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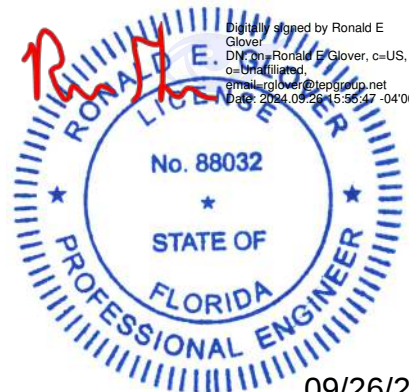


Structural Analysis Report

Structure : 190 ft Self Support Tower
ATC Asset Name : I-75 Rest Area
ATC Asset Number : 302769
Engineering Number : 14873535_C3_04
Proposed Carrier : VERIZON WIRELESS
Carrier Site Name : I-75 Rest Area Columbia
Carrier Site Number : 5000957578
Site Location : 2212 Southeast October Road
LAKE CITY, FL 32024-5533
29.9772° N, 82.5802° W
County : Columbia
Date : September 26, 2024
Max Usage : 47%
Analysis Result : Pass

Created By:

Ethan Gardner
TEP



Digitally signed by Ronald E. Glover
DN: cn=Ronald E. Glover, c=US,
o=Unaffiliated,
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Date: 2024.09.26 15:56:47 -04'00'

This item has been digitally signed and sealed by Ronald E. Glover, PE, SE on the date adjacent to the seal.

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09/26/2024

COA #31011
COA: 9053

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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:	LeBlanc Drawing #7591548_D01_01, dated June 8, 2000
Foundation:	LeBlanc Drawing #75FN1548_F01_01, dated May 23, 2000
Geotechnical:	Professional Service Industries, Inc. Project #775-05093, dated March 23, 2001

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:	120 mph (3-second gust)
Basic Wind Speed w/ Ice:	30 mph (3-second gust) w/ 0.25" radial ice concurrent
Code(s):	ANSI/TIA-222-H / 2021 IBC / 8th ED (2023) Florida Building Code
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Spectral Response:	$S_s = 0.08$, $S_i = 0.05$
Site Class:	D - Stiff Soil - 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	24.3%	Member X	Section 9	Pass
Diagonal	27.1%	Block Shear	Section 9	Pass
Horizontal	12.7%	Member Z	Section 10	Pass
Bolt	18.6%	-	Section 2	Pass
Serviceability Usage	2.3%	Deflection	Elevation 190 ft	Pass
Foundation	28.7%	Down	Base	Pass
Foundation	47.0%	Shear	Base	Pass
Foundation	22.8%	Uplift	Base	Pass

Maximum Reactions

Foundation	Moment (k-ft)	Axial (k)	Uplift (k)	Shear (k)
Self Support Base (Global)	3,036.7	55.3	-	30.5
Self Support Base (Local)	-	180.5	129.9	18.7

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

Foundation usages were calculated by comparing the maximum reactions from this analysis to the reactions from the original design drawings.



VERIZON WIRELESS Final Loading

Elev (ft)	Qty	Equipment	Lines
190.0	1	Raycap RVZDC-6627-PF-48	(2) 1 1/4" Hybriflex Cable
	3	Ericsson AIR 6419 B77D	
	3	Ericsson RRUS 4490	
	3	Ericsson RRUS 4890	
	3	Sector Frame	
	6	Commscope NHH-65C-R2B	

Install proposed lines anywhere on tower.

Other Existing/Reserved Loading

No loading was considered in addition to the VERIZON WIRELESS Final Loading.



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

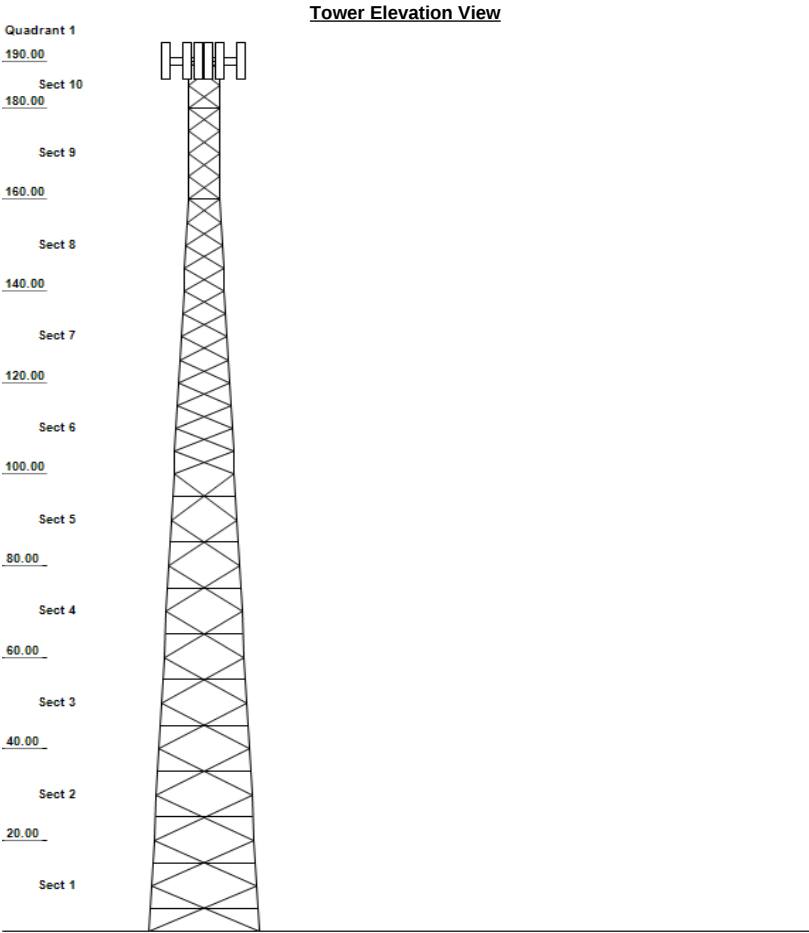
It is the responsibility of the client to ensure that the information provided to ATC Tower Services, LLC and used in the performance of our engineering services is correct and complete.

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.

ANALYSIS PARAMETERS				TOWER SECTION PROPERTIES			
Design Wind:	120 mph	Ice Wind:	30 mph w/ 0.25" ice	Service Wind:	60 mph	Section	Leg Members
Risk Category:	II	Exposure:	C	S _s : 0.081	S _i : 0.049		Diagonal Members
Topo Factor:	Method 1	Topo Feature:		Topo Category:	1		Horizontal Members
Structure Height:	190 ft	Base Elevation:	0 ft	Shape:	Triangle	1	SOL 50 ksi 5" SOLID
Base Width:	21.63 ft	Top Width:	6.30 ft			2	SOL 50 ksi 4 3/4" SOLID
						3	SOL 50 ksi 4 1/2" SOLID
						4	SOL 50 ksi 4 1/4" SOLID
						5	SOL 50 ksi 4" SOLID
						6	SOL 50 ksi 3 3/4" SOLID
						7	SOL 50 ksi 3 1/4" SOLID
						8	SOL 50 ksi 3" SOLID
						9	SOL 50 ksi 2 1/2" SOLID
						10	SOL 50 ksi 2" SOLID



SECONDARY BRACING MEMBERS			
Section	Sub Diagonal 1	Sub Diagonal 2	Sub Diagonal 3
1 - 2	-	-	-
3 - 4	-	-	-
5	-	-	-

Section	Sub Horizontal 1	Sub Horizontal 2	Sub Horizontal 3
1 - 2	S3.5x3.5x0.25	-	-
3 - 4	S3X3X0.25	-	-
5	S2.5X2.5X0.25	-	-

DISCRETE APPURTENANCE		LINEAR APPURTENANCE	
Elev (ft)	Description	Elev (ft)	Description
190.0	(6) Commscope NHH-65C-R2B	190.0	(2) 1 1/4" Hybriflex Cable
190.0	(3) Ericsson RRUS 4490		
190.0	(3) Generic Sector Frame		
190.0	(1) Raycap RVZDC-6627-PF-48		
190.0	(3) Ericsson RRUS 4890		
190.0	(3) Ericsson AIR 6419 B77D		

GLOBAL BASE REACTIONS			INDIVIDUAL BASE REACTIONS	
	DL+WL	DL+WL+IL		
Moment (k-ft):	3,036.73	210.41	Comp (k):	180.54
Axial (k):	55.26	60.96	Uplift (k):	129.93
Shear (k):	30.52	2.10	Shear (k):	18.73

ANALYSIS PARAMETERS			
Location:	Columbia County, FL	Height:	190 ft
Type and Shape:	Self Support, Triangle	Base Elevation:	0.00 ft
Manufacturer:	LeBlanc	Bottom Face Width:	21.63 ft
Kd	0.85	Top Face Width:	6.30 ft
Ke:	1.00	Anchor Bolt Detail Type:	c

ICE & WIND PARAMETERS			
Exposure Category:	C	Design Wind Speed Without Ice:	120 mph
Risk Category:	II	Design Wind Speed with Ice:	30 mph
Topographic Factor Procedure:	Method 1	Operational Windspeed:	60 mph
Topographic Category:	1	Design Ice Thickness:	0.25 in
Crest Height:	0 ft	HMSL:	89 ft

SEISMIC PARAMETERS					
Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):		0.64	
T _L (sec):	8	P:	1.3	C _s :	0.030
S _{ds} :	0.086	S _{d1} :	0.078	C _{s, Max} :	0.041
S _s :	0.081	S ₁ :	0.049	C _{s, Min} :	0.030
F _a :	1.600	F _v :	2.400		

LOAD CASES	
1.2D + 1.0W Normal	1.2D + 1.0W Normal - 120 mph Wind with No Ice
1.2D + 1.0W 60°	1.2D + 1.0W 60° - 120 mph Wind with No Ice
1.2D + 1.0W 90°	1.2D + 1.0W 90° - 120 mph Wind with No Ice
1.2D + 1.0W 120°	1.2D + 1.0W 120° - 120 mph Wind with No Ice
1.2D + 1.0W 180°	1.2D + 1.0W 180° - 120 mph Wind with No Ice
1.2D + 1.0W 210°	1.2D + 1.0W 210° - 120 mph Wind with No Ice
1.2D + 1.0W 240°	1.2D + 1.0W 240° - 120 mph Wind with No Ice
1.2D + 1.0W 300°	1.2D + 1.0W 300° - 120 mph Wind with No Ice
1.2D + 1.0W 330°	1.2D + 1.0W 330° - 120 mph Wind with No Ice
0.9D + 1.0W Normal	0.9D + 1.0W Normal - 120 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 60°	0.9D + 1.0W 60° - 120 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 90°	0.9D + 1.0W 90° - 120 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 120°	0.9D + 1.0W 120° - 120 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 180°	0.9D + 1.0W 180° - 120 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 210°	0.9D + 1.0W 210° - 120 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 240°	0.9D + 1.0W 240° - 120 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 300°	0.9D + 1.0W 300° - 120 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 330°	0.9D + 1.0W 330° - 120 mph Wind with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	1.2D + 1.0Di + 1.0Wi Normal - 30 mph Wind with 0.25" Radial Ice
1.2D + 1.0Di + 1.0Wi 60°	1.2D + 1.0Di + 1.0Wi 60° - 30 mph Wind with 0.25" Radial Ice
1.2D + 1.0Di + 1.0Wi 90°	1.2D + 1.0Di + 1.0Wi 90° - 30 mph Wind with 0.25" Radial Ice
1.2D + 1.0Di + 1.0Wi 120°	1.2D + 1.0Di + 1.0Wi 120° - 30 mph Wind with 0.25" Radial Ice
1.2D + 1.0Di + 1.0Wi 180°	1.2D + 1.0Di + 1.0Wi 180° - 30 mph Wind with 0.25" Radial Ice
1.2D + 1.0Di + 1.0Wi 210°	1.2D + 1.0Di + 1.0Wi 210° - 30 mph Wind with 0.25" Radial Ice
1.2D + 1.0Di + 1.0Wi 240°	1.2D + 1.0Di + 1.0Wi 240° - 30 mph Wind with 0.25" Radial Ice
1.2D + 1.0Di + 1.0Wi 300°	1.2D + 1.0Di + 1.0Wi 300° - 30 mph Wind with 0.25" Radial Ice
1.2D + 1.0Di + 1.0Wi 330°	1.2D + 1.0Di + 1.0Wi 330° - 30 mph Wind with 0.25" Radial Ice

LOAD CASES	
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

ASSET: 302769, I-75 Rest Area
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14873535_C3_04

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 _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
190.0	Ericsson RRUS 4890	3	70	2.7	1.7	15.7	7.2	0.80	0.67	0.0	0.00	45.25	167	250
190.0	Ericsson RRUS 4490	3	68	2.7	1.7	15.7	7.0	0.80	0.67	0.0	0.00	45.25	167	246
190.0	Raycap RVZDC-6627-PF-48	1	32	3.8	2.4	15.7	10.3	0.80	1.00	0.0	0.00	45.25	116	38
190.0	Ericsson AIR 6419 B77D	3	63	4.2	2.6	16.1	9.1	0.80	0.67	0.0	0.00	45.25	259	227
190.0	Commscope NHH-65C-R2B	6	52	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.00	45.25	1472	372
190.0	Generic Sector Frame	3	800	20.0	0.0	0.0	0.0	0.75	0.75	0.0	0.00	45.25	1298	2880
Totals		19	3,345	160.8									3,478	4,014

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 _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
190.0	Ericsson RRUS 4890	3	70	2.7	1.7	15.7	7.2	0.80	0.67	0.0	0.00	45.25	167	188
190.0	Ericsson RRUS 4490	3	68	2.7	1.7	15.7	7.0	0.80	0.67	0.0	0.00	45.25	167	185
190.0	Raycap RVZDC-6627-PF-48	1	32	3.8	2.4	15.7	10.3	0.80	1.00	0.0	0.00	45.25	116	29
190.0	Ericsson AIR 6419 B77D	3	63	4.2	2.6	16.1	9.1	0.80	0.67	0.0	0.00	45.25	259	170
190.0	Commscope NHH-65C-R2B	6	52	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.00	45.25	1472	279
190.0	Generic Sector Frame	3	800	20.0	0.0	0.0	0.0	0.75	0.75	0.0	0.00	45.25	1298	2160
Totals		19	3,345	160.8									3,478	3,010

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 RRUS 4890	3	82	2.9	1.7	15.7	7.2	0.80	0.67	0.0	0.00	2.83	11	287
190.0	Ericsson RRUS 4490	3	80	2.9	1.7	15.7	7.0	0.80	0.67	0.0	0.00	2.83	11	282
190.0	Raycap RVZDC-6627-PF-48	1	51	4.0	2.4	15.7	10.3	0.80	1.00	0.0	0.00	2.83	8	57
190.0	Ericsson AIR 6419 B77D	3	82	4.4	2.6	16.1	9.1	0.80	0.67	0.0	0.00	2.83	17	284
190.0	Commscope NHH-65C-R2B	6	91	11.9	8.0	11.9	7.1	0.80	0.70	0.0	0.00	2.83	96	605
190.0	Generic Sector Frame	3	990	22.9	0.0	0.0	0.0	0.75	0.75	0.0	0.00	2.83	93	3450
Totals		19	4,297	174.8									236	4,966

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 RRUS 4890	3	70	2.7	1.7	15.7	7.2	0.80	0.67	0.0	0.00	11.31	42	208
190.0	Ericsson RRUS 4490	3	68	2.7	1.7	15.7	7.0	0.80	0.67	0.0	0.00	11.31	42	205
190.0	Raycap RVZDC-6627-PF-48	1	32	3.8	2.4	15.7	10.3	0.80	1.00	0.0	0.00	11.31	29	32
190.0	Ericsson AIR 6419 B77D	3	63	4.2	2.6	16.1	9.1	0.80	0.67	0.0	0.00	11.31	65	189
190.0	Commscope NHH-65C-R2B	6	52	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.00	11.31	368	310
190.0	Generic Sector Frame	3	800	20.0	0.0	0.0	0.0	0.75	0.75	0.0	0.00	11.31	325	2400
Totals		19	3,345	160.8									870	3,345

ASSET: 302769, I-75 Rest Area
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14873535_C3_04

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 1/4" Hybriflex Cable	2	1.54	1.00	100	1	Individual	0.00	N	1.00	1.00	0.00

ASSET: 302769, I-75 Rest Area
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
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SECTION FORCES

1.2D + 1.0W Normal
120 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 _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	45.00	6.266	3.333	0.00	0.148	2.78	1.00	1.00	0.0	8.16	22.66	0.00	747	0	866	71	937
9	170	44.20	11.455	8.333	0.00	0.152	2.76	1.00	1.00	0.0	16.19	44.74	0.00	2062	0	1681	139	1820
8	150	43.05	15.540	10.015	0.00	0.170	2.70	1.00	1.00	0.0	21.25	57.34	0.00	2917	0	2098	135	2234
7	130	41.77	16.961	10.850	0.00	0.147	2.78	1.00	1.00	0.0	23.12	64.30	0.00	3318	0	2283	131	2415
6	110	40.33	23.707	12.519	0.00	0.159	2.74	1.00	1.00	0.0	30.70	84.09	0.00	5281	0	2883	127	3009
5	90	38.66	24.164	13.354	0.00	0.141	2.81	1.00	1.00	0.0	31.50	88.41	0.00	5216	0	2905	121	3027
4	70	36.67	27.997	14.188	0.00	0.138	2.82	1.00	1.00	0.0	35.73	100.61	0.00	6254	0	3136	115	3251
3	50	34.16	34.023	15.023	0.00	0.142	2.80	1.00	1.00	0.0	42.21	118.17	0.00	7308	0	3431	107	3539
2	30	30.68	38.742	15.858	0.00	0.142	2.80	1.00	1.00	0.0	47.43	132.78	0.00	8179	0	3462	96	3559
1	10	26.55	42.118	16.692	0.00	0.139	2.81	1.00	1.00	0.0	50.19	141.06	0.00	9962	0	3183	83	3267
Totals														51,244	0			27,057

1.2D + 1.0W 60°
120 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 _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	45.00	6.266	3.333	0.00	0.148	2.78	0.80	1.00	0.0	6.90	19.18	0.00	747	0	733	71	804
9	170	44.20	11.455	8.333	0.00	0.152	2.76	0.80	1.00	0.0	13.90	38.41	0.00	2062	0	1443	139	1582
8	150	43.05	15.540	10.015	0.00	0.170	2.70	0.80	1.00	0.0	18.14	48.95	0.00	2917	0	1791	135	1927
7	130	41.77	16.961	10.850	0.00	0.147	2.78	0.80	1.00	0.0	19.72	54.87	0.00	3318	0	1948	131	2079
6	110	40.33	23.707	12.519	0.00	0.159	2.74	0.80	1.00	0.0	25.96	71.10	0.00	5281	0	2437	127	2564
5	90	38.66	24.164	13.354	0.00	0.141	2.81	0.80	1.00	0.0	26.67	74.85	0.00	5216	0	2460	121	2581
4	70	36.67	27.997	14.188	0.00	0.138	2.82	0.80	1.00	0.0	30.13	84.84	0.00	6254	0	2645	115	2760
3	50	34.16	34.023	15.023	0.00	0.142	2.80	0.80	1.00	0.0	35.41	99.12	0.00	7308	0	2878	107	2986
2	30	30.68	38.742	15.858	0.00	0.142	2.80	0.80	1.00	0.0	39.69	111.09	0.00	8179	0	2897	96	2993
1	10	26.55	42.118	16.692	0.00	0.139	2.81	0.80	1.00	0.0	41.76	117.38	0.00	9962	0	2649	83	2732
Totals														51,244	0			23,008

1.2D + 1.0W 90°
120 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 _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	45.00	6.266	3.333	0.00	0.148	2.78	0.85	1.00	0.0	7.22	20.05	0.00	747	0	767	71	837
9	170	44.20	11.455	8.333	0.00	0.152	2.76	0.85	1.00	0.0	14.47	39.99	0.00	2062	0	1503	139	1641
8	150	43.05	15.540	10.015	0.00	0.170	2.70	0.85	1.00	0.0	18.92	51.05	0.00	2917	0	1868	135	2003
7	130	41.77	16.961	10.850	0.00	0.147	2.78	0.85	1.00	0.0	20.57	57.22	0.00	3318	0	2032	131	2163
6	110	40.33	23.707	12.519	0.00	0.159	2.74	0.85	1.00	0.0	27.14	74.34	0.00	5281	0	2549	127	2675
5	90	38.66	24.164	13.354	0.00	0.141	2.81	0.85	1.00	0.0	27.88	78.24	0.00	5216	0	2571	121	2693
4	70	36.67	27.997	14.188	0.00	0.138	2.82	0.85	1.00	0.0	31.53	88.78	0.00	6254	0	2767	115	2883
3	50	34.16	34.023	15.023	0.00	0.142	2.80	0.85	1.00	0.0	37.11	103.88	0.00	7308	0	3016	107	3124
2	30	30.68	38.742	15.858	0.00	0.142	2.80	0.85	1.00	0.0	41.62	116.51	0.00	8179	0	3038	96	3135
1	10	26.55	42.118	16.692	0.00	0.139	2.81	0.85	1.00	0.0	43.87	123.30	0.00	9962	0	2782	83	2866
Totals														51,244	0			24,020

1.2D + 1.0W 120°
120 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 _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	45.00	6.266	3.333	0.00	0.148	2.78	1.00	1.00	0.0	8.16	22.66	0.00	747	0	866	71	937
9	170	44.20	11.455	8.333	0.00	0.152	2.76	1.00	1.00	0.0	16.19	44.74	0.00	2062	0	1681	139	1820
8	150	43.05	15.540	10.015	0.00	0.170	2.70	1.00	1.00	0.0	21.25	57.34	0.00	2917	0	2098	135	2234
7	130	41.77	16.961	10.850	0.00	0.147	2.78	1.00	1.00	0.0	23.12	64.30	0.00	3318	0	2283	131	2415
6	110	40.33	23.707	12.519	0.00	0.159	2.74	1.00	1.00	0.0	30.70	84.09	0.00	5281	0	2883	127	3009
5	90	38.66	24.164	13.354	0.00	0.141	2.81	1.00	1.00	0.0	31.50	88.41	0.00	5216	0	2905	121	3027
4	70	36.67	27.997	14.188	0.00	0.138	2.82	1.00	1.00	0.0	35.73	100.61	0.00	6254	0	3136	115	3251
3	50	34.16	34.023	15.023	0.00	0.142	2.80	1.00	1.00	0.0	42.21	118.17	0.00	7308	0	3431	107	3539
2	30	30.68	38.742	15.858	0.00	0.142	2.80	1.00	1.00	0.0	47.43	132.78	0.00	8179	0	3462	96	3559
1	10	26.55	42.118	16.692	0.00	0.139	2.81	1.00	1.00	0.0	50.19	141.06	0.00	9962	0	3183	83	3267
Totals														51,244	0			27,057

1.2D + 1.0W 180°
120 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 _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	45.00	6.266	3.333	0.00	0.148	2.78	0.80	1.00	0.0	6.90	19.18	0.00	747	0	733	71	804
9	170	44.20	11.455	8.333	0.00	0.152	2.76	0.80	1.00	0.0	13.90	38.41	0.00	2062	0	1443	139	1582
8	150	43.05	15.540	10.015	0.00	0.170	2.70	0.80	1.00	0.0	18.14	48.95	0.00	2917	0	1791	135	1927
7	130	41.77	16.961	10.850	0.00	0.147	2.78	0.80	1.00	0.0	19.72	54.87	0.00	3318	0	1948	131	2079
6	110	40.33	23.707	12.519	0.00	0.159	2.74	0.80	1.00	0.0	25.96	71.10	0.00	5281	0	2437	127	2564
5	90	38.66	24.164	13.354	0.00	0.141	2.81	0.80	1.00	0.0	26.67	74.85	0.00	5216	0	2460	121	2581
4	70	36.67	27.997	14.188	0.00	0.138	2.82	0.80	1.00	0.0	30.13	84.84	0.00	6254	0	2645	115	2760
3	50	34.16	34.023	15.023	0.00	0.142	2.80	0.80	1.00	0.0	35.41	99.12	0.00	7308	0	2878	107	2986
2	30	30.68	38.742	15.858	0.00	0.142	2.80	0.80	1.00	0.0	39.69	111.09	0.00	8179	0	2897	96	2993

CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H

PROJECT: 14873535 C3 04

SECTION FORCES

 $1.2D + 1.0W \ 180^\circ$

Gust Response Factor (Gh): 0.85

120 mph Wind with No Ice

Wind Importance Factor (I_w): 1.00

Section #	Elev (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _i	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)
1	10	26.55	42.118	16.692	0.00	0.139	2.81	0.80	1.00	0.0	41.76	117.38	0.00	9962	0	2649	83	2732
Totals														51,244	0			23,008

1.2D + 1.0W 210°

Gust Response Factor (Gh): 0.85

120 mph Wind with No Ice

Wind Importance Factor (I_w): 1.00

Section #	Elev (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _i	D _i	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	45.00	6.266	3.333	0.00	0.148	2.78	0.85	1.00	0.0	7.22	20.05	0.00	747	0	767	71	837
9	170	44.20	11.455	8.333	0.00	0.152	2.76	0.85	1.00	0.0	14.47	39.99	0.00	2062	0	1503	139	1641
8	150	43.05	15.540	10.015	0.00	0.170	2.70	0.85	1.00	0.0	18.92	51.05	0.00	2917	0	1868	135	2003
7	130	41.77	16.961	10.850	0.00	0.147	2.78	0.85	1.00	0.0	20.57	57.22	0.00	3318	0	2032	131	2163
6	110	40.33	23.707	12.519	0.00	0.159	2.74	0.85	1.00	0.0	27.14	74.34	0.00	5281	0	2549	127	2675
5	90	38.66	24.164	13.354	0.00	0.141	2.81	0.85	1.00	0.0	27.88	78.24	0.00	5216	0	2571	121	2693
4	70	36.67	27.997	14.188	0.00	0.138	2.82	0.85	1.00	0.0	31.53	88.78	0.00	6254	0	2767	115	2883
3	50	34.16	34.023	15.023	0.00	0.142	2.80	0.85	1.00	0.0	37.11	103.88	0.00	7308	0	3016	107	3124
2	30	30.68	38.742	15.858	0.00	0.142	2.80	0.85	1.00	0.0	41.62	116.51	0.00	8179	0	3038	96	3135
1	10	26.55	42.118	16.692	0.00	0.139	2.81	0.85	1.00	0.0	43.87	123.30	0.00	9962	0	2782	83	2866
Totals														51,244	0			24,020

1.2D + 1.0W 240°

Gust Response Factor (Gh): 0.85

120 mph Wind with No Ice

Wind Importance Factor (I_w): 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	45.00	6.266	3.333	0.00	0.148	2.78	1.00	1.00	0.0	8.16	22.66	0.00	747	0	866	71	937
9	170	44.20	11.455	8.333	0.00	0.152	2.76	1.00	1.00	0.0	16.19	44.74	0.00	2062	0	1681	139	1820
8	150	43.05	15.540	10.015	0.00	0.170	2.70	1.00	1.00	0.0	21.25	57.34	0.00	2917	0	2098	135	2234
7	130	41.77	16.961	10.850	0.00	0.147	2.78	1.00	1.00	0.0	23.12	64.30	0.00	3318	0	2283	131	2415
6	110	40.33	23.707	12.519	0.00	0.159	2.74	1.00	1.00	0.0	30.70	84.09	0.00	5281	0	2883	127	3009
5	90	38.66	24.164	13.354	0.00	0.141	2.81	1.00	1.00	0.0	31.50	88.41	0.00	5216	0	2905	121	3027
4	70	36.67	27.997	14.188	0.00	0.138	2.82	1.00	1.00	0.0	35.73	100.61	0.00	6254	0	3136	115	3251
3	50	34.16	34.023	15.023	0.00	0.142	2.80	1.00	1.00	0.0	42.21	118.17	0.00	7308	0	3431	107	3539
2	30	30.68	38.742	15.858	0.00	0.142	2.80	1.00	1.00	0.0	47.43	132.78	0.00	8179	0	3462	96	3559
1	10	26.55	42.118	16.692	0.00	0.139	2.81	1.00	1.00	0.0	50.19	141.06	0.00	9962	0	3183	83	3267
Totals														51,244	0			27,057

1.2D + 1.0W 300°

Gust Response Factor (Gh): 0.85

120 mph Wind with No Ice

Wind Importance Factor (I_w): 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	45.00	6.266	3.333	0.00	0.148	2.78	0.80	1.00	0.0	6.90	19.18	0.00	747	0	733	71	804
9	170	44.20	11.455	8.333	0.00	0.152	2.76	0.80	1.00	0.0	13.90	38.41	0.00	2062	0	1443	139	1582
8	150	43.05	15.540	10.015	0.00	0.170	2.70	0.80	1.00	0.0	18.14	48.95	0.00	2917	0	1791	135	1927
7	130	41.77	16.961	10.850	0.00	0.147	2.78	0.80	1.00	0.0	19.72	54.87	0.00	3318	0	1948	131	2079
6	110	40.33	23.707	12.519	0.00	0.159	2.74	0.80	1.00	0.0	25.96	71.10	0.00	5281	0	2437	127	2564
5	90	38.66	24.164	13.354	0.00	0.141	2.81	0.80	1.00	0.0	26.67	74.85	0.00	5216	0	2460	121	2581
4	70	36.67	27.997	14.188	0.00	0.138	2.82	0.80	1.00	0.0	30.13	84.84	0.00	6254	0	2645	115	2760
3	50	34.16	34.023	15.023	0.00	0.142	2.80	0.80	1.00	0.0	35.41	99.12	0.00	7308	0	2878	107	2986
2	30	30.68	38.742	15.858	0.00	0.142	2.80	0.80	1.00	0.0	39.69	111.09	0.00	8179	0	2897	96	2993
1	10	26.55	42.118	16.692	0.00	0.139	2.81	0.80	1.00	0.0	41.76	117.38	0.00	9962	0	2649	83	2732
Totals														51,244	0			23,008

1.2D + 1.0W 330°

Gust Response Factor (Gh): 0.85

120 mph Wind with No Ice

Wind Importance Factor (I_w): 1.00

Section #	Elev (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _i	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	45.00	6.266	3.333	0.00	0.148	2.78	0.85	1.00	0.0	7.22	20.05	0.00	747	0	767	71	837
9	170	44.20	11.455	8.333	0.00	0.152	2.76	0.85	1.00	0.0	14.47	39.99	0.00	2062	0	1503	139	1641
8	150	43.05	15.540	10.015	0.00	0.170	2.70	0.85	1.00	0.0	18.92	51.05	0.00	2917	0	1868	135	2003
7	130	41.77	16.961	10.850	0.00	0.147	2.78	0.85	1.00	0.0	20.57	57.22	0.00	3318	0	2032	131	2163
6	110	40.33	23.707	12.519	0.00	0.159	2.74	0.85	1.00	0.0	27.14	74.34	0.00	5281	0	2549	127	2675
5	90	38.66	24.164	13.354	0.00	0.141	2.81	0.85	1.00	0.0	27.88	78.24	0.00	5216	0	2571	121	2693
4	70	36.67	27.997	14.188	0.00	0.138	2.82	0.85	1.00	0.0	31.53	88.78	0.00	6254	0	2767	115	2883
3	50	34.16	34.023	15.023	0.00	0.142	2.80	0.85	1.00	0.0	37.11	103.88	0.00	7308	0	3016	107	3124
2	30	30.68	38.742	15.858	0.00	0.142	2.80	0.85	1.00	0.0	41.62	116.51	0.00	8179	0	3038	96	3135
1	10	26.55	42.118	16.692	0.00	0.139	2.81	0.85	1.00	0.0	43.87	123.30	0.00	9962	0	2782	83	2866
Totals														51,244	0			24,020

0.9D + 1.0W Normal

Gust Response Factor (Gh): 0.85

120 mph Wind with No Ice (Reduced DL)

Wind Importance Factor (I_w): 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	45.00	6.266	3.333	0.00	0.148	2.78	1.00	1.00	0.0	8.16	22.66	0.00	560	0	866	71	937

ASSET: 302769, I-75 Rest Area
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14873535_C3_04

SECTION FORCES

0.9D + 1.0W Normal

Gust Response Factor (Gh): 0.85

120 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 _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)
9	170	44.20	11.455	8.333	0.00	0.152	2.76	1.00	1.00	0.0	16.19	44.74	0.00	1546	0	1681	139	1820
8	150	43.05	15.540	10.015	0.00	0.170	2.70	1.00	1.00	0.0	21.25	57.34	0.00	2188	0	2098	135	2234
7	130	41.77	16.961	10.850	0.00	0.147	2.78	1.00	1.00	0.0	23.12	64.30	0.00	2488	0	2283	131	2415
6	110	40.33	23.707	12.519	0.00	0.159	2.74	1.00	1.00	0.0	30.70	84.09	0.00	3961	0	2883	127	3009
5	90	38.66	24.164	13.354	0.00	0.141	2.81	1.00	1.00	0.0	31.50	88.41	0.00	3912	0	2905	121	3027
4	70	36.67	27.997	14.188	0.00	0.138	2.82	1.00	1.00	0.0	35.73	100.61	0.00	4690	0	3136	115	3251
3	50	34.16	34.023	15.023	0.00	0.142	2.80	1.00	1.00	0.0	42.21	118.17	0.00	5481	0	3431	107	3539
2	30	30.68	38.742	15.858	0.00	0.142	2.80	1.00	1.00	0.0	47.43	132.78	0.00	6134	0	3462	96	3559
1	10	26.55	42.118	16.692	0.00	0.139	2.81	1.00	1.00	0.0	50.19	141.06	0.00	7471	0	3183	83	3267
Totals														38,433	0			27,057

0.9D + 1.0W 60°

Gust Response Factor (Gh): 0.85

120 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 _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	45.00	6.266	3.333	0.00	0.148	2.78	0.80	1.00	0.0	6.90	19.18	0.00	560	0	733	71	804
9	170	44.20	11.455	8.333	0.00	0.152	2.76	0.80	1.00	0.0	13.90	38.41	0.00	1546	0	1443	139	1582
8	150	43.05	15.540	10.015	0.00	0.170	2.70	0.80	1.00	0.0	18.14	48.95	0.00	2188	0	1791	135	1927
7	130	41.77	16.961	10.850	0.00	0.147	2.78	0.80	1.00	0.0	19.72	54.87	0.00	2488	0	1948	131	2079
6	110	40.33	23.707	12.519	0.00	0.159	2.74	0.80	1.00	0.0	25.96	71.10	0.00	3961	0	2437	127	2564
5	90	38.66	24.164	13.354	0.00	0.141	2.81	0.80	1.00	0.0	26.67	74.85	0.00	3912	0	2460	121	2581
4	70	36.67	27.997	14.188	0.00	0.138	2.82	0.80	1.00	0.0	30.13	84.84	0.00	4690	0	2645	115	2760
3	50	34.16	34.023	15.023	0.00	0.142	2.80	0.80	1.00	0.0	35.41	99.12	0.00	5481	0	2878	107	2986
2	30	30.68	38.742	15.858	0.00	0.142	2.80	0.80	1.00	0.0	39.69	111.09	0.00	6134	0	2897	96	2993
1	10	26.55	42.118	16.692	0.00	0.139	2.81	0.80	1.00	0.0	41.76	117.38	0.00	7471	0	2649	83	2732
Totals														38,433	0			23,008

0.9D + 1.0W 90°

Gust Response Factor (Gh): 0.85

120 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 _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	45.00	6.266	3.333	0.00	0.148	2.78	0.85	1.00	0.0	7.22	20.05	0.00	560	0	767	71	837
9	170	44.20	11.455	8.333	0.00	0.152	2.76	0.85	1.00	0.0	14.47	39.99	0.00	1546	0	1503	139	1641
8	150	43.05	15.540	10.015	0.00	0.170	2.70	0.85	1.00	0.0	18.92	51.05	0.00	2188	0	1868	135	2003
7	130	41.77	16.961	10.850	0.00	0.147	2.78	0.85	1.00	0.0	20.57	57.22	0.00	2488	0	2032	131	2163
6	110	40.33	23.707	12.519	0.00	0.159	2.74	0.85	1.00	0.0	27.14	74.34	0.00	3961	0	2549	127	2675
5	90	38.66	24.164	13.354	0.00	0.141	2.81	0.85	1.00	0.0	27.88	78.24	0.00	3912	0	2571	121	2693
4	70	36.67	27.997	14.188	0.00	0.138	2.82	0.85	1.00	0.0	31.53	88.78	0.00	4690	0	2767	115	2883
3	50	34.16	34.023	15.023	0.00	0.142	2.80	0.85	1.00	0.0	37.11	103.88	0.00	5481	0	3016	107	3124
2	30	30.68	38.742	15.858	0.00	0.142	2.80	0.85	1.00	0.0	41.62	116.51	0.00	6134	0	3038	96	3135
1	10	26.55	42.118	16.692	0.00	0.139	2.81	0.85	1.00	0.0	43.87	123.30	0.00	7471	0	2782	83	2866
Totals														38,433	0			24,020

0.9D + 1.0W 120°

Gust Response Factor (Gh): 0.85

120 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 _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	45.00	6.266	3.333	0.00	0.148	2.78	1.00	1.00	0.0	8.16	22.66	0.00	560	0	866	71	937
9	170	44.20	11.455	8.333	0.00	0.152	2.76	1.00	1.00	0.0	16.19	44.74	0.00	1546	0	1681	139	1820
8	150	43.05	15.540	10.015	0.00	0.170	2.70	1.00	1.00	0.0	21.25	57.34	0.00	2188	0	2098	135	2234
7	130	41.77	16.961	10.850	0.00	0.147	2.78	1.00	1.00	0.0	23.12	64.30	0.00	2488	0	2283	131	2415
6	110	40.33	23.707	12.519	0.00	0.159	2.74	1.00	1.00	0.0	30.70	84.09	0.00	3961	0	2883	127	3009
5	90	38.66	24.164	13.354	0.00	0.141	2.81	1.00	1.00	0.0	31.50	88.41	0.00	3912	0	2905	121	3027
4	70	36.67	27.997	14.188	0.00	0.138	2.82	1.00	1.00	0.0	35.73	100.61	0.00	4690	0	3136	115	3251
3	50	34.16	34.023	15.023	0.00	0.142	2.80	1.00	1.00	0.0	42.21	118.17	0.00	5481	0	3431	107	3539
2	30	30.68	38.742	15.858	0.00	0.142	2.80	1.00	1.00	0.0	47.43	132.78	0.00	6134	0	3462	96	3559
1	10	26.55	42.118	16.692	0.00	0.139	2.81	1.00	1.00	0.0	50.19	141.06	0.00	7471	0	3183	83	3267
Totals														38,433	0			27,057

0.9D + 1.0W 180°

Gust Response Factor (Gh): 0.85

120 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 _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	45.00	6.266	3.333	0.00	0.148	2.78	0.80	1.00	0.0	6.90	19.18	0.00	560	0	733	71	804
9	170	44.20	11.455	8.333	0.00	0.152	2.76	0.80	1.00	0.0	13.90	38.41	0.00	1546	0	1443	139	1582
8	150	43.05	15.540	10.015	0.00	0.170	2.70	0.80	1.00	0.0	18.14	48.95	0.00	2188	0	1791	135	1927
7	130	41.77	16.961	10.850	0.00	0.147	2.78	0.80	1.00	0.0	19.72	54.87	0.00	2488	0	1948	131	2079
6	110	40.33	23.707	12.519	0.00	0.159	2.74	0.80	1.00	0.0	25.96	71.10	0.00	3961	0	2437	127	2564
5	90	38.66	24.164	13.354	0.00	0.141	2.81	0.80	1.00	0.0	26.67	74.85	0.00	3912	0	2460	121	2581
4	70	36.67	27.997	14.188	0.00	0.138	2.82	0.80	1.00	0.0	30.13	84.84	0.00	4690	0	2645	115	2760
3	50	34.16	34.023	15.023	0.00	0.142	2.80	0.80	1.00	0.0	35.41	99.12	0.00	5481	0	2878	107	2986
2	30	30.68	38.742	15.858	0.00	0.142	2.80	0.80	1.00	0.0	39.69	111.09	0.00	6134	0	2897	96	2993
1	10	26.55	42.118	16.692	0.00	0.139	2.81	0.80	1.00	0.0	41.76	117.38	0.00	7471	0	2649	83	2732

ASSET: 302769, I-75 Rest Area

CODE: ANSI/TIA-222-H

CUSTOMER: VERIZON WIRELESS

PROJECT: 14873535_C3_04

SECTION FORCES

0.9D + 1.0W 180°

Gust Response Factor (Gh): 0.85

120 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														38,433	0			23,008

0.9D + 1.0W 210°

Gust Response Factor (Gh): 0.85

120 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	45.00	6.266	3.333	0.00	0.148	2.78	0.85	1.00	0.0	7.22	20.05	0.00	560	0	767	71	837
9	170	44.20	11.455	8.333	0.00	0.152	2.76	0.85	1.00	0.0	14.47	39.99	0.00	1546	0	1503	139	1641
8	150	43.05	15.540	10.015	0.00	0.170	2.70	0.85	1.00	0.0	18.92	51.05	0.00	2188	0	1868	135	2003
7	130	41.77	16.961	10.850	0.00	0.147	2.78	0.85	1.00	0.0	20.57	57.22	0.00	2488	0	2032	131	2163
6	110	40.33	23.707	12.519	0.00	0.159	2.74	0.85	1.00	0.0	27.14	74.34	0.00	3961	0	2549	127	2675
5	90	38.66	24.164	13.354	0.00	0.141	2.81	0.85	1.00	0.0	27.88	78.24	0.00	3912	0	2571	121	2693
4	70	36.67	27.997	14.188	0.00	0.138	2.82	0.85	1.00	0.0	31.53	88.78	0.00	4690	0	2767	115	2883
3	50	34.16	34.023	15.023	0.00	0.142	2.80	0.85	1.00	0.0	37.11	103.88	0.00	5481	0	3016	107	3124
2	30	30.68	38.742	15.858	0.00	0.142	2.80	0.85	1.00	0.0	41.62	116.51	0.00	6134	0	3038	96	3135
1	10	26.55	42.118	16.692	0.00	0.139	2.81	0.85	1.00	0.0	43.87	123.30	0.00	7471	0	2782	83	2866
Totals														38,433	0			24,020

0.9D + 1.0W 240°

Gust Response Factor (Gh): 0.85

120 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	45.00	6.266	3.333	0.00	0.148	2.78	1.00	1.00	0.0	8.16	22.66	0.00	560	0	866	71	937
9	170	44.20	11.455	8.333	0.00	0.152	2.76	1.00	1.00	0.0	16.19	44.74	0.00	1546	0	1681	139	1820
8	150	43.05	15.540	10.015	0.00	0.170	2.70	1.00	1.00	0.0	21.25	57.34	0.00	2188	0	2098	135	2234
7	130	41.77	16.961	10.850	0.00	0.147	2.78	1.00	1.00	0.0	23.12	64.30	0.00	2488	0	2283	131	2415
6	110	40.33	23.707	12.519	0.00	0.159	2.74	1.00	1.00	0.0	30.70	84.09	0.00	3961	0	2883	127	3009
5	90	38.66	24.164	13.354	0.00	0.141	2.81	1.00	1.00	0.0	31.50	88.41	0.00	3912	0	2905	121	3027
4	70	36.67	27.997	14.188	0.00	0.138	2.82	1.00	1.00	0.0	35.73	100.61	0.00	4690	0	3136	115	3251
3	50	34.16	34.023	15.023	0.00	0.142	2.80	1.00	1.00	0.0	42.21	118.17	0.00	5481	0	3431	107	3539
2	30	30.68	38.742	15.858	0.00	0.142	2.80	1.00	1.00	0.0	47.43	132.78	0.00	6134	0	3462	96	3559
1	10	26.55	42.118	16.692	0.00	0.139	2.81	1.00	1.00	0.0	50.19	141.06	0.00	7471	0	3183	83	3267
Totals														38,433	0			27,057

0.9D + 1.0W 300°

Gust Response Factor (Gh): 0.85

120 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	45.00	6.266	3.333	0.00	0.148	2.78	0.80	1.00	0.0	6.90	19.18	0.00	560	0	733	71	804
9	170	44.20	11.455	8.333	0.00	0.152	2.76	0.80	1.00	0.0	13.90	38.41	0.00	1546	0	1443	139	1582
8	150	43.05	15.540	10.015	0.00	0.170	2.70	0.80	1.00	0.0	18.14	48.95	0.00	2188	0	1791	135	1927
7	130	41.77	16.961	10.850	0.00	0.147	2.78	0.80	1.00	0.0	19.72	54.87	0.00	2488	0	1948	131	2079
6	110	40.33	23.707	12.519	0.00	0.159	2.74	0.80	1.00	0.0	25.96	71.10	0.00	3961	0	2437	127	2564
5	90	38.66	24.164	13.354	0.00	0.141	2.81	0.80	1.00	0.0	26.67	74.85	0.00	3912	0	2460	121	2581
4	70	36.67	27.997	14.188	0.00	0.138	2.82	0.80	1.00	0.0	30.13	84.84	0.00	4690	0	2645	115	2760
3	50	34.16	34.023	15.023	0.00	0.142	2.80	0.80	1.00	0.0	35.41	99.12	0.00	5481	0	2878	107	2986
2	30	30.68	38.742	15.858	0.00	0.142	2.80	0.80	1.00	0.0	39.69	111.09	0.00	6134	0	2897	96	2993
1	10	26.55	42.118	16.692	0.00	0.139	2.81	0.80	1.00	0.0	41.76	117.38	0.00	7471	0	2649	83	2732
Totals														38,433	0			23,008

0.9D + 1.0W 330°

Gust Response Factor (Gh): 0.85

120 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	45.00	6.266	3.333	0.00	0.148	2.78	0.85	1.00	0.0	7.22	20.05	0.00	560	0	767	71	837
9	170	44.20	11.455	8.333	0.00	0.152	2.76	0.85	1.00	0.0	14.47	39.99	0.00	1546	0	1503	139	1641
8	150	43.05	15.540	10.015	0.00	0.170	2.70	0.85	1.00	0.0	18.92	51.05	0.00	2188	0	1868	135	2003
7	130	41.77	16.961	10.850	0.00	0.147	2.78	0.85	1.00	0.0	20.57	57.22	0.00	2488	0	2032	131	2163
6	110	40.33	23.707	12.519	0.00	0.159	2.74	0.85	1.00	0.0	27.14	74.34	0.00	3961	0	2549	127	2675
5	90	38.66	24.164	13.354	0.00	0.141	2.81	0.85	1.00	0.0	27.88	78.24	0.00	3912	0	2571	121	2693
4	70	36.67	27.997	14.188	0.00	0.138	2.82	0.85	1.00	0.0	31.53	88.78	0.00	4690	0	2767	115	2883
3	50	34.16	34.023	15.023	0.00	0.142	2.80	0.85	1.00	0.0	37.11	103.88	0.00	5481	0	3016	107	3124
2	30	30.68	38.742	15.858	0.00	0.142	2.80	0.85	1.00	0.0	41.62	116.51	0.00	6134	0	3038	96	3135
1	10	26.55	42.118	16.692	0.00	0.139	2.81	0.85	1.00	0.0	43.87	123.30	0.00	7471	0	2782	83	2866
Totals														38,433	0			24,020

1.2D + 1.0Di + 1.0Wi Normal

Gust Response Factor (Gh): 0.85

30 mph Wind with 0.25" 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	2.81	6.266	6.228	2.89	0.192	2.62	1.00	1.00	0.3	9.84	25.81	2.89	900	153	62	8	70
9	170	2.76	11.455	13.765	5.43	0.192	2.62	1.00	1.00	0.3	19.34	50.72	5.43	2357	295	119	16	135

ASSET: 302769, I-75 Rest Area
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14873535_C3_04

SECTION FORCES

1.2D + 1.0Di + 1.0Wi Normal			Gust Response Factor (Gh): 0.85															
30 mph Wind with 0.25" 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)
8	150	2.69	15.540	15.684	5.67	0.207	2.57	1.00	1.00	0.3	24.57	63.24	5.67	3289	372	145	15	160
7	130	2.61	16.961	16.761	5.91	0.178	2.67	1.00	1.00	0.3	26.53	70.90	5.91	3714	396	157	15	173
6	110	2.52	23.707	18.977	6.46	0.186	2.64	1.00	1.00	0.3	34.57	91.33	6.46	5792	511	196	15	210
5	90	2.42	24.164	18.223	4.87	0.158	2.74	1.00	1.00	0.3	34.52	94.63	4.87	5724	508	194	14	209
4	70	2.29	27.997	19.216	5.03	0.154	2.76	1.00	1.00	0.3	38.91	107.26	5.03	6813	559	209	14	223
3	50	2.14	34.023	20.166	5.14	0.157	2.75	1.00	1.00	0.3	45.48	124.89	5.14	7944	636	227	13	239
2	30	1.92	38.742	21.020	5.16	0.156	2.75	1.00	1.00	0.2	50.68	139.42	5.16	8854	675	227	11	238
1	10	1.66	42.118	21.570	4.88	0.151	2.77	1.00	1.00	0.2	54.36	150.51	4.88	10611	650	212	10	222
Totals														55,998	4,754			1,879

1.2D + 1.0Di + 1.0Wi 60°			Gust Response Factor (Gh): 0.85															
30 mph Wind with 0.25" 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	2.81	6.266	6.228	2.89	0.192	2.62	0.80	1.00	0.3	8.58	22.52	2.89	900	153	54	8	62
9	170	2.76	11.455	13.765	5.43	0.192	2.62	0.80	1.00	0.3	17.05	44.71	5.43	2357	295	105	16	121
8	150	2.69	15.540	15.684	5.67	0.207	2.57	0.80	1.00	0.3	21.46	55.24	5.67	3289	372	126	15	142
7	130	2.61	16.961	16.761	5.91	0.178	2.67	0.80	1.00	0.3	23.14	61.84	5.91	3714	396	137	15	153
6	110	2.52	23.707	18.977	6.46	0.186	2.64	0.80	1.00	0.3	29.82	78.80	6.46	5792	511	169	15	184
5	90	2.42	24.164	18.223	4.87	0.158	2.74	0.80	1.00	0.3	29.69	81.38	4.87	5724	508	167	14	182
4	70	2.29	27.997	19.216	5.03	0.154	2.76	0.80	1.00	0.3	33.31	91.83	5.03	6813	559	179	14	193
3	50	2.14	34.023	20.166	5.14	0.157	2.75	0.80	1.00	0.3	38.68	106.21	5.14	7944	636	193	13	205
2	30	1.92	38.742	21.020	5.16	0.156	2.75	0.80	1.00	0.2	42.94	118.10	5.16	8854	675	192	11	204
1	10	1.66	42.118	21.570	4.88	0.151	2.77	0.80	1.00	0.2	45.94	127.19	4.88	10611	650	179	10	189
Totals														55,998	4,754			1,633

1.2D + 1.0Di + 1.0Wi 90°			Gust Response Factor (Gh): 0.85															
30 mph Wind with 0.25" 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	2.81	6.266	6.228	2.89	0.192	2.62	0.85	1.00	0.3	8.90	23.34	2.89	900	153	56	8	64
9	170	2.76	11.455	13.765	5.43	0.192	2.62	0.85	1.00	0.3	17.63	46.22	5.43	2357	295	109	16	125
8	150	2.69	15.540	15.684	5.67	0.207	2.57	0.85	1.00	0.3	22.24	57.24	5.67	3289	372	131	15	146
7	130	2.61	16.961	16.761	5.91	0.178	2.67	0.85	1.00	0.3	23.99	64.10	5.91	3714	396	142	15	158
6	110	2.52	23.707	18.977	6.46	0.186	2.64	0.85	1.00	0.3	31.01	81.93	6.46	5792	511	176	15	190
5	90	2.42	24.164	18.223	4.87	0.158	2.74	0.85	1.00	0.3	30.90	84.70	4.87	5724	508	174	14	188
4	70	2.29	27.997	19.216	5.03	0.154	2.76	0.85	1.00	0.3	34.71	95.69	5.03	6813	559	186	14	200
3	50	2.14	34.023	20.166	5.14	0.157	2.75	0.85	1.00	0.3	40.38	110.88	5.14	7944	636	201	13	214
2	30	1.92	38.742	21.020	5.16	0.156	2.75	0.85	1.00	0.2	44.87	123.43	5.16	8854	675	201	11	212
1	10	1.66	42.118	21.570	4.88	0.151	2.77	0.85	1.00	0.2	48.04	133.02	4.88	10611	650	188	10	197
Totals														55,998	4,754			1,695

1.2D + 1.0Di + 1.0Wi 120°			Gust Response Factor (Gh): 0.85															
30 mph Wind with 0.25" 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	2.81	6.266	6.228	2.89	0.192	2.62	1.00	1.00	0.3	9.84	25.81	2.89	900	153	62	8	70
9	170	2.76	11.455	13.765	5.43	0.192	2.62	1.00	1.00	0.3	19.34	50.72	5.43	2357	295	119	16	135
8	150	2.69	15.540	15.684	5.67	0.207	2.57	1.00	1.00	0.3	24.57	63.24	5.67	3289	372	145	15	160
7	130	2.61	16.961	16.761	5.91	0.178	2.67	1.00	1.00	0.3	26.53	70.90	5.91	3714	396	157	15	173
6	110	2.52	23.707	18.977	6.46	0.186	2.64	1.00	1.00	0.3	34.57	91.33	6.46	5792	511	196	15	210
5	90	2.42	24.164	18.223	4.87	0.158	2.74	1.00	1.00	0.3	34.52	94.63	4.87	5724	508	194	14	209
4	70	2.29	27.997	19.216	5.03	0.154	2.76	1.00	1.00	0.3	38.91	107.26	5.03	6813	559	209	14	223
3	50	2.14	34.023	20.166	5.14	0.157	2.75	1.00	1.00	0.3	45.48	124.89	5.14	7944	636	227	13	239
2	30	1.92	38.742	21.020	5.16	0.156	2.75	1.00	1.00	0.2	50.68	139.42	5.16	8854	675	227	11	238
1	10	1.66	42.118	21.570	4.88	0.151	2.77	1.00	1.00	0.2	54.36	150.51	4.88	10611	650	212	10	222
Totals														55,998	4,754			1,879

1.2D + 1.0Di + 1.0Wi 180°					Gust Response Factor (Gh): 0.85													
30 mph Wind with 0.25" 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	2.81	6.266	6.228	2.89	0.192	2.62	0.80	1.00	0.3	8.58	22.52	2.89	900	153	54	8	62
9	170	2.76	11.455	13.765	5.43	0.192	2.62	0.80	1.00	0.3	17.05	44.71	5.43	2357	295	105	16	121
8	150	2.69	15.540	15.684	5.67	0.207	2.57	0.80	1.00	0.3	21.46	55.24	5.67	3289	372	126	15	142
7	130	2.61	16.961	16.761	5.91	0.178	2.67	0.80	1.00	0.3	23.14	61.84	5.91	3714	396	137	15	153
6	110	2.52	23.707	18.977	6.46	0.186	2.64	0.80	1.00	0.3	29.82	78.80	6.46	5792	511	169	15	184
5	90	2.42	24.164	18.223	4.87	0.158	2.74	0.80	1.00	0.3	29.69	81.38	4.87	5724	508	167	14	182
4	70	2.29	27.997	19.216	5.03	0.154	2.76	0.80	1.00	0.3	33.31	91.83	5.03	6813	559	179	14	193
3	50	2.14	34.023	20.166	5.14	0.157	2.75	0.80	1.00	0.3	38.68	106.21	5.14	7944	636	193	13	205
2	30	1.92	38.742	21.020	5.16	0.156	2.75	0.80	1.00	0.2	42.94	118.10	5.16	8854	675	192	11	204
1	10	1.66	42.118	21.570	4.88	0.151	2.77	0.80	1.00	0.2	45.94	127.19	4.88	10611	650	179	10	189
Totals														55,998	4,754	1,633		

ASSET: 302769, I-75 Rest Area
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14873535_C3_04

SECTION FORCES

1.2D + 1.0Di + 1.0Wi 210°		Gust Response Factor (Gh): 0.85																
30 mph Wind with 0.25" 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 _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	2.81	6.266	6.228	2.89	0.192	2.62	0.85	1.00	0.3	8.90	23.34	2.89	900	153	56	8	64
9	170	2.76	11.455	13.765	5.43	0.192	2.62	0.85	1.00	0.3	17.63	46.22	5.43	2357	295	109	16	125
8	150	2.69	15.540	15.684	5.67	0.207	2.57	0.85	1.00	0.3	22.24	57.24	5.67	3289	372	131	15	146
7	130	2.61	16.961	16.761	5.91	0.178	2.67	0.85	1.00	0.3	23.99	64.10	5.91	3714	396	142	15	158
6	110	2.52	23.707	18.977	6.46	0.186	2.64	0.85	1.00	0.3	31.01	81.93	6.46	5792	511	176	15	190
5	90	2.42	24.164	18.223	4.87	0.158	2.74	0.85	1.00	0.3	30.90	84.70	4.87	5724	508	174	14	188
4	70	2.29	27.997	19.216	5.03	0.154	2.76	0.85	1.00	0.3	34.71	95.69	5.03	6813	559	186	14	200
3	50	2.14	34.023	20.166	5.14	0.157	2.75	0.85	1.00	0.3	40.38	110.88	5.14	7944	636	201	13	214
2	30	1.92	38.742	21.020	5.16	0.156	2.75	0.85	1.00	0.2	44.87	123.43	5.16	8854	675	201	11	212
1	10	1.66	42.118	21.570	4.88	0.151	2.77	0.85	1.00	0.2	48.04	133.02	4.88	10611	650	188	10	197
														Totals	55,998	4,754		1,695

1.2D + 1.0Di + 1.0Wi 240°		Gust Response Factor (Gh): 0.85																
30 mph Wind with 0.25" 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 _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	2.81	6.266	6.228	2.89	0.192	2.62	1.00	1.00	0.3	9.84	25.81	2.89	900	153	62	8	70
9	170	2.76	11.455	13.765	5.43	0.192	2.62	1.00	1.00	0.3	19.34	50.72	5.43	2357	295	119	16	135
8	150	2.69	15.540	15.684	5.67	0.207	2.57	1.00	1.00	0.3	24.57	63.24	5.67	3289	372	145	15	160
7	130	2.61	16.961	16.761	5.91	0.178	2.67	1.00	1.00	0.3	26.53	70.90	5.91	3714	396	157	15	173
6	110	2.52	23.707	18.977	6.46	0.186	2.64	1.00	1.00	0.3	34.57	91.33	6.46	5792	511	196	15	210
5	90	2.42	24.164	18.223	4.87	0.158	2.74	1.00	1.00	0.3	34.52	94.63	4.87	5724	508	194	14	209
4	70	2.29	27.997	19.216	5.03	0.154	2.76	1.00	1.00	0.3	38.91	107.26	5.03	6813	559	209	14	223
3	50	2.14	34.023	20.166	5.14	0.157	2.75	1.00	1.00	0.3	45.48	124.89	5.14	7944	636	227	13	239
2	30	1.92	38.742	21.020	5.16	0.156	2.75	1.00	1.00	0.2	50.68	139.42	5.16	8854	675	227	11	238
1	10	1.66	42.118	21.570	4.88	0.151	2.77	1.00	1.00	0.2	54.36	150.51	4.88	10611	650	212	10	222
														Totals	55,998	4,754		1,879

1.2D + 1.0Di + 1.0Wi 300°		Gust Response Factor (Gh): 0.85																
30 mph Wind with 0.25" 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 _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	2.81	6.266	6.228	2.89	0.192	2.62	0.80	1.00	0.3	8.58	22.52	2.89	900	153	54	8	62
9	170	2.76	11.455	13.765	5.43	0.192	2.62	0.80	1.00	0.3	17.05	44.71	5.43	2357	295	105	16	121
8	150	2.69	15.540	15.684	5.67	0.207	2.57	0.80	1.00	0.3	21.46	55.24	5.67	3289	372	126	15	142
7	130	2.61	16.961	16.761	5.91	0.178	2.67	0.80	1.00	0.3	23.14	61.84	5.91	3714	396	137	15	153
6	110	2.52	23.707	18.977	6.46	0.186	2.64	0.80	1.00	0.3	29.82	78.80	6.46	5792	511	169	15	184
5	90	2.42	24.164	18.223	4.87	0.158	2.74	0.80	1.00	0.3	29.69	81.38	4.87	5724	508	167	14	182
4	70	2.29	27.997	19.216	5.03	0.154	2.76	0.80	1.00	0.3	33.31	91.83	5.03	6813	559	179	14	193
3	50	2.14	34.023	20.166	5.14	0.157	2.75	0.80	1.00	0.3	38.68	106.21	5.14	7944	636	193	13	205
2	30	1.92	38.742	21.020	5.16	0.156	2.75	0.80	1.00	0.2	42.94	118.10	5.16	8854	675	192	11	204
1	10	1.66	42.118	21.570	4.88	0.151	2.77	0.80	1.00	0.2	45.94	127.19	4.88	10611	650	179	10	189
														Totals	55,998	4,754		1,633

1.2D + 1.0Di + 1.0Wi 330°		Gust Response Factor (Gh): 0.85																
30 mph Wind with 0.25" 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 _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	2.81	6.266	6.228	2.89	0.192	2.62	0.85	1.00	0.3	8.90	23.34	2.89	900	153	56	8	64
9	170	2.76	11.455	13.765	5.43	0.192	2.62	0.85	1.00	0.3	17.63	46.22	5.43	2357	295	109	16	125
8	150	2.69	15.540	15.684	5.67	0.207	2.57	0.85	1.00	0.3	22.24	57.24	5.67	3289	372	131	15	146
7	130	2.61	16.961	16.761	5.91	0.178	2.67	0.85	1.00	0.3	23.99	64.10	5.91	3714	396	142	15	158
6	110	2.52	23.707	18.977	6.46	0.186	2.64	0.85	1.00	0.3	31.01	81.93	6.46	5792	511	176	15	190
5	90	2.42	24.164	18.223	4.87	0.158	2.74	0.85	1.00	0.3	30.90	84.70	4.87	5724	508	174	14	188
4	70	2.29	27.997	19.216	5.03	0.154	2.76	0.85	1.00	0.3	34.71	95.69	5.03	6813	559	186	14	200
3	50	2.14	34.023	20.166	5.14	0.157	2.75	0.85	1.00	0.3	40.38	110.88	5.14	7944	636	201	13	214
2	30	1.92	38.742	21.020	5.16	0.156	2.75	0.85	1.00	0.2	44.87	123.43	5.16	8854	675	201	11	212
1	10	1.66	42.118	21.570	4.88	0.151	2.77	0.85	1.00	0.2	48.04	133.02	4.88	10611	650	188	10	197
														Totals	55,998	4,754		1,695

1.0D + 1.0W Service Normal					Gust Response Factor (Gh): 0.85														
60 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 _{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	11.25	6.266	3.333	0.00	0.148	2.78	1.00	1.00	0.0	8.16	22.66	0.00	622	0	217	18	234	
9	170	11.05	11.455	8.333	0.00	0.152	2.76	1.00	1.00	0.0	16.19	44.74	0.00	1718	0	420	35	455	
8	150	10.76	15.540	10.015	0.00	0.170	2.70	1.00	1.00	0.0	21.25	57.34	0.00	2431	0	525	34	558	
7	130	10.44	16.961	10.850	0.00	0.147	2.78	1.00	1.00	0.0	23.12	64.30	0.00	2765	0	571	33	604	
6	110	10.08	23.707	12.519	0.00	0.159	2.74	1.00	1.00	0.0	30.82	84.43	0.00	4401	0	724	32	755	
5	90	9.67	24.164	13.354	0.00	0.141	2.81	1.00	1.00	0.0	31.73	89.05	0.00	4347	0	732	30	762	
4	70	9.17	27.997	14.188	0.00	0.138	2.82	1.00	1.00	0.0	36.03	101.47	0.00	5212	0	791	29	819	
3	50	8.54	34.023	15.023	0.00	0.142	2.80	1.00	1.00	0.0	42.54	119.08	0.00	6090	0	864	27	891	

ASSET: 302769, I-75 Rest Area
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14873535_C3_04

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 _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)
2	30	7.67	38.742	15.858	0.00	0.142	2.80	1.00	1.00	0.0	47.73	133.60	0.00	6816	0	871	24	895
1	10	6.64	42.118	16.692	0.00	0.139	2.81	1.00	1.00	0.0	51.57	144.96	0.00	8301	0	818	21	839
Totals															42,703	0		6,813

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 _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	11.25	6.266	3.333	0.00	0.148	2.78	0.80	1.00	0.0	6.90	19.18	0.00	622	0	183	18	201
9	170	11.05	11.455	8.333	0.00	0.152	2.76	0.80	1.00	0.0	13.90	38.41	0.00	1718	0	361	35	395
8	150	10.76	15.540	10.015	0.00	0.170	2.70	0.80	1.00	0.0	18.14	48.95	0.00	2431	0	448	34	482
7	130	10.44	16.961	10.850	0.00	0.147	2.78	0.80	1.00	0.0	19.72	54.87	0.00	2765	0	487	33	520
6	110	10.08	23.707	12.519	0.00	0.159	2.74	0.80	1.00	0.0	26.08	71.45	0.00	4401	0	612	32	644
5	90	9.67	24.164	13.354	0.00	0.141	2.81	0.80	1.00	0.0	26.90	75.48	0.00	4347	0	620	30	651
4	70	9.17	27.997	14.188	0.00	0.138	2.82	0.80	1.00	0.0	30.43	85.70	0.00	5212	0	668	29	697
3	50	8.54	34.023	15.023	0.00	0.142	2.80	0.80	1.00	0.0	35.73	100.04	0.00	6090	0	726	27	753
2	30	7.67	38.742	15.858	0.00	0.142	2.80	0.80	1.00	0.0	39.98	111.91	0.00	6816	0	730	24	754
1	10	6.64	42.118	16.692	0.00	0.139	2.81	0.80	1.00	0.0	43.15	121.29	0.00	8301	0	684	21	705
Totals															42,703	0		5,801

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 _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	11.25	6.266	3.333	0.00	0.148	2.78	0.85	1.00	0.0	7.22	20.05	0.00	622	0	192	18	209
9	170	11.05	11.455	8.333	0.00	0.152	2.76	0.85	1.00	0.0	14.47	39.99	0.00	1718	0	376	35	410
8	150	10.76	15.540	10.015	0.00	0.170	2.70	0.85	1.00	0.0	18.92	51.05	0.00	2431	0	467	34	501
7	130	10.44	16.961	10.850	0.00	0.147	2.78	0.85	1.00	0.0	20.57	57.22	0.00	2765	0	508	33	541
6	110	10.08	23.707	12.519	0.00	0.159	2.74	0.85	1.00	0.0	27.27	74.69	0.00	4401	0	640	32	672
5	90	9.67	24.164	13.354	0.00	0.141	2.81	0.85	1.00	0.0	28.11	78.88	0.00	4347	0	648	30	678
4	70	9.17	27.997	14.188	0.00	0.138	2.82	0.85	1.00	0.0	31.83	89.64	0.00	5212	0	699	29	727
3	50	8.54	34.023	15.023	0.00	0.142	2.80	0.85	1.00	0.0	37.44	104.80	0.00	6090	0	761	27	788
2	30	7.67	38.742	15.858	0.00	0.142	2.80	0.85	1.00	0.0	41.92	117.34	0.00	6816	0	765	24	789
1	10	6.64	42.118	16.692	0.00	0.139	2.81	0.85	1.00	0.0	45.26	127.21	0.00	8301	0	718	21	738
Totals															42,703	0		6,054

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 _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	11.25	6.266	3.333	0.00	0.148	2.78	1.00	1.00	0.0	8.16	22.66	0.00	622	0	217	18	234
9	170	11.05	11.455	8.333	0.00	0.152	2.76	1.00	1.00	0.0	16.19	44.74	0.00	1718	0	420	35	455
8	150	10.76	15.540	10.015	0.00	0.170	2.70	1.00	1.00	0.0	21.25	57.34	0.00	2431	0	525	34	558
7	130	10.44	16.961	10.850	0.00	0.147	2.78	1.00	1.00	0.0	23.12	64.30	0.00	2765	0	571	33	604
6	110	10.08	23.707	12.519	0.00	0.159	2.74	1.00	1.00	0.0	30.82	84.43	0.00	4401	0	724	32	755
5	90	9.67	24.164	13.354	0.00	0.141	2.81	1.00	1.00	0.0	31.73	89.05	0.00	4347	0	732	30	762
4	70	9.17	27.997	14.188	0.00	0.138	2.82	1.00	1.00	0.0	36.03	101.47	0.00	5212	0	791	29	819
3	50	8.54	34.023	15.023	0.00	0.142	2.80	1.00	1.00	0.0	42.54	119.08	0.00	6090	0	864	27	891
2	30	7.67	38.742	15.858	0.00	0.142	2.80	1.00	1.00	0.0	47.73	133.60	0.00	6816	0	871	24	895
1	10	6.64	42.118	16.692	0.00	0.139	2.81	1.00	1.00	0.0	51.57	144.96	0.00	8301	0	818	21	839
Totals															42,703	0		6,813

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 _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	11.25	6.266	3.333	0.00	0.148	2.78	0.80	1.00	0.0	6.90	19.18	0.00	622	0	183	18	201
9	170	11.05	11.455	8.333	0.00	0.152	2.76	0.80	1.00	0.0	13.90	38.41	0.00	1718	0	361	35	395
8	150	10.76	15.540	10.015	0.00	0.170	2.70	0.80	1.00	0.0	18.14	48.95	0.00	2431	0	448	34	482
7	130	10.44	16.961	10.850	0.00	0.147	2.78	0.80	1.00	0.0	19.72	54.87	0.00	2765	0	487	33	520
6	110	10.08	23.707	12.519	0.00	0.159	2.74	0.80	1.00	0.0	26.08	71.45	0.00	4401	0	612	32	644
5	90	9.67	24.164	13.354	0.00	0.141	2.81	0.80	1.00	0.0	26.90	75.48	0.00	4347	0	620	30	651
4	70	9.17	27.997	14.188	0.00	0.138	2.82	0.80	1.00	0.0	30.43	85.70	0.00	5212	0	668	29	697
3	50	8.54	34.023	15.023	0.00	0.142	2.80	0.80	1.00	0.0	35.73	100.04	0.00	6090	0	726	27	753
2	30	7.67	38.742	15.858	0.00	0.142	2.80	0.80	1.00	0.0	39.98	111.91	0.00	6816	0	730	24	754
1	10	6.64	42.118	16.692	0.00	0.139	2.81	0.80	1.00	0.0	43.15	121.29	0.00	8301	0	684	21	705
Totals															42,703	0		5,801

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 _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)
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ASSET: 302769, I-75 Rest Area
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14873535_C3_04

SECTION FORCES

1.0D + 1.0W Service 210°

Gust Response Factor (Gh): 0.85

60 mph Wind with No Ice

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	11.25	6.266	3.333	0.00	0.148	2.78	0.85	1.00	0.0	7.22	20.05	0.00	622	0	192	18	209
9	170	11.05	11.455	8.333	0.00	0.152	2.76	0.85	1.00	0.0	14.47	39.99	0.00	1718	0	376	35	410
8	150	10.76	15.540	10.015	0.00	0.170	2.70	0.85	1.00	0.0	18.92	51.05	0.00	2431	0	467	34	501
7	130	10.44	16.961	10.850	0.00	0.147	2.78	0.85	1.00	0.0	20.57	57.22	0.00	2765	0	508	33	541
6	110	10.08	23.707	12.519	0.00	0.159	2.74	0.85	1.00	0.0	27.27	74.69	0.00	4401	0	640	32	672
5	90	9.67	24.164	13.354	0.00	0.141	2.81	0.85	1.00	0.0	28.11	78.88	0.00	4347	0	648	30	678
4	70	9.17	27.997	14.188	0.00	0.138	2.82	0.85	1.00	0.0	31.83	89.64	0.00	5212	0	699	29	727
3	50	8.54	34.023	15.023	0.00	0.142	2.80	0.85	1.00	0.0	37.44	104.80	0.00	6090	0	761	27	788
2	30	7.67	38.742	15.858	0.00	0.142	2.80	0.85	1.00	0.0	41.92	117.34	0.00	6816	0	765	24	789
1	10	6.64	42.118	16.692	0.00	0.139	2.81	0.85	1.00	0.0	45.26	127.21	0.00	8301	0	718	21	738
Totals															42,703	0		6,054

1.0D + 1.0W Service 240°

Gust Response Factor (Gh): 0.85

60 mph Wind with No Ice

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	11.25	6.266	3.333	0.00	0.148	2.78	1.00	1.00	0.0	8.16	22.66	0.00	622	0	217	18	234
9	170	11.05	11.455	8.333	0.00	0.152	2.76	1.00	1.00	0.0	16.19	44.74	0.00	1718	0	420	35	455
8	150	10.76	15.540	10.015	0.00	0.170	2.70	1.00	1.00	0.0	21.25	57.34	0.00	2431	0	525	34	558
7	130	10.44	16.961	10.850	0.00	0.147	2.78	1.00	1.00	0.0	23.12	64.30	0.00	2765	0	571	33	604
6	110	10.08	23.707	12.519	0.00	0.159	2.74	1.00	1.00	0.0	30.82	84.43	0.00	4401	0	724	32	755
5	90	9.67	24.164	13.354	0.00	0.141	2.81	1.00	1.00	0.0	31.73	89.05	0.00	4347	0	732	30	762
4	70	9.17	27.997	14.188	0.00	0.138	2.82	1.00	1.00	0.0	36.03	101.47	0.00	5212	0	791	29	819
3	50	8.54	34.023	15.023	0.00	0.142	2.80	1.00	1.00	0.0	42.54	119.08	0.00	6090	0	864	27	891
2	30	7.67	38.742	15.858	0.00	0.142	2.80	1.00	1.00	0.0	47.73	133.60	0.00	6816	0	871	24	895
1	10	6.64	42.118	16.692	0.00	0.139	2.81	1.00	1.00	0.0	51.57	144.96	0.00	8301	0	818	21	839
Totals															42,703	0		6,813

1.0D + 1.0W Service 300°

Gust Response Factor (Gh): 0.85

60 mph Wind with No Ice

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	11.25	6.266	3.333	0.00	0.148	2.78	0.80	1.00	0.0	6.90	19.18	0.00	622	0	183	18	201
9	170	11.05	11.455	8.333	0.00	0.152	2.76	0.80	1.00	0.0	13.90	38.41	0.00	1718	0	361	35	395
8	150	10.76	15.540	10.015	0.00	0.170	2.70	0.80	1.00	0.0	18.14	48.95	0.00	2431	0	448	34	482
7	130	10.44	16.961	10.850	0.00	0.147	2.78	0.80	1.00	0.0	19.72	54.87	0.00	2765	0	487	33	520
6	110	10.08	23.707	12.519	0.00	0.159	2.74	0.80	1.00	0.0	26.08	71.45	0.00	4401	0	612	32	644
5	90	9.67	24.164	13.354	0.00	0.141	2.81	0.80	1.00	0.0	26.90	75.48	0.00	4347	0	620	30	651
4	70	9.17	27.997	14.188	0.00	0.138	2.82	0.80	1.00	0.0	30.43	85.70	0.00	5212	0	668	29	697
3	50	8.54	34.023	15.023	0.00	0.142	2.80	0.80	1.00	0.0	35.73	100.04	0.00	6090	0	726	27	753
2	30	7.67	38.742	15.858	0.00	0.142	2.80	0.80	1.00	0.0	39.98	111.91	0.00	6816	0	730	24	754
1	10	6.64	42.118	16.692	0.00	0.139	2.81	0.80	1.00	0.0	43.15	121.29	0.00	8301	0	684	21	705
Totals															42,703	0		5,801

1.0D + 1.0W Service 330°

Gust Response Factor (Gh): 0.85

60 mph Wind with No Ice

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	11.25	6.266	3.333	0.00	0.148	2.78	0.85	1.00	0.0	7.22	20.05	0.00	622	0	192	18	209
9	170	11.05	11.455	8.333	0.00	0.152	2.76	0.85	1.00	0.0	14.47	39.99	0.00	1718	0	376	35	410
8	150	10.76	15.540	10.015	0.00	0.170	2.70	0.85	1.00	0.0	18.92	51.05	0.00	2431	0	467	34	501
7	130	10.44	16.961	10.850	0.00	0.147	2.78	0.85	1.00	0.0	20.57	57.22	0.00	2765	0	508	33	541
6	110	10.08	23.707	12.519	0.00	0.159	2.74	0.85	1.00	0.0	27.27	74.69	0.00	4401	0	640	32	672
5	90	9.67	24.164	13.354	0.00	0.141	2.81	0.85	1.00	0.0	28.11	78.88	0.00	4347	0	648	30	678
4	70	9.17	27.997	14.188	0.00	0.138	2.82	0.85	1.00	0.0	31.83	89.64	0.00	5212	0	699	29	727
3	50	8.54	34.023	15.023	0.00	0.142	2.80	0.85	1.00	0.0	37.44	104.80	0.00	6090	0	761	27	788
2	30	7.67	38.742	15.858	0.00	0.142	2.80	0.85	1.00	0.0	41.92	117.34	0.00	6816	0	765	24	789
1	10	6.64	42.118	16.692	0.00	0.139	2.81	0.85	1.00	0.0	45.26	127.21	0.00	8301	0	718	21	738
Totals															42,703	0		6,054

EQUIVALENT LATERAL FORCE METHOD	
Spectral Response Acceleration for Short Period (S _S):	0.08
Spectral Response Acceleration at 1.0 Second Period (S ₁):	0.05
Long-Period Transition Period (T _L - Seconds):	8
Importance Factor (I _e):	1.00
Site Coefficient F _a :	1.60
Site Coefficient F _v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S _{ds}):	0.09
Design Spectral Response Acceleration at 1.0 Second Period (S _{d1}):	0.08
Seismic Response Coefficient (C _s):	0.03
Upper Limit C _s :	0.04
Lower Limit C _s :	0.03
Period based on Rayleigh Method (sec):	0.64
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.07
Total Unfactored Dead Load:	46.05 k
Seismic Base Shear (E):	1.80 k

SEISMIC FORCES						
0.9D - 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	622	167,271	0.033	60	549
9	170.00	1,718	421,836	0.084	151	1,517
8	150.00	2,431	521,821	0.104	187	2,146
7	130.00	2,765	509,208	0.102	182	2,441
6	110.00	4,401	677,667	0.135	242	3,885
5	90.00	4,347	539,852	0.108	193	3,837
4	70.00	5,212	494,428	0.098	177	4,600
3	50.00	6,090	402,893	0.080	144	5,376
2	30.00	6,816	260,814	0.052	93	6,016
1	10.00	8,301	97,882	0.020	35	7,328
Ericsson RRUS 4890	190.00	208	57,666	0.012	21	184
Ericsson RRUS 4490	190.00	205	56,754	0.011	20	181
Raycap RVZDC-6627-PF-48	190.00	32	8,850	0.002	3	28
Ericsson AIR 6419 B77D	190.00	189	52,356	0.010	19	167
Commscope NHH-65C-R2B	190.00	310	85,628	0.017	31	273
Generic Sector Frame	190.00	2,400	663,784	0.132	238	2,119
Totals		46,048	5,018,712	1.000	1,796	40,647

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	622	167,271	0.033	60	758
9	170.00	1,718	421,836	0.084	151	2,092
8	150.00	2,431	521,821	0.104	187	2,959
7	130.00	2,765	509,208	0.102	182	3,366
6	110.00	4,401	677,667	0.135	242	5,357
5	90.00	4,347	539,852	0.108	193	5,292
4	70.00	5,212	494,428	0.098	177	6,344
3	50.00	6,090	402,893	0.080	144	7,414
2	30.00	6,816	260,814	0.052	93	8,297
1	10.00	8,301	97,882	0.020	35	10,105
Ericsson RRUS 4890	190.00	208	57,666	0.012	21	254
Ericsson RRUS 4490	190.00	205	56,754	0.011	20	250
Raycap RVZDC-6627-PF-48	190.00	32	8,850	0.002	3	39
Ericsson AIR 6419 B77D	190.00	189	52,356	0.010	19	230
Commscope NHH-65C-R2B	190.00	310	85,628	0.017	31	377
Generic Sector Frame	190.00	2,400	663,784	0.132	238	2,921
Totals		46,048	5,018,712	1.000	1,796	56,053

CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H

PROJECT: 14873535 C3 04

FORCE/STRESS SUMMARY

Section 1 – 0.0' to 20.00'

														Shear	Bear					
Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	ΦR _{nv} (kip)	ΦR _n (kip)	# Bolt	# Hole	Use %	Controls						
L SOL - 5" SOLID	-174.99	1.2D + 1.0W N	10.015	50	50	50	48.07	50.00	746.20	0.00	0	0	23.5	Member X						
D SAE - 4X4X0.5	-5.51	1.2D + 1.0W 120°	23.397	50	50	50	179.52	44.00	33.31	27.06	1	1	20.4	Bolt Shear						
														Shear	Bear	Blk Shear				
Member Tension	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	ΦR _{nv} (kip)	ΦR _n (kip)	Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls								
L SOL - 5" SOLID	127.04	0.9D + 1.0W 60°	50.0	65	883.58	0.00	0.00		0	0	14.4	Member								
D SAE - 4X4X0.5	5.32	1.2D + 1.0W 330°	44.0	60	110.74	27.06	30.60	33.47	1	1	19.6	Bolt Shear								
Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type														
Bot Tension	131.35	0.9D + 1.0W 60°	337.80	15.3	6	1 3/8 GR 50														
Bot Compression	180.17	1.2D + 1.0W N	346.46	1.1	0															

Section 2 – 20.0' to 40.00'

	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
Member Compression				X	Y	Z	KL/R								
L SOL - 4 3/4" SOLID	-154.45	1.2D + 1.0W N	10.015	50	50	50	50.60	50.00	661.28	0.00	0.00	0	0	23.4	Member X
D SAE - 4X4X0.375	-5.35	1.2D + 1.0W 120°	21.68	50	50	50	166.99	44.00	29.36	27.06	37.80	1	1	19.8	Bolt Shear
	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)		Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls		
Member Tension															
L SOL - 4 3/4" SOLID	113.05	0.9D + 1.0W 60°	50.0	65	797.44		0.00	0.00		0	0	14.2	Member		
D SAE - 4X4X0.375	5.23	0.9D + 1.0W 210°	44.0	60	84.66		27.06	22.95	25.10	1	1	22.8	Bolt Bear		
Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts		Bolt Type								
Bot Tension	115.98	0.9D + 1.0W 60°	623.64	18.6	6		1.375" A325								

Section 3 – 40.0' to 60.00'

		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	
Member Compression					X	Y	Z	KL/R								
L SOL - 4 1/2" SOLID		-133.14	1.2D + 1.0W N	10.015	50	50	50	53.41	50.00	580.92	0.00	0	0	22.9	Member X	
D SAE - 4X4X0.375		-4.78	1.2D + 1.0W 330°	20	50	50	50	154.04	44.00	34.50	27.06	37.80	1	1	17.7	Bolt Shear
		Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	ΦR _{nv} (kip)	Bear ΦR _n (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls			
Member Tension																
L SOL - 4 1/2" SOLID		99.16	0.9D + 1.0W 60°	50.0	65	715.68	0.00	0.00		0	0	13.9	Member			
D SAE - 4X4X0.375		4.70	0.9D + 1.0W 210°	44.0	60	84.66	27.06	22.95	25.10	1	1	20.5	Bolt Bear			
Max Splice Forces		Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension		101.82	0.9D + 1.0W 60°	623.64	16.3	6	1.375" A325									

ASSET: 302769, I-75 Rest Area
CUSTOMER: VERIZON WIRELESS

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FORCE/STRESS SUMMARY

Section 4 – 60.0' to 80.00'

Member Compression	P _u (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls					
	X			Y	Z	KL/R			Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)									
L SOL - 4 1/4" SOLID	-112.79	1.2D + 1.0W N	10.015	50	50	50	56.56	50.00	505.24	0.00	0.00	0	0	22.3	Member X				
D SAE - 3.5X3.5X0.375	-4.21	1.2D + 1.0W 210°	18.366	50	50	50	160.40	44.00	27.59	27.06	37.80	1	1	15.6	Bolt Shear				
Member Tension	P _u (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls							
L SOL - 4 1/4" SOLID	85.56	0.9D + 1.0W 60°	50.0	65	638.37	0.00	0.00		0	0	13.4	Member							
D SAE - 3.5X3.5X0.375	4.15	0.9D + 1.0W 210°	44.0	60	71.83	27.06	22.95	25.10	1	1	18.1	Bolt Bear							
Max Splice Forces	P _u (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type													
Bot Tension	88.20	0.9D + 1.0W 60°	623.64	14.1	6	1.375" A325													

Section 5 – 80.0' to 100.00'

Member Compression	P _u (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls	
	X			Y	Z	KL/R			Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)					
L SOL - 4" SOLID	-93.53	1.2D + 1.0W N	10.015	50	50	50	60.09	50.00	434.25	0.00	0	0	21.5	Member X	
D SAE - 3.5X3.5X0.3125	-3.73	1.2D + 1.0W 210°	16.791	50	50	50	146.01	44.00	28.06	19.88	27.00	1	1	18.8	Bolt Shear
Member Tension	P _u (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls			
L SOL - 4" SOLID	72.24	0.9D + 1.0W 60°	50.0	65	565.47	0.00	0.00		0	0	12.8	Member			
D SAE - 3.5X3.5X0.3125	3.68	0.9D + 1.0W 330°	44.0	60	61.97	19.88	16.31	20.74	1	1	22.6	Bolt Bear			
Max Splice Forces	P _u (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension	74.92	0.9D + 1.0W 60°	412.17	18.2	6	1 1/8 A325									

Section 6 – 100.0' to 120.00'

															Shear	Bear				
Member Compression	P _u (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	ΦR _{nv} (kip)	ΦR _n (kip)	# Bolt	# Hole	Use %	Controls						
	X	Y	Z																	
L SOL - 3 3/4" SOLID	-77.35	1.2D + 1.0W N	5.008	100	100	100	64.10	50.00	368.06	0.00	0	0	21	Member X						
D SAE - 3X3X0.375	-2.65	1.2D + 1.0W 210°	12.825	50	50	50	131.09	44.00	35.14	19.88	32.40	1	1	13.3	Bolt Shear					
Member Tension	P _u (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls								
L SOL - 3 3/4" SOLID	60.91	0.9D + 1.0W 60°	50.0	65	497.02	0.00	0.00		0	0	12.3	Member								
D SAE - 3X3X0.375	2.64	1.2D + 1.0W 330°	44.0	60	60.93	19.88	19.58	20.67	1	1	13.5	Bolt Bear								
Max Splice Forces	P _u (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type														
Bot Tension	61.78	0.9D + 1.0W 60°	412.17	15	6	1 1/8 A325														

Section 7 – 120.0' to 140.00'

Member Compression	P _u (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls	
	X			Y	Z	KL/R			Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)					
L SOL - 3 1/4" SOLID	-60.32	1.2D + 1.0W N	5.008	100	100	100	73.96	50.00	250.26	0.00	0.00	0	0	24.1	Member X
D SAE - 2.5X2.5X0.25	-2.16	1.2D + 1.0W 210°	11.086	50	50	50	135.47	44.00	18.56	19.88	21.60	1	1	11.7	Member Z
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			
L SOL - 3 1/4" SOLID	48.78	0.9D + 1.0W 60°	50.0	65	373.32	0.00	0.00		0	0	13.1	Member			
D SAE - 2.5X2.5X0.25	2.14	1.2D + 1.0W 330°	44.0	60	33.31	19.88	13.05	12.38	1	1	17.3	Blk Shear			
Max Splice Forces	P _u (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension	49.94	0.9D + 1.0W 60°	412.17	12.1	6	1 1/8 A325									

CUSTOMER: VERIZON WIRELESS

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FORCE/STRESS SUMMARY

Section 8 – 140.0' to 160.00'

Member Compression	Pu	Load Case	Len (ft)	Bracing %			KL/R	F'y	Φc Pn	Shear	Bear	#	#	Use %	Controls
	(kip)			X	Y	Z		(ksi)	(kip)	ΦRnv	ΦRn				
L SOL - 3" SOLID	-44.57	1.2D + 1.0W N	5.008	100	100	100	80.12	50.00	198.94	0.00	0.00	0	0	22.4	Member X
H SAE - 2.5X2.5X0.25	-0.20	1.2D + 1.0W 180°	6.3	100	100	100	153.98	44.00	14.37	19.88	21.60	1	1	1.4	Member Z
D SAE - 2.5X2.5X0.25	-1.88	1.2D + 1.0W 210°	9.415	50	50	50	116.29	44.00	25.19	19.88	21.60	1	1	9.4	Bolt Shear
Member Tension	Pu	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	ΦRnv (kip)	ΦRn (kip)	Φt Pn (kip)	#	#	Use %	Controls			
	(kip)														
L SOL - 3" SOLID	36.49	0.9D + 1.0W 60°	50.0	65	318.10	0.00	0.00		0	0	11.5	Member			
H SAE - 2.5X2.5X0.25	0.13	0.9D + 1.0W N	44.0	60	33.31	19.88	13.05	12.38	1	1	1	Blk Shear			
D SAE - 2.5X2.5X0.25	1.87	1.2D + 1.0W 210°	44.0	60	33.31	19.88	13.05	12.38	1	1	15.1	Blk Shear			
Max Splice Forces	Pu	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type									
	(kip)														
Bot Tension	37.83	0.9D + 1.0W 60°	218.07	17.4	4	1" A325									

Section 9 – 160.0' to 180.00'

	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	
Member Compression				X	Y	Z	KL/R								
L SOL - 2 1/2" SOLID	-27.41	1.2D + 1.0W N	5	100	100	100	96.00	50.00	112.63	0.00	0.00	0	0	24.3	Member X
H SAE - 2X2X0.25	-0.04	0.9D + 1.0W 60°	6.3	100	100	100	193.36	44.00	7.20	13.81	18.00	1	1	0.6	Member Z
D SAE - 2X2X0.25	-2.59	1.2D + 1.0W 330°	8.043	50	50	50	123.43	44.00	17.66	13.81	18.00	1	1	18.8	Bolt Shear
	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls			
Member Tension															
L SOL - 2 1/2" SOLID	22.39	0.9D + 1.0W 60°	50.0	65	220.95	0.00	0.00		0	0	10.1	Member			
H SAE - 2X2X0.25	0.05	1.2D + 1.0W 120°	44.0	60	25.92	13.81	10.80	9.42	1	1	0.5	Blk Shear			
D SAE - 2X2X0.25	2.55	1.2D + 1.0W 210°	44.0	60	25.92	13.81	10.80	9.42	1	1	27.1	Blk Shear			
Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension	24.95	0.9D + 1.0W 60°	218.07	11.4	4	1" A325									

Section 10 – 180.0' to 190.00'

Member Compression										Shear		Bear			
	Pu (kip)	Load Case	Len (ft)	Bracing %				F'y (ksi)	Φ _c P _n (kip)	ΦR _{nv} (kip)	ΦR _n (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z	KL/R								
L SOL - 2" SOLID	-7.23	1.2D + 1.0W N	5	100	100	100	120.00	50.00	49.29	0.00	0.00	0	0	14.7	Member X
H SAE - 2X2X0.1875	-0.71	1.2D + 1.0W 60°	6.3	100	100	100	191.89	44.00	5.56	13.81	13.50	1	1	12.7	Member Z
D SAE - 2X2X0.1875	-1.88	1.2D + 1.0W 330°	8.043	50	50	50	122.49	44.00	13.64	13.81	13.50	1	1	13.9	Bolt Bear
Member Tension										Blk Shear					
	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _t P _n (kip)		ΦR _{nv} (kip)	ΦR _n (kip)	Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls		
L SOL - 2" SOLID	4.35	0.9D + 1.0W 60°	50.0	65	141.37		0.00	0.00		0	0	3.1	Member		
H SAE - 2X2X0.1875	0.71	1.2D + 1.0W 120°	44.0	60	19.78		13.81	8.10	7.07	1	1	10	Blk Shear		
D SAE - 2X2X0.1875	1.87	1.2D + 1.0W 210°	44.0	60	19.78		13.81	8.10	7.07	1	1	26.5	Blk Shear		
Max Splice Forces															
	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension	6.21	0.9D + 1.0W 60°	218.07	2.9	4	1" A325									

ASSET: 302769, I-75 Rest Area
CUSTOMER: VERIZON WIRELESS

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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	190.00	0.1201	-0.0019	0.0778	0.0778
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	190.00	0.1173	0.0016	0.0754	0.0754
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	190.00	0.1287	0.0017	0.0823	0.0823
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	190.00	0.12	-0.0018	0.0775	0.0775
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	190.00	0.1171	0.0016	0.0752	0.0752
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	190.00	0.1287	0.0017	0.0823	0.0823
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	190.00	0.1202	-0.0018	0.0779	0.078
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	190.00	0.1173	0.0016	0.0754	0.0754
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	190.00	0.1288	0.0017	0.0822	0.0823
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	190.00	0.041	-0.0005	0.0263	0.0263
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	190.00	0.041	0.0004	0.0265	0.0265
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	190.00	0.041	0.0004	0.0259	0.0259
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	190.00	0.041	-0.0005	0.0263	0.0263
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	190.00	0.041	0.0004	0.0265	0.0265
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	190.00	0.041	0.0004	0.0259	0.0259
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	190.00	0.041	-0.0005	0.0263	0.0263
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	190.00	0.041	0.0004	0.0265	0.0265
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	190.00	0.041	0.0004	0.0259	0.0259
1.2D + 1.0Ev + 1.0Eh 330° Seismic	190.00	0.041	-0.0005	0.0267	0.0267
1.2D + 1.0Ev + 1.0Eh 300° Seismic	190.00	0.041	0.0004	0.0269	0.0269
1.2D + 1.0Ev + 1.0Eh 240° Seismic	190.00	0.041	0.0004	0.0261	0.0261
1.2D + 1.0Ev + 1.0Eh 210° Seismic	190.00	0.041	-0.0005	0.0267	0.0267
1.2D + 1.0Ev + 1.0Eh 180° Seismic	190.00	0.041	0.0004	0.0269	0.0269
1.2D + 1.0Ev + 1.0Eh 120° Seismic	190.00	0.041	0.0004	0.0261	0.0261
1.2D + 1.0Ev + 1.0Eh 90° Seismic	190.00	0.041	-0.0005	0.0267	0.0267
1.2D + 1.0Ev + 1.0Eh 60° Seismic	190.00	0.041	0.0004	0.0269	0.0269
1.2D + 1.0Ev + 1.0Eh Normal Seismic	190.00	0.041	0.0004	0.0261	0.0261
1.2D + 1.0Di + 1.0Wi 330° 30 mph Wind with 0.25" Radial Ice	190.00	0.034	-0.0003	0.0229	0.0229
1.2D + 1.0Di + 1.0Wi 300° 30 mph Wind with 0.25" Radial Ice	190.00	0.0334	0.0003	0.0226	0.0226
1.2D + 1.0Di + 1.0Wi 240° 30 mph Wind with 0.25" Radial Ice	190.00	0.0356	0.0003	0.0232	0.0232
1.2D + 1.0Di + 1.0Wi 210° 30 mph Wind with 0.25" Radial Ice	190.00	0.0338	-0.0003	0.0225	0.0225
1.2D + 1.0Di + 1.0Wi 180° 30 mph Wind with 0.25" Radial Ice	190.00	0.0337	0.0004	0.0226	0.0226
1.2D + 1.0Di + 1.0Wi 120° 30 mph Wind with 0.25" Radial Ice	190.00	0.0356	0.0003	0.0232	0.0232
1.2D + 1.0Di + 1.0Wi 90° 30 mph Wind with 0.25" Radial Ice	190.00	0.0345	-0.0004	0.0231	0.0231
1.2D + 1.0Di + 1.0Wi 60° 30 mph Wind with 0.25" Radial Ice	190.00	0.0334	0.0003	0.0226	0.0226
1.2D + 1.0Di + 1.0Wi Normal 30 mph Wind with 0.25" Radial Ice	190.00	0.0364	0.0004	0.0240	0.024
0.9D + 1.0W 330° 120 mph Wind with No Ice (Reduced DL)	190.00	0.4826	-0.0100	0.3122	0.3124
0.9D + 1.0W 300° 120 mph Wind with No Ice (Reduced DL)	190.00	0.4714	-0.0086	0.3046	0.3047
0.9D + 1.0W 240° 120 mph Wind with No Ice (Reduced DL)	190.00	0.5174	-0.0091	0.3289	0.3291
0.9D + 1.0W 210° 120 mph Wind with No Ice (Reduced DL)	190.00	0.4825	-0.0100	0.3120	0.3121
0.9D + 1.0W 180° 120 mph Wind with No Ice (Reduced DL)	190.00	0.4709	0.0085	0.3035	0.3037
0.9D + 1.0W 120° 120 mph Wind with No Ice (Reduced DL)	190.00	0.5174	0.0091	0.3289	0.3291
0.9D + 1.0W 90° 120 mph Wind with No Ice (Reduced DL)	190.00	0.483	-0.0098	0.3133	0.3135
0.9D + 1.0W 60° 120 mph Wind with No Ice (Reduced DL)	190.00	0.4714	0.0086	0.3046	0.3047
0.9D + 1.0W Normal 120 mph Wind with No Ice (Reduced DL)	190.00	0.5171	0.0090	0.3282	0.3284
1.2D + 1.0W 330° 120 mph Wind with No Ice	190.00	0.4831	-0.0100	0.3126	0.3128
1.2D + 1.0W 300° 120 mph Wind with No Ice	190.00	0.4719	-0.0086	0.3048	0.3049
1.2D + 1.0W 240° 120 mph Wind with No Ice	190.00	0.5179	-0.0091	0.3295	0.3296
1.2D + 1.0W 210° 120 mph Wind with No Ice	190.00	0.4829	-0.0100	0.3123	0.3125
1.2D + 1.0W 180° 120 mph Wind with No Ice	190.00	0.4714	0.0085	0.3037	0.3038
1.2D + 1.0W 120° 120 mph Wind with No Ice	190.00	0.5179	0.0091	0.3295	0.3296
1.2D + 1.0W 90° 120 mph Wind with No Ice	190.00	0.4835	-0.0098	0.3137	0.3139
1.2D + 1.0W 60° 120 mph Wind with No Ice	190.00	0.4719	0.0086	0.3048	0.3049
1.2D + 1.0W Normal 120 mph Wind with No Ice	190.00	0.5177	0.0091	0.3289	0.329

ASSET: 302769, I-75 Rest Area
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14873535_C3_04

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	12.49	0.00	0	1	0.00	180.54	-18.73
	12.49	0.00	120	1a	5.61	-62.64	-5.89
	12.49	0.00	240	1b	-5.61	-62.64	-5.89
1.2D + 1.0W 60°	12.49	0.00	0	1	-1.96	90.34	-8.74
	12.49	0.00	120	1a	-8.54	90.33	2.69
	12.49	0.00	240	1b	-12.42	-125.42	-7.18
1.2D + 1.0W 90°	12.49	0.00	0	1	-2.37	18.43	-1.04
	12.49	0.00	120	1a	-13.46	146.93	6.42
	12.49	0.00	240	1b	-11.65	-110.10	-5.38
1.2D + 1.0W 120°	12.49	0.00	0	1	-2.31	-62.63	7.81
	12.49	0.00	120	1a	-16.21	180.52	9.37
	12.49	0.00	240	1b	-7.91	-62.64	-1.92
1.2D + 1.0W 180°	12.49	0.00	0	1	0.00	-125.40	14.35
	12.49	0.00	120	1a	-6.59	90.33	6.06
	12.49	0.00	240	1b	6.59	90.33	6.06
1.2D + 1.0W 210°	12.49	0.00	0	1	1.18	-110.09	12.79
	12.49	0.00	120	1a	0.28	18.42	2.55
	12.49	0.00	240	1b	12.28	146.93	8.46
1.2D + 1.0W 240°	12.49	0.00	0	1	2.31	-62.63	7.81
	12.49	0.00	120	1a	7.91	-62.64	-1.92
	12.49	0.00	240	1b	16.21	180.52	9.37
1.2D + 1.0W 300°	12.49	0.00	0	1	1.96	90.34	-8.74
	12.49	0.00	120	1a	12.42	-125.42	-7.18
	12.49	0.00	240	1b	8.54	90.33	2.69
1.2D + 1.0W 330°	12.49	0.00	0	1	1.19	146.94	-14.87
	12.49	0.00	120	1a	10.48	-110.10	-7.41
	12.49	0.00	240	1b	2.07	18.42	-1.51
0.9D + 1.0W Normal	12.49	0.00	0	1	0.00	175.83	-18.46
	12.49	0.00	120	1a	5.84	-67.19	-6.03
	12.49	0.00	240	1b	-5.84	-67.19	-6.03
0.9D + 1.0W 60°	12.49	0.00	0	1	-1.96	85.69	-8.47
	12.49	0.00	120	1a	-8.31	85.68	2.55
	12.49	0.00	240	1b	-12.65	-129.93	-7.31
0.9D + 1.0W 90°	12.49	0.00	0	1	-2.37	13.82	-0.77
	12.49	0.00	120	1a	-13.23	142.25	6.29
	12.49	0.00	240	1b	-11.88	-114.63	-5.52
0.9D + 1.0W 120°	12.49	0.00	0	1	-2.31	-67.18	8.07
	12.49	0.00	120	1a	-15.98	175.82	9.24
	12.49	0.00	240	1b	-8.14	-67.19	-2.05
0.9D + 1.0W 180°	12.49	0.00	0	1	0.00	-129.92	14.62
	12.49	0.00	120	1a	-6.36	85.68	5.93
	12.49	0.00	240	1b	6.36	85.68	5.93
0.9D + 1.0W 210°	12.49	0.00	0	1	1.18	-114.62	13.05
	12.49	0.00	120	1a	0.51	13.81	2.42
	12.49	0.00	240	1b	12.05	142.25	8.33
0.9D + 1.0W 240°	12.49	0.00	0	1	2.31	-67.18	8.07
	12.49	0.00	120	1a	8.14	-67.19	-2.05
	12.49	0.00	240	1b	15.98	175.82	9.24
0.9D + 1.0W 300°	12.49	0.00	0	1	1.96	85.69	-8.47
	12.49	0.00	120	1a	12.65	-129.93	-7.31
	12.49	0.00	240	1b	8.31	85.68	2.55
0.9D + 1.0W 330°	12.49	0.00	0	1	1.19	142.26	-14.61
	12.49	0.00	120	1a	10.71	-114.63	-7.55
	12.49	0.00	240	1b	1.85	13.81	-1.65
1.2D + 1.0Di + 1.0Wi Normal	12.49	0.00	0	1	0.00	31.55	-0.37
	12.49	0.00	120	1a	1.19	14.71	-0.86
	12.49	0.00	240	1b	-1.19	14.71	-0.86
1.2D + 1.0Di + 1.0Wi 60°	12.49	0.00	0	1	-0.13	25.32	0.32
	12.49	0.00	120	1a	0.21	25.31	-0.27

ASSET: 302769, I-75 Rest Area
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14873535_C3_04

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					FX* (kip)	FY* (kip)	FZ* (kip)
1.2D + 1.0Di + 1.0Wi 90°	12.49	0.00	240	1b	-1.66	10.33	-0.96
	12.49	0.00	0	1	-0.16	20.33	0.85
	12.49	0.00	120	1a	-0.14	29.33	-0.01
	12.49	0.00	240	1b	-1.61	11.31	-0.84
1.2D + 1.0Di + 1.0Wi 120°	12.49	0.00	0	1	-0.15	14.80	1.46
	12.49	0.00	120	1a	-0.31	31.38	0.18
	12.49	0.00	240	1b	-1.34	14.79	-0.60
	12.49	0.00	0	1	0.00	10.20	1.93
1.2D + 1.0Di + 1.0Wi 180°	12.49	0.00	120	1a	0.33	25.38	-0.04
	12.49	0.00	240	1b	-0.33	25.38	-0.04
	12.49	0.00	0	1	0.08	11.45	1.81
	12.49	0.00	120	1a	0.82	20.32	-0.29
1.2D + 1.0Di + 1.0Wi 210°	12.49	0.00	240	1b	0.05	29.20	0.12
	12.49	0.00	0	1	0.15	14.80	1.46
	12.49	0.00	120	1a	1.34	14.79	-0.60
	12.49	0.00	240	1b	0.31	31.38	0.18
1.2D + 1.0Di + 1.0Wi 300°	12.49	0.00	0	1	0.13	25.32	0.32
	12.49	0.00	120	1a	1.66	10.33	-0.96
	12.49	0.00	240	1b	-0.21	25.31	-0.27
	12.49	0.00	0	1	0.08	29.21	-0.11
1.2D + 1.0Di + 1.0Wi 330°	12.49	0.00	120	1a	1.53	11.44	-0.97
	12.49	0.00	240	1b	-0.66	20.32	-0.56
	12.49	0.00	0	1	0.00	29.29	-2.14
	12.49	0.00	120	1a	-0.52	11.70	0.19
1.2D + 1.0Ev + 1.0Eh Normal	12.49	0.00	240	1b	0.52	11.70	0.19
	12.49	0.00	0	1	-0.09	23.43	-1.61
	12.49	0.00	120	1a	-1.44	23.43	0.72
	12.49	0.00	240	1b	0.01	5.83	0.01
1.2D + 1.0Ev + 1.0Eh 60°	12.49	0.00	0	1	-0.11	17.56	-1.08
	12.49	0.00	120	1a	-1.76	27.72	0.95
	12.49	0.00	240	1b	0.11	7.40	0.12
	12.49	0.00	0	1	-0.09	11.70	-0.54
1.2D + 1.0Ev + 1.0Eh 120°	12.49	0.00	120	1a	-1.86	29.29	1.07
	12.49	0.00	240	1b	0.42	11.70	0.35
	12.49	0.00	0	1	0.00	5.83	-0.01
	12.49	0.00	120	1a	-1.35	23.43	0.89
1.2D + 1.0Ev + 1.0Eh 180°	12.49	0.00	240	1b	1.35	23.43	0.89
	12.49	0.00	0	1	0.05	7.40	-0.15
	12.49	0.00	120	1a	-0.88	17.56	0.63
	12.49	0.00	240	1b	1.71	27.72	1.05
1.2D + 1.0Ev + 1.0Eh 210°	12.49	0.00	0	1	0.09	11.70	-0.54
	12.49	0.00	120	1a	-0.42	11.70	0.35
	12.49	0.00	240	1b	1.86	29.29	1.07
	12.49	0.00	0	1	0.09	23.43	-1.61
1.2D + 1.0Ev + 1.0Eh 240°	12.49	0.00	120	1a	-0.01	5.83	0.01
	12.49	0.00	240	1b	1.44	23.43	0.72
	12.49	0.00	0	1	0.05	27.72	-2.00
	12.49	0.00	120	1a	-0.16	7.40	0.03
1.2D + 1.0Ev + 1.0Eh 300°	12.49	0.00	240	1b	0.99	17.56	0.44
	12.49	0.00	0	1	0.00	24.46	-1.85
	12.49	0.00	120	1a	-0.26	6.87	0.04
	12.49	0.00	240	1b	0.26	6.87	0.04
0.9D - 1.0Ev + 1.0Eh Normal	12.49	0.00	0	1	-0.09	18.60	-1.31
	12.49	0.00	120	1a	-1.19	18.60	0.58
	12.49	0.00	240	1b	-0.25	1.01	-0.14
	12.49	0.00	0	1	-0.11	12.73	-0.78
0.9D - 1.0Ev + 1.0Eh 90°	12.49	0.00	120	1a	-1.50	22.89	0.81
	12.49	0.00	240	1b	-0.15	2.58	-0.02
0.9D - 1.0Ev + 1.0Eh 120°	12.49	0.00	0	1	-0.09	6.87	-0.25

ASSET: 302769, I-75 Rest Area
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14873535_C3_04

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					FX* (kip)	FY* (kip)	FZ* (kip)
0.9D - 1.0Ev + 1.0Eh 180°	12.49	0.00	120	1a	-1.60	24.46	0.92
	12.49	0.00	240	1b	0.17	6.87	0.20
	12.49	0.00	0	1	0.00	1.01	0.29
	12.49	0.00	120	1a	-1.09	18.60	0.74
	12.49	0.00	240	1b	1.09	18.60	0.74
0.9D - 1.0Ev + 1.0Eh 210°	12.49	0.00	0	1	0.05	2.58	0.14
	12.49	0.00	120	1a	-0.62	12.73	0.48
	12.49	0.00	240	1b	1.45	22.89	0.90
0.9D - 1.0Ev + 1.0Eh 240°	12.49	0.00	0	1	0.09	6.87	-0.25
	12.49	0.00	120	1a	-0.17	6.87	0.20
	12.49	0.00	240	1b	1.60	24.46	0.92
0.9D - 1.0Ev + 1.0Eh 300°	12.49	0.00	0	1	0.09	18.60	-1.31
	12.49	0.00	120	1a	0.25	1.01	-0.14
	12.49	0.00	240	1b	1.19	18.60	0.58
0.9D - 1.0Ev + 1.0Eh 330°	12.49	0.00	0	1	0.05	22.89	-1.71
	12.49	0.00	120	1a	0.10	2.58	-0.12
	12.49	0.00	240	1b	0.73	12.73	0.30
1.0D + 1.0W Service Normal	12.49	0.00	0	1	0.00	55.78	-5.32
	12.49	0.00	120	1a	0.86	-4.86	-1.17
	12.49	0.00	240	1b	-0.86	-4.86	-1.17
1.0D + 1.0W Service 60°	12.49	0.00	0	1	-0.50	33.29	-2.81
	12.49	0.00	120	1a	-2.68	33.28	0.98
	12.49	0.00	240	1b	-2.58	-20.53	-1.49
1.0D + 1.0W Service 90°	12.49	0.00	0	1	-0.60	15.36	-0.88
	12.49	0.00	120	1a	-3.91	47.40	1.92
	12.49	0.00	240	1b	-2.38	-16.70	-1.04
1.0D + 1.0W Service 120°	12.49	0.00	0	1	-0.58	-4.85	1.33
	12.49	0.00	120	1a	-4.60	55.77	2.66
	12.49	0.00	240	1b	-1.44	-4.86	-0.16
1.0D + 1.0W Service 180°	12.49	0.00	0	1	0.00	-20.52	2.98
	12.49	0.00	120	1a	-2.19	33.28	1.83
	12.49	0.00	240	1b	2.19	33.28	1.83
1.0D + 1.0W Service 210°	12.49	0.00	0	1	0.30	-16.70	2.58
	12.49	0.00	120	1a	-0.47	15.35	0.96
	12.49	0.00	240	1b	3.62	47.40	2.43
1.0D + 1.0W Service 240°	12.49	0.00	0	1	0.58	-4.85	1.33
	12.49	0.00	120	1a	1.44	-4.86	-0.16
	12.49	0.00	240	1b	4.60	55.77	2.66
1.0D + 1.0W Service 300°	12.49	0.00	0	1	0.50	33.29	-2.81
	12.49	0.00	120	1a	2.58	-20.53	-1.49
	12.49	0.00	240	1b	2.68	33.28	0.98
1.0D + 1.0W Service 330°	12.49	0.00	0	1	0.30	47.41	-4.35
	12.49	0.00	120	1a	2.09	-16.70	-1.55
	12.49	0.00	240	1b	1.06	15.35	-0.07

ASSET: 302769, I-75 Rest Area
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14873535_C3_04

MAXIMUM REACTIONS SUMMARY

Individual		Global (DL+WL+IL)		Global (DL+WL)	
Max Uplift:	129.93 (kip)	Moment Ice:	210.41 (kip-ft)	Moment:	3036.73 (kip-ft)
Max Down:	180.54 (kip)	Total Down Ice:	60.96 (kip)	Total Down:	55.26 (kip)
Max Shear:	18.73 (kip)	Total Shear Ice:	2.1 (kip)	Total Shear:	30.52 (kip)
1.2D + 1.0W Normal					