

Date: August 21, 2021



2000 Corporate Drive
Canonsburg, PA 15317
724-416-2000

Subject: Structural Analysis Report

Carrier Designation:

DISH Network Co-Locate

Site Number:

SESEA00401B

Site Name:

WA-CCI-T-880329

Crown Castle Designation:

BU Number:

880329

Site Name:

SOUTH HILL MALL

JDE Job Number:

663227

Work Order Number:

1994146

Order Number:

564913 Rev. 1

Engineering Firm Designation:

Crown Castle Project Number: 1994146

Site Data:

3150 S MERIDIAN, PUYALLUP, PIERCE County, WA

Latitude 47° 9' 43.46", Longitude -122° 17' 40.04"

120 Foot - Monopole Tower

Crown Castle is pleased to submit this "**Structural Analysis Report**" to determine the structural integrity of the above mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration

Sufficient Capacity

***The structure has sufficient capacity once the loading changes, described in the Recommendations section of this report, are completed.**

This analysis has been performed in accordance with the 2018 International Building Code based upon an ultimate 3-second gust wind speed of 104 mph. Applicable Standard references and design criteria are listed in Section 2 – Analysis Criteria.

Structural analysis prepared by: Subhash Mandal

08/22/21

Respectfully submitted by:

Truc Lac, P.E., S.E.
Senior Project Engineer



License Expires: 02/24/2023

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1) INTRODUCTION

This tower is a 120 ft Monopole tower designed by NAPCO.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	III
Wind Speed:	104 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	1 in
Wind Speed with Ice:	30 mph
Seismic Ss:	1.264
Seismic S1:	0.436
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
111.0	111.0	3	fujitsu	TA08025-B604	1	1-1/2
		3	fujitsu	TA08025-B605		
		3	jma wireless	MX08FRO665-21 w/ Mount Pipe		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MC-PK8-DSH		

Table 2 - Non-Carrier Equipment To Be Conditionally Removed

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
111.0	114.0	2	andrew	VHLP2-11	-	-
		2	dragonwave	HORIZON DUO		
	113.0	1	andrew	PX2F-52-NXA		
		1	motorola	5830BHC		
	111.0	1	clearwire	CW JUNCTION BOX		
		3	kathrein	840 10054 w/ Mount Pipe		
		3	nokia	FWHR		
		1	tower mounts	Side Arm Mount [SO 103-3]		

Table 3 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
122.0	126.0	1	db spectra	DS7C06P36U-D w/ Mount Pipe	5 1	1/4 7/8
	124.0	3	radwin	RADWIN 2000C		
	122.0	1	commscope	VHLPX3-18-2WH		
	123.0	2	samsung telecommunications	2.5GHZ RRH-V3	1 3	1/4 1-7/16

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		2	samsung telecommunications	OPTIC FIBER JUNCTION CYLINDER	2	1-1/2
		2	samsung telecommunications	POWER JUNCTION CYLINDER		
	122.0	1	tower mounts	Commscope MC-CP12M-12-126		
		1	ceragon	FIBEAIR IP-20C		
	120.0	3	commscope	CDX68T-DS-43_TMO		
		3	commscope	FFVV-65C-R3-V1_TMO		
		2	commscope	HCS 2.0		
		3	nokia	AEHC		
		3	nokia	AHFIG_TMO		
		3	nokia	AHLOA_T-MOBILE		
		3	samsung telecommunications	RRH-P4		
	119.0	1	andrew	VHLP1-23		
		2	dragonwave	HORIZON COMPACT PLUS		
111.0	111.0	-	-	-	7 3 3	1/4 3/8 1/2
90.0	91.0	3	ericsson	RRUS 32 B2	-	-
		3	ericsson	RRUS 32 B66A		
	90.0	1	tower mounts	Side Arm Mount [SO 901-3]		
89.0	91.0	2	antel	BXA-70040-8CF-EDIN-X w/ Mount Pipe	8	1-5/8
		1	antel	BXA-70090-8CF-EDIN-X w/ Mount Pipe		
		3	ericsson	4449		
		3	ericsson	RADIO 4408		
		3	jma wireless	MX06FRO840-02 w/ Mount Pipe		
		3	jma wireless	MX10FRO840-XX w/ Mount Pipe		
		2	raycap	RVZDC-6627-PF-48		
		3	vzw	Sub6 Antenna w/ Mount Pipe		
	89.0	1	tower mounts	T-Arm Mount [TA 602-3_KCKR]		
80.0	80.0	6	andrew	TMZXX-6516-R2M w/ Mount Pipe	6	1-5/8
		3	nokia	FRIG		
		1	raycap	RNSDC-7771-PF-48		
		1	tower mounts	Platform Mount [LP 303-1]		
	78.0	3	commscope	CBC6AE7LQ-DS-43		
		3	commscope	FFHH-65C-R3 w/ Mount Pipe		
		3	nokia	AHLOA		
		3	nokia	FHFB		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		1	nokia	FRLB		

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	1582988	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	1855128	CCISITES
4-TOWER MANUFACTURER DRAWINGS	6358620	CCISITES

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

3.2) Assumptions

- 1) Tower and structures were maintained in accordance with the TIA-222 Standard.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 3 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Crown Castle should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P _{allow} (K)	% Capacity	Pass / Fail
L1	120 - 80.25	Pole	TP27.973x20.5x0.25	1	-13.52	1025.88	49.9	Pass
L2	80.25 - 46	Pole	TP33.78x26.721x0.3125	2	-22.22	2014.40	65.8	Pass
L3	46 - 25	Pole	TP36.971x32.2784x0.375	3	-27.21	2645.64	66.1	Pass
L4	25 - 0	Pole	TP40.789x35.2946x0.5	4	-36.92	3064.89	74.4	Pass
							Summary	
						Pole (L4)	74.4	Pass
						Rating =	74.4	Pass

Table 6 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	63.3	Pass
1	Base Plate	0	64.8	Pass
1	Base Foundation (Structure)	0	62.2	Pass
1	Base Foundation (Soil Interaction)	0	63.1	Pass
Structure Rating (max from all components) =				74.4%

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

Once the equipment in Table 2 is removed, the tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A
TNXTOWER OUTPUT

Section	1	2	3	4	
Length (ft)	39.750	38.250	25.750	30.083	
Number of Sides	12	12	12	12	
Thickness (in)	0.2500	0.3125	0.3750	0.5000	
Socket Length (ft)	4.000	4.750	5.083	35.2946	
Top Dia (in)	20.5000	26.7210	32.2784	40.7890	
Bot Dia (in)	27.9730	33.7800	36.9710		
Grade	A572-50		A572-65	A572-50	
Weight (K)	2.6	3.9	3.6	6.2	16.3

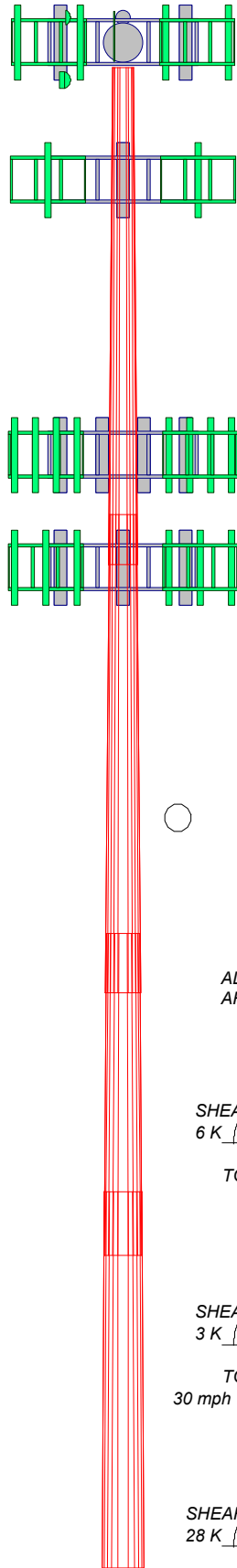
120.0 ft

80.3 ft

46.0 ft

25.0 ft

0.0 ft



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A572-65	65 ksi	80 ksi

TOWER DESIGN NOTES

1. Tower is located in Pierce County, Washington.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 104 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 30 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category III.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. CCISeismic Note: Seismic loads generated by CCISeismic 3.3.7
9. CCISeismic Note: Seismic calculations are in accordance with TIA-222-H-1
10. TOWER RATING: 74.4%

ALL REACTIONS
ARE FACTORED

AXIAL
43 K
SHEAR
6 K
MOMENT
642 kip-ft
TORQUE 0 kip-ft
SEISMIC

AXIAL
63 K
SHEAR
3 K
MOMENT
289 kip-ft
TORQUE 0 kip-ft
30 mph WIND - 1.0000 in ICE

AXIAL
37 K
SHEAR
28 K
MOMENT
2308 kip-ft
TORQUE 2 kip-ft
REACTIONS - 104 mph WIND

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

- Tower is located in Pierce County, Washington.
- Tower base elevation above sea level: 443.000 ft.
- Basic wind speed of 104 mph.
- Risk Category III.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.000 ft.
- Nominal ice thickness of 1.0000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56 pcf.
- A wind speed of 30 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 60 mph.
- CCISeismic Note: Seismic loads generated by CCISeismic 3.3.7.
- CCISeismic Note: Seismic calculations are in accordance with TIA-222-H-1.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 1.0$, $K_{es}(t_i) = 1.0$, $K_{es}(E_v \text{ and } E_h) = 1.0$.
- Maximum demand-capacity ratio is: 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	Calculate Redundant Bracing Forces
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans For Wind Area	SR Leg Bolts Resist Compression
√ Use Code Stress Ratios	Use Clear Spans For KL/r	All Leg Panels Have Same Allowable
√ Use Code Safety Factors - Guys	Retention Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	√ Bypass Mast Stability Checks	√ Consider Feed Line Torque
Always Use Max Kz	√ Use Azimuth Dish Coefficients	Include Angle Block Shear Check
Use Special Wind Profile	√ Project Wind Area of Appurt.	Use TIA-222-H Bracing Resist.
Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Exemption
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Use TIA-222-H Tension Splice
Secondary Horizontal Braces Leg	√ Sort Capacity Reports By Component	Exemption
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	
SR Members Are Concentric	Ignore KL/ry For 60 Deg. Angle Legs	

Poles

- √ Include Shear-Torsion Interaction
- Always Use Sub-Critical Flow
- Use Top Mounted Sockets
- Pole Without Linear Attachments
- Pole With Shroud Or No
- Appurtenances
- Outside and Inside Corner Radii Are Known

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	120.000-80.250	39.750	4.000	12	20.5000	27.9730	0.2500	1.0000	A572-50 (50 ksi)
L2	80.250-46.000	38.250	4.750	12	26.7210	33.7800	0.3125	1.2500	A572-65 (65 ksi)
L3	46.000-25.000	25.750	5.083	12	32.2784	36.9710	0.3750	1.5000	A572-65 (65 ksi)
L4	25.000-0.000	30.083		12	35.2946	40.7890	0.5000	2.0000	A572-50 (50 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L1	21.1350	16.3013	853.2119	7.2495	10.6190	80.3477	1728.8387	8.0230	4.8240	19.296
	28.8716	22.3170	2189.2860	9.9248	14.4900	151.0893	4436.0870	10.9838	6.8268	27.307
L2	28.3176	26.5736	2365.5005	9.4542	13.8415	170.8994	4793.1453	13.0787	6.3237	20.236
	34.8614	33.6767	4814.6161	11.9814	17.4980	275.1517	9755.7174	16.5746	8.2155	26.29
L3	34.1809	38.5233	5004.7648	11.4214	16.7202	299.3243	10141.010	18.9600	7.6456	20.388
	38.1429	44.1897	7553.9472	13.1014	19.1510	394.4419	15306.345	21.7488	8.9032	23.742
L4	37.3245	56.0194	8656.6213	12.4565	18.2826	473.4892	17540.661	27.5710	8.1190	16.238
	42.0515	64.8653	13439.134	14.4235	21.1287	636.0606	27231.329	31.9247	9.5915	19.183

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontal in	Double Angle Stitch Bolt Spacing Redundants in
L1 120.000-80.250				1	1	1			
L2 80.250-46.000				1	1	1			
L3 46.000-25.000				1	1	1			
L4 25.000-0.000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
Safety Line 3/8	A	No	Surface Ar (CaAa)	120.000 - 0.000	1	1	0.500 0.500	0.3750		0
CAT5E(1/4")	A	No	Surface Ar (CaAa)	120.000 - 0.000	5	5	0.250 0.250	0.2500		0
AVA5-50(7/8")	A	No	Surface Ar (CaAa)	120.000 - 0.000	1	1	0.250 0.250	1.1020		0
LDF7-50A(1-5/8)	C	No	Surface Ar (CaAa)	89.000 - 0.000	2	2	0.500 0.500	1.9800		1
LDF7-50A(1-5/8)	C	No	Surface Ar (CaAa)	89.000 - 0.000	5	3	-0.250 -0.250	1.9800		1
*** 80' *** LDF7-50A(1-5/8")	C	No	Surface Ar (CaAa)	80.000 - 0.000	6	3	-0.250 -0.250	1.9800		1

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
*** CU12PSM9P6XXX(1-1/2)	C	No	Surface Ar (CaAa)	111.000 - 0.000	1	1	0.400 0.400	1.6000		2

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		CAAA ft ² /ft	Weight plf
***122' *** LDF1-50A(1/4)	A	No	No	Inside Pole	120.000 - 0.000	1	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0 0 0
TYPE 2(1-7/16)	A	No	No	Inside Pole	120.000 - 0.000	3	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	1 1 1
HCS 2.0 Part 3(1-1/2)	C	No	No	Inside Pole	120.000 - 0.000	2	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	2 2 2
*** 111' *** 2" Flexible Conduit	C	No	No	Inside Pole	111.000 - 0.000	1	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0 0 0
LDF1-50A(1/4")	C	No	No	Inside Pole	111.000 - 0.000	7	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0 0 0
LDF2-50A(3/8")	C	No	No	Inside Pole	111.000 - 0.000	3	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0 0 0
CR 50 540(1/2")	C	No	No	Inside Pole	111.000 - 0.000	3	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0 0 0
*** 89*** LDF7-50A(1-5/8)	C	No	No	Inside Pole	89.000 - 0.000	1	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	1 1 1

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	CAAA In Face ft ²	CAAA Out Face ft ²	Weight K
L1	120.000-80.250	A	0.000	0.000	10.840	0.000	0.11
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	13.583	0.000	0.31
L2	80.250-46.000	A	0.000	0.000	9.340	0.000	0.10
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	59.584	0.000	0.64
L3	46.000-25.000	A	0.000	0.000	5.727	0.000	0.06
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	36.624	0.000	0.39
L4	25.000-0.000	A	0.000	0.000	6.817	0.000	0.07
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	43.600	0.000	0.47

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} A _A In Face ft ²	C _{AA} A _A Out Face ft ²	Weight K
L1	120.000-80.250	A	1.284	0.000	0.000	45.256	0.000	0.50
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	29.262	0.000	0.62
L2	80.250-46.000	A	1.226	0.000	0.000	38.994	0.000	0.43
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	114.805	0.000	1.89
L3	46.000-25.000	A	1.158	0.000	0.000	23.123	0.000	0.25
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	69.406	0.000	1.12
L4	25.000-0.000	A	1.042	0.000	0.000	26.413	0.000	0.28
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	80.998	0.000	1.28

Feed Line Center of Pressure

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
L1	120.000-80.250	-1.0691	0.1948	-1.6980	-1.0256
L2	80.250-46.000	0.1976	4.1912	-0.4800	2.7044
L3	46.000-25.000	0.1964	4.3856	-0.5079	2.9442
L4	25.000-0.000	0.1906	4.5135	-0.5169	3.1306

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L1	2	Safety Line 3/8	80.25 - 120.00	1.0000	1.0000
L1	6	CAT5E(1/4")	80.25 - 120.00	1.0000	1.0000
L1	7	AVA5-50(7/8")	80.25 - 120.00	1.0000	1.0000
L1	17	LDF7-50A(1-5/8)	80.25 - 89.00	1.0000	1.0000
L1	18	LDF7-50A(1-5/8)	80.25 - 89.00	1.0000	1.0000
L1	23	CU12PSM9P6XXX(1-1/2)	80.25 - 111.00	1.0000	1.0000
L2	2	Safety Line 3/8	46.00 - 80.25	1.0000	1.0000
L2	6	CAT5E(1/4")	46.00 - 80.25	1.0000	1.0000
L2	7	AVA5-50(7/8")	46.00 - 80.25	1.0000	1.0000
L2	17	LDF7-50A(1-5/8)	46.00 - 80.25	1.0000	1.0000
L2	18	LDF7-50A(1-5/8)	46.00 - 80.25	1.0000	1.0000
L2	21	LDF7-50A(1-5/8")	46.00 - 80.00	1.0000	1.0000
L2	23	CU12PSM9P6XXX(1-1/2)	46.00 - 80.25	1.0000	1.0000
L3	2	Safety Line 3/8	25.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L3	6	CAT5E(1/4")	46.00 25.00 - 46.00	1.0000	1.0000
L3	7	AVA5-50(7/8")	46.00 25.00 - 46.00	1.0000	1.0000
L3	17	LDF7-50A(1-5/8)	46.00 25.00 - 46.00	1.0000	1.0000
L3	18	LDF7-50A(1-5/8)	46.00 25.00 - 46.00	1.0000	1.0000
L3	21	LDF7-50A(1-5/8")	46.00 25.00 - 46.00	1.0000	1.0000
L3	23	CU12PSM9P6XXX(1-1/2)	46.00 25.00 - 46.00	1.0000	1.0000
L4	2	Safety Line 3/8	0.00 - 25.00	1.0000	1.0000
L4	6	CAT5E(1/4")	0.00 - 25.00	1.0000	1.0000
L4	7	AVA5-50(7/8")	0.00 - 25.00	1.0000	1.0000
L4	17	LDF7-50A(1-5/8)	0.00 - 25.00	1.0000	1.0000
L4	18	LDF7-50A(1-5/8)	0.00 - 25.00	1.0000	1.0000
L4	21	LDF7-50A(1-5/8")	0.00 - 25.00	1.0000	1.0000
L4	23	CU12PSM9P6XXX(1-1/2)	0.00 - 25.00	1.0000	1.0000

User Defined Loads - Seismic

Description	Elevation ft	Offset From Centroid ft	Azimuth Angle °	E _v K	E _{hx} K	E _{hz} K	E _h K
CCISeismic Tower Section 1 - 1	115.125	0.000	0.0000	0.11	0.00	0.00	0.25
CCISeismic Tower Section 1 - 2	105.250	0.000	0.0000	0.13	0.00	0.00	0.23
CCISeismic Tower Section 1 - 3	95.250	0.000	0.0000	0.14	0.00	0.00	0.20
CCISeismic Tower Section 1 - 4	85.250	0.000	0.0000	0.15	0.00	0.00	0.18
CCISeismic Tower Section 2 - 1	80.125	0.000	0.0000	0.16	0.00	0.00	0.16
CCISeismic Tower Section 2 - 2	71.000	0.000	0.0000	0.20	0.00	0.00	0.16
CCISeismic Tower Section 2 - 3	61.000	0.000	0.0000	0.21	0.00	0.00	0.13
CCISeismic Tower Section 2 - 4	51.000	0.000	0.0000	0.23	0.00	0.00	0.10
CCISeismic Tower Section 3 - 1	47.875	0.000	0.0000	0.15	0.00	0.00	0.06
CCISeismic Tower Section 3 - 2	40.000	0.000	0.0000	0.28	0.00	0.00	0.07
CCISeismic Tower Section 3 - 3	30.000	0.000	0.0000	0.30	0.00	0.00	0.04
CCISeismic Tower Section 4 - 1	30.042	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic Tower Section 4 - 2	25.000	0.000	0.0000	0.40	0.00	0.00	0.04
CCISeismic Tower Section 4 - 3	15.000	0.000	0.0000	0.42	0.00	0.00	0.02
CCISeismic Tower Section 4 - 4	5.000	0.000	0.0000	0.44	0.00	0.00	0.00
CCISeismic lightning rod 5/8-in x 5-ft L-Rod	120.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic misc Top Hat 14"x24"	120.000	0.000	0.0000	0.02	0.00	0.00	0.05
CCISeismic commscope	122.000	0.000	0.0000	0.03	0.00	0.00	0.06

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	K	K	K	K
FFVV-65C-R3-V1_TMO							
CCISeismic commscope	122.000	0.000	0.0000	0.03	0.00	0.00	0.06
FFVV-65C-R3-V1_TMO							
CCISeismic commscope	122.000	0.000	0.0000	0.03	0.00	0.00	0.06
FFVV-65C-R3-V1_TMO							
CCISeismic nokia AEHC	122.000	0.000	0.0000	0.02	0.00	0.00	0.05
CCISeismic nokia AEHC	122.000	0.000	0.0000	0.02	0.00	0.00	0.05
CCISeismic nokia AEHC	122.000	0.000	0.0000	0.02	0.00	0.00	0.05
CCISeismic (2) commscope	122.000	0.000	0.0000	0.00	0.00	0.00	0.01
CDX68T-DS-43_TMO							
CCISeismic commscope	122.000	0.000	0.0000	0.00	0.00	0.00	0.00
CDX68T-DS-43_TMO							
CCISeismic commscope HCS	122.000	0.000	0.0000	0.00	0.00	0.00	0.00
2.0							
CCISeismic commscope HCS	122.000	0.000	0.0000	0.00	0.00	0.00	0.00
2.0							
CCISeismic nokia	122.000	0.000	0.0000	0.01	0.00	0.00	0.03
AHFIG_TMO							
CCISeismic nokia	122.000	0.000	0.0000	0.01	0.00	0.00	0.03
AHFIG_TMO							
CCISeismic nokia	122.000	0.000	0.0000	0.01	0.00	0.00	0.03
AHFIG_TMO							
CCISeismic nokia AHLOA_T-	122.000	0.000	0.0000	0.02	0.00	0.00	0.04
MOBILE							
CCISeismic nokia AHLOA_T-	122.000	0.000	0.0000	0.02	0.00	0.00	0.04
MOBILE							
CCISeismic nokia AHLOA_T-	122.000	0.000	0.0000	0.02	0.00	0.00	0.04
MOBILE							
CCISeismic (2) dragonwave	122.000	0.000	0.0000	0.00	0.00	0.00	0.01
HORIZON COMPACT PLUS							
CCISeismic samsung	122.000	0.000	0.0000	0.01	0.00	0.00	0.03
telecommunications RRH-P4							
CCISeismic samsung	122.000	0.000	0.0000	0.01	0.00	0.00	0.03
telecommunications RRH-P4							
CCISeismic samsung	122.000	0.000	0.0000	0.01	0.00	0.00	0.03
telecommunications RRH-P4							
CCISeismic samsung	122.000	0.000	0.0000	0.01	0.00	0.00	0.03
telecommunications 2.5GHZ							
RRH-V3							
CCISeismic samsung	122.000	0.000	0.0000	0.01	0.00	0.00	0.03
telecommunications 2.5GHZ							
RRH-V3							
CCISeismic samsung	122.000	0.000	0.0000	0.00	0.00	0.00	0.00
telecommunications OPTIC							
FIBER JUNCTION							
CYLINDER							
CCISeismic samsung	122.000	0.000	0.0000	0.00	0.00	0.00	0.00
telecommunications OPTIC							
FIBER JUNCTION							
CYLINDER							
CCISeismic samsung	122.000	0.000	0.0000	0.00	0.00	0.00	0.00
telecommunications POWER							
JUNCTION CYLINDER							
CCISeismic samsung	122.000	0.000	0.0000	0.00	0.00	0.00	0.00
telecommunications POWER							
JUNCTION CYLINDER							
CCISeismic dbspectra	122.000	0.000	0.0000	0.01	0.00	0.00	0.03
DS7C06P36U-D w/ Mount							
Pipe							
CCISeismic ceragon FIBEAIR	122.000	0.000	0.0000	0.00	0.00	0.00	0.00
IP-20C							
CCISeismic Commscope	122.000	0.000	0.0000	0.32	0.00	0.00	0.78
MC-CP12M-12-126							
CCISeismic ericsson RRUS	90.000	0.000	0.0000	0.01	0.00	0.00	0.01
32 B2							
CCISeismic ericsson RRUS	90.000	0.000	0.0000	0.01	0.00	0.00	0.01
32 B2							
CCISeismic ericsson RRUS	90.000	0.000	0.0000	0.01	0.00	0.00	0.01

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	K	K	K	K
32 B2							
CCISeismic ericsson RRUS 32 B66A	90.000	0.000	0.0000	0.01	0.00	0.00	0.02
CCISeismic ericsson RRUS 32 B66A	90.000	0.000	0.0000	0.01	0.00	0.00	0.02
CCISeismic ericsson RRUS 32 B66A	90.000	0.000	0.0000	0.01	0.00	0.00	0.02
CCISeismic pipe 2.4" Dia. x 6-ft	90.000	0.000	0.0000	0.00	0.00	0.00	0.01
CCISeismic pipe 2.4" Dia. x 6-ft	90.000	0.000	0.0000	0.00	0.00	0.00	0.01
CCISeismic pipe 2.4" Dia. x 6-ft	90.000	0.000	0.0000	0.00	0.00	0.00	0.01
CCISeismic tower mounts Side Arm Mount [SO 901-3]	90.000	0.000	0.0000	0.06	0.00	0.00	0.08
CCISeismic jma wireless MX06FRO840-02 w/ Mount Pipe	89.000	0.000	0.0000	0.03	0.00	0.00	0.03
CCISeismic jma wireless MX06FRO840-02 w/ Mount Pipe	89.000	0.000	0.0000	0.03	0.00	0.00	0.03
CCISeismic jma wireless MX06FRO840-02 w/ Mount Pipe	89.000	0.000	0.0000	0.03	0.00	0.00	0.03
CCISeismic jma wireless MX10FRO840-XX w/ Mount Pipe	89.000	0.000	0.0000	0.03	0.00	0.00	0.04
CCISeismic jma wireless MX10FRO840-XX w/ Mount Pipe	89.000	0.000	0.0000	0.03	0.00	0.00	0.04
CCISeismic jma wireless MX10FRO840-XX w/ Mount Pipe	89.000	0.000	0.0000	0.03	0.00	0.00	0.04
CCISeismic vzw Sub6 Antenna w/ Mount Pipe	89.000	0.000	0.0000	0.02	0.00	0.00	0.02
CCISeismic vzw Sub6 Antenna w/ Mount Pipe	89.000	0.000	0.0000	0.02	0.00	0.00	0.02
CCISeismic vzw Sub6 Antenna w/ Mount Pipe	89.000	0.000	0.0000	0.02	0.00	0.00	0.02
CCISeismic ericsson 4449	89.000	0.000	0.0000	0.01	0.00	0.00	0.02
CCISeismic ericsson 4449	89.000	0.000	0.0000	0.01	0.00	0.00	0.02
CCISeismic ericsson 4449	89.000	0.000	0.0000	0.01	0.00	0.00	0.02
CCISeismic (2) ericsson RADIO 4408	89.000	0.000	0.0000	0.00	0.00	0.00	0.01
CCISeismic ericsson RADIO 4408	89.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic raycap RVZDC-6627-PF-48	89.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic raycap RVZDC-6627-PF-48	89.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic antel BXA-70040-8CF-EDIN-X w/ Mount Pipe	89.000	0.000	0.0000	0.02	0.00	0.00	0.03
CCISeismic antel BXA-70040-8CF-EDIN-X w/ Mount Pipe	89.000	0.000	0.0000	0.02	0.00	0.00	0.03
CCISeismic antel BXA-70090-8CF-EDIN-X w/ Mount Pipe	89.000	0.000	0.0000	0.01	0.00	0.00	0.02
CCISeismic tower mounts T-Arm Mount [TA 602-3_KCKR]	89.000	0.000	0.0000	0.21	0.00	0.00	0.28
CCISeismic (2) andrew TMZXX-6516-R2M w/ Mount Pipe	80.000	0.000	0.0000	0.02	0.00	0.00	0.02
CCISeismic (2) andrew TMZXX-6516-R2M w/ Mount Pipe	80.000	0.000	0.0000	0.02	0.00	0.00	0.02
CCISeismic (2) andrew TMZXX-6516-R2M w/ Mount Pipe	80.000	0.000	0.0000	0.02	0.00	0.00	0.02
CCISeismic commscope	80.000	0.000	0.0000	0.03	0.00	0.00	0.03

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	K	K	K	K
FFHH-65C-R3 w/ Mount Pipe							
CCISeismic commscope	80.000	0.000	0.0000	0.03	0.00	0.00	0.03
FFHH-65C-R3 w/ Mount Pipe							
CCISeismic commscope	80.000	0.000	0.0000	0.03	0.00	0.00	0.03
FFHH-65C-R3 w/ Mount Pipe							
CCISeismic nokia FRIG	80.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic nokia FRIG	80.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic nokia FRIG	80.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic nokia FHFB	80.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic nokia FHFB	80.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic nokia FHFB	80.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic nokia AHLOA	80.000	0.000	0.0000	0.02	0.00	0.00	0.02
CCISeismic nokia AHLOA	80.000	0.000	0.0000	0.02	0.00	0.00	0.02
CCISeismic nokia AHLOA	80.000	0.000	0.0000	0.02	0.00	0.00	0.02
CCISeismic commscope	80.000	0.000	0.0000	0.00	0.00	0.00	0.00
CBC6AE7LQ-DS-43							
CCISeismic commscope	80.000	0.000	0.0000	0.00	0.00	0.00	0.00
CBC6AE7LQ-DS-43							
CCISeismic commscope	80.000	0.000	0.0000	0.00	0.00	0.00	0.00
CBC6AE7LQ-DS-43							
CCISeismic nokia FRLB	80.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic raycap RNSDC-7771-PF-48	80.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic tower mounts Platform Mount [LP 303-1]	80.000	0.000	0.0000	0.25	0.00	0.00	0.27
CCISeismic jma wireless MX08FRO665-21 w/ Mount Pipe	111.000	0.000	0.0000	0.02	0.00	0.00	0.04
CCISeismic jma wireless MX08FRO665-21 w/ Mount Pipe	111.000	0.000	0.0000	0.02	0.00	0.00	0.04
CCISeismic jma wireless MX08FRO665-21 w/ Mount Pipe	111.000	0.000	0.0000	0.02	0.00	0.00	0.04
CCISeismic fujitsu TA08025-B604	111.000	0.000	0.0000	0.01	0.00	0.00	0.02
CCISeismic fujitsu TA08025-B604	111.000	0.000	0.0000	0.01	0.00	0.00	0.02
CCISeismic fujitsu TA08025-B604	111.000	0.000	0.0000	0.01	0.00	0.00	0.02
CCISeismic fujitsu TA08025-B605	111.000	0.000	0.0000	0.02	0.00	0.00	0.03
CCISeismic fujitsu TA08025-B605	111.000	0.000	0.0000	0.02	0.00	0.00	0.03
CCISeismic fujitsu TA08025-B605	111.000	0.000	0.0000	0.02	0.00	0.00	0.03
CCISeismic raycap RDIDC-9181-PF-48	111.000	0.000	0.0000	0.00	0.00	0.00	0.01
CCISeismic (2) tower mounts 8' x 2" Mount Pipe	111.000	0.000	0.0000	0.01	0.00	0.00	0.02
CCISeismic (2) tower mounts 8' x 2" Mount Pipe	111.000	0.000	0.0000	0.01	0.00	0.00	0.02
CCISeismic (2) tower mounts 8' x 2" Mount Pipe	111.000	0.000	0.0000	0.01	0.00	0.00	0.02
CCISeismic tower mounts Commscope MC-PK8-DSH	111.000	0.000	0.0000	0.35	0.00	0.00	0.71
CCISeismic VHLP1-23	122.000	0.000	0.0000	0.00	0.00	0.00	0.01
CCISeismic VHLPX3-18-2WH	122.000	0.000	0.0000	0.01	0.00	0.00	0.02
CCISeismic radwin RADWIN 2000C	122.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (2) radwin RADWIN 2000C	122.000	0.000	0.0000	0.00	0.00	0.00	0.01
CCISeismic misc Safety Line 3/8 From 0 to 120 (110ft to 120ft)	115.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic misc Safety Line 3/8 From 0 to 120 (100ft)	105.000	0.000	0.0000	0.00	0.00	0.00	0.00

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	K	K	K	K
to110ft)							
CCISeismic misc Safety Line 3/8 From 0 to 120 (90ft to100ft)	95.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic misc Safety Line 3/8 From 0 to 120 (80ft to90ft)	85.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic misc Safety Line 3/8 From 0 to 120 (70ft to80ft)	75.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic misc Safety Line 3/8 From 0 to 120 (60ft to70ft)	65.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic misc Safety Line 3/8 From 0 to 120 (50ft to60ft)	55.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic misc Safety Line 3/8 From 0 to 120 (40ft to50ft)	45.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic misc Safety Line 3/8 From 0 to 120 (30ft to40ft)	35.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic misc Safety Line 3/8 From 0 to 120 (20ft to30ft)	25.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic misc Safety Line 3/8 From 0 to 120 (10ft to20ft)	15.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic misc Safety Line 3/8 From 0 to 120 (0ft to10ft)	5.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF1- 50A(1/4) From 0 to 120 (110ft to120ft)	115.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF1- 50A(1/4) From 0 to 120 (100ft to110ft)	105.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF1- 50A(1/4) From 0 to 120 (90ft to100ft)	95.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF1- 50A(1/4) From 0 to 120 (80ft to90ft)	85.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF1- 50A(1/4) From 0 to 120 (70ft to80ft)	75.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF1- 50A(1/4) From 0 to 120 (60ft to70ft)	65.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF1- 50A(1/4) From 0 to 120 (50ft to60ft)	55.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF1- 50A(1/4) From 0 to 120 (40ft to50ft)	45.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF1- 50A(1/4) From 0 to 120 (30ft to40ft)	35.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF1- 50A(1/4) From 0 to 120 (20ft to30ft)	25.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF1- 50A(1/4) From 0 to 120 (10ft to20ft)	15.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF1- 50A(1/4) From 0 to 120 (0ft to10ft)	5.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (5) belkin CAT5E(1/4") From 0 to 120 (110ft to120ft)	115.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (5) belkin CAT5E(1/4") From 0 to 120 (100ft to110ft)	105.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (5) belkin CAT5E(1/4") From 0 to 120 (90ft to100ft)	95.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (5) belkin	85.000	0.000	0.0000	0.00	0.00	0.00	0.00

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	K	K	K	K
CAT5E(1/4") From 0 to 120 (80ft to90ft)							
CCISeismic (5) belkin	75.000	0.000	0.0000	0.00	0.00	0.00	0.00
CAT5E(1/4") From 0 to 120 (70ft to80ft)							
CCISeismic (5) belkin	65.000	0.000	0.0000	0.00	0.00	0.00	0.00
CAT5E(1/4") From 0 to 120 (60ft to70ft)							
CCISeismic (5) belkin	55.000	0.000	0.0000	0.00	0.00	0.00	0.00
CAT5E(1/4") From 0 to 120 (50ft to60ft)							
CCISeismic (5) belkin	45.000	0.000	0.0000	0.00	0.00	0.00	0.00
CAT5E(1/4") From 0 to 120 (40ft to50ft)							
CCISeismic (5) belkin	35.000	0.000	0.0000	0.00	0.00	0.00	0.00
CAT5E(1/4") From 0 to 120 (30ft to40ft)							
CCISeismic (5) belkin	25.000	0.000	0.0000	0.00	0.00	0.00	0.00
CAT5E(1/4") From 0 to 120 (20ft to30ft)							
CCISeismic (5) belkin	15.000	0.000	0.0000	0.00	0.00	0.00	0.00
CAT5E(1/4") From 0 to 120 (10ft to20ft)							
CCISeismic (5) belkin	5.000	0.000	0.0000	0.00	0.00	0.00	0.00
CAT5E(1/4") From 0 to 120 (0ft to10ft)							
CCISeismic andrew AVA5-50(7/8") From 0 to 120 (110ft to120ft)	115.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew AVA5-50(7/8") From 0 to 120 (100ft to110ft)	105.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew AVA5-50(7/8") From 0 to 120 (90ft to100ft)	95.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew AVA5-50(7/8") From 0 to 120 (80ft to90ft)	85.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew AVA5-50(7/8") From 0 to 120 (70ft to80ft)	75.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew AVA5-50(7/8") From 0 to 120 (60ft to70ft)	65.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew AVA5-50(7/8") From 0 to 120 (50ft to60ft)	55.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew AVA5-50(7/8") From 0 to 120 (40ft to50ft)	45.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew AVA5-50(7/8") From 0 to 120 (30ft to40ft)	35.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew AVA5-50(7/8") From 0 to 120 (20ft to30ft)	25.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew AVA5-50(7/8") From 0 to 120 (10ft to20ft)	15.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew AVA5-50(7/8") From 0 to 120 (0ft to10ft)	5.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) samsung telecommunications TYPE 2(1-7/16) From 0 to 120 (110ft to120ft)	115.000	0.000	0.0000	0.00	0.00	0.00	0.01
CCISeismic (3) samsung telecommunications TYPE	105.000	0.000	0.0000	0.00	0.00	0.00	0.01

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	K	K	K	K
2(1-7/16) From 0 to 120 (100ft to 110ft) CCISeismic (3) samsung telecommunications TYPE	95.000	0.000	0.0000	0.00	0.00	0.00	0.01
2(1-7/16) From 0 to 120 (90ft to 100ft) CCISeismic (3) samsung telecommunications TYPE	85.000	0.000	0.0000	0.00	0.00	0.00	0.00
2(1-7/16) From 0 to 120 (80ft to 90ft) CCISeismic (3) samsung telecommunications TYPE	75.000	0.000	0.0000	0.00	0.00	0.00	0.00
2(1-7/16) From 0 to 120 (70ft to 80ft) CCISeismic (3) samsung telecommunications TYPE	65.000	0.000	0.0000	0.00	0.00	0.00	0.00
2(1-7/16) From 0 to 120 (60ft to 70ft) CCISeismic (3) samsung telecommunications TYPE	55.000	0.000	0.0000	0.00	0.00	0.00	0.00
2(1-7/16) From 0 to 120 (50ft to 60ft) CCISeismic (3) samsung telecommunications TYPE	45.000	0.000	0.0000	0.00	0.00	0.00	0.00
2(1-7/16) From 0 to 120 (40ft to 50ft) CCISeismic (3) samsung telecommunications TYPE	35.000	0.000	0.0000	0.00	0.00	0.00	0.00
2(1-7/16) From 0 to 120 (30ft to 40ft) CCISeismic (3) samsung telecommunications TYPE	25.000	0.000	0.0000	0.00	0.00	0.00	0.00
2(1-7/16) From 0 to 120 (20ft to 30ft) CCISeismic (3) samsung telecommunications TYPE	15.000	0.000	0.0000	0.00	0.00	0.00	0.00
2(1-7/16) From 0 to 120 (10ft to 20ft) CCISeismic (3) samsung telecommunications TYPE	5.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120 (110ft to 120ft)	115.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic (2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120 (100ft to 110ft)	105.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic (2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120 (90ft to 100ft)	95.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic (2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120 (80ft to 90ft)	85.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic (2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120 (70ft to 80ft)	75.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic (2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120 (60ft to 70ft)	65.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120 (50ft to 60ft)	55.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120 (40ft to 50ft)	45.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120 (30ft to 40ft)	35.000	0.000	0.0000	0.01	0.00	0.00	0.00

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	K	K	K	K
120 (30ft to40ft)							
CCISeismic (2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120 (20ft to30ft)	25.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120 (10ft to20ft)	15.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120 (0ft to10ft)	5.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic miscl 2" Flexible Conduit From 0 to 111 (110ft to111ft)	110.500	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic miscl 2" Flexible Conduit From 0 to 111 (100ft to110ft)	105.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic miscl 2" Flexible Conduit From 0 to 111 (90ft to100ft)	95.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic miscl 2" Flexible Conduit From 0 to 111 (80ft to90ft)	85.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic miscl 2" Flexible Conduit From 0 to 111 (70ft to80ft)	75.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic miscl 2" Flexible Conduit From 0 to 111 (60ft to70ft)	65.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic miscl 2" Flexible Conduit From 0 to 111 (50ft to60ft)	55.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic miscl 2" Flexible Conduit From 0 to 111 (40ft to50ft)	45.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic miscl 2" Flexible Conduit From 0 to 111 (30ft to40ft)	35.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic miscl 2" Flexible Conduit From 0 to 111 (20ft to30ft)	25.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic miscl 2" Flexible Conduit From 0 to 111 (10ft to20ft)	15.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic miscl 2" Flexible Conduit From 0 to 111 (0ft to10ft)	5.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (7) andrew LDF1- 50A(1/4") From 0 to 111 (110ft to111ft)	110.500	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (7) andrew LDF1- 50A(1/4") From 0 to 111 (100ft to110ft)	105.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (7) andrew LDF1- 50A(1/4") From 0 to 111 (90ft to100ft)	95.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (7) andrew LDF1- 50A(1/4") From 0 to 111 (80ft to90ft)	85.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (7) andrew LDF1- 50A(1/4") From 0 to 111 (70ft to80ft)	75.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (7) andrew LDF1- 50A(1/4") From 0 to 111 (60ft to70ft)	65.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (7) andrew LDF1- 50A(1/4") From 0 to 111 (50ft to60ft)	55.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (7) andrew LDF1- 50A(1/4") From 0 to 111 (0ft to50ft)	45.000	0.000	0.0000	0.00	0.00	0.00	0.00

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	K	K	K	K
50A(1/4") From 0 to 111 (40ft to 50ft)							
CCISeismic (7) andrew LDF1-50A(1/4") From 0 to 111 (30ft to 40ft)	35.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (7) andrew LDF1-50A(1/4") From 0 to 111 (20ft to 30ft)	25.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (7) andrew LDF1-50A(1/4") From 0 to 111 (10ft to 20ft)	15.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (7) andrew LDF1-50A(1/4") From 0 to 111 (0ft to 10ft)	5.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) andrew LDF2-50A(3/8") From 0 to 111 (110ft to 111ft)	110.500	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) andrew LDF2-50A(3/8") From 0 to 111 (100ft to 110ft)	105.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) andrew LDF2-50A(3/8") From 0 to 111 (90ft to 100ft)	95.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) andrew LDF2-50A(3/8") From 0 to 111 (80ft to 90ft)	85.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) andrew LDF2-50A(3/8") From 0 to 111 (70ft to 80ft)	75.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) andrew LDF2-50A(3/8") From 0 to 111 (60ft to 70ft)	65.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) andrew LDF2-50A(3/8") From 0 to 111 (50ft to 60ft)	55.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) andrew LDF2-50A(3/8") From 0 to 111 (40ft to 50ft)	45.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) andrew LDF2-50A(3/8") From 0 to 111 (30ft to 40ft)	35.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) andrew LDF2-50A(3/8") From 0 to 111 (20ft to 30ft)	25.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) andrew LDF2-50A(3/8") From 0 to 111 (10ft to 20ft)	15.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) andrew LDF2-50A(3/8") From 0 to 111 (0ft to 10ft)	5.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) commscope CR 50 540(1/2") From 0 to 111 (110ft to 111ft)	110.500	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) commscope CR 50 540(1/2") From 0 to 111 (100ft to 110ft)	105.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) commscope CR 50 540(1/2") From 0 to 111 (90ft to 100ft)	95.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) commscope CR 50 540(1/2") From 0 to 111 (80ft to 90ft)	85.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) commscope CR 50 540(1/2") From 0 to 111 (70ft to 80ft)	75.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) commscope CR 50 540(1/2") From 0 to 111 (60ft to 70ft)	65.000	0.000	0.0000	0.00	0.00	0.00	0.00

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	K	K	K	K
CCISeismic (3) commscope CR 50 540(1/2") From 0 to 111 (50ft to60ft)	55.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) commscope CR 50 540(1/2") From 0 to 111 (40ft to50ft)	45.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) commscope CR 50 540(1/2") From 0 to 111 (30ft to40ft)	35.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) commscope CR 50 540(1/2") From 0 to 111 (20ft to30ft)	25.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) commscope CR 50 540(1/2") From 0 to 111 (10ft to20ft)	15.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (3) commscope CR 50 540(1/2") From 0 to 111 (0ft to10ft)	5.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF7- 50A(1-5/8) From 0 to 89 (80ft to89ft)	84.500	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF7- 50A(1-5/8) From 0 to 89 (70ft to80ft)	75.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF7- 50A(1-5/8) From 0 to 89 (60ft to70ft)	65.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF7- 50A(1-5/8) From 0 to 89 (50ft to60ft)	55.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF7- 50A(1-5/8) From 0 to 89 (40ft to50ft)	45.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF7- 50A(1-5/8) From 0 to 89 (30ft to40ft)	35.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF7- 50A(1-5/8) From 0 to 89 (20ft to30ft)	25.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF7- 50A(1-5/8) From 0 to 89 (10ft to20ft)	15.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic andrew LDF7- 50A(1-5/8) From 0 to 89 (0ft to10ft)	5.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (2) andrew LDF7- 50A(1-5/8) From 0 to 89 (80ft to89ft)	84.500	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (2) andrew LDF7- 50A(1-5/8) From 0 to 89 (70ft to80ft)	75.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (2) andrew LDF7- 50A(1-5/8) From 0 to 89 (60ft to70ft)	65.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (2) andrew LDF7- 50A(1-5/8) From 0 to 89 (50ft to60ft)	55.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (2) andrew LDF7- 50A(1-5/8) From 0 to 89 (40ft to50ft)	45.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (2) andrew LDF7- 50A(1-5/8) From 0 to 89 (30ft to40ft)	35.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (2) andrew LDF7- 50A(1-5/8) From 0 to 89 (20ft to30ft)	25.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (2) andrew LDF7- 50A(1-5/8) From 0 to 89 (10ft to20ft)	15.000	0.000	0.0000	0.00	0.00	0.00	0.00

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	K	K	K	K
to20ft)							
CCISeismic (2) andrew LDF7-50A(1-5/8) From 0 to 89 (0ft to10ft)	5.000	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic (5) andrew LDF7-50A(1-5/8) From 0 to 89 (80ft to89ft)	84.500	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic (5) andrew LDF7-50A(1-5/8) From 0 to 89 (70ft to80ft)	75.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic (5) andrew LDF7-50A(1-5/8) From 0 to 89 (60ft to70ft)	65.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic (5) andrew LDF7-50A(1-5/8) From 0 to 89 (50ft to60ft)	55.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (5) andrew LDF7-50A(1-5/8) From 0 to 89 (40ft to50ft)	45.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (5) andrew LDF7-50A(1-5/8) From 0 to 89 (30ft to40ft)	35.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (5) andrew LDF7-50A(1-5/8) From 0 to 89 (20ft to30ft)	25.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (5) andrew LDF7-50A(1-5/8) From 0 to 89 (10ft to20ft)	15.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (5) andrew LDF7-50A(1-5/8) From 0 to 89 (0ft to10ft)	5.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (6) andrew LDF7-50A(1-5/8") From 0 to 80 (70ft to80ft)	75.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic (6) andrew LDF7-50A(1-5/8") From 0 to 80 (60ft to70ft)	65.000	0.000	0.0000	0.01	0.00	0.00	0.01
CCISeismic (6) andrew LDF7-50A(1-5/8") From 0 to 80 (50ft to60ft)	55.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (6) andrew LDF7-50A(1-5/8") From 0 to 80 (40ft to50ft)	45.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (6) andrew LDF7-50A(1-5/8") From 0 to 80 (30ft to40ft)	35.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (6) andrew LDF7-50A(1-5/8") From 0 to 80 (20ft to30ft)	25.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (6) andrew LDF7-50A(1-5/8") From 0 to 80 (10ft to20ft)	15.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic (6) andrew LDF7-50A(1-5/8") From 0 to 80 (0ft to10ft)	5.000	0.000	0.0000	0.01	0.00	0.00	0.00
CCISeismic cui CU12PSM9P6XXX(1-1/2) From 0 to 111 (110ft to111ft)	110.500	0.000	0.0000	0.00	0.00	0.00	0.00
CCISeismic cui CU12PSM9P6XXX(1-1/2) From 0 to 111 (100ft to110ft)	105.000	0.000	0.0000	0.00	0.00	0.00	0.01
CCISeismic cui CU12PSM9P6XXX(1-1/2) From 0 to 111 (90ft to100ft)	95.000	0.000	0.0000	0.00	0.00	0.00	0.01
CCISeismic cui CU12PSM9P6XXX(1-1/2) From 0 to 111 (80ft to90ft)	85.000	0.000	0.0000	0.00	0.00	0.00	0.01
CCISeismic cui	75.000	0.000	0.0000	0.00	0.00	0.00	0.00

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	K	K	K	K
CU12PSM9P6XXX(1-1/2) From 0 to 111 (70ft to80ft) CCISeismic cui	65.000	0.000	0.0000	0.00	0.00	0.00	0.00
CU12PSM9P6XXX(1-1/2) From 0 to 111 (60ft to70ft) CCISeismic cui	55.000	0.000	0.0000	0.00	0.00	0.00	0.00
CU12PSM9P6XXX(1-1/2) From 0 to 111 (50ft to60ft) CCISeismic cui	45.000	0.000	0.0000	0.00	0.00	0.00	0.00
CU12PSM9P6XXX(1-1/2) From 0 to 111 (40ft to50ft) CCISeismic cui	35.000	0.000	0.0000	0.00	0.00	0.00	0.00
CU12PSM9P6XXX(1-1/2) From 0 to 111 (30ft to40ft) CCISeismic cui	25.000	0.000	0.0000	0.00	0.00	0.00	0.00
CU12PSM9P6XXX(1-1/2) From 0 to 111 (20ft to30ft) CCISeismic cui	15.000	0.000	0.0000	0.00	0.00	0.00	0.00
CU12PSM9P6XXX(1-1/2) From 0 to 111 (10ft to20ft) CCISeismic cui	5.000	0.000	0.0000	0.00	0.00	0.00	0.00
CU12PSM9P6XXX(1-1/2) From 0 to 111 (0ft to10ft)							

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
5/8-in x 5-ft L-Rod	C	From Leg	0.000 0.000 2.500	0.0000	120.000
Top Hat 14"x24"	C	From Leg	0.000 0.000 1.000	0.0000	120.000
*** 122' *** FFVV-65C-R3-V1_TMO	A	From Leg	4.000 0.000 -2.000	0.0000	122.000
FFVV-65C-R3-V1_TMO	B	From Leg	4.000 0.000 -2.000	0.0000	122.000
FFVV-65C-R3-V1_TMO	C	From Leg	4.000 0.000 -2.000	0.0000	122.000
AEHC	A	From Leg	4.000 0.000 -2.000	0.0000	122.000
AEHC	B	From Leg	4.000 0.000 -2.000	0.0000	122.000
AEHC	C	From Leg	4.000 0.000 -2.000	0.0000	122.000
(2) CDX68T-DS-43_TMO	A	From Leg	4.000 0.000 -2.000	0.0000	122.000
CDX68T-DS-43_TMO	B	From Leg	4.000 0.000 -2.000	0.0000	122.000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
HCS 2.0	A	From Leg	4.000 0.000 -2.000	0.0000	122.000
HCS 2.0	B	From Leg	4.000 0.000 -2.000	0.0000	122.000
AHFIG_TMO	A	From Leg	4.000 0.000 -2.000	0.0000	122.000
AHFIG_TMO	B	From Leg	4.000 0.000 -2.000	0.0000	122.000
AHFIG_TMO	C	From Leg	4.000 0.000 -2.000	0.0000	122.000
AHLOA_T-MOBILE	A	From Leg	4.000 0.000 -2.000	0.0000	122.000
AHLOA_T-MOBILE	B	From Leg	4.000 0.000 -2.000	0.0000	122.000
AHLOA_T-MOBILE	C	From Leg	4.000 0.000 -2.000	0.0000	122.000
(2) HORIZON COMPACT PLUS	C	From Leg	4.000 0.000 -3.000	0.0000	122.000
RRH-P4	A	From Leg	4.000 0.000 -2.000	0.0000	122.000
RRH-P4	B	From Leg	4.000 0.000 -2.000	0.0000	122.000
RRH-P4	C	From Leg	4.000 0.000 -2.000	0.0000	122.000
2.5GHZ RRH-V3	A	From Leg	4.000 0.000 1.000	0.0000	122.000
2.5GHZ RRH-V3	B	From Leg	4.000 0.000 1.000	0.0000	122.000
OPTIC FIBER JUNCTION CYLINDER	A	From Leg	4.000 0.000 1.000	0.0000	122.000
OPTIC FIBER JUNCTION CYLINDER	B	From Leg	4.000 0.000 1.000	0.0000	122.000
POWER JUNCTION CYLINDER	A	From Leg	4.000 0.000 1.000	0.0000	122.000
POWER JUNCTION CYLINDER	B	From Leg	4.000 0.000 1.000	0.0000	122.000
DS7C06P36U-D w/ Mount Pipe	B	From Leg	4.000 0.000 4.000	0.0000	122.000
FIBEAIR IP-20C	B	From Leg	4.000 0.000 0.000	0.0000	122.000
Commscope MC-CP12M-12-126 *** 117' *** *** 111' *** *** 90' ***	C	None		0.0000	122.000
RRUS 32 B2	B	From Face	2.000	0.0000	90.000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
			0.000		
RRUS 32 B2	C	From Face	1.000		
			2.000	0.0000	90.000
			0.000		
RRUS 32 B2	A	From Face	1.000		
			2.000	0.0000	90.000
			0.000		
RRUS 32 B66A	B	From Face	1.000		
			2.000	0.0000	90.000
			0.000		
RRUS 32 B66A	C	From Face	1.000		
			2.000	0.0000	90.000
			0.000		
RRUS 32 B66A	A	From Face	1.000		
			2.000	0.0000	90.000
			0.000		
2.4" Dia. x 6-ft	A	From Face	1.000		
			2.000	0.0000	90.000
			0.000		
2.4" Dia. x 6-ft	B	From Face	0.000		
			2.000	0.0000	90.000
			0.000		
2.4" Dia. x 6-ft	C	From Face	0.000		
			2.000	0.0000	90.000
			0.000		
Side Arm Mount [SO 901-3] *** 8g' ***	C	None	0.000		
				0.0000	90.000
MX06FRO840-02 w/ Mount Pipe	A	From Leg	4.000		
			0.000	0.0000	89.000
			2.000		
MX06FRO840-02 w/ Mount Pipe	B	From Leg	4.000		
			0.000	0.0000	89.000
			2.000		
MX06FRO840-02 w/ Mount Pipe	C	From Leg	4.000		
			0.000	0.0000	89.000
			2.000		
MX10FRO840-XX w/ Mount Pipe	A	From Leg	4.000		
			0.000	0.0000	89.000
			2.000		
MX10FRO840-XX w/ Mount Pipe	B	From Leg	4.000		
			0.000	0.0000	89.000
			2.000		
MX10FRO840-XX w/ Mount Pipe	C	From Leg	4.000		
			0.000	0.0000	89.000
			2.000		
Sub6 Antenna w/ Mount Pipe	A	From Leg	4.000		
			0.000	0.0000	89.000
			2.000		
Sub6 Antenna w/ Mount Pipe	B	From Leg	4.000		
			0.000	0.0000	89.000
			2.000		
Sub6 Antenna w/ Mount Pipe	C	From Leg	4.000		
			0.000	0.0000	89.000
			2.000		
4449	A	From Leg	4.000		
			0.000	0.0000	89.000
			2.000		
4449	B	From Leg	4.000		
			0.000	0.0000	89.000
			2.000		
4449	C	From Leg	4.000		
			0.000	0.0000	89.000
			2.000		
(2) RADIO 4408	B	From Leg	4.000		
				0.0000	89.000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
			0.000		
RADIO 4408	C	From Leg	2.000		
			4.000	0.0000	89.000
			0.000		
RVZDC-6627-PF-48	B	From Leg	2.000		
			4.000	0.0000	89.000
			0.000		
RVZDC-6627-PF-48	C	From Leg	2.000		
			4.000	0.0000	89.000
			0.000		
BXA-70040-8CF-EDIN-X w/ Mount Pipe	A	From Leg	2.000		
			4.000	0.0000	89.000
			0.000		
BXA-70040-8CF-EDIN-X w/ Mount Pipe	C	From Leg	2.000		
			4.000	0.0000	89.000
			0.000		
BXA-70090-8CF-EDIN-X w/ Mount Pipe	B	From Leg	2.000		
			4.000	0.0000	89.000
			0.000		
T-Arm Mount [TA 602-3_KCKR] *** 80' ***	C	None	2.000	0.0000	89.000
(2) TMZXX-6516-R2M w/ Mount Pipe	A	From Leg	4.000	0.0000	80.000
			0.000		
(2) TMZXX-6516-R2M w/ Mount Pipe	B	From Leg	0.000		
			4.000	0.0000	80.000
			0.000		
(2) TMZXX-6516-R2M w/ Mount Pipe	C	From Leg	0.000		
			4.000	0.0000	80.000
			0.000		
FFHH-65C-R3 w/ Mount Pipe	A	From Leg	0.000		
			4.000	0.0000	80.000
			0.000		
FFHH-65C-R3 w/ Mount Pipe	B	From Leg	-2.000		
			4.000	0.0000	80.000
			0.000		
FFHH-65C-R3 w/ Mount Pipe	C	From Leg	-2.000		
			4.000	0.0000	80.000
			0.000		
FRIG	A	From Leg	-2.000		
			4.000	0.0000	80.000
			0.000		
FRIG	B	From Leg	0.000		
			4.000	0.0000	80.000
			0.000		
FRIG	C	From Leg	0.000		
			4.000	0.0000	80.000
			0.000		
FHFB	A	From Leg	0.000		
			4.000	0.0000	80.000
			0.000		
FHFB	B	From Leg	-2.000		
			4.000	0.0000	80.000
			0.000		
FHFB	C	From Leg	-2.000		
			4.000	0.0000	80.000
			0.000		
AHLOA	A	From Leg	-2.000		
			4.000	0.0000	80.000
			0.000		
AHLOA	B	From Leg	-2.000		
			4.000	0.0000	80.000
			0.000		
AHLOA	C	From Leg	-2.000		
			4.000	0.0000	80.000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
			0.000		
CBC6AE7LQ-DS-43	A	From Leg	-2.000	0.0000	80.000
			4.000		
			0.000		
CBC6AE7LQ-DS-43	B	From Leg	-2.000	0.0000	80.000
			4.000		
			0.000		
CBC6AE7LQ-DS-43	C	From Leg	-2.000	0.0000	80.000
			4.000		
			0.000		
FRLB	C	From Leg	-2.000	0.0000	80.000
			4.000		
			0.000		
RNSDC-7771-PF-48	C	From Leg	-2.000	0.0000	80.000
			4.000		
			0.000		
Platform Mount [LP 303-1] *** ***	C	None	0.000	0.0000	80.000
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.000	0.0000	111.000
			0.000		
			0.000		
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.000	0.0000	111.000
			0.000		
			0.000		
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.000	0.0000	111.000
			0.000		
			0.000		
TA08025-B604	A	From Leg	4.000	0.0000	111.000
			0.000		
			0.000		
TA08025-B604	B	From Leg	4.000	0.0000	111.000
			0.000		
			0.000		
TA08025-B604	C	From Leg	4.000	0.0000	111.000
			0.000		
			0.000		
TA08025-B605	A	From Leg	4.000	0.0000	111.000
			0.000		
			0.000		
TA08025-B605	B	From Leg	4.000	0.0000	111.000
			0.000		
			0.000		
TA08025-B605	C	From Leg	4.000	0.0000	111.000
			0.000		
			0.000		
RDIDC-9181-PF-48	A	From Leg	4.000	0.0000	111.000
			0.000		
			0.000		
(2) 8' x 2" Mount Pipe	A	From Leg	4.000	0.0000	111.000
			0.000		
			0.000		
(2) 8' x 2" Mount Pipe	B	From Leg	4.000	0.0000	111.000
			0.000		
			0.000		
(2) 8' x 2" Mount Pipe	C	From Leg	4.000	0.0000	111.000
			0.000		
			0.000		
Commscope MC-PK8-DSH	C	None	0.000	0.0000	111.000

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft
VHLP1-23	C	Paraboloid w/Shroud (HP)	From Leg	4.000 0.000 -3.000	-20.0000		122.000	1.275
VHLPX3-18-2WH	A	Paraboloid w/Shroud (HP)	From Leg	4.000 0.000 0.000	-90.0000		122.000	3.283

RADWIN 2000C	A	Paraboloid w/o Radome	From Leg	4.000 0.000 2.000	0.0000		122.000	1.218
(2) RADWIN 2000C	C	Paraboloid w/o Radome	From Leg	4.000 0.000 2.000	0.0000		122.000	1.218

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp

Comb. No.	Description
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service
51	1.2 Dead+1.0 Ev+1.0 Eh 0 deg
52	0.9 Dead-1.0 Ev+1.0 Eh 0 deg
53	1.2 Dead+1.0 Ev+1.0 Eh 30 deg
54	0.9 Dead-1.0 Ev+1.0 Eh 30 deg
55	1.2 Dead+1.0 Ev+1.0 Eh 60 deg
56	0.9 Dead-1.0 Ev+1.0 Eh 60 deg
57	1.2 Dead+1.0 Ev+1.0 Eh 90 deg
58	0.9 Dead-1.0 Ev+1.0 Eh 90 deg
59	1.2 Dead+1.0 Ev+1.0 Eh 120 deg
60	0.9 Dead-1.0 Ev+1.0 Eh 120 deg
61	1.2 Dead+1.0 Ev+1.0 Eh 150 deg
62	0.9 Dead-1.0 Ev+1.0 Eh 150 deg
63	1.2 Dead+1.0 Ev+1.0 Eh 180 deg
64	0.9 Dead-1.0 Ev+1.0 Eh 180 deg
65	1.2 Dead+1.0 Ev+1.0 Eh 210 deg
66	0.9 Dead-1.0 Ev+1.0 Eh 210 deg
67	1.2 Dead+1.0 Ev+1.0 Eh 240 deg
68	0.9 Dead-1.0 Ev+1.0 Eh 240 deg
69	1.2 Dead+1.0 Ev+1.0 Eh 270 deg
70	0.9 Dead-1.0 Ev+1.0 Eh 270 deg
71	1.2 Dead+1.0 Ev+1.0 Eh 300 deg
72	0.9 Dead-1.0 Ev+1.0 Eh 300 deg
73	1.2 Dead+1.0 Ev+1.0 Eh 330 deg
74	0.9 Dead-1.0 Ev+1.0 Eh 330 deg

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	120 - 80.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-28.81	-0.15	0.26
			Max. Mx	8	-13.59	-324.12	4.39
			Max. My	2	-13.60	-4.96	318.48
			Max. Vy	8	15.38	-324.12	4.39
			Max. Vx	2	-15.34	-4.96	318.48
			Max. Torque	10			2.36
L2	80.25 - 46	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.18	1.26	-2.45
			Max. Mx	8	-22.36	-964.76	12.95
			Max. My	14	-22.37	11.57	-956.12
			Max. Vy	8	20.77	-964.76	12.95
			Max. Vx	2	-20.69	-14.09	956.11
			Max. Torque	10			1.93
L3	46 - 25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.03	1.55	-3.98
			Max. Mx	8	-27.33	-1408.99	18.31
			Max. My	14	-27.33	16.76	-1398.71
			Max. Vy	8	22.17	-1408.99	18.31
			Max. Vx	2	-22.09	-19.99	1398.22
			Max. Torque	10			1.68
L4	25 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-63.21	1.95	-6.25
			Max. Mx	8	-36.92	-2103.35	25.86
			Max. My	14	-36.92	24.17	-2090.84

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	6	24.65	-1999.84	1151.42
			Max. Vx	2	-23.83	-28.38	2089.51
			Max. Torque	10			1.67

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	63.21	0.00	-0.00
	Max. H _x	18	36.93	24.50	-14.26
	Max. H _z	3	27.70	-0.28	23.81
	Max. M _x	2	2089.51	-0.28	23.81
	Max. M _z	8	2103.35	-23.88	0.27
	Max. Torsion	10	1.67	-20.66	-11.66
	Min. Vert	54	21.48	-3.08	5.33
	Min. H _x	6	36.93	-24.64	14.25
	Min. H _z	14	36.93	0.24	-23.78
	Min. M _x	14	-2090.84	0.24	-23.78
	Min. M _z	20	-2087.66	23.76	-0.20
	Min. Torsion	24	-1.13	11.77	20.44

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturing Moment, M _x kip-ft	Overturing Moment, M _z kip-ft	Torque kip-ft
Dead Only	30.78	0.00	0.00	1.77	0.21	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	36.93	0.28	-23.81	-2089.51	-28.38	0.65
0.9 Dead+1.0 Wind 0 deg - No Ice	27.70	0.28	-23.81	-2066.90	-28.12	0.64
1.2 Dead+1.0 Wind 30 deg - No Ice	36.93	12.27	-20.63	-1807.77	-1088.25	-0.58
0.9 Dead+1.0 Wind 30 deg - No Ice	27.70	12.27	-20.63	-1788.31	-1076.18	-0.58
1.2 Dead+1.0 Wind 60 deg - No Ice	36.93	24.64	-14.25	-1151.42	-1999.84	1.03
0.9 Dead+1.0 Wind 60 deg - No Ice	27.70	24.64	-14.25	-1139.66	-1978.45	1.03
1.2 Dead+1.0 Wind 90 deg - No Ice	36.93	23.88	-0.27	-25.86	-2103.35	-1.46
0.9 Dead+1.0 Wind 90 deg - No Ice	27.70	23.88	-0.27	-26.10	-2080.06	-1.45
1.2 Dead+1.0 Wind 120 deg - No Ice	36.93	20.66	11.66	1023.15	-1822.00	-1.67
0.9 Dead+1.0 Wind 120 deg - No Ice	27.70	20.66	11.66	1011.28	-1801.81	-1.66
1.2 Dead+1.0 Wind 150 deg - No Ice	36.93	11.83	20.45	1795.52	-1042.40	-1.56
0.9 Dead+1.0 Wind 150 deg - No Ice	27.70	11.83	20.45	1775.10	-1030.87	-1.55
1.2 Dead+1.0 Wind 180 deg - No Ice	36.93	-0.24	23.78	2090.84	24.17	-0.22
0.9 Dead+1.0 Wind 180 deg - No Ice	27.70	-0.24	23.78	2067.15	23.83	-0.21
1.2 Dead+1.0 Wind 210 deg - No Ice	36.93	-12.09	20.68	1818.05	1065.56	0.46
0.9 Dead+1.0 Wind 210 deg - No Ice	27.70	-12.09	20.68	1797.37	1053.68	0.47
1.2 Dead+1.0 Wind 240 deg	36.93	-24.50	14.26	1156.29	1982.66	-1.34

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
- No Ice						
0.9 Dead+1.0 Wind 240 deg	27.70	-24.50	14.26	1143.38	1961.38	-1.34
- No Ice						
1.2 Dead+1.0 Wind 270 deg	36.93	-23.76	0.20	20.42	2087.66	0.87
- No Ice						
0.9 Dead+1.0 Wind 270 deg	27.70	-23.76	0.20	19.66	2064.47	0.87
- No Ice						
1.2 Dead+1.0 Wind 300 deg	36.93	-20.51	-11.66	-1018.23	1803.19	1.07
- No Ice						
0.9 Dead+1.0 Wind 300 deg	27.70	-20.51	-11.66	-1007.51	1783.12	1.06
- No Ice						
1.2 Dead+1.0 Wind 330 deg	36.93	-11.77	-20.44	-1789.77	1035.26	1.13
- No Ice						
0.9 Dead+1.0 Wind 330 deg	27.70	-11.77	-20.44	-1770.51	1023.69	1.12
- No Ice						
1.2 Dead+1.0 Ice+1.0 Temp	63.21	-0.00	0.00	6.25	1.95	-0.00
1.2 Dead+1.0 Wind 0	63.21	0.03	-2.84	-260.72	-1.00	0.13
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 30	63.21	1.46	-2.46	-224.69	-135.88	0.02
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 60	63.21	2.78	-1.61	-136.25	-245.43	0.07
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 90	63.21	2.85	-0.03	3.53	-266.41	-0.11
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 120	63.21	2.47	1.40	137.44	-230.63	-0.16
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 150	63.21	1.41	2.45	235.83	-131.25	-0.19
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 180	63.21	-0.02	2.84	273.10	4.25	-0.09
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 210	63.21	-1.44	2.47	238.05	137.32	-0.03
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 240	63.21	-2.77	1.61	149.07	247.52	-0.10
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 270	63.21	-2.84	0.02	8.05	268.67	0.05
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 300	63.21	-2.45	-1.40	-124.70	232.53	0.11
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 330	63.21	-1.41	-2.44	-222.90	134.49	0.15
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	30.78	0.08	-7.09	-617.08	-8.26	0.19
Dead+Wind 30 deg - Service	30.78	3.65	-6.14	-533.73	-321.85	-0.18
Dead+Wind 60 deg - Service	30.78	7.34	-4.25	-339.62	-591.76	0.30
Dead+Wind 90 deg - Service	30.78	7.11	-0.08	-6.48	-622.21	-0.44
Dead+Wind 120 deg - Service	30.78	6.15	3.47	303.91	-538.95	-0.49
Dead+Wind 150 deg - Service	30.78	3.52	6.09	532.44	-308.28	-0.46
Dead+Wind 180 deg - Service	30.78	-0.07	7.08	619.83	7.29	-0.06
Dead+Wind 210 deg - Service	30.78	-3.60	6.16	539.11	315.42	0.14
Dead+Wind 240 deg - Service	30.78	-7.30	4.25	343.41	586.96	-0.40
Dead+Wind 270 deg - Service	30.78	-7.07	0.06	7.22	617.85	0.26
Dead+Wind 300 deg - Service	30.78	-6.11	-3.47	-300.10	533.66	0.32
Dead+Wind 330 deg - Service	30.78	-3.50	-6.09	-528.38	306.44	0.34
1.2 Dead+1.0 Ev+1.0 Eh 0	43.15	0.00	-6.15	-637.15	0.26	0.01
deg						
0.9 Dead-1.0 Ev+1.0 Eh 0	21.48	0.00	-6.15	-620.10	0.19	0.01
deg						
1.2 Dead+1.0 Ev+1.0 Eh 30	43.15	3.08	-5.33	-551.49	-319.42	0.01
deg						
0.9 Dead-1.0 Ev+1.0 Eh 30	21.48	3.08	-5.33	-536.80	-310.67	0.01
deg						
1.2 Dead+1.0 Ev+1.0 Eh 60	43.15	5.33	-3.08	-317.46	-553.45	-0.00

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
deg						
0.9 Dead-1.0 Ev+1.0 Eh 60	21.48	5.33	-3.08	-309.24	-538.24	-0.00
deg						
1.2 Dead+1.0 Ev+1.0 Eh 90	43.15	6.15	0.00	2.22	-639.11	-0.01
deg						
0.9 Dead-1.0 Ev+1.0 Eh 90	21.48	6.15	0.00	1.63	-621.54	-0.01
deg						
1.2 Dead+1.0 Ev+1.0 Eh 120	43.15	5.33	3.08	321.91	-553.45	-0.02
deg						
0.9 Dead-1.0 Ev+1.0 Eh 120	21.48	5.33	3.08	312.49	-538.24	-0.01
deg						
1.2 Dead+1.0 Ev+1.0 Eh 150	43.15	3.08	5.33	555.93	-319.42	-0.02
deg						
0.9 Dead-1.0 Ev+1.0 Eh 150	21.48	3.08	5.33	540.06	-310.67	-0.01
deg						
1.2 Dead+1.0 Ev+1.0 Eh 180	43.15	0.00	6.15	641.59	0.26	-0.01
deg						
0.9 Dead-1.0 Ev+1.0 Eh 180	21.48	0.00	6.15	623.36	0.19	-0.01
deg						
1.2 Dead+1.0 Ev+1.0 Eh 210	43.15	-3.08	5.33	555.93	319.95	-0.01
deg						
0.9 Dead-1.0 Ev+1.0 Eh 210	21.48	-3.08	5.33	540.06	311.06	-0.01
deg						
1.2 Dead+1.0 Ev+1.0 Eh 240	43.15	-5.33	3.08	321.91	553.97	0.00
deg						
0.9 Dead-1.0 Ev+1.0 Eh 240	21.48	-5.33	3.08	312.49	538.63	0.00
deg						
1.2 Dead+1.0 Ev+1.0 Eh 270	43.15	-6.15	0.00	2.22	639.63	0.01
deg						
0.9 Dead-1.0 Ev+1.0 Eh 270	21.48	-6.15	0.00	1.63	621.92	0.01
deg						
1.2 Dead+1.0 Ev+1.0 Eh 300	43.15	-5.33	-3.08	-317.46	553.98	0.02
deg						
0.9 Dead-1.0 Ev+1.0 Eh 300	21.48	-5.33	-3.08	-309.24	538.63	0.01
deg						
1.2 Dead+1.0 Ev+1.0 Eh 330	43.15	-3.08	-5.33	-551.49	319.95	0.02
deg						
0.9 Dead-1.0 Ev+1.0 Eh 330	21.48	-3.08	-5.33	-536.80	311.06	0.01
deg						

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-30.78	0.00	0.00	30.78	0.00	0.000%
2	0.28	-36.93	-23.81	-0.28	36.93	23.81	0.000%
3	0.28	-27.70	-23.81	-0.28	27.70	23.81	0.000%
4	12.27	-36.93	-20.63	-12.27	36.93	20.63	0.000%
5	12.27	-27.70	-20.63	-12.27	27.70	20.63	0.000%
6	24.64	-36.93	-14.25	-24.64	36.93	14.25	0.000%
7	24.64	-27.70	-14.25	-24.64	27.70	14.25	0.000%
8	23.88	-36.93	-0.27	-23.88	36.93	0.27	0.000%
9	23.88	-27.70	-0.27	-23.88	27.70	0.27	0.000%
10	20.66	-36.93	11.66	-20.66	36.93	-11.66	0.000%
11	20.66	-27.70	11.66	-20.66	27.70	-11.66	0.000%
12	11.83	-36.93	20.45	-11.83	36.93	-20.45	0.000%
13	11.83	-27.70	20.45	-11.83	27.70	-20.45	0.000%
14	-0.24	-36.93	23.78	0.24	36.93	-23.78	0.000%
15	-0.24	-27.70	23.78	0.24	27.70	-23.78	0.000%
16	-12.09	-36.93	20.68	12.09	36.93	-20.68	0.000%
17	-12.09	-27.70	20.68	12.09	27.70	-20.68	0.000%
18	-24.50	-36.93	14.26	24.50	36.93	-14.26	0.000%
19	-24.50	-27.70	14.26	24.50	27.70	-14.26	0.000%
20	-23.76	-36.93	0.20	23.76	36.93	-0.20	0.000%
21	-23.76	-27.70	0.20	23.76	27.70	-0.20	0.000%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
22	-20.51	-36.93	-11.66	20.51	36.93	11.66	0.000%
23	-20.51	-27.70	-11.66	20.51	27.70	11.66	0.000%
24	-11.77	-36.93	-20.44	11.77	36.93	20.44	0.000%
25	-11.77	-27.70	-20.44	11.77	27.70	20.44	0.000%
26	0.00	-63.21	0.00	0.00	63.21	-0.00	0.000%
27	0.03	-63.21	-2.84	-0.03	63.21	2.84	0.000%
28	1.46	-63.21	-2.46	-1.46	63.21	2.46	0.000%
29	2.78	-63.21	-1.61	-2.78	63.21	1.61	0.000%
30	2.85	-63.21	-0.03	-2.85	63.21	0.03	0.000%
31	2.47	-63.21	1.40	-2.47	63.21	-1.40	0.000%
32	1.41	-63.21	2.45	-1.41	63.21	-2.45	0.000%
33	-0.02	-63.21	2.84	0.02	63.21	-2.84	0.000%
34	-1.44	-63.21	2.47	1.44	63.21	-2.47	0.000%
35	-2.77	-63.21	1.61	2.77	63.21	-1.61	0.000%
36	-2.84	-63.21	0.02	2.84	63.21	-0.02	0.000%
37	-2.45	-63.21	-1.40	2.45	63.21	1.40	0.000%
38	-1.41	-63.21	-2.44	1.41	63.21	2.44	0.000%
39	0.08	-30.78	-7.09	-0.08	30.78	7.09	0.000%
40	3.65	-30.78	-6.14	-3.65	30.78	6.14	0.000%
41	7.34	-30.78	-4.25	-7.34	30.78	4.25	0.000%
42	7.11	-30.78	-0.08	-7.11	30.78	0.08	0.000%
43	6.15	-30.78	3.47	-6.15	30.78	-3.47	0.000%
44	3.52	-30.78	6.09	-3.52	30.78	-6.09	0.000%
45	-0.07	-30.78	7.08	0.07	30.78	-7.08	0.000%
46	-3.60	-30.78	6.16	3.60	30.78	-6.16	0.000%
47	-7.30	-30.78	4.25	7.30	30.78	-4.25	0.000%
48	-7.07	-30.78	0.06	7.07	30.78	-0.06	0.000%
49	-6.11	-30.78	-3.47	6.11	30.78	3.47	0.000%
50	-3.50	-30.78	-6.09	3.50	30.78	6.09	0.000%
51	0.00	-43.15	-6.15	0.00	43.15	6.15	0.000%
52	0.00	-21.48	-6.15	0.00	21.48	6.15	0.000%
53	3.08	-43.15	-5.33	-3.08	43.15	5.33	0.000%
54	3.08	-21.48	-5.33	-3.08	21.48	5.33	0.000%
55	5.33	-43.15	-3.08	-5.33	43.15	3.08	0.000%
56	5.33	-21.48	-3.08	-5.33	21.48	3.08	0.000%
57	6.15	-43.15	0.00	-6.15	43.15	-0.00	0.000%
58	6.15	-21.48	0.00	-6.15	21.48	0.00	0.000%
59	5.33	-43.15	3.08	-5.33	43.15	-3.08	0.000%
60	5.33	-21.48	3.08	-5.33	21.48	-3.08	0.000%
61	3.08	-43.15	5.33	-3.08	43.15	-5.33	0.000%
62	3.08	-21.48	5.33	-3.08	21.48	-5.33	0.000%
63	0.00	-43.15	6.15	0.00	43.15	-6.15	0.000%
64	0.00	-21.48	6.15	0.00	21.48	-6.15	0.000%
65	-3.08	-43.15	5.33	3.08	43.15	-5.33	0.000%
66	-3.08	-21.48	5.33	3.08	21.48	-5.33	0.000%
67	-5.33	-43.15	3.08	5.33	43.15	-3.08	0.000%
68	-5.33	-21.48	3.08	5.33	21.48	-3.08	0.000%
69	-6.15	-43.15	0.00	6.15	43.15	-0.00	0.000%
70	-6.15	-21.48	0.00	6.15	21.48	0.00	0.000%
71	-5.33	-43.15	-3.08	5.33	43.15	3.08	0.000%
72	-5.33	-21.48	-3.08	5.33	21.48	3.08	0.000%
73	-3.08	-43.15	-5.33	3.08	43.15	5.33	0.000%
74	-3.08	-21.48	-5.33	3.08	21.48	5.33	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00006572
3	Yes	4	0.00000001	0.00075901
4	Yes	5	0.00000001	0.00086292
5	Yes	5	0.00000001	0.00039305
6	Yes	5	0.00000001	0.00094698
7	Yes	5	0.00000001	0.00042421

8	Yes	5	0.00000001	0.00010433
9	Yes	5	0.00000001	0.00004966
10	Yes	5	0.00000001	0.00079269
11	Yes	5	0.00000001	0.00036162
12	Yes	5	0.00000001	0.00087502
13	Yes	5	0.00000001	0.00040262
14	Yes	4	0.00000001	0.00050955
15	Yes	4	0.00000001	0.00023765
16	Yes	5	0.00000001	0.00087178
17	Yes	5	0.00000001	0.00039857
18	Yes	5	0.00000001	0.00093009
19	Yes	5	0.00000001	0.00041674
20	Yes	4	0.00000001	0.00071578
21	Yes	4	0.00000001	0.00041432
22	Yes	5	0.00000001	0.00084803
23	Yes	5	0.00000001	0.00039064
24	Yes	5	0.00000001	0.00079287
25	Yes	5	0.00000001	0.00036318
26	Yes	4	0.00000001	0.00004819
27	Yes	5	0.00000001	0.00022346
28	Yes	5	0.00000001	0.00023113
29	Yes	5	0.00000001	0.00024020
30	Yes	5	0.00000001	0.00022740
31	Yes	5	0.00000001	0.00023484
32	Yes	5	0.00000001	0.00023509
33	Yes	5	0.00000001	0.00023113
34	Yes	5	0.00000001	0.00023935
35	Yes	5	0.00000001	0.00024634
36	Yes	5	0.00000001	0.00022885
37	Yes	5	0.00000001	0.00023115
38	Yes	5	0.00000001	0.00022881
39	Yes	4	0.00000001	0.00011700
40	Yes	4	0.00000001	0.00050491
41	Yes	4	0.00000001	0.00059736
42	Yes	4	0.00000001	0.00017232
43	Yes	4	0.00000001	0.00045051
44	Yes	4	0.00000001	0.00056836
45	Yes	4	0.00000001	0.00009212
46	Yes	4	0.00000001	0.00053424
47	Yes	4	0.00000001	0.00058273
48	Yes	4	0.00000001	0.00011602
49	Yes	4	0.00000001	0.00053462
50	Yes	4	0.00000001	0.00045132
51	Yes	4	0.00000001	0.00020571
52	Yes	4	0.00000001	0.00004674
53	Yes	4	0.00000001	0.00097959
54	Yes	4	0.00000001	0.00042025
55	Yes	4	0.00000001	0.00097683
56	Yes	4	0.00000001	0.00041927
57	Yes	4	0.00000001	0.00020627
58	Yes	4	0.00000001	0.00004680
59	Yes	4	0.00000001	0.00098663
60	Yes	4	0.00000001	0.00042240
61	Yes	4	0.00000001	0.00099051
62	Yes	4	0.00000001	0.00042394
63	Yes	4	0.00000001	0.00020696
64	Yes	4	0.00000001	0.00004693
65	Yes	4	0.00000001	0.00098681
66	Yes	4	0.00000001	0.00042250
67	Yes	4	0.00000001	0.00098961
68	Yes	4	0.00000001	0.00042348
69	Yes	4	0.00000001	0.00020632
70	Yes	4	0.00000001	0.00004681
71	Yes	4	0.00000001	0.00097984
72	Yes	4	0.00000001	0.00042037
73	Yes	4	0.00000001	0.00097600
74	Yes	4	0.00000001	0.00041883

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	120 - 80.25	21.511	41	1.4980	0.0069
L2	84.25 - 46	10.994	41	1.2362	0.0020
L3	50.75 - 25	3.888	41	0.7284	0.0007
L4	30.0833 - 0	1.362	41	0.4052	0.0003

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
124.000	RADWIN 2000C	41	21.511	1.4980	0.0093	31429
122.000	VHLPX3-18-2WH	41	21.511	1.4980	0.0093	31429
120.000	5/8-in x 5-ft L-Rod	41	21.511	1.4980	0.0093	31429
119.000	VHLP1-23	41	21.200	1.4928	0.0091	31429
115.125	CCISeismic Tower Section 1 - 1	41	19.999	1.4724	0.0082	31429
115.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (110ft to120ft)	41	19.960	1.4717	0.0082	31429
111.000	MX08FRO665-21 w/ Mount Pipe	41	18.726	1.4499	0.0074	17460
110.500	CCISeismic miscl 2" Flexible Conduit From 0 to 111 (110ft to111ft)	41	18.572	1.4471	0.0073	16541
105.250	CCISeismic Tower Section 1 - 2	41	16.972	1.4158	0.0062	10653
105.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (100ft to110ft)	41	16.897	1.4142	0.0061	10476
95.250	CCISeismic Tower Section 1 - 3	41	14.020	1.3439	0.0043	6348
95.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (90ft to100ft)	41	13.948	1.3419	0.0043	6285
90.000	RRUS 32 B2	41	12.541	1.2970	0.0035	5237
89.000	MX06FRO840-02 w/ Mount Pipe	41	12.266	1.2872	0.0033	5068
85.250	CCISeismic Tower Section 1 - 4	41	11.257	1.2476	0.0029	4562
85.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (80ft to90ft)	41	11.191	1.2448	0.0028	4538
84.500	CCISeismic andrew LDF7-50A(1- 5/8) From 0 to 89 (80ft to89ft)	41	11.059	1.2391	0.0028	4492
80.125	CCISeismic Tower Section 2 - 1	41	9.938	1.1857	0.0023	4267
80.000	(2) TMZXX-6516-R2M w/ Mount Pipe	41	9.907	1.1841	0.0023	4263
75.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (70ft to80ft)	41	8.693	1.1159	0.0019	4117
71.000	CCISeismic Tower Section 2 - 2	41	7.775	1.0570	0.0017	4007
65.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (60ft to70ft)	41	6.488	0.9631	0.0014	3854
61.000	CCISeismic Tower Section 2 - 3	41	5.692	0.8981	0.0013	3757
55.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (50ft to60ft)	41	4.594	0.7988	0.0011	3622
51.000	CCISeismic Tower Section 2 - 4	41	3.928	0.7326	0.0010	3535
47.875	CCISeismic Tower Section 3 - 1	41	3.445	0.6814	0.0009	3467
45.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (40ft to50ft)	41	3.031	0.6349	0.0009	3404
40.000	CCISeismic Tower Section 3 - 2	41	2.381	0.5556	0.0007	3300
35.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (30ft to40ft)	41	1.821	0.4785	0.0006	3203
30.042	CCISeismic Tower Section 4 - 1	41	1.359	0.4046	0.0005	3219
30.000	CCISeismic Tower Section 3 - 3	41	1.355	0.4040	0.0005	3221
25.000	CCISeismic Tower Section 4 - 2	41	0.982	0.3323	0.0003	3745
15.000	CCISeismic Tower Section 4 - 3	41	0.461	0.1955	0.0002	6241
5.000	CCISeismic Tower Section 4 - 4	41	0.132	0.0645	0.0001	18724

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	120 - 80.25	72.803	6	5.0734	0.0238
L2	84.25 - 46	37.225	6	4.1917	0.0067
L3	50.75 - 25	13.162	6	2.4679	0.0023
L4	30.0833 - 0	4.610	6	1.3719	0.0011

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
124.000	RADWIN 2000C	6	72.803	5.0734	0.0307	9426
122.000	VHLPX3-18-2WH	6	72.803	5.0734	0.0307	9426
120.000	5/8-in x 5-ft L-Rod	6	72.803	5.0734	0.0307	9426
119.000	VHLP1-23	6	71.753	5.0559	0.0300	9426
115.125	CCISeismic Tower Section 1 - 1	6	67.689	4.9877	0.0272	9426
115.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (110ft to120ft)	6	67.559	4.9855	0.0271	9426
111.000	MX08FRO665-21 w/ Mount Pipe	6	63.384	4.9123	0.0243	5236
110.500	CCISeismic miscl 2" Flexible Conduit From 0 to 111 (110ft to111ft)	6	62.865	4.9029	0.0239	4960
105.250	CCISeismic Tower Section 1 - 2	6	57.453	4.7980	0.0204	3194
105.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (100ft to110ft)	6	57.198	4.7927	0.0202	3140
95.250	CCISeismic Tower Section 1 - 3	6	47.465	4.5561	0.0142	1901
95.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (90ft to100ft)	6	47.223	4.5491	0.0141	1882
90.000	RRUS 32 B2	6	42.461	4.3976	0.0115	1567
89.000	MX06FRO840-02 w/ Mount Pipe	6	41.530	4.3644	0.0110	1517
85.250	CCISeismic Tower Section 1 - 4	6	38.115	4.2302	0.0094	1364
85.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (80ft to90ft)	6	37.892	4.2207	0.0093	1357
84.500	CCISeismic andrew LDF7-50A(1- 5/8) From 0 to 89 (80ft to89ft)	6	37.447	4.2014	0.0091	1343
80.125	CCISeismic Tower Section 2 - 1	6	33.652	4.0206	0.0077	1274
80.000	(2) TMZXX-6516-R2M w/ Mount Pipe	6	33.546	4.0151	0.0076	1273
75.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (70ft to80ft)	6	29.437	3.7837	0.0063	1227
71.000	CCISeismic Tower Section 2 - 2	6	26.327	3.5836	0.0055	1192
65.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (60ft to70ft)	6	21.968	3.2649	0.0047	1144
61.000	CCISeismic Tower Section 2 - 3	6	19.271	3.0439	0.0042	1114
55.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (50ft to60ft)	6	15.552	2.7066	0.0037	1072
51.000	CCISeismic Tower Section 2 - 4	6	13.296	2.4819	0.0034	1045
47.875	CCISeismic Tower Section 3 - 1	6	11.662	2.3082	0.0031	1025
45.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (40ft to50ft)	6	10.260	2.1505	0.0029	1006
40.000	CCISeismic Tower Section 3 - 2	6	8.057	1.8815	0.0024	976
35.000	CCISeismic miscl Safety Line 3/8 From 0 to 120 (30ft to40ft)	6	6.163	1.6202	0.0020	947
30.042	CCISeismic Tower Section 4 - 1	6	4.598	1.3698	0.0015	951
30.000	CCISeismic Tower Section 3 - 3	6	4.586	1.3677	0.0015	952
25.000	CCISeismic Tower Section 4 - 2	6	3.324	1.1247	0.0012	1107
15.000	CCISeismic Tower Section 4 - 3	6	1.561	0.6617	0.0006	1844
5.000	CCISeismic Tower Section 4 - 4	6	0.448	0.2184	0.0002	5531

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L1	120 - 80.25 (1)	TP27.973x20.5x0.25	39.750	0.000	0.0	21.711 7	-13.52	977.02	0.014
L2	80.25 - 46 (2)	TP33.78x26.721x0.3125	38.250	0.000	0.0	32.794 6	-22.22	1918.48	0.012
L3	46 - 25 (3)	TP36.971x32.2784x0.375	25.750	0.000	0.0	43.071 1	-27.21	2519.66	0.011
L4	25 - 0 (4)	TP40.789x35.2946x0.5	30.083	0.000	0.0	64.865 3	-36.92	2918.94	0.013

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{nx} kip-ft	Ratio M _{ux} / φM _{nx}	M _{uy} kip-ft	φM _{ny} kip-ft	Ratio M _{uy} / φM _{ny}
L1	120 - 80.25 (1)	TP27.973x20.5x0.25	326.40	644.04	0.507	0.00	644.04	0.000
L2	80.25 - 46 (2)	TP33.78x26.721x0.3125	999.98	1475.18	0.678	0.00	1475.18	0.000
L3	46 - 25 (3)	TP36.971x32.2784x0.375	1497.08	2193.85	0.682	0.00	2193.85	0.000
L4	25 - 0 (4)	TP40.789x35.2946x0.5	2307.63	3005.38	0.768	0.00	3005.38	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V _u K	φV _n K	Ratio V _u / φV _n	Actual T _u kip-ft	φT _n kip-ft	Ratio T _u / φT _n
L1	120 - 80.25 (1)	TP27.973x20.5x0.25	15.60	293.11	0.053	1.02	695.38	0.001
L2	80.25 - 46 (2)	TP33.78x26.721x0.3125	22.75	575.54	0.040	0.30	1649.97	0.000
L3	46 - 25 (3)	TP36.971x32.2784x0.375	25.30	755.90	0.033	0.29	2371.71	0.000
L4	25 - 0 (4)	TP40.789x35.2946x0.5	28.48	875.68	0.033	1.03	3103.36	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P _u φP _n	Ratio M _{ux} φM _{nx}	Ratio M _{uy} φM _{ny}	Ratio V _u φV _n	Ratio T _u φT _n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	120 - 80.25 (1)	0.014	0.507	0.000	0.053	0.001	0.524	1.050	4.8.2
L2	80.25 - 46 (2)	0.012	0.678	0.000	0.040	0.000	0.691	1.050	4.8.2
L3	46 - 25 (3)	0.011	0.682	0.000	0.033	0.000	0.694	1.050	4.8.2
L4	25 - 0 (4)	0.013	0.768	0.000	0.033	0.000	0.782	1.050	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	120 - 80.25	Pole	TP27.973x20.5x0.25	1	-13.52	1025.88	49.9	Pass
L2	80.25 - 46	Pole	TP33.78x26.721x0.3125	2	-22.22	2014.40	65.8	Pass
L3	46 - 25	Pole	TP36.971x32.2784x0.375	3	-27.21	2645.64	66.1	Pass
L4	25 - 0	Pole	TP40.789x35.2946x0.5	4	-36.92	3064.89	74.4	Pass
							Summary	
							Pole (L4)	74.4
							RATING =	74.4
								Pass

APPENDIX B
BASE LEVEL DRAWING



(OTHER CONSIDERED EQUIPMENT)
(5) 1/4" TO 122 FT LEVEL
(1) 7/8" TO 122 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(1) 1/4" TO 122 FT LEVEL
(3) 1-7/16" TO 122 FT LEVEL
(2) 1-1/2" TO 122 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(1) 1-5/8" TO 89 FT LEVEL

CLIMBING PEGS
W/ SAFETY CLIMB

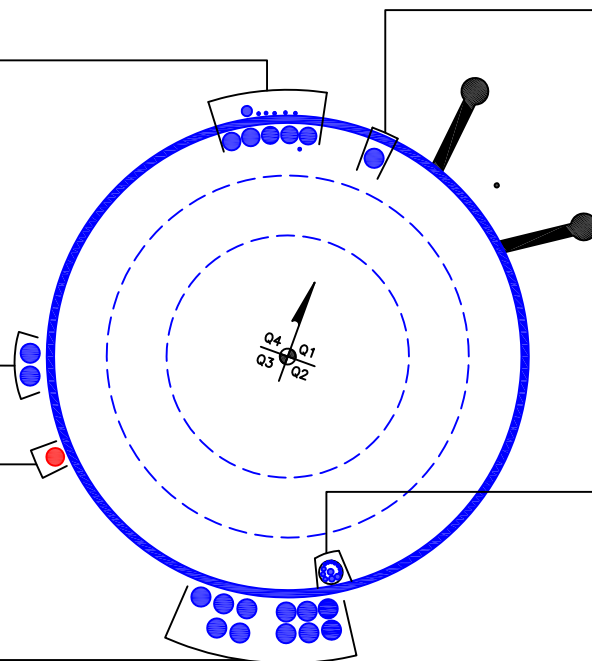
(OTHER CONSIDERED EQUIPMENT)
(2) 1-5/8" TO 89 FT LEVEL

(PROPOSED EQUIPMENT CONFIGURATION)
(1) 1-1/2" TO 111 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(7) 1/4" TO 111 FT LEVEL
(3) 3/8" TO 111 FT LEVEL
(3) 1/2" TO 111 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(5) 1-5/8" TO 89 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(6) 1-5/8" TO 80 FT LEVEL



APPENDIX C

ADDITIONAL CALCULATIONS

Monopole Base Plate Connection

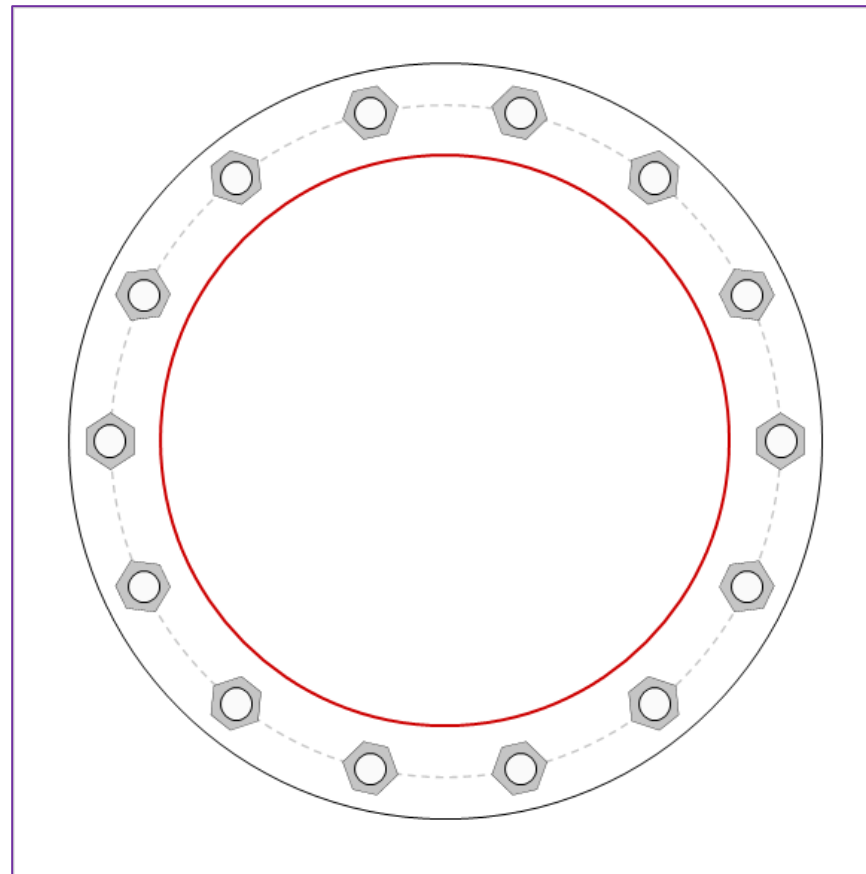


Site Info	
BU #	880329
Site Name	SOUTH HILL MALL
Order #	564913 Rev.1

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
I_{ar} (in)	1.125

Applied Loads	
Moment (kip-ft)	2307.63
Axial Force (kips)	36.92
Shear Force (kips)	28.48

*TIA-222-H Section 15.5 Applied



Connection Properties		Analysis Results	
Anchor Rod Data		Anchor Rod Summary <i>(units of kips, kip-in)</i>	
(14) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 48" BC		$Pu_t = 162.05$	$\phi Pn_t = 243.75$ Stress Rating
Base Plate Data		$Vu = 2.03$	$\phi Vn = 149.1$ 63.3%
54" OD x 2.25" Plate (A572-50; $F_y=50$ ksi, $F_u=65$ ksi)		$Mu = n/a$	$\phi Mn = n/a$ Pass
Stiffener Data		Base Plate Summary	
N/A		Max Stress (ksi):	30.61 (Flexural)
Pole Data		Allowable Stress (ksi):	45
40.789" x 0.5" 12-sided pole (A572-50; $F_y=50$ ksi, $F_u=65$ ksi)		Stress Rating:	64.8% Pass

Monopole Base Plate Connection - Seismic



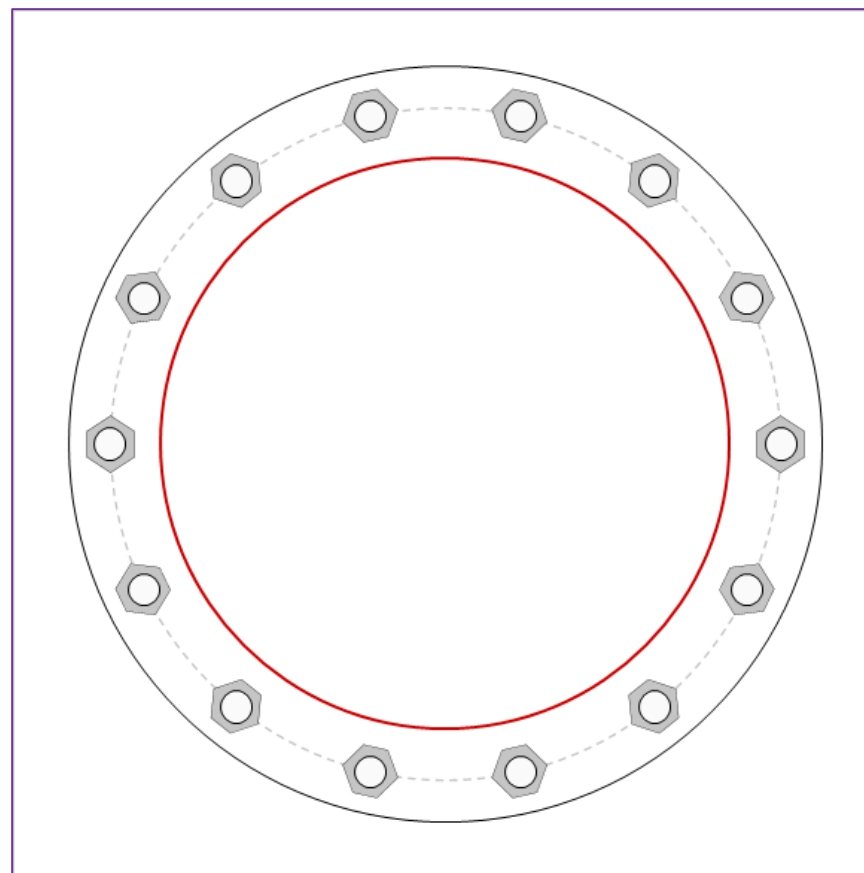
Site Info	
BU #	880329
Site Name	SOUTH HILL MALL
Order #	564913 Rev.1

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1.125

Applied Loads	
Moment (kip-ft)	641.59
Axial Force (kips)	43.15
Shear Force (kips)	6.15

*TIA-222-H Section 15.5 Applied

*1.5 Overstrength Factor Applied



Connection Properties

Anchor Rod Data

(14) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 48" BC

Base Plate Data

54" OD x 2.25" Plate (A572-50; $F_y=50$ ksi, $F_u=65$ ksi)

Stiffener Data

N/A

Pole Data

40.789" x 0.5" 12-sided pole (A572-50; $F_y=50$ ksi, $F_u=65$ ksi)

Analysis Results

Anchor Rod Summary

(units of kips, kip-in)

$P_{u,t} = 65.6$	$\phi P_{n,t} = 243.75$	Stress Rating
$V_u = 0.66$	$\phi V_n = 149.1$	25.6%
$M_u = n/a$	$\phi M_n = n/a$	Pass

Base Plate Summary

Max Stress (ksi):	8.95	(Flexural)
Allowable Stress (ksi):	45	
Stress Rating:	18.9%	Pass

Drilled Pier Foundation

BU # :	880329
Site Name:	SOUTH HILL MALL
Order Number:	564913 Rev.1
TIA-222 Revision:	H
Tower Type:	Monopole

Applied Loads		
	Comp.	Uplift
Moment (kip-ft)	2307.62	
Axial Force (kips)	36.93	
Shear Force (kips)	28.46	

Material Properties		
Concrete Strength, f'c:	4	ksi
Rebar Strength, Fy:	60	ksi
Tie Yield Strength, Fyt:	40	ksi

Pier Design Data		
Depth	18.5	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
From 0.5' above grade to 18.5' below grade		
Pier Diameter	6	ft
Rebar Quantity	42	
Rebar Size	11	
Clear Cover to Ties	3	in
Tie Size	5	
Tie Spacing	18	in

[Rebar & Pier Options](#)

[Embedded Pole Inputs](#)

[Belled Pier Inputs](#)

Analysis Results		
Soil Lateral Check	Compression	Uplift
D _{v=0} (ft from TOC)	5.51	-
Soil Safety Factor	2.01	-
Max Moment (kip-ft)	2454.31	-
Rating*	63.1%	-
Soil Vertical Check	Compression	Uplift
Skin Friction (kips)	170.42	-
End Bearing (kips)	3526.52	-
Weight of Concrete (kips)	82.92	-
Total Capacity (kips)	3696.94	-
Axial (kips)	119.85	-
Rating*	3.1%	-
Reinforced Concrete Flexure	Compression	Uplift
Critical Depth (ft from TOC)	5.42	-
Critical Moment (kip-ft)	2454.22	-
Critical Moment Capacity	8133.98	-
Rating*	28.7%	-
Reinforced Concrete Shear	Compression	Uplift
Critical Depth (ft from TOC)	13.42	-
Critical Shear (kip)	378.42	-
Critical Shear Capacity	579.43	-
Rating*	62.2%	-

Structural Foundation Rating*	62.2%
Soil Interaction Rating*	63.1%

*Rating per TIA-222-H Section 15.5



Check Limitation	
Apply TIA-222-H Section 15.5:	☒
N/A	☐
Additional Longitudinal Rebar	
Input Effective Depths (else Actual):	☐
Shear Design Options	
Check Shear along Depth of Pier:	☒
Utilize Shear-Friction Methodology:	☐
Override Critical Depth:	☐

[Go to Soil Calculations](#)

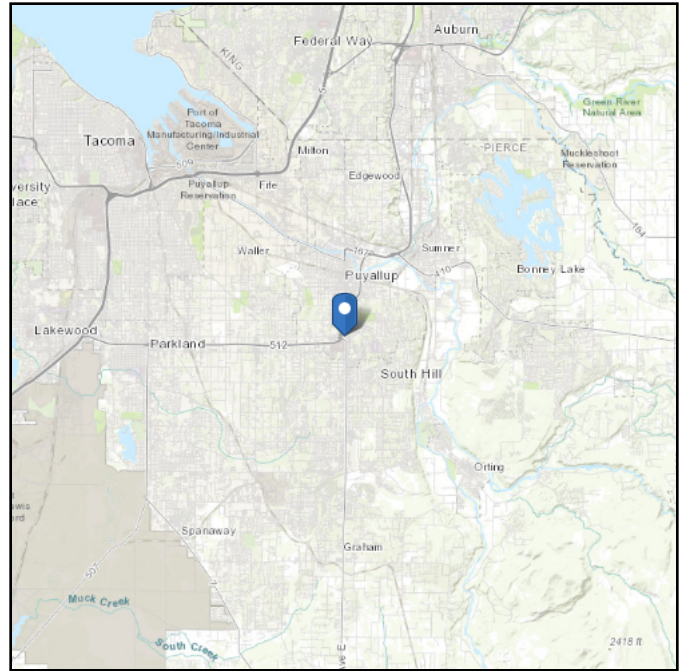
Soil Profile														
Groundwater Depth		12	# of Layers		7									
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	Y _{soil} (pcf)	Y _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	2	2	100	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	2	3	1	113	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
3	3	7.5	4.5	113	150		35	0.000	0.000	0.25	0.25			Cohesionless
4	7.5	12	4.5	118	150		45	0.000	0.000	0.74	0.74			Cohesionless
5	12	12.5	0.5	55.6	87.6		45	0.000	0.000	0.74	0.74			Cohesionless
6	12.5	17.5	5	55.6	87.6		45	0.000	0.000	1.14	1.14			Cohesionless
7	17.5	18.5	1	55.6	87.6		45	0.00	0.00	1.53	1.53	166.3		Cohesionless

ASCE 7 Hazards Report

Address:
No Address at This
Location

Standard: ASCE/SEI 7-16
Risk Category: III
Soil Class: D - Default (see
Section 11.4.3)

Elevation: 442.51 ft (NAVD 88)
Latitude: 47.162072
Longitude: -122.294456



Wind

Results:

Wind Speed:	104 Vmph
10-year MRI	67 Vmph
25-year MRI	73 Vmph
50-year MRI	78 Vmph
100-year MRI	83 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1C and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Sat Aug 21 2021

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 3% probability of exceedance in 50 years (annual exceedance probability = 0.000588, MRI = 1,700 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_S :	1.264	S_{D1} :	N/A
S_1 :	0.436	T_L :	6
F_a :	1.2	PGA :	0.5
F_v :	N/A	PGA_M :	0.6
S_{MS} :	1.517	F_{PGA} :	1.2
S_{M1} :	N/A	I_e :	1.25
S_{DS} :	1.011	C_v :	1.353

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

Data Accessed: Sat Aug 21 2021

Date Source: [USGS Seismic Design Maps](#)

Results:

Ice Thickness: 1.00 in.
Concurrent Temperature: 25 F
Gust Speed: 30 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Sat Aug 21 2021

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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BU: 880329
WO: 1994146
Order: 564913

Structure: A
Rev: 1

Location				
	Decimal Degrees	Deg	Min	Sec
Lat:	47.162072	+	47	9
Long:	-122.294456	-	122	17
				40.04
Code and Site Parameters				
Seismic Design Code:		TIA-222-H-1		
Site Soil:		D (Default) Stiff Soil (Default)		
Risk Category:		III		
<u>USGS Seismic Reference</u>				
	S _s :	1.2640	g	
	S ₁ :	0.4360	g	
	T _L :	6	s	
Seismic Design Category Determination				
Importance Factor, I _e :		1.25		
Acceleration-based site coefficient, F _a :		1.2000		
Velocity-based site coefficient, F _v :		1.8640		
Design spectral response acceleration short period, S _{DS} :		1.0112 g		
Design spectral response acceleration 1 s period, S _{D1} :		0.5418 g		
T _s :		0.5358		
Seismic Design Category Based on S _{DS} :		D		
Seismic Design Category Based on S _{D1} :		D		
Seismic Design Category Based on S ₁ :		N/A		
Controlling Seismic Design Category:		D		



BU: 880329
 WO: 1994146
 Order: 564913

Structure: A
 Rev: 1

Tower Details			
Tower Type:	Tapered Monopole		
Height, h:	120	ft	
Effective Seismic Weight, W:	30.75	kips	
Amplification Factor, A _s :	1.0		2.7.8.1
Seismic Base Shear			
Response Modification Factor, R:	1.5		
Discrete Appurtenance Weight in Top 1/3 of Structure, W _u :	12.27782	kips	
W _L :	18.47558879	kips	
E:	29000.0	ksi	
g:	386.088	in/s ²	
Average Moment of Inertia, I _{avg} :	5099.055549	in ⁴	
F _a :	0.295510362	hz	
Approximate Fundamental Period Monopole, T _a :	3.3840	s	2.7.7.1.3.3
Seismic Response Coefficient, C _s	0.2001		Table 2-12 Note 3
Seismic Response Coefficient Max 1, C _{smax}	N/A		
Seismic Response Coefficient Max 2, C _{smax}	N/A		
Seismic Response Coefficient Min 1, C _{smin}	0.0556		2.7.7.1.1
Seismic Response Coefficient Min 2, C _{smin}	N/A		2.7.7.1.1
Controlling Seismic Response Coefficient, C _{sc}	0.2001		
Seismic Base Shear, V	6.155	kips	2.7.7.1.1
Vertical Distribution Factors			
Period Related Exponent, k:	2.000		
Sum of w _i h _i ^k	185576.41		

Tower Section Loads								
Section Number	Length	Top Height	Mid Height, h_x	Section Weight, w_x	$w_x h_x^k$	C_{vx}	F_{xh}	F_{xv}
1 - 1	9.75	120.00	115.13	0.5645	7481.70	0.0403	0.2481	0.1142
1 - 2	10.00	110.25	105.25	0.6298	6976.11	0.0376	0.2314	0.1274
1 - 3	10.00	100.25	95.25	0.6812	6180.01	0.0333	0.2050	0.1378
1 - 4	10.00	90.25	85.25	0.7326	5324.21	0.0287	0.1766	0.1482
2 - 1	8.25	84.25	80.13	0.7664	4920.32	0.0265	0.1632	0.1550
2 - 2	10.00	76.00	71.00	0.9866	4973.21	0.0268	0.1649	0.1995
2 - 3	10.00	66.00	61.00	1.0497	3905.75	0.0210	0.1295	0.2123
2 - 4	10.00	56.00	51.00	1.1128	2894.27	0.0156	0.0960	0.2250
3 - 1	5.75	50.75	47.88	0.7650	1753.46	0.0094	0.0582	0.1547
3 - 2	10.00	45.00	40.00	1.3894	2222.99	0.0120	0.0737	0.2810
3 - 3	10.00	35.00	30.00	1.4641	1317.72	0.0071	0.0437	0.2961
4 - 1	0.08	30.08	30.04	0.0159	14.32	0.0001	0.0005	0.0032
4 - 2	10.00	30.00	25.00	1.9543	1221.42	0.0066	0.0405	0.3952
4 - 3	10.00	20.00	15.00	2.0542	462.19	0.0025	0.0153	0.4154
4 - 4	10.00	10.00	5.00	2.1541	53.85	0.0003	0.0018	0.4356
Sum				16.3203	49701.53			

Discrete Loads						
Name	h_x	w_x	$w_x h_x^k$	C_{vx}	F_{xh}	F_{xv}
lightning rod 5/8-in x 5-ft L-Rod	120.00	0.0050	72.00	0.0004	0.0024	0.0010
misc Top Hat 14"x24"	120.00	0.1000	1440.00	0.0078	0.0478	0.0202
commscope FFVV-65C-R3-V1_TMO	122.00	0.1246	1854.55	0.0100	0.0615	0.0252
commscope FFVV-65C-R3-V1_TMO	122.00	0.1246	1854.55	0.0100	0.0615	0.0252
commscope FFVV-65C-R3-V1_TMO	122.00	0.1246	1854.55	0.0100	0.0615	0.0252
nokia AEHC	122.00	0.1000	1488.40	0.0080	0.0494	0.0202
nokia AEHC	122.00	0.1000	1488.40	0.0080	0.0494	0.0202
nokia AEHC	122.00	0.1000	1488.40	0.0080	0.0494	0.0202
(2) commscope CDX68T-DS-43_TMO	122.00	0.0200	297.68	0.0016	0.0099	0.0040
commscope CDX68T-DS-43_TMO	122.00	0.0100	148.84	0.0008	0.0049	0.0020
commscope HCS 2.0	122.00	0.0014	20.39	0.0001	0.0007	0.0003
commscope HCS 2.0	122.00	0.0014	20.39	0.0001	0.0007	0.0003
nokia AHFIG_TMO	122.00	0.0700	1041.88	0.0056	0.0346	0.0142
nokia AHFIG_TMO	122.00	0.0700	1041.88	0.0056	0.0346	0.0142
nokia AHFIG_TMO	122.00	0.0700	1041.88	0.0056	0.0346	0.0142
nokia AHLOA_T-MOBILE	122.00	0.0800	1190.72	0.0064	0.0395	0.0162
nokia AHLOA_T-MOBILE	122.00	0.0800	1190.72	0.0064	0.0395	0.0162
nokia AHLOA_T-MOBILE	122.00	0.0800	1190.72	0.0064	0.0395	0.0162
(2) dragonwave HORIZON COMPACT PLUS	122.00	0.0150	223.26	0.0012	0.0074	0.0030
samsung telecommunications RRH-P4	122.00	0.0600	893.04	0.0048	0.0296	0.0121
samsung telecommunications RRH-P4	122.00	0.0600	893.04	0.0048	0.0296	0.0121
samsung telecommunications RRH-P4	122.00	0.0600	893.04	0.0048	0.0296	0.0121
samsung telecommunications 2.5GHZ RRH-V3	122.00	0.0600	893.04	0.0048	0.0296	0.0121
samsung telecommunications 2.5GHZ RRH-V3	122.00	0.0600	893.04	0.0048	0.0296	0.0121
samsung telecommunications OPTIC FIBER JUNCTION CYLINDER	122.00	0.0020	29.17	0.0002	0.0010	0.0004
samsung telecommunications OPTIC FIBER JUNCTION CYLINDER	122.00	0.0020	29.17	0.0002	0.0010	0.0004
samsung telecommunications POWER JUNCTION CYLINDER	122.00	0.0033	49.12	0.0003	0.0016	0.0007
samsung telecommunications POWER JUNCTION CYLINDER	122.00	0.0033	49.12	0.0003	0.0016	0.0007
dbspectra DS7C06P36U-D w/ Mount Pipe	122.00	0.0600	893.04	0.0048	0.0296	0.0121
ceragon FIBEAIR IP-20C	122.00	0.0100	148.84	0.0008	0.0049	0.0020
Commscope MC-CP12M-12-126	122.00	1.5885	23643.23	0.1274	0.7842	0.3213
ericsson RRUS 32 B2	90.00	0.0500	405.00	0.0022	0.0134	0.0101
ericsson RRUS 32 B2	90.00	0.0500	405.00	0.0022	0.0134	0.0101
ericsson RRUS 32 B2	90.00	0.0500	405.00	0.0022	0.0134	0.0101
ericsson RRUS 32 B66A	90.00	0.0600	486.00	0.0026	0.0161	0.0121
ericsson RRUS 32 B66A	90.00	0.0600	486.00	0.0026	0.0161	0.0121
ericsson RRUS 32 B66A	90.00	0.0600	486.00	0.0026	0.0161	0.0121
pipe 2.4" Dia. x 6-ft	90.00	0.0200	162.00	0.0009	0.0054	0.0040
pipe 2.4" Dia. x 6-ft	90.00	0.0200	162.00	0.0009	0.0054	0.0040
pipe 2.4" Dia. x 6-ft	90.00	0.0200	162.00	0.0009	0.0054	0.0040
tower mounts Side Arm Mount [SO 901-3]	90.00	0.3160	2559.52	0.0138	0.0849	0.0639
jma wireless MX06FRO840-02 w/ Mount Pipe	89.00	0.1259	997.10	0.0054	0.0331	0.0255
jma wireless MX06FRO840-02 w/ Mount Pipe	89.00	0.1259	997.10	0.0054	0.0331	0.0255
jma wireless MX06FRO840-02 w/ Mount Pipe	89.00	0.1259	997.10	0.0054	0.0331	0.0255
jma wireless MX10FRO840-XX w/ Mount Pipe	89.00	0.1703	1348.79	0.0073	0.0447	0.0344
jma wireless MX10FRO840-XX w/ Mount Pipe	89.00	0.1703	1348.79	0.0073	0.0447	0.0344
jma wireless MX10FRO840-XX w/ Mount Pipe	89.00	0.1703	1348.79	0.0073	0.0447	0.0344
vzw Sub6 Antenna w/ Mount Pipe	89.00	0.0900	712.89	0.0038	0.0236	0.0182
vzw Sub6 Antenna w/ Mount Pipe	89.00	0.0900	712.89	0.0038	0.0236	0.0182
vzw Sub6 Antenna w/ Mount Pipe	89.00	0.0900	712.89	0.0038	0.0236	0.0182
ericsson 4449	89.00	0.0700	554.47	0.0030	0.0184	0.0142
ericsson 4449	89.00	0.0700	554.47	0.0030	0.0184	0.0142
ericsson 4449	89.00	0.0700	554.47	0.0030	0.0184	0.0142
(2) ericsson RADIO 4408	89.00	0.0203	160.64	0.0009	0.0053	0.0041
ericsson RADIO 4408	89.00	0.0101	80.32	0.0004	0.0027	0.0021
raycap RVZDC-6627-PF-48	89.00	0.0300	237.63	0.0013	0.0079	0.0061
raycap RVZDC-6627-PF-48	89.00	0.0300	237.63	0.0013	0.0079	0.0061
antel BXA-70040-8CF-EDIN-X w/ Mount Pipe	89.00	0.0977	773.72	0.0042	0.0257	0.0198
antel BXA-70040-8CF-EDIN-X w/ Mount Pipe	89.00	0.0977	773.72	0.0042	0.0257	0.0198
antel BXA-70090-8CF-EDIN-X w/ Mount Pipe	89.00	0.0707	559.86	0.0030	0.0186	0.0143
tower mounts T-Arm Mount [TA 602-3_KCKR]	89.00	1.0493	8311.58	0.0448	0.2757	0.2122
(2) andrew TMZXX-6516-R2M w/ Mount Pipe	80.00	0.1107	708.74	0.0038	0.0235	0.0224
(2) andrew TMZXX-6516-R2M w/ Mount Pipe	80.00	0.1107	708.74	0.0038	0.0235	0.0224
(2) andrew TMZXX-6516-R2M w/ Mount Pipe	80.00	0.1107	708.74	0.0038	0.0235	0.0224
commscope FFHH-65C-R3 w/ Mount Pipe	80.00	0.1605	1027.26	0.0055	0.0341	0.0325
commscope FFHH-65C-R3 w/ Mount Pipe	80.00	0.1605	1027.26	0.0055	0.0341	0.0325
commscope FFHH-65C-R3 w/ Mount Pipe	80.00	0.1605	1027.26	0.0055	0.0341	0.0325
nokia FRIG	80.00	0.0600	384.00	0.0021	0.0127	0.0121
nokia FRIG	80.00	0.0600	384.00	0.0021	0.0127	0.0121
nokia FRIG	80.00	0.0600	384.00	0.0021	0.0127	0.0121
nokia FHFB	80.00	0.0500	320.00	0.0017	0.0106	0.0101
nokia FHFB	80.00	0.0500	320.00	0.0017	0.0106	0.0101
nokia FHFB	80.00	0.0500	320.00	0.0017	0.0106	0.0101
nokia AHLOA	80.00	0.0800	512.00	0.0028	0.0170	0.0162
nokia AHLOA	80.00	0.0800	512.00	0.0028	0.0170	0.0162
nokia AHLOA	80.00	0.0800	512.00	0.0028	0.0170	0.0162
commscope CBC6AE7LQ-DS-43	80.00	0.0200	128.00	0.0007	0.0042	0.0040
commscope CBC6AE7LQ-DS-43	80.00	0.0200	128.00	0.0007	0.0042	0.0040
commscope CBC6AE7LQ-DS-43	80.00	0.0200	128.00	0.0007	0.0042	0.0040
nokia FRLB	80.00	0.0600	384.00	0.0021	0.0127	0.0121
raycap RNSDC-7771-PF-48	80.00	0.0200	128.00	0.0007	0.0042	0.0040

tower mounts Platform Mount [LP 303-1]	80.00	1.2500	8000.00	0.0431	0.2653	0.2528
jma wireless MX08FRO665-21 w/ Mount Pipe	111.00	0.1081	1331.78	0.0072	0.0442	0.0219
jma wireless MX08FRO665-21 w/ Mount Pipe	111.00	0.1081	1331.78	0.0072	0.0442	0.0219
jma wireless MX08FRO665-21 w/ Mount Pipe	111.00	0.1081	1331.78	0.0072	0.0442	0.0219
fujitsu TA08025-B604	111.00	0.0600	739.26	0.0040	0.0245	0.0121
fujitsu TA08025-B604	111.00	0.0600	739.26	0.0040	0.0245	0.0121
fujitsu TA08025-B604	111.00	0.0600	739.26	0.0040	0.0245	0.0121
fujitsu TA08025-B605	111.00	0.0800	985.68	0.0053	0.0327	0.0162
fujitsu TA08025-B605	111.00	0.0800	985.68	0.0053	0.0327	0.0162
fujitsu TA08025-B605	111.00	0.0800	985.68	0.0053	0.0327	0.0162
raycap RDIDC-9181-PF-48	111.00	0.0200	246.42	0.0013	0.0082	0.0040
(2) tower mounts 8' x 2" Mount Pipe	111.00	0.0600	739.26	0.0040	0.0245	0.0121
(2) tower mounts 8' x 2" Mount Pipe	111.00	0.0600	739.26	0.0040	0.0245	0.0121
(2) tower mounts 8' x 2" Mount Pipe	111.00	0.0600	739.26	0.0040	0.0245	0.0121
tower mounts Commscope MC-PK8-DSH	111.00	1.7490	21549.43	0.1161	0.7147	0.3537
VHLP1-23	122.00	0.0140	208.38	0.0011	0.0069	0.0028
VHLPX3-18-2WH	122.00	0.0500	744.20	0.0040	0.0247	0.0101
radwin RADWIN 2000C	122.00	0.0070	104.19	0.0006	0.0035	0.0014
(2) radwin RADWIN 2000C	122.00	0.0140	208.38	0.0011	0.0069	0.0028
Sum		12.2778	128150.37			

Linear Loads								
Name	Start Height	End Height	h_x	w_x	$w_x h_x^k$	C_{vx}	F_{xh}	F_{xv}
misc1 Safety Line 3/8 From 0 to 120	110.00	120.00	115.00	0.0022	29.10	0.0002	0.0010	0.0004
misc1 Safety Line 3/8 From 0 to 120	100.00	110.00	105.00	0.0022	24.26	0.0001	0.0008	0.0004
misc1 Safety Line 3/8 From 0 to 120	90.00	100.00	95.00	0.0022	19.86	0.0001	0.0007	0.0004
misc1 Safety Line 3/8 From 0 to 120	80.00	90.00	85.00	0.0022	15.90	0.0001	0.0005	0.0004
misc1 Safety Line 3/8 From 0 to 120	70.00	80.00	75.00	0.0022	12.38	0.0001	0.0004	0.0004
misc1 Safety Line 3/8 From 0 to 120	60.00	70.00	65.00	0.0022	9.30	0.0001	0.0003	0.0004
misc1 Safety Line 3/8 From 0 to 120	50.00	60.00	55.00	0.0022	6.66	0.0000	0.0002	0.0004
misc1 Safety Line 3/8 From 0 to 120	40.00	50.00	45.00	0.0022	4.46	0.0000	0.0001	0.0004
misc1 Safety Line 3/8 From 0 to 120	30.00	40.00	35.00	0.0022	2.70	0.0000	0.0001	0.0004
misc1 Safety Line 3/8 From 0 to 120	20.00	30.00	25.00	0.0022	1.38	0.0000	0.0000	0.0004
misc1 Safety Line 3/8 From 0 to 120	10.00	20.00	15.00	0.0022	0.50	0.0000	0.0000	0.0004
misc1 Safety Line 3/8 From 0 to 120	0.00	10.00	5.00	0.0022	0.06	0.0000	0.0000	0.0004
andrew LDF1-50A(1/4) From 0 to 120	110.00	120.00	115.00	0.0006	7.94	0.0000	0.0003	0.0001
andrew LDF1-50A(1/4) From 0 to 120	100.00	110.00	105.00	0.0006	6.62	0.0000	0.0002	0.0001
andrew LDF1-50A(1/4) From 0 to 120	90.00	100.00	95.00	0.0006	5.42	0.0000	0.0002	0.0001
andrew LDF1-50A(1/4) From 0 to 120	80.00	90.00	85.00	0.0006	4.34	0.0000	0.0001	0.0001
andrew LDF1-50A(1/4) From 0 to 120	70.00	80.00	75.00	0.0006	3.38	0.0000	0.0001	0.0001
andrew LDF1-50A(1/4) From 0 to 120	60.00	70.00	65.00	0.0006	2.54	0.0000	0.0001	0.0001
andrew LDF1-50A(1/4) From 0 to 120	50.00	60.00	55.00	0.0006	1.82	0.0000	0.0001	0.0001
andrew LDF1-50A(1/4) From 0 to 120	40.00	50.00	45.00	0.0006	1.22	0.0000	0.0000	0.0001
andrew LDF1-50A(1/4) From 0 to 120	30.00	40.00	35.00	0.0006	0.74	0.0000	0.0000	0.0001
andrew LDF1-50A(1/4) From 0 to 120	20.00	30.00	25.00	0.0006	0.38	0.0000	0.0000	0.0001
andrew LDF1-50A(1/4) From 0 to 120	10.00	20.00	15.00	0.0006	0.14	0.0000	0.0000	0.0001
andrew LDF1-50A(1/4) From 0 to 120	0.00	10.00	5.00	0.0006	0.02	0.0000	0.0000	0.0001
(5) belkin CAT5E(1/4") From 0 to 120	110.00	120.00	115.00	0.0050	66.13	0.0004	0.0022	0.0010
(5) belkin CAT5E(1/4") From 0 to 120	100.00	110.00	105.00	0.0050	55.13	0.0003	0.0018	0.0010
(5) belkin CAT5E(1/4") From 0 to 120	90.00	100.00	95.00	0.0050	45.13	0.0002	0.0015	0.0010
(5) belkin CAT5E(1/4") From 0 to 120	80.00	90.00	85.00	0.0050	36.13	0.0002	0.0012	0.0010
(5) belkin CAT5E(1/4") From 0 to 120	70.00	80.00	75.00	0.0050	28.13	0.0002	0.0009	0.0010
(5) belkin CAT5E(1/4") From 0 to 120	60.00	70.00	65.00	0.0050	21.13	0.0001	0.0007	0.0010
(5) belkin CAT5E(1/4") From 0 to 120	50.00	60.00	55.00	0.0050	15.13	0.0001	0.0005	0.0010
(5) belkin CAT5E(1/4") From 0 to 120	40.00	50.00	45.00	0.0050	10.13	0.0001	0.0003	0.0010
(5) belkin CAT5E(1/4") From 0 to 120	30.00	40.00	35.00	0.0050	6.13	0.0000	0.0002	0.0010
(5) belkin CAT5E(1/4") From 0 to 120	20.00	30.00	25.00	0.0050	3.13	0.0000	0.0001	0.0010
(5) belkin CAT5E(1/4") From 0 to 120	10.00	20.00	15.00	0.0050	1.13	0.0000	0.0000	0.0010
(5) belkin CAT5E(1/4") From 0 to 120	0.00	10.00	5.00	0.0050	0.13	0.0000	0.0000	0.0010
andrew AVA5-50(7/8") From 0 to 120	110.00	120.00	115.00	0.0030	39.68	0.0002	0.0013	0.0006
andrew AVA5-50(7/8") From 0 to 120	100.00	110.00	105.00	0.0030	33.08	0.0002	0.0011	0.0006
andrew AVA5-50(7/8") From 0 to 120	90.00	100.00	95.00	0.0030	27.08	0.0001	0.0009	0.0006
andrew AVA5-50(7/8") From 0 to 120	80.00	90.00	85.00	0.0030	21.68	0.0001	0.0007	0.0006
andrew AVA5-50(7/8") From 0 to 120	70.00	80.00	75.00	0.0030	16.88	0.0001	0.0006	0.0006
andrew AVA5-50(7/8") From 0 to 120	60.00	70.00	65.00	0.0030	12.68	0.0001	0.0004	0.0006
andrew AVA5-50(7/8") From 0 to 120	50.00	60.00	55.00	0.0030	9.08	0.0000	0.0003	0.0006
andrew AVA5-50(7/8") From 0 to 120	40.00	50.00	45.00	0.0030	6.08	0.0000	0.0002	0.0006
andrew AVA5-50(7/8") From 0 to 120	30.00	40.00	35.00	0.0030	3.68	0.0000	0.0001	0.0006
andrew AVA5-50(7/8") From 0 to 120	20.00	30.00	25.00	0.0030	1.88	0.0000	0.0001	0.0006
andrew AVA5-50(7/8") From 0 to 120	10.00	20.00	15.00	0.0030	0.68	0.0000	0.0000	0.0006
andrew AVA5-50(7/8") From 0 to 120	0.00	10.00	5.00	0.0030	0.08	0.0000	0.0000	0.0006
(3) samsung telecommunications TYPE 2(1-7/16) From 0 to 120	110.00	120.00	115.00	0.0180	238.05	0.0013	0.0079	0.0036
(3) samsung telecommunications TYPE 2(1-7/16) From 0 to 120	100.00	110.00	105.00	0.0180	198.45	0.0011	0.0066	0.0036
(3) samsung telecommunications TYPE 2(1-7/16) From 0 to 120	90.00	100.00	95.00	0.0180	162.45	0.0009	0.0054	0.0036
(3) samsung telecommunications TYPE 2(1-7/16) From 0 to 120	80.00	90.00	85.00	0.0180	130.05	0.0007	0.0043	0.0036
(3) samsung telecommunications TYPE 2(1-7/16) From 0 to 120	70.00	80.00	75.00	0.0180	101.25	0.0005	0.0034	0.0036
(3) samsung telecommunications TYPE 2(1-7/16) From 0 to 120	60.00	70.00	65.00	0.0180	76.05	0.0004	0.0025	0.0036
(3) samsung telecommunications TYPE 2(1-7/16) From 0 to 120	50.00	60.00	55.00	0.0180	54.45	0.0003	0.0018	0.0036
(3) samsung telecommunications TYPE 2(1-7/16) From 0 to 120	40.00	50.00	45.00	0.0180	36.45	0.0002	0.0012	0.0036
(3) samsung telecommunications TYPE 2(1-7/16) From 0 to 120	30.00	40.00	35.00	0.0180	22.05	0.0001	0.0007	0.0036
(3) samsung telecommunications TYPE 2(1-7/16) From 0 to 120	20.00	30.00	25.00	0.0180	11.25	0.0001	0.0004	0.0036
(3) samsung telecommunications TYPE 2(1-7/16) From 0 to 120	10.00	20.00	15.00	0.0180	4.05	0.0000	0.0001	0.0036
(3) samsung telecommunications TYPE 2(1-7/16) From 0 to 120	0.00	10.00	5.00	0.0180	0.45	0.0000	0.0000	0.0036
(2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120	110.00	120.00	115.00	0.0342	452.30	0.0024	0.0150	0.0069
(2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120	100.00	110.00	105.00	0.0342	377.06	0.0020	0.0125	0.0069
(2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120	90.00	100.00	95.00	0.0342	308.66	0.0017	0.0102	0.0069
(2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120	80.00	90.00	85.00	0.0342	247.10	0.0013	0.0082	0.0069
(2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120	70.00	80.00	75.00	0.0342	192.38	0.0010	0.0064	0.0069
(2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120	60.00	70.00	65.00	0.0342	144.50	0.0008	0.0048	0.0069
(2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120	50.00	60.00	55.00	0.0342	103.46	0.0006	0.0034	0.0069
(2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120	40.00	50.00	45.00	0.0342	69.26	0.0004	0.0023	0.0069
(2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120	30.00	40.00	35.00	0.0342	41.90	0.0002	0.0014	0.0069
(2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120	20.00	30.00	25.00	0.0342	21.38	0.0001	0.0007	0.0069
(2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120	10.00	20.00	15.00	0.0342	7.70	0.0000	0.0003	0.0069
(2) nokia HCS 2.0 Part 3(1-1/2) From 0 to 120	0.00	10.00	5.00	0.0342	0.86	0.0000	0.0000	0.0069
misc1 2" Flexible Conduit From 0 to 111	110.00	111.00	110.50	0.0003	4.15	0.0000	0.0001	0.0001
misc1 2" Flexible Conduit From 0 to 111	100.00	110.00	105.00	0.0034	37.49	0.0002	0.0012	0.0007
misc1 2" Flexible Conduit From 0 to 111	90.00	100.00	95.00	0.0034	30.69	0.0002	0.0010	0.0007
misc1 2" Flexible Conduit From 0 to 111	80.00	90.00	85.00	0.0034	24.57	0.0001	0.0008	0.0007
misc1 2" Flexible Conduit From 0 to 111	70.00	80.00	75.00	0.0034	19.13	0.0001	0.0006	0.0007
misc1 2" Flexible Conduit From 0 to 111	60.00	70.00	65.00	0.0034	14.37	0.0001	0.0005	0.0007
misc1 2" Flexible Conduit From 0 to 111	50.00	60.00	55.00	0.0034	10.29	0.0001	0.0003	0.0007
misc1 2" Flexible Conduit From 0 to 111	40.00	50.00	45.00	0.0034	6.89	0.0000	0.0002	0.0007
misc1 2" Flexible Conduit From 0 to 111	30.00	40.00	35.00	0.0034	4.17	0.0000	0.0001	0.0007

misc 2" Flexible Conduit From 0 to 111	20.00	30.00	25.00	0.0034	2.13	0.0000	0.0001	0.0007
misc 2" Flexible Conduit From 0 to 111	10.00	20.00	15.00	0.0034	0.77	0.0000	0.0000	0.0007
misc 2" Flexible Conduit From 0 to 111	0.00	10.00	5.00	0.0034	0.09	0.0000	0.0000	0.0007
(7) andrew LDF1-50A(1/4") From 0 to 111	110.00	111.00	110.50	0.0004	5.13	0.0000	0.0002	0.0001
(7) andrew LDF1-50A(1/4") From 0 to 111	100.00	110.00	105.00	0.0042	46.31	0.0002	0.0015	0.0008
(7) andrew LDF1-50A(1/4") From 0 to 111	90.00	100.00	95.00	0.0042	37.91	0.0002	0.0013	0.0008
(7) andrew LDF1-50A(1/4") From 0 to 111	80.00	90.00	85.00	0.0042	30.35	0.0002	0.0010	0.0008
(7) andrew LDF1-50A(1/4") From 0 to 111	70.00	80.00	75.00	0.0042	23.63	0.0001	0.0008	0.0008
(7) andrew LDF1-50A(1/4") From 0 to 111	60.00	70.00	65.00	0.0042	17.75	0.0001	0.0006	0.0008
(7) andrew LDF1-50A(1/4") From 0 to 111	50.00	60.00	55.00	0.0042	12.71	0.0001	0.0004	0.0008
(7) andrew LDF1-50A(1/4") From 0 to 111	40.00	50.00	45.00	0.0042	8.51	0.0000	0.0003	0.0008
(7) andrew LDF1-50A(1/4") From 0 to 111	30.00	40.00	35.00	0.0042	5.15	0.0000	0.0002	0.0008
(7) andrew LDF1-50A(1/4") From 0 to 111	20.00	30.00	25.00	0.0042	2.63	0.0000	0.0001	0.0008
(7) andrew LDF1-50A(1/4") From 0 to 111	10.00	20.00	15.00	0.0042	0.95	0.0000	0.0000	0.0008
(7) andrew LDF1-50A(1/4") From 0 to 111	0.00	10.00	5.00	0.0042	0.11	0.0000	0.0000	0.0008
(3) andrew LDF2-50A(3/8") From 0 to 111	110.00	111.00	110.50	0.0002	2.93	0.0000	0.0001	0.0000
(3) andrew LDF2-50A(3/8") From 0 to 111	100.00	110.00	105.00	0.0024	26.46	0.0001	0.0009	0.0005
(3) andrew LDF2-50A(3/8") From 0 to 111	90.00	100.00	95.00	0.0024	21.66	0.0001	0.0007	0.0005
(3) andrew LDF2-50A(3/8") From 0 to 111	80.00	90.00	85.00	0.0024	17.34	0.0001	0.0006	0.0005
(3) andrew LDF2-50A(3/8") From 0 to 111	70.00	80.00	75.00	0.0024	13.50	0.0001	0.0004	0.0005
(3) andrew LDF2-50A(3/8") From 0 to 111	60.00	70.00	65.00	0.0024	10.14	0.0001	0.0003	0.0005
(3) andrew LDF2-50A(3/8") From 0 to 111	50.00	60.00	55.00	0.0024	7.26	0.0000	0.0002	0.0005
(3) andrew LDF2-50A(3/8") From 0 to 111	40.00	50.00	45.00	0.0024	4.86	0.0000	0.0002	0.0005
(3) andrew LDF2-50A(3/8") From 0 to 111	30.00	40.00	35.00	0.0024	2.94	0.0000	0.0001	0.0005
(3) andrew LDF2-50A(3/8") From 0 to 111	20.00	30.00	25.00	0.0024	1.50	0.0000	0.0000	0.0005
(3) andrew LDF2-50A(3/8") From 0 to 111	10.00	20.00	15.00	0.0024	0.54	0.0000	0.0000	0.0005
(3) andrew LDF2-50A(3/8") From 0 to 111	0.00	10.00	5.00	0.0024	0.06	0.0000	0.0000	0.0005
(3) commscope CR 50 540(1/2") From 0 to 111	110.00	111.00	110.50	0.0005	5.49	0.0000	0.0002	0.0001
(3) commscope CR 50 540(1/2") From 0 to 111	100.00	110.00	105.00	0.0045	49.61	0.0003	0.0016	0.0009
(3) commscope CR 50 540(1/2") From 0 to 111	90.00	100.00	95.00	0.0045	40.61	0.0002	0.0013	0.0009
(3) commscope CR 50 540(1/2") From 0 to 111	80.00	90.00	85.00	0.0045	32.51	0.0002	0.0011	0.0009
(3) commscope CR 50 540(1/2") From 0 to 111	70.00	80.00	75.00	0.0045	25.31	0.0001	0.0008	0.0009
(3) commscope CR 50 540(1/2") From 0 to 111	60.00	70.00	65.00	0.0045	19.01	0.0001	0.0006	0.0009
(3) commscope CR 50 540(1/2") From 0 to 111	50.00	60.00	55.00	0.0045	13.61	0.0001	0.0005	0.0009
(3) commscope CR 50 540(1/2") From 0 to 111	40.00	50.00	45.00	0.0045	9.11	0.0000	0.0003	0.0009
(3) commscope CR 50 540(1/2") From 0 to 111	30.00	40.00	35.00	0.0045	5.51	0.0000	0.0002	0.0009
(3) commscope CR 50 540(1/2") From 0 to 111	20.00	30.00	25.00	0.0045	2.81	0.0000	0.0001	0.0009
(3) commscope CR 50 540(1/2") From 0 to 111	10.00	20.00	15.00	0.0045	1.01	0.0000	0.0000	0.0009
(3) commscope CR 50 540(1/2") From 0 to 111	0.00	10.00	5.00	0.0045	0.11	0.0000	0.0000	0.0009
andrew LDF7-50A(1-5/8) From 0 to 89	80.00	89.00	84.50	0.0074	52.70	0.0003	0.0017	0.0015
andrew LDF7-50A(1-5/8) From 0 to 89	70.00	80.00	75.00	0.0082	46.13	0.0002	0.0015	0.0017
andrew LDF7-50A(1-5/8) From 0 to 89	60.00	70.00	65.00	0.0082	34.65	0.0002	0.0011	0.0017
andrew LDF7-50A(1-5/8) From 0 to 89	50.00	60.00	55.00	0.0082	24.81	0.0001	0.0008	0.0017
andrew LDF7-50A(1-5/8) From 0 to 89	40.00	50.00	45.00	0.0082	16.61	0.0001	0.0006	0.0017
andrew LDF7-50A(1-5/8) From 0 to 89	30.00	40.00	35.00	0.0082	10.05	0.0001	0.0003	0.0017
andrew LDF7-50A(1-5/8) From 0 to 89	20.00	30.00	25.00	0.0082	5.13	0.0000	0.0002	0.0017
andrew LDF7-50A(1-5/8) From 0 to 89	10.00	20.00	15.00	0.0082	1.85	0.0000	0.0001	0.0017
andrew LDF7-50A(1-5/8) From 0 to 89	0.00	10.00	5.00	0.0082	0.21	0.0000	0.0000	0.0017
(2) andrew LDF7-50A(1-5/8) From 0 to 89	80.00	89.00	84.50	0.0148	105.39	0.0006	0.0035	0.0030
(2) andrew LDF7-50A(1-5/8) From 0 to 89	70.00	80.00	75.00	0.0164	92.25	0.0005	0.0031	0.0033
(2) andrew LDF7-50A(1-5/8) From 0 to 89	60.00	70.00	65.00	0.0164	69.29	0.0004	0.0023	0.0033
(2) andrew LDF7-50A(1-5/8) From 0 to 89	50.00	60.00	55.00	0.0164	49.61	0.0003	0.0016	0.0033
(2) andrew LDF7-50A(1-5/8) From 0 to 89	40.00	50.00	45.00	0.0164	33.21	0.0002	0.0011	0.0033
(2) andrew LDF7-50A(1-5/8) From 0 to 89	30.00	40.00	35.00	0.0164	20.09	0.0001	0.0007	0.0033
(2) andrew LDF7-50A(1-5/8) From 0 to 89	20.00	30.00	25.00	0.0164	10.25	0.0001	0.0003	0.0033
(2) andrew LDF7-50A(1-5/8) From 0 to 89	10.00	20.00	15.00	0.0164	3.69	0.0000	0.0001	0.0033
(2) andrew LDF7-50A(1-5/8) From 0 to 89	0.00	10.00	5.00	0.0164	0.41	0.0000	0.0000	0.0033
(5) andrew LDF7-50A(1-5/8) From 0 to 89	80.00	89.00	84.50	0.0369	263.48	0.0014	0.0087	0.0075
(5) andrew LDF7-50A(1-5/8) From 0 to 89	70.00	80.00	75.00	0.0410	230.63	0.0012	0.0076	0.0083
(5) andrew LDF7-50A(1-5/8) From 0 to 89	60.00	70.00	65.00	0.0410	173.23	0.0009	0.0057	0.0083
(5) andrew LDF7-50A(1-5/8) From 0 to 89	50.00	60.00	55.00	0.0410	124.03	0.0007	0.0041	0.0083
(5) andrew LDF7-50A(1-5/8) From 0 to 89	40.00	50.00	45.00	0.0410	83.03	0.0004	0.0028	0.0083
(5) andrew LDF7-50A(1-5/8) From 0 to 89	30.00	40.00	35.00	0.0410	50.23	0.0003	0.0017	0.0083
(5) andrew LDF7-50A(1-5/8) From 0 to 89	20.00	30.00	25.00	0.0410	25.63	0.0001	0.0008	0.0083
(5) andrew LDF7-50A(1-5/8) From 0 to 89	10.00	20.00	15.00	0.0410	9.23	0.0000	0.0003	0.0083
(5) andrew LDF7-50A(1-5/8) From 0 to 89	0.00	10.00	5.00	0.0410	1.03	0.0000	0.0000	0.0083
(6) andrew LDF7-50A(1-5/8") From 0 to 80	70.00	80.00	75.00	0.0492	276.75	0.0015	0.0092	0.0100
(6) andrew LDF7-50A(1-5/8") From 0 to 80	60.00	70.00	65.00	0.0492	207.87	0.0011	0.0069	0.0100
(6) andrew LDF7-50A(1-5/8") From 0 to 80	50.00	60.00	55.00	0.0492	148.83	0.0008	0.0049	0.0100
(6) andrew LDF7-50A(1-5/8") From 0 to 80	40.00	50.00	45.00	0.0492	99.63	0.0005	0.0033	0.0100
(6) andrew LDF7-50A(1-5/8") From 0 to 80	30.00	40.00	35.00	0.0492	60.27	0.0003	0.0020	0.0100
(6) andrew LDF7-50A(1-5/8") From 0 to 80	20.00	30.00	25.00	0.0492	30.75	0.0002	0.0010	0.0100
(6) andrew LDF7-50A(1-5/8") From 0 to 80	10.00	20.00	15.00	0.0492	11.07	0.0001	0.0004	0.0100
(6) andrew LDF7-50A(1-5/8") From 0 to 80	0.00	10.00	5.00	0.0492	1.23	0.0000	0.0000	0.0100
cui CU12PSM9P6XXX(1-1/2) From 0 to 111	110.00	111.00	110.50	0.0024	28.69	0.0002	0.0010	0.0005
cui CU12PSM9P6XXX(1-1/2) From 0 to 111	100.00	110.00	105.00	0.0235	259.09	0.0014	0.0086	0.0048
cui CU12PSM9P6XXX(1-1/2) From 0 to 111	90.00	100.00	95.00	0.0235	212.09	0.0011	0.0070	0.0048
cui CU12PSM9P6XXX(1-1/2) From 0 to 111	80.00	90.00	85.00	0.0235	169.79	0.0009	0.0056	0.0048
cui CU12PSM9P6XXX(1-1/2) From 0 to 111	70.00	80.00	75.00	0.0235	132.19	0.0007	0.0044	0.0048
cui CU12PSM9P6XXX(1-1/2) From 0 to 111	60.00	70.00	65.00	0.0235	99.29	0.0005	0.0033	0.0048
cui CU12PSM9P6XXX(1-1/2) From 0 to 111	50.00	60.00	55.00	0.0235	71.09	0.0004	0.0024	0.0048
cui CU12PSM9P6XXX(1-1/2) From 0 to 111	40.00	50.00	45.00	0.0235	47.59	0.0003	0.0016	0.0048
cui CU12PSM9P6XXX(1-1/2) From 0 to 111	30.00	40.00	35.00	0.0235	28.79	0.0002	0.0010	0.0048
cui CU12PSM9P6XXX(1-1/2) From 0 to 111	20.00	30.00	25.00	0.0235	14.69	0.0001	0.0005	0.0048
cui CU12PSM9P6XXX(1-1/2) From 0 to 111	10.00	20.00	15.00	0.0235	5.29	0.0000	0.0002	0.0048

cui CU12PSM9P6XXX(1-1/2) From 0 to 111	0.00	10.00	5.00	0.0235	0.59	0.0000	0.0000	0.0048
			Sum	2.1552	7724.51			