



AMERICAN TOWER®
C O R P O R A T I O N

Structural Analysis Report

Structure : 298 ft Guyed Tower
ATC Site Name : Lees Summit, MO
ATC Site Number : 306030
Engineering Number : OAA713535_C3_11
Proposed Carrier : AT&T Mobility
Carrier Site Name : Lees Summit, MO
Carrier Site Number : KS4019
Site Location : 111 Sw Hook Road
Lees Summit, MO 64082-4305
38.865100, -94.377100
County : Jackson
Date : April 20, 2018
Max Usage : 120%
Result : Fail

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Structural Engineer I

Reviewed By:

COA: 2006031326



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 298 ft guyed tower to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	Andrew Drawing #GI-9015-01, dated May 22, 1989
Foundation Drawing	Andrew Drawing #GTF-613, dated March 10, 1987
Geotechnical Report	FDH Project #04-1121E, dated December 15, 2004
Modifications	Andrew Drawing #GI-95699A, dated February 15, 1996 ATC Job #24857321, dated February 6, 2006

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:	90 mph (3-Second Gust, Vasd) / 115 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	45 mph (3-Second Gust) w/ 0.68750" radial ice concurrent*
Code:	ANSI/TIA-222-G / 2012 IBC
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.11$, $S_1 = 0.07$
Site Class:	D - Stiff Soil

*Wind speed, ice thickness and topographic effects have been adjusted per site specific climatic study in accordance with ASCE 7-10 Section 26.5.3, IBC Section 1609.3, and TIA-222-G Section 2.6.6.2.5

Conclusion

Based on the analysis results, the structure does not meet the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report after the modifications listed below are completed:

- Reinforce legs from elevation 188' to 204'.
- Reinforce diagonals from elevation 165' to 170'.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
287.0	287.0	1	20' Dipole	Leg	(1) 3/8" Coax	AT&T Mobility
280.0	280.0	1	8' HP Dish	Leg	(1) EW52	
200.0	200.0	1	Andrew UHX6-59	Leg	(2) EW52	
		1	Andrew PARX6-65			
190.0	190.0	3	CCI HPA-65R-BUU-H8	Commscope SFG23HD-12-4-96 Sector Frames	(6) 1 5/8" Coax (2) 0.78" 8 AWG 6 (1) 0.39" Fiber Trunk	
		2	Powerwave P65-15-XLH-RR			
		1	Powerwave P65-16-XLH-RR			
		3	Alcatel-Lucent RRH2x40-07-L			
		3	Powerwave TT08-19DB111-001			
		1	Raycap DC6-48-60-18-8F(32.8 lbs)			
183.0	183.0	1	6' HP Dish	Leg	(1) EW52	
173.0	173.0	1	6' HP Dish	Leg	(1) EW90	
170.0	170.0	1	Andrew PAR6-59	Leg	(1) EW52	
20.0	20.0	1	3' Yagi	Leg	(1) 3/8" Coax	
12.0	12.0	1	GPS	Leg	(1) 1/4" Coax	

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
190.0	190.0	1	Raycap DC6-48-60-18-8F	Sector Frames	(6) 1 5/8" Coax	AT&T Mobility
		3	Alcatel-Lucent RRH2X60-1900A-4R			
		3	Powerwave TT08-19DB111-001			
		2	Powerwave P65-15-XLH-RR			

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
190.0	190.0	6	Quintel QS86512-2	Commscope SFG23HD-12-4-96 Sector Frames	(4) 0.78" 8 AWG 6 (1) 3/8" RET Control Cable (1) 0.39" Fiber Trunk	AT&T Mobility
		3	Alcatel-Lucent RRH4x25-WCS-4R			
		3	Alcatel-Lucent B66A RRH4X45 w/ solar shield			
		3	Nokia Flexi RRH 4T4R B14 160W FRBI			
		3	Alcatel-Lucent B25 RRH4x30-4R			
		1	Raycap DC6-48-60-18-8C			
		1	Raycap DC6-48-60-0-8C			

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Install proposed coax stacked on top of existing AT&T Mobility coax.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	115%	Fail
Diagonals	120%	Fail
Horizontals	13%	Pass
Guys	93%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Base Axial (kips)	151.8	95%
Anchor 1 Uplift (kips)	45.4	71%
Anchor 1 Shear (kips)	53.3	53%

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

Deflection, Twist, and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
280.0	8' HP Dish	AT&T Mobility	0.174	0.047	0.301
200.0	Andrew Microwaves UHX6-59		0.373	0.028	0.058
	Andrew Microwaves PARX6-65				
190.0	Alcatel-Lucent B25 RRH4x30-4R		0.374		0.079
	Nokia Flexi RRH 4T4R B14 160W FRBI				
	Alcatel-Lucent B66A RRH4X45 w/ solar shield				
	Raycap DC6-48-60-0-8C				
	Raycap DC6-48-60-18-8C				
	Alcatel-Lucent RRH4x25-WCS-4R				
	Quintel QS86512-2				
183.0	6' HP Dish		0.368	0.027	0.115
173.0	6' HP Dish		0.347		0.154
170.0	Andrew Microwaves PAR6-59		0.340		0.344

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



Standard Conditions

All engineering services performed by ATC Tower Services 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:

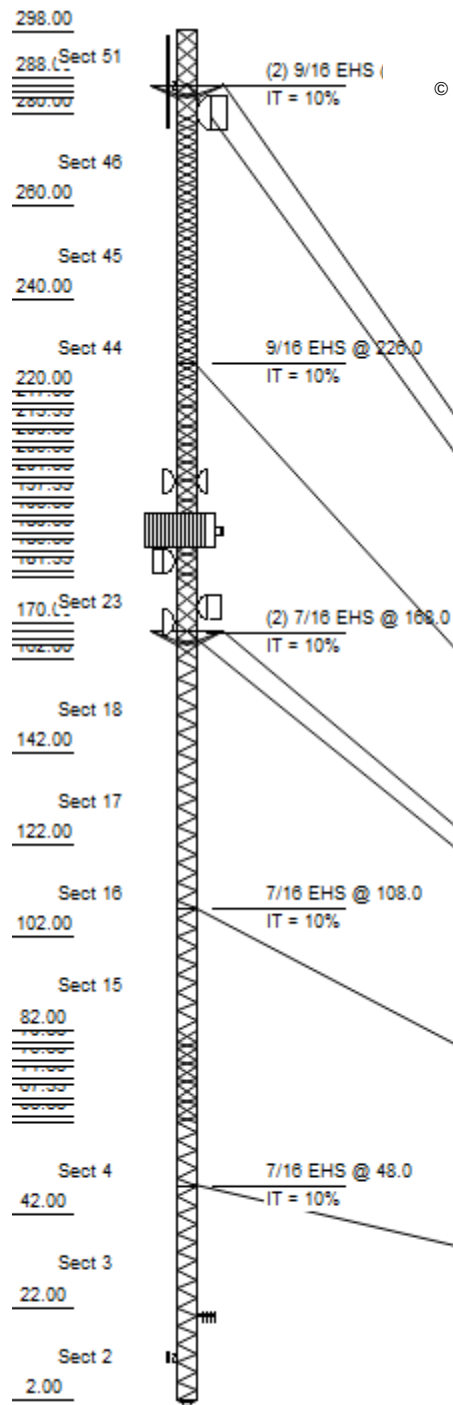
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of ATC Tower Services

It is the responsibility of the client to ensure that the information provided to ATC Tower Services 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, 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 is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



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Loads: 90 mph no ice
45 mph w/ 11/16" radial ice
Site Class: D Ss: 0.11 S1: 0.07
60 mph Serviceability

Job Information

Tower : 306030

Location : Lees Summit,

Base Width : 3.50 ft

Client : AT&T MOBILITY

Code : ANSI/TIA-222-G

Tower Ht : 298.00 ft

Shape : Triangle

Sections Properties

Section	Leg Members	Diagonal Members	Horizontal Members
1	CHN 50 ksi C12 x 30		CHN 36 ksi C12 x 30
2 - 20	PLA 50 ksi SAW 5.938" x	PLA 36 ksi SAW 2.75" x 0.119"	
21 - 22	PLA 50 ksi SAW 5.938" x	PLA 36 ksi SAW 2.75" x 0.119"	DUM 36 ksi 0.1X0.1X1
23	PLA 50 ksi SAW 5.938" x	PLA 36 ksi SAW 2.75" x 0.119"	
24 - 43	PLA 50 ksi SAW 5.938" x	PLA 36 ksi SAW 2.75" x 0.119"	
44 - 46	PLA 50 ksi SAW 5.938" x	PLA 36 ksi SAW 2.75" x 0.119"	
47 - 48	PLA 50 ksi SAW 5.938" x	PLA 36 ksi SAW 2.75" x 0.119"	
49 - 50	PLA 50 ksi SAW 5.938" x	PLA 36 ksi SAW 2.75" x 0.119"	DUM 36 ksi 0.1X0.1X1
51	PLA 50 ksi SAW 5.938" x	PLA 36 ksi SAW 2.75" x 0.119"	SAE 36 ksi 3X3X0.25

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
287.00	Whip	1	20' Dipole
286.00	Other	1	Torque Arms
280.00	Dish	1	8' HP Dish
200.00	Dish	1	Andrew Microwaves UHX6-59
200.00	Dish	1	Andrew Microwaves PARX6-65
190.00	Panel	6	Quintel QS86512-2
190.00	Panel	3	Alcatel-Lucent RRH4x25-WCS-4R
190.00	Panel	3	Alcatel-Lucent B66A RRH4X45 w
190.00	Panel	3	Nokia Flexi RRH 4T4R B14 160W
190.00	Panel	3	Alcatel-Lucent B25 RRH4x30-4R
190.00	Panel	1	Raycap DC6-48-60-18-8C
190.00	Panel	1	Raycap DC6-48-60-0-8C
190.00	Panel	3	CCI HPA-65R-BUU-H8
190.00	Mounting Frame	3	Commscope SFG23HD-12-4-96
190.00	Panel	2	Powerwave P65-15-XLH-RR
190.00	Panel	1	Powerwave P65-16-XLH-RR
190.00	Panel	3	Alcatel-Lucent RRH2x40-07-L
190.00	Panel	3	Powerwave TT08-19DB111-001
190.00	Panel	1	Raycap DC6-48-60-18-8F(32.8 lb
183.00	Dish	1	6' HP Dish
173.00	Dish	1	6' HP Dish
170.00	Dish	1	Andrew Microwaves PAR6-59
168.00	Other	1	Torque Arms
20.00	Yagi	1	3' Yagi
12.00	Whip	1	GPS

Linear Appurtenance

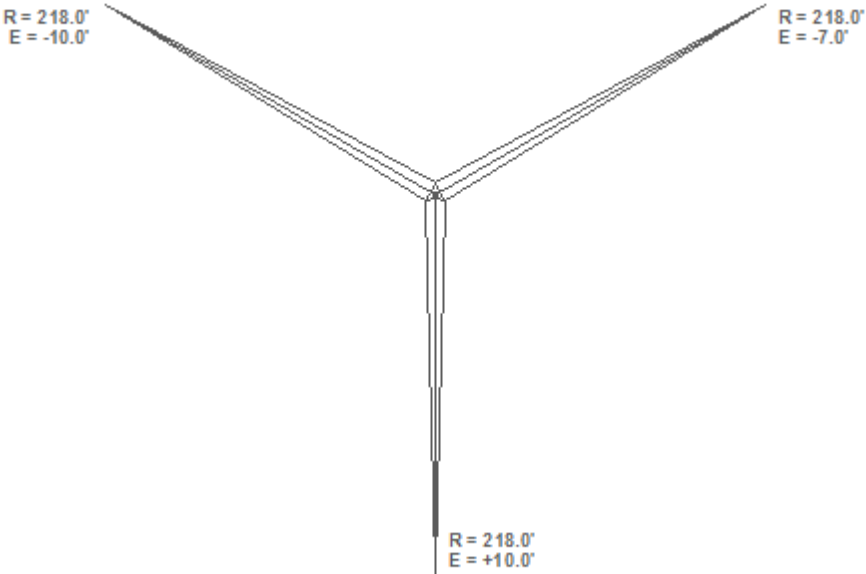
Elev (ft)				
From	To	Qty	Description	
0.00	298.00	1	Climbing Ladder	
5.00	287.00	1	3/8" Coax	
5.00	280.00	1	EW52	
5.00	200.00	2	EW52	
5.00	190.00	1	3/8" RET Control Cab	
5.00	190.00	6	1 5/8" Coax	
5.00	190.00	2	0.78" 8 AWG 6	
5.00	190.00	4	0.78" 8 AWG 6	
5.00	190.00	1	0.39" Fiber Trunk	
5.00	190.00	1	0.39" Fiber Trunk	
5.00	183.00	1	EW52	
5.00	173.00	1	EW90	
5.00	170.00	1	EW52	

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Job Information		
Tower : 306030	Location : Lees Summit,	Base Width : 3.50 ft
Client : AT&T MOBILITY		
Code : ANSI/TIA-222-G	Tower Ht : 298.00 ft	
	Shape : Triangle	

5.00	20.00	1	3/8" Coax
5.00	12.00	1	1/4" Coax

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Job Information		
Tower : 306030	Location : Lees Summit,	Base Width : 3.50 ft
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Code : ANSI/TIA-222-G		Tower Ht : 298.00 ft
		Shape : Triangle

Guy Anchor Design Loads				
Radius (ft)	Drop (ft)	Azimuth (°)	Uplift (kip)	Shear (kip)
218.00	10.00	0	40.76	53.25
218.00	-10.00	240	45.41	53.32
218.00	-7.00	120	44.38	53.03

Global Base Foundation Design Loads	
Vertical (kip)	Horizontal (kip)
151.82	0.75

Site Number: 306030	Code: ANSI/TIA-222-G	© 2007 - 2018 by ATC IP LLC. All rights reserved.
Site Name: Lees Summit, MO	Engineering Number: OAA713535_C3_11	4/20/2018 11:33:53 AM
Customer: AT&T MOBILITY		

Analysis Parameters

Location:	JACKSON County, MO	Height (ft):	298
Code:	ANSI/TIA-222-G	Base Elevation (ft):	0.00
Shape:	Triangle	Bottom Face Width (ft):	3.50
Tower Manufacturer:	Andrew Corp	Top Face Width (ft):	3.50
Tower Type:	Guyed		
Kd:			
Ke:			

Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	90 mph
Exposure Category:	C	Design Windspeed With Ice:	45 mph
Topographic Category:	1	Operational Windspeed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.70 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	0.86		
T_L (sec):	12	p:	1.3
S_S :	0.114	S_1 :	0.067
F_a :	1.600	F_v :	2.400
S_{ds} :	0.122	S_{d1} :	0.107
		C_s :	0.049
		$C_{s, Max}$:	0.050
		$C_{s, Min}$:	0.030

Load Cases

1.2D + 1.6W Normal	90 mph Normal with No Ice
1.2D + 1.6W 60 deg	90 mph 60 degree with No Ice
1.2D + 1.6W 90 deg	90 mph 90 degree with No Ice
1.2D + 1.6W 120 deg	90 mph 120 degree with No Ice
1.2D + 1.6W 180 deg	90 mph 180 degree with No Ice
1.2D + 1.6W 210 deg	90 mph 210 degree with No Ice
1.2D + 1.6W 240 deg	90 mph 240 degree with No Ice
1.2D + 1.6W 300 deg	90 mph 300 degree with No Ice
1.2D + 1.6W 330 deg	90 mph 330 degree with No Ice
1.2D + 1.0Di + 1.0Wi Normal	45 mph Normal with 0.70 in Radial Ice
1.2D + 1.0Di + 1.0Wi 60 deg	45 mph 60 deg with 0.70 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	45 mph 90 deg with 0.70 in Radial Ice
1.2D + 1.0Di + 1.0Wi 120 deg	45 mph 120 deg with 0.70 in Radial Ice
1.2D + 1.0Di + 1.0Wi 180 deg	45 mph 180 deg with 0.70 in Radial Ice
1.2D + 1.0Di + 1.0Wi 210 deg	45 mph 210 deg with 0.70 in Radial Ice
1.2D + 1.0Di + 1.0Wi 240 deg	45 mph 240 deg with 0.70 in Radial Ice
1.2D + 1.0Di + 1.0Wi 300 deg	45 mph 300 deg with 0.70 in Radial Ice
1.2D + 1.0Di + 1.0Wi 330 deg	45 mph 330 deg with 0.70 in Radial Ice
(1.2 + 0.2S _{ds}) * DL + E Normal	Seismic Normal

Site Number: 306030
Site Name: Lees Summit, MO
Customer: AT&T MOBILITY

Code: ANSI/TIA-222-G
Engineering Number: OAA713535_C3_11

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Analysis Parameters

(1.2 + 0.2Sds) * DL + E 60 deg	Seismic 60 deg
(1.2 + 0.2Sds) * DL + E 90 deg	Seismic 90 deg
(1.2 + 0.2Sds) * DL + E 120 deg	Seismic 120 deg
(1.2 + 0.2Sds) * DL + E 180 deg	Seismic 180 deg
(1.2 + 0.2Sds) * DL + E 210 deg	Seismic 210 deg
(1.2 + 0.2Sds) * DL + E 240 deg	Seismic 240 deg
(1.2 + 0.2Sds) * DL + E 300 deg	Seismic 300 deg
(1.2 + 0.2Sds) * DL + E 330 deg	Seismic 330 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60 mph Wind 60 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 deg
1.0D + 1.0W Service 120 deg	Serviceability - 60 mph Wind 120 deg
1.0D + 1.0W Service 180 deg	Serviceability - 60 mph Wind 180 deg
1.0D + 1.0W Service 210 deg	Serviceability - 60 mph Wind 210 deg
1.0D + 1.0W Service 240 deg	Serviceability - 60 mph Wind 240 deg
1.0D + 1.0W Service 300 deg	Serviceability - 60 mph Wind 300 deg
1.0D + 1.0W Service 330 deg	Serviceability - 60 mph Wind 330 deg

Site Number: 306030

Code:

ANSI/TIA-222-G

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Tower Loading**Discrete Appurtenance Properties** 1.2D + 1.6W

Elevation (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)
287.0	20' Dipole	1	60	7.5	20.0	3.0	3.0	1.00	1.00	0.0	0.0	27.85	285	72
286.0	Torque Arms	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	27.83	568	600
280.0	8' HP Dish	1	470	63.4	8.0	0.0	0.0	1.00	0.81	0.0	0.0	27.71	1936	564
200.0	Andrew Microwaves	1	281	35.7	6.0	0.0	0.0	1.00	1.00	0.0	0.0	25.81	1252	337
200.0	Andrew Microwaves	1	278	47.0	6.0	76.3	13.2	1.00	0.90	0.0	0.0	25.81	1486	334
190.0	Powerwave TT08-	3	22	0.9	1.2	6.7	5.4	0.80	0.50	0.0	0.0	25.53	38	79
190.0	Raycap DC6-48-60-	1	33	1.3	2.0	11.0	11.0	0.80	1.00	0.0	0.0	25.53	36	39
190.0	Alcatel-Lucent	3	52	1.7	1.6	10.6	9.7	0.80	0.50	0.0	0.0	25.53	71	189
190.0	Alcatel-Lucent B25	3	51	2.1	1.8	12.0	7.2	0.80	0.50	0.0	0.0	25.53	89	184
190.0	Nokia Flexi RRH	3	51	2.4	1.9	12.6	6.3	0.80	0.50	0.0	0.0	25.53	101	183
190.0	Alcatel-Lucent B66A	3	57	2.5	2.2	11.8	7.2	0.80	0.50	0.0	0.0	25.53	106	204
190.0	Raycap DC6-48-60-0-	1	16	3.0	1.7	18.2	6.4	0.80	0.67	0.0	0.0	25.53	57	19
190.0	Raycap DC6-48-60-	1	16	3.0	1.5	20.1	6.4	0.80	0.67	0.0	0.0	25.53	57	19
190.0	Alcatel-Lucent	3	70	3.2	2.6	12.0	8.7	0.80	0.50	0.0	0.0	25.53	132	252
190.0	Powerwave P65-15-	2	41	5.4	4.3	12.0	6.0	0.80	0.66	0.0	0.0	25.53	199	98
190.0	Powerwave P65-16-	1	53	8.1	6.0	12.0	6.0	0.80	0.67	0.0	0.0	25.53	151	64
190.0	Quintel QS86512-2	6	135	11.5	8.0	12.0	9.6	0.80	0.74	0.0	0.0	25.53	1415	972
190.0	CCI HPA-65R-BUU-H8	3	68	13.0	7.7	14.8	7.4	0.80	0.67	0.0	0.0	25.53	725	245
190.0	Commscope	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	25.53	754	1080
183.0	6' HP Dish	1	281	35.7	6.0	0.0	0.0	1.00	0.81	0.0	0.0	25.33	995	337
173.0	6' HP Dish	1	281	35.7	6.0	0.0	0.0	1.00	1.00	0.0	0.0	25.04	1215	337
170.0	Andrew Microwaves	1	134	52.8	6.4	76.3	13.2	1.00	0.90	0.0	0.0	24.94	1613	161
168.0	Torque Arms	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	24.88	508	600
20.00	3' Yagi	1	10	3.0	3.0	36.0	3.0	1.00	1.00	0.0	0.0	15.90	64	12
12.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	14.98	20	12
Totals		47	5827	527.8									13872	6993

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (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)
287.0	20' Dipole	1	281	19.4	20.0	3.0	3.0	1.00	1.00	0.0	0.0	6.96	115	293
286.0	Torque Arms	1	847	25.4	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.96	150	947
280.0	8' HP Dish	1	1711	68.0	8.0	0.0	0.0	1.00	0.81	0.0	0.0	6.93	324	1805
200.0	Andrew Microwaves	1	963	39.0	6.0	0.0	0.0	1.00	1.00	0.0	0.0	6.45	214	1019
200.0	Andrew Microwaves	1	1598	51.2	6.0	76.3	13.2	1.00	0.90	0.0	0.0	6.45	253	1653
190.0	Powerwave TT08-	3	55	1.2	1.2	6.7	5.4	0.80	0.50	0.0	0.0	6.38	8	178
190.0	Raycap DC6-48-60-	1	121	2.8	2.0	11.0	11.0	0.80	1.00	0.0	0.0	6.38	12	127
190.0	Alcatel-Lucent	3	121	2.2	1.6	10.6	9.7	0.80	0.50	0.0	0.0	6.38	15	395
190.0	Alcatel-Lucent B25	3	120	2.7	1.8	12.0	7.2	0.80	0.50	0.0	0.0	6.38	18	392
190.0	Nokia Flexi RRH	3	123	3.1	1.9	12.6	6.3	0.80	0.50	0.0	0.0	6.38	20	398
190.0	Alcatel-Lucent B66A	3	136	3.2	2.2	11.8	7.2	0.80	0.50	0.0	0.0	6.38	21	443
190.0	Raycap DC6-48-60-0-	1	99	3.7	1.7	18.2	6.4	0.80	0.67	0.0	0.0	6.38	11	103
190.0	Raycap DC6-48-60-	1	99	3.7	1.5	20.1	6.4	0.80	0.67	0.0	0.0	6.38	11	103
190.0	Alcatel-Lucent	3	157	4.4	2.6	12.0	8.7	0.80	0.50	0.0	0.0	6.38	29	514
190.0	Powerwave P65-15-	2	174	6.4	4.3	12.0	6.0	0.80	0.66	0.0	0.0	6.38	37	364
190.0	Powerwave P65-16-	1	234	9.4	6.0	12.0	6.0	0.80	0.67	0.0	0.0	6.38	27	245
190.0	Quintel QS86512-2	6	415	13.0	8.0	12.0	9.6	0.80	0.74	0.0	0.0	6.38	251	2652
190.0	CCI HPA-65R-BUU-H8	3	344	14.5	7.7	14.8	7.4	0.80	0.67	0.0	0.0	6.38	127	1072
190.0	Commscope	3	652	30.2	0.0	0.0	0.0	0.75	0.67	0.0	0.0	6.38	247	2136
183.0	6' HP Dish	1	957	39.0	6.0	0.0	0.0	1.00	0.81	0.0	0.0	6.33	170	1013
173.0	6' HP Dish	1	954	39.0	6.0	0.0	0.0	1.00	1.00	0.0	0.0	6.26	207	1010

Site Number: 306030

Code:

ANSI/TIA-222-G

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Tower Loading

170.0 Andrew Microwaves	1	408	58.1	6.4	76.3	13.2	1.00	0.90	0.0	0.0	6.24	277	435
168.0 Torque Arms	1	829	24.9	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.22	132	929
20.00 3' Yagi	1	75	7.5	3.0	36.0	3.0	1.00	1.00	0.0	0.0	3.97	25	77
12.00 GPS	1	35	0.8	1.0	9.0	6.0	1.00	1.00	0.0	0.0	3.75	3	37
Totals	47	17178	667.7									2703	18343

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (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)
287.0	20' Dipole	1	60	7.5	20.0	3.0	3.0	1.00	1.00	0.0	0.0	12.38	79	60
286.0	Torque Arms	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	12.37	158	500
280.0	8' HP Dish	1	470	63.4	8.0	0.0	0.0	1.00	0.81	0.0	0.0	12.31	538	470
200.0	Andrew Microwaves	1	281	35.7	6.0	0.0	0.0	1.00	1.00	0.0	0.0	11.47	348	281
200.0	Andrew Microwaves	1	278	47.0	6.0	76.3	13.2	1.00	0.90	0.0	0.0	11.47	413	278
190.0	Powerwave TT08-	3	22	0.9	1.2	6.7	5.4	0.80	0.50	0.0	0.0	11.35	11	66
190.0	Raycap DC6-48-60-	1	33	1.3	2.0	11.0	11.0	0.80	1.00	0.0	0.0	11.35	10	33
190.0	Alcatel-Lucent	3	52	1.7	1.6	10.6	9.7	0.80	0.50	0.0	0.0	11.35	20	157
190.0	Alcatel-Lucent B25	3	51	2.1	1.8	12.0	7.2	0.80	0.50	0.0	0.0	11.35	25	153
190.0	Nokia Flexi RRH	3	51	2.4	1.9	12.6	6.3	0.80	0.50	0.0	0.0	11.35	28	152
190.0	Alcatel-Lucent B66A	3	57	2.5	2.2	11.8	7.2	0.80	0.50	0.0	0.0	11.35	29	170
190.0	Raycap DC6-48-60-0-	1	16	3.0	1.7	18.2	6.4	0.80	0.67	0.0	0.0	11.35	16	16
190.0	Raycap DC6-48-60-	1	16	3.0	1.5	20.1	6.4	0.80	0.67	0.0	0.0	11.35	16	16
190.0	Alcatel-Lucent	3	70	3.2	2.6	12.0	8.7	0.80	0.50	0.0	0.0	11.35	37	210
190.0	Powerwave P65-15-	2	41	5.4	4.3	12.0	6.0	0.80	0.66	0.0	0.0	11.35	55	82
190.0	Powerwave P65-16-	1	53	8.1	6.0	12.0	6.0	0.80	0.67	0.0	0.0	11.35	42	53
190.0	Quintel QS86512-2	6	135	11.5	8.0	12.0	9.6	0.80	0.74	0.0	0.0	11.35	393	810
190.0	CCI HPA-65R-BUU-H8	3	68	13.0	7.7	14.8	7.4	0.80	0.67	0.0	0.0	11.35	201	204
190.0	Commscope	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.35	209	900
183.0	6' HP Dish	1	281	35.7	6.0	0.0	0.0	1.00	0.81	0.0	0.0	11.26	277	281
173.0	6' HP Dish	1	281	35.7	6.0	0.0	0.0	1.00	1.00	0.0	0.0	11.13	337	281
170.0	Andrew Microwaves	1	134	52.8	6.4	76.3	13.2	1.00	0.90	0.0	0.0	11.09	448	134
168.0	Torque Arms	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	11.06	141	500
20.00	3' Yagi	1	10	3.0	3.0	36.0	3.0	1.00	1.00	0.0	0.0	7.07	18	10
12.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	6.66	6	10
Totals		47	5827	527.8									3853	5827

Site Number: 306030

Code: ANSI/TIA-222-G

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Tower Loading

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	298.0	Climbing Ladder	1	1.50	6.90	0	3	Individual	0.00	N	1.00	1.00	0.00
5.00	287.0	3/8" Coax	1	0.44	0.08	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
5.00	280.0	EW52	1	2.25	0.59	0	1	Individual	0.00	N	1.00	1.00	0.01
5.00	200.0	EW52	2	2.25	0.59	0	3	Individual	0.00	N	1.00	1.00	0.00
5.00	190.0	0.39" Fiber Trunk	1	0.39	0.06	0	3	Individual	0.00	N	1.00	1.00	0.01
5.00	190.0	0.39" Fiber Trunk	1	0.39	0.06	0	3	Individual	0.00	N	1.00	1.00	0.00
5.00	190.0	0.78" 8 AWG 6	4	0.78	0.59	25	3	Block	0.00	N	1.00	1.00	0.00
5.00	190.0	0.78" 8 AWG 6	2	0.78	0.59	0	3	Individual	0.00	N	1.00	1.00	0.01
5.00	190.0	1 5/8" Coax	6	1.98	0.82	0	3	Individual	0.00	N	1.00	1.00	0.00
5.00	190.0	3/8" RET Control	1	0.38	0.23	0	3	Individual	0.00	N	1.00	1.00	0.01
5.00	183.0	EW52	1	2.25	0.59	0	3	Individual	0.00	N	1.00	1.00	0.01
5.00	173.0	EW90	1	1.32	0.32	0	2	Individual	0.00	N	1.00	1.00	0.00
5.00	170.0	EW52	1	2.25	0.59	0	2	Individual	0.00	N	1.00	1.00	0.01
5.00	20.00	3/8" Coax	1	0.44	0.08	0	1	Individual	0.00	N	1.00	1.00	0.00
5.00	12.00	1/4" Coax	1	0.34	0.06	0	Lin App	Individual	0.00	N	1.00	1.00	0.00

Site Number: 306030

Code:

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Equivalent Lateral Force Method

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

Spectral Response Acceleration for Short Period (S_s):	0.11
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.07
Long-Period Transition Period (T_L - Seconds):	12
Importance Factor (I_e):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	2.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.12
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.11
Seismic Response Coefficient (C_s):	0.05
Upper Limit C_s :	0.05
Lower Limit C_s :	0.03
Period based on Rayleigh Method (sec):	0.86
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.18
Total Unfactored Dead Load:	18.72 k
Seismic Base Shear (E):	1.18 k

LoadCase (1.2 + 0.2Sds) * DL + E**Seismic**

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
51	293.00	376	305,798	0.041	48	460
50	287.17	54	43,006	0.006	7	66
49	285.50	54	42,775	0.006	7	66
48	284.00	56	44,205	0.006	7	69
47	281.67	108	84,195	0.011	13	133
46	270.00	744	549,267	0.073	86	911
45	250.00	744	501,596	0.067	79	911
44	230.00	795	485,917	0.065	76	974
43	218.67	82	47,261	0.006	7	101
42	216.67	52	29,696	0.004	5	64
41	214.67	82	46,243	0.006	7	101
40	212.67	52	29,050	0.004	5	64
39	210.67	82	45,228	0.006	7	101
38	208.67	52	28,406	0.004	4	64
37	206.67	82	44,217	0.006	7	101
36	204.67	52	27,765	0.004	4	64
35	202.67	82	43,209	0.006	7	101
34	200.67	52	27,126	0.004	4	64
33	198.67	85	43,822	0.006	7	104
32	196.67	54	27,288	0.004	4	66
31	194.67	85	42,783	0.006	7	104
30	192.67	54	26,635	0.004	4	66
29	190.67	91	44,625	0.006	7	112
28	188.67	65	31,665	0.004	5	80

Site Number: 306030

Code:

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Equivalent Lateral Force Method

27	186.67	109	51,938	0.007	8	133
26	184.67	65	30,875	0.004	5	80
25	182.67	110	51,086	0.007	8	134
24	180.67	66	30,449	0.004	5	81
23	175.00	438	193,934	0.026	31	536
22	169.17	74	31,633	0.004	5	91
21	167.50	74	31,264	0.004	5	91
20	166.00	73	30,160	0.004	5	89
19	163.67	149	60,844	0.008	10	182
18	152.00	829	310,760	0.041	49	1,015
17	132.00	829	263,116	0.035	41	1,015
16	112.00	855	223,454	0.030	35	1,046
15	92.00	829	171,866	0.023	27	1,015
14	80.67	123	21,808	0.003	3	150
13	78.67	73	12,498	0.002	2	89
12	76.67	123	20,538	0.003	3	150
11	74.67	73	11,752	0.002	2	89
10	72.67	123	19,280	0.003	3	150
9	70.67	73	11,013	0.001	2	89
8	68.67	123	18,034	0.002	3	150
7	66.67	73	10,281	0.001	2	89
6	64.67	123	16,801	0.002	3	150
5	62.67	73	9,558	0.001	2	89
4	52.00	855	90,386	0.012	14	1,046
3	32.00	829	49,448	0.007	8	1,015
2	12.00	794	14,893	0.002	2	972
1	1.00	900	900	0.000	0	1,102
20' Dipole	287.00	60	47,606	0.006	7	73
Torque Arms	286.00	500	395,085	0.053	62	612
8' HP Dish	280.00	470	362,207	0.048	57	575
Andrew Microwaves UHX6-59	200.00	281	145,606	0.019	23	344
Andrew Microwaves PARX6-65	200.00	278	144,052	0.019	23	340
Powerwave TT08-19DB111-001	190.00	66	32,191	0.004	5	81
Raycap DC6-48-60-18-8F(32.8 lbs)	190.00	33	15,998	0.002	3	40
Alcatel-Lucent RRH2x40-07-L	190.00	157	76,674	0.010	12	192
Alcatel-Lucent B25 RRH4x30-4R	190.00	153	74,625	0.010	12	187
Nokia Flexi RRH 4T4R B14 160W FRBI	190.00	152	74,186	0.010	12	186
Alcatel-Lucent B66A RRH4X45 w/ solar	190.00	170	83,112	0.011	13	209
Raycap DC6-48-60-0-8C	190.00	16	7,804	0.001	1	20
Raycap DC6-48-60-18-8C	190.00	16	7,804	0.001	1	20
Alcatel-Lucent RRH4x25-WCS-4R	190.00	210	102,427	0.014	16	257
Powerwave P65-15-XLH-RR	190.00	82	39,995	0.005	6	100
Powerwave P65-16-XLH-RR	190.00	53	25,851	0.003	4	65
Quintel QS86512-2	190.00	810	395,076	0.053	62	992
CCI HPA-65R-BUU-H8	190.00	204	99,501	0.013	16	250
Commscope SFG23HD-12-4-96 Round	190.00	900	438,973	0.058	69	1,102
6' HP Dish	183.00	281	131,120	0.017	21	344
6' HP Dish	173.00	281	122,710	0.016	19	344
Andrew Microwaves PAR6-59	170.00	134	57,321	0.008	9	164
Torque Arms	168.00	500	210,920	0.028	33	612
3' Yagi	20.00	10	343	0.000	0	12
GPS	12.00	10	188	0.000	0	12
		18,720	7,521,722	1.000	1,184	22,919

Site Number: 306030

Code: ANSI/TIA-222-G

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Equivalent Lateral Force Method

Site Number: 306030

Code:

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.11
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.07
Importance Factor (I_e):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	2.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.12
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.11
Period Based on Rayleigh Method (sec):	0.86
Redundancy Factor (p):	1.30

LoadCase (1.2 + 0.2Sds) * DL + E**Seismic**

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S_{az}	Horizontal Force (lb)	Vertical Force (lb)
51	293.00	376	1.827	1.665	1.025	0.298	58	460
50	287.17	54	1.755	1.342	0.902	0.273	8	66
49	285.50	54	1.735	1.258	0.869	0.266	8	66
48	284.00	56	1.717	1.186	0.840	0.260	8	69
47	281.67	108	1.688	1.079	0.797	0.251	14	133
46	270.00	744	1.552	0.636	0.606	0.210	81	911
45	250.00	744	1.330	0.164	0.363	0.156	60	911
44	230.00	795	1.126	-0.054	0.203	0.119	49	974
43	218.67	82	1.018	-0.105	0.140	0.104	4	101
42	216.67	52	0.999	-0.110	0.131	0.102	3	64
41	214.67	82	0.981	-0.114	0.122	0.099	4	101
40	212.67	52	0.963	-0.117	0.114	0.097	3	64
39	210.67	82	0.945	-0.120	0.106	0.095	4	101
38	208.67	52	0.927	-0.121	0.098	0.094	3	64
37	206.67	82	0.909	-0.122	0.091	0.092	4	101
36	204.67	52	0.892	-0.122	0.084	0.090	2	64
35	202.67	82	0.874	-0.121	0.078	0.088	4	101
34	200.67	52	0.857	-0.120	0.072	0.087	2	64
33	198.67	85	0.840	-0.118	0.066	0.085	4	104
32	196.67	54	0.823	-0.116	0.061	0.084	2	66
31	194.67	85	0.807	-0.113	0.056	0.082	4	104
30	192.67	54	0.790	-0.110	0.051	0.081	2	66
29	190.67	91	0.774	-0.107	0.047	0.079	4	112
28	188.67	65	0.758	-0.103	0.043	0.078	3	80
27	186.67	109	0.742	-0.099	0.039	0.077	4	133
26	184.67	65	0.726	-0.094	0.035	0.075	3	80
25	182.67	110	0.710	-0.090	0.032	0.074	4	134
24	180.67	66	0.695	-0.085	0.029	0.073	3	81
23	175.00	438	0.652	-0.071	0.021	0.070	16	536
22	169.17	74	0.609	-0.056	0.016	0.067	3	91
21	167.50	74	0.597	-0.052	0.014	0.066	3	91
20	166.00	73	0.586	-0.048	0.013	0.065	2	89
19	163.67	149	0.570	-0.042	0.012	0.064	5	182
18	152.00	829	0.492	-0.013	0.007	0.058	25	1,015
17	132.00	829	0.371	0.027	0.008	0.048	21	1,015
16	112.00	855	0.267	0.052	0.015	0.039	17	1,046
15	92.00	829	0.180	0.065	0.026	0.029	13	1,015
14	80.67	123	0.138	0.069	0.032	0.025	2	150
13	78.67	73	0.132	0.069	0.033	0.024	1	89

Site Number: 306030

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Equivalent Modal Analysis Method

12	76.67	123	0.125	0.070	0.034	0.023	1	150
11	74.67	73	0.119	0.070	0.035	0.023	1	89
10	72.67	123	0.112	0.070	0.035	0.022	1	150
9	70.67	73	0.106	0.071	0.036	0.021	1	89
8	68.67	123	0.100	0.071	0.037	0.020	1	150
7	66.67	73	0.095	0.071	0.038	0.020	1	89
6	64.67	123	0.089	0.071	0.039	0.019	1	150
5	62.67	73	0.084	0.072	0.039	0.018	1	89
4	52.00	855	0.058	0.072	0.041	0.015	7	1,046
3	32.00	829	0.022	0.065	0.039	0.010	4	1,015
2	12.00	794	0.003	0.038	0.021	0.005	2	972
1	1.00	900	0.000	0.004	0.002	0.000	0	1,102
20' Dipole	287.00	60	1.753	1.334	0.899	0.272	8	73
Torque Arms	286.00	500	1.741	1.283	0.879	0.268	70	612
8' HP Dish	280.00	470	1.669	1.007	0.767	0.245	60	575
Andrew Microwaves UHX6-59	200.00	281	0.851	-0.119	0.070	0.086	13	344
Andrew Microwaves PARX6-65	200.00	278	0.851	-0.119	0.070	0.086	12	340
Powerwave TT08-19DB111-001	190.00	66	0.768	-0.105	0.045	0.079	3	81
Raycap DC6-48-60-18-8F(32.8 lbs)	190.00	33	0.768	-0.105	0.045	0.079	1	40
Alcatel-Lucent RRH2x40-07-L	190.00	157	0.768	-0.105	0.045	0.079	6	192
Alcatel-Lucent B25 RRH4x30-4R	190.00	153	0.768	-0.105	0.045	0.079	6	187
Nokia Flexi RRH 4T4R B14 160W	190.00	152	0.768	-0.105	0.045	0.079	6	186
Alcatel-Lucent B66A RRH4X45	190.00	170	0.768	-0.105	0.045	0.079	7	209
Raycap DC6-48-60-0-8C	190.00	16	0.768	-0.105	0.045	0.079	1	20
Raycap DC6-48-60-18-8C	190.00	16	0.768	-0.105	0.045	0.079	1	20
Alcatel-Lucent RRH4x25-WCS-4R	190.00	210	0.768	-0.105	0.045	0.079	9	257
Powerwave P65-15-XLH-RR	190.00	82	0.768	-0.105	0.045	0.079	3	100
Powerwave P65-16-XLH-RR	190.00	53	0.768	-0.105	0.045	0.079	2	65
Quintel QS86512-2	190.00	810	0.768	-0.105	0.045	0.079	33	992
CCI HPA-65R-BUU-H8	190.00	204	0.768	-0.105	0.045	0.079	8	250
Commscope SFG23HD-12-4-96	190.00	900	0.768	-0.105	0.045	0.079	37	1,102
6' HP Dish	183.00	281	0.713	-0.091	0.032	0.074	11	344
6' HP Dish	173.00	281	0.637	-0.066	0.019	0.069	10	344
Andrew Microwaves PAR6-59	170.00	134	0.615	-0.058	0.016	0.067	5	164
Torque Arms	168.00	500	0.601	-0.053	0.015	0.066	17	612
3' Yagi	20.00	10	0.009	0.053	0.030	0.007	0	12
GPS	12.00	10	0.003	0.038	0.021	0.005	0	12
		18,720	55.461	7.547	11.140	6.671	810	22,919

Site Number: 306030

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

4/20/2018 11:33:53 AM

Customer: AT&T MOBILITY

Force/Stress Summary

Section: 1		80TB1		Bot Elev (ft): 0.00				Height (ft): 2.000							
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear phiRnv	Bear phiRn	Use
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	% Controls
LEG	CHN - C12 x 30	-70.88	1.2D + 1.0Di +	0.95	100	100	100	14.9	50.0	390.50	0	0	0.00	0.00	18 Member Y
HORIZ	CHN - C12 x 30	-1.38	1.2D + 1.6W	1.167	100	100	100	11.9	36.0	283.64	0	0	0.00	0.00	0 Member Y
DIAG		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	

		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	Controls
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	
LEG		0.00		0	0	0.00	0	0		0.00	0.00			0	
HORIZ	CHN - C12 x 30	28.62	1.2D + 1.0Di +	36	58	285.77	0	0		0.00	0.00		0.00	10 Member	
DIAG		0.00		0	0	0.00	0	0		0.00	0.00		0.00	0	

Max Splice Forces		Pu		phiRnt	Use	Num	
		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		0.00		0.00	0	0	
Top Compression		35.70	1.2D + 1.0Di +	0.00	0		
Bot Tension		0.00		0.00	0		
Bot Compression		0.00		0.00	0		

Section: 2		M46-GI-77-02		Bot Elev (ft): 2.00				Height (ft): 20.000							
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	% Controls
LEG	PLA - SAW 5.938" x 0	-51.17	1.2D + 1.0Di +	2.00	200	200	133	59.0	50.0	51.65	12	2	149.10	234.00	99 Member Y
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	PLA - SAW 2.75" x 0.	-0.72	1.2D + 1.6W 60	4.031	100	100	100	0.0	0.0	4.90	1	1	0.00	8.70	14 User Input

Max Tension Member		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	Controls
		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	
LEG		0.00		0	0	0.00	0	0		0.00	0.00			0	
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	0.68	1.2D + 1.6W 60	36	58	6.53	1	1		0.00	0.00		0.00	10 User Input	

Max Splice Forces		Pu		phiRnt	Use	Num	
		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		0.00		0.00	0	0	
Top Compression		51.18	1.2D + 1.0Di +	0.00	0		
Bot Tension		0.00		0.00	0		
Bot Compression		35.70	1.2D + 1.0Di +	0.00	0		

Site Number: 306030

Code:

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 3		M46-GI-77-02		Bot Elev (ft): 22.00				Height (ft): 20.000								
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls
LEG	PLA - SAW 5.938" x 0	-51.10	1.2D + 1.0Di +	2.00	200	200	133	59.0	50.0	51.65	12	2	149.10	234.00	98	Member Y
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-1.26	1.2D + 1.6W	4.031	100	100	100	0.0	0.0	4.90	1	1	0.00	8.70	25	User Input
		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear		Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv		phiRn	phit	Pn	%	Controls
LEG		0.00		0	0	0.00	0	0		0.00		0.00			0	
HORIZ		0.00		0	0	0.00	0	0		0.00		0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	1.32	1.2D + 1.6W 90	36	58	6.53	1	1		0.00		0.00		0.00	20	User Input
		Pu		phiRnt			Use	Num								
Max Splice Forces		(kip)	Load Case	(kip)			%	Bolts	Bolt Type							
Top Tension		0.00		0.00			0	0								
Top Compression		48.78	1.2D + 1.0Di +	0.00			0									
Bot Tension		0.00		0.00			0									
Bot Compression		51.18	1.2D + 1.0Di +	0.00			0									

Section: 4		M46-GI-77-02		Bot Elev (ft): 42.00				Height (ft): 20.000								
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls
LEG	PLA - SAW 5.938" x 0	-48.69	1.2D + 1.0Di +	2.00	200	200	133	59.0	50.0	51.65	12	2	149.10	234.00	94	Member Y
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-1.62	1.2D + 1.6W 90	4.031	100	100	100	0.0	0.0	4.90	1	1	0.00	8.70	33	User Input
		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear		Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv		phiRn	phit	Pn	%	Controls
LEG		0.00		0	0	0.00	0	0		0.00		0.00			0	
HORIZ		0.00		0	0	0.00	0	0		0.00		0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	1.54	1.2D + 1.6W 90	36	58	6.53	1	1		0.00		0.00		0.00	23	User Input
		Pu		phiRnt			Use	Num								
Max Splice Forces		(kip)	Load Case	(kip)			%	Bolts	Bolt Type							
Top Tension		0.00		0.00			0	0								
Top Compression		47.49	1.2D + 1.0Di +	0.00			0									
Bot Tension		0.00		0.00			0									
Bot Compression		48.78	1.2D + 1.0Di +	0.00			0									

Site Number: 306030

Code:

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Force/Stress Summary**Section: 5 M46-GI-77-02 XBay Bot Elev (ft): 62.00 Height (ft): 1.333**

		Pu		Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	% Controls
LEG	PLA - SAW 5.938" x 0	-47.56	1.2D + 1.0Di +	1.33	100	100	100	22.2	50.0	64.24	12	2	149.10	234.00	74 Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	PLA - SAW 2.75" x 0.	-0.37	1.2D + 1.6W	3.745	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	7 User Input

		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	%	Controls
LEG		0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	1.01	1.2D + 1.6W 210	36	58	6.53	1	1	0.00	0.00	0.00	15	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		0.00		0.00	0	0	
Top Compression		47.55	1.2D + 1.0Di +	0.00	0		
Bot Tension		0.00		0.00	0		
Bot Compression		47.49	1.2D + 1.0Di +	0.00	0		

Section: 6 M46-GI-77-02 XBay Bot Elev (ft): 63.33 Height (ft): 2.667

		Pu		Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	% Controls
LEG	PLA - SAW 5.938" x 0	-46.29	1.2D + 1.0Di +	2.67	100	100	100	44.4	50.0	57.64	12	2	149.10	234.00	80 Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	PLA - SAW 2.75" x 0.	-1.44	1.2D + 1.0Di +	4.400	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	29 User Input

		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	%	Controls
LEG		0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		0.00		0.00	0	0	
Top Compression		47.87	1.2D + 1.0Di +	0.00	0		
Bot Tension		0.00		0.00	0		
Bot Compression		47.55	1.2D + 1.0Di +	0.00	0		

Site Number: 306030

Code:

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Force/Stress Summary**Section: 7 M46-GI-77-02 XBay Bot Elev (ft): 66.00 Height (ft): 1.333**

		Pu		Len	Bracing %			F'y	Phic Pn	Num		Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	% Controls
LEG	PLA - SAW 5.938" x 0	-48.64	1.2D + 1.0Di +	1.33	100	100	100	22.2	50.0	64.24	12	2	149.10	234.00	75 Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	

		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	%	Controls
LEG		0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	1.38	1.2D + 1.0Di +	36	58	6.53	1	1	0.00	0.00	0.00	21	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		0.00		0.00	0	0	
Top Compression		47.84	1.2D + 1.0Di +	0.00	0		
Bot Tension		0.00		0.00	0		
Bot Compression		47.87	1.2D + 1.0Di +	0.00	0		

Section: 8 M46-GI-77-02 XBay Bot Elev (ft): 67.33 Height (ft): 2.667

		Pu		Len	Bracing %			F'y	Phic Pn	Num		Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	% Controls
LEG	PLA - SAW 5.938" x 0	-45.98	1.2D + 1.0Di +	2.67	100	100	100	44.4	50.0	57.64	12	2	149.10	234.00	79 Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	PLA - SAW 2.75" x 0.	-1.72	1.2D + 1.0Di +	4.400	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	35 User Input

		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	%	Controls
LEG		0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		0.00		0.00	0	0	
Top Compression		48.01	1.2D + 1.0Di +	0.00	0		
Bot Tension		0.00		0.00	0		
Bot Compression		47.84	1.2D + 1.0Di +	0.00	0		

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Force/Stress Summary**Section: 9 M46-GI-77-02 XBay Bot Elev (ft): 70.00 Height (ft): 1.333**

		Pu	Len	Bracing %			F'y	Phic Pn	Num	Shear	Bear	Use	
Max Compression Member		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	Bolts	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-48.88	1.33	100	100	100	22.2	50.0	64.24	12	2	149.10	234.00
HORIZ		0.00	0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00
DIAG		0.00	0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00

		Pu	Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	Controls
Max Tension Member		(kip)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	%	
LEG		0.00	0	0	0.00	0	0	0.00	0.00		0	
HORIZ		0.00	0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	1.46	36	58	6.53	1	1	0.00	0.00	0.00	22	User Input

		Pu	phiRnt	Use	Num	Bolt Type
Max Splice Forces		(kip)	(kip)	%	Bolts	
Top Tension		0.00	0.00	0	0	
Top Compression		47.94	0.00	0		
Bot Tension		0.00	0.00	0		
Bot Compression		48.01	0.00	0		

Section: 10 M46-GI-77-02 XBay Bot Elev (ft): 71.33 Height (ft): 2.667

		Pu	Len	Bracing %			F'y	Phic Pn	Num	Shear	Bear	Use	
Max Compression Member		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	Bolts	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-45.97	2.67	100	100	100	44.4	50.0	57.64	12	2	149.10	234.00
HORIZ		0.00	0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00
DIAG	PLA - SAW 2.75" x 0.	-1.67	4.400	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70

		Pu	Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	Controls
Max Tension Member		(kip)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	%	
LEG		0.00	0	0	0.00	0	0	0.00	0.00		0	
HORIZ		0.00	0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG		0.00	0	0	0.00	0	0	0.00	0.00	0.00	0	

		Pu	phiRnt	Use	Num	Bolt Type
Max Splice Forces		(kip)	(kip)	%	Bolts	
Top Tension		0.00	0.00	0	0	
Top Compression		47.98	0.00	0		
Bot Tension		0.00	0.00	0		
Bot Compression		47.94	0.00	0		

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Site Name: Lees Summit, MO

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Customer: AT&T MOBILITY

Force/Stress Summary**Section: 11 M46-GI-77-02 XBay Bot Elev (ft): 74.00 Height (ft): 1.333**

		Pu	Len	Bracing %			F'y	Phic Pn	Num	Shear	Bear	Use	
Max Compression Member		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	Bolts	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-48.76	1.33	100	100	100	22.2	50.0	64.24	12	2	149.10	234.00
HORIZ		0.00	0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00
DIAG		0.00	0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00

		Pu	Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	Controls
Max Tension Member		(kip)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	%	
LEG		0.00	0	0	0.00	0	0	0.00	0.00		0	
HORIZ		0.00	0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	1.37	36	58	6.53	1	1	0.00	0.00	0.00	21	User Input

		Pu	phiRnt	Use	Num	Bolt Type
Max Splice Forces		(kip)	(kip)	%	Bolts	
Top Tension		0.00	0.00	0	0	
Top Compression		47.86	0.00	0		
Bot Tension		0.00	0.00	0		
Bot Compression		47.98	0.00	0		

Section: 12 M46-GI-77-02 XBay Bot Elev (ft): 75.33 Height (ft): 2.667

		Pu	Len	Bracing %			F'y	Phic Pn	Num	Shear	Bear	Use	
Max Compression Member		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	Bolts	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-46.17	2.67	100	100	100	44.4	50.0	57.64	12	2	149.10	234.00
HORIZ		0.00	0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00
DIAG	PLA - SAW 2.75" x 0.	-1.46	4.400	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70

		Pu	Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	Controls
Max Tension Member		(kip)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	%	
LEG		0.00	0	0	0.00	0	0	0.00	0.00		0	
HORIZ		0.00	0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG		0.00	0	0	0.00	0	0	0.00	0.00	0.00	0	

		Pu	phiRnt	Use	Num	Bolt Type
Max Splice Forces		(kip)	(kip)	%	Bolts	
Top Tension		0.00	0.00	0	0	
Top Compression		47.75	0.00	0		
Bot Tension		0.00	0.00	0		
Bot Compression		47.86	0.00	0		

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Force/Stress Summary**Section: 13 M46-GI-77-02 XBay Bot Elev (ft): 78.00 Height (ft): 1.333**

		Pu		Len	Bracing %			F'y	PhiC	Pn	Num	Num	Shear phiRnv	Bear phiRn	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls
LEG	PLA - SAW 5.938" x 0	-47.56	1.2D + 1.0Di +	1.33	100	100	100	22.2	50.0	64.24	12	2	149.10	234.00	74	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00		

		Pu	Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	Controls
Max Tension Member		(kip)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	%	
LEG		0.00	0	0	0.00	0	0	0.00	0.00		0	
HORIZ		0.00	0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	0.99	36	58	6.53	1	1	0.00	0.00	0.00	15	User Input

		Pu	phiRnt	Use	Num	Bolt Type
Max Splice Forces		(kip)	(kip)	%	Bolts	
Top Tension		0.00	0.00	0	0	
Top Compression		47.59	0.00	0		
Bot Tension		0.00	0.00	0		
Bot Compression		47.75	0.00	0		

Section: 14 M46-GI-77-02 XBay Bot Elev (ft): 79.33 Height (ft): 2.667

		Pu		Len	Bracing %			F'y	PhiC	Pn	Num	Num	Shear	Bear		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	Use	
LEG	PLA - SAW 5.938" x 0	-46.90	1.2D + 1.0Di +	2.67	100	100	100	44.4	50.0	57.64	12	2	149.10	234.00	81	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-0.77	1.2D + 1.6W	4.400	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	15	User Input

		Pu	Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	Controls
Max Tension Member		(kip)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	%	
LEG		0.00	0	0	0.00	0	0	0.00	0.00		0	
HORIZ		0.00	0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	0.32	36	58	6.53	1	1	0.00	0.00	0.00	4	User Input

		Pu	phiRnt	Use	Num	Bolt Type
Max Splice Forces		(kip)	(kip)	%	Bolts	
Top Tension		0.00	0.00	0	0	
Top Compression		47.34	0.00	0		
Bot Tension		0.00	0.00	0		
Bot Compression		47.59	0.00	0		

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Force/Stress Summary

Section: 15		M46-GI-77-02		Bot Elev (ft): 82.00				Height (ft): 20.000								
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-47.22	1.2D + 1.0Di +	2.00	200	200	133	59.0	50.0	51.65	12	2	149.10	234.00	91	Member Y
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-1.77	1.2D + 1.6W	4.031	100	100	100	0.0	0.0	4.90	1	1	0.00	8.70	36	User Input
		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear		Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv		phiRn	phit	Pn	%	Controls
LEG		0.00		0	0	0.00	0	0		0.00		0.00			0	
HORIZ		0.00		0	0	0.00	0	0		0.00		0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	1.80	1.2D + 1.6W 210	36	58	6.53	1	1		0.00		0.00		0.00	27	User Input
		Pu		phiRnt			Use	Num								
Max Splice Forces		(kip)	Load Case	(kip)			%	Bolts	Bolt Type							
Top Tension		0.00		0.00			0	0								
Top Compression		44.01	1.2D + 1.0Di +	0.00			0									
Bot Tension		0.00		0.00			0									
Bot Compression		47.34	1.2D + 1.0Di +	0.00			0									

Section: 16		M46-GI-77-02		Bot Elev (ft): 102.0				Height (ft): 20.000								
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-48.00	1.2D + 1.6W	2.00	200	200	133	59.0	50.0	51.65	12	2	149.10	234.00	92	Member Y
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-2.70	1.2D + 1.6W 90	4.031	100	100	100	0.0	0.0	4.90	1	1	0.00	8.70	55	User Input
		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear		Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv		phiRn	phit	Pn	%	Controls
LEG		0.00		0	0	0.00	0	0		0.00		0.00			0	
HORIZ		0.00		0	0	0.00	0	0		0.00		0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	2.69	1.2D + 1.6W 90	36	58	6.53	1	1		0.00		0.00		0.00	41	User Input
		Pu		phiRnt			Use	Num								
Max Splice Forces		(kip)	Load Case	(kip)			%	Bolts	Bolt Type							
Top Tension		0.00		0.00			0	0								
Top Compression		40.67	1.2D + 1.0Di +	0.00			0									
Bot Tension		0.00		0.00			0									
Bot Compression		44.01	1.2D + 1.0Di +	0.00			0									

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Force/Stress Summary

Section: 17		M46-GI-77-02		Bot Elev (ft): 122.0				Height (ft): 20.000								
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-40.96	1.2D + 1.0Di +	2.00	200	200	133	59.0	50.0	51.65	12	2	149.10	234.00	79	Member Y
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-1.93	1.2D + 1.6W	4.031	100	100	100	0.0	0.0	4.90	1	1	0.00	8.70	39	User Input
		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear		Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv		phiRn	phit	Pn	%	Controls
LEG		0.00		0	0	0.00	0	0		0.00		0.00			0	
HORIZ		0.00		0	0	0.00	0	0		0.00		0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	1.90	1.2D + 1.6W 90	36	58	6.53	1	1		0.00		0.00		0.00	29	User Input
		Pu		phiRnt			Use	Num								
Max Splice Forces		(kip)	Load Case	(kip)			%	Bolts	Bolt Type							
Top Tension		0.00		0.00			0	0								
Top Compression		41.12	1.2D + 1.0Di +	0.00			0									
Bot Tension		0.00		0.00			0									
Bot Compression		40.67	1.2D + 1.0Di +	0.00			0									

Section: 18		M46-GI-77-02		Bot Elev (ft): 142.0				Height (ft): 20.000								
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-40.96	1.2D + 1.0Di +	2.00	200	200	133	59.0	50.0	51.65	12	2	149.10	234.00	79	Member Y
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-1.04	1.2D + 1.6W	4.031	100	100	100	0.0	0.0	4.90	1	1	0.00	8.70	21	User Input
		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear		Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv		phiRn	phit	Pn	%	Controls
LEG		0.00		0	0	0.00	0	0		0.00		0.00			0	
HORIZ		0.00		0	0	0.00	0	0		0.00		0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	2.00	1.2D + 1.6W 300	36	58	6.53	1	1		0.00		0.00		0.00	30	User Input
		Pu		phiRnt			Use	Num								
Max Splice Forces		(kip)	Load Case	(kip)			%	Bolts	Bolt Type							
Top Tension		0.00		0.00			0	0								
Top Compression		38.02	1.2D + 1.0Di +	0.00			0									
Bot Tension		0.00		0.00			0									
Bot Compression		41.12	1.2D + 1.0Di +	0.00			0									

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Force/Stress Summary

Section: 19 M46-GI-77-01S** Bot Elev (ft): 162.0 Height (ft): 3.333

		Pu		Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	% Controls
LEG	PLA - SAW 5.938" x 0	-35.88	1.2D + 1.0Di +	3.33	100	100	100	55.6	50.0	53.15	12	2	149.10	234.00	67 Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	PLA - SAW 2.75" x 0.	-3.67	1.2D + 1.6W	4.833	50	50	50	0.0	0.0	5.67	1	1	0.00	8.70	64 User Input

		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phiRn	%	Controls
LEG		0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	0.85	1.2D + 1.6W 240	36	58	6.53	1	1	0.00	0.00	0.00	13	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		0.00		0.00	0	0	
Top Compression		37.45	1.2D + 1.0Di +	0.00	0		
Bot Tension		0.00		0.00	0		
Bot Compression		38.02	1.2D + 1.0Di +	0.00	0		

Section: 20 M46-GI-77-01S** Bot Elev (ft): 165.3 Height (ft): 1.333

		Pu		Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	% Controls
LEG	PLA - SAW 5.938" x 0	-35.81	1.2D + 1.6W	1.33	100	100	100	22.2	50.0	64.24	0	0	0.00	0.00	55 Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	PLA - SAW 2.75" x 0.	-6.86	1.2D + 1.6W	3.745	50	50	50	0.0	0.0	5.67	1	1	0.00	8.70	120 User Input

		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	5.11	1.2D + 1.6W 180	50	65	66.60	0	0	0.00	0.00		7	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	5.24	1.2D + 1.6W 300	36	58	6.53	1	1	0.00	0.00	0.00	80	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		3.82	1.2D + 1.6W 180	0.00	0	0	
Top Compression		35.75	1.2D + 1.6W 240	0.00	0		
Bot Tension		0.00		0.00	0		
Bot Compression		37.45	1.2D + 1.0Di +	0.00	0		

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Force/Stress Summary

Section: 21 M46-GI-77-01S** Bot Elev (ft): 166.6 Height (ft): 1.667

		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
Max Compression Member					X	Y	Z	KL/R							
LEG	PLA - SAW 5.938" x 0	-37.53	1.2D + 1.0Di +	1.67	200	200	133	49.1	50.0	55.82	0	0	0.00	0.00	67 Member Y
HORIZ	DUM - 0.1X0.1X1	-0.03	1.2D + 1.6W	1.750	100	100	100	0.2	36.0	0.32	0	0	0.00	0.00	8 Member X
DIAG	PLA - SAW 2.75" x 0.	-1.48	1.2D + 1.6W 60	2.417	100	100	100	0.0	0.0	5.67	1	1	0.00	8.70	26 User Input

		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
Max Tension Member													
LEG		0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ	DUM - 0.1X0.1X1	0.04	1.2D + 1.6W	36	58	0.32	0	0	0.00	0.00	0.00	13	Member
DIAG	PLA - SAW 2.75" x 0.	7.14	1.2D + 1.6W 240	36	58	6.53	1	1	0.00	0.00	0.00	109	User Input

		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Max Splice Forces							
Top Tension		0.00		0.00	0	0	
Top Compression		37.53	1.2D + 1.0Di +	0.00	0		
Bot Tension		3.82	1.2D + 1.6W 180	0.00	0		
Bot Compression		35.75	1.2D + 1.6W 240	0.00	0		

Section: 22 M46-GI-77-01S** Bot Elev (ft): 168.3 Height (ft): 1.667

		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
Max Compression Member					X	Y	Z	KL/R							
LEG	PLA - SAW 5.938" x 0	-36.90	1.2D + 1.6W	1.67	200	200	133	49.1	50.0	55.82	0	0	0.00	0.00	66 Member Y
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	PLA - SAW 2.75" x 0.	-1.44	1.2D + 1.6W 60	2.417	100	100	100	0.0	0.0	5.67	1	1	0.00	8.70	25 User Input

		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
Max Tension Member													
LEG		0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	7.11	1.2D + 1.6W 240	36	58	6.53	1	1	0.00	0.00	0.00	108	User Input

		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Max Splice Forces							
Top Tension		0.00		0.00	0	0	
Top Compression		31.92	1.2D + 1.0Di +	0.00	0		
Bot Tension		0.00		0.00	0		
Bot Compression		37.53	1.2D + 1.0Di +	0.00	0		

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Force/Stress Summary**Section: 23 M46-GI-77-01S** Bot Elev (ft): 170.0 Height (ft): 10.000**

		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-29.72	1.2D + 1.0Di +	3.33	100	100	100	55.6	50.0	53.15	0	0	0.00	0.00	55	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-5.25	1.2D + 1.6W 90	4.833	50	50	50	0.0	0.0	5.67	1	1	0.00	8.70	92	User Input

		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	Controls
LEG		0.00		0	0	0.00	0	0		0.00	0.00			0	
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	4.28	1.2D + 1.6W 120	36	58	6.53	1	1		0.00	0.00		0.00	65	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		3.35	1.2D + 1.6W	0.00	0	0	
Top Compression		32.31	1.2D + 1.6W 90	0.00	0		
Bot Tension		0.00		0.00	0		
Bot Compression		31.92	1.2D + 1.0Di +	0.00	0		

Section: 24 M46-GI-77-02XBay Bot Elev (ft): 180.0 Height (ft): 1.333

		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-33.96	1.2D + 1.6W 90	1.33	100	100	100	22.2	46.4	44.97	12	2	149.10	175.50	75	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-2.43	1.2D + 1.6W	3.745	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	49	User Input

		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	5.08	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			12	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	2.73	1.2D + 1.6W 60	36	58	6.53	1	1		0.00	0.00		0.00	41	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		6.74	1.2D + 1.6W	0.00	0	0	
Top Compression		34.93	1.2D + 1.6W 90	0.00	0		
Bot Tension		3.35	1.2D + 1.6W	0.00	0		
Bot Compression		32.31	1.2D + 1.6W 90	0.00	0		

Site Number: 306030

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Force/Stress Summary**Section: 25 M46-GI-77-02XBay Bot Elev (ft): 181.3 Height (ft): 2.667**

		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-36.58	1.2D + 1.6W 90	2.67	100	100	100	44.4	46.4	40.67	12	2	149.10	175.50	89	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-3.32	1.2D + 1.6W 60	4.400	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	67	User Input

		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	10.53	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			25	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	2.52	1.2D + 1.6W 120	36	58	6.53	1	1		0.00	0.00		0.00	38	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		13.41	1.2D + 1.6W	0.00	0	0	
Top Compression		40.22	1.2D + 1.6W 90	0.00	0		
Bot Tension		6.74	1.2D + 1.6W	0.00	0		
Bot Compression		34.93	1.2D + 1.6W 90	0.00	0		

Section: 26 M46-GI-77-02XBay Bot Elev (ft): 184.0 Height (ft): 1.333

		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-41.76	1.2D + 1.6W 90	1.33	100	100	100	22.2	46.4	44.97	12	2	149.10	175.50	92	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-1.71	1.2D + 1.6W	3.745	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	34	User Input

		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	14.69	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			36	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	2.60	1.2D + 1.6W 60	36	58	6.53	1	1		0.00	0.00		0.00	39	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		16.17	1.2D + 1.6W	0.00	0	0	
Top Compression		42.15	1.2D + 1.6W 90	0.00	0		
Bot Tension		13.41	1.2D + 1.6W	0.00	0		
Bot Compression		40.22	1.2D + 1.6W 90	0.00	0		

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 27 M46-GI-77-02XBay Bot Elev (ft): 185.3 Height (ft): 2.667

		Pu	Load Case	Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	Controls
Max Compression Member		(kip)		(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	
LEG	PLA - SAW 5.938" x 0	-42.76	1.2D + 1.6W 90	2.67	100	100	100	44.4	46.4	40.67	12	2	149.10	175.50	105	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-3.15	1.2D + 1.6W 60	4.400	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	64	User Input

		Pu	Load Case	Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	Controls
Max Tension Member		(kip)		(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	
LEG	PLA - SAW 5.938" x 0	19.25	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			47	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00	0.00		0	
DIAG	PLA - SAW 2.75" x 0.	1.90	1.2D + 1.6W 120	36	58	6.53	1	1		0.00	0.00	0.00		29	User Input

		Pu	Load Case	phiRnt	Use	Num	Bolt Type
Max Splice Forces		(kip)		(kip)	%	Bolts	
Top Tension		21.47	1.2D + 1.6W	0.00	0	0	
Top Compression		46.30	1.2D + 1.6W 90	0.00	0		
Bot Tension		16.17	1.2D + 1.6W	0.00	0		
Bot Compression		42.15	1.2D + 1.6W 90	0.00	0		

Section: 28 M46-GI-77-02XBay Bot Elev (ft): 188.0 Height (ft): 1.333

		Pu	Load Case	Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	Controls
Max Compression Member		(kip)		(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	
LEG	PLA - SAW 5.938" x 0	-47.85	1.2D + 1.6W 60	1.33	100	100	100	22.2	46.4	44.97	12	2	149.10	175.50	106	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-1.52	1.2D + 1.6W	3.745	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	31	User Input

		Pu	Load Case	Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	Controls
Max Tension Member		(kip)		(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	
LEG	PLA - SAW 5.938" x 0	22.56	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			55	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00	0.00		0	
DIAG	PLA - SAW 2.75" x 0.	2.76	1.2D + 1.6W 90	36	58	6.53	1	1		0.00	0.00	0.00		42	User Input

		Pu	Load Case	phiRnt	Use	Num	Bolt Type
Max Splice Forces		(kip)		(kip)	%	Bolts	
Top Tension		23.74	1.2D + 1.6W	0.00	0	0	
Top Compression		48.09	1.2D + 1.6W 90	0.00	0		
Bot Tension		21.47	1.2D + 1.6W	0.00	0		
Bot Compression		46.30	1.2D + 1.6W 90	0.00	0		

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 29 M46-GI-77-02XBay Bot Elev (ft): 189.3 Height (ft): 2.667

		Pu	Load Case	Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	Controls
Max Compression Member		(kip)		(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	
LEG	PLA - SAW 5.938" x 0	-46.01	1.2D + 1.6W 60	2.67	100	100	100	44.4	46.4	40.67	12	2	149.10	175.50	113	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-1.77	1.2D + 1.6W 90	4.400	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	36	User Input

		Pu	Load Case	Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	Controls
Max Tension Member		(kip)		(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	
LEG	PLA - SAW 5.938" x 0	26.20	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			64	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	0.08	1.2D + 1.6W 330	36	58	6.53	1	1		0.00	0.00		0.00	1	User Input

		Pu	Load Case	phiRnt	Use	Num	Bolt Type
Max Splice Forces		(kip)		(kip)	%	Bolts	
Top Tension		26.24	1.2D + 1.6W	0.00	0	0	
Top Compression		47.66	1.2D + 1.6W 60	0.00	0		
Bot Tension		23.74	1.2D + 1.6W	0.00	0		
Bot Compression		48.09	1.2D + 1.6W 90	0.00	0		

Section: 30 M46-GI-77-02XBay Bot Elev (ft): 192.0 Height (ft): 1.333

		Pu	Load Case	Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	Controls
Max Compression Member		(kip)		(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	
LEG	PLA - SAW 5.938" x 0	-48.39	1.2D + 1.6W 60	1.33	100	100	100	22.2	46.4	44.97	12	2	149.10	175.50	107	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-0.11	1.2D + 1.6W 90	3.745	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	2	User Input

		Pu	Load Case	Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	Controls
Max Tension Member		(kip)		(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	
LEG	PLA - SAW 5.938" x 0	26.28	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			64	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	1.65	1.2D + 1.6W	36	58	6.53	1	1		0.00	0.00		0.00	25	User Input

		Pu	Load Case	phiRnt	Use	Num	Bolt Type
Max Splice Forces		(kip)		(kip)	%	Bolts	
Top Tension		26.63	1.2D + 1.6W	0.00	0	0	
Top Compression		47.81	1.2D + 1.6W 60	0.00	0		
Bot Tension		26.24	1.2D + 1.6W	0.00	0		
Bot Compression		47.66	1.2D + 1.6W 60	0.00	0		

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 31 M46-GI-77-02XBay Bot Elev (ft): 193.3 Height (ft): 2.667

		Pu	Load Case	Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	Controls
Max Compression Member		(kip)		(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	
LEG	PLA - SAW 5.938" x 0	-46.56	1.2D + 1.6W 60	2.67	100	100	100	44.4	46.4	40.67	12	2	149.10	175.50	114	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-1.94	1.2D + 1.6W	4.400	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	39	User Input

		Pu	Load Case	Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	Controls
Max Tension Member		(kip)		(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	
LEG	PLA - SAW 5.938" x 0	27.36	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			67	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	0.20	1.2D + 1.6W 330	36	58	6.53	1	1		0.00	0.00		0.00	3	User Input

		Pu	Load Case	phiRnt	Use	Num	Bolt Type
Max Splice Forces		(kip)		(kip)	%	Bolts	
Top Tension		27.29	1.2D + 1.6W	0.00	0	0	
Top Compression		48.13	1.2D + 1.6W 60	0.00	0		
Bot Tension		26.63	1.2D + 1.6W	0.00	0		
Bot Compression		47.81	1.2D + 1.6W 60	0.00	0		

Section: 32 M46-GI-77-02XBay Bot Elev (ft): 196.0 Height (ft): 1.333

		Pu	Load Case	Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	Controls
Max Compression Member		(kip)		(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	
LEG	PLA - SAW 5.938" x 0	-48.82	1.2D + 1.6W 60	1.33	100	100	100	22.2	46.4	44.97	12	2	149.10	175.50	108	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-0.15	1.2D + 1.6W	3.745	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	2	User Input

		Pu	Load Case	Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	Controls
Max Tension Member		(kip)		(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	
LEG	PLA - SAW 5.938" x 0	27.28	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			67	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	1.69	1.2D + 1.6W	36	58	6.53	1	1		0.00	0.00		0.00	25	User Input

		Pu	Load Case	phiRnt	Use	Num	Bolt Type
Max Splice Forces		(kip)		(kip)	%	Bolts	
Top Tension		27.54	1.2D + 1.6W	0.00	0	0	
Top Compression		48.18	1.2D + 1.6W 60	0.00	0		
Bot Tension		27.29	1.2D + 1.6W	0.00	0		
Bot Compression		48.13	1.2D + 1.6W 60	0.00	0		

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 33 M46-GI-77-02XBay Bot Elev (ft): 197.3 Height (ft): 2.667

		Pu	Load Case	Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	Controls
Max Compression Member		(kip)		(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	
LEG	PLA - SAW 5.938" x 0	-46.80	1.2D + 1.6W 60	2.67	100	100	100	44.4	46.4	40.67	12	2	149.10	175.50	115	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-1.78	1.2D + 1.6W	4.400	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	36	User Input

		Pu	Load Case	Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	Controls
Max Tension Member		(kip)		(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	
LEG	PLA - SAW 5.938" x 0	28.09	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			69	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00	0.00		0	
DIAG		0.00		0	0	0.00	0	0		0.00	0.00	0.00		0	

		Pu	Load Case	phiRnt	Use	Num	Bolt Type
Max Splice Forces		(kip)		(kip)	%	Bolts	
Top Tension		27.62	1.2D + 1.6W	0.00	0	0	
Top Compression		48.04	1.2D + 1.6W 60	0.00	0		
Bot Tension		27.54	1.2D + 1.6W	0.00	0		
Bot Compression		48.18	1.2D + 1.6W 60	0.00	0		

Section: 34 M46-GI-77-02XBay Bot Elev (ft): 200.0 Height (ft): 1.333

		Pu	Load Case	Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	Controls
Max Compression Member		(kip)		(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	
LEG	PLA - SAW 5.938" x 0	-47.95	1.2D + 1.6W 60	1.33	100	100	100	22.2	46.4	44.97	12	2	149.10	175.50	106	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-0.78	1.2D + 1.6W	3.745	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	15	User Input

		Pu	Load Case	Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	Controls
Max Tension Member		(kip)		(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	
LEG	PLA - SAW 5.938" x 0	27.24	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			67	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00	0.00		0	
DIAG	PLA - SAW 2.75" x 0.	2.17	1.2D + 1.6W 90	36	58	6.53	1	1		0.00	0.00	0.00		33	User Input

		Pu	Load Case	phiRnt	Use	Num	Bolt Type
Max Splice Forces		(kip)		(kip)	%	Bolts	
Top Tension		26.74	1.2D + 1.6W	0.00	0	0	
Top Compression		46.65	1.2D + 1.6W 90	0.00	0		
Bot Tension		27.62	1.2D + 1.6W	0.00	0		
Bot Compression		48.04	1.2D + 1.6W 60	0.00	0		

Site Number: 306030

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 35 M46-GI-77-02XBay Bot Elev (ft): 201.3 Height (ft): 2.667

		Pu	Len	Bracing %			F'y	Phic Pn	Num	Shear	Bear		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	Use
													% Controls
LEG	PLA - SAW 5.938" x 0	-43.66	1.2D + 1.6W 60	2.67	100	100	100	44.4	46.4	40.67	12	2	149.10 175.50 107
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00 0.00 0
DIAG	PLA - SAW 2.75" x 0.	-2.37	1.2D + 1.6W 60	4.400	50	50	50	0.0	0.0	4.90	1	1	0.00 8.70 48

		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear		
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv (kip)	phiRn (kip)	phit Pn (kip)	Use %	Controls
LEG	PLA - SAW 5.938" x 0	25.73	1.2D + 1.6W	50	65	40.56	12	2	149.10	171.84		63	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	0.86	1.2D + 1.6W	36	58	6.53	1	1	0.00	0.00	0.00	13	User Input

Max Splice Forces		Pu	Load Case	phiRnt	Use	Num	Bolt Type
		(kip)		(kip)	%	Bolts	
Top Tension		23.98	1.2D + 1.6W	0.00	0	0	
Top Compression		44.13	1.2D + 1.6W 90	0.00	0		
Bot Tension		26.74	1.2D + 1.6W	0.00	0		
Bot Compression		46.65	1.2D + 1.6W 90	0.00	0		

Section: 36 M46-GI-77-02XBay Bot Elev (ft): 204.0 Height (ft): 1.333

		Pu	Len	Bracing %			F'y	Phic Pn	Num	Shear	Bear		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	Use
													% Controls
LEG	PLA - SAW 5.938" x 0	-44.16	1.2D + 1.6W 90	1.33	100	100	100	22.2	46.4	44.97	12	2	149.10 175.50 98
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00 0.00 0
DIAG	PLA - SAW 2.75" x 0.	-0.82	1.2D + 1.6W	3.745	50	50	50	0.0	0.0	4.90	1	1	0.00 8.70 16

		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear		
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	Use	Controls
									(kip)	(kip)	(kip)	%	
LEG	PLA - SAW 5.938" x 0	23.14	1.2D + 1.6W	50	65	40.56	12	2	149.10	171.84		57	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	1.96	1.2D + 1.6W 60	36	58	6.53	1	1	0.00	0.00	0.00	30	User Input

Max Splice Forces		Pu	Load Case	phiRnt	Use	Num	Bolt Type
		(kip)		(kip)	%	Bolts	
Top Tension		22.60	1.2D + 1.6W	0.00	0	0	
Top Compression		42.82	1.2D + 1.6W 90	0.00	0		
Bot Tension		23.98	1.2D + 1.6W	0.00	0		
Bot Compression		44.13	1.2D + 1.6W 90	0.00	0		

Site Number: 306030

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Force/Stress Summary**Section: 37 M46-GI-77-02XBay Bot Elev (ft): 205.3 Height (ft): 2.667**

		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-40.06	1.2D + 1.6W 90	2.67	100	100	100	44.4	46.4	40.67	12	2	149.10	175.50	98	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-2.38	1.2D + 1.6W 60	4.400	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	48	User Input

		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	21.50	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			53	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	1.07	1.2D + 1.6W 210	36	58	6.53	1	1		0.00	0.00		0.00	16	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		19.45	1.2D + 1.6W	0.00	0	0	
Top Compression		40.02	1.2D + 1.6W 90	0.00	0		
Bot Tension		22.60	1.2D + 1.6W	0.00	0		
Bot Compression		42.82	1.2D + 1.6W 90	0.00	0		

Section: 38 M46-GI-77-02XBay Bot Elev (ft): 208.0 Height (ft): 1.333

		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-39.93	1.2D + 1.6W 90	1.33	100	100	100	22.2	46.4	44.97	12	2	149.10	175.50	88	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-0.93	1.2D + 1.6W 90	3.745	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	19	User Input

		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	18.46	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			45	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	2.02	1.2D + 1.6W 60	36	58	6.53	1	1		0.00	0.00		0.00	31	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		17.86	1.2D + 1.6W	0.00	0	0	
Top Compression		38.56	1.2D + 1.6W 90	0.00	0		
Bot Tension		19.45	1.2D + 1.6W	0.00	0		
Bot Compression		40.02	1.2D + 1.6W 90	0.00	0		

Site Number: 306030

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Force/Stress Summary**Section: 39 M46-GI-77-02XBay Bot Elev (ft): 209.3 Height (ft): 2.667**

		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-35.75	1.2D + 1.6W 90	2.67	100	100	100	44.4	46.4	40.67	12	2	149.10	175.50	87	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-2.43	1.2D + 1.6W 60	4.400	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	49	User Input

		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	16.60	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			40	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	1.25	1.2D + 1.6W 210	36	58	6.53	1	1		0.00	0.00		0.00	19	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		14.29	1.2D + 1.6W	0.00	0	0	
Top Compression		35.47	1.2D + 1.6W 90	0.00	0		
Bot Tension		17.86	1.2D + 1.6W	0.00	0		
Bot Compression		38.56	1.2D + 1.6W 90	0.00	0		

Section: 40 M46-GI-77-02XBay Bot Elev (ft): 212.0 Height (ft): 1.333

		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-35.26	1.2D + 1.6W 90	1.33	100	100	100	22.2	46.4	44.97	12	2	149.10	175.50	78	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-1.09	1.2D + 1.6W 90	3.745	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	22	User Input

		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	13.19	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			32	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00		0.00	0	
DIAG	PLA - SAW 2.75" x 0.	2.04	1.2D + 1.6W 60	36	58	6.53	1	1		0.00	0.00		0.00	31	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		12.51	1.2D + 1.6W	0.00	0	0	
Top Compression		33.87	1.2D + 1.6W 90	0.00	0		
Bot Tension		14.29	1.2D + 1.6W	0.00	0		
Bot Compression		35.47	1.2D + 1.6W 90	0.00	0		

Site Number: 306030

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Force/Stress Summary**Section: 41 M46-GI-77-02XBay Bot Elev (ft): 213.3 Height (ft): 2.667**

		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-31.08	1.2D + 1.6W 90	2.67	100	100	100	44.4	46.4	40.67	12	2	149.10	175.50	76	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-2.52	1.2D + 1.6W	4.400	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	51	User Input

		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	11.06	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			27	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00	0.00		0	
DIAG	PLA - SAW 2.75" x 0.	1.44	1.2D + 1.6W 90	36	58	6.53	1	1		0.00	0.00	0.00		22	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		8.53	1.2D + 1.6W	0.00	0	0	
Top Compression		30.93	1.2D + 1.6W 120	0.00	0		
Bot Tension		12.51	1.2D + 1.6W	0.00	0		
Bot Compression		33.87	1.2D + 1.6W 90	0.00	0		

Section: 42 M46-GI-77-02XBay Bot Elev (ft): 216.0 Height (ft): 1.333

		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	-30.62	1.2D + 1.6W	1.33	100	100	100	22.2	46.4	44.97	12	2	149.10	175.50	68	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-1.33	1.2D + 1.6W	3.745	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	27	User Input

		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phiRn	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	7.36	1.2D + 1.6W	50	65	40.56	12	2		149.10	171.84			18	Member
HORIZ		0.00		0	0	0.00	0	0		0.00	0.00	0.00		0	
DIAG	PLA - SAW 2.75" x 0.	2.10	1.2D + 1.6W 210	36	58	6.53	1	1		0.00	0.00	0.00		32	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		6.59	1.2D + 1.6W	0.00	0	0	
Top Compression		29.90	1.2D + 1.6W	0.00	0		
Bot Tension		8.53	1.2D + 1.6W	0.00	0		
Bot Compression		30.93	1.2D + 1.6W 120	0.00	0		

Site Number: 306030

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Site Name: Lees Summit, MO

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Customer: AT&T MOBILITY

Force/Stress Summary**Section: 43 M46-GI-77-02XBay Bot Elev (ft): 217.3 Height (ft): 2.667**

		Pu		Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	% Controls
LEG	PLA - SAW 5.938" x 0	-27.76	1.2D + 1.6W	2.67	100	100	100	44.4	46.4	40.67	12	2	149.10	175.50	68 Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	PLA - SAW 2.75" x 0.	-2.53	1.2D + 1.6W	4.400	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	51 User Input

		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	4.84	1.2D + 1.6W	50	65	40.56	12	2	149.10	171.84		11	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	1.79	1.2D + 1.6W 330	36	58	6.53	1	1	0.00	0.00	0.00	27	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		2.21	1.2D + 1.6W	0.00	0	0	
Top Compression		27.71	1.2D + 1.6W 120	0.00	0		
Bot Tension		6.59	1.2D + 1.6W	0.00	0		
Bot Compression		29.90	1.2D + 1.6W	0.00	0		

Section: 44 MI-9015-.01.2 Bot Elev (ft): 220.0 Height (ft): 20.000

		Pu		Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	% Controls
LEG	PLA - SAW 5.938" x 0	-27.25	1.2D + 1.6W	2.00	100	100	100	33.3	50.0	61.40	12	2	149.10	234.00	44 Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	PLA - SAW 2.75" x 0.	-2.30	1.2D + 1.6W	4.031	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	47 User Input

		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phiRn	%	Controls
LEG	PLA - SAW 5.938" x 0	3.11	1.2D + 1.6W	50	65	53.87	12	2	149.10	229.13		5	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	2.23	1.2D + 1.6W 90	36	58	6.53	1	1	0.00	0.00	0.00	34	User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		3.73	1.2D + 1.6W	0.00	0	0	
Top Compression		18.98	1.2D + 1.0Di +	0.00	0		
Bot Tension		2.21	1.2D + 1.6W	0.00	0		
Bot Compression		27.71	1.2D + 1.6W 120	0.00	0		

Site Number: 306030

Code:

ANSI/TIA-222-G

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

4/20/2018 11:33:54 AM

Customer: AT&T MOBILITY

Force/Stress Summary

Section: 45		MI-9015-.01.1		Bot Elev (ft): 240.0			Height (ft): 20.000									
		Pu		Len	Bracing %			F'y	Phic	Pn	Num		Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls
LEG	PLA - SAW 5.938" x 0	-23.07	1.2D + 1.6W 60	2.00	100	100	100	33.3	50.0	61.40	12	2	149.10	234.00	37	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-0.72	1.2D + 1.6W 60	4.031	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	14	User Input
		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear		Bear	Blk Shear		Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts		Holes	phiRnv	(kip)	phiRn	phit Pn	(kip)	%	Controls
LEG	PLA - SAW 5.938" x 0	9.38	1.2D + 1.6W	50	65	53.87	12	2		149.10		229.13			17	Member
HORIZ		0.00		0	0	0.00	0	0		0.00		0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	0.74	1.2D + 1.6W 60	36	58	6.53	1	1		0.00		0.00		0.00	11	User Input
Max Splice Forces		Pu				phiRnt		Use	Num							
		(kip)	Load Case			(kip)		%	Bolts		Bolt Type					
Top Tension		9.66	1.2D + 1.6W			0.00		0	0							
Top Compression		23.33	1.2D + 1.6W 60			0.00		0								
Bot Tension		3.73	1.2D + 1.6W			0.00		0								
Bot Compression		18.98	1.2D + 1.0Di +			0.00		0								

Section: 46		MI-9015-.01.1		Bot Elev (ft): 260.0			Height (ft): 20.000									
		Pu		Len	Bracing %			F'y	Phic	Pn	Num		Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls
LEG	PLA - SAW 5.938" x 0	-24.14	1.2D + 1.6W 60	2.00	100	100	100	33.3	50.0	61.40	12	2	149.10	234.00	39	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	-1.30	1.2D + 1.0Di +	4.031	50	50	50	0.0	0.0	4.90	1	1	0.00	8.70	26	User Input
		Pu		Fy	Fu	Phit	Pn	Num	Num	Shear		Bear	Blk Shear		Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts		Holes	phiRnv	(kip)	phiRn	phit Pn	(kip)	%	Controls
LEG	PLA - SAW 5.938" x 0	9.64	1.2D + 1.6W	50	65	53.87	12	2		149.10		229.13			17	Member
HORIZ		0.00		0	0	0.00	0	0		0.00		0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	2.11	1.2D + 1.0Di +	36	58	6.53	1	1		0.00		0.00		0.00	32	User Input
Max Splice Forces		Pu				phiRnt		Use	Num							
		(kip)	Load Case			(kip)		%	Bolts		Bolt Type					
Top Tension		2.73	1.2D + 1.6W			0.00		0	0							
Top Compression		22.66	1.2D + 1.6W 60			0.00		0								
Bot Tension		9.66	1.2D + 1.6W			0.00		0								
Bot Compression		23.33	1.2D + 1.6W 60			0.00		0								

Site Number: 306030

Code:

ANSI/TIA-222-G

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

4/20/2018 11:33:54 AM

Customer: AT&T MOBILITY

Force/Stress Summary**Section: 47 M46-GI-77-01S** Bot Elev (ft): 280.0 Height (ft): 3.333**

			Pu		Len (ft)	Bracing %			F'y (ksi)	PhiC Pn (kip)	Num Bolts	Num Holes	Shear	Bear	Use %	Controls	
			(kip)	Load Case		X	Y	Z					phiRnv	phiRn			
Max Compression Member																	
LEG	PLA - SAW 5.938" x 0		-17.60	1.2D + 1.6W 60	3.33	100	100	100	55.6	50.0	53.15	12	2	149.10	234.00	33	Member Z
HORIZ			0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.		-3.96	1.2D + 1.6W	4.833	50	50	50	0.0	0.0	5.67	1	1	0.00	8.70	69	User Input

				Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear	Use	Controls
Max Tension Member				(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn		
	Pu	Load Case							(kip)	(kip)	(kip)	%	
LEG	PLA - SAW 5.938" x 0	3.86	1.2D + 1.6W	50	65	53.87	12	2	149.10	229.13		7	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	0.00		0.00	0	0	
Top Compression	19.50	1.2D + 1.6W 60	0.00	0		
Bot Tension	2.73	1.2D + 1.6W	0.00	0		
Bot Compression	22.66	1.2D + 1.6W 60	0.00	0		

Section: 48 M46-GI-77-01S Bot Elev (ft): 283.3 Height (ft): 1.333**

													Shear	Bear			
													phiRnv	phiRn	Use		
Max Compression Member				Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	(kip)	(kip)	%	Controls
LEG	PLA - SAW 5.938" x 0			-1.48	1.2D + 1.6W 60	1.33	100	100	100	22.2	50.0	64.24	0	0	0.00	0.00	2 Member Z
HORIZ				0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	PLA - SAW 2.75" x 0.			-3.87	1.2D + 1.6W 60	3.745	50	50	50	0.0	0.0	5.67	1	1	0.00	8.70	68 User Input

			Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear		
Max Tension Member			(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	Use	Controls
										(kip)	(kip)	(kip)	%	
LEG	PLA - SAW 5.938" x 0	1.34	1.2D + 1.6W 60	50	65	66.60	0	0	0.00	0.00	0.00		2	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0.00	0	
DIAG	PLA - SAW 2.75" x 0.	2.63	1.2D + 1.6W 120	36	58	6.53	1	1	0.00	0.00	0.00	0.00	40	User Input

Max Splice Forces	Pu		phiRnt	Use	Num	
	(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension	0.47	1.2D + 1.6W 120	0.00	0	0	
Top Compression	1.73	1.2D + 1.6W 240	0.00	0		
Bot Tension	0.00		0.00	0		
Bot Compression	19.50	1.2D + 1.6W 60	0.00	0		

Site Number: 306030

Code:

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Force/Stress Summary**Section: 49 M46-GI-77-01S** Bot Elev (ft): 284.6 Height (ft): 1.667**

Max Compression Member	Pu		Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Bolts	Num Holes	Shear		Use %	Controls
	(kip)	Load Case		X	Y	Z					phiRnv (kip)	Bear phiRn (kip)		
LEG PLA - SAW 5.938" x 0	-7.27	1.2D + 1.6W	1.67	200	200	133	49.1	50.0	55.82	0	0	0.00	0.00	13 Member Y
HORIZDUM - 0.1X0.1X1	-0.02	1.2D + 1.6W	1.750	100	100	100	0.2	36.0	0.32	0	0	0.00	0.00	5 Member X
DIAG	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ DUM - 0.1X0.1X1	0.03	1.2D + 1.6W	36	58	0.32	0	0	0.00	0.00	0.00	8	Member
DIAG PLA - SAW 2.75" x 0.	5.39	1.2D + 1.0Di +	36	58	6.53	1	1	0.00	0.00	0.00	82	User Input

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	0.00		0.00	0	0	
Top Compression	7.33	1.2D + 1.0Di +	0.00	0		
Bot Tension	0.47	1.2D + 1.6W 120	0.00	0		
Bot Compression	1.73	1.2D + 1.6W 240	0.00	0		

Section: 50 M46-GI-77-01S Bot Elev (ft): 286.3 Height (ft): 1.667**

Max Compression Member	Pu		Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Bolts	Num Holes	Shear		Use %	Controls
	(kip)	Load Case		X	Y	Z					phiRnv (kip)	Bear phiRn (kip)		
LEG PLA - SAW 5.938" x 0	-6.98	1.2D + 1.6W	1.67	200	200	133	49.1	50.0	55.82	0	0	0.00	0.00	12 Member Y
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG PLA - SAW 2.75" x 0.	5.40	1.2D + 1.0Di +	36	58	6.53	1	1	0.00	0.00	0.00	82	User Input

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	1.87	1.2D + 1.6W 60	0.00	0	0	
Top Compression	2.42	1.2D + 1.6W	0.00	0		
Bot Tension	0.00		0.00	0		
Bot Compression	7.33	1.2D + 1.0Di +	0.00	0		

Site Number: 306030

Code:

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 51 M46-GI-77-01S** Bot Elev (ft): 288.0 Height (ft): 10.000

		Pu		Len	Bracing %			F'y	Phic Pn	Num	Num	Shear phiRnv	Bear phiRn	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	% Controls
LEG	PLA - SAW 5.938" x 0	-1.64	1.2D + 1.6W	3.33	100	100	100	55.6	50.0	53.15	0	0	0.00	0.00	3 Member Z
HORIZ	SAE - 3X3X0.25	-0.39	1.2D + 1.6W	3.500	100	100	100	95.5	36.0	28.87	0	0	0.00	0.00	1 Member Z
DIAG	PLA - SAW 2.75" x 0.	-1.08	1.2D + 1.6W 60	4.833	50	50	50	0.0	0.0	5.67	1	1	0.00	8.70	18 User Input

		Pu		Fy	Fu	Phit Pn	Num	Num	Shear phiRnv	Bear phiRn	Blk Shear phit Pn	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	(kip)	%	Controls
LEG	PLA - SAW 5.938" x 0	1.89	1.2D + 1.6W 60	50	65	66.60	0	0	0.00	0.00			2 Member
HORIZ	SAE - 3X3X0.25	0.24	1.2D + 1.6W	36	58	46.66	0	0	0.00	0.00	0.00		0 Member
DIAG	PLA - SAW 2.75" x 0.	0.74	1.2D + 1.6W 90	36	58	6.53	1	1	0.00	0.00	0.00		11 User Input

		Pu		phiRnt	Use	Num	
Max Splice Forces		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		0.00		0.00	0	0	
Top Compression		0.07	1.2D + 1.0Di +	0.00	0		
Bot Tension		1.87	1.2D + 1.6W 60	0.00	0		
Bot Compression		2.42	1.2D + 1.6W	0.00	0		

Maximum Reactions Summary

	<u>Base</u>	<u>Anch1</u>
Vertical (kip)	151.82	-45.41
Horizontal (kip)	0.75	53.32

Site Number: 306030

Code: ANSI/TIA-222-G

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Site Name: Lees Summit, MO

Engineering Number: OAA713535_C3_11

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Customer: AT&T MOBILITY

Force/Stress Summary

Guy Anchor Design Loads

Radius (ft)	Drop (ft)	Azimuth (°)	Uplift (kip)	Shear (kip)
218.00	10.00	0	40.76	53.25
218.00	-10.00	240	45.41	53.32
218.00	-7.00	120	44.38	53.03

Maximum Cable Forces Summary

Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use %
1.2D + 1.0Di + 1.0Wi 60 deg	48.00	7/16 EHS	A1a	27b	12.48	6.45	52
1.2D + 1.6W 90 deg	108.00	7/16 EHS	A1a	57b	12.48	9.32	75
1.2D + 1.6W 90 deg	168.33	7/16 EHS	A1a	T3a	12.48	11.59	93
1.2D + 1.6W 90 deg	226.00	9/16 EHS	A1a	114b	21.00	15.97	76
1.2D + 1.6W 90 deg	286.33	9/16 EHS	A1a	T5a	21.00	9.51	45

Site Name: Lees Summit, MO
 Site Number: 306030
 Engineering Number: OAA713535
 Engineer: Alexander.Cartledge
 Date: 04/20/18

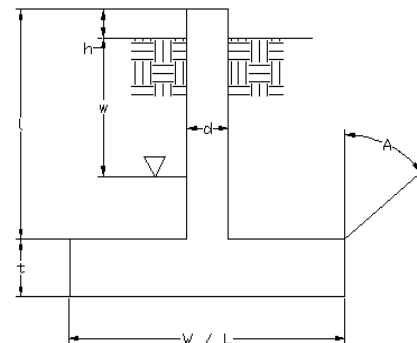
Program Last Updated: 5/13/2014
 American Tower Corporation

Design Base Loads (Factored) per TIA-222-G

Foundation Mapped:	N		Concrete Compressive Strength (f'_c):	3000 psi
Moment (M_u):	0.0 k-ft		Vertical Steel Rebar Size #:	5
Shear/Leg (V_u):	0.8 k		Vertical Steel Rebar Area:	0.31 in ²
Compression/Leg (P_u):	151.8 k		# of Vertical Steel Rebars:	10
Uplift/Leg (T_u):	0.0 k		Vertical Steel Rebar Yield Strength (F_y):	60 ksi
Tower Type (GT / SST):	GT		Tie / Stirrup Size #:	3
Diameter of Prismatic Portion of Pier (d):	2.0 ft		Tie / Stirrup Area:	0.11 in ²
Depth to Base of Foundation:	4.0 ft		Tie / Stirrup Spacing:	10.0 in
Pier Height Above Ground (h):	0.50 ft		Tie / Stirrup Steel Yield Strength (F_y):	40 ksi
Length / Width of Pad (w):	6.0 ft		Rebar Cage Diameter:	16.0 in
Thickness of Pad (t):	1.3 ft		Bending/Tension Reduction Factor (ϕ_b):	0.90
Depth Below Ground Surface to Water Table (w):	99.0 ft		Shear Reduction Factor (ϕ_v):	0.75
Unit Weight of Concrete:	150.0 pcf		Compression Reduction Factor (ϕ_c):	0.65
Unit Weight of Water:	62.4 pcf		Steel Elastic Modulus:	29000 ksi
Unit Weight of Soil Above Water Table:	115.0 pcf		Pad Steel Rebar Size #:	5
Unit Weight of Soil Below Water Table:	52.6 pcf		Pad Steel Rebar Area:	0.31 in ²
Friction Angle of Uplift from Top of Pad:	30 Degrees		Pad Steel Rebar Yield Strength (F_y):	60 ksi
Friction Angle of Uplift from Base of Pad:	30 Degrees		# of Rebar in Top of Pad:	0
Uplift Angle Started at Top or Base of Pad (T/B):	T		# of Rebar in Base of Pad:	8
Ultimate Skin Friction:	200 psf		Pad Clear Cover:	3 in
Ultimate Compressive Bearing Pressure:	7500 psf			
Capacity Increase (Due to Transient Loads):	1.00			
Bearing Strength Reduction Factor (ϕ_s):	0.60			
Uplift Strength Reduction Factor (ϕ_s):	0.75			

Axial Capacities and Design Moment

Weight of Concrete (Bouyancy Considered):	8.5 k
Weight of Soil (Bouyancy Considered):	17.0 k
Ultimate Skin Friction Resistance:	6.2 k
Controlling Failure Mode (Top / Base):	Top
Nominal Uplift Capacity per Leg ($\phi_s T_n$):	19.2 k
Nominal Compressive Capacity per Leg ($\phi_s P_n$):	162.0 k
P_u :	154.4 k
$T_u / \phi_s T_n$:	0.00 Result: OK
$P_u / \phi_s P_n$:	0.95 Result: OK



Depth (ft)		Ultimate Lateral Bearing Pressure (psf)	Increment (psf/ft)	γ_{soil} (pcf)	Cohesion (psf)	ϕ (degree)
Top	Bottom					
0.0	2.0	0.0	100.0	100	0	0
2.0	2.7	1800.0	110.0	110	800	0

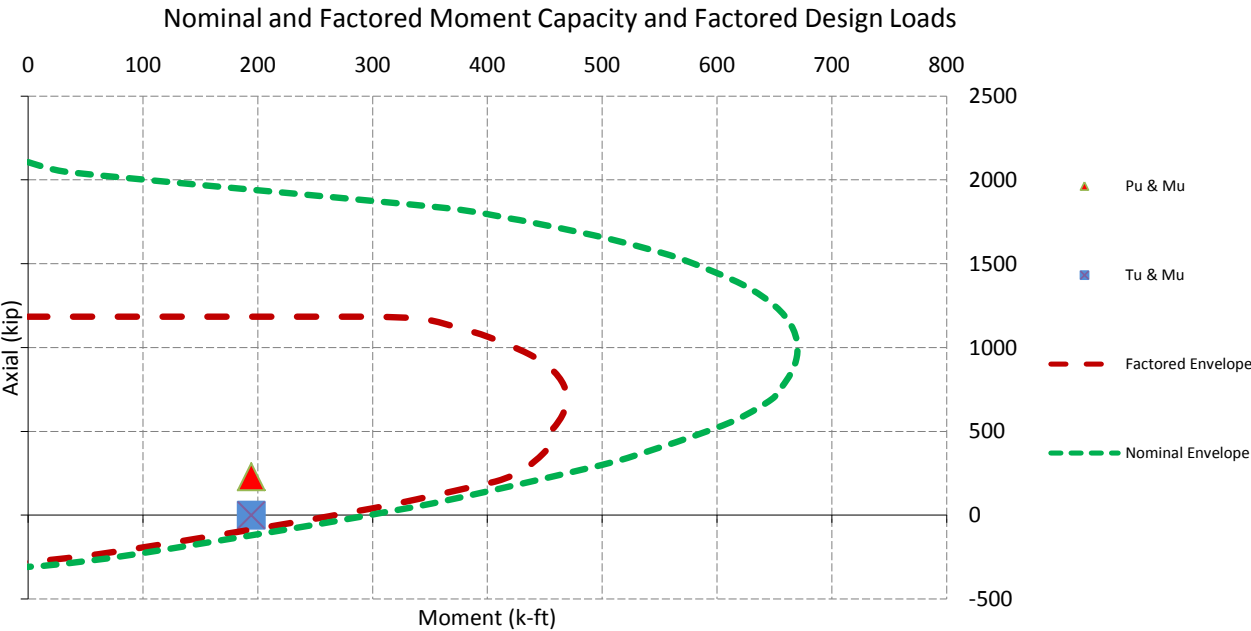
Inflection Point (Below Ground Surface): 2.1 ft
 Factored Design Moment At Inflection Point (M_u): 1.2 k-ft

Pad Strength Capacity

β :	0.85 ACI318-05 - 10.2.7.3
Upper Pad Flexural Reinforcement Spacing:	0 in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
One Way Design Shear (V_u):	25.1 k
One Way Shear Capacity (ϕV_c):	74.4 k - ACI318-05 - 11.3.1.1
$V_u / \phi V_c$:	0.34 Result: OK
Punching Design Shear (V_u):	121.1 k
Nominal Punching Shear Capacity ($\phi_c V_n$):	230.2 k - ACI318-05 - 11.12.2.1
$V_u / \phi V_c$:	0.53 Result: OK
Flexural Loading Due to Soil Pressure (M_u):	51.3 k-ft
Lower Steel Pad Moment Capacity (ϕM_n):	132.6 k-ft - ACI318-05 - 10.3
$M_u / \phi M_n$:	0.39 Result: OK
Flexural Loading Due to Uplift (M_u):	0.0 k-ft
Upper Steel Pad Moment Capacity (ϕM_n):	0.0 k-ft - ACI318-05 - 10.3
$M_u / \phi M_n$:	0.00 Result: OK

Pier Strength Capacity

Design Moment (M_u):	1.2 k-ft
Nominal Moment Capacity ($\phi_B M_n$):	109.6 k-ft - ACI318-005 - 10.2
$M_u / \phi_B M_n$:	0.01 Result: OK
Design Shear (V_u):	0.8 k
Nominal Shear Capacity ($\phi_V V_n$):	54.1 k - ACI318-05 - 11.3.1.1 or 11.5.7.2
$V_u / \phi_V V_n$:	0.01 Result: OK
Design Tension (T_u):	0.0 k
Nominal Tension Capacity ($\phi_T T_n$):	167.4 k - ACI318-05 - 10.2
$T_u / \phi_T T_n$:	0.00 Result: OK
Design Compression (P_u):	151.8 k
Nominal Compression Capacity ($\phi_P P_n$):	595.8 k - ACI318-05 - 10.3.6.2
$P_u / \phi_P P_n$:	0.25 Result: OK
$M_u / \phi_B M_n + T_u / \phi_T T_n$:	0.01 Result: OK

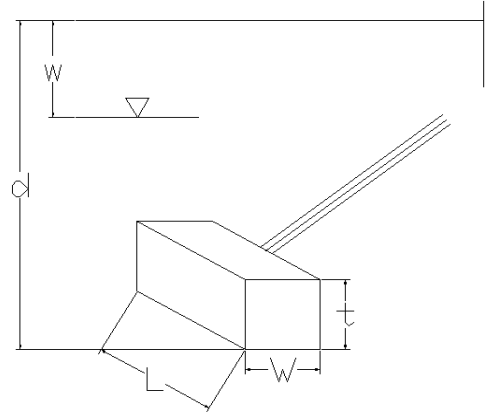


Site Name: Lees Summit, MO
 Site Number: 306030
 Engineering Number: OAA713535
 Engineer: Alexander.Cartledge
 Date: 04/20/18

Program Last Updated: 5/13/2014
 American Tower Corporation

Design Standard per TIA-222-G

Anchor Radius:	218.0 ft
Uplift (Factored - P_u):	45.4 k
Shear (Factored - V_u):	53.3 k
Berm Present:	N
Design Anchor Rod:	N
Mapped Foundation:	N
Anchor Base Depth (d):	8.0 ft
Width of Anchor (W):	4.0 ft
Length of Anchor (L):	14.0 ft
Thickness of Anchor (t):	4.0 ft
Depth Below Ground Surface to Water Table (w):	99.0 ft
Soil Uplift at Base / Top of Anchor (B/T):	T
Unit Weight of Concrete:	150.0 pcf
Unit Weight of Soil Above Water Table:	110.0 pcf
Unit Weight of Water:	62.4 pcf
Submerged Soil Unit Weight:	47.6 pcf
Internal Angle of Friction:	0 Degrees
Cohesion:	800 psf
Ultimate Skin Friction of Pad Sides to Soil:	0 psf
Ultimate Coefficient of Shear Friction:	0.30
Maximum Top Conical Failure Angle:	30 Degrees
Maximum Base Conical Failure Angle:	30 Degrees
Allowable Capacity Increase:	1.00 (Due to Transient Loads)
Uplift Strength Reduction Factor (ϕ_u):	0.75
Shear Strength Reduction Factor (ϕ_v):	0.75
Concrete Uplift Strength Reduction Factor (ϕ_u):	0.90



Uplift

Weight of Concrete (Buoyancy Effect Considered):	33.6 k
Weight of Soil (Buoyancy Effect Considered):	45.4 k
Ultimate Uplift Resistance from Skin Friction:	0.0 k
Nominal Factored Uplift Resistance ($\phi_u P_n$):	64.3 k
$P_u / \phi_u P_n$:	0.71 Result: OK

Shear

Ultimate Shear Friction Resistance Due to Normal Force - Uplift:	7.3 k
Passive Pressure:	2260 psf
Ultimate Passive Pressure Resistance:	126.6 k
Nominal Shear Resistance ($\phi_v V_n$):	100.4 k
$V_u / \phi_v V_n$:	0.53 Result: OK

Strength Analysis of Reinforced Concrete

Concrete Compressive Srength (f'_c):	3000 psi
Longitudinal Rebar Yield Strength:	60000 psi
# Longitudinal Rebar (Top):	7
# Longitudinal Rebar (1 Side):	7
Rebar Size:	9
Strength Reduction Factor for Shear (ϕ_v):	0.75
Strength Reduction Factor for Flexure (ϕ_b):	0.9
Compression Zone Factor (β_1):	0.85
Area of Single Rebar:	1.00 in ²
One Way Shear due to Shear Load (V_u):	19.7 k
Nominal One Way Shear Capacity for Shear Load ($\phi_c V_n$):	173.5 k
$V_u / \phi_v V_n$:	0.11 Result: OK
One Way Shear due to Uplift (V_u):	16.8 k
Nominal One Way Shear Capacity for Uplift ($\phi_c V_n$):	173.5 k
$V_u / \phi_v V_n$:	0.10 Result: OK
Pad Flexure due to Shear Load (M_u):	93.3 k-ft
Nominal Flexural Capacity for Shear Load ($\phi_b M_n$):	1384.8 k-ft
Pad Flexure due to Uplift (M_u):	79.5 k-ft
Nominal Flexural Capacity for Uplift ($\phi_b M_n$):	1384.8 k-ft
$M_u / \phi_b M_n$ (Max.):	0.07 Result: OK