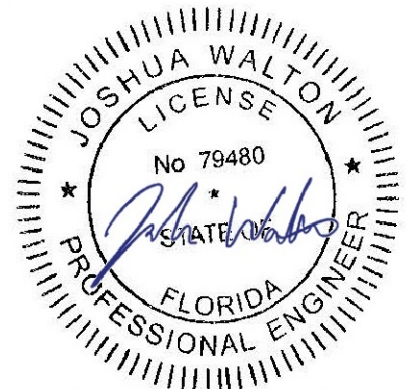




Structural Analysis Report

Structure : 250 ft Self Support Tower
ATC Asset Name : Columbia (Charles) FL
ATC Asset Number : 417139
Engineering Number : 15322453_C3_02
Proposed Carrier : T-MOBILE
Carrier Site Name : 9JK2817A
Carrier Site Number : 9JK2817A
Site Location : 917 SW Charles Terrace
Lake City, FL 32024-4402
30.1063° N, 82.7601° W
County : Columbia
Date : May 21, 2025
Max Usage : 76%
Analysis Result : Pass



This item has been electronically signed and sealed by Joshua Walton, PE, CWI on the date shown using a digital signature. Printed copies of this are not considered signed and sealed and the signature must be verified on any electronic copies.

Joshua
Walton

Digitally signed by
Joshua Walton
Date: 2025.05.22
23:11:22 -04'00'

COA: 9053

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Analysis	3
Conclusion	3
Structure Usages	4
Maximum Reactions	4
Tower Loading	5
Standard Conditions	Attached
Calculations	Attached

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 250 ft Self Support tower to reflect the change in loading by T-MOBILE.

Supporting Documents

Tower:	CellXion File #TALT02291, dated December 6, 2005
Foundation:	CellXion File #TALT02291, dated December 21, 2005
Geotechnical:	SDII Project #30111111, dated April 1, 2005

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:	119 mph (3-second gust)
Basic Wind Speed w/ Ice:	No Ice Considered
Code(s):	ANSI/TIA-222-I / 2021 IBC / 8th ED (2023) Florida Building Code
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 1
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	$S_{05} = 0.11$, $S_{01} = 0.08$
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	69.6%	Member X	Section 12	Pass
Diagonal	69.2%	Block Shear	Section 13	Pass
Horizontal	37.0%	Block Shear	Section 13	Pass
Bolt	50.1%	-	Section 2	Pass
Serviceability Usage	19.5%	Rotation	Elevation 250 ft	Pass
Foundation	74.2%	Down	Base	Pass
Foundation	73.0%	Moment	Base	Pass
Foundation	76.2%	Shear	Base	Pass
Foundation	71.8%	Uplift	Base	Pass

Maximum Reactions

Foundation	Moment (k-ft)	Axial (k)	Uplift (k)	Shear (k)
Self Support Base (Global)	9,578.3	87.2	-	67.4
Self Support Base (Local)	-	484.2	405.7	41.2

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

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

T-MOBILE Final Loading

Elev (ft)	Qty	Equipment	Lines
240.0	1	Ceragon FibeAir IP-20D-HP	(4) 1.99" (50.7mm) Hybrid (1) 1/4" Coax (1) 2.17" (55mm) Hybrid
	1	Commscope VHLP3-11WA	
	3	Light Sector Frame	
	4	Commscope FFVV-65C-R3-V1	
	4	Ericsson AIR 6419 B41	
	4	Ericsson Radio 4460 B25+B66	
	4	Ericsson Radio 4480 B71+B85A	

Install proposed lines alongside existing T-MOBILE lines.

Other Existing/Reserved Loading

Elev (ft)	Qty	Equipment	Lines
253.0	1	Raycap RCMD-3315-PF-48	(1) 1 5/8" (1.63"-41.3mm) Fiber (17) 1 5/8" Coax
	1	Unused Reserve (12986.62 sqin)	
	2	Commscope E15Z01P19	
	2	JMA Wireless DBC-67-C-1SF	
	6	CSS X7CAP-865	
	6	Commscope NHH-65C-R2B	
	6	Ericsson RRUS-32 (77 lbs)	
250.0	1	Low Profile Platform	-

(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.

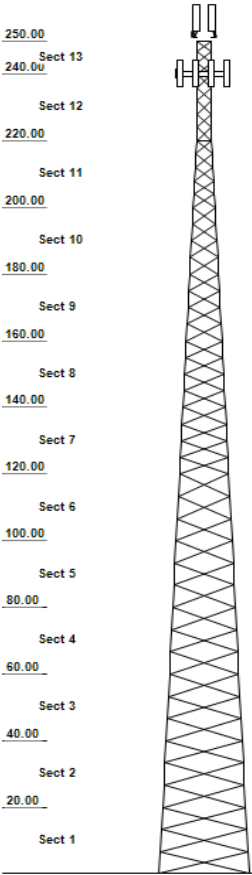
ASSET: Columbia (Charles) FL, 417139
CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-I
PROJECT: 15322453

ANALYSIS PARAMETERS			
Design Wind:	119 mph	Ice Wind:	30 mph w/ 0.00" ice
Risk Category	II	Exposure:	C
Topo Factor:	Method 1	Topo Feature:	Flat
Structure Height:	250 ft	Base Elevation:	0 ft
Base Width:	24.30 ft	Top Width:	4.50 ft
Service Wind:	60 mph	S _{DS} :	0.110
		S _{D1} :	0.082
		Shape:	Triangle

TOWER SECTION PROPERTIES			
Section	Leg Members	Diagonal Members	Horizontal Members
1	SOL 50 ksi 5 1/4" SOLID	SAE 36 ksi 4X4X0.375	
2	SOL 50 ksi 5 1/4" SOLID	SAE 36 ksi 4X4X0.25	
3	SOL 50 ksi 5" SOLID	SAE 36 ksi 4X4X0.25	
4	SOL 50 ksi 5" SOLID	SAE 36 ksi 3.5x3.5x0.25	
5	SOL 50 ksi 4 3/4" SOLID	SAE 36 ksi 3.5x3.5x0.25	
6	SOL 50 ksi 4 1/2" SOLID	SAE 36 ksi 3X3X0.25	
7	SOL 50 ksi 4 1/4" SOLID	SAE 36 ksi 3X3X0.1875	
8	SOL 50 ksi 4" SOLID	SAE 36 ksi 2.5X2.5X0.1875	
9	SOL 50 ksi 3 3/4" SOLID	SAE 36 ksi 2.5X2.5X0.1875	
10	SOL 50 ksi 3 1/2" SOLID	SAE 36 ksi 2X2X0.1875	
11	SOL 50 ksi 3" SOLID	SAE 36 ksi 2X2X0.1875	SAE 36 ksi 2X2X0.1875
12	SOL 50 ksi 2 1/2" SOLID	SAE 36 ksi 2.5X2.5X0.25	
13	SOL 50 ksi 1 3/4" SOLID	SAE 36 ksi 2X2X0.1875	SAE 36 ksi 2X2X0.1875

Quadrant 1
Tower Elevation View



DISCRETE APPURTENANCE		LINEAR APPURTENANCE	
Elev (ft)	Description	Elev (ft)	Description
253.0	(2) JMA Wireless DBC-67-C-1SF	253.0	(17) 1 5/8" Coax
253.0	(6) Ericsson RRUS-32 (77 lbs)	253.0	(1) 1 5/8" (1.63"-41.3mm) Fiber
253.0	(6) CSS X7CAP-865	250.0	(1) Waveguide
253.0	(2) Commscope E15Z01P19	250.0	(1) Climbing Ladder
253.0	(6) Commscope NHH-65C-R2B	240.0	(1) 2.17" (55mm) Hybrid
253.0	(1) Unused Reserve (12986.62 sqin)	240.0	(4) 1.99" (50.7mm) Hybrid
253.0	(1) Raycap RCMDC-3315-PF-48	240.0	(1) 1/4" Coax
250.0	(1) Generic Flat Low Profile Platform		
240.0	(4) Ericsson AIR 6419 B41		
240.0	(4) Ericsson Radio 4460 B25+B66		
240.0	(1) Commscope VHLP3-11WA		
240.0	(4) Ericsson Radio 4480 B71+B85A		
240.0	(3) Generic Flat Light Sector Frame		
240.0	(4) Commscope FFVV-65C-R3-V1		
240.0	(1) Ceragon FibeAir IP-20D-HP		

GLOBAL BASE REACTIONS		
	DL+WL	DL+WL+IL
Moment (k-ft):	9,578.31	623.21
Axial (k):	87.15	87.15
Shear (k):	67.40	4.44

INDIVIDUAL BASE REACTIONS	
Comp (k):	484.16
Uplift (k):	405.69
Shear (k):	41.21

ANALYSIS PARAMETERS			
Location:	Columbia County, FL	Height:	250 ft
Type and Shape:	Self Support, Triangle	Base Elevation:	0.00 ft
Manufacturer:	Undetermined	Bottom Face Width:	24.30 ft
Kd	0.85	Top Face Width:	4.50 ft
Ke:	1.00	Anchor Bolt Detail Type:	d

ICE & WIND PARAMETERS			
Exposure Category:	C	Design Wind Speed Without Ice:	119 mph
		Design Wind Speed with Ice:	30 mph
Risk Category:	II	Operational Windspeed:	60 mph
Topographic Factor Procedure:	Method 1		
Crest Height(H):	0 ft	Design Ice Thickness:	0.00 in
Crest Length(L):	0 ft	HMSL:	104 ft
Feature:	Flat	Distance from Apex (x):	0
		Upwind/Downwind:	

SEISMIC PARAMETERS					
Analysis Method:	Equivalent Lateral Force Method				
Site Class:	Default		Period Based on Rayleigh Method (sec):	1.15	
T _L (sec):	8	P:	1.3	C _s :	0.030
S _{ds} :	0.110	S _{d1} :	0.082	C _{s, Max} :	0.030
				C _{s, Min} :	0.030

LOAD CASES	
1.2D + 1.0W Normal	1.2D + 1.0W Normal - 119 mph Wind with No Ice
1.2D + 1.0W 60°	1.2D + 1.0W 60° - 119 mph Wind with No Ice
1.2D + 1.0W 90°	1.2D + 1.0W 90° - 119 mph Wind with No Ice
1.2D + 1.0W 120°	1.2D + 1.0W 120° - 119 mph Wind with No Ice
1.2D + 1.0W 180°	1.2D + 1.0W 180° - 119 mph Wind with No Ice
1.2D + 1.0W 210°	1.2D + 1.0W 210° - 119 mph Wind with No Ice
1.2D + 1.0W 240°	1.2D + 1.0W 240° - 119 mph Wind with No Ice
1.2D + 1.0W 300°	1.2D + 1.0W 300° - 119 mph Wind with No Ice
1.2D + 1.0W 330°	1.2D + 1.0W 330° - 119 mph Wind with No Ice
0.9D + 1.0W Normal	0.9D + 1.0W Normal - 119 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 60°	0.9D + 1.0W 60° - 119 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 90°	0.9D + 1.0W 90° - 119 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 120°	0.9D + 1.0W 120° - 119 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 180°	0.9D + 1.0W 180° - 119 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 210°	0.9D + 1.0W 210° - 119 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 240°	0.9D + 1.0W 240° - 119 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 300°	0.9D + 1.0W 300° - 119 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 330°	0.9D + 1.0W 330° - 119 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" Radial Ice
1.2D + 1.0Di + 1.0Wi 60°	1.2D + 1.0Di + 1.0Wi 60° - 30 mph Wind with 0" Radial Ice
1.2D + 1.0Di + 1.0Wi 90°	1.2D + 1.0Di + 1.0Wi 90° - 30 mph Wind with 0" Radial Ice
1.2D + 1.0Di + 1.0Wi 120°	1.2D + 1.0Di + 1.0Wi 120° - 30 mph Wind with 0" Radial Ice
1.2D + 1.0Di + 1.0Wi 180°	1.2D + 1.0Di + 1.0Wi 180° - 30 mph Wind with 0" Radial Ice
1.2D + 1.0Di + 1.0Wi 210°	1.2D + 1.0Di + 1.0Wi 210° - 30 mph Wind with 0" Radial Ice
1.2D + 1.0Di + 1.0Wi 240°	1.2D + 1.0Di + 1.0Wi 240° - 30 mph Wind with 0" Radial Ice
1.2D + 1.0Di + 1.0Wi 300°	1.2D + 1.0Di + 1.0Wi 300° - 30 mph Wind with 0" Radial Ice

ASSET: 417139, Columbia (Charles) FL
CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-I
PROJECT: 15322453_C3_02

LOAD CASES

1.2D + 1.0Di + 1.0Wi 330°	1.2D + 1.0Di + 1.0Wi 330° - 30 mph Wind with 0" 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: 417139, Columbia (Charles) FL

CODE: ANSI/TIA-222-I

CUSTOMER: T-MOBILE

PROJECT: 15322453_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 _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
253.0	JMA Wireless DBC-67-C-1SF	2	7	0.4	0.6	6.2	3.4	0.80	0.50	3.0	33.38	46.62	11	16
253.0	Commscope E15Z01P19	2	11	0.8	1.1	7.2	2.9	0.80	0.50	0.3	7.40	46.52	25	26
253.0	Raycap RCMDC-3315-PF-48	1	21	2.5	1.6	15.7	10.3	0.80	1.00	-0.6	47.64	46.49	79	26
253.0	Ericsson RRUS-32 (77 lbs)	6	77	3.3	2.5	13.3	9.5	0.80	0.50	3.0	945.56	46.62	315	554
253.0	Commscope NHH-65C-R2B	6	52	11.4	8.0	11.9	7.1	0.80	0.70	3.0	4,549.36	46.62	1516	372
253.0	CSS X7CAP-865	6	56	11.8	8.0	12.5	7.1	0.80	0.69	3.0	4,665.88	46.62	1555	403
253.0	Unused Reserve (12986.62 sqin)	1	1336	90.2	0.0	0.0	0.0	0.80	0.90	0.0	0.00	46.51	2567	1603
250.0	Generic Flat Low Profile Platf	1	1875	26.1	0.0	0.0	0.0	1.00	1.00	0.0	0.00	46.40	1029	2250
240.0	Ceragon FibeAir IP-20D-HP	1	27	1.2	1.0	11.3	4.2	0.80	1.00	0.0	0.00	46.01	37	32
240.0	Ericsson Radio 4460 B25+B66	4	109	2.6	1.6	15.7	12.1	0.80	0.50	0.0	0.00	46.01	160	523
240.0	Ericsson Radio 4480 B71+B85A	4	84	2.9	1.8	15.7	7.5	0.80	0.50	0.0	0.00	46.01	178	403
240.0	Ericsson AIR 6419 B41	4	69	5.6	2.8	20.0	6.3	0.80	0.63	0.0	0.00	46.01	442	329
240.0	Commscope VHLP3-11WA	1	38	8.9	3.0	36.0	15.2	0.80	1.00	0.0	0.00	46.01	279	45
240.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	1.00	1.00	0.0	0.00	46.01	2100	1440
240.0	Commscope FFFV-65C-R3-V1	4	125	21.1	8.0	25.2	9.3	0.80	0.63	0.0	0.00	46.01	1665	598
Totals		46	7,183	472.7									11,960	8,620

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)
253.0	JMA Wireless DBC-67-C-1SF	2	7	0.4	0.6	6.2	3.4	0.80	0.50	3.0	33.38	46.62	11	12
253.0	Commscope E15Z01P19	2	11	0.8	1.1	7.2	2.9	0.80	0.50	0.3	7.40	46.52	25	20
253.0	Raycap RCMDC-3315-PF-48	1	21	2.5	1.6	15.7	10.3	0.80	1.00	-0.6	47.64	46.49	79	19
253.0	Ericsson RRUS-32 (77 lbs)	6	77	3.3	2.5	13.3	9.5	0.80	0.50	3.0	945.56	46.62	315	416
253.0	Commscope NHH-65C-R2B	6	52	11.4	8.0	11.9	7.1	0.80	0.70	3.0	4,549.36	46.62	1516	279
253.0	CSS X7CAP-865	6	56	11.8	8.0	12.5	7.1	0.80	0.69	3.0	4,665.88	46.62	1555	302
253.0	Unused Reserve (12986.62 sqin)	1	1336	90.2	0.0	0.0	0.0	0.80	0.90	0.0	0.00	46.51	2567	1202
250.0	Generic Flat Low Profile Platf	1	1875	26.1	0.0	0.0	0.0	1.00	1.00	0.0	0.00	46.40	1029	1688
240.0	Ceragon FibeAir IP-20D-HP	1	27	1.2	1.0	11.3	4.2	0.80	1.00	0.0	0.00	46.01	37	24
240.0	Ericsson Radio 4460 B25+B66	4	109	2.6	1.6	15.7	12.1	0.80	0.50	0.0	0.00	46.01	160	392
240.0	Ericsson Radio 4480 B71+B85A	4	84	2.9	1.8	15.7	7.5	0.80	0.50	0.0	0.00	46.01	178	302
240.0	Ericsson AIR 6419 B41	4	69	5.6	2.8	20.0	6.3	0.80	0.63	0.0	0.00	46.01	442	247
240.0	Commscope VHLP3-11WA	1	38	8.9	3.0	36.0	15.2	0.80	1.00	0.0	0.00	46.01	279	34
240.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	1.00	1.00	0.0	0.00	46.01	2100	1080
240.0	Commscope FFFV-65C-R3-V1	4	125	21.1	8.0	25.2	9.3	0.80	0.63	0.0	0.00	46.01	1665	449
Totals		46	7,183	472.7									11,960	6,465

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)
253.0	JMA Wireless DBC-67-C-1SF	2	7	0.4	0.6	6.2	3.4	0.80	0.50	3.0	2.12	2.96	1	16
253.0	Commscope E15Z01P19	2	11	0.8	1.1	7.2	2.9	0.80	0.50	0.3	0.47	2.96	2	26
253.0	Raycap RCMDC-3315-PF-48	1	21	2.5	1.6	15.7	10.3	0.80	1.00	-0.6	3.03	2.95	5	26
253.0	Ericsson RRUS-32 (77 lbs)	6	77	3.3	2.5	13.3	9.5	0.80	0.50	3.0	60.09	2.96	20	554
253.0	Commscope NHH-65C-R2B	6	52	11.4	8.0	11.9	7.1	0.80	0.70	3.0	289.13	2.96	96	372
253.0	CSS X7CAP-865	6	56	11.8	8.0	12.5	7.1	0.80	0.69	3.0	296.54	2.96	99	403
253.0	Unused Reserve (12986.62 sqin)	1	1336	90.2	0.0	0.0	0.0	0.80	0.90	0.0	0.00	2.96	163	1603
250.0	Generic Flat Low Profile Platf	1	1875	26.1	0.0	0.0	0.0	1.00	1.00	0.0	0.00	2.95	65	2250
240.0	Ceragon FibeAir IP-20D-HP	1	26	1.2	1.0	11.3	4.2	0.80	1.00	0.0	0.00	2.92	2	32
240.0	Ericsson Radio 4460 B25+B66	4	109	2.6	1.6	15.7	12.1	0.80	0.50	0.0	0.00	2.92	10	523
240.0	Ericsson Radio 4480 B71+B85A	4	84	2.9	1.8	15.7	7.5	0.80	0.50	0.0	0.00	2.92	11	403
240.0	Ericsson AIR 6419 B41	4	68	5.6	2.8	20.0	6.3	0.80	0.63	0.0	0.00	2.92	28	329
240.0	Commscope VHLP3-11WA	1	38	8.9	3.0	36.0	15.2	0.80	1.00	0.0	0.00	2.92	18	45
240.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	1.00	1.00	0.0	0.00	2.92	133	1440
240.0	Commscope FFFV-65C-R3-V1	4	125	21.1	8.0	25.2	9.3	0.80	0.63	0.0	0.00	2.92	106	598
Totals		46	7,183	472.7									760	8,620

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)
253.0	JMA Wireless DBC-67-C-1SF	2	7	0.4	0.6	6.2	3.4	0.80	0.50	3.0	8.49	11.85	3	13
253.0	Commscope E15Z01P19	2	11	0.8	1.1	7.2	2.9	0.80	0.50	0.3	1.88	11.83	6	22
253.0	Raycap RCMDC-3315-PF-48	1	21	2.5	1.6	15.7	10.3	0.80	1.00	-0.6	12.11	11.82	20	21
253.0	Ericsson RRUS-32 (77 lbs)	6	77	3.3	2.5	13.3	9.5	0.80	0.50	3.0	240.38	11.85	80	462
253.0	Commscope NHH-65C-R2B	6	52	11.4	8.0	11.9	7.1	0.80	0.70	3.0	1,156.53	11.85	386	310
253.0	CSS X7CAP-865	6	56	11.8	8.0	12.5	7.1	0.80	0.69	3.0	1,186.16	11.85	395	336
253.0	Unused Reserve (12986.62 sqin)	1	1336	90.2	0.0	0.0	0.0	0.80	0.90	0.0	0.00	11.82	653	1336
250.0	Generic Flat Low Profile Platf	1	1875	26.1	0.0	0.0	0.0	1.00	1.00	0.0	0.00	11.79	262	1875
240.0	Ceragon FibeAir IP-20D-HP	1	27	1.2	1.0	11.3	4.2	0.80	1.00	0.0	0.00	11.70	9	26
240.0	Ericsson Radio 4460 B25+B66	4	109	2.6	1.6	15.7	12.1	0.80	0.50	0.0	0.00	11.70	41	436
240.0	Ericsson Radio 4480 B71+B85A	4	84	2.9	1.8	15.7	7.5	0.80	0.50	0.0	0.00	11.70	45	336

ASSET: 417139, Columbia (Charles) FL
CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-I
PROJECT: 15322453_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)
240.0	Ericsson AiR 6419 B41	4	69	5.6	2.8	20.0	6.3	0.80	0.63	0.0	0.00	11.70	112	274
240.0	Commscope VHLP3-11WA	1	38	8.9	3.0	36.0	15.2	0.80	1.00	0.0	0.00	11.70	71	38
240.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	1.00	1.00	0.0	0.00	11.70	534	1200
240.0	Commscope FFVV-65C-R3-V1	4	125	21.1	8.0	25.2	9.3	0.80	0.63	0.0	0.00	11.70	423	498
Totals		46	7,183	472.7									3,040	7,183

ASSET: 417139, Columbia (Charles) FL
CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-I
PROJECT: 15322453_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	253.0	1 5/8" (1.63"-41.3mm) Fiber	1	1.63	1.61	100	1	Individual	0.00	N	1.00	1.00	0.01
0.0	253.0	1 5/8" Coax	17	1.98	0.82	35	1	Block	0.00	N	1.00	1.00	0.00
0.0	250.0	Waveguide	1	2.00	6.00	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	250.0	Climbing Ladder	1	2.00	6.90	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	240.0	1.99" (50.7mm) Hybrid	4	1.99	1.90	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	240.0	2.17" (55mm) Hybrid	1	2.17	3.15	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	240.0	1/4" Coax	1	0.34	0.06	100	2	Individual	0.00	N	1.00	1.00	0.00

ASSET: 417139, Columbia (Charles) FL

CODE: ANSI/TIA-222-I

CUSTOMER: T-MOBILE

PROJECT: 15322453_C3_02

SECTION FORCES

1.2D + 1.0W Normal

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	1.00	1.00	0.0	7.84	20.48	0.00	971	0	804	743	1547
12	230	45.61	12.104	8.333	0.00	0.217	2.54	1.00	1.00	0.0	16.92	42.98	0.00	3034	0	1666	1954	3620
11	210	44.77	11.501	10.014	0.00	0.190	2.63	1.00	1.00	0.0	17.09	44.92	0.00	3307	0	1710	1918	3627
10	190	43.87	11.305	11.682	0.00	0.153	2.76	1.00	1.00	0.0	17.45	48.16	0.00	3919	0	1796	1879	3675
9	170	42.88	16.644	12.517	0.00	0.156	2.75	1.00	1.00	0.0	23.10	63.48	0.00	4562	0	2314	1837	4151
8	150	41.80	19.283	13.351	0.00	0.146	2.78	1.00	1.00	0.0	26.00	72.40	0.00	5078	0	2572	1790	4363
7	130	40.60	26.406	14.186	0.00	0.157	2.75	1.00	1.00	0.0	33.45	91.90	0.00	5871	0	3172	1739	4910
6	110	39.24	23.241	15.020	0.00	0.130	2.85	1.00	1.00	0.0	30.45	86.75	0.00	6524	0	2893	1681	4574
5	90	37.66	29.965	15.855	0.00	0.138	2.82	1.00	1.00	0.0	37.51	105.63	0.00	7485	0	3382	1613	4995
4	70	35.78	32.868	16.689	0.00	0.134	2.83	1.00	1.00	0.0	40.72	115.21	0.00	8164	0	3504	1532	5036
3	50	33.41	40.951	16.689	0.00	0.142	2.80	1.00	1.00	0.0	49.06	137.32	0.00	8738	0	3899	1431	5330
2	30	30.10	44.342	17.524	0.00	0.140	2.81	1.00	1.00	0.0	52.93	148.60	0.00	9476	0	3802	1289	5091
1	10	26.09	47.794	17.524	0.00	0.137	2.82	1.00	1.00	0.0	55.02	155.14	0.00	11404	0	3441	1118	4559
Totals															78,533	0		55,478

1.2D + 1.0W 60°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	0.80	1.00	0.0	6.61	17.26	0.00	971	0	678	743	1421
12	230	45.61	12.104	8.333	0.00	0.217	2.54	0.80	1.00	0.0	14.50	36.83	0.00	3034	0	1428	1954	3381
11	210	44.77	11.501	10.014	0.00	0.190	2.63	0.80	1.00	0.0	14.79	38.88	0.00	3307	0	1480	1918	3397
10	190	43.87	11.305	11.682	0.00	0.153	2.76	0.80	1.00	0.0	15.19	41.92	0.00	3919	0	1563	1879	3442
9	170	42.88	16.644	12.517	0.00	0.156	2.75	0.80	1.00	0.0	19.78	54.34	0.00	4562	0	1981	1837	3817
8	150	41.80	19.283	13.351	0.00	0.146	2.78	0.80	1.00	0.0	22.15	61.66	0.00	5078	0	2191	1790	3981
7	130	40.60	26.406	14.186	0.00	0.157	2.75	0.80	1.00	0.0	28.17	77.39	0.00	5871	0	2671	1739	4410
6	110	39.24	23.241	15.020	0.00	0.130	2.85	0.80	1.00	0.0	25.80	73.51	0.00	6524	0	2452	1681	4132
5	90	37.66	29.965	15.855	0.00	0.138	2.82	0.80	1.00	0.0	31.52	88.75	0.00	7485	0	2841	1613	4454
4	70	35.78	32.868	16.689	0.00	0.134	2.83	0.80	1.00	0.0	34.15	96.61	0.00	8164	0	2938	1532	4471
3	50	33.41	40.951	16.689	0.00	0.142	2.80	0.80	1.00	0.0	40.87	114.39	0.00	8738	0	3248	1431	4679
2	30	30.10	44.342	17.524	0.00	0.140	2.81	0.80	1.00	0.0	44.06	123.70	0.00	9476	0	3165	1289	4454
1	10	26.09	47.794	17.524	0.00	0.137	2.82	0.80	1.00	0.0	45.48	128.25	0.00	11404	0	2845	1118	3962
Totals															78,533	0		50,002

1.2D + 1.0W 90°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	0.85	1.00	0.0	6.92	18.07	0.00	971	0	710	743	1452
12	230	45.61	12.104	8.333	0.00	0.217	2.54	0.85	1.00	0.0	15.10	38.37	0.00	3034	0	1487	1954	3441
11	210	44.77	11.501	10.014	0.00	0.190	2.63	0.85	1.00	0.0	15.36	40.39	0.00	3307	0	1537	1918	3455
10	190	43.87	11.305	11.682	0.00	0.153	2.76	0.85	1.00	0.0	15.76	43.48	0.00	3919	0	1621	1879	3500
9	170	42.88	16.644	12.517	0.00	0.156	2.75	0.85	1.00	0.0	20.61	56.62	0.00	4562	0	2064	1837	3901
8	150	41.80	19.283	13.351	0.00	0.146	2.78	0.85	1.00	0.0	23.11	64.34	0.00	5078	0	2286	1790	4077
7	130	40.60	26.406	14.186	0.00	0.157	2.75	0.85	1.00	0.0	29.49	81.02	0.00	5871	0	2796	1739	4535
6	110	39.24	23.241	15.020	0.00	0.130	2.85	0.85	1.00	0.0	26.97	76.82	0.00	6524	0	2562	1681	4243
5	90	37.66	29.965	15.855	0.00	0.138	2.82	0.85	1.00	0.0	33.01	92.97	0.00	7485	0	2976	1613	4590
4	70	35.78	32.868	16.689	0.00	0.134	2.83	0.85	1.00	0.0	35.79	101.26	0.00	8164	0	3080	1532	4612
3	50	33.41	40.951	16.689	0.00	0.142	2.80	0.85	1.00	0.0	42.91	120.12	0.00	8738	0	3411	1431	4842
2	30	30.10	44.342	17.524	0.00	0.140	2.81	0.85	1.00	0.0	46.28	129.93	0.00	9476	0	3324	1289	4613
1	10	26.09	47.794	17.524	0.00	0.137	2.82	0.85	1.00	0.0	47.87	134.99	0.00	11404	0	2994	1118	4112
Totals															78,533	0		51,371

1.2D + 1.0W 120°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	1.00	1.00	0.0	7.84	20.48	0.00	971	0	804	743	1547
12	230	45.61	12.104	8.333	0.00	0.217	2.54	1.00	1.00	0.0	16.92	42.98	0.00	3034	0	1666	1954	3620
11	210	44.77	11.501	10.014	0.00	0.190	2.63	1.00	1.00	0.0	17.09	44.92	0.00	3307	0	1710	1918	3627
10	190	43.87	11.305	11.682	0.00	0.153	2.76	1.00	1.00	0.0	17.45	48.16	0.00	3919	0	1796	1879	3675
9	170	42.88	16.644	12.517	0.00	0.156	2.75	1.00	1.00	0.0	23.10	63.48	0.00	4562	0	2314	1837	4151
8	150	41.80	19.283	13.351	0.00	0.146	2.78	1.00	1.00	0.0	26.00	72.40	0.00	5078	0	2572	1790	4363
7	130	40.60	26.406	14.186	0.00	0.157	2.75	1.00	1.00	0.0	33.45	91.90	0.00	5871	0	3172	1739	4910
6	110	39.24	23.241	15.020	0.00	0.130	2.85	1.00	1.00	0.0	30.45	86.75	0.00	6524	0	2893	1681	4574
5	90	37.66	29.965	15.855	0.00	0.138	2.82	1.00	1.00	0.0	37.51	105.63	0.00	7485	0	3382	1613	4995
4	70	35.78	32.868	16.689	0.00	0.134	2.83	1.00	1.00	0.0	40.72	115.21	0.00	8164	0	3504	1532	5036
3	50	33.41	40.951	16.689	0.00	0.142	2.80	1.00	1.00	0.0	49.06	137.32	0.00	8738	0	3899	1431	5330
2	30	30.10	44.342	17.524	0.00	0.140	2.81	1.00	1.00	0.0	52.93	148.60	0.00	9476	0	3802	1289	5091
1	10	26.09	47.794	17.524	0.00	0.137	2.82	1.00	1.00	0.0	55.04	155.21	0.00	11404	0	3442	1118	4560
Totals															78,533	0		55,479

ASSET: 417139, Columbia (Charles) FL

CODE: ANSI/TIA-222-I

CUSTOMER: T-MOBILE

PROJECT: 15322453_C3_02

SECTION FORCES

1.2D + 1.0W 180°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	0.80	1.00	0.0	6.61	17.26	0.00	971	0	678	743	1421
12	230	45.61	12.104	8.333	0.00	0.217	2.54	0.80	1.00	0.0	14.50	36.83	0.00	3034	0	1428	1954	3381
11	210	44.77	11.501	10.014	0.00	0.190	2.63	0.80	1.00	0.0	14.79	38.88	0.00	3307	0	1480	1918	3397
10	190	43.87	11.305	11.682	0.00	0.153	2.76	0.80	1.00	0.0	15.19	41.92	0.00	3919	0	1563	1879	3442
9	170	42.88	16.644	12.517	0.00	0.156	2.75	0.80	1.00	0.0	19.78	54.34	0.00	4562	0	1981	1837	3817
8	150	41.80	19.283	13.351	0.00	0.146	2.78	0.80	1.00	0.0	22.15	61.66	0.00	5078	0	2191	1790	3981
7	130	40.60	26.406	14.186	0.00	0.157	2.75	0.80	1.00	0.0	28.17	77.39	0.00	5871	0	2671	1739	4410
6	110	39.24	23.241	15.020	0.00	0.130	2.85	0.80	1.00	0.0	25.80	73.51	0.00	6524	0	2452	1681	4132
5	90	37.66	29.965	15.855	0.00	0.138	2.82	0.80	1.00	0.0	31.52	88.75	0.00	7485	0	2841	1613	4454
4	70	35.78	32.868	16.689	0.00	0.134	2.83	0.80	1.00	0.0	34.15	96.61	0.00	8164	0	2938	1532	4471
3	50	33.41	40.951	16.689	0.00	0.142	2.80	0.80	1.00	0.0	40.87	114.39	0.00	8738	0	3248	1431	4679
2	30	30.10	44.342	17.524	0.00	0.140	2.81	0.80	1.00	0.0	44.06	123.70	0.00	9476	0	3165	1289	4454
1	10	26.09	47.794	17.524	0.00	0.137	2.82	0.80	1.00	0.0	45.48	128.25	0.00	11404	0	2845	1118	3962
Totals														78,533	0			50,002

1.2D + 1.0W 210°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	0.85	1.00	0.0	6.92	18.07	0.00	971	0	710	743	1452
12	230	45.61	12.104	8.333	0.00	0.217	2.54	0.85	1.00	0.0	15.10	38.37	0.00	3034	0	1487	1954	3441
11	210	44.77	11.501	10.014	0.00	0.190	2.63	0.85	1.00	0.0	15.36	40.39	0.00	3307	0	1537	1918	3455
10	190	43.87	11.305	11.682	0.00	0.153	2.76	0.85	1.00	0.0	15.76	43.48	0.00	3919	0	1621	1879	3500
9	170	42.88	16.644	12.517	0.00	0.156	2.75	0.85	1.00	0.0	20.61	56.62	0.00	4562	0	2064	1837	3901
8	150	41.80	19.283	13.351	0.00	0.146	2.78	0.85	1.00	0.0	23.11	64.34	0.00	5078	0	2286	1790	4077
7	130	40.60	26.406	14.186	0.00	0.157	2.75	0.85	1.00	0.0	29.49	81.02	0.00	5871	0	2796	1739	4535
6	110	39.24	23.241	15.020	0.00	0.130	2.85	0.85	1.00	0.0	26.97	76.82	0.00	6524	0	2562	1681	4243
5	90	37.66	29.965	15.855	0.00	0.138	2.82	0.85	1.00	0.0	33.01	92.97	0.00	7485	0	2976	1613	4590
4	70	35.78	32.868	16.689	0.00	0.134	2.83	0.85	1.00	0.0	35.79	101.26	0.00	8164	0	3080	1532	4612
3	50	33.41	40.951	16.689	0.00	0.142	2.80	0.85	1.00	0.0	42.91	120.12	0.00	8738	0	3411	1431	4842
2	30	30.10	44.342	17.524	0.00	0.140	2.81	0.85	1.00	0.0	46.28	129.93	0.00	9476	0	3324	1289	4613
1	10	26.09	47.794	17.524	0.00	0.137	2.82	0.85	1.00	0.0	47.87	134.99	0.00	11404	0	2994	1118	4112
Totals														78,533	0			51,371

1.2D + 1.0W 240°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	1.00	1.00	0.0	7.84	20.48	0.00	971	0	804	743	1547
12	230	45.61	12.104	8.333	0.00	0.217	2.54	1.00	1.00	0.0	16.92	42.98	0.00	3034	0	1666	1954	3620
11	210	44.77	11.501	10.014	0.00	0.190	2.63	1.00	1.00	0.0	17.09	44.92	0.00	3307	0	1710	1918	3627
10	190	43.87	11.305	11.682	0.00	0.153	2.76	1.00	1.00	0.0	17.45	48.16	0.00	3919	0	1796	1879	3675
9	170	42.88	16.644	12.517	0.00	0.156	2.75	1.00	1.00	0.0	23.10	63.48	0.00	4562	0	2314	1837	4151
8	150	41.80	19.283	13.351	0.00	0.146	2.78	1.00	1.00	0.0	26.00	72.40	0.00	5078	0	2572	1790	4363
7	130	40.60	26.406	14.186	0.00	0.157	2.75	1.00	1.00	0.0	33.45	91.90	0.00	5871	0	3172	1739	4910
6	110	39.24	23.241	15.020	0.00	0.130	2.85	1.00	1.00	0.0	30.45	86.75	0.00	6524	0	2893	1681	4574
5	90	37.66	29.965	15.855	0.00	0.138	2.82	1.00	1.00	0.0	37.51	105.63	0.00	7485	0	3382	1613	4995
4	70	35.78	32.868	16.689	0.00	0.134	2.83	1.00	1.00	0.0	40.72	115.21	0.00	8164	0	3504	1532	5036
3	50	33.41	40.951	16.689	0.00	0.142	2.80	1.00	1.00	0.0	49.06	137.32	0.00	8738	0	3899	1431	5330
2	30	30.10	44.342	17.524	0.00	0.140	2.81	1.00	1.00	0.0	52.93	148.60	0.00	9476	0	3802	1289	5091
1	10	26.09	47.794	17.524	0.00	0.137	2.82	1.00	1.00	0.0	55.04	155.21	0.00	11404	0	3442	1118	4560
Totals														78,533	0			55,479

1.2D + 1.0W 300°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	0.80	1.00	0.0	6.61	17.26	0.00	971	0	678	743	1421
12	230	45.61	12.104	8.333	0.00	0.217	2.54	0.80	1.00	0.0	14.50	36.83	0.00	3034	0	1428	1954	3381
11	210	44.77	11.501	10.014	0.00	0.190	2.63	0.80	1.00	0.0	14.79	38.88	0.00	3307	0	1480	1918	3397
10	190	43.87	11.305	11.682	0.00	0.153	2.76	0.80	1.00	0.0	15.19	41.92	0.00	3919	0	1563	1879	3442
9	170	42.88	16.644	12.517	0.00	0.156	2.75	0.80	1.00	0.0	19.78	54.34	0.00	4562	0	1981	1837	3817
8	150	41.80	19.283	13.351	0.00	0.146	2.78	0.80	1.00	0.0	22.15	61.66	0.00	5078	0	2191	1790	3981
7	130	40.60	26.406	14.186	0.00	0.157	2.75	0.80	1.00	0.0	28.17	77.39	0.00	5871	0	2671	1739	4410
6	110	39.24	23.241	15.020	0.00	0.130	2.85	0.80	1.00	0.0	25.80	73.51	0.00	6524	0	2452	1681	4132
5	90	37.66	29.965	15.855	0.00	0.138	2.82	0.80	1.00	0.0	31.52	88.75	0.00	7485	0	2841	1613	4454
4	70	35.78	32.868	16.689	0.00	0.134	2.83	0.80	1.00	0.0	34.15	96.61	0.00	8164	0	2938	1532	4471
3	50	33.41	40.951	16.689	0.00	0.142	2.80	0.80	1.00	0.0	40.87	114.39	0.00	8738	0	3248	1431	4679
2	30	30.10	44.342	17.524	0.00	0.140	2.81	0.80	1.00	0.0	44.06	123.70	0.00	9476	0	3165	1289	4454
1	10	26.09	47.794	17.524	0.00	0.137	2.82	0.80	1.00	0.0	45.48	128.25	0.00	11404	0	2845	1118	3962
Totals														78,533	0			50,002

ASSET: 417139, Columbia (Charles) FL

CODE: ANSI/TIA-222-I

CUSTOMER: T-MOBILE

PROJECT: 15322453_C3_02

SECTION FORCES

1.2D + 1.0W 330°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	0.85	1.00	0.0	6.92	18.07	0.00	971	0	710	743	1452
12	230	45.61	12.104	8.333	0.00	0.217	2.54	0.85	1.00	0.0	15.10	38.37	0.00	3034	0	1487	1954	3441
11	210	44.77	11.501	10.014	0.00	0.190	2.63	0.85	1.00	0.0	15.36	40.39	0.00	3307	0	1537	1918	3455
10	190	43.87	11.305	11.682	0.00	0.153	2.76	0.85	1.00	0.0	15.76	43.48	0.00	3919	0	1621	1879	3500
9	170	42.88	16.644	12.517	0.00	0.156	2.75	0.85	1.00	0.0	20.61	56.62	0.00	4562	0	2064	1837	3901
8	150	41.80	19.283	13.351	0.00	0.146	2.78	0.85	1.00	0.0	23.11	64.34	0.00	5078	0	2286	1790	4077
7	130	40.60	26.406	14.186	0.00	0.157	2.75	0.85	1.00	0.0	29.49	81.02	0.00	5871	0	2796	1739	4535
6	110	39.24	23.241	15.020	0.00	0.130	2.85	0.85	1.00	0.0	26.97	76.82	0.00	6524	0	2562	1681	4243
5	90	37.66	29.965	15.855	0.00	0.138	2.82	0.85	1.00	0.0	33.01	92.97	0.00	7485	0	2976	1613	4590
4	70	35.78	32.868	16.689	0.00	0.134	2.83	0.85	1.00	0.0	35.79	101.26	0.00	8164	0	3080	1532	4612
3	50	33.41	40.951	16.689	0.00	0.142	2.80	0.85	1.00	0.0	42.91	120.12	0.00	8738	0	3411	1431	4842
2	30	30.10	44.342	17.524	0.00	0.140	2.81	0.85	1.00	0.0	46.28	129.93	0.00	9476	0	3324	1289	4613
1	10	26.09	47.794	17.524	0.00	0.137	2.82	0.85	1.00	0.0	47.87	134.99	0.00	11404	0	2994	1118	4112
Totals														78,533	0			51,371

0.9D + 1.0W Normal

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	1.00	1.00	0.0	7.84	20.48	0.00	728	0	804	743	1547
12	230	45.61	12.104	8.333	0.00	0.217	2.54	1.00	1.00	0.0	16.92	42.98	0.00	2275	0	1666	1954	3620
11	210	44.77	11.501	10.014	0.00	0.190	2.63	1.00	1.00	0.0	17.09	44.92	0.00	2480	0	1710	1918	3627
10	190	43.87	11.305	11.682	0.00	0.153	2.76	1.00	1.00	0.0	17.45	48.16	0.00	2939	0	1796	1879	3675
9	170	42.88	16.644	12.517	0.00	0.156	2.75	1.00	1.00	0.0	23.10	63.48	0.00	3422	0	2314	1837	4151
8	150	41.80	19.283	13.351	0.00	0.146	2.78	1.00	1.00	0.0	26.00	72.40	0.00	3808	0	2572	1790	4363
7	130	40.60	26.406	14.186	0.00	0.157	2.75	1.00	1.00	0.0	33.45	91.90	0.00	4403	0	3172	1739	4910
6	110	39.24	23.241	15.020	0.00	0.130	2.85	1.00	1.00	0.0	30.45	86.75	0.00	4893	0	2893	1681	4574
5	90	37.66	29.965	15.855	0.00	0.138	2.82	1.00	1.00	0.0	37.51	105.63	0.00	5614	0	3382	1613	4995
4	70	35.78	32.868	16.689	0.00	0.134	2.83	1.00	1.00	0.0	40.72	115.21	0.00	6123	0	3504	1532	5036
3	50	33.41	40.951	16.689	0.00	0.142	2.80	1.00	1.00	0.0	49.06	137.32	0.00	6553	0	3899	1431	5330
2	30	30.10	44.342	17.524	0.00	0.140	2.81	1.00	1.00	0.0	52.93	148.60	0.00	7107	0	3802	1289	5091
1	10	26.09	47.794	17.524	0.00	0.137	2.82	1.00	1.00	0.0	55.04	155.21	0.00	8553	0	3442	1118	4560
Totals														58,900	0			55,479

0.9D + 1.0W 60°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	0.80	1.00	0.0	6.61	17.26	0.00	728	0	678	743	1421
12	230	45.61	12.104	8.333	0.00	0.217	2.54	0.80	1.00	0.0	14.50	36.83	0.00	2275	0	1428	1954	3381
11	210	44.77	11.501	10.014	0.00	0.190	2.63	0.80	1.00	0.0	14.79	38.88	0.00	2480	0	1480	1918	3397
10	190	43.87	11.305	11.682	0.00	0.153	2.76	0.80	1.00	0.0	15.19	41.92	0.00	2939	0	1563	1879	3442
9	170	42.88	16.644	12.517	0.00	0.156	2.75	0.80	1.00	0.0	19.78	54.34	0.00	3422	0	1981	1837	3817
8	150	41.80	19.283	13.351	0.00	0.146	2.78	0.80	1.00	0.0	22.15	61.66	0.00	3808	0	2191	1790	3981
7	130	40.60	26.406	14.186	0.00	0.157	2.75	0.80	1.00	0.0	28.17	77.39	0.00	4403	0	2671	1739	4410
6	110	39.24	23.241	15.020	0.00	0.130	2.85	0.80	1.00	0.0	25.80	73.51	0.00	4893	0	2452	1681	4132
5	90	37.66	29.965	15.855	0.00	0.138	2.82	0.80	1.00	0.0	31.52	88.75	0.00	5614	0	2841	1613	4454
4	70	35.78	32.868	16.689	0.00	0.134	2.83	0.80	1.00	0.0	34.15	96.61	0.00	6123	0	2938	1532	4471
3	50	33.41	40.951	16.689	0.00	0.142	2.80	0.80	1.00	0.0	40.87	114.39	0.00	6553	0	3248	1431	4679
2	30	30.10	44.342	17.524	0.00	0.140	2.81	0.80	1.00	0.0	44.06	123.70	0.00	7107	0	3165	1289	4454
1	10	26.09	47.794	17.524	0.00	0.137	2.82	0.80	1.00	0.0	45.48	128.25	0.00	8553	0	2845	1118	3962
Totals														58,900	0			50,002

0.9D + 1.0W 90°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	0.85	1.00	0.0	6.92	18.07	0.00	728	0	710	743	1452
12	230	45.61	12.104	8.333	0.00	0.217	2.54	0.85	1.00	0.0	15.10	38.37	0.00	2275	0	1487	1954	3441
11	210	44.77	11.501	10.014	0.00	0.190	2.63	0.85	1.00	0.0	15.36	40.39	0.00	2480	0	1537	1918	3455
10	190	43.87	11.305	11.682	0.00	0.153	2.76	0.85	1.00	0.0	15.76	43.48	0.00	2939	0	1621	1879	3500
9	170	42.88	16.644	12.517	0.00	0.156	2.75	0.85	1.00	0.0	20.61	56.62	0.00	3422	0	2064	1837	3901
8	150	41.80	19.283	13.351	0.00	0.146	2.78	0.85	1.00	0.0	23.11	64.34	0.00	3808	0	2286	1790	4077
7	130	40.60	26.406	14.186	0.00	0.157	2.75	0.85	1.00	0.0	29.49	81.02	0.00	4403	0	2796	1739	4535
6	110	39.24	23.241	15.020	0.00	0.130	2.85	0.85	1.00	0.0	26.97	76.82	0.00	4893	0	2562	1681	4243
5	90	37.66	29.965	15.855	0.00	0.138	2.82	0.85	1.00	0.0	33.01	92.97	0.00	5614	0	2976	1613	4590
4	70	35.78	32.868	16.689	0.00	0.134	2.83	0.85	1.00	0.0	35.79	101.26	0.00	6123	0	3080	1532	4612
3	50	33.41	40.951	16.689	0.00	0.142	2.80	0.85	1.00	0.0	42.91	120.12	0.00	6553	0	3411	1431	4842
2	30	30.10	44.342	17.524	0.00	0.140	2.81	0.85	1.00	0.0	46.28	129.93	0.00	7107	0	3324	1289	4613
1	10	26.09	47.794	17.524	0.00	0.137	2.82	0.85	1.00	0.0	47.87	134.99	0.00	8553	0	2994	1118	4112
Totals														58,900	0			51,371

ASSET: 417139, Columbia (Charles) FL

CODE: ANSI/TIA-222-I

CUSTOMER: T-MOBILE

PROJECT: 15322453_C3_02

SECTION FORCES

0.9D + 1.0W 120°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	1.00	1.00	0.0	7.84	20.48	0.00	728	0	804	743	1547
12	230	45.61	12.104	8.333	0.00	0.217	2.54	1.00	1.00	0.0	16.92	42.98	0.00	2275	0	1666	1954	3620
11	210	44.77	11.501	10.014	0.00	0.190	2.63	1.00	1.00	0.0	17.09	44.92	0.00	2480	0	1710	1918	3627
10	190	43.87	11.305	11.682	0.00	0.153	2.76	1.00	1.00	0.0	17.45	48.16	0.00	2939	0	1796	1879	3675
9	170	42.88	16.644	12.517	0.00	0.156	2.75	1.00	1.00	0.0	23.10	63.48	0.00	3422	0	2314	1837	4151
8	150	41.80	19.283	13.351	0.00	0.146	2.78	1.00	1.00	0.0	26.00	72.40	0.00	3808	0	2572	1790	4363
7	130	40.60	26.406	14.186	0.00	0.157	2.75	1.00	1.00	0.0	33.45	91.90	0.00	4403	0	3172	1739	4910
6	110	39.24	23.241	15.020	0.00	0.130	2.85	1.00	1.00	0.0	30.45	86.75	0.00	4893	0	2893	1681	4574
5	90	37.66	29.965	15.855	0.00	0.138	2.82	1.00	1.00	0.0	37.51	105.63	0.00	5614	0	3382	1613	4995
4	70	35.78	32.868	16.689	0.00	0.134	2.83	1.00	1.00	0.0	40.72	115.21	0.00	6123	0	3504	1532	5036
3	50	33.41	40.951	16.689	0.00	0.142	2.80	1.00	1.00	0.0	49.06	137.32	0.00	6553	0	3899	1431	5330
2	30	30.10	44.342	17.524	0.00	0.140	2.81	1.00	1.00	0.0	52.93	148.60	0.00	7107	0	3802	1289	5091
1	10	26.09	47.794	17.524	0.00	0.137	2.82	1.00	1.00	0.0	55.04	155.21	0.00	8553	0	3442	1118	4560
Totals															58,900	0		55,479

0.9D + 1.0W 180°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	0.80	1.00	0.0	6.61	17.26	0.00	728	0	678	743	1421
12	230	45.61	12.104	8.333	0.00	0.217	2.54	0.80	1.00	0.0	14.50	36.83	0.00	2275	0	1428	1954	3381
11	210	44.77	11.501	10.014	0.00	0.190	2.63	0.80	1.00	0.0	14.79	38.88	0.00	2480	0	1480	1918	3397
10	190	43.87	11.305	11.682	0.00	0.153	2.76	0.80	1.00	0.0	15.19	41.92	0.00	2939	0	1563	1879	3442
9	170	42.88	16.644	12.517	0.00	0.156	2.75	0.80	1.00	0.0	19.78	54.34	0.00	3422	0	1981	1837	3817
8	150	41.80	19.283	13.351	0.00	0.146	2.78	0.80	1.00	0.0	22.15	61.66	0.00	3808	0	2191	1790	3981
7	130	40.60	26.406	14.186	0.00	0.157	2.75	0.80	1.00	0.0	28.17	77.39	0.00	4403	0	2671	1739	4410
6	110	39.24	23.241	15.020	0.00	0.130	2.85	0.80	1.00	0.0	25.80	73.51	0.00	4893	0	2452	1681	4132
5	90	37.66	29.965	15.855	0.00	0.138	2.82	0.80	1.00	0.0	31.52	88.75	0.00	5614	0	2841	1613	4454
4	70	35.78	32.868	16.689	0.00	0.134	2.83	0.80	1.00	0.0	34.15	96.61	0.00	6123	0	2938	1532	4471
3	50	33.41	40.951	16.689	0.00	0.142	2.80	0.80	1.00	0.0	40.87	114.39	0.00	6553	0	3248	1431	4679
2	30	30.10	44.342	17.524	0.00	0.140	2.81	0.80	1.00	0.0	44.06	123.70	0.00	7107	0	3165	1289	4454
1	10	26.09	47.794	17.524	0.00	0.137	2.82	0.80	1.00	0.0	45.48	128.25	0.00	8553	0	2845	1118	3962
Totals															58,900	0		50,002

0.9D + 1.0W 210°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	0.85	1.00	0.0	6.92	18.07	0.00	728	0	710	743	1452
12	230	45.61	12.104	8.333	0.00	0.217	2.54	0.85	1.00	0.0	15.10	38.37	0.00	2275	0	1487	1954	3441
11	210	44.77	11.501	10.014	0.00	0.190	2.63	0.85	1.00	0.0	15.36	40.39	0.00	2480	0	1537	1918	3455
10	190	43.87	11.305	11.682	0.00	0.153	2.76	0.85	1.00	0.0	15.76	43.48	0.00	2939	0	1621	1879	3500
9	170	42.88	16.644	12.517	0.00	0.156	2.75	0.85	1.00	0.0	20.61	56.62	0.00	3422	0	2064	1837	3901
8	150	41.80	19.283	13.351	0.00	0.146	2.78	0.85	1.00	0.0	23.11	64.34	0.00	3808	0	2286	1790	4077
7	130	40.60	26.406	14.186	0.00	0.157	2.75	0.85	1.00	0.0	29.49	81.02	0.00	4403	0	2796	1739	4535
6	110	39.24	23.241	15.020	0.00	0.130	2.85	0.85	1.00	0.0	26.97	76.82	0.00	4893	0	2562	1681	4243
5	90	37.66	29.965	15.855	0.00	0.138	2.82	0.85	1.00	0.0	33.01	92.97	0.00	5614	0	2976	1613	4590
4	70	35.78	32.868	16.689	0.00	0.134	2.83	0.85	1.00	0.0	35.79	101.26	0.00	6123	0	3080	1532	4612
3	50	33.41	40.951	16.689	0.00	0.142	2.80	0.85	1.00	0.0	42.91	120.12	0.00	6553	0	3411	1431	4842
2	30	30.10	44.342	17.524	0.00	0.140	2.81	0.85	1.00	0.0	46.28	129.93	0.00	7107	0	3324	1289	4613
1	10	26.09	47.794	17.524	0.00	0.137	2.82	0.85	1.00	0.0	47.87	134.99	0.00	8553	0	2994	1118	4112
Totals															58,900	0		51,371

0.9D + 1.0W 240°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	1.00	1.00	0.0	7.84	20.48	0.00	728	0	804	743	1547
12	230	45.61	12.104	8.333	0.00	0.217	2.54	1.00	1.00	0.0	16.92	42.98	0.00	2275	0	1666	1954	3620
11	210	44.77	11.501	10.014	0.00	0.190	2.63	1.00	1.00	0.0	17.09	44.92	0.00	2480	0	1710	1918	3627
10	190	43.87	11.305	11.682	0.00	0.153	2.76	1.00	1.00	0.0	17.45	48.16	0.00	2939	0	1796	1879	3675
9	170	42.88	16.644	12.517	0.00	0.156	2.75	1.00	1.00	0.0	23.10	63.48	0.00	3422	0	2314	1837	4151
8	150	41.80	19.283	13.351	0.00	0.146	2.78	1.00	1.00	0.0	26.00	72.40	0.00	3808	0	2572	1790	4363
7	130	40.60	26.406	14.186	0.00	0.157	2.75	1.00	1.00	0.0	33.45	91.90	0.00	4403	0	3172	1739	4910
6	110	39.24	23.241	15.020	0.00	0.130	2.85	1.00	1.00	0.0	30.45	86.75	0.00	4893	0	2893	1681	4574
5	90	37.66	29.965	15.855	0.00	0.138	2.82	1.00	1.00	0.0	37.51	105.63	0.00	5614	0	3382	1613	4995
4	70	35.78	32.868	16.689	0.00	0.134	2.83	1.00	1.00	0.0	40.72	115.21	0.00	6123	0	3504	1532	5036
3	50	33.41	40.951	16.689	0.00	0.142	2.80	1.00	1.00	0.0	49.06	137.32	0.00	6553	0	3899	1431	5330
2	30	30.10	44.342	17.524	0.00	0.140	2.81	1.00	1.00	0.0	52.93	148.60	0.00	7107	0	3802	1289	5091
1	10	26.09	47.794	17.524	0.00	0.137	2.82	1.00	1.00	0.0	55.04	155.21	0.00	8553	0	3442	1118	4560
Totals															58,900	0		55,479

ASSET: 417139, Columbia (Charles) FL

CODE: ANSI/TIA-222-I

CUSTOMER: T-MOBILE

PROJECT: 15322453_C3_02

SECTION FORCES

0.9D + 1.0W 300°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	0.80	1.00	0.0	6.61	17.26	0.00	728	0	678	743	1421
12	230	45.61	12.104	8.333	0.00	0.217	2.54	0.80	1.00	0.0	14.50	36.83	0.00	2275	0	1428	1954	3381
11	210	44.77	11.501	10.014	0.00	0.190	2.63	0.80	1.00	0.0	14.79	38.88	0.00	2480	0	1480	1918	3397
10	190	43.87	11.305	11.682	0.00	0.153	2.76	0.80	1.00	0.0	15.19	41.92	0.00	2939	0	1563	1879	3442
9	170	42.88	16.644	12.517	0.00	0.156	2.75	0.80	1.00	0.0	19.78	54.34	0.00	3422	0	1981	1837	3817
8	150	41.80	19.283	13.351	0.00	0.146	2.78	0.80	1.00	0.0	22.15	61.66	0.00	3808	0	2191	1790	3981
7	130	40.60	26.406	14.186	0.00	0.157	2.75	0.80	1.00	0.0	28.17	77.39	0.00	4403	0	2671	1739	4410
6	110	39.24	23.241	15.020	0.00	0.130	2.85	0.80	1.00	0.0	25.80	73.51	0.00	4893	0	2452	1681	4132
5	90	37.66	29.965	15.855	0.00	0.138	2.82	0.80	1.00	0.0	31.52	88.75	0.00	5614	0	2841	1613	4454
4	70	35.78	32.868	16.689	0.00	0.134	2.83	0.80	1.00	0.0	34.15	96.61	0.00	6123	0	2938	1532	4471
3	50	33.41	40.951	16.689	0.00	0.142	2.80	0.80	1.00	0.0	40.87	114.39	0.00	6553	0	3248	1431	4679
2	30	30.10	44.342	17.524	0.00	0.140	2.81	0.80	1.00	0.0	44.06	123.70	0.00	7107	0	3165	1289	4454
1	10	26.09	47.794	17.524	0.00	0.137	2.82	0.80	1.00	0.0	45.48	128.25	0.00	8553	0	2845	1118	3962
Totals														58,900	0			50,002

0.9D + 1.0W 330°

Gust Response Factor (Gh): 0.85

119 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)
13	245	46.21	6.172	2.917	0.00	0.196	2.61	0.85	1.00	0.0	6.92	18.07	0.00	728	0	710	743	1452
12	230	45.61	12.104	8.333	0.00	0.217	2.54	0.85	1.00	0.0	15.10	38.37	0.00	2275	0	1487	1954	3441
11	210	44.77	11.501	10.014	0.00	0.190	2.63	0.85	1.00	0.0	15.36	40.39	0.00	2480	0	1537	1918	3455
10	190	43.87	11.305	11.682	0.00	0.153	2.76	0.85	1.00	0.0	15.76	43.48	0.00	2939	0	1621	1879	3500
9	170	42.88	16.644	12.517	0.00	0.156	2.75	0.85	1.00	0.0	20.61	56.62	0.00	3422	0	2064	1837	3901
8	150	41.80	19.283	13.351	0.00	0.146	2.78	0.85	1.00	0.0	23.11	64.34	0.00	3808	0	2286	1790	4077
7	130	40.60	26.406	14.186	0.00	0.157	2.75	0.85	1.00	0.0	29.49	81.02	0.00	4403	0	2796	1739	4535
6	110	39.24	23.241	15.020	0.00	0.130	2.85	0.85	1.00	0.0	26.97	76.82	0.00	4893	0	2562	1681	4243
5	90	37.66	29.965	15.855	0.00	0.138	2.82	0.85	1.00	0.0	33.01	92.97	0.00	5614	0	2976	1613	4590
4	70	35.78	32.868	16.689	0.00	0.134	2.83	0.85	1.00	0.0	35.79	101.26	0.00	6123	0	3080	1532	4612
3	50	33.41	40.951	16.689	0.00	0.142	2.80	0.85	1.00	0.0	42.91	120.12	0.00	6553	0	3411	1431	4842
2	30	30.10	44.342	17.524	0.00	0.140	2.81	0.85	1.00	0.0	46.28	129.93	0.00	7107	0	3324	1289	4613
1	10	26.09	47.794	17.524	0.00	0.137	2.82	0.85	1.00	0.0	47.87	134.99	0.00	8553	0	2994	1118	4112
Totals														58,900	0			51,371

1.2D + 1.0Di + 1.0Wi Normal

Gust Response Factor (Gh): 0.85

30 mph Wind with 0" 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)
13	245	2.94	6.172	2.917	0.00	0.196	2.61	1.00	1.00	0.0	7.84	20.48	0.00	971	0	51	47	98
12	230	2.90	12.104	8.333	0.00	0.217	2.54	1.00	1.00	0.0	16.92	42.98	0.00	3034	0	106	134	240
11	210	2.85	11.501	10.014	0.00	0.190	2.63	1.00	1.00	0.0	17.24	45.31	0.00	3307	0	110	132	242
10	190	2.79	11.305	11.682	0.00	0.153	2.76	1.00	1.00	0.0	17.94	49.50	0.00	3919	0	117	132	249
9	170	2.73	16.644	12.517	0.00	0.156	2.75	1.00	1.00	0.0	23.76	65.27	0.00	4562	0	151	129	280
8	150	2.66	19.283	13.351	0.00	0.146	2.78	1.00	1.00	0.0	26.86	74.77	0.00	5078	0	169	126	295
7	130	2.58	26.406	14.186	0.00	0.157	2.75	1.00	1.00	0.0	34.47	94.69	0.00	5871	0	208	122	329
6	110	2.49	23.241	15.020	0.00	0.130	2.85	1.00	1.00	0.0	31.74	90.41	0.00	6524	0	192	119	310
5	90	2.39	29.965	15.855	0.00	0.138	2.82	1.00	1.00	0.0	38.95	109.67	0.00	7485	0	223	114	337
4	70	2.27	32.868	16.689	0.00	0.134	2.83	1.00	1.00	0.0	42.32	119.72	0.00	8164	0	231	108	340
3	50	2.12	40.951	16.689	0.00	0.142	2.80	1.00	1.00	0.0	50.41	141.11	0.00	8738	0	255	101	355
2	30	1.91	44.342	17.524	0.00	0.140	2.81	1.00	1.00	0.0	54.27	152.36	0.00	9476	0	248	91	339
1	10	1.66	47.794	17.524	0.00	0.137	2.82	1.00	1.00	0.0	57.72	162.76	0.00	11404	0	229	79	308
Totals														78,533	0			3,722

1.2D + 1.0Di + 1.0Wi 60°

Gust Response Factor (Gh): 0.85

30 mph Wind with 0" 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)
13	245	2.94	6.172	2.917	0.00	0.196	2.61	0.80	1.00	0.0	6.61	17.26	0.00	971	0	43	47	90
12	230	2.90	12.104	8.333	0.00	0.217	2.54	0.80	1.00	0.0	14.50	36.83	0.00	3034	0	91	134	224
11	210	2.85	11.501	10.014	0.00	0.190	2.63	0.80	1.00	0.0	14.94	39.26	0.00	3307	0	95	132	227
10	190	2.79	11.305	11.682	0.00	0.153	2.76	0.80	1.00	0.0	15.68	43.26	0.00	3919	0	103	132	234
9	170	2.73	16.644	12.517	0.00	0.156	2.75	0.80	1.00	0.0	20.43	56.13	0.00	4562	0	130	129	259
8	150	2.66	19.283	13.351	0.00	0.146	2.78	0.80	1.00	0.0	23.00	64.04	0.00	5078	0	145	126	270
7	130	2.58	26.406	14.186	0.00	0.157	2.75	0.80	1.00	0.0	29.19	80.18	0.00	5871	0	176	122	298
6	110	2.49	23.241	15.020	0.00	0.130	2.85	0.80	1.00	0.0	27.09	77.17	0.00	6524	0	164	119	282
5	90	2.39	29.965	15.855	0.00	0.138	2.82	0.80	1.00	0.0	32.95	92.80	0.00	7485	0	189	114	302
4	70	2.27	32.868	16.689	0.00	0.134	2.83	0.80	1.00	0.0	35.74	101.13	0.00	8164	0	195	108	304
3	50	2.12	40.951	16.689	0.00	0.142	2.80	0.80	1.00	0.0	42.22	118.18	0.00	8738	0	213	101	314
2	30	1.91	44.342	17.524	0.00	0.140	2.81	0.80	1.00	0.0	45.40	127.46	0.00	9476	0	207	91	298
1	10	1.66	47.794	17.524	0.00	0.137	2.82	0.80	1.00	0.0	48.16	135.81	0.00	11404	0	191	79	270
Totals														78,533	0			3,373

ASSET: 417139, Columbia (Charles) FL

CODE: ANSI/TIA-222-I

CUSTOMER: T-MOBILE

PROJECT: 15322453_C3_02

SECTION FORCES

1.2D + 1.0Di + 1.0Wi 90°

Gust Response Factor (Gh): 0.85

30 mph Wind with 0" 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)
13	245	2.94	6.172	2.917	0.00	0.196	2.61	0.85	1.00	0.0	6.92	18.07	0.00	971	0	45	47	92
12	230	2.90	12.104	8.333	0.00	0.217	2.54	0.85	1.00	0.0	15.10	38.37	0.00	3034	0	95	134	228
11	210	2.85	11.501	10.014	0.00	0.190	2.63	0.85	1.00	0.0	15.51	40.78	0.00	3307	0	99	132	231
10	190	2.79	11.305	11.682	0.00	0.153	2.76	0.85	1.00	0.0	16.24	44.82	0.00	3919	0	106	132	238
9	170	2.73	16.644	12.517	0.00	0.156	2.75	0.85	1.00	0.0	21.26	58.41	0.00	4562	0	135	129	264
8	150	2.66	19.283	13.351	0.00	0.146	2.78	0.85	1.00	0.0	23.96	66.72	0.00	5078	0	151	126	276
7	130	2.58	26.406	14.186	0.00	0.157	2.75	0.85	1.00	0.0	30.51	83.81	0.00	5871	0	184	122	305
6	110	2.49	23.241	15.020	0.00	0.130	2.85	0.85	1.00	0.0	28.25	80.48	0.00	6524	0	171	119	289
5	90	2.39	29.965	15.855	0.00	0.138	2.82	0.85	1.00	0.0	34.45	97.01	0.00	7485	0	197	114	311
4	70	2.27	32.868	16.689	0.00	0.134	2.83	0.85	1.00	0.0	37.39	105.78	0.00	8164	0	204	108	313
3	50	2.12	40.951	16.689	0.00	0.142	2.80	0.85	1.00	0.0	44.27	123.91	0.00	8738	0	224	101	324
2	30	1.91	44.342	17.524	0.00	0.140	2.81	0.85	1.00	0.0	47.62	133.69	0.00	9476	0	217	91	308
1	10	1.66	47.794	17.524	0.00	0.137	2.82	0.85	1.00	0.0	50.55	142.54	0.00	11404	0	201	79	280
Totals														78,533	0			3,460

1.2D + 1.0Di + 1.0Wi 120°

Gust Response Factor (Gh): 0.85

30 mph Wind with 0" 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)
13	245	2.94	6.172	2.917	0.00	0.196	2.61	1.00	1.00	0.0	7.84	20.48	0.00	971	0	51	47	98
12	230	2.90	12.104	8.333	0.00	0.217	2.54	1.00	1.00	0.0	16.92	42.98	0.00	3034	0	106	134	240
11	210	2.85	11.501	10.014	0.00	0.190	2.63	1.00	1.00	0.0	17.24	45.31	0.00	3307	0	110	132	242
10	190	2.79	11.305	11.682	0.00	0.153	2.76	1.00	1.00	0.0	17.94	49.50	0.00	3919	0	117	132	249
9	170	2.73	16.644	12.517	0.00	0.156	2.75	1.00	1.00	0.0	23.76	65.27	0.00	4562	0	151	129	280
8	150	2.66	19.283	13.351	0.00	0.146	2.78	1.00	1.00	0.0	26.86	74.77	0.00	5078	0	169	126	295
7	130	2.58	26.406	14.186	0.00	0.157	2.75	1.00	1.00	0.0	34.47	94.69	0.00	5871	0	208	122	329
6	110	2.49	23.241	15.020	0.00	0.130	2.85	1.00	1.00	0.0	31.74	90.41	0.00	6524	0	192	119	310
5	90	2.39	29.965	15.855	0.00	0.138	2.82	1.00	1.00	0.0	38.95	109.67	0.00	7485	0	223	114	337
4	70	2.27	32.868	16.689	0.00	0.134	2.83	1.00	1.00	0.0	42.32	119.72	0.00	8164	0	231	108	340
3	50	2.12	40.951	16.689	0.00	0.142	2.80	1.00	1.00	0.0	50.41	141.11	0.00	8738	0	255	101	355
2	30	1.91	44.342	17.524	0.00	0.140	2.81	1.00	1.00	0.0	54.27	152.36	0.00	9476	0	248	91	339
1	10	1.66	47.794	17.524	0.00	0.137	2.82	1.00	1.00	0.0	57.72	162.76	0.00	11404	0	229	79	308
Totals														78,533	0			3,722

1.2D + 1.0Di + 1.0Wi 180°

Gust Response Factor (Gh): 0.85

30 mph Wind with 0" 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)
13	245	2.94	6.172	2.917	0.00	0.196	2.61	0.80	1.00	0.0	6.61	17.26	0.00	971	0	43	47	90
12	230	2.90	12.104	8.333	0.00	0.217	2.54	0.80	1.00	0.0	14.50	36.83	0.00	3034	0	91	134	224
11	210	2.85	11.501	10.014	0.00	0.190	2.63	0.80	1.00	0.0	14.94	39.26	0.00	3307	0	95	132	227
10	190	2.79	11.305	11.682	0.00	0.153	2.76	0.80	1.00	0.0	15.68	43.26	0.00	3919	0	103	132	234
9	170	2.73	16.644	12.517	0.00	0.156	2.75	0.80	1.00	0.0	20.43	56.13	0.00	4562	0	130	129	259
8	150	2.66	19.283	13.351	0.00	0.146	2.78	0.80	1.00	0.0	23.00	64.04	0.00	5078	0	145	126	270
7	130	2.58	26.406	14.186	0.00	0.157	2.75	0.80	1.00	0.0	29.19	80.18	0.00	5871	0	176	122	298
6	110	2.49	23.241	15.020	0.00	0.130	2.85	0.80	1.00	0.0	27.09	77.17	0.00	6524	0	164	119	282
5	90	2.39	29.965	15.855	0.00	0.138	2.82	0.80	1.00	0.0	32.95	92.80	0.00	7485	0	189	114	302
4	70	2.27	32.868	16.689	0.00	0.134	2.83	0.80	1.00	0.0	35.74	101.13	0.00	8164	0	195	108	304
3	50	2.12	40.951	16.689	0.00	0.142	2.80	0.80	1.00	0.0	42.22	118.18	0.00	8738	0	213	101	314
2	30	1.91	44.342	17.524	0.00	0.140	2.81	0.80	1.00	0.0	45.40	127.46	0.00	9476	0	207	91	298
1	10	1.66	47.794	17.524	0.00	0.137	2.82	0.80	1.00	0.0	48.16	135.81	0.00	11404	0	191	79	270
Totals														78,533	0			3,373

1.2D + 1.0Di + 1.0Wi 210°

Gust Response Factor (Gh): 0.85

30 mph Wind with 0" 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)
13	245	2.94	6.172	2.917	0.00	0.196	2.61	0.85	1.00	0.0	6.92	18.07	0.00	971	0	45	47	92
12	230	2.90	12.104	8.333	0.00	0.217	2.54	0.85	1.00	0.0	15.10	38.37	0.00	3034	0	95	134	228
11	210	2.85	11.501	10.014	0.00	0.190	2.63	0.85	1.00	0.0	15.51	40.78	0.00	3307	0	99	132	231
10	190	2.79	11.305	11.682	0.00	0.153	2.76	0.85	1.00	0.0	16.24	44.82	0.00	3919	0	106	132	238
9	170	2.73	16.644	12.517	0.00	0.156	2.75	0.85	1.00	0.0	21.26	58.41	0.00	4562	0	135	129	264
8	150	2.66	19.283	13.351	0.00	0.146	2.78	0.85	1.00	0.0	23.96	66.72	0.00	5078	0	151	126	276
7	130	2.58	26.406	14.186	0.00	0.157	2.75	0.85	1.00	0.0	30.51	83.81	0.00	5871	0	184	122	305
6	110	2.49	23.241	15.020	0.00	0.130	2.85	0.85	1.00	0.0	28.25	80.48	0.00	6524	0	171	119	289
5	90	2.39	29.965	15.855	0.00	0.138	2.82	0.85	1.00	0.0	34.45	97.01	0.00	7485	0	197	114	311
4	70	2.27	32.868	16.689	0.00	0.134	2.83	0.85	1.00	0.0	37.39	105.78	0.00	8164	0	204	108	313
3	50	2.12	40.951	16.689	0.00	0.142	2.80	0.85	1.00	0.0	44.27	123.91	0.00	8738	0	224	101	324
2	30	1.91	44.342	17.524	0.00	0.140	2.81	0.85	1.00	0.0	47.62	133.69	0.00	9476	0	217	91	308
1	10	1.66	47.794	17.524	0.00	0.137	2.82	0.85	1.00	0.0	50.55	142.54	0.00	11404	0	201	79	280
Totals														78,533	0			3,460

ASSET: 417139, Columbia (Charles) FL

CODE: ANSI/TIA-222-I

CUSTOMER: T-MOBILE

PROJECT: 15322453_C3_02

SECTION FORCES

1.2D + 1.0Di + 1.0Wi 240°

Gust Response Factor (Gh): 0.85

30 mph Wind with 0" 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)
13	245	2.94	6.172	2.917	0.00	0.196	2.61	1.00	1.00	0.0	7.84	20.48	0.00	971	0	51	47	98
12	230	2.90	12.104	8.333	0.00	0.217	2.54	1.00	1.00	0.0	16.92	42.98	0.00	3034	0	106	134	240
11	210	2.85	11.501	10.014	0.00	0.190	2.63	1.00	1.00	0.0	17.24	45.31	0.00	3307	0	110	132	242
10	190	2.79	11.305	11.682	0.00	0.153	2.76	1.00	1.00	0.0	17.94	49.50	0.00	3919	0	117	132	249
9	170	2.73	16.644	12.517	0.00	0.156	2.75	1.00	1.00	0.0	23.76	65.27	0.00	4562	0	151	129	280
8	150	2.66	19.283	13.351	0.00	0.146	2.78	1.00	1.00	0.0	26.86	74.77	0.00	5078	0	169	126	295
7	130	2.58	26.406	14.186	0.00	0.157	2.75	1.00	1.00	0.0	34.47	94.69	0.00	5871	0	208	122	329
6	110	2.49	23.241	15.020	0.00	0.130	2.85	1.00	1.00	0.0	31.74	90.41	0.00	6524	0	192	119	310
5	90	2.39	29.965	15.855	0.00	0.138	2.82	1.00	1.00	0.0	38.95	109.67	0.00	7485	0	223	114	337
4	70	2.27	32.868	16.689	0.00	0.134	2.83	1.00	1.00	0.0	42.32	119.72	0.00	8164	0	231	108	340
3	50	2.12	40.951	16.689	0.00	0.142	2.80	1.00	1.00	0.0	50.41	141.11	0.00	8738	0	255	101	355
2	30	1.91	44.342	17.524	0.00	0.140	2.81	1.00	1.00	0.0	54.27	152.36	0.00	9476	0	248	91	339
1	10	1.66	47.794	17.524	0.00	0.137	2.82	1.00	1.00	0.0	57.72	162.76	0.00	11404	0	229	79	308
Totals															78,533	0		3,722

1.2D + 1.0Di + 1.0Wi 300°

Gust Response Factor (Gh): 0.85

30 mph Wind with 0" 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)
13	245	2.94	6.172	2.917	0.00	0.196	2.61	0.80	1.00	0.0	6.61	17.26	0.00	971	0	43	47	90
12	230	2.90	12.104	8.333	0.00	0.217	2.54	0.80	1.00	0.0	14.50	36.83	0.00	3034	0	91	134	224
11	210	2.85	11.501	10.014	0.00	0.190	2.63	0.80	1.00	0.0	14.94	39.26	0.00	3307	0	95	132	227
10	190	2.79	11.305	11.682	0.00	0.153	2.76	0.80	1.00	0.0	15.68	43.26	0.00	3919	0	103	132	234
9	170	2.73	16.644	12.517	0.00	0.156	2.75	0.80	1.00	0.0	20.43	56.13	0.00	4562	0	130	129	259
8	150	2.66	19.283	13.351	0.00	0.146	2.78	0.80	1.00	0.0	23.00	64.04	0.00	5078	0	145	126	270
7	130	2.58	26.406	14.186	0.00	0.157	2.75	0.80	1.00	0.0	29.19	80.18	0.00	5871	0	176	122	298
6	110	2.49	23.241	15.020	0.00	0.130	2.85	0.80	1.00	0.0	27.09	77.17	0.00	6524	0	164	119	282
5	90	2.39	29.965	15.855	0.00	0.138	2.82	0.80	1.00	0.0	32.95	92.80	0.00	7485	0	189	114	302
4	70	2.27	32.868	16.689	0.00	0.134	2.83	0.80	1.00	0.0	35.74	101.13	0.00	8164	0	195	108	304
3	50	2.12	40.951	16.689	0.00	0.142	2.80	0.80	1.00	0.0	42.22	118.18	0.00	8738	0	213	101	314
2	30	1.91	44.342	17.524	0.00	0.140	2.81	0.80	1.00	0.0	45.40	127.46	0.00	9476	0	207	91	298
1	10	1.66	47.794	17.524	0.00	0.137	2.82	0.80	1.00	0.0	48.16	135.81	0.00	11404	0	191	79	270
Totals															78,533	0		3,373

1.2D + 1.0Di + 1.0Wi 330°

Gust Response Factor (Gh): 0.85

30 mph Wind with 0" 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)
13	245	2.94	6.172	2.917	0.00	0.196	2.61	0.85	1.00	0.0	6.92	18.07	0.00	971	0	45	47	92
12	230	2.90	12.104	8.333	0.00	0.217	2.54	0.85	1.00	0.0	15.10	38.37	0.00	3034	0	95	134	228
11	210	2.85	11.501	10.014	0.00	0.190	2.63	0.85	1.00	0.0	15.51	40.78	0.00	3307	0	99	132	231
10	190	2.79	11.305	11.682	0.00	0.153	2.76	0.85	1.00	0.0	16.24	44.82	0.00	3919	0	106	132	238
9	170	2.73	16.644	12.517	0.00	0.156	2.75	0.85	1.00	0.0	21.26	58.41	0.00	4562	0	135	129	264
8	150	2.66	19.283	13.351	0.00	0.146	2.78	0.85	1.00	0.0	23.96	66.72	0.00	5078	0	151	126	276
7	130	2.58	26.406	14.186	0.00	0.157	2.75	0.85	1.00	0.0	30.51	83.81	0.00	5871	0	184	122	305
6	110	2.49	23.241	15.020	0.00	0.130	2.85	0.85	1.00	0.0	28.25	80.48	0.00	6524	0	171	119	289
5	90	2.39	29.965	15.855	0.00	0.138	2.82	0.85	1.00	0.0	34.45	97.01	0.00	7485	0	197	114	311
4	70	2.27	32.868	16.689	0.00	0.134	2.83	0.85	1.00	0.0	37.39	105.78	0.00	8164	0	204	108	313
3	50	2.12	40.951	16.689	0.00	0.142	2.80	0.85	1.00	0.0	44.27	123.91	0.00	8738	0	224	101	324
2	30	1.91	44.342	17.524	0.00	0.140	2.81	0.85	1.00	0.0	47.62	133.69	0.00	9476	0	217	91	308
1	10	1.66	47.794	17.524	0.00	0.137	2.82	0.85	1.00	0.0	50.55	142.54	0.00	11404	0	201	79	280
Totals															78,533	0		3,460

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 _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)
13	245	11.75	6.172	2.917	0.00	0.196	2.61	1.00	1.00	0.0	7.84	20.48	0.00	809	0	205	189	393
12	230	11.60	12.104	8.333	0.00	0.217	2.54	1.00	1.00	0.0	16.92	42.98	0.00	2528	0	424	497	920
11	210	11.38	11.501	10.014	0.00	0.190	2.63	1.00	1.00	0.0	17.24	45.31	0.00	2756	0	438	487	926
10	190	11.15	11.305	11.682	0.00	0.153	2.76	1.00	1.00	0.0	17.94	49.50	0.00	3266	0	469	478	947
9	170	10.90	16.644	12.517	0.00	0.156	2.75	1.00	1.00	0.0	23.76	65.27	0.00	3802	0	605	467	1072
8	150	10.63	19.283	13.351	0.00	0.146	2.78	1.00	1.00	0.0	26.86	74.77	0.00	4231	0	675	455	1131
7	130	10.32	26.406	14.186	0.00	0.157	2.75	1.00	1.00	0.0	34.47	94.69	0.00	4893	0	831	442	1273
6	110	9.98	23.241	15.020	0.00	0.130	2.85	1.00	1.00	0.0	31.74	90.41	0.00	5437	0	767	427	1194
5	90	9.58	29.965	15.855	0.00	0.138	2.82	1.00	1.00	0.0	38.95	109.67	0.00	6237	0	893	410	1303
4	70	9.10	32.868	16.689	0.00	0.134	2.83	1.00	1.00	0.0	42.32	119.72	0.00	6804	0	926	390	1315
3	50	8.49	40.951	16.689	0.00	0.142	2.80	1.00	1.00	0.0	50.41	141.11	0.00	7282	0	1019	364	1382
2	30	7.65	44.342	17.524	0.00	0.140	2.81	1.00	1.00	0.0	54.27	152.36	0.00	7897	0	991	328	1319
1	10	6.63	47.794	17.524	0.00	0.137	2.82	1.00	1.00	0.0	57.71	162.73	0.00	9503	0	918	284	1202
Totals															65,444	0		14,376

ASSET: 417139, Columbia (Charles) FL

CODE: ANSI/TIA-222-I

CUSTOMER: T-MOBILE

PROJECT: 15322453_C3_02

SECTION FORCES

1.0D + 1.0W Service 60°

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)
13	245	11.75	6.172	2.917	0.00	0.196	2.61	0.80	1.00	0.0	6.61	17.26	0.00	809	0	172	189	361
12	230	11.60	12.104	8.333	0.00	0.217	2.54	0.80	1.00	0.0	14.50	36.83	0.00	2528	0	363	497	860
11	210	11.38	11.501	10.014	0.00	0.190	2.63	0.80	1.00	0.0	14.94	39.26	0.00	2756	0	380	487	867
10	190	11.15	11.305	11.682	0.00	0.153	2.76	0.80	1.00	0.0	15.68	43.26	0.00	3266	0	410	478	888
9	170	10.90	16.644	12.517	0.00	0.156	2.75	0.80	1.00	0.0	20.43	56.13	0.00	3802	0	520	467	987
8	150	10.63	19.283	13.351	0.00	0.146	2.78	0.80	1.00	0.0	23.00	64.04	0.00	4231	0	578	455	1034
7	130	10.32	26.406	14.186	0.00	0.157	2.75	0.80	1.00	0.0	29.19	80.18	0.00	4893	0	703	442	1145
6	110	9.98	23.241	15.020	0.00	0.130	2.85	0.80	1.00	0.0	27.09	77.17	0.00	5437	0	654	427	1082
5	90	9.58	29.965	15.855	0.00	0.138	2.82	0.80	1.00	0.0	32.95	92.80	0.00	6237	0	755	410	1165
4	70	9.10	32.868	16.689	0.00	0.134	2.83	0.80	1.00	0.0	35.74	101.13	0.00	6804	0	782	390	1171
3	50	8.49	40.951	16.689	0.00	0.142	2.80	0.80	1.00	0.0	42.22	118.18	0.00	7282	0	853	364	1217
2	30	7.65	44.342	17.524	0.00	0.140	2.81	0.80	1.00	0.0	45.40	127.46	0.00	7897	0	829	328	1157
1	10	6.63	47.794	17.524	0.00	0.137	2.82	0.80	1.00	0.0	48.15	135.77	0.00	9503	0	766	284	1050
Totals															65,444	0		12,984

1.0D + 1.0W Service 90°

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)
13	245	11.75	6.172	2.917	0.00	0.196	2.61	0.85	1.00	0.0	6.92	18.07	0.00	809	0	180	189	369
12	230	11.60	12.104	8.333	0.00	0.217	2.54	0.85	1.00	0.0	15.10	38.37	0.00	2528	0	378	497	875
11	210	11.38	11.501	10.014	0.00	0.190	2.63	0.85	1.00	0.0	15.51	40.78	0.00	2756	0	395	487	882
10	190	11.15	11.305	11.682	0.00	0.153	2.76	0.85	1.00	0.0	16.24	44.82	0.00	3266	0	425	478	902
9	170	10.90	16.644	12.517	0.00	0.156	2.75	0.85	1.00	0.0	21.26	58.41	0.00	3802	0	541	467	1008
8	150	10.63	19.283	13.351	0.00	0.146	2.78	0.85	1.00	0.0	23.96	66.72	0.00	4231	0	603	455	1058
7	130	10.32	26.406	14.186	0.00	0.157	2.75	0.85	1.00	0.0	30.51	83.81	0.00	4893	0	735	442	1177
6	110	9.98	23.241	15.020	0.00	0.130	2.85	0.85	1.00	0.0	28.25	80.48	0.00	5437	0	682	427	1110
5	90	9.58	29.965	15.855	0.00	0.138	2.82	0.85	1.00	0.0	34.45	97.01	0.00	6237	0	790	410	1200
4	70	9.10	32.868	16.689	0.00	0.134	2.83	0.85	1.00	0.0	37.39	105.78	0.00	6804	0	818	390	1207
3	50	8.49	40.951	16.689	0.00	0.142	2.80	0.85	1.00	0.0	44.27	123.91	0.00	7282	0	894	364	1258
2	30	7.65	44.342	17.524	0.00	0.140	2.81	0.85	1.00	0.0	47.62	133.69	0.00	7897	0	870	328	1197
1	10	6.63	47.794	17.524	0.00	0.137	2.82	0.85	1.00	0.0	50.54	142.51	0.00	9503	0	804	284	1088
Totals															65,444	0		13,332

1.0D + 1.0W Service 120°

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)
13	245	11.75	6.172	2.917	0.00	0.196	2.61	1.00	1.00	0.0	7.84	20.48	0.00	809	0	205	189	393
12	230	11.60	12.104	8.333	0.00	0.217	2.54	1.00	1.00	0.0	16.92	42.98	0.00	2528	0	424	497	920
11	210	11.38	11.501	10.014	0.00	0.190	2.63	1.00	1.00	0.0	17.24	45.31	0.00	2756	0	438	487	926
10	190	11.15	11.305	11.682	0.00	0.153	2.76	1.00	1.00	0.0	17.94	49.50	0.00	3266	0	469	478	947
9	170	10.90	16.644	12.517	0.00	0.156	2.75	1.00	1.00	0.0	23.76	65.27	0.00	3802	0	605	467	1072
8	150	10.63	19.283	13.351	0.00	0.146	2.78	1.00	1.00	0.0	26.86	74.77	0.00	4231	0	675	455	1131
7	130	10.32	26.406	14.186	0.00	0.157	2.75	1.00	1.00	0.0	34.47	94.69	0.00	4893	0	831	442	1273
6	110	9.98	23.241	15.020	0.00	0.130	2.85	1.00	1.00	0.0	31.74	90.41	0.00	5437	0	767	427	1194
5	90	9.58	29.965	15.855	0.00	0.138	2.82	1.00	1.00	0.0	38.95	109.67	0.00	6237	0	893	410	1303
4	70	9.10	32.868	16.689	0.00	0.134	2.83	1.00	1.00	0.0	42.32	119.72	0.00	6804	0	926	390	1315
3	50	8.49	40.951	16.689	0.00	0.142	2.80	1.00	1.00	0.0	50.41	141.11	0.00	7282	0	1019	364	1382
2	30	7.65	44.342	17.524	0.00	0.140	2.81	1.00	1.00	0.0	54.27	152.36	0.00	7897	0	991	328	1319
1	10	6.63	47.794	17.524	0.00	0.137	2.82	1.00	1.00	0.0	57.71	162.73	0.00	9503	0	918	284	1202
Totals															65,444	0		14,376

1.0D + 1.0W Service 180°

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)
13	245	11.75	6.172	2.917	0.00	0.196	2.61	0.80	1.00	0.0	6.61	17.26	0.00	809	0	172	189	361
12	230	11.60	12.104	8.333	0.00	0.217	2.54	0.80	1.00	0.0	14.50	36.83	0.00	2528	0	363	497	860
11	210	11.38	11.501	10.014	0.00	0.190	2.63	0.80	1.00	0.0	14.94	39.26	0.00	2756	0	380	487	867
10	190	11.15	11.305	11.682	0.00	0.153	2.76	0.80	1.00	0.0	15.68	43.26	0.00	3266	0	410	478	888
9	170	10.90	16.644	12.517	0.00	0.156	2.75	0.80	1.00	0.0	20.43	56.13	0.00	3802	0	520	467	987
8	150	10.63	19.283	13.351	0.00	0.146	2.78	0.80	1.00	0.0	23.00	64.04	0.00	4231	0	578	455	1034
7	130	10.32	26.406	14.186	0.00	0.157	2.75	0.80	1.00	0.0	29.19	80.18	0.00	4893	0	703	442	1145
6	110	9.98	23.241	15.020	0.00	0.130	2.85	0.80	1.00	0.0	27.09	77.17	0.00	5437	0	654	427	1082
5	90	9.58	29.965	15.855	0.00	0.138	2.82	0.80	1.00	0.0	32.95	92.80	0.00	6237	0	755	410	1165
4	70	9.10	32.868	16.689	0.00	0.134	2.83	0.80	1.00	0.0	35.74	101.13	0.00	6804	0	782	390	1171
3	50	8.49	40.951	16.689	0.00	0.142	2.80	0.80	1.00	0.0	42.22	118.18	0.00	7282	0	853	364	1217
2	30	7.65	44.342	17.524	0.00	0.140	2.81	0.80	1.00	0.0	45.40	127.46	0.00	7897	0	829	328	1157
1	10	6.63	47.794	17.524	0.00	0.137	2.82	0.80	1.00	0.0	48.15	135.77	0.00	9503	0	766	284	1050
Totals															65,444	0		12,984

ASSET: 417139, Columbia (Charles) FL

CODE: ANSI/TIA-222-I

CUSTOMER: T-MOBILE

PROJECT: 15322453_C3_02

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)
13	245	11.75	6.172	2.917	0.00	0.196	2.61	0.85	1.00	0.0	6.92	18.07	0.00	809	0	180	189	369
12	230	11.60	12.104	8.333	0.00	0.217	2.54	0.85	1.00	0.0	15.10	38.37	0.00	2528	0	378	497	875
11	210	11.38	11.501	10.014	0.00	0.190	2.63	0.85	1.00	0.0	15.51	40.78	0.00	2756	0	395	487	882
10	190	11.15	11.305	11.682	0.00	0.153	2.76	0.85	1.00	0.0	16.24	44.82	0.00	3266	0	425	478	902
9	170	10.90	16.644	12.517	0.00	0.156	2.75	0.85	1.00	0.0	21.26	58.41	0.00	3802	0	541	467	1008
8	150	10.63	19.283	13.351	0.00	0.146	2.78	0.85	1.00	0.0	23.96	66.72	0.00	4231	0	603	455	1058
7	130	10.32	26.406	14.186	0.00	0.157	2.75	0.85	1.00	0.0	30.51	83.81	0.00	4893	0	735	442	1177
6	110	9.98	23.241	15.020	0.00	0.130	2.85	0.85	1.00	0.0	28.25	80.48	0.00	5437	0	682	427	1110
5	90	9.58	29.965	15.855	0.00	0.138	2.82	0.85	1.00	0.0	34.45	97.01	0.00	6237	0	790	410	1200
4	70	9.10	32.868	16.689	0.00	0.134	2.83	0.85	1.00	0.0	37.39	105.78	0.00	6804	0	818	390	1207
3	50	8.49	40.951	16.689	0.00	0.142	2.80	0.85	1.00	0.0	44.27	123.91	0.00	7282	0	894	364	1258
2	30	7.65	44.342	17.524	0.00	0.140	2.81	0.85	1.00	0.0	47.62	133.69	0.00	7897	0	870	328	1197
1	10	6.63	47.794	17.524	0.00	0.137	2.82	0.85	1.00	0.0	50.54	142.51	0.00	9503	0	804	284	1088
Totals															65,444	0		13,332

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)
13	245	11.75	6.172	2.917	0.00	0.196	2.61	1.00	1.00	0.0	7.84	20.48	0.00	809	0	205	189	393
12	230	11.60	12.104	8.333	0.00	0.217	2.54	1.00	1.00	0.0	16.92	42.98	0.00	2528	0	424	497	920
11	210	11.38	11.501	10.014	0.00	0.190	2.63	1.00	1.00	0.0	17.24	45.31	0.00	2756	0	438	487	926
10	190	11.15	11.305	11.682	0.00	0.153	2.76	1.00	1.00	0.0	17.94	49.50	0.00	3266	0	469	478	947
9	170	10.90	16.644	12.517	0.00	0.156	2.75	1.00	1.00	0.0	23.76	65.27	0.00	3802	0	605	467	1072
8	150	10.63	19.283	13.351	0.00	0.146	2.78	1.00	1.00	0.0	26.86	74.77	0.00	4231	0	675	455	1131
7	130	10.32	26.406	14.186	0.00	0.157	2.75	1.00	1.00	0.0	34.47	94.69	0.00	4893	0	831	442	1273
6	110	9.98	23.241	15.020	0.00	0.130	2.85	1.00	1.00	0.0	31.74	90.41	0.00	5437	0	767	427	1194
5	90	9.58	29.965	15.855	0.00	0.138	2.82	1.00	1.00	0.0	38.95	109.67	0.00	6237	0	893	410	1303
4	70	9.10	32.868	16.689	0.00	0.134	2.83	1.00	1.00	0.0	42.32	119.72	0.00	6804	0	926	390	1315
3	50	8.49	40.951	16.689	0.00	0.142	2.80	1.00	1.00	0.0	50.41	141.11	0.00	7282	0	1019	364	1382
2	30	7.65	44.342	17.524	0.00	0.140	2.81	1.00	1.00	0.0	54.27	152.36	0.00	7897	0	991	328	1319
1	10	6.63	47.794	17.524	0.00	0.137	2.82	1.00	1.00	0.0	57.71	162.73	0.00	9503	0	918	284	1202
Totals															65,444	0		14,376

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)
13	245	11.75	6.172	2.917	0.00	0.196	2.61	0.80	1.00	0.0	6.61	17.26	0.00	809	0	172	189	361
12	230	11.60	12.104	8.333	0.00	0.217	2.54	0.80	1.00	0.0	14.50	36.83	0.00	2528	0	363	497	860
11	210	11.38	11.501	10.014	0.00	0.190	2.63	0.80	1.00	0.0	14.94	39.26	0.00	2756	0	380	487	867
10	190	11.15	11.305	11.682	0.00	0.153	2.76	0.80	1.00	0.0	15.68	43.26	0.00	3266	0	410	478	888
9	170	10.90	16.644	12.517	0.00	0.156	2.75	0.80	1.00	0.0	20.43	56.13	0.00	3802	0	520	467	987
8	150	10.63	19.283	13.351	0.00	0.146	2.78	0.80	1.00	0.0	23.00	64.04	0.00	4231	0	578	455	1034
7	130	10.32	26.406	14.186	0.00	0.157	2.75	0.80	1.00	0.0	29.19	80.18	0.00	4893	0	703	442	1145
6	110	9.98	23.241	15.020	0.00	0.130	2.85	0.80	1.00	0.0	27.09	77.17	0.00	5437	0	654	427	1082
5	90	9.58	29.965	15.855	0.00	0.138	2.82	0.80	1.00	0.0	32.95	92.80	0.00	6237	0	755	410	1165
4	70	9.10	32.868	16.689	0.00	0.134	2.83	0.80	1.00	0.0	35.74	101.13	0.00	6804	0	782	390	1171
3	50	8.49	40.951	16.689	0.00	0.142	2.80	0.80	1.00	0.0	42.22	118.18	0.00	7282	0	853	364	1217
2	30	7.65	44.342	17.524	0.00	0.140	2.81	0.80	1.00	0.0	45.40	127.46	0.00	7897	0	829	328	1157
1	10	6.63	47.794	17.524	0.00	0.137	2.82	0.80	1.00	0.0	48.15	135.77	0.00	9503	0	766	284	1050
Totals															65,444	0		12,984

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)
13	245	11.75	6.172	2.917	0.00	0.196	2.61	0.85	1.00	0.0	6.92	18.07	0.00	809	0	180	189	369
12	230	11.60	12.104	8.333	0.00	0.217	2.54	0.85	1.00	0.0	15.10	38.37	0.00	2528	0	378	497	875
11	210	11.38	11.501	10.014	0.00	0.190	2.63	0.85	1.00	0.0	15.51	40.78	0.00	2756	0	395	487	882
10	190	11.15	11.305	11.682	0.00	0.153	2.76	0.85	1.00	0.0	16.24	44.82	0.00	3266	0	425	478	902
9	170	10.90	16.644	12.517	0.00	0.156	2.75	0.85	1.00	0.0	21.26	58.41	0.00	3802	0	541	467	1008
8	150	10.63	19.283	13.351	0.00	0.146	2.78	0.85	1.00	0.0	23.96	66.72	0.00	4231	0	603	455	1058
7	130	10.32	26.406	14.186	0.00	0.157	2.75	0.85	1.00	0.0	30.51	83.81	0.00	4893	0	735	442	1177
6	110	9.98	23.241	15.020	0.00	0.130	2.85	0.85	1.00	0.0	28.25	80.48	0.00	5437	0	682	427	1110
5	90	9.58	29.965	15.855	0.00	0.138	2.82	0.85	1.00	0.0	34.45	97.01	0.00	6237	0	790	410	1200
4	70	9.10	32.868	16.689	0.00	0.134	2.83	0.85	1.00	0.0	37.39	105.78	0.00	6804	0	818	390	1207
3	50	8.49	40.951	16.689	0.00	0.142	2.80	0.85	1.00	0.0	44.27	123.91	0.00	7282	0	894	364	1258
2	30	7.65	44.342	17.524	0.00	0.140	2.81	0.85	1.00	0.0	47.62	133.69	0.00	7897	0	870	328	1197
1	10	6.63	47.794	17.524	0.00	0.137	2.82	0.85	1.00	0.0	50.54	142.51	0.00	9503	0	804	284	1088
Totals															65,444	0		13,332

ASSET: 417139, Columbia (Charles) FL
CUSTOMER: T-MOBILE

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EQUIVALENT LATERAL FORCE METHOD

Long-Period Transition Period (T_L - Seconds): 8
Importance Factor (I_e): 1.00
Response Modification Coefficient (R): 3.00
Design Spectral Response Acceleration at Short Period (S_{ds}): 0.11
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}): 0.08
Seismic Response Coefficient (C_s): 0.03
Upper Limit C_s : 0.03
Lower Limit C_s : 0.03
Period based on Rayleigh Method (sec): 1.15
Redundancy Factor (ρ): 1.30
Seismic Force Distribution Exponent (k): 1.33
Total Unfactored Dead Load: 72.63 k
Seismic Base Shear (E): 2.83 k

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh

Section/Appurtenance	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
13	245.00	809	1,188,184	0.029	82	710
12	230.00	2,528	3,414,641	0.083	236	2,220
11	210.00	2,756	3,299,191	0.080	228	2,420
10	190.00	3,266	3,424,348	0.084	236	2,868
9	170.00	3,802	3,439,910	0.084	237	3,338
8	150.00	4,231	3,243,174	0.079	224	3,715
7	130.00	4,893	3,102,015	0.076	214	4,296
6	110.00	5,437	2,762,290	0.067	191	4,773
5	90.00	6,237	2,428,913	0.059	168	5,476
4	70.00	6,804	1,898,760	0.046	131	5,973
3	50.00	7,282	1,300,964	0.032	90	6,393
2	30.00	7,897	716,827	0.018	49	6,933
1	10.00	9,503	201,098	0.005	14	8,344
JMA Wireless DBC-67-C-1SF	250.00	13	20,214	0.000	1	12
Commscope E15Z01P19	250.00	22	33,187	0.001	2	19
Raycap RCMDC-3315-PF-48	250.00	21	32,282	0.001	2	19
Ericsson RRUS-32 (77 lbs)	250.00	462	696,927	0.017	48	406
Commscope NHH-65C-R2B	250.00	310	467,032	0.011	32	272
CSS X7CAP-865	250.00	336	506,856	0.012	35	295
Unused Reserve (12986.62 sqin)	250.00	1,336	2,014,753	0.049	139	1,173
Generic Flat Low Profile Platform	250.00	1,875	2,828,438	0.069	195	1,646
Ceragon FibeAir IP-20D-HP	240.00	26	37,870	0.001	3	23
Ericsson Radio 4460 B25+B66	240.00	436	623,063	0.015	43	383
Ericsson Radio 4480 B71+B85A	240.00	336	480,158	0.012	33	295
Ericsson AIR 6419 B41	240.00	274	391,558	0.010	27	241
Commscope VHLP3-11WA	240.00	38	53,589	0.001	4	33
Generic Flat Light Sector Frame	240.00	1,200	1,714,852	0.042	118	1,054
Commscope FFV-65C-R3-V1	240.00	498	712,235	0.017	49	438
Totals		72,628	41,033,329	1.000	2,832	63,767

0.9D - 1.0Ev + 1.5Eh

Section/Appurtenance	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
13	245.00	809	1,188,184	0.029	123	710
12	230.00	2,528	3,414,641	0.083	354	2,220
11	210.00	2,756	3,299,191	0.080	342	2,420
10	190.00	3,266	3,424,348	0.084	355	2,868
9	170.00	3,802	3,439,910	0.084	356	3,338
8	150.00	4,231	3,243,174	0.079	336	3,715
7	130.00	4,893	3,102,015	0.076	321	4,296
6	110.00	5,437	2,762,290	0.067	286	4,773
5	90.00	6,237	2,428,913	0.059	251	5,476
4	70.00	6,804	1,898,760	0.046	197	5,973
3	50.00	7,282	1,300,964	0.032	135	6,393
2	30.00	7,897	716,827	0.018	74	6,933
1	10.00	9,503	201,098	0.005	21	8,344
JMA Wireless DBC-67-C-1SF	250.00	13	20,214	0.000	2	12
Commscope E15Z01P19	250.00	22	33,187	0.001	3	19

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Raycap RCMDC-3315-PF-48	250.00	21	32,282	0.001	3	19
Ericsson RRUS-32 (77 lbs)	250.00	462	696,927	0.017	72	406
Commscope NHH-65C-R2B	250.00	310	467,032	0.011	48	272
CSS X7CAP-865	250.00	336	506,856	0.012	52	295
Unused Reserve (12986.62 sqin)	250.00	1,336	2,014,753	0.049	209	1,173
Generic Flat Low Profile Platform	250.00	1,875	2,828,438	0.069	293	1,646
Ceragon FibeAir IP-20D-HP	240.00	26	37,870	0.001	4	23
Ericsson Radio 4460 B25+B66	240.00	436	623,063	0.015	65	383
Ericsson Radio 4480 B71+B85A	240.00	336	480,158	0.012	50	295
Ericsson AIR 6419 B41	240.00	274	391,558	0.010	41	241
Commscope VHLP3-11WA	240.00	38	53,589	0.001	6	33
Generic Flat Light Sector Frame	240.00	1,200	1,714,852	0.042	178	1,054
Commscope FFVV-65C-R3-V1	240.00	498	712,235	0.017	74	438
Totals		72,628	41,033,329	1.000	4,249	63,767

1.2D + 1.0Ev + 1.0Eh

Section/Appurtenance	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
13	245.00	809	1,188,184	0.029	82	989
12	230.00	2,528	3,414,641	0.083	236	3,089
11	210.00	2,756	3,299,191	0.080	228	3,367
10	190.00	3,266	3,424,348	0.084	236	3,991
9	170.00	3,802	3,439,910	0.084	237	4,646
8	150.00	4,231	3,243,174	0.079	224	5,171
7	130.00	4,893	3,102,015	0.076	214	5,979
6	110.00	5,437	2,762,290	0.067	191	6,644
5	90.00	6,237	2,428,913	0.059	168	7,622
4	70.00	6,804	1,898,760	0.046	131	8,314
3	50.00	7,282	1,300,964	0.032	90	8,898
2	30.00	7,897	716,827	0.018	49	9,650
1	10.00	9,503	201,098	0.005	14	11,613
JMA Wireless DBC-67-C-1SF	250.00	13	20,214	0.000	1	16
Commscope E15Z01P19	250.00	22	33,187	0.001	2	27
Raycap RCMDC-3315-PF-48	250.00	21	32,282	0.001	2	26
Ericsson RRUS-32 (77 lbs)	250.00	462	696,927	0.017	48	565
Commscope NHH-65C-R2B	250.00	310	467,032	0.011	32	378
CSS X7CAP-865	250.00	336	506,856	0.012	35	411
Unused Reserve (12986.62 sqin)	250.00	1,336	2,014,753	0.049	139	1,632
Generic Flat Low Profile Platform	250.00	1,875	2,828,438	0.069	195	2,291
Ceragon FibeAir IP-20D-HP	240.00	26	37,870	0.001	3	32
Ericsson Radio 4460 B25+B66	240.00	436	623,063	0.015	43	533
Ericsson Radio 4480 B71+B85A	240.00	336	480,158	0.012	33	411
Ericsson AIR 6419 B41	240.00	274	391,558	0.010	27	335
Commscope VHLP3-11WA	240.00	38	53,589	0.001	4	46
Generic Flat Light Sector Frame	240.00	1,200	1,714,852	0.042	118	1,466
Commscope FFVV-65C-R3-V1	240.00	498	712,235	0.017	49	609
Totals		72,628	41,033,329	1.000	2,832	88,751

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)
13	245.00	809	1,188,184	0.029	123	989
12	230.00	2,528	3,414,641	0.083	354	3,089
11	210.00	2,756	3,299,191	0.080	342	3,367
10	190.00	3,266	3,424,348	0.084	355	3,991
9	170.00	3,802	3,439,910	0.084	356	4,646
8	150.00	4,231	3,243,174	0.079	336	5,171
7	130.00	4,893	3,102,015	0.076	321	5,979
6	110.00	5,437	2,762,290	0.067	286	6,644
5	90.00	6,237	2,428,913	0.059	251	7,622
4	70.00	6,804	1,898,760	0.046	197	8,314
3	50.00	7,282	1,300,964	0.032	135	8,898
2	30.00	7,897	716,827	0.018	74	9,650
1	10.00	9,503	201,098	0.005	21	11,613
JMA Wireless DBC-67-C-1SF	250.00	13	20,214	0.000	2	16
Commscope E15Z01P19	250.00	22	33,187	0.001	3	27
Raycap RCMDC-3315-PF-48	250.00	21	32,282	0.001	3	26
Ericsson RRUS-32 (77 lbs)	250.00	462	696,927	0.017	72	565
Commscope NHH-65C-R2B	250.00	310	467,032	0.011	48	378
CSS X7CAP-865	250.00	336	506,856	0.012	52	411
Unused Reserve (12986.62 sqin)	250.00	1,336	2,014,753	0.049	209	1,632
Generic Flat Low Profile Platform	250.00	1,875	2,828,438	0.069	293	2,291
Ceragon FibeAir IP-20D-HP	240.00	26	37,870	0.001	4	32
Ericsson Radio 4460 B25+B66	240.00	436	623,063	0.015	65	533
Ericsson Radio 4480 B71+B85A	240.00	336	480,158	0.012	50	411
Ericsson AIR 6419 B41	240.00	274	391,558	0.010	41	335
Commscope VHLP3-11WA	240.00	38	53,589	0.001	6	46
Generic Flat Light Sector Frame	240.00	1,200	1,714,852	0.042	178	1,466
Commscope FFVV-65C-R3-V1	240.00	498	712,235	0.017	74	609
Totals		72,628	41,033,329	1.000	4,249	88,751

ASSET: 417139, Columbia (Charles) FL
CUSTOMER: T-MOBILE

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FORCE/STRESS SUMMARY

ASSET: 417139, Columbia (Charles) FL
CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-I
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FORCE/STRESS SUMMARY

Section 1 – 0.0' to 20.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	Φc Pn (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
	X			Y	Z	ΦRnv (kip)				ΦRn (kip)					
L SOL - 5 1/4" SOLID	-478.78	1.2D + 1.0W N	6.676	100	100	100	61.04	50.00	741.88	0.00	0.00	0	0	65	Member X
D SAE - 4X4X0.375	-9.85	1.2D + 1.0W 330°	24.911	50	50	50	191.87	36.00	22.24	27.06	36.54	1	1	44	Member Z
Member Tension	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	Blk Shear Φt Pn (kip)	# Bolt	# Hole	Use %	Controls			
L SOL - 5 1/4" SOLID	402.52	0.9D + 1.0W 180°	50.0	65	974.16	0.00	0.00		0	0	41	Member			
D SAE - 4X4X0.375	9.90	0.9D + 1.0W 330°	36.0	58	81.84	27.06	22.18	24.26	1	1	45	Bolt Bear			
Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension	407.69	0.9D + 1.0W 180°	974.31	18	8	2.0" GR50									
Bot Compression	484.67	1.2D + 1.0W N	999.29	43	8	2.0" GR50									

Section 2 – 20.0' to 40.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	Φc Pn (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
	X			Y	Z	ΦRnv (kip)				ΦRn (kip)					
L SOL - 5 1/4" SOLID	-445.32	1.2D + 1.0W N	6.676	100	100	100	61.04	50.00	741.88	0.00	0.00	0	0	60	Member X
D SAE - 4X4X0.25	-9.78	0.9D + 1.0W 330°	23.182	50	50	50	174.96	35.71	18.14	27.06	24.36	1	1	54	Member Z
Member Tension	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	Blk Shear Φt Pn (kip)	# Bolt	# Hole	Use %	Controls			
L SOL - 5 1/4" SOLID	377.19	0.9D + 1.0W 180°	50.0	65	974.16	0.00	0.00		0	0	39	Member			
D SAE - 4X4X0.25	9.61	0.9D + 1.0W 330°	36.0	58	55.65	27.06	14.79	16.18	1	1	65	Bolt Bear			
Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension	380.44	0.9D + 1.0W 180°	758.83	50	6	1 1/2 A325									

Section 3 – 40.0' to 60.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	Φc Pn (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
	X			Y	Z	ΦRnv (kip)				ΦRn (kip)					
L SOL - 5" SOLID	-410.66	1.2D + 1.0W N	6.676	100	100	100	64.09	50.00	654.37	0.00	0.00	0	0	63	Member X
D SAE - 4X4X0.25	-9.11	1.2D + 1.0W 330°	21.464	50	50	50	162.00	35.71	21.16	27.06	24.36	1	1	43	Member Z
Member Tension	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	Blk Shear Φt Pn (kip)	# Bolt	# Hole	Use %	Controls			
L SOL - 5" SOLID	351.21	0.9D + 1.0W 180°	50.0	65	883.58	0.00	0.00		0	0	40	Member			
D SAE - 4X4X0.25	8.97	0.9D + 1.0W 330°	36.0	58	55.65	27.06	14.79	16.18	1	1	61	Bolt Bear			
Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension	354.51	0.9D + 1.0W 180°	758.83	47	6	1 1/2 A325									

Section 4 – 60.0' to 80.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	Φc Pn (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
	X			Y	Z	ΦRnv (kip)				ΦRn (kip)					
L SOL - 5" SOLID	-376.61	1.2D + 1.0W N	6.676	100	100	100	64.09	50.00	654.37	0.00	0.00	0	0	58	Member X
D SAE - 3.5x3.5x0.25	-8.27	1.2D + 1.0W 330°	19.761	50	50	50	172.34	36.00	16.29	27.06	24.36	1	1	51	Member Z
Member Tension	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	Blk Shear Φt Pn (kip)	# Bolt	# Hole	Use %	Controls			
L SOL - 5" SOLID	325.21	0.9D + 1.0W 180°	50.0	65	883.58	0.00	0.00		0	0	37	Member			
D SAE - 3.5x3.5x0.25	8.13	0.9D + 1.0W 330°	36.0	58	47.49	27.06	14.79	16.18	1	1	55	Bolt Bear			
Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension	328.56						0.9D + 1.0W 180°	758.83	43	6	1 1/2 A325				

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FORCE/STRESS SUMMARY

Section 5 - 80.0' to 100.00'

										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 - 4 3/4" SOLID		-343.18	1.2D + 1.0W N	6.676	100	100	100	67.46	50.00	571.73	0.00	0.00	0	0	60	Member X
D SAE - 3.5x3.5x0.25		-7.55	1.2D + 1.0W 330°	18.077	50	50	50	157.65	36.00	19.46	27.06	24.36	1	1	39	Member Z
Member Tension		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			
L SOL - 4 3/4" SOLID		299.28	0.9D + 1.0W 180°	50.0	65	797.44	0.00	0.00		0	0	38	Member			
D SAE - 3.5x3.5x0.25		7.41	0.9D + 1.0W 330°	36.0	58	47.49	27.06	14.79	16.18	1	1	50	Bolt Bear			
Max Splice Forces		Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension		302.74	0.9D + 1.0W 180°	758.83	40	6	1 1/2 A325									

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FORCE/STRESS SUMMARY

Section 6 – 100.0' to 120.00'

										Shear	Bear										
Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	Φc Pn (kip)	ΦRnv	ΦRn	#	#	Use	Controls						
						(kip)				(kip)	Bolt	Hole	%								
	X			Y	Z																
L SOL - 4 1/2" SOLID	-310.26	1.2D + 1.0W N	6.676	100	100	100	71.21	50.00	493.98	0.00	0.00	0	0	63	Member X						
D SAE - 3X3X0.25	-6.82	1.2D + 1.0W 330°	16.418	50	50	50	166.39	36.00	14.89	27.06	24.36	1	1	46	Member Z						
Member Tension	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	Blk Shear Φt Pn (kip)	# Bolt	# Hole	Use %	Controls									
L SOL - 4 1/2" SOLID	273.31	0.9D + 1.0W 180°	50.0	65	715.68	0.00	0.00		0	0	38	Member									
D SAE - 3X3X0.25	6.65	0.9D + 1.0W 330°	36.0	58	39.33	27.06	14.79	13.46	1	1	49	Blk Shear									
Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type															
Bot Tension	276.86						0.9D + 1.0W 180°	758.83	36	6	1 1/2 A325										

Section 7 – 120.0' to 140.00'

Member Compression	Pu (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	-279.21	1.2D + 1.0W N	5.007	100	100	100	56.55	50.00	505.29	0.00	0.00	0	0	55	Member X
D SAE - 3X3X0.1875	-5.86	1.2D + 1.0W 330°	14.188	50	50	50	142.83	36.00	15.29	27.06	18.27	1	1	38	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 _t P _n (kip)	# Bolt	# Hole	Use %	Controls			
L SOL - 4 1/4" SOLID	248.28	0.9D + 1.0W 180°	50.0	65	638.37	0.00	0.00		0	0	39	Member			
D SAE - 3X3X0.1875	5.73	1.2D + 1.0W 330°	36.0	58	29.83	27.06	11.09	10.09	1	1	57	Blk Shear			
Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension	250.74	0.9D + 1.0W 180°	623.64	40	6	1.375" 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	Bear	# Bolt	# Hole	Use %	Controls
	ΦR _{nv} (kip)			ΦR _n (kip)											
L SOL - 4" SOLID	-247.37	1.2D + 1.0W N	5.007	100	100	100	60.08	50.00	434.30	0.00	0.00	0	0	57	Member X
D SAE - 2.5X2.5X0.1875	-5.17	1.2D + 1.0W 330°	12.52	50	50	50	151.75	36.00	11.21	27.06	18.27	1	1	46	Member Z
Member Tension	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			
L SOL - 4" SOLID	222.00	0.9D + 1.0W 180°	50.0	65	565.47	0.00	0.00		0	0	39	Member			
D SAE - 2.5X2.5X0.1875	5.05	1.2D + 1.0W 330°	36.0	58	23.69	27.06	11.09	9.07	1	1	56	Blk Shear			
Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension	224.73					0.9D + 1.0W 180°	623.64	36	6	1.375" A325					

Section 9 – 160.0' to 180.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	Φc Pn (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
	X			Y	Z	ΦRnv (kip)				ΦRn (kip)					
L SOL - 3 3/4" SOLID	-215.80	1.2D + 1.0W N	5.007	100	100	100	64.09	50.00	368.10	0.00	0.00	0	0	59	Member X
D SAE - 2.5X2.5X0.1875	-4.67	1.2D + 1.0W 330°	10.893	50	50	50	132.04	36.00	14.81	27.06	18.27	1	1	32	Member Z
Member Tension	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	Blk Shear	# Bolt	# Hole	Use %	Controls			
	Φt Pn (kip)														
L SOL - 3 3/4" SOLID	195.26	0.9D + 1.0W 180°	50.0	65	497.02	0.00	0.00		0	0	39	Member			
D SAE - 2.5X2.5X0.1875	4.55	1.2D + 1.0W 330°	36.0	58	23.69	27.06	11.09	9.07	1	1	50	Blk Shear			
Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension	198.22					0.9D + 1.0W 180°	623.64						32	6	1.375" A325

FORCE/STRESS SUMMARY

Section 10 – 180.0' to 200.00'

										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 - 3 1/2" SOLID	-183.22	1.2D + 1.0W N	5.007	100	100	100	68.66	50.00	306.71	0.00	0.00	0	0	60	Member X
D SAE - 2X2X0.1875	-4.30	1.2D + 1.0W 330°	9.331	50	50	50	142.09	36.00	10.14	13.81	13.05	1	1	42	Member Z
Member Tension	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			
L SOL - 3 1/2" SOLID	167.02	0.9D + 1.0W 180°	50.0	65	432.94	0.00	0.00		0	0	39	Member			
D SAE - 2X2X0.1875	4.16	1.2D + 1.0W 330°	36.0	58	19.12	13.81	7.83	6.83	1	1	61	Blk Shear			
Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension	170.28	0.9D + 1.0W 180°	623.64	27	6	1.375" A325									

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FORCE/STRESS SUMMARY

Section 11 – 200.0' to 220.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	Φc Pn (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
	X			Y	Z	ΦRnv (kip)				ΦRn (kip)					
L SOL - 3" SOLID	-148.45	1.2D + 1.0W N	4.005	100	100	100	64.09	50.00	235.59	0.00	0.00	0	0	63	Member X
H SAE - 2X2X0.1875	-0.27	1.2D + 1.0W 180°	4.502	100	100	100	137.12	36.00	10.88	13.81	13.05	1	1	3	Member Z
D SAE - 2X2X0.1875	-4.31	1.2D + 1.0W 330°	6.159	50	50	50	100.34	36.00	17.59	13.81	13.05	1	1	33	Bolt Bear
Member Tension	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls			
	ΦRnv (kip)					ΦRn (kip)	Φt Pn (kip)								
L SOL - 3" SOLID	136.01	0.9D + 1.0W 180°	50.0	65	318.10	0.00	0.00		0	0	43	Member			
H SAE - 2X2X0.1875	0.07	0.9D + 1.0W 210°	36.0	58	19.12	13.81	7.83	6.83	1	1	1	Blk Shear			
D SAE - 2X2X0.1875	4.13	1.2D + 1.0W 330°	36.0	58	19.12	13.81	7.83	6.83	1	1	60	Blk Shear			
Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension	139.08						0.9D + 1.0W 180°	623.64	22	6	1.375" A325				

Section 12 – 220.0' to 240.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Φc Pn (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls	
	X			Y	Z	ΦRnv (kip)			ΦRn (kip)						
L SOL - 2 1/2" SOLID	-99.84	1.2D + 1.0W N	4	100	100	100	76.80	50.00	143.55	0.00	0.00	0	0	70	Member X
D SAE - 2.5X2.5X0.25	-7.95	1.2D + 1.0W 210°	6.022	50	50	50	85.20	36.00	33.06	27.06	24.36	1	1	33	Bolt Bear
Member Tension	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	Blk Shear Φt Pn (kip)	# Bolt	# Hole	Use %	Controls			
L SOL - 2 1/2" SOLID	91.02	0.9D + 1.0W 180°	50.0	65	220.95	0.00	0.00		0	0	41	Member			
D SAE - 2.5X2.5X0.25	7.82	1.2D + 1.0W 330°	36.0	58	31.18	27.06	14.79	12.10	1	1	65	Blk Shear			
Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension	100.02						0.9D + 1.0W 180°	623.64	16	6	1.375" A325				

Section 13 – 240.0' to 250.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F' _y (ksi)	Φ _c P _n (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
	X			Y	Z	ΦR _{nv} (kip)				ΦR _n (kip)					
L SOL - 1 3/4" SOLID	-21.55	1.2D + 1.0W N	3.333	100	100	100	91.43	50.00	58.74	0.00	0.00	0	0	37	Member X
H SAE - 2X2X0.1875	-2.54	1.2D + 1.0W 180°	4.502	100	100	100	137.12	36.00	10.88	13.81	13.05	1	1	23	Member Z
D SAE - 2X2X0.1875	-4.67	1.2D + 1.0W 210°	5.602	50	50	50	93.98	36.00	18.59	13.81	13.05	1	1	36	Bolt Bear
Member Tension	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	# Bolt	# Hole	Use %	Controls			
	Φ _t P _n (kip)														
L SOL - 1 3/4" SOLID	17.78	0.9D + 1.0W 180°	50.0	65	108.24	0.00	0.00		0	0	16	Member			
H SAE - 2X2X0.1875	2.53	1.2D + 1.0W N	36.0	58	19.12	13.81	7.83	6.83	1	1	37	Blk Shear			
D SAE - 2X2X0.1875	4.73	1.2D + 1.0W 330°	36.0	58	19.12	13.81	7.83	6.83	1	1	69	Blk Shear			
Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type									
Bot Tension	21.03						0.9D + 1.0W 180°	218.07	10	4	1 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	240.00	0.5275	-0.0058	0.3276	0.3277
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	250.00	0.5856	-0.0058	0.6938	0.6938
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	240.00	0.5197	-0.0082	0.3260	0.3261
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	250.00	0.5762	-0.0088	0.4307	0.4308
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	240.00	0.5415	-0.0069	0.3346	0.3346
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	250.00	0.5996	-0.0094	0.4320	0.4321
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	240.00	0.527	-0.0040	0.3258	0.3258
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	250.00	0.585	-0.0062	0.6911	0.6911
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	240.00	0.5226	0.0011	0.3227	0.3227
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	250.00	0.5807	0.0016	0.7657	0.7657
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	240.00	0.5415	0.0071	0.3346	0.3346
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	250.00	0.5996	0.0097	0.4323	0.4324
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	240.00	0.524	0.0083	0.3285	0.3286
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	250.00	0.5803	0.0098	0.1268	0.1271
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	240.00	0.5198	0.0080	0.3261	0.3261
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	250.00	0.5762	0.0085	0.4304	0.4304
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	240.00	0.5451	-0.0013	0.3345	0.3345
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	250.00	0.6051	-0.0017	0.7799	0.7799
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	240.00	0.1197	-0.0004	0.0725	0.0725
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	250.00	0.1323	0.0000	0.0727	0.0727
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	240.00	0.1196	0.0003	0.0720	0.072
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	250.00	0.1323	0.0000	0.0727	0.0727
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	240.00	0.1197	0.0004	0.0727	0.0727
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	250.00	0.1323	0.0000	0.0726	0.0726
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	240.00	0.1197	-0.0004	0.0725	0.0725
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	250.00	0.1323	0.0000	0.0727	0.0727
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	240.00	0.1196	0.0003	0.0720	0.072
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	250.00	0.1323	0.0000	0.0727	0.0727
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	240.00	0.1197	0.0004	0.0727	0.0727
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	250.00	0.1323	0.0000	0.0726	0.0726
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	240.00	0.1197	-0.0004	0.0725	0.0725
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	250.00	0.1323	0.0000	0.0727	0.0727
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	240.00	0.1196	0.0003	0.0720	0.072
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	250.00	0.1323	0.0000	0.0727	0.0727
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	240.00	0.1197	0.0004	0.0727	0.0727
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	250.00	0.1323	0.0000	0.0726	0.0726
1.2D + 1.0Ev + 1.0Eh 330° Seismic	240.00	0.12	-0.0004	0.0730	0.073
1.2D + 1.0Ev + 1.0Eh 330° Seismic	250.00	0.1326	0.0000	0.0731	0.0731
1.2D + 1.0Ev + 1.0Eh 300° Seismic	240.00	0.12	0.0003	0.0723	0.0723
1.2D + 1.0Ev + 1.0Eh 300° Seismic	250.00	0.1326	0.0000	0.0731	0.0731
1.2D + 1.0Ev + 1.0Eh 240° Seismic	240.00	0.12	0.0004	0.0732	0.0732
1.2D + 1.0Ev + 1.0Eh 240° Seismic	250.00	0.1326	0.0000	0.0730	0.073
1.2D + 1.0Ev + 1.0Eh 210° Seismic	240.00	0.12	-0.0004	0.0730	0.073
1.2D + 1.0Ev + 1.0Eh 210° Seismic	250.00	0.1326	0.0000	0.0731	0.0731
1.2D + 1.0Ev + 1.0Eh 180° Seismic	240.00	0.12	0.0003	0.0723	0.0723
1.2D + 1.0Ev + 1.0Eh 180° Seismic	250.00	0.1326	0.0000	0.0732	0.0732
1.2D + 1.0Ev + 1.0Eh 120° Seismic	240.00	0.12	0.0004	0.0732	0.0732
1.2D + 1.0Ev + 1.0Eh 120° Seismic	250.00	0.1326	0.0000	0.0730	0.073
1.2D + 1.0Ev + 1.0Eh 90° Seismic	240.00	0.12	-0.0004	0.0730	0.073
1.2D + 1.0Ev + 1.0Eh 90° Seismic	250.00	0.1326	0.0000	0.0731	0.0731
1.2D + 1.0Ev + 1.0Eh 60° Seismic	240.00	0.12	0.0003	0.0723	0.0723
1.2D + 1.0Ev + 1.0Eh 60° Seismic	250.00	0.1326	0.0000	0.0731	0.0731
1.2D + 1.0Ev + 1.0Eh Normal Seismic	240.00	0.12	0.0004	0.0732	0.0732
1.2D + 1.0Ev + 1.0Eh Normal Seismic	250.00	0.1326	0.0000	0.0730	0.073
1.2D + 1.0Di + 1.0Wi 330° 30 mph Wind with 0" Radial Ice	240.00	0.1337	-0.0013	0.0832	0.0832
1.2D + 1.0Di + 1.0Wi 330° 30 mph Wind with 0" Radial Ice	250.00	0.1485	-0.0018	0.1748	0.1748
1.2D + 1.0Di + 1.0Wi 300° 30 mph Wind with 0" Radial Ice	240.00	0.1317	-0.0020	0.0824	0.0824
1.2D + 1.0Di + 1.0Wi 300° 30 mph Wind with 0" Radial Ice	250.00	0.146	-0.0024	0.1088	0.1088
1.2D + 1.0Di + 1.0Wi 240° 30 mph Wind with 0" Radial Ice	240.00	0.1368	-0.0018	0.0835	0.0835

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Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Di + 1.0Wi 240° 30 mph Wind with 0" Radial Ice	250.00	0.1514	-0.0025	0.1071	0.1072
1.2D + 1.0Di + 1.0Wi 210° 30 mph Wind with 0" Radial Ice	240.00	0.1333	-0.0011	0.0815	0.0815
1.2D + 1.0Di + 1.0Wi 210° 30 mph Wind with 0" Radial Ice	250.00	0.1478	-0.0017	0.1720	0.172
1.2D + 1.0Di + 1.0Wi 180° 30 mph Wind with 0" Radial Ice	240.00	0.1322	0.0002	0.0810	0.081
1.2D + 1.0Di + 1.0Wi 180° 30 mph Wind with 0" Radial Ice	250.00	0.1468	0.0006	0.1909	0.1909
1.2D + 1.0Di + 1.0Wi 120° 30 mph Wind with 0" Radial Ice	240.00	0.1369	0.0019	0.0836	0.0836
1.2D + 1.0Di + 1.0Wi 120° 30 mph Wind with 0" Radial Ice	250.00	0.1515	0.0025	0.1072	0.1072
1.2D + 1.0Di + 1.0Wi 90° 30 mph Wind with 0" Radial Ice	240.00	0.1326	0.0021	0.0826	0.0826
1.2D + 1.0Di + 1.0Wi 90° 30 mph Wind with 0" Radial Ice	250.00	0.1468	0.0025	0.0313	0.0314
1.2D + 1.0Di + 1.0Wi 60° 30 mph Wind with 0" Radial Ice	240.00	0.1317	0.0019	0.0825	0.0825
1.2D + 1.0Di + 1.0Wi 60° 30 mph Wind with 0" Radial Ice	250.00	0.1461	0.0024	0.1087	0.1087
1.2D + 1.0Di + 1.0Wi Normal 30 mph Wind with 0" Radial Ice	240.00	0.138	-0.0003	0.0850	0.085
1.2D + 1.0Di + 1.0Wi Normal 30 mph Wind with 0" Radial Ice	250.00	0.1532	-0.0006	0.1962	0.1962
0.9D + 1.0W 330° 119 mph Wind with No Ice (Reduced DL)	240.00	2.0678	-0.0337	1.2850	1.2854
0.9D + 1.0W 330° 119 mph Wind with No Ice (Reduced DL)	250.00	2.2968	-0.0359	2.7274	2.7275
0.9D + 1.0W 300° 119 mph Wind with No Ice (Reduced DL)	240.00	2.038	-0.0413	1.2802	1.2809
0.9D + 1.0W 300° 119 mph Wind with No Ice (Reduced DL)	250.00	2.2599	-0.0480	1.6939	1.6941
0.9D + 1.0W 240° 119 mph Wind with No Ice (Reduced DL)	240.00	2.124	-0.0196	1.3164	1.3165
0.9D + 1.0W 240° 119 mph Wind with No Ice (Reduced DL)	250.00	2.3523	-0.0420	1.7071	1.7076
0.9D + 1.0W 210° 119 mph Wind with No Ice (Reduced DL)	240.00	2.0679	0.0108	1.2837	1.2837
0.9D + 1.0W 210° 119 mph Wind with No Ice (Reduced DL)	250.00	2.2957	-0.0259	2.7236	2.7238
0.9D + 1.0W 180° 119 mph Wind with No Ice (Reduced DL)	240.00	2.0511	0.0046	1.2724	1.2724
0.9D + 1.0W 180° 119 mph Wind with No Ice (Reduced DL)	250.00	2.2794	0.0031	3.0018	3.0018
0.9D + 1.0W 120° 119 mph Wind with No Ice (Reduced DL)	240.00	2.124	0.0204	1.3165	1.3165
0.9D + 1.0W 120° 119 mph Wind with No Ice (Reduced DL)	250.00	2.3524	0.0431	1.7083	1.7089
0.9D + 1.0W 90° 119 mph Wind with No Ice (Reduced DL)	240.00	2.055	0.0345	1.2912	1.2914
0.9D + 1.0W 90° 119 mph Wind with No Ice (Reduced DL)	250.00	2.2763	0.0405	0.4992	0.5005
0.9D + 1.0W 60° 119 mph Wind with No Ice (Reduced DL)	240.00	2.038	0.0405	1.2802	1.2809
0.9D + 1.0W 60° 119 mph Wind with No Ice (Reduced DL)	250.00	2.2599	0.0469	1.6927	1.6928
0.9D + 1.0W Normal 119 mph Wind with No Ice (Reduced DL)	240.00	2.1369	-0.0070	1.3110	1.311
0.9D + 1.0W Normal 119 mph Wind with No Ice (Reduced DL)	250.00	2.3727	-0.0043	3.0760	3.076
1.2D + 1.0W 330° 119 mph Wind with No Ice	240.00	2.073	-0.0337	1.2893	1.2897
1.2D + 1.0W 330° 119 mph Wind with No Ice	250.00	2.3027	-0.0359	2.7312	2.7313
1.2D + 1.0W 300° 119 mph Wind with No Ice	240.00	2.0431	-0.0413	1.2843	1.285
1.2D + 1.0W 300° 119 mph Wind with No Ice	250.00	2.2657	-0.0480	1.6958	1.6959
1.2D + 1.0W 240° 119 mph Wind with No Ice	240.00	2.1292	-0.0196	1.3204	1.3204
1.2D + 1.0W 240° 119 mph Wind with No Ice	250.00	2.3582	-0.0422	1.7084	1.7089
1.2D + 1.0W 210° 119 mph Wind with No Ice	240.00	2.073	0.0109	1.2874	1.2874
1.2D + 1.0W 210° 119 mph Wind with No Ice	250.00	2.3014	-0.0262	2.7267	2.7268
1.2D + 1.0W 180° 119 mph Wind with No Ice	240.00	2.0561	0.0045	1.2761	1.2761
1.2D + 1.0W 180° 119 mph Wind with No Ice	250.00	2.2851	0.0033	3.0055	3.0055
1.2D + 1.0W 120° 119 mph Wind with No Ice	240.00	2.1292	0.0205	1.3205	1.3205
1.2D + 1.0W 120° 119 mph Wind with No Ice	250.00	2.3583	0.0433	1.7096	1.7102
1.2D + 1.0W 90° 119 mph Wind with No Ice	240.00	2.0601	0.0346	1.2952	1.2954
1.2D + 1.0W 90° 119 mph Wind with No Ice	250.00	2.2821	0.0406	0.4951	0.4964
1.2D + 1.0W 60° 119 mph Wind with No Ice	240.00	2.0431	0.0405	1.2844	1.285
1.2D + 1.0W 60° 119 mph Wind with No Ice	250.00	2.2657	0.0469	1.6945	1.6947
1.2D + 1.0W Normal 119 mph Wind with No Ice	240.00	2.1422	-0.0070	1.3155	1.3155
1.2D + 1.0W Normal 119 mph Wind with No Ice	250.00	2.3789	-0.0044	3.0806	3.0806

ASSET: 417139, Columbia (Charles) FL
CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-I
PROJECT: 15322453_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	14.03	0.00	0	1	0.00	484.16	-41.21
	14.03	0.00	120	1a	13.71	-198.50	-13.10
	14.03	0.00	240	1b	-13.71	-198.50	-13.10
1.2D + 1.0W 60°	14.03	0.00	0	1	-3.90	243.13	-19.89
	14.03	0.00	120	1a	-19.13	242.37	6.61
	14.03	0.00	240	1b	-30.60	-398.35	-17.69
1.2D + 1.0W 90°	14.03	0.00	0	1	-4.71	29.07	-1.54
	14.03	0.00	120	1a	-30.50	404.80	15.01
	14.03	0.00	240	1b	-28.09	-346.71	-13.46
1.2D + 1.0W 120°	14.03	0.00	0	1	-4.52	-198.48	18.42
	14.03	0.00	120	1a	-35.67	483.41	20.61
	14.03	0.00	240	1b	-18.18	-197.77	-5.33
1.2D + 1.0W 180°	14.03	0.00	0	1	0.00	-399.06	35.36
	14.03	0.00	120	1a	-15.29	243.11	13.29
	14.03	0.00	240	1b	15.30	243.11	13.29
1.2D + 1.0W 210°	14.03	0.00	0	1	2.41	-347.54	31.07
	14.03	0.00	120	1a	0.99	29.47	4.82
	14.03	0.00	240	1b	28.25	405.22	18.93
1.2D + 1.0W 240°	14.03	0.00	0	1	4.52	-198.48	18.42
	14.03	0.00	120	1a	18.18	-197.77	-5.32
	14.03	0.00	240	1b	35.67	483.40	20.61
1.2D + 1.0W 300°	14.03	0.00	0	1	3.90	243.13	-19.89
	14.03	0.00	120	1a	30.60	-398.34	-17.69
	14.03	0.00	240	1b	19.13	242.37	6.62
1.2D + 1.0W 330°	14.03	0.00	0	1	2.29	405.67	-33.93
	14.03	0.00	120	1a	25.69	-347.14	-17.62
	14.03	0.00	240	1b	3.66	28.62	-3.26
0.9D + 1.0W Normal	14.03	0.00	0	1	0.00	476.22	-40.80
	14.03	0.00	120	1a	14.04	-205.43	-13.30
	14.03	0.00	240	1b	-14.04	-205.43	-13.30
0.9D + 1.0W 60°	14.03	0.00	0	1	-3.90	235.54	-19.49
	14.03	0.00	120	1a	-18.79	234.79	6.41
	14.03	0.00	240	1b	-30.94	-404.97	-17.88
0.9D + 1.0W 90°	14.03	0.00	0	1	-4.72	21.80	-1.15
	14.03	0.00	120	1a	-30.16	396.98	14.80
	14.03	0.00	240	1b	-28.42	-353.42	-13.65
0.9D + 1.0W 120°	14.03	0.00	0	1	-4.53	-205.41	18.81
	14.03	0.00	120	1a	-35.32	475.48	20.41
	14.03	0.00	240	1b	-18.52	-204.70	-5.51
0.9D + 1.0W 180°	14.03	0.00	0	1	0.00	-405.69	35.74
	14.03	0.00	120	1a	-14.95	235.53	13.09
	14.03	0.00	240	1b	14.95	235.53	13.09
0.9D + 1.0W 210°	14.03	0.00	0	1	2.42	-354.25	31.46
	14.03	0.00	120	1a	1.34	22.21	4.63
	14.03	0.00	240	1b	27.89	397.40	18.73
0.9D + 1.0W 240°	14.03	0.00	0	1	4.53	-205.41	18.81
	14.03	0.00	120	1a	18.52	-204.69	-5.51
	14.03	0.00	240	1b	35.32	475.47	20.41
0.9D + 1.0W 300°	14.03	0.00	0	1	3.90	235.54	-19.49
	14.03	0.00	120	1a	30.93	-404.97	-17.88
	14.03	0.00	240	1b	18.79	234.79	6.41
0.9D + 1.0W 330°	14.03	0.00	0	1	2.30	397.84	-33.53
	14.03	0.00	120	1a	26.03	-353.84	-17.82
	14.03	0.00	240	1b	3.32	21.36	-3.47
1.2D + 1.0Di + 1.0Wi Normal	14.03	0.00	0	1	0.00	58.66	1.18
	14.03	0.00	120	1a	4.29	14.25	-2.81
	14.03	0.00	240	1b	-4.29	14.24	-2.81
1.2D + 1.0Di + 1.0Wi 60°	14.03	0.00	0	1	-0.26	43.01	2.59
	14.03	0.00	120	1a	2.12	42.95	-1.52

ASSET: 417139, Columbia (Charles) FL
CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-I
PROJECT: 15322453_C3_02

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					FX* (kip)	FY* (kip)	FZ* (kip)
1.2D + 1.0Di + 1.0Wi 90°	14.03	0.00	240	1b	-5.40	1.19	-3.12
	14.03	0.00	0	1	-0.31	29.06	3.81
	14.03	0.00	120	1a	1.36	53.52	-0.96
	14.03	0.00	240	1b	-5.23	4.56	-2.85
1.2D + 1.0Di + 1.0Wi 120°	14.03	0.00	0	1	-0.29	14.26	5.12
	14.03	0.00	120	1a	1.02	58.60	-0.59
	14.03	0.00	240	1b	-4.58	14.29	-2.31
	14.03	0.00	0	1	0.00	1.16	6.24
1.2D + 1.0Di + 1.0Wi 180°	14.03	0.00	120	1a	2.37	43.00	-1.07
	14.03	0.00	240	1b	-2.37	42.99	-1.07
	14.03	0.00	0	1	0.15	4.53	5.95
	14.03	0.00	120	1a	3.45	29.07	-1.64
1.2D + 1.0Di + 1.0Wi 210°	14.03	0.00	240	1b	-1.51	53.55	-0.70
	14.03	0.00	0	1	0.29	14.26	5.12
	14.03	0.00	120	1a	4.58	14.29	-2.31
	14.03	0.00	240	1b	-1.02	58.60	-0.59
1.2D + 1.0Di + 1.0Wi 240°	14.03	0.00	0	1	0.26	43.01	2.59
	14.03	0.00	120	1a	5.40	1.19	-3.12
	14.03	0.00	240	1b	-2.12	42.95	-1.52
	14.03	0.00	0	1	0.15	53.59	1.66
1.2D + 1.0Di + 1.0Wi 330°	14.03	0.00	120	1a	5.08	4.54	-3.11
	14.03	0.00	240	1b	-3.14	29.02	-2.17
	14.03	0.00	0	1	0.00	52.27	-3.33
	14.03	0.00	120	1a	-0.70	16.79	0.27
1.2D + 1.0Ev + 1.0Eh Normal	14.03	0.00	240	1b	0.70	16.79	0.27
	14.03	0.00	0	1	-0.12	40.44	-2.47
	14.03	0.00	120	1a	-2.20	40.44	1.13
	14.03	0.00	240	1b	-0.11	4.96	-0.06
1.2D + 1.0Ev + 1.0Eh 60°	14.03	0.00	0	1	-0.13	28.62	-1.61
	14.03	0.00	120	1a	-2.72	49.10	1.49
	14.03	0.00	240	1b	0.06	8.13	0.11
	14.03	0.00	0	1	-0.12	16.79	-0.74
1.2D + 1.0Ev + 1.0Eh 120°	14.03	0.00	120	1a	-2.89	52.27	1.67
	14.03	0.00	240	1b	0.59	16.79	0.47
	14.03	0.00	0	1	0.00	4.96	0.12
	14.03	0.00	120	1a	-2.08	40.44	1.34
1.2D + 1.0Ev + 1.0Eh 180°	14.03	0.00	240	1b	2.08	40.44	1.34
	14.03	0.00	0	1	0.07	8.13	-0.11
	14.03	0.00	120	1a	-1.32	28.62	0.92
	14.03	0.00	240	1b	2.65	49.10	1.61
1.2D + 1.0Ev + 1.0Eh 210°	14.03	0.00	0	1	0.12	16.79	-0.74
	14.03	0.00	120	1a	-0.59	16.79	0.47
	14.03	0.00	240	1b	2.89	52.27	1.67
	14.03	0.00	0	1	0.12	40.44	-2.47
1.2D + 1.0Ev + 1.0Eh 240°	14.03	0.00	120	1a	0.11	4.96	-0.06
	14.03	0.00	240	1b	2.20	40.44	1.13
	14.03	0.00	0	1	0.07	49.10	-3.10
	14.03	0.00	120	1a	-0.13	8.13	0.00
1.2D + 1.0Ev + 1.0Eh 330°	14.03	0.00	240	1b	1.46	28.62	0.69
	14.03	0.00	0	1	0.00	44.17	-2.88
	14.03	0.00	120	1a	-0.31	8.75	0.04
	14.03	0.00	240	1b	0.31	8.75	0.04
0.9D - 1.0Ev + 1.0Eh Normal	14.03	0.00	0	1	-0.12	32.37	-2.02
	14.03	0.00	120	1a	-1.81	32.37	0.91
	14.03	0.00	240	1b	-0.50	-3.05	-0.29
	14.03	0.00	0	1	-0.13	20.56	-1.15
0.9D - 1.0Ev + 1.0Eh 60°	14.03	0.00	120	1a	-2.33	41.01	1.27
	14.03	0.00	240	1b	-0.33	0.11	-0.11
	14.03	0.00	0	1	-0.12	8.75	-0.29
	14.03	0.00	120	1a	-0.12	8.75	-0.29

ASSET: 417139, Columbia (Charles) FL
CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-I
PROJECT: 15322453_C3_02

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°	14.03	0.00	120	1a	-2.50	44.17	1.44
	14.03	0.00	240	1b	0.19	8.75	0.25
	14.03	0.00	0	1	0.00	-3.05	0.57
	14.03	0.00	120	1a	-1.69	32.37	1.11
	14.03	0.00	240	1b	1.69	32.37	1.11
0.9D - 1.0Ev + 1.0Eh 210°	14.03	0.00	0	1	0.07	0.11	0.34
	14.03	0.00	120	1a	-0.93	20.56	0.69
	14.03	0.00	240	1b	2.26	41.01	1.38
0.9D - 1.0Ev + 1.0Eh 240°	14.03	0.00	0	1	0.12	8.75	-0.29
	14.03	0.00	120	1a	-0.19	8.75	0.25
	14.03	0.00	240	1b	2.50	44.17	1.44
0.9D - 1.0Ev + 1.0Eh 300°	14.03	0.00	0	1	0.12	32.37	-2.02
	14.03	0.00	120	1a	0.50	-3.05	-0.29
	14.03	0.00	240	1b	1.81	32.37	0.91
0.9D - 1.0Ev + 1.0Eh 330°	14.03	0.00	0	1	0.07	41.01	-2.65
	14.03	0.00	120	1a	0.26	0.11	-0.23
	14.03	0.00	240	1b	1.07	20.56	0.46
1.0D + 1.0W Service Normal	14.03	0.00	0	1	0.00	140.64	-11.56
	14.03	0.00	120	1a	2.73	-34.01	-2.91
	14.03	0.00	240	1b	-2.73	-34.01	-2.91
1.0D + 1.0W Service 60°	14.03	0.00	0	1	-1.03	79.01	-6.05
	14.03	0.00	120	1a	-5.74	78.81	2.14
	14.03	0.00	240	1b	-7.07	-85.20	-4.09
1.0D + 1.0W Service 90°	14.03	0.00	0	1	-1.23	24.22	-1.31
	14.03	0.00	120	1a	-8.68	120.37	4.32
	14.03	0.00	240	1b	-6.42	-71.97	-3.00
1.0D + 1.0W Service 120°	14.03	0.00	0	1	-1.16	-33.99	3.82
	14.03	0.00	120	1a	-10.00	140.44	5.78
	14.03	0.00	240	1b	-3.88	-33.82	-0.91
1.0D + 1.0W Service 180°	14.03	0.00	0	1	0.00	-85.36	8.17
	14.03	0.00	120	1a	-4.73	79.00	3.91
	14.03	0.00	240	1b	4.73	78.99	3.91
1.0D + 1.0W Service 210°	14.03	0.00	0	1	0.62	-72.16	7.07
	14.03	0.00	120	1a	-0.53	24.31	1.71
	14.03	0.00	240	1b	8.08	120.48	5.36
1.0D + 1.0W Service 240°	14.03	0.00	0	1	1.16	-33.99	3.82
	14.03	0.00	120	1a	3.88	-33.82	-0.91
	14.03	0.00	240	1b	10.00	140.44	5.78
1.0D + 1.0W Service 300°	14.03	0.00	0	1	1.03	79.01	-6.05
	14.03	0.00	120	1a	7.07	-85.19	-4.09
	14.03	0.00	240	1b	5.74	78.81	2.14
1.0D + 1.0W Service 330°	14.03	0.00	0	1	0.61	120.60	-9.68
	14.03	0.00	120	1a	5.81	-72.07	-4.07
	14.03	0.00	240	1b	1.74	24.10	-0.40
1.2D + 1.0Ev + 1.5Eh Normal	14.03	0.00	0	1	0.00	64.35	-4.21
	14.03	0.00	120	1a	-0.35	10.75	0.00
	14.03	0.00	240	1b	0.35	10.75	0.00
1.2D + 1.0Ev + 1.5Eh 60°	14.03	0.00	0	1	-0.17	46.36	-2.90
	14.03	0.00	120	1a	-2.60	46.36	1.30
	14.03	0.00	240	1b	-0.85	-6.86	-0.49
1.2D + 1.0Ev + 1.5Eh 90°	14.03	0.00	0	1	-0.20	28.62	-1.61
	14.03	0.00	120	1a	-3.40	59.56	1.85
	14.03	0.00	240	1b	-0.62	-2.33	-0.24
1.2D + 1.0Ev + 1.5Eh 120°	14.03	0.00	0	1	-0.17	10.88	-0.31
	14.03	0.00	120	1a	-3.63	64.09	2.10
	14.03	0.00	240	1b	0.18	10.88	0.31
1.2D + 1.0Ev + 1.5Eh 180°	14.03	0.00	0	1	0.00	-7.12	1.00
	14.03	0.00	120	1a	-2.43	46.48	1.61
	14.03	0.00	240	1b	2.43	46.48	1.61

ASSET: 417139, Columbia (Charles) FL
CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-I
PROJECT: 15322453_C3_02

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					FX* (kip)	FY* (kip)	FZ* (kip)
1.2D + 1.0Ev + 1.5Eh 210°	14.03	0.00	0	1	0.10	-2.11	0.64
	14.03	0.00	120	1a	-1.29	28.62	0.98
	14.03	0.00	240	1b	3.28	59.34	2.01
1.2D + 1.0Ev + 1.5Eh 240°	14.03	0.00	0	1	0.17	10.88	-0.31
	14.03	0.00	120	1a	-0.18	10.88	0.31
	14.03	0.00	240	1b	3.63	64.09	2.10
1.2D + 1.0Ev + 1.5Eh 300°	14.03	0.00	0	1	0.17	46.36	-2.90
	14.03	0.00	120	1a	0.85	-6.86	-0.49
	14.03	0.00	240	1b	2.60	46.36	1.30
1.2D + 1.0Ev + 1.5Eh 330°	14.03	0.00	0	1	0.10	59.34	-3.85
	14.03	0.00	120	1a	0.50	-2.11	-0.41
	14.03	0.00	240	1b	1.49	28.62	0.63
0.9D - 1.0Ev + 1.5Eh Normal	14.03	0.00	0	1	0.00	56.23	-3.76
	14.03	0.00	120	1a	0.04	2.73	-0.23
	14.03	0.00	240	1b	-0.04	2.73	-0.23
0.9D - 1.0Ev + 1.5Eh 60°	14.03	0.00	0	1	-0.17	38.27	-2.45
	14.03	0.00	120	1a	-2.21	38.27	1.07
	14.03	0.00	240	1b	-1.24	-14.86	-0.72
0.9D - 1.0Ev + 1.5Eh 90°	14.03	0.00	0	1	-0.20	20.56	-1.15
	14.03	0.00	120	1a	-3.01	51.45	1.62
	14.03	0.00	240	1b	-1.01	-10.33	-0.46
0.9D - 1.0Ev + 1.5Eh 120°	14.03	0.00	0	1	-0.17	2.85	0.14
	14.03	0.00	120	1a	-3.24	55.98	1.87
	14.03	0.00	240	1b	-0.21	2.85	0.08
0.9D - 1.0Ev + 1.5Eh 180°	14.03	0.00	0	1	0.00	-15.11	1.45
	14.03	0.00	120	1a	-2.04	38.40	1.38
	14.03	0.00	240	1b	2.04	38.40	1.38
0.9D - 1.0Ev + 1.5Eh 210°	14.03	0.00	0	1	0.10	-10.11	1.09
	14.03	0.00	120	1a	-0.90	20.56	0.75
	14.03	0.00	240	1b	2.89	51.24	1.79
0.9D - 1.0Ev + 1.5Eh 240°	14.03	0.00	0	1	0.17	2.85	0.14
	14.03	0.00	120	1a	0.21	2.85	0.08
	14.03	0.00	240	1b	3.24	55.98	1.87
0.9D - 1.0Ev + 1.5Eh 300°	14.03	0.00	0	1	0.17	38.27	-2.45
	14.03	0.00	120	1a	1.24	-14.86	-0.72
	14.03	0.00	240	1b	2.21	38.27	1.07
0.9D - 1.0Ev + 1.5Eh 330°	14.03	0.00	0	1	0.10	51.24	-3.40
	14.03	0.00	120	1a	0.89	-10.11	-0.63
	14.03	0.00	240	1b	1.10	20.56	0.40

ASSET: 417139, Columbia (Charles) FL
CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-I
PROJECT: 15322453_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:	405.69	405.69	Moment Ice:	623.21 (kip-ft)	Moment: 9578.31 (kip-ft)
Max Down:	484.16	484.16	Total Down Ice:	87.15 (kip)	Total Down: 87.15 (kip)
Max Shear:	41.21	41.21	Total Shear Ice:	4.44 (kip)	Total Shear: 67.4 (kip)
	1.2D + 1.0W Normal				