Triangle	Base Elevation:	0.00 ft
Manufacturer:	Pirol	Bottom Face Width:	22.00 ft
Kd	0.85	Top Face Width:	4.00 ft
Ke:	0.99	Anchor Bolt Detail Type:	c

ICE & WIND PARAMETERS

Exposure Category:	B	Design Wind Speed Without Ice:	109 mph
		Design Wind Speed with Ice:	50 mph
Risk Category:	II	Operational Windspeed:	60 mph
Topographic Factor Procedure:	Method 1		
Crest Height(H):	0 ft	Design Ice Thickness:	1.23 in
Crest Length(L):	0 ft	HMSL:	204 ft
Feature:	Flat	Distance from Apex (x):	0
		Upwind/Downwind:	Upwind

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	Default	Period Based on Rayleigh Method (sec):	0.93
T _L (sec):	6	P:	1.3
S _{ds} :	0.230	S _{d1} :	0.092
		C _s :	0.033
		C _{s, Max} :	0.033
		C _{s, Min} :	0.030

LOAD CASES

1.2D + 1.0W Normal	1.2D + 1.0W Normal - 109 mph Wind with No Ice
1.2D + 1.0W 60°	1.2D + 1.0W 60° - 109 mph Wind with No Ice
1.2D + 1.0W 90°	1.2D + 1.0W 90° - 109 mph Wind with No Ice
1.2D + 1.0W 120°	1.2D + 1.0W 120° - 109 mph Wind with No Ice
1.2D + 1.0W 180°	1.2D + 1.0W 180° - 109 mph Wind with No Ice
1.2D + 1.0W 210°	1.2D + 1.0W 210° - 109 mph Wind with No Ice
1.2D + 1.0W 240°	1.2D + 1.0W 240° - 109 mph Wind with No Ice
1.2D + 1.0W 300°	1.2D + 1.0W 300° - 109 mph Wind with No Ice
1.2D + 1.0W 330°	1.2D + 1.0W 330° - 109 mph Wind with No Ice
0.9D + 1.0W Normal	0.9D + 1.0W Normal - 109 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 60°	0.9D + 1.0W 60° - 109 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 90°	0.9D + 1.0W 90° - 109 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 120°	0.9D + 1.0W 120° - 109 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 180°	0.9D + 1.0W 180° - 109 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 210°	0.9D + 1.0W 210° - 109 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 240°	0.9D + 1.0W 240° - 109 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 300°	0.9D + 1.0W 300° - 109 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 330°	0.9D + 1.0W 330° - 109 mph Wind with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	1.2D + 1.0Di + 1.0Wi Normal - 50 mph Wind with 1.23" Radial Ice
1.2D + 1.0Di + 1.0Wi 60°	1.2D + 1.0Di + 1.0Wi 60° - 50 mph Wind with 1.23" Radial Ice
1.2D + 1.0Di + 1.0Wi 90°	1.2D + 1.0Di + 1.0Wi 90° - 50 mph Wind with 1.23" Radial Ice
1.2D + 1.0Di + 1.0Wi 120°	1.2D + 1.0Di + 1.0Wi 120° - 50 mph Wind with 1.23" Radial Ice
1.2D + 1.0Di + 1.0Wi 180°	1.2D + 1.0Di + 1.0Wi 180° - 50 mph Wind with 1.23" Radial Ice
1.2D + 1.0Di + 1.0Wi 210°	1.2D + 1.0Di + 1.0Wi 210° - 50 mph Wind with 1.23" Radial Ice
1.2D + 1.0Di + 1.0Wi 240°	1.2D + 1.0Di + 1.0Wi 240° - 50 mph Wind with 1.23" Radial Ice
1.2D + 1.0Di + 1.0Wi 300°	1.2D + 1.0Di + 1.0Wi 300° - 50 mph Wind with 1.23" Radial Ice

LOAD CASES

1.2D + 1.0Di + 1.0Wi 330°	1.2D + 1.0Di + 1.0Wi 330° - 50 mph Wind with 1.23" Radial Ice
1.2D + 1.0Ev + 1.0Eh Normal	1.2D + 1.0Ev + 1.0Eh Normal - Seismic
1.2D + 1.0Ev + 1.0Eh 60°	1.2D + 1.0Ev + 1.0Eh 60° - Seismic
1.2D + 1.0Ev + 1.0Eh 90°	1.2D + 1.0Ev + 1.0Eh 90° - Seismic
1.2D + 1.0Ev + 1.0Eh 120°	1.2D + 1.0Ev + 1.0Eh 120° - Seismic
1.2D + 1.0Ev + 1.0Eh 180°	1.2D + 1.0Ev + 1.0Eh 180° - Seismic
1.2D + 1.0Ev + 1.0Eh 210°	1.2D + 1.0Ev + 1.0Eh 210° - Seismic
1.2D + 1.0Ev + 1.0Eh 240°	1.2D + 1.0Ev + 1.0Eh 240° - Seismic
1.2D + 1.0Ev + 1.0Eh 300°	1.2D + 1.0Ev + 1.0Eh 300° - Seismic
1.2D + 1.0Ev + 1.0Eh 330°	1.2D + 1.0Ev + 1.0Eh 330° - Seismic
0.9D - 1.0Ev + 1.0Eh Normal	0.9D - 1.0Ev + 1.0Eh Normal - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 60°	0.9D - 1.0Ev + 1.0Eh 60° - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 90°	0.9D - 1.0Ev + 1.0Eh 90° - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 120°	0.9D - 1.0Ev + 1.0Eh 120° - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 180°	0.9D - 1.0Ev + 1.0Eh 180° - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 210°	0.9D - 1.0Ev + 1.0Eh 210° - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 240°	0.9D - 1.0Ev + 1.0Eh 240° - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 300°	0.9D - 1.0Ev + 1.0Eh 300° - Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 330°	0.9D - 1.0Ev + 1.0Eh 330° - Seismic (Reduced DL)
1.0D + 1.0W Service Normal	1.0D + 1.0W Service Normal - 60 mph Wind with No Ice
1.0D + 1.0W Service 60°	1.0D + 1.0W Service 60° - 60 mph Wind with No Ice
1.0D + 1.0W Service 90°	1.0D + 1.0W Service 90° - 60 mph Wind with No Ice
1.0D + 1.0W Service 120°	1.0D + 1.0W Service 120° - 60 mph Wind with No Ice
1.0D + 1.0W Service 180°	1.0D + 1.0W Service 180° - 60 mph Wind with No Ice
1.0D + 1.0W Service 210°	1.0D + 1.0W Service 210° - 60 mph Wind with No Ice
1.0D + 1.0W Service 240°	1.0D + 1.0W Service 240° - 60 mph Wind with No Ice
1.0D + 1.0W Service 300°	1.0D + 1.0W Service 300° - 60 mph Wind with No Ice
1.0D + 1.0W Service 330°	1.0D + 1.0W Service 330° - 60 mph Wind with No Ice
1.2D + 1.0Ev + 1.5Eh Normal	1.2D + 1.0Ev + 1.5Eh Normal - Seismic Overstrength
1.2D + 1.0Ev + 1.5Eh 60°	1.2D + 1.0Ev + 1.5Eh 60° - Seismic Overstrength
1.2D + 1.0Ev + 1.5Eh 90°	1.2D + 1.0Ev + 1.5Eh 90° - Seismic Overstrength
1.2D + 1.0Ev + 1.5Eh 120°	1.2D + 1.0Ev + 1.5Eh 120° - Seismic Overstrength
1.2D + 1.0Ev + 1.5Eh 180°	1.2D + 1.0Ev + 1.5Eh 180° - Seismic Overstrength
1.2D + 1.0Ev + 1.5Eh 210°	1.2D + 1.0Ev + 1.5Eh 210° - Seismic Overstrength
1.2D + 1.0Ev + 1.5Eh 240°	1.2D + 1.0Ev + 1.5Eh 240° - Seismic Overstrength
1.2D + 1.0Ev + 1.5Eh 300°	1.2D + 1.0Ev + 1.5Eh 300° - Seismic Overstrength
1.2D + 1.0Ev + 1.5Eh 330°	1.2D + 1.0Ev + 1.5Eh 330° - Seismic Overstrength
0.9D - 1.0Ev + 1.5Eh Normal	0.9D - 1.0Ev + 1.5Eh Normal - Seismic Overstrength (Reduced DL)
0.9D - 1.0Ev + 1.5Eh 60°	0.9D - 1.0Ev + 1.5Eh 60° - Seismic Overstrength (Reduced DL)
0.9D - 1.0Ev + 1.5Eh 90°	0.9D - 1.0Ev + 1.5Eh 90° - Seismic Overstrength (Reduced DL)
0.9D - 1.0Ev + 1.5Eh 120°	0.9D - 1.0Ev + 1.5Eh 120° - Seismic Overstrength (Reduced DL)
0.9D - 1.0Ev + 1.5Eh 180°	0.9D - 1.0Ev + 1.5Eh 180° - Seismic Overstrength (Reduced DL)
0.9D - 1.0Ev + 1.5Eh 210°	0.9D - 1.0Ev + 1.5Eh 210° - Seismic Overstrength (Reduced DL)
0.9D - 1.0Ev + 1.5Eh 240°	0.9D - 1.0Ev + 1.5Eh 240° - Seismic Overstrength (Reduced DL)
0.9D - 1.0Ev + 1.5Eh 300°	0.9D - 1.0Ev + 1.5Eh 300° - Seismic Overstrength (Reduced DL)
0.9D - 1.0Ev + 1.5Eh 330°	0.9D - 1.0Ev + 1.5Eh 330° - Seismic Overstrength (Reduced DL)

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

TOWER LOADING - DISCRETE APPURTENANCE

Discrete Appurtenance Properties for LC: 1.2D + 1.0W

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc. (ft)	M _u (lb-ft)	Q ₂ (psf)	F _a (WL) (lb)	P _a (DL) (lb)
190.0	Ericsson Radio 4449 B71 B85A	3	75	1.6	1.3	13.2	10.5	0.80	0.50	0.0	0.00	28.94	49	270
190.0	Ericsson 4460 BAND 2/25	3	109	2.6	1.6	15.7	12.1	0.80	0.50	0.0	0.00	28.94	76	392
190.0	Andrew HBXX-9014DS-A2M	3	30	5.4	4.2	12.0	6.5	0.80	0.67	0.0	0.00	28.94	214	107
190.0	Ericsson AIR 6419 B41	3	69	5.6	2.8	20.0	6.3	0.80	0.63	0.0	0.00	28.94	208	247
190.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	28.94	598	1080
190.0	RFS APXVAARR24_43-U-NA20	3	128	20.2	8.0	24.0	8.7	0.80	0.63	-1.1	826.78	28.89	752	460
178.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	28.44	587	1080
170.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	28.09	580	1080
169.1	Alcatel-Lucent TD-RRH8x20-25 w	3	70	4.0	2.2	18.6	6.7	0.80	0.50	-0.9	104.03	28.01	116	252
169.1	Commscope DT465B-2XR	3	58	9.1	6.0	13.8	8.2	0.80	0.69	-1.0	358.65	28.01	359	209
168.7	RFS APXVSP18-C-A20 (62 lbs)	3	62	8.0	6.0	11.8	7.9	0.80	0.71	-1.0	325.27	27.99	325	223
168.6	Alcatel-Lucent 1900MHz RRH (65	3	60	2.4	2.1	11.1	11.4	0.80	0.50	-1.4	94.84	27.97	68	216
168.5	Alcatel-Lucent 2X50W RRH w/o F	6	53	2.1	1.6	13.0	8.6	0.80	0.50	-1.5	176.05	27.96	117	382
164.4	Raycap DC6-48-60-18-8C-EV (Enc	3	16	2.7	2.2	12.4	9.7	0.80	0.67	0.0	0.00	27.84	102	58
160.0	Powerwave Allgon TT08-19DB111-	3	22	0.8	1.2	6.7	5.4	0.80	0.50	1.5	33.62	27.71	22	79
160.0	Powerwave Allgon LGP21401	3	14	1.1	1.2	9.2	2.6	0.80	0.50	1.5	46.80	27.71	31	51
160.0	Ericsson RRUS 8843 B2, B66A	3	72	1.6	1.2	13.2	10.9	0.80	0.50	1.6	74.13	27.71	46	259
160.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	1.4	77.89	27.70	56	256
160.0	Ericsson RRUS 4478 B14 (18.1"	3	59	2.0	1.5	13.4	8.3	0.80	0.50	1.6	91.40	27.71	57	214
160.0	Powerwave Allgon 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	1.5	303.55	27.71	202	126
160.0	CCI DMP65R-BU6DA	4	79	12.7	5.9	20.7	7.7	0.80	0.63	1.2	723.75	27.69	603	381
160.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	27.64	571	1080
160.0	CCI DMP65R-BU8D	2	96	17.9	8.0	20.7	7.7	0.80	0.72	0.3	145.17	27.65	484	230
153.0	Raycap RTH-0306-PFC	1	11	1.0	1.0	9.7	5.4	0.80	1.00	0.0	0.00	27.31	19	13
153.0	Samsung RF4461d-13A	3	79	1.9	1.3	15.0	10.2	0.80	0.50	0.0	0.00	27.31	52	285
153.0	Raycap RVZDC-3315-PF-48	1	21	2.5	1.6	15.7	10.3	0.80	1.00	0.0	0.00	27.31	47	26
153.0	Samsung RF4801d-25A	3	88	3.1	1.8	17.3	7.2	0.80	0.62	0.0	0.00	27.31	108	317
153.0	Samsung MT6413-77A	3	57	3.8	2.4	15.8	5.5	0.80	0.61	0.0	0.00	27.31	129	206
153.0	Commscope NHH-65B-R2B	6	44	8.1	6.0	11.9	7.1	0.80	0.69	0.0	0.00	27.31	621	315
153.0	Generic Sector Frame	3	800	20.0	0.0	0.0	0.0	0.75	1.00	0.0	0.00	27.31	1045	2880
139.0	Aviat Networks ODU 600v2	1	8	0.5	0.8	7.1	3.0	1.00	1.00	0.0	0.00	26.62	12	9
139.0	Radio Waves SP2-10	1	22	6.0	2.1	25.7	11.9	1.00	1.00	0.0	0.00	26.62	136	26
139.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	26.62	143	225
130.0	Sinclair SD212-HF2P4LDF(D00B)	1	39	4.1	10.0	24.6	4.8	1.00	1.00	0.0	0.00	26.15	92	47
130.0	Generic Flat Stand-Off	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	26.15	140	225
90.0	Sinclair SD212-HF2P4LDF(D00B)	1	39	4.1	10.0	24.6	4.8	1.00	1.00	0.0	0.00	23.71	83	47
90.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	23.71	127	225
Totals		99	11,314	668.0									8,976	13,576

Discrete Appurtenance Properties for LC: 0.9D + 1.0W

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc. (ft)	M _u (lb-ft)	Q ₂ (psf)	F _a (WL) (lb)	P _a (DL) (lb)
190.0	Ericsson Radio 4449 B71 B85A	3	75	1.6	1.3	13.2	10.5	0.80	0.50	0.0	0.00	28.94	49	202
190.0	Ericsson 4460 BAND 2/25	3	109	2.6	1.6	15.7	12.1	0.80	0.50	0.0	0.00	28.94	76	294
190.0	Andrew HBXX-9014DS-A2M	3	30	5.4	4.2	12.0	6.5	0.80	0.67	0.0	0.00	28.94	214	80
190.0	Ericsson AIR 6419 B41	3	69	5.6	2.8	20.0	6.3	0.80	0.63	0.0	0.00	28.94	208	185
190.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	28.94	598	810
190.0	RFS APXVAARR24_43-U-NA20	3	128	20.2	8.0	24.0	8.7	0.80	0.63	-1.1	826.78	28.89	752	345
178.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	28.44	587	810
170.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	28.09	580	810
169.1	Alcatel-Lucent TD-RRH8x20-25 w	3	70	4.0	2.2	18.6	6.7	0.80	0.50	-0.9	104.03	28.01	116	189
169.1	Commscope DT465B-2XR	3	58	9.1	6.0	13.8	8.2	0.80	0.69	-1.0	358.65	28.01	359	157
168.7	RFS APXVSP18-C-A20 (62 lbs)	3	62	8.0	6.0	11.8	7.9	0.80	0.71	-1.0	325.27	27.99	325	167
168.6	Alcatel-Lucent 1900MHz RRH (65	3	60	2.4	2.1	11.1	11.4	0.80	0.50	-1.4	94.84	27.97	68	162
168.5	Alcatel-Lucent 2X50W RRH w/o F	6	53	2.1	1.6	13.0	8.6	0.80	0.50	-1.5	176.05	27.96	117	286
164.4	Raycap DC6-48-60-18-8C-EV (Enc	3	16	2.7	2.2	12.4	9.7	0.80	0.67	0.0	0.00	27.84	102	43
160.0	Powerwave Allgon TT08-19DB111-	3	22	0.8	1.2	6.7	5.4	0.80	0.50	1.5	33.62	27.71	22	59
160.0	Powerwave Allgon LGP21401	3	14	1.1	1.2	9.2	2.6	0.80	0.50	1.5	46.80	27.71	31	38
160.0	Ericsson RRUS 8843 B2, B66A	3	72	1.6	1.2	13.2	10.9	0.80	0.50	1.6	74.13	27.71	46	194
160.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	1.4	77.89	27.70	56	192
160.0	Ericsson RRUS 4478 B14 (18.1"	3	59	2.0	1.5	13.4	8.3	0.80	0.50	1.6	91.40	27.71	57	160
160.0	Powerwave Allgon 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	1.5	303.55	27.71	202	94
160.0	CCI DMP65R-BU6DA	4	79	12.7	5.9	20.7	7.7	0.80	0.63	1.2	723.75	27.69	603	286
160.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	27.64	571	810
160.0	CCI DMP65R-BU8D	2	96	17.9	8.0	20.7	7.7	0.80	0.72	0.3	145.17	27.65	484	172
153.0	Raycap RTH-0306-PFC	1	11	1.0	1.0	9.7	5.4	0.80	1.00	0.0	0.00	27.31	19	10
153.0	Samsung RF4461d-13A	3	79	1.9	1.3	15.0	10.2	0.80	0.50	0.0	0.00	27.31	52	214
153.0	Raycap RVZDC-3315-PF-48	1	21	2.5	1.6	15.7	10.3	0.80	1.00	0.0	0.00	27.31	47	19
153.0	Samsung RF4801d-25A	3	88	3.1	1.8	17.3	7.2	0.80	0.62	0.0	0.00	27.31	108	238
153.0	Samsung MT6413-77A	3	57	3.8	2.4	15.8	5.5	0.80	0.61	0.0	0.00	27.31	129	155
153.0	Commscope NHH-65B-R2B	6	44	8.1	6.0	11.9	7.1	0.80	0.69	0.0	0.00	27.31	621	236
153.0	Generic Sector Frame	3	800	20.0	0.0	0.0	0.0	0.75	1.00	0.0	0.00	27.31	1045	2160
139.0	Aviat Networks ODU 600v2	1	8	0.5	0.8	7.1	3.0	1.00	1.00	0.0	0.00	26.62	12	7
139.0	Radio Waves SP2-10	1	22	6.0	2.1	25.7	11.9	1.00	1.00	0.0	0.00	26.62	136	20
139.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	26.62	143	169

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc. (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
130.0	Sinclair SD212-HF2P4LDF(D00B)	1	39	4.1	10.0	24.6	4.8	1.00	1.00	0.0	0.00	26.15	92	35
130.0	Generic Flat Stand-Off	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	26.15	140	169
90.0	Sinclair SD212-HF2P4LDF(D00B)	1	39	4.1	10.0	24.6	4.8	1.00	1.00	0.0	0.00	23.71	83	35
90.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	23.71	127	169
Totals		99	11,314	668.0									8,976	10,182

Discrete Appurtenance Properties for LC: 1.2D + 1.0DI + 1.0WI

Elev (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc. (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
190.0	Ericsson Radio 4449 B71 B85A	3	125	2.4	1.3	13.2	10.5	0.80	0.50	0.0	0.00	6.09	15	421
190.0	Ericsson 4460 BAND 2/25	3	183	3.4	1.6	15.7	12.1	0.80	0.50	0.0	0.00	6.09	21	615
190.0	Andrew HBXX-9014DS-A2M	3	133	7.1	4.2	12.0	6.5	0.80	0.67	0.0	0.00	6.09	59	417
190.0	Ericsson AIR 6419 B41	3	170	6.9	2.8	20.0	6.3	0.80	0.63	0.0	0.00	6.09	54	551
190.0	Generic Round Sector Frame	3	609	28.3	0.0	0.0	0.0	0.75	0.75	0.0	0.00	6.09	247	2006
190.0	RFS APXVAARR24_43-U-NA20	3	457	23.4	8.0	24.0	8.7	0.80	0.63	-1.1	200.72	6.08	182	1449
178.0	Generic Round Sector Frame	3	606	28.2	0.0	0.0	0.0	0.75	0.75	0.0	0.00	5.98	242	1998
170.0	Generic Round Sector Frame	3	606	28.2	0.0	0.0	0.0	0.75	0.75	0.0	0.00	5.91	239	1998
169.1	Alcatel-Lucent TD-RRH8x20-25 w	3	149	5.2	2.2	18.6	6.7	0.80	0.50	-0.9	27.87	5.89	31	488
169.1	Commscope DT465B-2XR	3	226	11.4	6.0	13.8	8.2	0.80	0.69	-1.0	94.58	5.89	95	713
168.7	RFS APXVSP18-C-A20 (62 lbs)	3	213	10.3	6.0	11.8	7.9	0.80	0.71	-1.0	88.24	5.89	88	675
168.6	Alcatel-Lucent 1900MHz RRH (65	3	129	3.3	2.1	11.1	11.4	0.80	0.50	-1.4	27.55	5.88	20	424
168.5	Alcatel-Lucent 2X50W RRH w/o F	6	106	2.9	1.6	13.0	8.6	0.80	0.50	-1.5	51.39	5.88	34	699
164.4	Raycap DC6-48-60-18-8C-EV (Enc	3	86	3.6	2.2	12.4	9.7	0.80	0.67	0.0	0.00	5.86	29	267
160.0	Powerwave Allgon TT08-19DB111-	3	44	1.3	1.2	6.7	5.4	0.80	0.50	1.5	11.73	5.83	8	145
160.0	Powerwave Allgon LGP21401	3	35	1.7	1.2	9.2	2.6	0.80	0.50	1.5	15.08	5.83	10	112
160.0	Ericsson RRUS 8843 B2, B66A	3	122	2.3	1.2	13.2	10.9	0.80	0.50	1.6	22.20	5.83	14	410
160.0	Ericsson RRUS 4449 B5, B12	3	124	2.7	1.5	13.2	9.4	0.80	0.50	1.4	22.77	5.83	16	414
160.0	Ericsson RRUS 4478 B14 (18.1"	3	110	2.8	1.5	13.4	8.3	0.80	0.50	1.6	26.61	5.83	17	365
160.0	Powerwave Allgon 7770.00	3	128	7.3	4.6	11.0	5.0	0.80	0.65	1.5	84.13	5.83	56	406
160.0	CCI DMP65R-BU6DA	4	291	15.0	5.9	20.7	7.7	0.80	0.63	1.2	179.75	5.83	150	1228
160.0	Generic Round Sector Frame	3	602	28.0	0.0	0.0	0.0	0.75	0.75	0.0	0.00	5.82	234	1987
160.0	CCI DMP65R-BU8D	2	375	20.9	8.0	20.7	7.7	0.80	0.72	0.3	35.72	5.82	119	788
153.0	Raycap RTH-0306-PFC	1	36	1.6	1.0	9.7	5.4	0.80	1.00	0.0	0.00	5.75	6	38
153.0	Samsung RF4461d-13A	3	132	2.6	1.3	15.0	10.2	0.80	0.50	0.0	0.00	5.75	15	444
153.0	Raycap RVZDC-3315-PF-48	1	87	3.4	1.6	15.7	10.3	0.80	1.00	0.0	0.00	5.75	13	91
153.0	Samsung RF4801d-25A	3	153	4.1	1.8	17.3	7.2	0.80	0.62	0.0	0.00	5.75	30	513
153.0	Samsung MT6413-77A	3	127	4.9	2.4	15.8	5.5	0.80	0.61	0.0	0.00	5.75	35	416
153.0	Commscope NHH-65B-R2B	6	187	10.4	6.0	11.9	7.1	0.80	0.69	0.0	0.00	5.75	168	1174
153.0	Generic Sector Frame	3	1716	33.7	0.0	0.0	0.0	0.75	1.00	0.0	0.00	5.75	371	5628
139.0	Aviat Networks ODU 600v2	1	20	0.9	0.8	7.1	3.0	1.00	1.00	0.0	0.00	5.60	4	21
139.0	Radio Waves SP2-10	1	69	7.3	2.1	25.7	11.9	1.00	1.00	0.0	0.00	5.60	35	74
139.0	Generic Flat Side Arm	1	295	8.8	0.0	0.0	0.0	1.00	1.00	0.0	0.00	5.60	42	333
130.0	Sinclair SD212-HF2P4LDF(D00B)	1	134	9.9	10.0	24.6	4.8	1.00	1.00	0.0	0.00	5.50	46	142
130.0	Generic Flat Stand-Off	1	295	8.8	0.0	0.0	0.0	1.00	1.00	0.0	0.00	5.50	41	333
90.0	Sinclair SD212-HF2P4LDF(D00B)	1	131	9.7	10.0	24.6	4.8	1.00	1.00	0.0	0.00	4.99	41	139
90.0	Generic Flat Side Arm	1	292	8.7	0.0	0.0	0.0	1.00	1.00	0.0	0.00	4.99	37	329
Totals		99	25,987	999.6									2865	28,250

Discrete Appurtenance Properties for LC: 1.0D + 1.0W Service

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc. (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
190.0	Ericsson Radio 4449 B71 B85A	3	75	1.6	1.3	13.2	10.5	0.80	0.50	0.0	0.00	8.77	15	225
190.0	Ericsson 4460 BAND 2/25	3	109	2.6	1.6	15.7	12.1	0.80	0.50	0.0	0.00	8.77	23	327
190.0	Andrew HBXX-9014DS-A2M	3	30	5.4	4.2	12.0	6.5	0.80	0.67	0.0	0.00	8.77	65	89
190.0	Ericsson AIR 6419 B41	3	69	5.6	2.8	20.0	6.3	0.80	0.63	0.0	0.00	8.77	63	206
190.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	8.77	181	900
190.0	RFS APXVAARR24_43-U-NA20	3	128	20.2	8.0	24.0	8.7	0.80	0.63	-1.1	250.52	8.75	228	384
178.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	8.62	178	900
170.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	8.51	176	900
169.1	Alcatel-Lucent TD-RRH8x20-25 w	3	70	4.0	2.2	18.6	6.7	0.80	0.50	-0.9	31.52	8.49	35	210
169.1	Commscope DT465B-2XR	3	58	9.1	6.0	13.8	8.2	0.80	0.69	-1.0	108.67	8.49	109	174
168.7	RFS APXVSP18-C-A20 (62 lbs)	3	62	8.0	6.0	11.8	7.9	0.80	0.71	-1.0	98.56	8.48	99	186
168.6	Alcatel-Lucent 1900MHz RRH (65	3	60	2.4	2.1	11.1	11.4	0.80	0.50	-1.4	28.74	8.47	21	180
168.5	Alcatel-Lucent 2X50W RRH w/o F	6	53	2.1	1.6	13.0	8.6	0.80	0.50	-1.5	53.35	8.47	36	318
164.4	Raycap DC6-48-60-18-8C-EV (Enc	3	16	2.7	2.2	12.4	9.7	0.80	0.67	0.0	0.00	8.44	31	48
160.0	Powerwave Allgon TT08-19DB111-	3	22	0.8	1.2	6.7	5.4	0.80	0.50	1.5	10.19	8.40	7	66
160.0	Powerwave Allgon LGP21401	3	14	1.1	1.2	9.2	2.6	0.80	0.50	1.5	14.18	8.40	9	42
160.0	Ericsson RRUS 8843 B2, B66A	3	72	1.6	1.2	13.2	10.9	0.80	0.50	1.6	22.46	8.40	14	216
160.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	1.4	23.60	8.39	17	213
160.0	Ericsson RRUS 4478 B14 (18.1"	3	59	2.0	1.5	13.4	8.3	0.80	0.50	1.6	27.70	8.40	17	178
160.0	Powerwave Allgon 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	1.5	91.98	8.40	61	105
160.0	CCI DMP65R-BU6DA	4	79	12.7	5.9	20.7	7.7	0.80	0.63	1.2	219.30	8.39	183	318
160.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	8.37	173	900
160.0	CCI DMP65R-BU8D	2	96	17.9	8.0	20.7	7.7	0.80	0.72	0.3	43.99	8.38	147	191
153.0	Raycap RTH-0306-PFC	1	11	1.0	1.0	9.7	5.4	0.80	1.00	0.0	0.00	8.28	6	11
153.0	Samsung RF4461d-13A	3	79	1.9	1.3	15.0	10.2	0.80	0.50	0.0	0.00	8.28	16	237

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc. (ft)	M _u (lb-ft)	Q ₂ (psf)	F _a (WL) (lb)	P _a (DL) (lb)
153.0	Raycap RVZDC-3315-PF-48	1	21	2.5	1.6	15.7	10.3	0.80	1.00	0.0	0.00	8.28	14	21
153.0	Samsung RF4801d-25A	3	88	3.1	1.8	17.3	7.2	0.80	0.62	0.0	0.00	8.28	33	264
153.0	Samsung MT6413-77A	3	57	3.8	2.4	15.8	5.5	0.80	0.61	0.0	0.00	8.28	39	172
153.0	Commscope NHH-65B-R2B	6	44	8.1	6.0	11.9	7.1	0.80	0.69	0.0	0.00	8.28	188	262
153.0	Generic Sector Frame	3	800	20.0	0.0	0.0	0.0	0.75	1.00	0.0	0.00	8.28	317	2400
139.0	Aviat Networks ODU 600v2	1	8	0.5	0.8	7.1	3.0	1.00	1.00	0.0	0.00	8.07	4	8
139.0	Radio Waves SP2-10	1	22	6.0	2.1	25.7	11.9	1.00	1.00	0.0	0.00	8.07	41	22
139.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	8.07	43	188
130.0	Sinclair SD212-HF2P4LDF(D00B)	1	39	4.1	10.0	24.6	4.8	1.00	1.00	0.0	0.00	7.92	28	39
130.0	Generic Flat Stand-Off	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	7.92	42	188
90.0	Sinclair SD212-HF2P4LDF(D00B)	1	39	4.1	10.0	24.6	4.8	1.00	1.00	0.0	0.00	7.18	25	39
90.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	7.18	38	188
Totals		99	11,314	668.0									2,720	11,314

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

TOWER LOADING - LINEAR APPURTENANCE

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	% In Wind	Spread On Faces	Bundling	Cluster Dia (in)	Out of Zone	Spacing (in)	Orient. Factor	K _a Override
0.0	190.0	1.99" (50.7mm) Hybrid	3	1.99	1.90	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	187.0	Waveguide	1	2.00	6.00	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	181.0	Waveguide	1	2.00	6.00	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	168.0	1 1/4" Hybriflex Cable	4	1.54	1.00	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	164.3	2" conduit	1	2.38	3.65	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	160.0	0.78" (19.7mm) 8 AWG 6	4	0.78	0.59	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	160.0	Waveguide	1	2.00	6.00	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	160.0	3/8" (0.38"- 9.5mm) RET Contro	1	0.38	0.23	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	160.0	1 5/8" Coax	12	1.98	0.82	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	160.0	0.39" (10mm) Fiber Trunk	2	0.39	0.06	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	160.0	0.61" (15.4mm) 8 AWG 2C	2	0.61	0.31	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	153.0	1 5/8" Hybriflex	1	1.98	1.30	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	153.0	1 1/4" Hybriflex Cable	1	1.54	1.00	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	153.0	1 5/8" Coax	18	1.98	0.82	50	3	Block	0.00	N	1.00	1.00	0.00
0.0	150.0	Waveguide	1	2.00	6.00	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	140.0	Waveguide	1	2.00	6.00	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	139.0	3/8" Coax	2	0.44	0.08	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	130.0	7/8" Coax	1	1.09	0.33	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	90.0	7/8" Coax	1	1.09	0.33	100	1	Individual	0.00	N	1.00	1.00	0.00

SECTION FORCES

1.2D + 1.0W Normal
 109 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	28.73	4.460	2.500	0.00	0.169	2.70	1.00	1.00	0.0	5.88	15.91	0.00	519	0	389	127	515	
9	170	28.09	8.042	7.512	0.00	0.150	2.77	1.00	1.00	0.0	12.31	34.11	0.00	2023	0	814	447	1262	
8	150	27.17	9.796	8.347	0.00	0.126	2.86	1.00	1.00	0.0	14.52	41.55	0.00	3298	0	959	2181	3140	
7	130	26.15	16.746	10.017	0.00	0.145	2.79	1.00	1.00	0.0	22.43	62.60	0.00	5258	0	1391	2604	3995	
6	110	25.01	19.634	10.851	0.00	0.135	2.83	1.00	1.00	0.0	25.78	72.86	0.00	5867	0	1549	2505	4054	
5	90	23.71	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	25.84	72.60	0.00	6540	0	1463	2388	3851	
4	70	22.17	20.384	22.037	0.00	0.136	2.82	1.00	1.00	0.0	30.60	86.36	0.00	6973	0	1628	2245	3873	
3	50	20.27	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	33.18	94.36	0.00	7797	0	1626	2053	3678	
2	30	17.96	27.824	23.639	0.00	0.131	2.84	1.00	1.00	0.0	38.68	109.91	0.00	7793	0	1678	1819	3498	
1	10	17.96	16.538	26.210	0.00	0.099	2.97	1.00	1.00	0.0	26.88	79.81	0.00	10649	0	1219	1819	3038	
														Totals	56,719	0			30,904

1.2D + 1.0W 60°
 109 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	28.73	4.460	2.500	0.00	0.169	2.70	0.80	1.00	0.0	4.99	13.50	0.00	519	0	330	127	456	
9	170	28.09	8.042	7.512	0.00	0.150	2.77	0.80	1.00	0.0	10.70	29.65	0.00	2023	0	708	447	1155	
8	150	27.17	9.796	8.347	0.00	0.126	2.86	0.80	1.00	0.0	12.56	35.94	0.00	3298	0	830	2181	3011	
7	130	26.15	16.746	10.017	0.00	0.145	2.79	0.80	1.00	0.0	19.08	53.25	0.00	5258	0	1184	2604	3787	
6	110	25.01	19.634	10.851	0.00	0.135	2.83	0.80	1.00	0.0	21.85	61.76	0.00	5867	0	1313	2505	3818	
5	90	23.71	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	22.67	63.69	0.00	6540	0	1283	2388	3671	
4	70	22.17	20.384	22.037	0.00	0.136	2.82	0.80	1.00	0.0	26.52	74.86	0.00	6973	0	1411	2245	3656	
3	50	20.27	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	28.71	81.66	0.00	7797	0	1407	2053	3460	
2	30	17.96	27.824	23.639	0.00	0.131	2.84	0.80	1.00	0.0	33.12	94.10	0.00	7793	0	1437	1819	3256	
1	10	17.96	16.538	26.210	0.00	0.099	2.97	0.80	1.00	0.0	23.57	69.99	0.00	10649	0	1069	1819	2888	
														Totals	56,719	0			29,159

1.2D + 1.0W 90°
 109 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	28.73	4.460	2.500	0.00	0.169	2.70	0.85	1.00	0.0	5.22	14.10	0.00	519	0	344	127	471	
9	170	28.09	8.042	7.512	0.00	0.150	2.77	0.85	1.00	0.0	11.10	30.77	0.00	2023	0	735	447	1182	
8	150	27.17	9.796	8.347	0.00	0.126	2.86	0.85	1.00	0.0	13.05	37.34	0.00	3298	0	862	2181	3043	
7	130	26.15	16.746	10.017	0.00	0.145	2.79	0.85	1.00	0.0	19.91	55.58	0.00	5258	0	1235	2604	3839	
6	110	25.01	19.634	10.851	0.00	0.135	2.83	0.85	1.00	0.0	22.83	64.54	0.00	5867	0	1372	2505	3877	
5	90	23.71	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	23.46	65.92	0.00	6540	0	1328	2388	3716	
4	70	22.17	20.384	22.037	0.00	0.136	2.82	0.85	1.00	0.0	27.54	77.73	0.00	6973	0	1465	2245	3710	
3	50	20.27	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	29.83	84.83	0.00	7797	0	1461	2053	3514	
2	30	17.96	27.824	23.639	0.00	0.131	2.84	0.85	1.00	0.0	34.51	98.05	0.00	7793	0	1497	1819	3316	
1	10	17.96	16.538	26.210	0.00	0.099	2.97	0.85	1.00	0.0	24.40	72.44	0.00	10649	0	1106	1819	2925	
														Totals	56,719	0			29,595

1.2D + 1.0W 120°
 109 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	28.73	4.460	2.500	0.00	0.169	2.70	1.00	1.00	0.0	5.88	15.91	0.00	519	0	389	127	515	
9	170	28.09	8.042	7.512	0.00	0.150	2.77	1.00	1.00	0.0	12.31	34.11	0.00	2023	0	814	447	1262	
8	150	27.17	9.796	8.347	0.00	0.126	2.86	1.00	1.00	0.0	14.52	41.55	0.00	3298	0	959	2181	3140	
7	130	26.15	16.746	10.017	0.00	0.145	2.79	1.00	1.00	0.0	22.43	62.60	0.00	5258	0	1391	2604	3995	
6	110	25.01	19.634	10.851	0.00	0.135	2.83	1.00	1.00	0.0	25.78	72.86	0.00	5867	0	1549	2505	4054	
5	90	23.71	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	25.84	72.60	0.00	6540	0	1463	2388	3851	
4	70	22.17	20.384	22.037	0.00	0.136	2.82	1.00	1.00	0.0	30.60	86.36	0.00	6973	0	1628	2245	3873	
3	50	20.27	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	33.18	94.36	0.00	7797	0	1626	2053	3678	
2	30	17.96	27.824	23.639	0.00	0.131	2.84	1.00	1.00	0.0	38.68	109.91	0.00	7793	0	1678	1819	3498	
1	10	17.96	16.538	26.210	0.00	0.099	2.97	1.00	1.00	0.0	26.88	79.81	0.00	10649	0	1219	1819	3038	
														Totals	56,719	0			30,904

1.2D + 1.0W 180°
 109 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185	28.73	4.460	2.500	0.00	0.169	2.70	0.80	1.00	0.0	4.99	13.50	0.00	519	0	330	127	456
9	170	28.09	8.042	7.512	0.00	0.150	2.77	0.80	1.00	0.0	10.70	29.65	0.00	2023	0	708	447	1155
8	150	27.17	9.796	8.347	0.00	0.126	2.86	0.80	1.00	0.0	12.56	35.94	0.00	3298	0	830	2181	3011
7	130	26.15	16.746	10.017	0.00	0.145	2.79	0.80	1.00	0.0	19.08	53.25	0.00	5258	0	1184	2604	3787
6	110	25.01	19.634	10.851	0.00	0.135	2.83	0.80	1.00	0.0	21.85	61.76	0.00	5867	0	1313	2505	3818
5	90	23.71	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	22.67	63.69	0.00	6540	0	1283	2388	3671
4	70	22.17	20.384	22.037	0.00	0.136	2.82	0.80	1.00	0.0	26.52	74.86	0.00	6973	0	1411	2245	3656
3	50	20.27	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	28.71	81.66	0.00	7797	0	1407	2053	3460
2	30	17.96	27.824	23.639	0.00	0.131	2.84	0.80	1.00	0.0	33.12	94.10	0.00	7793	0	1437	1819	3256

SECTION FORCES

1.2D + 1.0W 180° Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{1z} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
1	10	17.96	16.538	26.210	0.00	0.099	2.97	0.80	1.00	0.0	23.57	69.99	0.00	10649	0	1069	1819	2888
Totals															56,719	0	29,159	

1.2D + 1.0W 210° Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{1z} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185	28.73	4.460	2.500	0.00	0.169	2.70	0.85	1.00	0.0	5.22	14.10	0.00	519	0	344	127	471
9	170	28.09	8.042	7.512	0.00	0.150	2.77	0.85	1.00	0.0	11.10	30.77	0.00	2023	0	735	447	1182
8	150	27.17	9.796	8.347	0.00	0.126	2.86	0.85	1.00	0.0	13.05	37.34	0.00	3298	0	862	2181	3043
7	130	26.15	16.746	10.017	0.00	0.145	2.79	0.85	1.00	0.0	19.91	55.58	0.00	5258	0	1235	2604	3839
6	110	25.01	19.634	10.851	0.00	0.135	2.83	0.85	1.00	0.0	22.83	64.54	0.00	5867	0	1372	2505	3877
5	90	23.71	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	23.46	65.92	0.00	6540	0	1328	2388	3716
4	70	22.17	20.384	22.037	0.00	0.136	2.82	0.85	1.00	0.0	27.54	77.73	0.00	6973	0	1465	2245	3710
3	50	20.27	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	29.83	84.83	0.00	7797	0	1461	2053	3514
2	30	17.96	27.824	23.639	0.00	0.131	2.84	0.85	1.00	0.0	34.51	98.05	0.00	7793	0	1497	1819	3316
1	10	17.96	16.538	26.210	0.00	0.099	2.97	0.85	1.00	0.0	24.40	72.44	0.00	10649	0	1106	1819	2925
Totals															56,719	0	29,595	

1.2D + 1.0W 240° Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{1z} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185	28.73	4.460	2.500	0.00	0.169	2.70	1.00	1.00	0.0	5.88	15.91	0.00	519	0	389	127	515
9	170	28.09	8.042	7.512	0.00	0.150	2.77	1.00	1.00	0.0	12.31	34.11	0.00	2023	0	814	447	1262
8	150	27.17	9.796	8.347	0.00	0.126	2.86	1.00	1.00	0.0	14.52	41.55	0.00	3298	0	959	2181	3140
7	130	26.15	16.746	10.017	0.00	0.145	2.79	1.00	1.00	0.0	22.43	62.60	0.00	5258	0	1391	2604	3995
6	110	25.01	19.634	10.851	0.00	0.135	2.83	1.00	1.00	0.0	25.78	72.86	0.00	5867	0	1549	2505	4054
5	90	23.71	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	25.84	72.60	0.00	6540	0	1463	2388	3851
4	70	22.17	20.384	22.037	0.00	0.136	2.82	1.00	1.00	0.0	30.60	86.36	0.00	6973	0	1628	2245	3873
3	50	20.27	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	33.18	94.36	0.00	7797	0	1626	2053	3678
2	30	17.96	27.824	23.639	0.00	0.131	2.84	1.00	1.00	0.0	38.68	109.91	0.00	7793	0	1678	1819	3498
1	10	17.96	16.538	26.210	0.00	0.099	2.97	1.00	1.00	0.0	26.88	79.81	0.00	10649	0	1219	1819	3038
Totals															56,719	0	30,904	

1.2D + 1.0W 300° Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{1z} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185	28.73	4.460	2.500	0.00	0.169	2.70	0.80	1.00	0.0	4.99	13.50	0.00	519	0	330	127	456
9	170	28.09	8.042	7.512	0.00	0.150	2.77	0.80	1.00	0.0	10.70	29.65	0.00	2023	0	708	447	1155
8	150	27.17	9.796	8.347	0.00	0.126	2.86	0.80	1.00	0.0	12.56	35.94	0.00	3298	0	830	2181	3011
7	130	26.15	16.746	10.017	0.00	0.145	2.79	0.80	1.00	0.0	19.08	53.25	0.00	5258	0	1184	2604	3787
6	110	25.01	19.634	10.851	0.00	0.135	2.83	0.80	1.00	0.0	21.85	61.76	0.00	5867	0	1313	2505	3818
5	90	23.71	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	22.67	63.69	0.00	6540	0	1283	2388	3671
4	70	22.17	20.384	22.037	0.00	0.136	2.82	0.80	1.00	0.0	26.52	74.86	0.00	6973	0	1411	2245	3656
3	50	20.27	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	28.71	81.66	0.00	7797	0	1407	2053	3460
2	30	17.96	27.824	23.639	0.00	0.131	2.84	0.80	1.00	0.0	33.12	94.10	0.00	7793	0	1437	1819	3256
1	10	17.96	16.538	26.210	0.00	0.099	2.97	0.80	1.00	0.0	23.57	69.99	0.00	10649	0	1069	1819	2888
Totals															56,719	0	29,159	

1.2D + 1.0W 330° Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{1z} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185	28.73	4.460	2.500	0.00	0.169	2.70	0.85	1.00	0.0	5.22	14.10	0.00	519	0	344	127	471
9	170	28.09	8.042	7.512	0.00	0.150	2.77	0.85	1.00	0.0	11.10	30.77	0.00	2023	0	735	447	1182
8	150	27.17	9.796	8.347	0.00	0.126	2.86	0.85	1.00	0.0	13.05	37.34	0.00	3298	0	862	2181	3043
7	130	26.15	16.746	10.017	0.00	0.145	2.79	0.85	1.00	0.0	19.91	55.58	0.00	5258	0	1235	2604	3839
6	110	25.01	19.634	10.851	0.00	0.135	2.83	0.85	1.00	0.0	22.83	64.54	0.00	5867	0	1372	2505	3877
5	90	23.71	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	23.46	65.92	0.00	6540	0	1328	2388	3716
4	70	22.17	20.384	22.037	0.00	0.136	2.82	0.85	1.00	0.0	27.54	77.73	0.00	6973	0	1465	2245	3710
3	50	20.27	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	29.83	84.83	0.00	7797	0	1461	2053	3514
2	30	17.96	27.824	23.639	0.00	0.131	2.84	0.85	1.00	0.0	34.51	98.05	0.00	7793	0	1497	1819	3316
1	10	17.96	16.538	26.210	0.00	0.099	2.97	0.85	1.00	0.0	24.40	72.44	0.00	10649	0	1106	1819	2925
Totals															56,719	0	29,595	

0.9D + 1.0W Normal Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice (Reduced DL) Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{1z} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185	28.73	4.460	2.500	0.00	0.169	2.70	1.00	1.00	0.0	5.88	15.91	0.00	390	0	389	127	515

SECTION FORCES

0.9D + 1.0W Normal
 Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice (Reduced DL)
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _l	D _r	T _{lz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)				
9	170	28.09	8.042	7.512	0.00	0.150	2.77	1.00	1.00	0.0	12.31	34.11	0.00	1517	0	814	447	1262				
8	150	27.17	9.796	8.347	0.00	0.126	2.86	1.00	1.00	0.0	14.52	41.55	0.00	2474	0	959	2181	3140				
7	130	26.15	16.746	10.017	0.00	0.145	2.79	1.00	1.00	0.0	22.43	62.60	0.00	3944	0	1391	2604	3995				
6	110	25.01	19.634	10.851	0.00	0.135	2.83	1.00	1.00	0.0	25.78	72.86	0.00	4400	0	1549	2505	4054				
5	90	23.71	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	25.84	72.60	0.00	4905	0	1463	2388	3851				
4	70	22.17	20.384	22.037	0.00	0.136	2.82	1.00	1.00	0.0	30.60	86.36	0.00	5230	0	1628	2245	3873				
3	50	20.27	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	33.18	94.36	0.00	5848	0	1626	2053	3678				
2	30	17.96	27.824	23.639	0.00	0.131	2.84	1.00	1.00	0.0	38.68	109.91	0.00	5845	0	1678	1819	3498				
1	10	17.96	16.538	26.210	0.00	0.099	2.97	1.00	1.00	0.0	26.88	79.81	0.00	7987	0	1219	1819	3038				
														Totals	42,539	0						30,904

0.9D + 1.0W 60°
 Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice (Reduced DL)
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _l	D _r	T _{lz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)				
10	185	28.73	4.460	2.500	0.00	0.169	2.70	0.80	1.00	0.0	4.99	13.50	0.00	390	0	330	127	456				
9	170	28.09	8.042	7.512	0.00	0.150	2.77	0.80	1.00	0.0	10.70	29.65	0.00	1517	0	708	447	1155				
8	150	27.17	9.796	8.347	0.00	0.126	2.86	0.80	1.00	0.0	12.56	35.94	0.00	2474	0	830	2181	3011				
7	130	26.15	16.746	10.017	0.00	0.145	2.79	0.80	1.00	0.0	19.08	53.25	0.00	3944	0	1184	2604	3787				
6	110	25.01	19.634	10.851	0.00	0.135	2.83	0.80	1.00	0.0	21.85	61.76	0.00	4400	0	1313	2505	3818				
5	90	23.71	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	22.67	63.69	0.00	4905	0	1283	2388	3671				
4	70	22.17	20.384	22.037	0.00	0.136	2.82	0.80	1.00	0.0	26.52	74.86	0.00	5230	0	1411	2245	3656				
3	50	20.27	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	28.71	81.66	0.00	5848	0	1407	2053	3460				
2	30	17.96	27.824	23.639	0.00	0.131	2.84	0.80	1.00	0.0	33.12	94.10	0.00	5845	0	1437	1819	3256				
1	10	17.96	16.538	26.210	0.00	0.099	2.97	0.80	1.00	0.0	23.57	69.99	0.00	7987	0	1069	1819	2888				
														Totals	42,539	0						29,159

0.9D + 1.0W 90°
 Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice (Reduced DL)
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _l	D _r	T _{lz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)				
10	185	28.73	4.460	2.500	0.00	0.169	2.70	0.85	1.00	0.0	5.22	14.10	0.00	390	0	344	127	471				
9	170	28.09	8.042	7.512	0.00	0.150	2.77	0.85	1.00	0.0	11.10	30.77	0.00	1517	0	735	447	1182				
8	150	27.17	9.796	8.347	0.00	0.126	2.86	0.85	1.00	0.0	13.05	37.34	0.00	2474	0	862	2181	3043				
7	130	26.15	16.746	10.017	0.00	0.145	2.79	0.85	1.00	0.0	19.91	55.58	0.00	3944	0	1235	2604	3839				
6	110	25.01	19.634	10.851	0.00	0.135	2.83	0.85	1.00	0.0	22.83	64.54	0.00	4400	0	1372	2505	3877				
5	90	23.71	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	23.46	65.92	0.00	4905	0	1328	2388	3716				
4	70	22.17	20.384	22.037	0.00	0.136	2.82	0.85	1.00	0.0	27.54	77.73	0.00	5230	0	1465	2245	3710				
3	50	20.27	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	29.83	84.83	0.00	5848	0	1461	2053	3514				
2	30	17.96	27.824	23.639	0.00	0.131	2.84	0.85	1.00	0.0	34.51	98.05	0.00	5845	0	1497	1819	3316				
1	10	17.96	16.538	26.210	0.00	0.099	2.97	0.85	1.00	0.0	24.40	72.44	0.00	7987	0	1106	1819	2925				
														Totals	42,539	0						29,595

0.9D + 1.0W 120°
 Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice (Reduced DL)
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _l	D _r	T _{lz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)				
10	185	28.73	4.460	2.500	0.00	0.169	2.70	1.00	1.00	0.0	5.88	15.91	0.00	390	0	389	127	515				
9	170	28.09	8.042	7.512	0.00	0.150	2.77	1.00	1.00	0.0	12.31	34.11	0.00	1517	0	814	447	1262				
8	150	27.17	9.796	8.347	0.00	0.126	2.86	1.00	1.00	0.0	14.52	41.55	0.00	2474	0	959	2181	3140				
7	130	26.15	16.746	10.017	0.00	0.145	2.79	1.00	1.00	0.0	22.43	62.60	0.00	3944	0	1391	2604	3995				
6	110	25.01	19.634	10.851	0.00	0.135	2.83	1.00	1.00	0.0	25.78	72.86	0.00	4400	0	1549	2505	4054				
5	90	23.71	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	25.84	72.60	0.00	4905	0	1463	2388	3851				
4	70	22.17	20.384	22.037	0.00	0.136	2.82	1.00	1.00	0.0	30.60	86.36	0.00	5230	0	1628	2245	3873				
3	50	20.27	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	33.18	94.36	0.00	5848	0	1626	2053	3678				
2	30	17.96	27.824	23.639	0.00	0.131	2.84	1.00	1.00	0.0	38.68	109.91	0.00	5845	0	1678	1819	3498				
1	10	17.96	16.538	26.210	0.00	0.099	2.97	1.00	1.00	0.0	26.88	79.81	0.00	7987	0	1219	1819	3038				
														Totals	42,539	0						30,904

0.9D + 1.0W 180°
 Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice (Reduced DL)
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _l	D _r	T _{lz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)				
10	185	28.73	4.460	2.500	0.00	0.169	2.70	0.80	1.00	0.0	4.99	13.50	0.00	390	0	330	127	456				
9	170	28.09	8.042	7.512	0.00	0.150	2.77	0.80	1.00	0.0	10.70	29.65	0.00	1517	0	708	447	1155				
8	150	27.17	9.796	8.347	0.00	0.126	2.86	0.80	1.00	0.0	12.56	35.94	0.00	2474	0	830	2181	3011				
7	130	26.15	16.746	10.017	0.00	0.145	2.79	0.80	1.00	0.0	19.08	53.25	0.00	3944	0	1184	2604	3787				
6	110	25.01	19.634	10.851	0.00	0.135	2.83	0.80	1.00	0.0	21.85	61.76	0.00	4400	0	1313	2505	3818				
5	90	23.71	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	22.67	63.69	0.00	4905	0	1283	2388	3671				
4	70	22.17	20.384	22.037	0.00	0.136	2.82	0.80	1.00	0.0	26.52	74.86	0.00	5230	0	1411	2245	3656				
3	50	20.27	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	28.71	81.66	0.00	5848	0	1407	2053	3460				
2	30	17.96	27.824	23.639	0.00	0.131	2.84	0.80	1.00	0.0	33.12	94.10	0.00	5845	0	1437	1819	3256				
1	10	17.96	16.538	26.210	0.00	0.099	2.97	0.80	1.00	0.0	23.57	69.99	0.00	7987	0	1069	1819	2888				
														Totals	42,539	0						29,159

SECTION FORCES

0.9D + 1.0W 180° Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice (Reduced DL) Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)		
															Totals	42,539	0			29,159

0.9D + 1.0W 210° Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice (Reduced DL) Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)		
10	185	28.73	4.460	2.500	0.00	0.169	2.70	0.85	1.00	0.0	5.22	14.10	0.00	390	0	344	127	471		
9	170	28.09	8.042	7.512	0.00	0.150	2.77	0.85	1.00	0.0	11.10	30.77	0.00	1517	0	735	447	1182		
8	150	27.17	9.796	8.347	0.00	0.126	2.86	0.85	1.00	0.0	13.05	37.34	0.00	2474	0	862	2181	3043		
7	130	26.15	16.746	10.017	0.00	0.145	2.79	0.85	1.00	0.0	19.91	55.58	0.00	3944	0	1235	2604	3839		
6	110	25.01	19.634	10.851	0.00	0.135	2.83	0.85	1.00	0.0	22.83	64.54	0.00	4400	0	1372	2505	3877		
5	90	23.71	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	23.46	65.92	0.00	4905	0	1328	2388	3716		
4	70	22.17	20.384	22.037	0.00	0.136	2.82	0.85	1.00	0.0	27.54	77.73	0.00	5230	0	1465	2245	3710		
3	50	20.27	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	29.83	84.83	0.00	5848	0	1461	2053	3514		
2	30	17.96	27.824	23.639	0.00	0.131	2.84	0.85	1.00	0.0	34.51	98.05	0.00	5845	0	1497	1819	3316		
1	10	17.96	16.538	26.210	0.00	0.099	2.97	0.85	1.00	0.0	24.40	72.44	0.00	7987	0	1106	1819	2925		
															Totals	42,539	0			29,595

0.9D + 1.0W 240° Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice (Reduced DL) Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)		
10	185	28.73	4.460	2.500	0.00	0.169	2.70	1.00	1.00	0.0	5.88	15.91	0.00	390	0	389	127	515		
9	170	28.09	8.042	7.512	0.00	0.150	2.77	1.00	1.00	0.0	12.31	34.11	0.00	1517	0	814	447	1262		
8	150	27.17	9.796	8.347	0.00	0.126	2.86	1.00	1.00	0.0	14.52	41.55	0.00	2474	0	959	2181	3140		
7	130	26.15	16.746	10.017	0.00	0.145	2.79	1.00	1.00	0.0	22.43	62.60	0.00	3944	0	1391	2604	3995		
6	110	25.01	19.634	10.851	0.00	0.135	2.83	1.00	1.00	0.0	25.78	72.86	0.00	4400	0	1549	2505	4054		
5	90	23.71	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	25.84	72.60	0.00	4905	0	1463	2388	3851		
4	70	22.17	20.384	22.037	0.00	0.136	2.82	1.00	1.00	0.0	30.60	86.36	0.00	5230	0	1628	2245	3873		
3	50	20.27	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	33.18	94.36	0.00	5848	0	1626	2053	3678		
2	30	17.96	27.824	23.639	0.00	0.131	2.84	1.00	1.00	0.0	38.68	109.91	0.00	5845	0	1678	1819	3498		
1	10	17.96	16.538	26.210	0.00	0.099	2.97	1.00	1.00	0.0	26.88	79.81	0.00	7987	0	1219	1819	3038		
															Totals	42,539	0			30,904

0.9D + 1.0W 300° Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice (Reduced DL) Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)		
10	185	28.73	4.460	2.500	0.00	0.169	2.70	0.80	1.00	0.0	4.99	13.50	0.00	390	0	330	127	456		
9	170	28.09	8.042	7.512	0.00	0.150	2.77	0.80	1.00	0.0	10.70	29.65	0.00	1517	0	708	447	1155		
8	150	27.17	9.796	8.347	0.00	0.126	2.86	0.80	1.00	0.0	12.56	35.94	0.00	2474	0	830	2181	3011		
7	130	26.15	16.746	10.017	0.00	0.145	2.79	0.80	1.00	0.0	19.08	53.25	0.00	3944	0	1184	2604	3787		
6	110	25.01	19.634	10.851	0.00	0.135	2.83	0.80	1.00	0.0	21.85	61.76	0.00	4400	0	1313	2505	3818		
5	90	23.71	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	22.67	63.69	0.00	4905	0	1283	2388	3671		
4	70	22.17	20.384	22.037	0.00	0.136	2.82	0.80	1.00	0.0	26.52	74.86	0.00	5230	0	1411	2245	3656		
3	50	20.27	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	28.71	81.66	0.00	5848	0	1407	2053	3460		
2	30	17.96	27.824	23.639	0.00	0.131	2.84	0.80	1.00	0.0	33.12	94.10	0.00	5845	0	1437	1819	3256		
1	10	17.96	16.538	26.210	0.00	0.099	2.97	0.80	1.00	0.0	23.57	69.99	0.00	7987	0	1069	1819	2888		
															Totals	42,539	0			29,159

0.9D + 1.0W 330° Gust Response Factor (Gh): 0.85
 109 mph Wind with No Ice (Reduced DL) Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)		
10	185	28.73	4.460	2.500	0.00	0.169	2.70	0.85	1.00	0.0	5.22	14.10	0.00	390	0	344	127	471		
9	170	28.09	8.042	7.512	0.00	0.150	2.77	0.85	1.00	0.0	11.10	30.77	0.00	1517	0	735	447	1182		
8	150	27.17	9.796	8.347	0.00	0.126	2.86	0.85	1.00	0.0	13.05	37.34	0.00	2474	0	862	2181	3043		
7	130	26.15	16.746	10.017	0.00	0.145	2.79	0.85	1.00	0.0	19.91	55.58	0.00	3944	0	1235	2604	3839		
6	110	25.01	19.634	10.851	0.00	0.135	2.83	0.85	1.00	0.0	22.83	64.54	0.00	4400	0	1372	2505	3877		
5	90	23.71	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	23.46	65.92	0.00	4905	0	1328	2388	3716		
4	70	22.17	20.384	22.037	0.00	0.136	2.82	0.85	1.00	0.0	27.54	77.73	0.00	5230	0	1465	2245	3710		
3	50	20.27	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	29.83	84.83	0.00	5848	0	1461	2053	3514		
2	30	17.96	27.824	23.639	0.00	0.131	2.84	0.85	1.00	0.0	34.51	98.05	0.00	5845	0	1497	1819	3316		
1	10	17.96	16.538	26.210	0.00	0.099	2.97	0.85	1.00	0.0	24.40	72.44	0.00	7987	0	1106	1819	2925		
															Totals	42,539	0			29,595

1.2D + 1.0Di + 1.0Wi Normal Gust Response Factor (Gh): 0.85
 50 mph Wind with 1.23" Radial Ice Wind Importance Factor (Iw): 1.00 Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185	6.05	4.460	14.584	12.08	0.436	2.00	1.00	1.00	1.5	13.98	27.91	12.08	1434	914	143	62	205
9	170	5.91	8.042	30.876	23.36	0.358	2.15	1.00	1.00	1.4	27.16	58.46	23.36	4173	2150	294	246	540

SECTION FORCES

1.2D + 1.0Di + 1.0Wi Normal
 50 mph Wind with 1.23" Radial Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00
 Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)		
8	150	5.72	9.796	34.332	25.98	0.296	2.31	1.00	1.00	1.4	30.32	69.91	25.98	9101	5803	340	1209	1520	**	
7	130	5.50	16.746	38.812	28.80	0.293	2.32	1.00	1.00	1.4	39.91	92.39	28.80	12423	7165	432	1372	1804		
6	110	5.26	19.634	42.473	31.62	0.270	2.38	1.00	1.00	1.4	44.70	106.34	31.62	13249	7382	476	1343	1819		
5	90	4.99	15.857	45.990	23.95	0.224	2.52	1.00	1.00	1.4	42.49	106.93	23.95	13691	7151	453	1326	1780		
4	70	4.67	20.384	46.833	24.80	0.213	2.55	1.00	1.00	1.3	47.40	121.01	24.80	14310	7337	480	1247	1727		
3	50	4.26	22.326	49.064	25.42	0.200	2.59	1.00	1.00	1.3	50.52	131.06	25.42	15047	7249	475	1132	1607		
2	30	3.78	27.824	49.217	25.58	0.195	2.61	1.00	1.00	1.2	56.05	146.53	25.58	15009	7215	471	981	1451		
1	10	3.78	16.538	44.054	17.84	0.139	2.81	1.00	1.00	1.1	41.49	116.74	17.84	16921	6272	375	971	1346		
														Totals	115,357	58,639			13,799	

** = Section Force Exceeds Solidity Ratio Criteria

1.2D + 1.0Di + 1.0Wi 60°
 50 mph Wind with 1.23" Radial Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00
 Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)		
10	185	6.05	4.460	14.584	12.08	0.436	2.00	0.80	1.00	1.5	13.08	26.13	12.08	1434	914	134	62	196		
9	170	5.91	8.042	30.876	23.36	0.358	2.15	0.80	1.00	1.4	25.55	55.00	23.36	4173	2150	276	246	522	**	
8	150	5.72	9.796	34.332	25.98	0.296	2.31	0.80	1.00	1.4	28.36	65.39	25.98	9101	5803	318	1209	1520		
7	130	5.50	16.746	38.812	28.80	0.293	2.32	0.80	1.00	1.4	36.56	84.64	28.80	12423	7165	396	1372	1768		
6	110	5.26	19.634	42.473	31.62	0.270	2.38	0.80	1.00	1.4	40.77	97.00	31.62	13249	7382	434	1343	1777		
5	90	4.99	15.857	45.990	23.95	0.224	2.52	0.80	1.00	1.4	39.32	98.95	23.95	13691	7151	420	1326	1746		
4	70	4.67	20.384	46.833	24.80	0.213	2.55	0.80	1.00	1.3	43.33	110.60	24.80	14310	7337	439	1247	1686		
3	50	4.26	22.326	49.064	25.42	0.200	2.59	0.80	1.00	1.3	46.05	119.47	25.42	15047	7249	433	1132	1565		
2	30	3.78	27.824	49.217	25.58	0.195	2.61	0.80	1.00	1.2	50.49	131.98	25.58	15009	7215	424	981	1405		
1	10	3.78	16.538	44.054	17.84	0.139	2.81	0.80	1.00	1.1	38.19	107.43	17.84	16921	6272	345	971	1316		
														Totals	115,357	58,639			13,501	

** = Section Force Exceeds Solidity Ratio Criteria

1.2D + 1.0Di + 1.0Wi 90°
 50 mph Wind with 1.23" Radial Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00
 Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)		
10	185	6.05	4.460	14.584	12.08	0.436	2.00	0.85	1.00	1.5	13.31	26.58	12.08	1434	914	137	62	198		
9	170	5.91	8.042	30.876	23.36	0.358	2.15	0.85	1.00	1.4	25.96	55.86	23.36	4173	2150	281	246	527	**	
8	150	5.72	9.796	34.332	25.98	0.296	2.31	0.85	1.00	1.4	28.85	66.52	25.98	9101	5803	323	1209	1520		
7	130	5.50	16.746	38.812	28.80	0.293	2.32	0.85	1.00	1.4	37.39	86.57	28.80	12423	7165	405	1372	1777		
6	110	5.26	19.634	42.473	31.62	0.270	2.38	0.85	1.00	1.4	41.76	99.33	31.62	13249	7382	444	1343	1788		
5	90	4.99	15.857	45.990	23.95	0.224	2.52	0.85	1.00	1.4	40.12	100.94	23.95	13691	7151	428	1326	1754		
4	70	4.67	20.384	46.833	24.80	0.213	2.55	0.85	1.00	1.3	44.34	113.20	24.80	14310	7337	449	1247	1696		
3	50	4.26	22.326	49.064	25.42	0.200	2.59	0.85	1.00	1.3	47.17	122.37	25.42	15047	7249	444	1132	1576		
2	30	3.78	27.824	49.217	25.58	0.195	2.61	0.85	1.00	1.2	51.88	135.62	25.58	15009	7215	436	981	1416		
1	10	3.78	16.538	44.054	17.84	0.139	2.81	0.85	1.00	1.1	39.01	109.76	17.84	16921	6272	353	971	1324		
														Totals	115,357	58,639			13,575	

** = Section Force Exceeds Solidity Ratio Criteria

1.2D + 1.0Di + 1.0Wi 120°
 50 mph Wind with 1.23" Radial Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00
 Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)		
10	185	6.05	4.460	14.584	12.08	0.436	2.00	1.00	1.00	1.5	13.98	27.91	12.08	1434	914	143	62	205		
9	170	5.91	8.042	30.876	23.36	0.358	2.15	1.00	1.00	1.4	27.16	58.46	23.36	4173	2150	294	246	540	**	
8	150	5.72	9.796	34.332	25.98	0.296	2.31	1.00	1.00	1.4	30.32	69.91	25.98	9101	5803	340	1209	1520		
7	130	5.50	16.746	38.812	28.80	0.293	2.32	1.00	1.00	1.4	39.91	92.39	28.80	12423	7165	432	1372	1804		
6	110	5.26	19.634	42.473	31.62	0.270	2.38	1.00	1.00	1.4	44.70	106.34	31.62	13249	7382	476	1343	1819		
5	90	4.99	15.857	45.990	23.95	0.224	2.52	1.00	1.00	1.4	42.49	106.93	23.95	13691	7151	453	1326	1780		
4	70	4.67	20.384	46.833	24.80	0.213	2.55	1.00	1.00	1.3	47.40	121.01	24.80	14310	7337	480	1247	1727		
3	50	4.26	22.326	49.064	25.42	0.200	2.59	1.00	1.00	1.3	50.52	131.06	25.42	15047	7249	475	1132	1607		
2	30	3.78	27.824	49.217	25.58	0.195	2.61	1.00	1.00	1.2	56.05	146.53	25.58	15009	7215	471	981	1451		
1	10	3.78	16.538	44.054	17.84	0.139	2.81	1.00	1.00	1.1	41.49	116.74	17.84	16921	6272	375	971	1346		
														Totals	115,357	58,639			13,799	

** = Section Force Exceeds Solidity Ratio Criteria

1.2D + 1.0Di + 1.0Wi 180°
 50 mph Wind with 1.23" Radial Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00
 Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)		
10	185	6.05	4.460	14.584	12.08	0.436	2.00	0.80	1.00	1.5	13.08	26.13	12.08	1434	914	134	62	196		
9	170	5.91	8.042	30.876	23.36	0.358	2.15	0.80	1.00	1.4	25.55	55.00	23.36	4173	2150	276	246	522	**	
8	150	5.72	9.796	34.332	25.98	0.296	2.31	0.80	1.00	1.4	28.36	65.39	25.98	9101	5803	318	1209	1520		
7	130	5.50	16.746	38.812	28.80	0.293	2.32	0.80	1.00	1.4	36.56	84.64	28.80	12423	7165	396	1372	1768		
6	110	5.26	19.634	42.473	31.62	0.270	2.38	0.80	1.00	1.4	40.77	97.00	31.62	13249	7382	434	1343	1777		
5	90	4.99	15.857	45.990	23.95	0.224	2.52	0.80	1.00	1.4	39.32	98.95	23.95	13691	7151	420	1326	1746		
4	70	4.67	20.384	46.833	24.80	0.213	2.55	0.80	1.00	1.3	43.33	110.60	24.80	14310	7337	439	1247	1686		
3	50	4.26	22.326	49.064	25.42	0.200	2.59	0.80	1.00	1.3	46.05	119.47	25.42	15047	7249	433	1132	1565		
2	30	3.78	27.824	49.217	25.58	0.195	2.61	0.80	1.00	1.2	50.49	131.98	25.58	15009	7215	424	981	1405		
1	10	3.78	16.538	44.054	17.84	0.139	2.81	0.80	1.00	1.1	38.19	107.43	17.84	16921	6272	345	971	1316		
														Totals	115,357	58,639			13,501	

** = Section Force Exceeds Solidity Ratio Criteria

SECTION FORCES

1.2D + 1.0Di + 1.0Wi 210°

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Ice Dead Load Factor: 1.00

50 mph Wind with 1.23" Radial Ice

Section #	Elev (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	6.05	4.460	14.584	12.08	0.436	2.00	0.85	1.00	1.5	13.31	26.58	12.08	1434	914	137	62	198	
9	170	5.91	8.042	30.876	23.36	0.358	2.15	0.85	1.00	1.4	25.96	55.86	23.36	4173	2150	281	246	527	
8	150	5.72	9.796	34.332	25.98	0.296	2.31	0.85	1.00	1.4	28.85	66.52	25.98	9101	5803	323	1209	1520	
7	130	5.50	16.746	38.812	28.80	0.293	2.32	0.85	1.00	1.4	37.39	86.57	28.80	12423	7165	405	1372	1777	
6	110	5.26	19.634	42.473	31.62	0.270	2.38	0.85	1.00	1.4	41.76	99.33	31.62	13249	7382	444	1343	1788	
5	90	4.99	15.857	45.990	23.95	0.224	2.52	0.85	1.00	1.4	40.12	100.94	23.95	13691	7151	428	1326	1754	
4	70	4.67	20.384	46.833	24.80	0.213	2.55	0.85	1.00	1.3	44.34	113.20	24.80	14310	7337	449	1247	1696	
3	50	4.26	22.326	49.064	25.42	0.200	2.59	0.85	1.00	1.3	47.17	122.37	25.42	15047	7249	444	1132	1576	
2	30	3.78	27.824	49.217	25.58	0.195	2.61	0.85	1.00	1.2	51.88	135.62	25.58	15009	7215	436	981	1416	
1	10	3.78	16.538	44.054	17.84	0.139	2.81	0.85	1.00	1.1	39.01	109.76	17.84	16921	6272	353	971	1324	
														Totals	115,357	58,639			13,575

** = Section Force Exceeds Solidity Ratio Criteria

1.2D + 1.0Di + 1.0Wi 240°

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Ice Dead Load Factor: 1.00

50 mph Wind with 1.23" Radial Ice

Section #	Elev (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	6.05	4.460	14.584	12.08	0.436	2.00	1.00	1.00	1.5	13.98	27.91	12.08	1434	914	143	62	205	
9	170	5.91	8.042	30.876	23.36	0.358	2.15	1.00	1.00	1.4	27.16	58.46	23.36	4173	2150	294	246	540	
8	150	5.72	9.796	34.332	25.98	0.296	2.31	1.00	1.00	1.4	30.32	69.91	25.98	9101	5803	340	1209	1520	
7	130	5.50	16.746	38.812	28.80	0.293	2.32	1.00	1.00	1.4	39.91	92.39	28.80	12423	7165	432	1372	1804	
6	110	5.26	19.634	42.473	31.62	0.270	2.38	1.00	1.00	1.4	44.70	106.34	31.62	13249	7382	476	1343	1819	
5	90	4.99	15.857	45.990	23.95	0.224	2.52	1.00	1.00	1.4	42.49	106.93	23.95	13691	7151	453	1326	1780	
4	70	4.67	20.384	46.833	24.80	0.213	2.55	1.00	1.00	1.3	47.40	121.01	24.80	14310	7337	480	1247	1727	
3	50	4.26	22.326	49.064	25.42	0.200	2.59	1.00	1.00	1.3	50.52	131.06	25.42	15047	7249	475	1132	1607	
2	30	3.78	27.824	49.217	25.58	0.195	2.61	1.00	1.00	1.2	56.05	146.53	25.58	15009	7215	471	981	1451	
1	10	3.78	16.538	44.054	17.84	0.139	2.81	1.00	1.00	1.1	41.49	116.74	17.84	16921	6272	375	971	1346	
														Totals	115,357	58,639			13,799

** = Section Force Exceeds Solidity Ratio Criteria

1.2D + 1.0Di + 1.0Wi 300°

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Ice Dead Load Factor: 1.00

50 mph Wind with 1.23" Radial Ice

Section #	Elev (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	6.05	4.460	14.584	12.08	0.436	2.00	0.80	1.00	1.5	13.08	26.13	12.08	1434	914	134	62	196	
9	170	5.91	8.042	30.876	23.36	0.358	2.15	0.80	1.00	1.4	25.55	55.00	23.36	4173	2150	276	246	522	
8	150	5.72	9.796	34.332	25.98	0.296	2.31	0.80	1.00	1.4	28.36	65.39	25.98	9101	5803	318	1209	1520	
7	130	5.50	16.746	38.812	28.80	0.293	2.32	0.80	1.00	1.4	36.56	84.64	28.80	12423	7165	396	1372	1768	
6	110	5.26	19.634	42.473	31.62	0.270	2.38	0.80	1.00	1.4	40.77	97.00	31.62	13249	7382	434	1343	1777	
5	90	4.99	15.857	45.990	23.95	0.224	2.52	0.80	1.00	1.4	39.32	98.95	23.95	13691	7151	420	1326	1746	
4	70	4.67	20.384	46.833	24.80	0.213	2.55	0.80	1.00	1.3	43.33	110.60	24.80	14310	7337	439	1247	1686	
3	50	4.26	22.326	49.064	25.42	0.200	2.59	0.80	1.00	1.3	46.05	119.47	25.42	15047	7249	433	1132	1565	
2	30	3.78	27.824	49.217	25.58	0.195	2.61	0.80	1.00	1.2	50.49	131.98	25.58	15009	7215	424	981	1405	
1	10	3.78	16.538	44.054	17.84	0.139	2.81	0.80	1.00	1.1	38.19	107.43	17.84	16921	6272	345	971	1316	
														Totals	115,357	58,639			13,501

** = Section Force Exceeds Solidity Ratio Criteria

1.2D + 1.0Di + 1.0Wi 330°

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Ice Dead Load Factor: 1.00

50 mph Wind with 1.23" Radial Ice

Section #	Elev (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	6.05	4.460	14.584	12.08	0.436	2.00	0.85	1.00	1.5	13.31	26.58	12.08	1434	914	137	62	198	
9	170	5.91	8.042	30.876	23.36	0.358	2.15	0.85	1.00	1.4	25.96	55.86	23.36	4173	2150	281	246	527	
8	150	5.72	9.796	34.332	25.98	0.296	2.31	0.85	1.00	1.4	28.85	66.52	25.98	9101	5803	323	1209	1520	
7	130	5.50	16.746	38.812	28.80	0.293	2.32	0.85	1.00	1.4	37.39	86.57	28.80	12423	7165	405	1372	1777	
6	110	5.26	19.634	42.473	31.62	0.270	2.38	0.85	1.00	1.4	41.76	99.33	31.62	13249	7382	444	1343	1788	
5	90	4.99	15.857	45.990	23.95	0.224	2.52	0.85	1.00	1.4	40.12	100.94	23.95	13691	7151	428	1326	1754	
4	70	4.67	20.384	46.833	24.80	0.213	2.55	0.85	1.00	1.3	44.34	113.20	24.80	14310	7337	449	1247	1696	
3	50	4.26	22.326	49.064	25.42	0.200	2.59	0.85	1.00	1.3	47.17	122.37	25.42	15047	7249	444	1132	1576	
2	30	3.78	27.824	49.217	25.58	0.195	2.61	0.85	1.00	1.2	51.88	135.62	25.58	15009	7215	436	981	1416	
1	10	3.78	16.538	44.054	17.84	0.139	2.81	0.85	1.00	1.1	39.01	109.76	17.84	16921	6272	353	971	1324	
														Totals	115,357	58,639			13,575

** = Section Force Exceeds Solidity Ratio Criteria

1.0D + 1.0W Service Normal

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

60 mph Wind with No Ice

Section #	Elev (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185	8.71	4.460	2.500	0.00	0.169	2.70	1.00	1.00	0.0	5.88	15.91	0.00	433	0	118	38	156
9	170	8.51	8.042	7.512	0.00	0.150	2.77	1.00	1.00	0.0	12.31	34.11	0.00	1686	0	247	136	382
8	150	8.23	9.796	8.347	0.00	0.126	2.86	1.00	1.00	0.0	14.52	41.55	0.00	2748	0	291	661	952
7	130	7.92	16.746	10.017	0.00	0.145	2.79	1.00	1.00	0.0	22.43	62.60	0.00	4382	0	422	789	1210
6	110	7.58	19.634	10.851	0.00	0.135	2.83	1.00	1.00	0.0	25.78	72.86	0.00	4889	0	469	759	1228
5	90	7.18	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	28.34	79.62	0.00	5450	0	486	724	1210
4	70	6.72	20.384	22.037	0.00	0.136	2.82	1.00	1.00	0.0	32.86	92.75	0.00	5811	0	530	680	1210
3	50	6.14	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	35.70	101.54	0.00	6498	0	530	622	1152

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

SECTION FORCES

1.0D + 1.0W Service Normal
 60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
2	30	5.44	27.824	23.639	0.00	0.131	2.84	1.00	1.00	0.0	41.20	117.07	0.00	6494	0	542	551	1093	
1	10	5.44	16.538	26.210	0.00	0.099	2.97	1.00	1.00	0.0	30.53	90.66	0.00	8874	0	419	551	971	
														Totals	47,266	0			9,564

** = Section Force Exceeds Solidity Ratio Criteria

1.0D + 1.0W Service 60°
 60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	8.71	4.460	2.500	0.00	0.169	2.70	0.80	1.00	0.0	4.99	13.50	0.00	433	0	100	38	138	
9	170	8.51	8.042	7.512	0.00	0.150	2.77	0.80	1.00	0.0	10.70	29.65	0.00	1686	0	215	136	350	
8	150	8.23	9.796	8.347	0.00	0.126	2.86	0.80	1.00	0.0	12.56	35.94	0.00	2748	0	251	661	912	
7	130	7.92	16.746	10.017	0.00	0.145	2.79	0.80	1.00	0.0	19.08	53.25	0.00	4382	0	359	789	1148	
6	110	7.58	19.634	10.851	0.00	0.135	2.83	0.80	1.00	0.0	21.85	61.76	0.00	4889	0	398	759	1157	
5	90	7.18	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	25.17	70.71	0.00	5450	0	432	724	1155	
4	70	6.72	20.384	22.037	0.00	0.136	2.82	0.80	1.00	0.0	28.79	81.24	0.00	5811	0	464	680	1144	
3	50	6.14	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	31.24	88.84	0.00	6498	0	464	622	1086	
2	30	5.44	27.824	23.639	0.00	0.131	2.84	0.80	1.00	0.0	35.64	101.26	0.00	6494	0	468	551	1020	
1	10	5.44	16.538	26.210	0.00	0.099	2.97	0.80	1.00	0.0	27.23	80.84	0.00	8874	0	374	551	925	
														Totals	47,266	0			9,035

** = Section Force Exceeds Solidity Ratio Criteria

1.0D + 1.0W Service 90°
 60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	8.71	4.460	2.500	0.00	0.169	2.70	0.85	1.00	0.0	5.22	14.10	0.00	433	0	104	38	143	
9	170	8.51	8.042	7.512	0.00	0.150	2.77	0.85	1.00	0.0	11.10	30.77	0.00	1686	0	223	136	358	
8	150	8.23	9.796	8.347	0.00	0.126	2.86	0.85	1.00	0.0	13.05	37.34	0.00	2748	0	261	661	922	
7	130	7.92	16.746	10.017	0.00	0.145	2.79	0.85	1.00	0.0	19.91	55.58	0.00	4382	0	374	789	1163	
6	110	7.58	19.634	10.851	0.00	0.135	2.83	0.85	1.00	0.0	22.83	64.54	0.00	4889	0	416	759	1175	
5	90	7.18	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	25.96	72.94	0.00	5450	0	445	724	1169	
4	70	6.72	20.384	22.037	0.00	0.136	2.82	0.85	1.00	0.0	29.81	84.12	0.00	5811	0	480	680	1161	
3	50	6.14	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	32.35	92.01	0.00	6498	0	480	622	1102	
2	30	5.44	27.824	23.639	0.00	0.131	2.84	0.85	1.00	0.0	37.03	105.21	0.00	6494	0	487	551	1038	
1	10	5.44	16.538	26.210	0.00	0.099	2.97	0.85	1.00	0.0	28.05	83.29	0.00	8874	0	385	551	937	
														Totals	47,266	0			9,168

** = Section Force Exceeds Solidity Ratio Criteria

1.0D + 1.0W Service 120°
 60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	8.71	4.460	2.500	0.00	0.169	2.70	1.00	1.00	0.0	5.88	15.91	0.00	433	0	118	38	156	
9	170	8.51	8.042	7.512	0.00	0.150	2.77	1.00	1.00	0.0	12.31	34.11	0.00	1686	0	247	136	382	
8	150	8.23	9.796	8.347	0.00	0.126	2.86	1.00	1.00	0.0	14.52	41.55	0.00	2748	0	291	661	952	
7	130	7.92	16.746	10.017	0.00	0.145	2.79	1.00	1.00	0.0	22.43	62.60	0.00	4382	0	422	789	1210	
6	110	7.58	19.634	10.851	0.00	0.135	2.83	1.00	1.00	0.0	25.78	72.86	0.00	4889	0	469	759	1228	
5	90	7.18	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	28.34	79.62	0.00	5450	0	486	724	1210	
4	70	6.72	20.384	22.037	0.00	0.136	2.82	1.00	1.00	0.0	32.86	92.75	0.00	5811	0	530	680	1210	
3	50	6.14	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	35.70	101.54	0.00	6498	0	530	622	1152	
2	30	5.44	27.824	23.639	0.00	0.131	2.84	1.00	1.00	0.0	41.20	117.07	0.00	6494	0	542	551	1093	
1	10	5.44	16.538	26.210	0.00	0.099	2.97	1.00	1.00	0.0	30.53	90.66	0.00	8874	0	419	551	971	
														Totals	47,266	0			9,564

** = Section Force Exceeds Solidity Ratio Criteria

1.0D + 1.0W Service 180°
 60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	8.71	4.460	2.500	0.00	0.169	2.70	0.80	1.00	0.0	4.99	13.50	0.00	433	0	100	38	138	
9	170	8.51	8.042	7.512	0.00	0.150	2.77	0.80	1.00	0.0	10.70	29.65	0.00	1686	0	215	136	350	
8	150	8.23	9.796	8.347	0.00	0.126	2.86	0.80	1.00	0.0	12.56	35.94	0.00	2748	0	251	661	912	
7	130	7.92	16.746	10.017	0.00	0.145	2.79	0.80	1.00	0.0	19.08	53.25	0.00	4382	0	359	789	1148	
6	110	7.58	19.634	10.851	0.00	0.135	2.83	0.80	1.00	0.0	21.85	61.76	0.00	4889	0	398	759	1157	
5	90	7.18	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	25.17	70.71	0.00	5450	0	432	724	1155	
4	70	6.72	20.384	22.037	0.00	0.136	2.82	0.80	1.00	0.0	28.79	81.24	0.00	5811	0	464	680	1144	
3	50	6.14	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	31.24	88.84	0.00	6498	0	464	622	1086	
2	30	5.44	27.824	23.639	0.00	0.131	2.84	0.80	1.00	0.0	35.64	101.26	0.00	6494	0	468	551	1020	
1	10	5.44	16.538	26.210	0.00	0.099	2.97	0.80	1.00	0.0	27.23	80.84	0.00	8874	0	374	551	925	
														Totals	47,266	0			9,035

** = Section Force Exceeds Solidity Ratio Criteria

1.0D + 1.0W Service 210°
 60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185	8.71	4.460	2.500	0.00	0.169	2.70	0.80	1.00	0.0	4.99	13.50	0.00	433	0	100	38	138
9	170	8.51	8.042	7.512	0.00	0.150	2.77	0.80	1.00	0.0	10.70	29.65	0.00	1686	0	215	136	350
8	150	8.23	9.796	8.347	0.00	0.126	2.86	0.80	1.00	0.0	12.56	35.94	0.00	2748	0	251	661	912
7	130	7.92	16.746	10.017	0.00	0.145	2.79	0.80	1.00	0.0	19.08	53.25	0.00	4382	0	359	789	1148
6	110	7.58	19.634	10.851	0.00	0.135	2.83	0.80	1.00	0.0	21.85	61.76	0.00	4889	0	398	759	1157
5	90	7.18	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	25.17	70.71	0.00	5450	0	432	724	1155
4	70	6.72	20.384	22.037	0.00	0.136	2.82	0.80	1.00	0.0	28.79	81.24	0.00	5811	0	464	680	

SECTION FORCES

1.0D + 1.0W Service 210°
 60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Qz (psf)	A ₁ (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{1z} (in)	A ₀ (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	8.71	4.460	2.500	0.00	0.169	2.70	0.85	1.00	0.0	5.22	14.10	0.00	433	0	104	38	143	
9	170	8.51	8.042	7.512	0.00	0.150	2.77	0.85	1.00	0.0	11.10	30.77	0.00	1686	0	223	136	358	
8	150	8.23	9.796	8.347	0.00	0.126	2.86	0.85	1.00	0.0	13.05	37.34	0.00	2748	0	261	661	922	
7	130	7.92	16.746	10.017	0.00	0.145	2.79	0.85	1.00	0.0	19.91	55.58	0.00	4382	0	374	789	1163	
6	110	7.58	19.634	10.851	0.00	0.135	2.83	0.85	1.00	0.0	22.83	64.54	0.00	4889	0	416	759	1175	
5	90	7.18	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	25.96	72.94	0.00	5450	0	445	724	1169	
4	70	6.72	20.384	22.037	0.00	0.136	2.82	0.85	1.00	0.0	29.81	84.12	0.00	5811	0	480	680	1161	
3	50	6.14	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	32.35	92.01	0.00	6498	0	480	622	1102	
2	30	5.44	27.824	23.639	0.00	0.131	2.84	0.85	1.00	0.0	37.03	105.21	0.00	6494	0	487	551	1038	
1	10	5.44	16.538	26.210	0.00	0.099	2.97	0.85	1.00	0.0	28.05	83.29	0.00	8874	0	385	551	937	
															Totals	47,266	0	9,168	

** = Section Force Exceeds Solidity Ratio Criteria

1.0D + 1.0W Service 240°
 60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Qz (psf)	A ₁ (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{1z} (in)	A ₀ (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	8.71	4.460	2.500	0.00	0.169	2.70	1.00	1.00	0.0	5.88	15.91	0.00	433	0	118	38	156	
9	170	8.51	8.042	7.512	0.00	0.150	2.77	1.00	1.00	0.0	12.31	34.11	0.00	1686	0	247	136	382	
8	150	8.23	9.796	8.347	0.00	0.126	2.86	1.00	1.00	0.0	14.52	41.55	0.00	2748	0	291	661	952	
7	130	7.92	16.746	10.017	0.00	0.145	2.79	1.00	1.00	0.0	22.43	62.60	0.00	4382	0	422	789	1210	
6	110	7.58	19.634	10.851	0.00	0.135	2.83	1.00	1.00	0.0	25.78	72.86	0.00	4889	0	469	759	1228	
5	90	7.18	15.857	22.037	0.00	0.140	2.81	1.00	1.00	0.0	28.34	79.62	0.00	5450	0	486	724	1210	
4	70	6.72	20.384	22.037	0.00	0.136	2.82	1.00	1.00	0.0	32.86	92.75	0.00	5811	0	530	680	1210	
3	50	6.14	22.326	23.639	0.00	0.131	2.84	1.00	1.00	0.0	35.70	101.54	0.00	6498	0	530	622	1152	
2	30	5.44	27.824	23.639	0.00	0.131	2.84	1.00	1.00	0.0	41.20	117.07	0.00	6494	0	542	551	1093	
1	10	5.44	16.538	26.210	0.00	0.099	2.97	1.00	1.00	0.0	30.53	90.66	0.00	8874	0	419	551	971	
															Totals	47,266	0	9,564	

** = Section Force Exceeds Solidity Ratio Criteria

1.0D + 1.0W Service 300°
 60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Qz (psf)	A ₁ (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{1z} (in)	A ₀ (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	8.71	4.460	2.500	0.00	0.169	2.70	0.80	1.00	0.0	4.99	13.50	0.00	433	0	100	38	138	
9	170	8.51	8.042	7.512	0.00	0.150	2.77	0.80	1.00	0.0	10.70	29.65	0.00	1686	0	215	136	350	
8	150	8.23	9.796	8.347	0.00	0.126	2.86	0.80	1.00	0.0	12.56	35.94	0.00	2748	0	251	661	912	
7	130	7.92	16.746	10.017	0.00	0.145	2.79	0.80	1.00	0.0	19.08	53.25	0.00	4382	0	359	789	1148	
6	110	7.58	19.634	10.851	0.00	0.135	2.83	0.80	1.00	0.0	21.85	61.76	0.00	4889	0	398	759	1157	
5	90	7.18	15.857	22.037	0.00	0.140	2.81	0.80	1.00	0.0	25.17	70.71	0.00	5450	0	432	724	1155	
4	70	6.72	20.384	22.037	0.00	0.136	2.82	0.80	1.00	0.0	28.79	81.24	0.00	5811	0	464	680	1144	
3	50	6.14	22.326	23.639	0.00	0.131	2.84	0.80	1.00	0.0	31.24	88.84	0.00	6498	0	464	622	1086	
2	30	5.44	27.824	23.639	0.00	0.131	2.84	0.80	1.00	0.0	35.64	101.26	0.00	6494	0	468	551	1020	
1	10	5.44	16.538	26.210	0.00	0.099	2.97	0.80	1.00	0.0	27.23	80.84	0.00	8874	0	374	551	925	
															Totals	47,266	0	9,035	

** = Section Force Exceeds Solidity Ratio Criteria

1.0D + 1.0W Service 330°
 60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Qz (psf)	A ₁ (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{1z} (in)	A ₀ (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185	8.71	4.460	2.500	0.00	0.169	2.70	0.85	1.00	0.0	5.22	14.10	0.00	433	0	104	38	143	
9	170	8.51	8.042	7.512	0.00	0.150	2.77	0.85	1.00	0.0	11.10	30.77	0.00	1686	0	223	136	358	
8	150	8.23	9.796	8.347	0.00	0.126	2.86	0.85	1.00	0.0	13.05	37.34	0.00	2748	0	261	661	922	
7	130	7.92	16.746	10.017	0.00	0.145	2.79	0.85	1.00	0.0	19.91	55.58	0.00	4382	0	374	789	1163	
6	110	7.58	19.634	10.851	0.00	0.135	2.83	0.85	1.00	0.0	22.83	64.54	0.00	4889	0	416	759	1175	
5	90	7.18	15.857	22.037	0.00	0.140	2.81	0.85	1.00	0.0	25.96	72.94	0.00	5450	0	445	724	1169	
4	70	6.72	20.384	22.037	0.00	0.136	2.82	0.85	1.00	0.0	29.81	84.12	0.00	5811	0	480	680	1161	
3	50	6.14	22.326	23.639	0.00	0.131	2.84	0.85	1.00	0.0	32.35	92.01	0.00	6498	0	480	622	1102	
2	30	5.44	27.824	23.639	0.00	0.131	2.84	0.85	1.00	0.0	37.03	105.21	0.00	6494	0	487	551	1038	
1	10	5.44	16.538	26.210	0.00	0.099	2.97	0.85	1.00	0.0	28.05	83.29	0.00	8874	0	385	551	937	
															Totals	47,266	0	9,168	

** = Section Force Exceeds Solidity Ratio Criteria

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

EQUIVALENT LATERAL FORCE METHOD

Long-Period Transition Period (T_L - Seconds):	6
Importance Factor (I_a):	1.00
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.23
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):	0.93
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.21
Total Unfactored Dead Load:	58.58 k
Seismic Base Shear (E):	2.52 k

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh

Section/Appurtenance	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
10	185.00	433	244,087	0.017	42	370
9	170.00	1,686	857,859	0.059	149	1,440
8	150.00	2,748	1,201,534	0.083	209	2,347
7	130.00	4,382	1,610,269	0.111	280	3,742
6	110.00	4,889	1,467,095	0.101	255	4,176
5	90.00	5,450	1,281,926	0.088	223	4,655
4	70.00	5,811	1,007,441	0.070	175	4,962
3	50.00	6,498	748,943	0.052	130	5,549
2	30.00	6,494	402,712	0.028	70	5,546
1	10.00	8,874	145,083	0.010	25	7,579
Ericsson Radio 4449 B71 B85A	190.00	225	131,044	0.009	23	192
Ericsson 4460 BAND 2/25	190.00	327	190,451	0.013	33	279
Andrew HBXX-9014DS-A2M	190.00	89	52,068	0.004	9	76
Ericsson AIR 6419 B41	190.00	206	119,687	0.008	21	175
Generic Round Sector Frame	190.00	900	524,177	0.036	91	769
RFS APXVAARR24_43-U-NA20	190.00	384	223,474	0.015	39	328
Generic Round Sector Frame	178.00	900	484,279	0.033	84	769
Generic Round Sector Frame	170.00	900	457,995	0.032	80	769
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	169.10	210	106,179	0.007	18	179
Commscope DT465B-2XR	169.10	174	87,977	0.006	15	149
RFS APXVSP18-C-A20 (62 lbs)	168.70	186	93,775	0.006	16	159
Alcatel-Lucent 1900MHz RRH (65MHz)	168.60	180	90,684	0.006	16	154
Alcatel-Lucent 2X50W RRH w/o Filter	168.50	318	160,094	0.011	28	272
Raycap DC6-48-60-18-8C-EV (Enclosure)	164.40	48	23,453	0.002	4	41
Powerwave Allgon TT08-19DB111-001	160.00	66	31,204	0.002	5	56
Powerwave Allgon LGP21401	160.00	42	19,999	0.001	3	36
Ericsson RRUS 8843 B2, B66A	160.00	216	102,123	0.007	18	184
Ericsson RRUS 4449 B5, B12	160.00	213	100,704	0.007	18	182
Ericsson RRUS 4478 B14 (18.1" Height)	160.00	178	84,251	0.006	15	152
Powerwave Allgon 7770.00	160.00	105	49,643	0.003	9	90
CCI DMP65R-BU6DA	160.00	318	150,158	0.010	26	271
Generic Round Sector Frame	160.00	900	425,511	0.029	74	769
CCI DMP65R-BU8D	160.00	191	90,492	0.006	16	163
Raycap RTH-0306-PFC	153.00	11	4,747	0.000	1	9
Samsung RF4461d-13A	153.00	237	106,265	0.007	18	203
Raycap RVZDC-3315-PF-48	153.00	21	9,583	0.001	2	18
Samsung RF4801d-25A	153.00	264	118,221	0.008	21	225
Samsung MT6413-77A	153.00	172	76,978	0.005	13	147
Commscope NHH-65B-R2B	153.00	262	117,415	0.008	20	224
Generic Sector Frame	153.00	2,400	1,074,740	0.074	187	2,050
Aviat Networks ODU 600v2	139.00	8	3,069	0.000	1	7
Radio Waves SP2-10	139.00	22	8,769	0.001	2	19
Generic Flat Side Arm	139.00	188	74,734	0.005	13	160
Sinclair SD212-HF2P4LDF(D00B)	130.00	39	14,332	0.001	2	33
Generic Flat Stand-Off	130.00	188	68,904	0.005	12	160
Sinclair SD212-HF2P4LDF(D00B)	90.00	39	9,173	0.001	2	33
Generic Flat Side Arm	90.00	188	44,101	0.003	8	160
Totals		58,579	14,497,400	1.000	2,519	50,027

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

0.9D - 1.0Ev + 1.5Eh

Section/Appurtenance	Height Above Base (ft)	Weight (lb)	W ₂ (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
10	185.00	433	244,087	0.017	64	370
9	170.00	1,686	857,859	0.059	224	1,440
8	150.00	2,748	1,201,534	0.083	313	2,347
7	130.00	4,382	1,610,269	0.111	420	3,742
6	110.00	4,889	1,467,095	0.101	382	4,176
5	90.00	5,450	1,281,926	0.088	334	4,655
4	70.00	5,811	1,007,441	0.070	263	4,962
3	50.00	6,498	748,943	0.052	195	5,549
2	30.00	6,494	402,712	0.028	105	5,546
1	10.00	8,874	145,083	0.010	38	7,579
Ericsson Radio 4449 B71 B85A	190.00	225	131,044	0.009	34	192
Ericsson 4460 BAND 2/25	190.00	327	190,451	0.013	50	279
Andrew HBXX-9014DS-A2M	190.00	89	52,068	0.004	14	76
Ericsson AIR 6419 B41	190.00	206	119,687	0.008	31	175
Generic Round Sector Frame	190.00	900	524,177	0.036	137	769
RFS APXVAARR24_43-U-NA20	190.00	384	223,474	0.015	58	328
Generic Round Sector Frame	178.00	900	484,279	0.033	126	769
Generic Round Sector Frame	170.00	900	457,995	0.032	119	769
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	169.10	210	106,179	0.007	28	179
Commscope DT465B-2XR	169.10	174	87,977	0.006	23	149
RFS APXVSP18-C-A20 (62 lbs)	168.70	186	93,775	0.006	24	159
Alcatel-Lucent 1900MHz RRH (65MHz)	168.60	180	90,684	0.006	24	154
Alcatel-Lucent 2X50W RRH w/o Filter	168.50	318	160,094	0.011	42	272
Raycap DC6-48-60-18-8C-EV (Enclosure)	164.40	48	23,453	0.002	6	41
Powerwave Allgon TT08-19DB111-001	160.00	66	31,204	0.002	8	56
Powerwave Allgon LGP21401	160.00	42	19,999	0.001	5	36
Ericsson RRUS 8843 B2, B66A	160.00	216	102,123	0.007	27	184
Ericsson RRUS 4449 B5, B12	160.00	213	100,704	0.007	26	182
Ericsson RRUS 4478 B14 (18.1" Height)	160.00	178	84,251	0.006	22	152
Powerwave Allgon 7770.00	160.00	105	49,643	0.003	13	90
CCI DMP65R-BU6DA	160.00	318	150,158	0.010	39	271
Generic Round Sector Frame	160.00	900	425,511	0.029	111	769
CCI DMP65R-BU8D	160.00	191	90,492	0.006	24	163
Raycap RTH-0306-PFC	153.00	11	4,747	0.000	1	9
Samsung RF4461d-13A	153.00	237	106,265	0.007	28	203
Raycap RVZDC-3315-PF-48	153.00	21	9,583	0.001	2	18
Samsung RF4801d-25A	153.00	264	118,221	0.008	31	225
Samsung MT6413-77A	153.00	172	76,978	0.005	20	147
Commscope NHH-65B-R2B	153.00	262	117,415	0.008	31	224
Generic Sector Frame	153.00	2,400	1,074,740	0.074	280	2,050
Aviat Networks ODU 600v2	139.00	8	3,069	0.000	1	7
Radio Waves SP2-10	139.00	22	8,769	0.001	2	19
Generic Flat Side Arm	139.00	188	74,734	0.005	19	160
Sinclair SD212-HF2P4LDF(D00B)	130.00	39	14,332	0.001	4	33
Generic Flat Stand-Off	130.00	188	68,904	0.005	18	160
Sinclair SD212-HF2P4LDF(D00B)	90.00	39	9,173	0.001	2	33
Generic Flat Side Arm	90.00	188	44,101	0.003	11	160
Totals		58,579	14,497,400	1.000	3,779	50,027

1.2D + 1.0Ev + 1.0Eh

Section/Appurtenance	Height Above Base (ft)	Weight (lb)	W ₂ (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
10	185.00	433	244,087	0.017	42	539
9	170.00	1,686	857,859	0.059	149	2,100
8	150.00	2,748	1,201,534	0.083	209	3,425
7	130.00	4,382	1,610,269	0.111	280	5,460
6	110.00	4,889	1,467,095	0.101	255	6,092
5	90.00	5,450	1,281,926	0.088	223	6,791
4	70.00	5,811	1,007,441	0.070	175	7,240
3	50.00	6,498	748,943	0.052	130	8,096
2	30.00	6,494	402,712	0.028	70	8,092
1	10.00	8,874	145,083	0.010	25	11,057
Ericsson Radio 4449 B71 B85A	190.00	225	131,044	0.009	23	280
Ericsson 4460 BAND 2/25	190.00	327	190,451	0.013	33	407
Andrew HBXX-9014DS-A2M	190.00	89	52,068	0.004	9	111
Ericsson AIR 6419 B41	190.00	206	119,687	0.008	21	256
Generic Round Sector Frame	190.00	900	524,177	0.036	91	1,121
RFS APXVAARR24_43-U-NA20	190.00	384	223,474	0.015	39	478
Generic Round Sector Frame	178.00	900	484,279	0.033	84	1,121
Generic Round Sector Frame	170.00	900	457,995	0.032	80	1,121
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	169.10	210	106,179	0.007	18	262
Commscope DT465B-2XR	169.10	174	87,977	0.006	15	217
RFS APXVSP18-C-A20 (62 lbs)	168.70	186	93,775	0.006	16	232
Alcatel-Lucent 1900MHz RRH (65MHz)	168.60	180	90,684	0.006	16	224
Alcatel-Lucent 2X50W RRH w/o Filter	168.50	318	160,094	0.011	28	396
Raycap DC6-48-60-18-8C-EV (Enclosure)	164.40	48	23,453	0.002	4	60
Powerwave Allgon TT08-19DB111-001	160.00	66	31,204	0.002	5	82
Powerwave Allgon LGP21401	160.00	42	19,999	0.001	3	53

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

Ericsson RRUS 8843 B2, B66A	160.00	216	102,123	0.007	18	269
Ericsson RRUS 4449 B5, B12	160.00	213	100,704	0.007	18	265
Ericsson RRUS 4478 B14 (18.1" Height)	160.00	178	84,251	0.006	15	222
Powerwave Allgon 7770.00	160.00	105	49,643	0.003	9	131
CCI DMP65R-BU6DA	160.00	318	150,158	0.010	26	396
Generic Round Sector Frame	160.00	900	425,511	0.029	74	1,121
CCI DMP65R-BU8D	160.00	191	90,492	0.006	16	238
Raycap RTH-0306-PFC	153.00	11	4,747	0.000	1	13
Samsung RF4461d-13A	153.00	237	106,265	0.007	18	296
Raycap RVZDC-3315-PF-48	153.00	21	9,583	0.001	2	27
Samsung RF4801d-25A	153.00	264	118,221	0.008	21	329
Samsung MT6413-77A	153.00	172	76,978	0.005	13	214
Commscope NHH-65B-R2B	153.00	262	117,415	0.008	20	327
Generic Sector Frame	153.00	2,400	1,074,740	0.074	187	2,990
Aviat Networks ODU 600v2	139.00	8	3,069	0.000	1	10
Radio Waves SP2-10	139.00	22	8,769	0.001	2	27
Generic Flat Side Arm	139.00	188	74,734	0.005	13	234
Sinclair SD212-HF2P4LDF(D00B)	130.00	39	14,332	0.001	2	49
Generic Flat Stand-Off	130.00	188	68,904	0.005	12	234
Sinclair SD212-HF2P4LDF(D00B)	90.00	39	9,173	0.001	2	49
Generic Flat Side Arm	90.00	188	44,101	0.003	8	234
Totals		58,579	14,497,400	1.000	2,519	72,990

1.2D + 1.0Ev + 1.5Eh

Section/Appurtenance	Height Above Base (ft)	Weight (lb)	W _Z (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
10	185.00	433	244,087	0.017	64	539
9	170.00	1,686	857,859	0.059	224	2,100
8	150.00	2,748	1,201,534	0.083	313	3,425
7	130.00	4,382	1,610,269	0.111	420	5,460
6	110.00	4,889	1,467,095	0.101	382	6,092
5	90.00	5,450	1,281,926	0.088	334	6,791
4	70.00	5,811	1,007,441	0.070	263	7,240
3	50.00	6,498	748,943	0.052	195	8,096
2	30.00	6,494	402,712	0.028	105	8,092
1	10.00	8,874	145,083	0.010	38	11,057
Ericsson Radio 4449 B71 B85A	190.00	225	131,044	0.009	34	280
Ericsson 4460 BAND 2/25	190.00	327	190,451	0.013	50	407
Andrew HBXX-9014DS-A2M	190.00	89	52,068	0.004	14	111
Ericsson AIR 6419 B41	190.00	206	119,687	0.008	31	256
Generic Round Sector Frame	190.00	900	524,177	0.036	137	1,121
RFS APXVAARR24_43-U-NA20	190.00	384	223,474	0.015	58	478
Generic Round Sector Frame	178.00	900	484,279	0.033	126	1,121
Generic Round Sector Frame	170.00	900	457,995	0.032	119	1,121
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	169.10	210	106,179	0.007	28	262
Commscope DT465B-2XR	169.10	174	87,977	0.006	23	217
RFS APXVSP18-C-A20 (62 lbs)	168.70	186	93,775	0.006	24	232
Alcatel-Lucent 1900MHz RRH (65MHz)	168.60	180	90,684	0.006	24	224
Alcatel-Lucent 2X50W RRH w/o Filter	168.50	318	160,094	0.011	42	396
Raycap DC6-48-60-18-8C-EV (Enclosure)	164.40	48	23,453	0.002	6	60
Powerwave Allgon TT08-19DB111-001	160.00	66	31,204	0.002	8	82
Powerwave Allgon LGP21401	160.00	42	19,999	0.001	5	53
Ericsson RRUS 8843 B2, B66A	160.00	216	102,123	0.007	27	269
Ericsson RRUS 4449 B5, B12	160.00	213	100,704	0.007	26	265
Ericsson RRUS 4478 B14 (18.1" Height)	160.00	178	84,251	0.006	22	222
Powerwave Allgon 7770.00	160.00	105	49,643	0.003	13	131
CCI DMP65R-BU6DA	160.00	318	150,158	0.010	39	396
Generic Round Sector Frame	160.00	900	425,511	0.029	111	1,121
CCI DMP65R-BU8D	160.00	191	90,492	0.006	24	238
Raycap RTH-0306-PFC	153.00	11	4,747	0.000	1	13
Samsung RF4461d-13A	153.00	237	106,265	0.007	28	296
Raycap RVZDC-3315-PF-48	153.00	21	9,583	0.001	2	27
Samsung RF4801d-25A	153.00	264	118,221	0.008	31	329
Samsung MT6413-77A	153.00	172	76,978	0.005	20	214
Commscope NHH-65B-R2B	153.00	262	117,415	0.008	31	327
Generic Sector Frame	153.00	2,400	1,074,740	0.074	280	2,990
Aviat Networks ODU 600v2	139.00	8	3,069	0.000	1	10
Radio Waves SP2-10	139.00	22	8,769	0.001	2	27
Generic Flat Side Arm	139.00	188	74,734	0.005	19	234
Sinclair SD212-HF2P4LDF(D00B)	130.00	39	14,332	0.001	4	49
Generic Flat Stand-Off	130.00	188	68,904	0.005	18	234
Sinclair SD212-HF2P4LDF(D00B)	90.00	39	9,173	0.001	2	49
Generic Flat Side Arm	90.00	188	44,101	0.003	11	234
Totals		58,579	14,497,400	1.000	3,779	72,990

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FORCE/STRESS SUMMARY

Section 1 - 0.0' to 20.00'

Member Compression		P _u (kip)	Load Case	Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	# Bolt	# Hole	Use %	Controls
Member Tension		P _u (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls		
Max Splice Forces		P _u (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type								
L 18B - 18"BD 2.5"	-229.23	1.2D + 1.0W N	20.033	100	100	100	0.00	0.00	613.30	0.00	0.00	0	0	37	User Input
D DAE - 3.5X3.5X0.3125	-12.50	1.2D + 1.0W 120°	29.006	50	50	25	166.54	36.00	43.14	141.37	139.20	4	2	29	Member Y
L 18B - 18"BD 2.5"	185.98	0.9D + 1.0W 60°	50.0	65	662.70	0.00	0.00			0	0	28		User Input	
D DAE - 3.5X3.5X0.3125	10.09	0.9D + 1.0W 60°	36.0	58	114.71	141.37	112.01	71.05		4	2	14		Blk Shear	
Bot Tension	200.50	0.9D + 1.0W 60°	1308.30	2	12	1.25" A687									
Bot Compression	247.23	1.2D + 1.0W N	1221.08	0	0										

FORCE/STRESS SUMMARY

Section 2 – 20.0' to 40.0'

	Pu (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z								
Member Compression														
L 12B - 12"BD 2.25"	-218.88	1.2D + 1.0W N	10.017	100	100	100	0.00	0.00	512.40	0.00	0	0	43	User Input
D SAE - 4X4X0.25	-7.56	1.2D + 1.0W 210°	21.032	50	50	50	158.73	35.71	22.04	55.22	1	1	34	Member Z
Member Tension														
L 12B - 12"BD 2.25"	176.09	0.9D + 1.0W 60°	50.0		65	536.80	0.00	0.00			0	0	33	User Input
D SAE - 4X4X0.25	7.70	1.2D + 1.0W 120°	36.0		58	52.59	55.22	21.32	16.43	1	1	47	Blk Shear	
Max Splice Forces														
Bot Tension	178.41	0.9D + 1.0W 60°	523.32		34			6	1.25" A325					

Section 3 – 40.0' to 60.0'

	Pu (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z								
Member Compression														
L 12B - 12"BD 2.25"	-190.76	1.2D + 1.0W N	10.017	100	100	100	0.00	0.00	512.40	0.00	0	0	37	User Input
D SAE - 3.5X3.5X0.3125	-6.86	0.9D + 1.0W 210°	20.158	50	50	50	175.28	36.00	19.47	55.22	1	1	35	Member Z
Member Tension														
L 12B - 12"BD 2.25"	154.39	0.9D + 1.0W 60°	50.0		65	536.80	0.00	0.00			0	0	29	User Input
D SAE - 3.5X3.5X0.3125	6.87	1.2D + 1.0W 210°	36.0		58	54.80	55.22	26.64	20.54	1	1	33	Blk Shear	
Max Splice Forces														
Bot Tension	158.85	0.9D + 1.0W 60°	523.32		30			6	1.25" A325					

Section 4 – 60.0' to 80.0'

	Pu (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z								
Member Compression														
L 12B - 12"BD 2"	-163.25	1.2D + 1.0W N	10.017	100	100	100	0.00	0.00	399.90	0.00	0	0	41	User Input
D SAE - 3.5X3.5X0.3125	-6.66	1.2D + 1.0W 210°	18.448	50	50	50	160.42	36.00	23.25	55.22	1	1	29	Member Z
Member Tension														
L 12B - 12"BD 2"	132.72	0.9D + 1.0W 60°	50.0		65	424.10	0.00	0.00			0	0	31	User Input
D SAE - 3.5X3.5X0.3125	6.50	0.9D + 1.0W 210°	36.0		58	54.80	55.22	26.64	20.54	1	1	32	Blk Shear	
Max Splice Forces														
Bot Tension	137.47	0.9D + 1.0W 60°	523.32		26			6	1.25" A325					

Section 5 – 80.0' to 100.0'

	Pu (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z								
Member Compression														
L 12B - 12"BD 2"	-135.37	1.2D + 1.0W N	10.017	100	100	100	0.00	0.00	399.90	0.00	0	0	34	User Input
D SAE - 3X3X0.3125	-6.31	1.2D + 1.0W 210°	16.803	50	50	50	171.17	36.00	17.39	55.22	1	1	36	Member Z
Member Tension														
L 12B - 12"BD 2"	109.89	0.9D + 1.0W 60°	50.0		65	424.10	0.00	0.00			0	0	26	User Input
D SAE - 3X3X0.3125	6.25	1.2D + 1.0W 330°	36.0		58	44.69	55.22	26.64	17.14	1	1	36	Blk Shear	
Max Splice Forces														
Bot Tension	114.99	0.9D + 1.0W 60°	523.32		22			6	1.25" A325					

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FORCE/STRESS SUMMARY

Section 6 - 100.0' to 120.00'

Member Compression		Pu (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	# Bolt	# Hole	Use %	Controls
L SOL - 3 1/4" SOLID	-111.05	1.2D + 1.0W N	5.008	100	100	100	73.97	50.00	250.23	0.00	0.00	0	0	44	Member X
D SAE - 2.5X2.5X0.375	-4.68	1.2D + 1.0W 210°	12.312	50	50	50	151.69	36.00	21.52	13.81	26.10	1	1	34	Bolt Shear
Member Tension		Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls		
L SOL - 3 1/4" SOLID	90.43	0.9D + 1.0W 60°	50.0	65	373.32	0.00	0.00			0	0	24	Member		
D SAE - 2.5X2.5X0.375	4.67	1.2D + 1.0W 210°	36.0	58	48.03	13.81	15.66	17.74		1	1	34	Bolt Shear		
Max Splice Forces		Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type								
Bot Tension	92.25	0.9D + 1.0W 60°	327.10	28	6	1 A325									

FORCE/STRESS SUMMARY

Section 7 - 120.0' to 140.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F _y (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z									
L SOL - 3" SOLID	-82.52	1.2D + 1.0W N	5.008	100	100	100	80.13	50.00	198.91	0.00	0.00	0	0	41	Member X
D SAE - 2.5X2.5X0.375	-4.29	1.2D + 1.0W 330°	10.958	50	50	50	135.01	36.00	27.17	13.81	26.10	1	1	31	Bolt Shear

Member Tension	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	Blk Shear Φ ₁ P _n (kip)	# Bolt	# Hole	Use %	Controls
D SAE - 2.5X2.5X0.375	4.29	1.2D + 1.0W 210°	36.0	58	48.03	13.81	15.66	17.74	1	1	31	Bolt Shear

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	68.94	0.9D + 1.0W 60°	249.34	28	6	0.875" A325

Section 8 - 140.0' to 160.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F _y (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z									
L SOL - 2 1/2" SOLID	-52.97	1.2D + 1.0W 120°	5.008	100	100	100	96.16	50.00	112.38	0.00	0.00	0	0	47	Member X
D SAE - 1.75X1.75X0.25	-3.67	1.2D + 1.0W 210°	9.224	50	50	50	162.30	36.00	8.80	13.81	17.40	1	1	42	Member Z

Member Tension	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	Blk Shear Φ ₁ P _n (kip)	# Bolt	# Hole	Use %	Controls
D SAE - 1.75X1.75X0.25	3.67	1.2D + 1.0W 90°	36.0	58	20.82	13.81	10.44	7.75	1	1	47	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	43.82	0.9D + 1.0W 60°	180.61	24	6	0.75" A325

Section 9 - 160.0' to 180.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F _y (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z									
L SOL - 2 1/4" SOLID	-23.39	1.2D + 1.0W 120°	5.008	100	100	100	106.84	50.00	77.66	0.00	0.00	0	0	30	Member X
D SAE - 1.75X1.75X0.25	-1.93	0.9D + 1.0W 330°	7.621	50	50	50	134.10	36.00	12.89	13.81	17.40	1	1	15	Member Z

Member Tension	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	Blk Shear Φ ₁ P _n (kip)	# Bolt	# Hole	Use %	Controls
D SAE - 1.75X1.75X0.25	1.99	1.2D + 1.0W 210°	36.0	58	20.82	13.81	10.44	7.75	1	1	26	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	18.70	0.9D + 1.0W 60°	122.04	15	6	5/8 A325

Section 10 - 180.0' to 190.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F _y (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z									
L SOL - 1 1/2" SOLID	-5.76	1.2D + 1.0W 120°	5	100	100	100	160.00	50.00	15.59	0.00	0.00	0	0	37	Member X
H SAE - 2.5X2.5X0.1875	-0.62	1.2D + 1.0W 60°	4	100	100	100	108.48	36.00	20.46	13.81	13.05	1	1	5	Bolt Bear
D SAE - 1.75X1.75X0.125	-1.35	1.2D + 1.0W N	6.403	50	50	50	113.04	36.00	9.05	13.81	8.70	1	1	16	Bolt Bear

Member Tension	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	Blk Shear Φ ₁ P _n (kip)	# Bolt	# Hole	Use %	Controls
H SAE - 2.5X2.5X0.1875	0.58	0.9D + 1.0W 120°	36.0	58	25.22	13.81	7.83	8.87	1	1	7	Bolt Bear
D SAE - 1.75X1.75X0.125	1.29	1.2D + 1.0W 90°	36.0	58	10.90	13.81	5.22	3.87	1	1	33	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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ASSET: 371959, Bowdoinham
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FORCE/STRESS SUMMARY

Bot Tension 5.41 0.9D + 1.0W 60° 122.04 4 6 5/8 A325

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DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	90.00	0.0619	-0.0045	0.0804	0.0805
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	130.00	0.1308	0.0056	0.1181	0.1181
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	140.00	0.1522	0.0067	0.1280	0.1282
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	155.00	0.1884	0.0102	0.1443	0.1443
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	160.00	0.201	0.0106	0.1573	0.1575
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	165.00	0.2141	0.0069	0.1508	0.151
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	170.00	0.2274	-0.0103	0.1461	0.1464
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	180.00	0.2546	0.0119	0.1621	0.1625
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	190.00	0.283	0.0122	0.1555	0.1555
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	90.00	0.0611	0.0042	0.0796	0.0798
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	130.00	0.1296	0.0096	0.1170	0.117
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	140.00	0.1509	0.0117	0.1265	0.127
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	155.00	0.1867	0.0178	0.1468	0.1473
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	160.00	0.1994	0.0184	0.1376	0.1381
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	165.00	0.2121	0.0117	0.1499	0.1501
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	170.00	0.2255	-0.0070	0.1615	0.1617
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	180.00	0.2526	-0.0075	0.1643	0.1643
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	190.00	0.2808	0.0075	0.2665	0.2666
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	90.00	0.0635	0.0043	0.0823	0.0824
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	130.00	0.1337	0.0100	0.1202	0.1203
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	140.00	0.1556	0.0121	0.1296	0.1301
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	155.00	0.1924	0.0184	0.1514	0.1517
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	160.00	0.2054	0.0189	0.1414	0.1419
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	165.00	0.2187	0.0113	0.1541	0.1543
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	170.00	0.2323	-0.0086	0.1658	0.1659
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	180.00	0.26	-0.0097	0.1705	0.1705
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	190.00	0.289	-0.0100	0.2709	0.2709
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	90.00	0.0617	-0.0045	0.0801	0.0803
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	130.00	0.1303	0.0057	0.1175	0.1175
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	140.00	0.1515	0.0069	0.1269	0.1271
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	155.00	0.1876	0.0106	0.1436	0.1436
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	160.00	0.2002	0.0109	0.1566	0.1568
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	165.00	0.2132	-0.0067	0.1500	0.1502
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	170.00	0.2264	-0.0118	0.1455	0.1458
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	180.00	0.2535	-0.0139	0.1613	0.1619
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	190.00	0.2817	-0.0135	0.1582	0.1588
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	90.00	0.0609	0.0038	0.0793	0.0794
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	130.00	0.1291	0.0018	0.1164	0.1164
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	140.00	0.1502	0.0000	0.1260	0.126
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	155.00	0.1858	0.0036	0.1391	0.1392
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	160.00	0.1985	0.0042	0.1639	0.1639
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	165.00	0.2112	0.0036	0.1481	0.1482
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	170.00	0.2244	0.0114	0.1351	0.1352
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	180.00	0.2513	0.0137	0.1538	0.1545
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	190.00	0.2792	0.0114	0.0259	0.0283
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	90.00	0.0635	-0.0043	0.0823	0.0824
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	130.00	0.1337	-0.0100	0.1202	0.1203
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	140.00	0.1556	-0.0121	0.1296	0.1301
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	155.00	0.1924	-0.0184	0.1514	0.1517
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	160.00	0.2054	-0.0189	0.1414	0.1419
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	165.00	0.2187	-0.0113	0.1541	0.1543
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	170.00	0.2323	0.0086	0.1658	0.1659
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	180.00	0.26	0.0097	0.1705	0.1705
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	190.00	0.289	0.0100	0.2709	0.2709
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	90.00	0.0617	-0.0048	0.0804	0.0806
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	130.00	0.1306	-0.0113	0.1175	0.1176
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	140.00	0.152	-0.0137	0.1269	0.1276
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	155.00	0.188	-0.0208	0.1501	0.1515
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	160.00	0.2009	-0.0214	0.1276	0.1281

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	165.00	0.2136	-0.0132	0.1511	0.1517
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	170.00	0.2272	-0.0047	0.1704	0.1704
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	180.00	0.2544	-0.0038	0.1710	0.1711
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	190.00	0.2828	-0.0025	0.3087	0.3087
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	90.00	0.0611	-0.0042	0.0796	0.0798
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	130.00	0.1296	-0.0096	0.1170	0.117
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	140.00	0.1509	-0.0117	0.1265	0.127
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	155.00	0.1867	-0.0178	0.1468	0.1473
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	160.00	0.1994	-0.0184	0.1376	0.1381
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	165.00	0.2121	-0.0117	0.1499	0.1501
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	170.00	0.2255	0.0070	0.1615	0.1617
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	180.00	0.2526	0.0075	0.1643	0.1643
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	190.00	0.2808	-0.0075	0.2665	0.2666
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	90.00	0.0637	0.0039	0.0824	0.0825
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	130.00	0.1341	0.0020	0.1207	0.1207
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	140.00	0.156	0.0000	0.1312	0.1312
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	155.00	0.193	0.0034	0.1450	0.145
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	160.00	0.206	0.0040	0.1693	0.1693
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	165.00	0.2194	0.0037	0.1538	0.1538
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	170.00	0.2329	0.0115	0.1402	0.1407
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	180.00	0.2607	0.0138	0.1614	0.162
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	190.00	0.2896	0.0115	0.0341	0.036
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	90.00	0.0169	-0.0013	0.0230	0.023
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	130.00	0.037	-0.0019	0.0350	0.0351
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	140.00	0.0434	0.0010	0.0385	0.0385
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	155.00	0.0543	-0.0022	0.0439	0.0439
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	160.00	0.0581	-0.0022	0.0448	0.0448
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	165.00	0.0621	-0.0022	0.0462	0.0462
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	170.00	0.0661	-0.0022	0.0473	0.0474
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	180.00	0.0745	-0.0021	0.0496	0.0496
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	190.00	0.0832	-0.0016	0.0510	0.051
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	90.00	0.0168	0.0011	0.0230	0.023
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	130.00	0.0369	0.0017	0.0350	0.0351
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	140.00	0.0433	0.0018	0.0383	0.0383
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	155.00	0.0542	0.0019	0.0439	0.0439
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	160.00	0.0581	0.0019	0.0448	0.0448
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	165.00	0.0621	0.0019	0.0462	0.0462
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	170.00	0.0661	0.0019	0.0473	0.0473
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	180.00	0.0745	0.0018	0.0496	0.0496
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	190.00	0.0832	0.0014	0.0513	0.0513
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	90.00	0.017	0.0011	0.0230	0.023
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	130.00	0.037	0.0017	0.0350	0.0351
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	140.00	0.0433	0.0018	0.0380	0.038
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	155.00	0.0543	0.0019	0.0438	0.0439
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	160.00	0.0581	0.0019	0.0447	0.0447
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	165.00	0.0621	0.0019	0.0461	0.0462
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	170.00	0.0661	0.0019	0.0473	0.0474
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	180.00	0.0745	0.0018	0.0495	0.0495
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	190.00	0.0832	0.0014	0.0504	0.0504
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	90.00	0.0169	-0.0013	0.0230	0.023
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	130.00	0.037	-0.0019	0.0350	0.0351
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	140.00	0.0433	0.0010	0.0380	0.038
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	155.00	0.0543	-0.0022	0.0439	0.0439
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	160.00	0.0581	-0.0022	0.0448	0.0448
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	165.00	0.0621	-0.0022	0.0462	0.0462
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	170.00	0.0661	-0.0022	0.0473	0.0474
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	180.00	0.0745	-0.0021	0.0496	0.0496
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	190.00	0.0832	-0.0016	0.0510	0.051
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	90.00	0.0168	0.0011	0.0230	0.023

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-1
 PROJECT: 15398867_C3_02

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	130.00	0.0369	0.0017	0.0350	0.0351
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	140.00	0.0433	0.0000	0.0380	0.038
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	155.00	0.0542	0.0019	0.0439	0.0439
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	160.00	0.0581	0.0019	0.0448	0.0448
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	165.00	0.0621	0.0019	0.0462	0.0462
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	170.00	0.0661	0.0019	0.0473	0.0473
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	180.00	0.0745	0.0018	0.0496	0.0496
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	190.00	0.0832	0.0014	0.0513	0.0513
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	90.00	0.017	0.0011	0.0230	0.023
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	130.00	0.037	0.0017	0.0350	0.0351
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	140.00	0.0433	-0.0018	0.0380	0.038
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	155.00	0.0543	0.0019	0.0438	0.0439
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	160.00	0.0581	0.0019	0.0447	0.0447
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	165.00	0.0621	0.0019	0.0461	0.0462
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	170.00	0.0661	0.0019	0.0473	0.0474
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	180.00	0.0745	0.0018	0.0495	0.0495
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	190.00	0.0832	0.0014	0.0504	0.0504
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	90.00	0.0169	-0.0013	0.0230	0.023
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	130.00	0.037	-0.0019	0.0350	0.0351
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	140.00	0.0433	-0.0021	0.0381	0.0381
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	155.00	0.0543	-0.0022	0.0439	0.0439
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	160.00	0.0581	-0.0022	0.0448	0.0448
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	165.00	0.0621	-0.0022	0.0462	0.0462
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	170.00	0.0661	-0.0022	0.0473	0.0474
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	180.00	0.0745	-0.0021	0.0496	0.0496
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	190.00	0.0832	-0.0016	0.0510	0.051
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	90.00	0.0168	0.0011	0.0230	0.023
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	130.00	0.0369	0.0017	0.0350	0.0351
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	140.00	0.0433	-0.0018	0.0383	0.0383
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	155.00	0.0542	0.0019	0.0439	0.0439
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	160.00	0.0581	0.0019	0.0448	0.0448
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	165.00	0.0621	0.0019	0.0462	0.0462
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	170.00	0.0661	0.0019	0.0473	0.0473
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	180.00	0.0745	0.0018	0.0496	0.0496
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	190.00	0.0832	0.0014	0.0513	0.0513
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	90.00	0.017	0.0011	0.0230	0.023
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	130.00	0.037	0.0017	0.0350	0.0351
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	140.00	0.0434	0.0000	0.0386	0.0386
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	155.00	0.0543	0.0019	0.0438	0.0439
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	160.00	0.0581	0.0019	0.0447	0.0447
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	165.00	0.0621	0.0019	0.0461	0.0462
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	170.00	0.0661	0.0019	0.0473	0.0474
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	180.00	0.0745	0.0018	0.0495	0.0495
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	190.00	0.0832	0.0014	0.0504	0.0504
1.2D + 1.0Ev + 1.0Eh 330° Seismic	90.00	0.017	-0.0013	0.0231	0.0231
1.2D + 1.0Ev + 1.0Eh 330° Seismic	130.00	0.0371	-0.0019	0.0351	0.0352
1.2D + 1.0Ev + 1.0Eh 330° Seismic	140.00	0.0435	0.0010	0.0387	0.0387
1.2D + 1.0Ev + 1.0Eh 330° Seismic	155.00	0.0544	-0.0022	0.0441	0.0441
1.2D + 1.0Ev + 1.0Eh 330° Seismic	160.00	0.0583	-0.0022	0.0449	0.0449
1.2D + 1.0Ev + 1.0Eh 330° Seismic	165.00	0.0623	-0.0022	0.0464	0.0464
1.2D + 1.0Ev + 1.0Eh 330° Seismic	170.00	0.0663	-0.0022	0.0474	0.0475
1.2D + 1.0Ev + 1.0Eh 330° Seismic	180.00	0.0747	-0.0021	0.0501	0.0501
1.2D + 1.0Ev + 1.0Eh 330° Seismic	190.00	0.0834	-0.0016	0.0519	0.0519
1.2D + 1.0Ev + 1.0Eh 300° Seismic	90.00	0.0169	0.0011	0.0231	0.0231
1.2D + 1.0Ev + 1.0Eh 300° Seismic	130.00	0.037	0.0017	0.0351	0.0352
1.2D + 1.0Ev + 1.0Eh 300° Seismic	140.00	0.0434	0.0018	0.0384	0.0385
1.2D + 1.0Ev + 1.0Eh 300° Seismic	155.00	0.0544	0.0019	0.0441	0.0441
1.2D + 1.0Ev + 1.0Eh 300° Seismic	160.00	0.0582	0.0019	0.0450	0.045
1.2D + 1.0Ev + 1.0Eh 300° Seismic	165.00	0.0622	0.0019	0.0464	0.0464

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Ev + 1.0Eh 300° Seismic	170.00	0.0663	0.0019	0.0474	0.0474
1.2D + 1.0Ev + 1.0Eh 300° Seismic	180.00	0.0747	0.0018	0.0502	0.0502
1.2D + 1.0Ev + 1.0Eh 300° Seismic	190.00	0.0834	0.0014	0.0523	0.0523
1.2D + 1.0Ev + 1.0Eh 240° Seismic	90.00	0.0171	0.0011	0.0231	0.0231
1.2D + 1.0Ev + 1.0Eh 240° Seismic	130.00	0.0371	0.0017	0.0351	0.0352
1.2D + 1.0Ev + 1.0Eh 240° Seismic	140.00	0.0434	0.0018	0.0380	0.0381
1.2D + 1.0Ev + 1.0Eh 240° Seismic	155.00	0.0544	0.0019	0.0440	0.044
1.2D + 1.0Ev + 1.0Eh 240° Seismic	160.00	0.0583	0.0019	0.0448	0.0449
1.2D + 1.0Ev + 1.0Eh 240° Seismic	165.00	0.0623	0.0019	0.0463	0.0463
1.2D + 1.0Ev + 1.0Eh 240° Seismic	170.00	0.0663	0.0019	0.0475	0.0475
1.2D + 1.0Ev + 1.0Eh 240° Seismic	180.00	0.0747	0.0018	0.0498	0.0499
1.2D + 1.0Ev + 1.0Eh 240° Seismic	190.00	0.0834	0.0014	0.0510	0.051
1.2D + 1.0Ev + 1.0Eh 210° Seismic	90.00	0.017	-0.0013	0.0231	0.0231
1.2D + 1.0Ev + 1.0Eh 210° Seismic	130.00	0.0371	-0.0019	0.0351	0.0352
1.2D + 1.0Ev + 1.0Eh 210° Seismic	140.00	0.0434	0.0010	0.0380	0.038
1.2D + 1.0Ev + 1.0Eh 210° Seismic	155.00	0.0544	-0.0022	0.0441	0.0441
1.2D + 1.0Ev + 1.0Eh 210° Seismic	160.00	0.0583	-0.0022	0.0449	0.0449
1.2D + 1.0Ev + 1.0Eh 210° Seismic	165.00	0.0623	-0.0022	0.0464	0.0464
1.2D + 1.0Ev + 1.0Eh 210° Seismic	170.00	0.0663	-0.0022	0.0474	0.0475
1.2D + 1.0Ev + 1.0Eh 210° Seismic	180.00	0.0747	-0.0021	0.0501	0.0501
1.2D + 1.0Ev + 1.0Eh 210° Seismic	190.00	0.0834	-0.0016	0.0519	0.0519
1.2D + 1.0Ev + 1.0Eh 180° Seismic	90.00	0.0169	0.0011	0.0231	0.0231
1.2D + 1.0Ev + 1.0Eh 180° Seismic	130.00	0.037	0.0017	0.0351	0.0352
1.2D + 1.0Ev + 1.0Eh 180° Seismic	140.00	0.0434	0.0000	0.0380	0.038
1.2D + 1.0Ev + 1.0Eh 180° Seismic	155.00	0.0544	0.0019	0.0441	0.0441
1.2D + 1.0Ev + 1.0Eh 180° Seismic	160.00	0.0582	0.0019	0.0450	0.045
1.2D + 1.0Ev + 1.0Eh 180° Seismic	165.00	0.0622	0.0019	0.0464	0.0464
1.2D + 1.0Ev + 1.0Eh 180° Seismic	170.00	0.0663	0.0019	0.0474	0.0474
1.2D + 1.0Ev + 1.0Eh 180° Seismic	180.00	0.0747	0.0018	0.0502	0.0502
1.2D + 1.0Ev + 1.0Eh 180° Seismic	190.00	0.0834	0.0014	0.0523	0.0523
1.2D + 1.0Ev + 1.0Eh 120° Seismic	90.00	0.0171	0.0011	0.0231	0.0231
1.2D + 1.0Ev + 1.0Eh 120° Seismic	130.00	0.0371	0.0017	0.0351	0.0352
1.2D + 1.0Ev + 1.0Eh 120° Seismic	140.00	0.0434	-0.0018	0.0380	0.0381
1.2D + 1.0Ev + 1.0Eh 120° Seismic	155.00	0.0544	0.0019	0.0440	0.044
1.2D + 1.0Ev + 1.0Eh 120° Seismic	160.00	0.0583	0.0019	0.0448	0.0449
1.2D + 1.0Ev + 1.0Eh 120° Seismic	165.00	0.0623	0.0019	0.0463	0.0463
1.2D + 1.0Ev + 1.0Eh 120° Seismic	170.00	0.0663	0.0019	0.0475	0.0475
1.2D + 1.0Ev + 1.0Eh 120° Seismic	180.00	0.0747	0.0018	0.0498	0.0499
1.2D + 1.0Ev + 1.0Eh 120° Seismic	190.00	0.0834	0.0014	0.0510	0.051
1.2D + 1.0Ev + 1.0Eh 90° Seismic	90.00	0.017	-0.0013	0.0231	0.0231
1.2D + 1.0Ev + 1.0Eh 90° Seismic	130.00	0.0371	-0.0019	0.0351	0.0352
1.2D + 1.0Ev + 1.0Eh 90° Seismic	140.00	0.0434	-0.0021	0.0382	0.0382
1.2D + 1.0Ev + 1.0Eh 90° Seismic	155.00	0.0544	-0.0022	0.0441	0.0441
1.2D + 1.0Ev + 1.0Eh 90° Seismic	160.00	0.0583	-0.0022	0.0449	0.0449
1.2D + 1.0Ev + 1.0Eh 90° Seismic	165.00	0.0623	-0.0022	0.0464	0.0464
1.2D + 1.0Ev + 1.0Eh 90° Seismic	170.00	0.0663	-0.0022	0.0474	0.0475
1.2D + 1.0Ev + 1.0Eh 90° Seismic	180.00	0.0747	-0.0021	0.0501	0.0501
1.2D + 1.0Ev + 1.0Eh 90° Seismic	190.00	0.0834	-0.0016	0.0519	0.0519
1.2D + 1.0Ev + 1.0Eh 60° Seismic	90.00	0.0169	0.0011	0.0231	0.0231
1.2D + 1.0Ev + 1.0Eh 60° Seismic	130.00	0.037	0.0017	0.0351	0.0352
1.2D + 1.0Ev + 1.0Eh 60° Seismic	140.00	0.0434	-0.0018	0.0384	0.0385
1.2D + 1.0Ev + 1.0Eh 60° Seismic	155.00	0.0544	0.0019	0.0441	0.0441
1.2D + 1.0Ev + 1.0Eh 60° Seismic	160.00	0.0582	0.0019	0.0450	0.045
1.2D + 1.0Ev + 1.0Eh 60° Seismic	165.00	0.0622	0.0019	0.0464	0.0464
1.2D + 1.0Ev + 1.0Eh 60° Seismic	170.00	0.0663	0.0019	0.0474	0.0474
1.2D + 1.0Ev + 1.0Eh 60° Seismic	180.00	0.0747	0.0018	0.0502	0.0502
1.2D + 1.0Ev + 1.0Eh 60° Seismic	190.00	0.0834	0.0014	0.0523	0.0523
1.2D + 1.0Ev + 1.0Eh Normal Seismic	90.00	0.0171	0.0011	0.0231	0.0231
1.2D + 1.0Ev + 1.0Eh Normal Seismic	130.00	0.0371	0.0017	0.0351	0.0352

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Ev + 1.0Eh Normal Seismic	140.00	0.0435	0.0000	0.0389	0.0389
1.2D + 1.0Ev + 1.0Eh Normal Seismic	155.00	0.0544	0.0019	0.0440	0.044
1.2D + 1.0Ev + 1.0Eh Normal Seismic	160.00	0.0583	0.0019	0.0448	0.0449
1.2D + 1.0Ev + 1.0Eh Normal Seismic	165.00	0.0623	0.0019	0.0463	0.0463
1.2D + 1.0Ev + 1.0Eh Normal Seismic	170.00	0.0663	0.0019	0.0475	0.0475
1.2D + 1.0Ev + 1.0Eh Normal Seismic	180.00	0.0747	0.0018	0.0498	0.0499
1.2D + 1.0Ev + 1.0Eh Normal Seismic	190.00	0.0834	0.0014	0.0510	0.051
1.2D + 1.0Di + 1.0Wi 330° 50 mph Wind with 1.23" Radial Ice	90.00	0.0844	-0.0062	0.1080	0.1082
1.2D + 1.0Di + 1.0Wi 330° 50 mph Wind with 1.23" Radial Ice	130.00	0.1761	-0.0070	0.1554	0.1554
1.2D + 1.0Di + 1.0Wi 330° 50 mph Wind with 1.23" Radial Ice	140.00	0.2029	0.0075	0.1680	0.1682
1.2D + 1.0Di + 1.0Wi 330° 50 mph Wind with 1.23" Radial Ice	155.00	0.251	0.0107	0.1873	0.1874
1.2D + 1.0Di + 1.0Wi 330° 50 mph Wind with 1.23" Radial Ice	160.00	0.2676	0.0110	0.1987	0.1988
1.2D + 1.0Di + 1.0Wi 330° 50 mph Wind with 1.23" Radial Ice	165.00	0.2841	-0.0093	0.1946	0.1948
1.2D + 1.0Di + 1.0Wi 330° 50 mph Wind with 1.23" Radial Ice	170.00	0.3015	-0.0130	0.1909	0.1912
1.2D + 1.0Di + 1.0Wi 330° 50 mph Wind with 1.23" Radial Ice	180.00	0.3364	-0.0145	0.2085	0.209
1.2D + 1.0Di + 1.0Wi 330° 50 mph Wind with 1.23" Radial Ice	190.00	0.3726	0.0142	0.1879	0.1884
1.2D + 1.0Di + 1.0Wi 300° 50 mph Wind with 1.23" Radial Ice	90.00	0.0843	0.0055	0.1074	0.1075
1.2D + 1.0Di + 1.0Wi 300° 50 mph Wind with 1.23" Radial Ice	130.00	0.1754	0.0110	0.1546	0.1547
1.2D + 1.0Di + 1.0Wi 300° 50 mph Wind with 1.23" Radial Ice	140.00	0.2024	0.0130	0.1665	0.167
1.2D + 1.0Di + 1.0Wi 300° 50 mph Wind with 1.23" Radial Ice	155.00	0.25	0.0186	0.1901	0.1904
1.2D + 1.0Di + 1.0Wi 300° 50 mph Wind with 1.23" Radial Ice	160.00	0.2665	0.0190	0.1817	0.182
1.2D + 1.0Di + 1.0Wi 300° 50 mph Wind with 1.23" Radial Ice	165.00	0.2829	0.0133	0.1940	0.194
1.2D + 1.0Di + 1.0Wi 300° 50 mph Wind with 1.23" Radial Ice	170.00	0.3002	-0.0093	0.2053	0.2053
1.2D + 1.0Di + 1.0Wi 300° 50 mph Wind with 1.23" Radial Ice	180.00	0.335	-0.0099	0.2080	0.2082
1.2D + 1.0Di + 1.0Wi 300° 50 mph Wind with 1.23" Radial Ice	190.00	0.3712	0.0082	0.2867	0.2868
1.2D + 1.0Di + 1.0Wi 240° 50 mph Wind with 1.23" Radial Ice	90.00	0.0844	0.0056	0.1086	0.1087
1.2D + 1.0Di + 1.0Wi 240° 50 mph Wind with 1.23" Radial Ice	130.00	0.1766	0.0113	0.1555	0.1555
1.2D + 1.0Di + 1.0Wi 240° 50 mph Wind with 1.23" Radial Ice	140.00	0.2047	0.0133	0.1665	0.167
1.2D + 1.0Di + 1.0Wi 240° 50 mph Wind with 1.23" Radial Ice	155.00	0.2515	0.0190	0.1919	0.1921
1.2D + 1.0Di + 1.0Wi 240° 50 mph Wind with 1.23" Radial Ice	160.00	0.2683	0.0193	0.1826	0.1829
1.2D + 1.0Di + 1.0Wi 240° 50 mph Wind with 1.23" Radial Ice	165.00	0.2845	0.0126	0.1953	0.1956
1.2D + 1.0Di + 1.0Wi 240° 50 mph Wind with 1.23" Radial Ice	170.00	0.3022	-0.0111	0.2064	0.2066
1.2D + 1.0Di + 1.0Wi 240° 50 mph Wind with 1.23" Radial Ice	180.00	0.3372	-0.0125	0.2144	0.2144
1.2D + 1.0Di + 1.0Wi 240° 50 mph Wind with 1.23" Radial Ice	190.00	0.3735	-0.0129	0.2913	0.2916
1.2D + 1.0Di + 1.0Wi 210° 50 mph Wind with 1.23" Radial Ice	90.00	0.084	-0.0061	0.1073	0.1075
1.2D + 1.0Di + 1.0Wi 210° 50 mph Wind with 1.23" Radial Ice	130.00	0.175	-0.0068	0.1540	0.154
1.2D + 1.0Di + 1.0Wi 210° 50 mph Wind with 1.23" Radial Ice	140.00	0.2027	0.0077	0.1650	0.1652
1.2D + 1.0Di + 1.0Wi 210° 50 mph Wind with 1.23" Radial Ice	155.00	0.2491	0.0110	0.1856	0.1857
1.2D + 1.0Di + 1.0Wi 210° 50 mph Wind with 1.23" Radial Ice	160.00	0.2656	0.0112	0.1969	0.197
1.2D + 1.0Di + 1.0Wi 210° 50 mph Wind with 1.23" Radial Ice	165.00	0.2818	-0.0100	0.1927	0.193
1.2D + 1.0Di + 1.0Wi 210° 50 mph Wind with 1.23" Radial Ice	170.00	0.2991	-0.0148	0.1894	0.1895
1.2D + 1.0Di + 1.0Wi 210° 50 mph Wind with 1.23" Radial Ice	180.00	0.3337	-0.0171	0.2068	0.2075
1.2D + 1.0Di + 1.0Wi 210° 50 mph Wind with 1.23" Radial Ice	190.00	0.3695	-0.0170	0.1898	0.1905
1.2D + 1.0Di + 1.0Wi 180° 50 mph Wind with 1.23" Radial Ice	90.00	0.084	0.0052	0.1067	0.1068
1.2D + 1.0Di + 1.0Wi 180° 50 mph Wind with 1.23" Radial Ice	130.00	0.1745	0.0042	0.1532	0.1533
1.2D + 1.0Di + 1.0Wi 180° 50 mph Wind with 1.23" Radial Ice	140.00	0.2021	0.0000	0.1646	0.1646
1.2D + 1.0Di + 1.0Wi 180° 50 mph Wind with 1.23" Radial Ice	155.00	0.2482	0.0001	0.1818	0.1818
1.2D + 1.0Di + 1.0Wi 180° 50 mph Wind with 1.23" Radial Ice	160.00	0.2646	0.0003	0.2041	0.2041
1.2D + 1.0Di + 1.0Wi 180° 50 mph Wind with 1.23" Radial Ice	165.00	0.2809	0.0068	0.1915	0.1915
1.2D + 1.0Di + 1.0Wi 180° 50 mph Wind with 1.23" Radial Ice	170.00	0.298	0.0139	0.1807	0.1807
1.2D + 1.0Di + 1.0Wi 180° 50 mph Wind with 1.23" Radial Ice	180.00	0.3325	0.0162	0.1996	0.1996
1.2D + 1.0Di + 1.0Wi 180° 50 mph Wind with 1.23" Radial Ice	190.00	0.3682	0.0141	0.1028	0.1028
1.2D + 1.0Di + 1.0Wi 120° 50 mph Wind with 1.23" Radial Ice	90.00	0.0844	-0.0056	0.1086	0.1087
1.2D + 1.0Di + 1.0Wi 120° 50 mph Wind with 1.23" Radial Ice	130.00	0.1766	-0.0113	0.1555	0.1555
1.2D + 1.0Di + 1.0Wi 120° 50 mph Wind with 1.23" Radial Ice	140.00	0.2047	-0.0133	0.1665	0.167
1.2D + 1.0Di + 1.0Wi 120° 50 mph Wind with 1.23" Radial Ice	155.00	0.2515	-0.0190	0.1919	0.1921
1.2D + 1.0Di + 1.0Wi 120° 50 mph Wind with 1.23" Radial Ice	160.00	0.2683	-0.0193	0.1826	0.1829
1.2D + 1.0Di + 1.0Wi 120° 50 mph Wind with 1.23" Radial Ice	165.00	0.2845	-0.0126	0.1953	0.1956
1.2D + 1.0Di + 1.0Wi 120° 50 mph Wind with 1.23" Radial Ice	170.00	0.3022	0.0111	0.2064	0.2066

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Di + 1.0Wi 120° 50 mph Wind with 1.23" Radial Ice	180.00	0.3372	0.0125	0.2144	0.2144
1.2D + 1.0Di + 1.0Wi 120° 50 mph Wind with 1.23" Radial Ice	190.00	0.3735	0.0129	0.2913	0.2916
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1.23" Radial Ice	90.00	0.0841	-0.0064	0.1078	0.108
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1.23" Radial Ice	130.00	0.1754	-0.0129	0.1544	0.1546
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1.23" Radial Ice	140.00	0.203	-0.0151	0.1658	0.1665
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1.23" Radial Ice	155.00	0.2499	-0.0216	0.1924	0.193
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1.23" Radial Ice	160.00	0.2665	-0.0221	0.1724	0.1728
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1.23" Radial Ice	165.00	0.2828	-0.0149	0.1943	0.1946
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1.23" Radial Ice	170.00	0.3002	-0.0074	0.2126	0.2126
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1.23" Radial Ice	180.00	0.3351	-0.0071	0.2154	0.2156
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1.23" Radial Ice	190.00	0.3713	-0.0056	0.3267	0.3267
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1.23" Radial Ice	90.00	0.0843	-0.0055	0.1074	0.1075
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1.23" Radial Ice	130.00	0.1754	-0.0110	0.1546	0.1547
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1.23" Radial Ice	140.00	0.2024	-0.0130	0.1665	0.167
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1.23" Radial Ice	155.00	0.25	-0.0186	0.1901	0.1904
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1.23" Radial Ice	160.00	0.2665	-0.0190	0.1817	0.182
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1.23" Radial Ice	165.00	0.2829	-0.0133	0.1940	0.194
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1.23" Radial Ice	170.00	0.3002	0.0093	0.2053	0.2053
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1.23" Radial Ice	180.00	0.335	0.0099	0.2080	0.2082
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1.23" Radial Ice	190.00	0.3712	-0.0082	0.2867	0.2868
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1.23" Radial Ice	90.00	0.0846	0.0053	0.1091	0.1092
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1.23" Radial Ice	130.00	0.1773	0.0044	0.1566	0.1566
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1.23" Radial Ice	140.00	0.2047	0.0000	0.1698	0.1698
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1.23" Radial Ice	155.00	0.253	0.0002	0.1872	0.1872
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1.23" Radial Ice	160.00	0.2699	0.0002	0.2084	0.2084
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1.23" Radial Ice	165.00	0.2863	0.0069	0.1962	0.1963
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1.23" Radial Ice	170.00	0.3041	0.0139	0.1844	0.1849
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1.23" Radial Ice	180.00	0.3393	0.0162	0.2078	0.2085
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1.23" Radial Ice	190.00	0.3757	0.0141	0.1083	0.1092
0.9D + 1.0W 330° 109 mph Wind with No Ice (Reduced DL)	90.00	0.2028	-0.0150	0.2648	0.2652
0.9D + 1.0W 330° 109 mph Wind with No Ice (Reduced DL)	130.00	0.4301	0.0188	0.3893	0.3893
0.9D + 1.0W 330° 109 mph Wind with No Ice (Reduced DL)	140.00	0.5007	0.0229	0.4215	0.4221
0.9D + 1.0W 330° 109 mph Wind with No Ice (Reduced DL)	155.00	0.62	0.0351	0.4759	0.476
0.9D + 1.0W 330° 109 mph Wind with No Ice (Reduced DL)	160.00	0.6621	0.0369	0.5188	0.5197
0.9D + 1.0W 330° 109 mph Wind with No Ice (Reduced DL)	165.00	0.7049	0.0286	0.4980	0.4983
0.9D + 1.0W 330° 109 mph Wind with No Ice (Reduced DL)	170.00	0.7489	0.0388	0.4824	0.4831
0.9D + 1.0W 330° 109 mph Wind with No Ice (Reduced DL)	180.00	0.8388	0.0517	0.5356	0.5364
0.9D + 1.0W 330° 109 mph Wind with No Ice (Reduced DL)	190.00	0.9325	0.0731	0.5170	0.519
0.9D + 1.0W 300° 109 mph Wind with No Ice (Reduced DL)	90.00	0.2012	0.0138	0.2626	0.263
0.9D + 1.0W 300° 109 mph Wind with No Ice (Reduced DL)	130.00	0.4267	0.0327	0.3860	0.3862
0.9D + 1.0W 300° 109 mph Wind with No Ice (Reduced DL)	140.00	0.4969	0.0398	0.4169	0.4188
0.9D + 1.0W 300° 109 mph Wind with No Ice (Reduced DL)	155.00	0.6151	0.0610	0.4858	0.4874
0.9D + 1.0W 300° 109 mph Wind with No Ice (Reduced DL)	160.00	0.6573	0.0636	0.4543	0.456
0.9D + 1.0W 300° 109 mph Wind with No Ice (Reduced DL)	165.00	0.6995	0.0454	0.4956	0.4961
0.9D + 1.0W 300° 109 mph Wind with No Ice (Reduced DL)	170.00	0.7435	0.0267	0.5341	0.5344
0.9D + 1.0W 300° 109 mph Wind with No Ice (Reduced DL)	180.00	0.8329	0.0316	0.5447	0.5455
0.9D + 1.0W 300° 109 mph Wind with No Ice (Reduced DL)	190.00	0.9261	0.0548	0.8824	0.8838
0.9D + 1.0W 240° 109 mph Wind with No Ice (Reduced DL)	90.00	0.2085	0.0142	0.2713	0.2717
0.9D + 1.0W 240° 109 mph Wind with No Ice (Reduced DL)	130.00	0.441	0.0339	0.3975	0.3977
0.9D + 1.0W 240° 109 mph Wind with No Ice (Reduced DL)	140.00	0.5132	0.0411	0.4289	0.4308
0.9D + 1.0W 240° 109 mph Wind with No Ice (Reduced DL)	155.00	0.6347	0.0623	0.4997	0.5012
0.9D + 1.0W 240° 109 mph Wind with No Ice (Reduced DL)	160.00	0.6781	0.0634	0.4680	0.4696
0.9D + 1.0W 240° 109 mph Wind with No Ice (Reduced DL)	165.00	0.7214	0.0349	0.5092	0.5102
0.9D + 1.0W 240° 109 mph Wind with No Ice (Reduced DL)	170.00	0.7668	-0.0391	0.5489	0.5489
0.9D + 1.0W 240° 109 mph Wind with No Ice (Reduced DL)	180.00	0.8587	-0.0471	0.5620	0.562
0.9D + 1.0W 240° 109 mph Wind with No Ice (Reduced DL)	190.00	0.9545	-0.0684	0.8960	0.8965
0.9D + 1.0W 210° 109 mph Wind with No Ice (Reduced DL)	90.00	0.2026	-0.0149	0.2645	0.2649
0.9D + 1.0W 210° 109 mph Wind with No Ice (Reduced DL)	130.00	0.4298	0.0195	0.3887	0.3888
0.9D + 1.0W 210° 109 mph Wind with No Ice (Reduced DL)	140.00	0.5003	0.0236	0.4206	0.4213

ASSET: 371959, Bowdoinham
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DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
0.9D + 1.0W 210° 109 mph Wind with No Ice (Reduced DL)	155.00	0.6193	0.0358	0.4753	0.4753
0.9D + 1.0W 210° 109 mph Wind with No Ice (Reduced DL)	160.00	0.6614	0.0361	0.5184	0.5192
0.9D + 1.0W 210° 109 mph Wind with No Ice (Reduced DL)	165.00	0.704	-0.0280	0.4966	0.4974
0.9D + 1.0W 210° 109 mph Wind with No Ice (Reduced DL)	170.00	0.748	-0.0491	0.4821	0.4833
0.9D + 1.0W 210° 109 mph Wind with No Ice (Reduced DL)	180.00	0.8378	-0.0606	0.5335	0.5369
0.9D + 1.0W 210° 109 mph Wind with No Ice (Reduced DL)	190.00	0.9314	-0.0807	0.5190	0.5252
0.9D + 1.0W 180° 109 mph Wind with No Ice (Reduced DL)	90.00	0.201	0.0125	0.2621	0.2624
0.9D + 1.0W 180° 109 mph Wind with No Ice (Reduced DL)	130.00	0.4261	0.0058	0.3853	0.3854
0.9D + 1.0W 180° 109 mph Wind with No Ice (Reduced DL)	140.00	0.4961	0.0000	0.4181	0.4181
0.9D + 1.0W 180° 109 mph Wind with No Ice (Reduced DL)	155.00	0.6143	0.0118	0.4619	0.4621
0.9D + 1.0W 180° 109 mph Wind with No Ice (Reduced DL)	160.00	0.6559	0.0133	0.5431	0.5431
0.9D + 1.0W 180° 109 mph Wind with No Ice (Reduced DL)	165.00	0.6985	0.0127	0.4913	0.4915
0.9D + 1.0W 180° 109 mph Wind with No Ice (Reduced DL)	170.00	0.742	0.0389	0.4476	0.4484
0.9D + 1.0W 180° 109 mph Wind with No Ice (Reduced DL)	180.00	0.8309	0.0475	0.5125	0.5147
0.9D + 1.0W 180° 109 mph Wind with No Ice (Reduced DL)	190.00	0.9236	0.0438	0.0908	1.008
0.9D + 1.0W 120° 109 mph Wind with No Ice (Reduced DL)	90.00	0.2085	-0.0142	0.2713	0.2717
0.9D + 1.0W 120° 109 mph Wind with No Ice (Reduced DL)	130.00	0.441	-0.0339	0.3975	0.3977
0.9D + 1.0W 120° 109 mph Wind with No Ice (Reduced DL)	140.00	0.5132	-0.0411	0.4289	0.4308
0.9D + 1.0W 120° 109 mph Wind with No Ice (Reduced DL)	155.00	0.6347	-0.0623	0.4997	0.5012
0.9D + 1.0W 120° 109 mph Wind with No Ice (Reduced DL)	160.00	0.6781	-0.0634	0.4680	0.4696
0.9D + 1.0W 120° 109 mph Wind with No Ice (Reduced DL)	165.00	0.7214	-0.0349	0.5092	0.5102
0.9D + 1.0W 120° 109 mph Wind with No Ice (Reduced DL)	170.00	0.7668	0.0391	0.5489	0.5489
0.9D + 1.0W 120° 109 mph Wind with No Ice (Reduced DL)	180.00	0.8587	0.0471	0.5620	0.562
0.9D + 1.0W 120° 109 mph Wind with No Ice (Reduced DL)	190.00	0.9545	0.0684	0.8960	0.8965
0.9D + 1.0W 90° 109 mph Wind with No Ice (Reduced DL)	90.00	0.2024	-0.0160	0.2652	0.2657
0.9D + 1.0W 90° 109 mph Wind with No Ice (Reduced DL)	130.00	0.4303	-0.0383	0.3880	0.3885
0.9D + 1.0W 90° 109 mph Wind with No Ice (Reduced DL)	140.00	0.5009	-0.0465	0.4190	0.4216
0.9D + 1.0W 90° 109 mph Wind with No Ice (Reduced DL)	155.00	0.6198	-0.0710	0.4960	0.501
0.9D + 1.0W 90° 109 mph Wind with No Ice (Reduced DL)	160.00	0.6626	-0.0732	0.4218	0.4233
0.9D + 1.0W 90° 109 mph Wind with No Ice (Reduced DL)	165.00	0.7042	-0.0463	0.4994	0.5015
0.9D + 1.0W 90° 109 mph Wind with No Ice (Reduced DL)	170.00	0.7496	-0.0183	0.5630	0.5633
0.9D + 1.0W 90° 109 mph Wind with No Ice (Reduced DL)	180.00	0.8396	-0.0156	0.5653	0.5655
0.9D + 1.0W 90° 109 mph Wind with No Ice (Reduced DL)	190.00	0.9334	-0.0122	1.0202	1.0203
0.9D + 1.0W 60° 109 mph Wind with No Ice (Reduced DL)	90.00	0.2012	-0.0138	0.2626	0.263
0.9D + 1.0W 60° 109 mph Wind with No Ice (Reduced DL)	130.00	0.4267	-0.0327	0.3860	0.3862
0.9D + 1.0W 60° 109 mph Wind with No Ice (Reduced DL)	140.00	0.4969	-0.0398	0.4169	0.4188
0.9D + 1.0W 60° 109 mph Wind with No Ice (Reduced DL)	155.00	0.6151	-0.0610	0.4858	0.4874
0.9D + 1.0W 60° 109 mph Wind with No Ice (Reduced DL)	160.00	0.6573	-0.0636	0.4543	0.456
0.9D + 1.0W 60° 109 mph Wind with No Ice (Reduced DL)	165.00	0.6995	-0.0454	0.4956	0.4961
0.9D + 1.0W 60° 109 mph Wind with No Ice (Reduced DL)	170.00	0.7435	-0.0267	0.5341	0.5344
0.9D + 1.0W 60° 109 mph Wind with No Ice (Reduced DL)	180.00	0.8329	-0.0316	0.5447	0.5455
0.9D + 1.0W 60° 109 mph Wind with No Ice (Reduced DL)	190.00	0.9261	-0.0548	0.8824	0.8838
0.9D + 1.0W Normal 109 mph Wind with No Ice (Reduced DL)	90.00	0.2086	0.0130	0.2712	0.2715
0.9D + 1.0W Normal 109 mph Wind with No Ice (Reduced DL)	130.00	0.4409	0.0062	0.3978	0.3978
0.9D + 1.0W Normal 109 mph Wind with No Ice (Reduced DL)	140.00	0.5131	0.0000	0.4317	0.4317
0.9D + 1.0W Normal 109 mph Wind with No Ice (Reduced DL)	155.00	0.635	0.0117	0.4770	0.4772
0.9D + 1.0W Normal 109 mph Wind with No Ice (Reduced DL)	160.00	0.6781	0.0136	0.5581	0.5581
0.9D + 1.0W Normal 109 mph Wind with No Ice (Reduced DL)	165.00	0.7219	0.0121	0.5069	0.507
0.9D + 1.0W Normal 109 mph Wind with No Ice (Reduced DL)	170.00	0.7668	0.0382	0.4628	0.4639
0.9D + 1.0W Normal 109 mph Wind with No Ice (Reduced DL)	180.00	0.8585	0.0469	0.5298	0.5319
0.9D + 1.0W Normal 109 mph Wind with No Ice (Reduced DL)	190.00	0.9539	0.0427	1.0189	0.117
1.2D + 1.0W 330° 109 mph Wind with No Ice	90.00	0.2032	-0.0150	0.2653	0.2657
1.2D + 1.0W 330° 109 mph Wind with No Ice	130.00	0.4309	0.0189	0.3902	0.3903
1.2D + 1.0W 330° 109 mph Wind with No Ice	140.00	0.5017	0.0229	0.4226	0.4232
1.2D + 1.0W 330° 109 mph Wind with No Ice	155.00	0.6213	0.0351	0.4772	0.4772
1.2D + 1.0W 330° 109 mph Wind with No Ice	160.00	0.6635	0.0370	0.5200	0.5209
1.2D + 1.0W 330° 109 mph Wind with No Ice	165.00	0.7064	0.0287	0.4993	0.4996
1.2D + 1.0W 330° 109 mph Wind with No Ice	170.00	0.7505	0.0389	0.4837	0.4844
1.2D + 1.0W 330° 109 mph Wind with No Ice	180.00	0.8406	0.0518	0.5371	0.5379

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W 330° 109 mph Wind with No Ice	190.00	0.9346	0.0733	0.5177	0.5198
1.2D + 1.0W 300° 109 mph Wind with No Ice	90.00	0.2015	0.0138	0.2631	0.2634
1.2D + 1.0W 300° 109 mph Wind with No Ice	130.00	0.4275	0.0328	0.3868	0.3871
1.2D + 1.0W 300° 109 mph Wind with No Ice	140.00	0.4978	0.0398	0.4179	0.4198
1.2D + 1.0W 300° 109 mph Wind with No Ice	155.00	0.6163	0.0611	0.4868	0.4885
1.2D + 1.0W 300° 109 mph Wind with No Ice	160.00	0.6586	0.0637	0.4555	0.4571
1.2D + 1.0W 300° 109 mph Wind with No Ice	165.00	0.7009	0.0455	0.4968	0.4973
1.2D + 1.0W 300° 109 mph Wind with No Ice	170.00	0.7451	0.0268	0.5354	0.5356
1.2D + 1.0W 300° 109 mph Wind with No Ice	180.00	0.8346	0.0316	0.5458	0.5466
1.2D + 1.0W 300° 109 mph Wind with No Ice	190.00	0.9281	0.0549	0.8836	0.8851
1.2D + 1.0W 240° 109 mph Wind with No Ice	90.00	0.2088	0.0143	0.2718	0.2722
1.2D + 1.0W 240° 109 mph Wind with No Ice	130.00	0.4417	0.0340	0.3983	0.3985
1.2D + 1.0W 240° 109 mph Wind with No Ice	140.00	0.514	0.0412	0.4297	0.4317
1.2D + 1.0W 240° 109 mph Wind with No Ice	155.00	0.6358	0.0624	0.5009	0.5024
1.2D + 1.0W 240° 109 mph Wind with No Ice	160.00	0.6794	0.0635	0.4691	0.4707
1.2D + 1.0W 240° 109 mph Wind with No Ice	165.00	0.7228	0.0350	0.5104	0.5114
1.2D + 1.0W 240° 109 mph Wind with No Ice	170.00	0.7683	-0.0392	0.5501	0.5501
1.2D + 1.0W 240° 109 mph Wind with No Ice	180.00	0.8603	-0.0472	0.5636	0.5636
1.2D + 1.0W 240° 109 mph Wind with No Ice	190.00	0.9563	-0.0686	0.8973	0.8978
1.2D + 1.0W 210° 109 mph Wind with No Ice	90.00	0.203	-0.0149	0.2650	0.2654
1.2D + 1.0W 210° 109 mph Wind with No Ice	130.00	0.4305	0.0195	0.3895	0.3895
1.2D + 1.0W 210° 109 mph Wind with No Ice	140.00	0.5011	0.0236	0.4213	0.422
1.2D + 1.0W 210° 109 mph Wind with No Ice	155.00	0.6203	0.0358	0.4763	0.4763
1.2D + 1.0W 210° 109 mph Wind with No Ice	160.00	0.6625	0.0361	0.5194	0.5202
1.2D + 1.0W 210° 109 mph Wind with No Ice	165.00	0.7053	-0.0282	0.4976	0.4984
1.2D + 1.0W 210° 109 mph Wind with No Ice	170.00	0.7493	-0.0493	0.4832	0.4844
1.2D + 1.0W 210° 109 mph Wind with No Ice	180.00	0.8393	-0.0608	0.5347	0.5382
1.2D + 1.0W 210° 109 mph Wind with No Ice	190.00	0.9331	-0.0809	0.5207	0.5269
1.2D + 1.0W 180° 109 mph Wind with No Ice	90.00	0.2013	0.0125	0.2625	0.2628
1.2D + 1.0W 180° 109 mph Wind with No Ice	130.00	0.4268	0.0059	0.3860	0.3861
1.2D + 1.0W 180° 109 mph Wind with No Ice	140.00	0.4969	0.0000	0.4188	0.4188
1.2D + 1.0W 180° 109 mph Wind with No Ice	155.00	0.6153	0.0118	0.4628	0.463
1.2D + 1.0W 180° 109 mph Wind with No Ice	160.00	0.6571	0.0133	0.5441	0.5441
1.2D + 1.0W 180° 109 mph Wind with No Ice	165.00	0.6997	0.0128	0.4923	0.4924
1.2D + 1.0W 180° 109 mph Wind with No Ice	170.00	0.7432	0.0390	0.4487	0.4495
1.2D + 1.0W 180° 109 mph Wind with No Ice	180.00	0.8324	0.0476	0.5134	0.5156
1.2D + 1.0W 180° 109 mph Wind with No Ice	190.00	0.9253	0.0439	0.0916	0.1016
1.2D + 1.0W 120° 109 mph Wind with No Ice	90.00	0.2088	-0.0143	0.2718	0.2722
1.2D + 1.0W 120° 109 mph Wind with No Ice	130.00	0.4417	-0.0340	0.3983	0.3985
1.2D + 1.0W 120° 109 mph Wind with No Ice	140.00	0.514	-0.0412	0.4297	0.4317
1.2D + 1.0W 120° 109 mph Wind with No Ice	155.00	0.6358	-0.0624	0.5009	0.5024
1.2D + 1.0W 120° 109 mph Wind with No Ice	160.00	0.6794	-0.0635	0.4691	0.4707
1.2D + 1.0W 120° 109 mph Wind with No Ice	165.00	0.7228	-0.0350	0.5104	0.5114
1.2D + 1.0W 120° 109 mph Wind with No Ice	170.00	0.7683	0.0392	0.5501	0.5501
1.2D + 1.0W 120° 109 mph Wind with No Ice	180.00	0.8603	0.0472	0.5636	0.5636
1.2D + 1.0W 120° 109 mph Wind with No Ice	190.00	0.9563	0.0686	0.8973	0.8978
1.2D + 1.0W 90° 109 mph Wind with No Ice	90.00	0.2027	-0.0161	0.2657	0.2662
1.2D + 1.0W 90° 109 mph Wind with No Ice	130.00	0.431	-0.0384	0.3888	0.3893
1.2D + 1.0W 90° 109 mph Wind with No Ice	140.00	0.5019	-0.0466	0.4199	0.4225
1.2D + 1.0W 90° 109 mph Wind with No Ice	155.00	0.621	-0.0711	0.4971	0.5021
1.2D + 1.0W 90° 109 mph Wind with No Ice	160.00	0.6639	-0.0733	0.4229	0.4245
1.2D + 1.0W 90° 109 mph Wind with No Ice	165.00	0.7056	-0.0464	0.5006	0.5027
1.2D + 1.0W 90° 109 mph Wind with No Ice	170.00	0.7511	-0.0184	0.5642	0.5645
1.2D + 1.0W 90° 109 mph Wind with No Ice	180.00	0.8413	-0.0157	0.5666	0.5669
1.2D + 1.0W 90° 109 mph Wind with No Ice	190.00	0.9354	-0.0122	1.0216	1.0217
1.2D + 1.0W 60° 109 mph Wind with No Ice	90.00	0.2015	-0.0138	0.2631	0.2634
1.2D + 1.0W 60° 109 mph Wind with No Ice	130.00	0.4275	-0.0328	0.3868	0.3871
1.2D + 1.0W 60° 109 mph Wind with No Ice	140.00	0.4978	-0.0398	0.4179	0.4198
1.2D + 1.0W 60° 109 mph Wind with No Ice	155.00	0.6163	-0.0611	0.4868	0.4885

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W 60° 109 mph Wind with No Ice	160.00	0.6586	-0.0637	0.4555	0.4571
1.2D + 1.0W 60° 109 mph Wind with No Ice	165.00	0.7009	-0.0455	0.4968	0.4973
1.2D + 1.0W 60° 109 mph Wind with No Ice	170.00	0.7451	-0.0268	0.5354	0.5356
1.2D + 1.0W 60° 109 mph Wind with No Ice	180.00	0.8346	-0.0316	0.5458	0.5466
1.2D + 1.0W 60° 109 mph Wind with No Ice	190.00	0.9281	-0.0549	0.8836	0.8851
1.2D + 1.0W Normal 109 mph Wind with No Ice	90.00	0.209	0.0130	0.2718	0.2721
1.2D + 1.0W Normal 109 mph Wind with No Ice	130.00	0.4418	0.0062	0.3987	0.3988
1.2D + 1.0W Normal 109 mph Wind with No Ice	140.00	0.5141	0.0000	0.4329	0.4329
1.2D + 1.0W Normal 109 mph Wind with No Ice	155.00	0.6363	0.0116	0.4784	0.4786
1.2D + 1.0W Normal 109 mph Wind with No Ice	160.00	0.6796	0.0135	0.5594	0.5594
1.2D + 1.0W Normal 109 mph Wind with No Ice	165.00	0.7235	0.0122	0.5083	0.5084
1.2D + 1.0W Normal 109 mph Wind with No Ice	170.00	0.7685	0.0383	0.4641	0.4652
1.2D + 1.0W Normal 109 mph Wind with No Ice	180.00	0.8605	0.0470	0.5316	0.5337
1.2D + 1.0W Normal 109 mph Wind with No Ice	190.00	0.9561	0.0429	0.1109	0.1189

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					FX* (kip)	FY* (kip)	FZ* (kip)
1.2D + 1.0W Normal	12.70	0.00	0	1	0.00	247.72	-30.06
	12.70	0.00	120	1a	10.08	-88.71	-4.90
	12.70	0.00	240	1b	-10.08	-88.71	-4.90
1.2D + 1.0W 60°	12.70	0.00	0	1	0.77	131.48	-15.75
	12.70	0.00	120	1a	-13.20	131.36	8.64
	12.70	0.00	240	1b	-20.58	-192.55	-11.95
1.2D + 1.0W 90°	12.70	0.00	0	1	0.87	23.53	-2.58
	12.70	0.00	120	1a	-21.93	212.18	13.29
	12.70	0.00	240	1b	-17.50	-165.42	-10.71
1.2D + 1.0W 120°	12.70	0.00	0	1	0.74	-88.57	11.18
	12.70	0.00	120	1a	-26.00	247.61	15.08
	12.70	0.00	240	1b	-9.26	-88.74	-6.33
1.2D + 1.0W 180°	12.70	0.00	0	1	0.00	-192.37	23.79
	12.70	0.00	120	1a	-14.05	131.33	7.16
	12.70	0.00	240	1b	14.05	131.33	7.16
1.2D + 1.0W 210°	12.70	0.00	0	1	-0.43	-165.24	20.51
	12.70	0.00	120	1a	-2.71	23.37	0.45
	12.70	0.00	240	1b	22.42	212.17	12.43
1.2D + 1.0W 240°	12.70	0.00	0	1	-0.74	-88.57	11.18
	12.70	0.00	120	1a	9.26	-88.74	-6.33
	12.70	0.00	240	1b	26.00	247.61	15.08
1.2D + 1.0W 300°	12.70	0.00	0	1	-0.77	131.48	-15.75
	12.70	0.00	120	1a	20.58	-192.55	-11.95
	12.70	0.00	240	1b	13.20	131.36	8.64
1.2D + 1.0W 330°	12.70	0.00	0	1	-0.44	212.29	-25.64
	12.70	0.00	120	1a	17.98	-165.40	-9.88
	12.70	0.00	240	1b	1.74	23.41	2.13
0.9D + 1.0W Normal	12.70	0.00	0	1	0.00	241.55	-29.40
	12.70	0.00	120	1a	10.64	-94.42	-5.23
	12.70	0.00	240	1b	-10.64	-94.42	-5.23
0.9D + 1.0W 60°	12.70	0.00	0	1	0.76	125.46	-15.09
	12.70	0.00	120	1a	-12.63	125.38	8.30
	12.70	0.00	240	1b	-21.14	-198.12	-12.27
0.9D + 1.0W 90°	12.70	0.00	0	1	0.87	17.65	-1.93
	12.70	0.00	120	1a	-21.36	206.10	12.95
	12.70	0.00	240	1b	-18.06	-171.03	-11.03
0.9D + 1.0W 120°	12.70	0.00	0	1	0.73	-94.31	11.83
	12.70	0.00	120	1a	-25.43	241.48	14.75
	12.70	0.00	240	1b	-9.83	-94.45	-6.64
0.9D + 1.0W 180°	12.70	0.00	0	1	0.00	-197.98	24.44
	12.70	0.00	120	1a	-13.48	125.35	6.84
	12.70	0.00	240	1b	13.48	125.35	6.84
0.9D + 1.0W 210°	12.70	0.00	0	1	-0.43	-170.89	21.15
	12.70	0.00	120	1a	-2.14	17.53	0.13
	12.70	0.00	240	1b	21.85	206.08	12.11
0.9D + 1.0W 240°	12.70	0.00	0	1	-0.73	-94.31	11.83
	12.70	0.00	120	1a	9.83	-94.45	-6.64
	12.70	0.00	240	1b	25.43	241.48	14.75
0.9D + 1.0W 300°	12.70	0.00	0	1	-0.76	125.46	-15.09
	12.70	0.00	120	1a	21.14	-198.12	-12.27
	12.70	0.00	240	1b	12.63	125.38	8.30
0.9D + 1.0W 330°	12.70	0.00	0	1	-0.44	206.17	-24.98
	12.70	0.00	120	1a	18.53	-171.01	-10.21
	12.70	0.00	240	1b	1.18	17.56	1.80
1.2D + 1.0Di + 1.0Wi Normal	12.70	0.00	0	1	0.00	139.31	-13.21
	12.70	0.00	120	1a	3.51	2.15	-1.72
	12.70	0.00	240	1b	-3.51	2.15	-1.72
1.2D + 1.0Di + 1.0Wi 60°	12.70	0.00	0	1	0.25	93.04	-7.41
	12.70	0.00	120	1a	-6.26	92.75	3.96

ASSET: 371959, Bowdoinham
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 PROJECT: 15398867_C3_02

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					FX* (kip)	FY* (kip)	FZ* (kip)
	12.70	0.00	240	1b	-8.14	-42.18	-4.72
	12.70	0.00	0	1	0.28	48.07	-1.81
1.2D + 1.0Di + 1.0Wi 90°	12.70	0.00	120	1a	-9.91	125.95	5.93
	12.70	0.00	240	1b	-6.80	-30.41	-4.12
	12.70	0.00	0	1	0.24	2.45	3.89
1.2D + 1.0Di + 1.0Wi 120°	12.70	0.00	120	1a	-11.41	139.02	6.62
	12.70	0.00	240	1b	-3.24	2.14	-2.18
	12.70	0.00	0	1	0.00	-41.87	9.39
1.2D + 1.0Di + 1.0Wi 180°	12.70	0.00	120	1a	-6.54	92.74	3.48
	12.70	0.00	240	1b	6.54	92.74	3.48
	12.70	0.00	0	1	-0.14	-30.10	7.93
1.2D + 1.0Di + 1.0Wi 210°	12.70	0.00	120	1a	-1.72	47.77	0.63
	12.70	0.00	240	1b	10.06	125.94	5.66
	12.70	0.00	0	1	-0.24	2.45	3.89
1.2D + 1.0Di + 1.0Wi 240°	12.70	0.00	120	1a	3.24	2.14	-2.18
	12.70	0.00	240	1b	11.41	139.02	6.62
	12.70	0.00	0	1	-0.25	93.04	-7.41
1.2D + 1.0Di + 1.0Wi 300°	12.70	0.00	120	1a	8.14	-42.18	-4.72
	12.70	0.00	240	1b	6.26	92.75	3.96
	12.70	0.00	0	1	-0.14	126.24	-11.56
1.2D + 1.0Di + 1.0Wi 330°	12.70	0.00	120	1a	6.95	-30.41	-3.85
	12.70	0.00	240	1b	1.40	47.77	1.18
	12.70	0.00	0	1	0.00	39.86	-4.56
1.2D + 1.0Ev + 1.0Eh Normal	12.70	0.00	120	1a	-1.46	13.80	1.03
	12.70	0.00	240	1b	1.46	13.80	1.03
	12.70	0.00	0	1	0.17	31.18	-3.63
1.2D + 1.0Ev + 1.0Eh 60°	12.70	0.00	120	1a	-3.06	31.18	1.96
	12.70	0.00	240	1b	0.74	5.11	0.43
	12.70	0.00	0	1	0.19	22.49	-2.71
1.2D + 1.0Ev + 1.0Eh 90°	12.70	0.00	120	1a	-3.68	37.54	2.24
	12.70	0.00	240	1b	1.00	7.44	0.47
	12.70	0.00	0	1	0.17	13.80	-1.78
1.2D + 1.0Ev + 1.0Eh 120°	12.70	0.00	120	1a	-3.95	39.86	2.28
	12.70	0.00	240	1b	1.63	13.80	0.75
	12.70	0.00	0	1	0.00	5.11	-0.85
1.2D + 1.0Ev + 1.0Eh 180°	12.70	0.00	120	1a	-3.23	31.18	1.67
	12.70	0.00	240	1b	3.23	31.18	1.67
	12.70	0.00	0	1	-0.10	7.44	-1.10
1.2D + 1.0Ev + 1.0Eh 210°	12.70	0.00	120	1a	-2.44	22.49	1.19
	12.70	0.00	240	1b	3.78	37.54	2.07
	12.70	0.00	0	1	-0.17	13.80	-1.78
1.2D + 1.0Ev + 1.0Eh 240°	12.70	0.00	120	1a	-1.63	13.80	0.75
	12.70	0.00	240	1b	3.95	39.86	2.28
	12.70	0.00	0	1	-0.17	31.18	-3.63
1.2D + 1.0Ev + 1.0Eh 300°	12.70	0.00	120	1a	-0.74	5.11	0.43
	12.70	0.00	240	1b	3.06	31.18	1.96
	12.70	0.00	0	1	-0.10	37.54	-4.31
1.2D + 1.0Ev + 1.0Eh 330°	12.70	0.00	120	1a	-0.91	7.44	0.63
	12.70	0.00	240	1b	2.25	22.49	1.52
	12.70	0.00	0	1	0.00	32.76	-3.70
0.9D - 1.0Ev + 1.0Eh Normal	12.70	0.00	120	1a	-0.72	6.74	0.61
	12.70	0.00	240	1b	0.72	6.74	0.61
	12.70	0.00	0	1	0.17	24.09	-2.78
0.9D - 1.0Ev + 1.0Eh 60°	12.70	0.00	120	1a	-2.32	24.09	1.53
	12.70	0.00	240	1b	0.00	-1.94	0.00
	12.70	0.00	0	1	0.19	15.41	-1.85
0.9D - 1.0Ev + 1.0Eh 90°	12.70	0.00	120	1a	-2.95	30.44	1.81
	12.70	0.00	240	1b	0.27	0.39	0.04
0.9D - 1.0Ev + 1.0Eh 120°	12.70	0.00	0	1	0.17	6.74	-0.93

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					FX* (kip)	FY* (kip)	FZ* (kip)
	12.70	0.00	120	1a	-3.21	32.76	1.85
	12.70	0.00	240	1b	0.89	6.74	0.32
	12.70	0.00	0	1	0.00	-1.93	0.00
0.9D - 1.0Ev + 1.0Eh 180°	12.70	0.00	120	1a	-2.49	24.09	1.25
	12.70	0.00	240	1b	2.49	24.09	1.25
	12.70	0.00	0	1	-0.10	0.39	-0.25
0.9D - 1.0Ev + 1.0Eh 210°	12.70	0.00	120	1a	-1.70	15.41	0.76
	12.70	0.00	240	1b	3.04	30.44	1.65
	12.70	0.00	0	1	-0.17	6.74	-0.93
0.9D - 1.0Ev + 1.0Eh 240°	12.70	0.00	120	1a	-0.89	6.74	0.32
	12.70	0.00	240	1b	3.21	32.76	1.85
	12.70	0.00	0	1	-0.17	24.09	-2.78
0.9D - 1.0Ev + 1.0Eh 300°	12.70	0.00	120	1a	0.00	-1.94	0.00
	12.70	0.00	240	1b	2.32	24.09	1.53
	12.70	0.00	0	1	-0.10	30.44	-3.46
0.9D - 1.0Ev + 1.0Eh 330°	12.70	0.00	120	1a	-0.17	0.39	0.21
	12.70	0.00	240	1b	1.51	15.41	1.09
	12.70	0.00	0	1	0.00	87.82	-10.60
1.0D + 1.0W Service Normal	12.70	0.00	120	1a	1.88	-14.62	-0.83
	12.70	0.00	240	1b	-1.88	-14.62	-0.83
	12.70	0.00	0	1	0.21	52.46	-6.21
1.0D + 1.0W Service 60°	12.70	0.00	120	1a	-5.25	52.35	3.32
	12.70	0.00	240	1b	-5.11	-46.23	-2.97
	12.70	0.00	0	1	0.24	19.61	-2.17
1.0D + 1.0W Service 90°	12.70	0.00	120	1a	-7.92	76.94	4.75
	12.70	0.00	240	1b	-4.17	-37.97	-2.58
	12.70	0.00	0	1	0.21	-14.50	2.04
1.0D + 1.0W Service 120°	12.70	0.00	120	1a	-9.16	87.71	5.31
	12.70	0.00	240	1b	-1.65	-14.63	-1.23
	12.70	0.00	0	1	0.00	-46.10	5.91
1.0D + 1.0W Service 180°	12.70	0.00	120	1a	-5.49	52.34	2.91
	12.70	0.00	240	1b	5.49	52.34	2.91
	12.70	0.00	0	1	-0.12	-37.84	4.90
1.0D + 1.0W Service 210°	12.70	0.00	120	1a	-2.01	19.48	0.85
	12.70	0.00	240	1b	8.06	76.94	4.52
	12.70	0.00	0	1	-0.21	-14.50	2.04
1.0D + 1.0W Service 240°	12.70	0.00	120	1a	1.65	-14.63	-1.23
	12.70	0.00	240	1b	9.16	87.71	5.31
	12.70	0.00	0	1	-0.21	52.46	-6.21
1.0D + 1.0W Service 300°	12.70	0.00	120	1a	5.11	-46.23	-2.97
	12.70	0.00	240	1b	5.25	52.35	3.32
	12.70	0.00	0	1	-0.12	77.05	-9.24
1.0D + 1.0W Service 330°	12.70	0.00	120	1a	4.31	-37.96	-2.35
	12.70	0.00	240	1b	1.74	19.49	1.32
	12.70	0.00	0	1	0.00	48.55	-5.48
1.2D + 1.0Ev + 1.5Eh Normal	12.70	0.00	120	1a	-1.02	9.45	0.88
	12.70	0.00	240	1b	1.02	9.45	0.88
	12.70	0.00	0	1	0.25	35.52	-4.09
1.2D + 1.0Ev + 1.5Eh 60°	12.70	0.00	120	1a	-3.42	35.52	2.26
	12.70	0.00	240	1b	-0.06	-3.58	-0.04
	12.70	0.00	0	1	0.29	22.49	-2.71
1.2D + 1.0Ev + 1.5Eh 90°	12.70	0.00	120	1a	-4.35	45.06	2.68
	12.70	0.00	240	1b	0.33	-0.09	0.03
	12.70	0.00	0	1	0.25	9.45	-1.32
1.2D + 1.0Ev + 1.5Eh 120°	12.70	0.00	120	1a	-4.75	48.55	2.74
	12.70	0.00	240	1b	1.27	9.45	0.44
	12.70	0.00	0	1	0.00	-3.58	0.07
1.2D + 1.0Ev + 1.5Eh 180°	12.70	0.00	120	1a	-3.67	35.52	1.83
	12.70	0.00	240	1b	3.67	35.52	1.83

ASSET: 371959, Bowdoinham
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
 PROJECT: 15398867_C3_02

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					FX* (kip)	FY* (kip)	FZ* (kip)
	12.70	0.00	0	1	-0.14	-0.09	-0.30
1.2D + 1.0Ev + 1.5Eh 210°	12.70	0.00	120	1a	-2.49	22.49	1.10
	12.70	0.00	240	1b	4.50	45.06	2.43
	12.70	0.00	0	1	-0.25	9.45	-1.32
1.2D + 1.0Ev + 1.5Eh 240°	12.70	0.00	120	1a	-1.27	9.45	0.44
	12.70	0.00	240	1b	4.75	48.55	2.74
	12.70	0.00	0	1	-0.25	35.52	-4.09
1.2D + 1.0Ev + 1.5Eh 300°	12.70	0.00	120	1a	0.06	-3.58	-0.04
	12.70	0.00	240	1b	3.42	35.52	2.26
	12.70	0.00	0	1	-0.14	45.06	-5.11
1.2D + 1.0Ev + 1.5Eh 330°	12.70	0.00	120	1a	-0.19	-0.09	0.28
	12.70	0.00	240	1b	2.20	22.49	1.60
	12.70	0.00	0	1	0.00	41.43	-4.63
0.9D - 1.0Ev + 1.5Eh Normal	12.70	0.00	120	1a	-0.28	2.40	0.45
	12.70	0.00	240	1b	0.28	2.40	0.45
	12.70	0.00	0	1	0.25	28.42	-3.24
0.9D - 1.0Ev + 1.5Eh 60°	12.70	0.00	120	1a	-2.68	28.42	1.84
	12.70	0.00	240	1b	-0.80	-10.61	-0.46
	12.70	0.00	0	1	0.29	15.41	-1.85
0.9D - 1.0Ev + 1.5Eh 90°	12.70	0.00	120	1a	-3.61	37.95	2.25
	12.70	0.00	240	1b	-0.40	-7.12	-0.40
	12.70	0.00	0	1	0.25	2.40	-0.47
0.9D - 1.0Ev + 1.5Eh 120°	12.70	0.00	120	1a	-4.01	41.43	2.31
	12.70	0.00	240	1b	0.53	2.40	0.02
	12.70	0.00	0	1	0.00	-10.61	0.92
0.9D - 1.0Ev + 1.5Eh 180°	12.70	0.00	120	1a	-2.93	28.42	1.40
	12.70	0.00	240	1b	2.93	28.42	1.40
	12.70	0.00	0	1	-0.14	-7.12	0.55
0.9D - 1.0Ev + 1.5Eh 210°	12.70	0.00	120	1a	-1.75	15.41	0.68
	12.70	0.00	240	1b	3.76	37.95	2.00
	12.70	0.00	0	1	-0.25	2.40	-0.47
0.9D - 1.0Ev + 1.5Eh 240°	12.70	0.00	120	1a	-0.53	2.40	0.02
	12.70	0.00	240	1b	4.01	41.43	2.31
	12.70	0.00	0	1	-0.25	28.42	-3.24
0.9D - 1.0Ev + 1.5Eh 300°	12.70	0.00	120	1a	0.80	-10.61	-0.46
	12.70	0.00	240	1b	2.68	28.42	1.84
	12.70	0.00	0	1	-0.14	37.95	-4.26
0.9D - 1.0Ev + 1.5Eh 330°	12.70	0.00	120	1a	0.55	-7.12	-0.15
	12.70	0.00	240	1b	1.46	15.41	1.18

ASSET: 371959, Bowdoinham
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-I
PROJECT: 15398867_C3_02

MAXIMUM REACTIONS SUMMARY

	<u>Individual</u>	<u>Individual w/ Overstrength</u>	<u>Global (DL+WL+IL)</u>	<u>Global (DL+WL)</u>
Max Uplift:	198.12	198.12	Moment Ice: 1742.16 (kip-ft)	Moment: 4273.26 (kip-ft)
Max Down:	247.72	247.72	Total Down Ice: 143.61 (kip)	Total Down: 70.29 (kip)
Max Shear:	30.06	30.06	Total Shear Ice: 16.65 (kip)	Total Shear: 39.86 (kip)

1.2D + 1.0W Normal

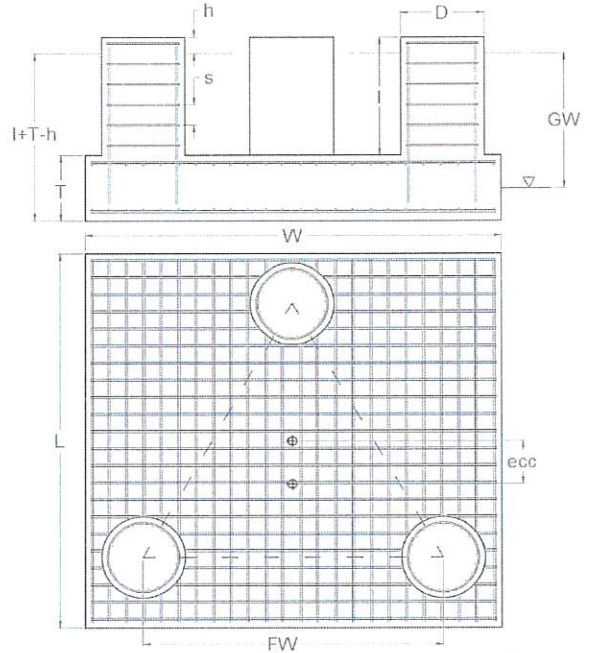
MONOLITHIC MAT & PIER FOUNDATION ANALYSIS

APPLIED REACTIONS

GLOBAL (PER FOUNDATION)			LOCAL (PER LEG)	
Moment (k-ft)	Axial (k)	Shear (k)	Compression (k)	Uplift (k)
4,273.26	70.30	39.86	247.72	198.12

FOUNDATION PARAMETERS

Mat Length:	L	34	ft
Mat Width:	W	34	ft
Mat Thickness:	T	3	ft
Base Depth:	L+T-h	6	ft
Pier Shape:		Round	
Pier Diameter:	D	5	ft
Pier Height above Grade:	h	0.5	ft
Concrete Compressive Strength:		3,000	psi
Mat Top Rebar:		(59) #9 bars [60 ksi]	
Mat Bottom Rebar:		(59) #9 bars [60 ksi]	
Pier Vertical Rebar:		(23) #8 bars [60 ksi]	
Pier Rebar Ties:	s	#4 bars @ 12.0" c/c [60 ksi]	
Rebar Clear Cover:		3.0	in
Tower Eccentricity:	ecc	3.177	ft
Tower Face Width	FW	22	ft
Tower Leg Count		3	



SOIL PARAMETERS

Water Table Depth [BGL]:	GW	ft
Soil Unit Weight:	138	pcf
Ultimate Skin Friction:	0	psf
Ultimate Bearing Pressure:	16,130	psf
Bearing Pressure Type:	Net	
Coefficient of Shear Friction:	0.25	

SOIL STRENGTH ANALYSIS

Soil Strength Reduction Factor, Φ_s	Uplift Strength Reduction Factor, Φ_u	Asset Dead Load Factor	Dead Load Factor
0.75	0.75	0.9	1.2

SOIL OVERTURNING ANALYSIS

Design Moment, $M_{u,Design}$ (k-ft)	Nominal Overturning Capacity, $\Phi_m M_n$ (k-ft)	Soil Overturning Usage, $M_{u,Design} / \Phi_m M_n$
4,532.35	16,767.67	27.0% ✓

SOIL BEARING ANALYSIS

Net Bearing Pressure, $P_{u,Net}$ (psf)	Nominal Bearing Capacity, $\Phi_b P_n$ (psf)	Bearing Pressure Controlling Load Direction	Soil Bearing Usage, $P_{u,net} / \Phi_b P_n$
1,142.00	12,718.00	Diagonal to Pad Edge	9.0% ✓

SOIL SLIDING SHEAR ANALYSIS

Applied Shear Force, V_u (k)	Friction Resistance (k)	Passive Pressure (psf)	Passive Pressure Resistance (k)	Nominal Shear Capacity, $\Phi_s V_n$ (k)	Soil Sliding Shear Usage, $V_u / \Phi_s V_n$
39.86	265.98	621.0	63.34	246.99	16.0%

MAT REINFORCING STEEL STRENGTH ANALYSIS

Steel Elastic Modulus, E (ksi)	Strength Bending/Tension Reduction Factor, Φ_b	Strength Shear Reduction Factor, Φ_v	Strength Compression Reduction Factor, Φ_c
29,000	0.9	0.75	0.65

MAT REINFORCING ONE WAY SHEAR ANALYSIS

One Way Design Shear, V_u (k)	Nominal One Way Shear Capacity, $\Phi_c V_n$ (k)	One Way Shear Controlling Load Direction	Mat One Way Shear Usage, $V_u / \Phi_c V_n$
51.82	806.76	Diagonal to Pad Edge	6.4%

MAT REINFORCING PUNCHING SHEAR ANALYSIS

Punching Shear Design Stress, v_u (psi)	Nominal Punching Shear Capacity, $\Phi_c v_n$ (psi)	Mat Punching Shear Usage, $v_u / \Phi_c v_n$
26.9	164.3	16.4%

MAT REINFORCING MOMENT TRANSFER ANALYSIS

Moment Transfer Effective Flexural Width, w_t (in)	Neutral Axis Depth (in)	Pier Moment at Joint, M_{ut} (k-in)	Nominal Moment Transfer Capacity, $\Phi M_{sc,t}$ (k-in)	Mat Moment Transfer Usage, $0.6 M_{ut} / \Phi M_{sc,t}$
14.00	3.54	920.77	41,447.8	1.3%

MAT REINFORCING FLEXURE ANALYSIS - UPPER STEEL

Factored Moment, M_u (k-ft)	Nominal Flexural Capacity, ΦM_n (k-ft)	Flexural Steel Controlling Load Direction	Mat Upper Rebar Flexure Usage, $M_u / \Phi M_n$
363.58	8,078.88	Parallel to Pad Edge	4.5%

MAT REINFORCING FLEXURE ANALYSIS - LOWER STEEL

Factored Moment, M_u (k-ft)	Nominal Flexural Capacity, ΦM_n (k-ft)	Flexural Steel Controlling Load Direction	Mat Lower Rebar Flexure Usage, $M_u / \Phi M_n$
914.10	7,304.00	Diagonal to Pad Edge	12.5%

PIER REINFORCING STEEL STRENGTH ANALYSIS

Rebar Cage Diameter (in)	Steel Elastic Modulus, E (ksi)	Strength Bending/Tension Reduction Factor, Φ_b	Strength Shear Reduction Factor, Φ_v	Strength Compression Reduction Factor, Φ_c
52.00	29,000	0.9	0.75	0.65

PIER REINFORCING MOMENT ANALYSIS

Design Moment, M_u (k-ft)	Nominal Moment Capacity, $\Phi_b M_n$ (k-ft)	Bending Reinforcement Ratio	Pier Rebar Flexure Usage, $M_u / \Phi_b M_n$
92.08	1,902.65	0.006	4.8%

PIER REINFORCING COMPRESSION ANALYSIS

Design Compression, P_u (k)	Nominal Compressive Capacity, $\Phi_p P_n$ (k)	Pier Rebar Compressive Usage, $P_u / \Phi_p P_n$
247.72	3,749.73	6.6%

PIER REINFORCING SHEAR ANALYSIS

Design Shear, V_u (k)	Nominal Shear Capacity, $\Phi_v V_n$ (k)	Pier Rebar Shear Usage, $V_u / \Phi_v V_n$
26.57	271.74	9.8%

ASSET: 371959, Bowdoinham
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PIER REINFORCING TENSION ANALYSIS

Design Tension, T_u (k)	Nominal Tension Capacity, $\Phi_t T_n$ (k)	Pier Rebar Tension Usage, $T_u / \Phi_t T_n$	Flexure & Tension Interaction, $M_u / \Phi_b M_n + T_u / \Phi_t T_n$	
198.12	981.18	20.2%	25.0%	