

August 6, 2020

Mr. Wayne Smith
Complete Development Services
898 N. Broadway, Suite 8
Massapequa, NY 11758
(516) 972-6431
Wayne.smith@completedevs.com

**Re: LI13075C West Amagansett, T-Mobile L600 Upgrade
Monopole Tower Structural Analysis**

T-MOBILE SITE NAME : West Amagansett
T-MOBILE NO. : LI-13-075-C
WFC PROJECT NO. : 19-13496
SITE ADDRESS : 258 Springs Fireplace Road
East Hampton, NY 11937
COUNTY : Suffolk
LATITUDE, LONGITUDE : 40.950519° N, 72.581508° W
A&E PROJECT # : 1525.009

Dear Mr. Smith;

This letter summarizes the results of the rigorous structural analysis conducted on the existing 148' high monopole tower located at the referenced location in Suffolk County, New York. The following information was provided or obtained for the analysis:

- The existing tower, other carrier and foundation information were obtained from the previous Structural Analysis Report prepared by Paul J. Ford and Company, dated August 13, 2014.
- The proposed T-Mobile antenna loading information was obtained from the T-Mobile L600 Upgrade Construction Drawings prepared by WFC, WFC Project No. 19-13496, dated July 7, 2020.

TOWER ANALYSIS RESULTS

Existing Tower Members	81.1%	Sufficient ✓
Existing Anchor Rods and Base Plate	91.4%	Sufficient ✓
Existing Tower Foundation	64.4%	Sufficient ✓

DESIGN CRITERIA

The analysis was performed in accordance with the Structural Standards for Steel Antenna Towers and Antenna Supporting Structures TIA-222-H and 2020 Building Code of New York State. The tower was modeled using the tnxTower Analysis Program. The specific design parameters used for this analysis were:

1. Basic 3-second gust wind speed of 128 mph with no ice
2. 3-second gust wind speed of 50 mph with 1.0" of radial ice on the structure
3. Exposure C – Open Terrain
4. Structural Risk Category – II
5. Seismic Parameters – $S_s = 0.171$ / $S_1 = 0.049$
6. Topographic Category 1 – No abrupt Changes in general topography
7. Ground Elevation – 15 ft

TOWER APPURTENANCES

Table 1 – Existing loading ***TO BE REMOVED*** before final loading

Elevation ft	Appurtenance & Equipment	Mount	Feed Lines	Carrier
127.0	<i>(3) Commscope LNX-6514DS-A1M Panel Antenna</i>	N/A	<i>(6) 1-5/8" Coax</i>	T-Mobile
	<i>(3) Ericsson RRUS-11</i>			

Table 2 - The following table summarizes the final appurtenances planned for this tower.
(Proposed appurtenances are highlighted in **bold type**)

Elevation ft	Appurtenance & Equipment	Mount	Feed Lines	Carrier
148.0	(6) Decibel 980G65T Panel Antenna	(3) 12ft T-Arm	(6) 1-5/8" Coax	Sprint
127.0	(6) Ericsson AIR 21 KRC118023-1 Panel Antenna	(3) 12ft T-Arm	(6) 1-5/8" Coax (3) HCS Cable (3) HCS Cable	T-Mobile
	(3) RFS APXVAARR24_43-U-NA20 Panel Antenna			
	(3) Ericsson 4449 B71+B25 RRU			
	(3) TMA			
113.5	(1) 15' x 2"Ø Whip Antenna	(2) 10t Side Arm	(2) 7/8" Coax (1) 5/8" Cable	Unknown
	(1) 15' x 1-1/2"Ø Whip Antenna			
	(1) 2' x 2"Ø Whip Antenna			

TOWER ANALYSIS RESULTS

The following Section Capacity Table from the tnxTower Analysis Program summarizes the analysis and is provided for reference.

SECTION CAPACITY TABLE

<i>Section No.</i>	<i>Elevation ft</i>	<i>Component Type</i>	<i>Size</i>	<i>Critical Element</i>	<i>P lb</i>	ϕP_{allow} <i>lb</i>	<i>% Capacity</i>
L1	148 - 117	Pole	TP28.65x24x0.2188	1	-10768.40	135680.00	32.0
L2	117 - 80.75	Pole	TP33.651x27.6499x0.25	2	-15802.90	251897.00	69.0
L3	80.75 - 40	Pole	TP39.264x32.5134x0.3125	3	-23481.90	499122.00	79.0
L4	40 - 0	Pole	TP44.64x37.8889x0.375	4	-35146.50	931816.00	81.1
Summary							
Pole (L4)							81.1
Base Plate							91.4
RATING =							91.4

As shown in the tower analysis result, **the maximum stress in the structural members of the existing tower is approximately 91%. We conclude that the existing tower superstructure is structurally adequate to support the existing and proposed loading.**

I assume that the tower superstructure was built in accordance with the original design specifications and is in good condition.

FOUNDATION ANALYSIS

Table 3 –The result of analysis on the existing tower foundation is as follows;

	Original Design Reactions ¹	Reactions at Current Analysis	% Stress
Axial	435.6 k	35.2 k	< 10%
Shear	44.1 k	25.3 k	57.4%
Overturning Moment	4,024.5 k-ft	2,591.5 k-ft	64.4%

¹Original Design Reactions obtained from the previous structural analysis report prepared by Paul J. Ford & Company

As shown in the preceding table, **the reactions at the current analysis are less than the original design reactions. It is my conclusion the existing tower foundation is structurally adequate to support the existing and proposed loading.**

I assume that the tower foundation was built in accordance with the original design specifications and is in good condition.

Mr. Wayne Smith
August 6, 2020

LI13075C, T-Mobile – New York
Rigorous Tower Structural Analysis

CONCLUSIONS & RECOMMENDATIONS

Based on the tower analysis, I have concluded **the existing tower superstructure and foundation are structurally adequate to support the existing and proposed loading.**

Please note that this analysis is predicated on the assumptions and conditions stated herein. Any deviations from these parameters render this analysis null and void.

If any questions arise from your review, please call me at your earliest convenience.

Very truly yours,



8/6/20

James P. Westbrook, P.E.

- Attachments:
1. tnxTower Results & Appurtenance Loading Summary (1 Sheet)
 2. tnxTower Feedline Distribution Plan (1 Sheet)
 3. tnxTower Inputs & Outputs and Calculations (6 Sheets)

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
12' T-Arm Mount (Ex. Sprint)	148	TMA (Ex. T-Mobile)	127
12' T-Arm Mount (Ex. Sprint)	148	TMA (Ex. T-Mobile)	127
12' T-Arm Mount (Ex. Sprint)	148	RFS APXVAARR24_46-U-NA20 Antenna (Pr. T-Mobile)	127
(2) Decibel 980G65T Antenna (Ex. Sprint)	148	RFS APXVAARR24_46-U-NA20 Antenna (Pr. T-Mobile)	127
(2) Decibel 980G65T Antenna (Ex. Sprint)	148	RFS APXVAARR24_46-U-NA20 Antenna (Pr. T-Mobile)	127
(2) Decibel 980G65T Antenna (Ex. Sprint)	148	Ericsson 4449 B71 + B25 RRU (Pr. T-Mobile)	127
12' T-Arm Mount (Ex. T-Mobile)	127	Ericsson 4449 B71 + B25 RRU (Pr. T-Mobile)	127
12' T-Arm Mount (Ex. T-Mobile)	127	Ericsson 4449 B71 + B25 RRU (Pr. T-Mobile)	127
12' T-Arm Mount (Ex. T-Mobile)	127	Ericsson 4449 B71 + B25 RRU (Pr. T-Mobile)	127
(2) Ericsson AIR 21 KRC118023-1 with Mount Pipe (Ex. T-Mobile)	127	Ericsson 4449 B71 + B25 RRU (Pr. T-Mobile)	127
(2) Ericsson AIR 21 KRC118023-1 with Mount Pipe (Ex. T-Mobile)	127	2" dia whip	121
(2) Ericsson AIR 21 KRC118023-1 with Mount Pipe (Ex. T-Mobile)	127	1.5" dia whip	116
(2) Ericsson AIR 21 KRC118023-1 with Mount Pipe (Ex. T-Mobile)	127	2" dia whip	113.5
(2) Ericsson AIR 21 KRC118023-1 with Mount Pipe (Ex. T-Mobile)	127	10' Side Arm Mount	113.5
TMA (Ex. T-Mobile)	127		

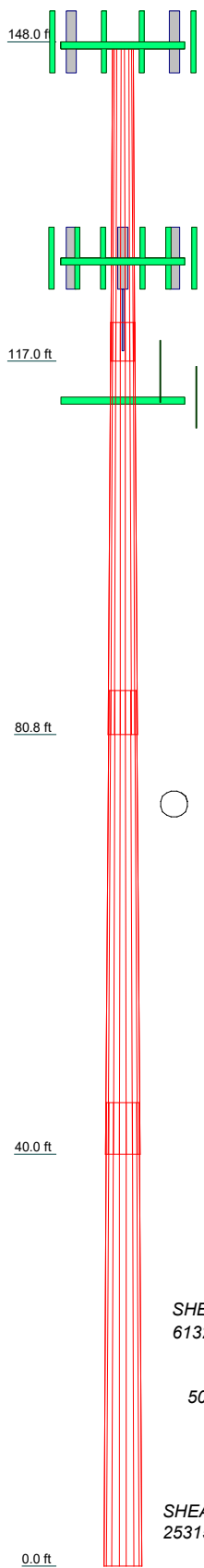
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-65	65 ksi	80 ksi			

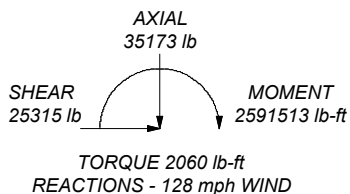
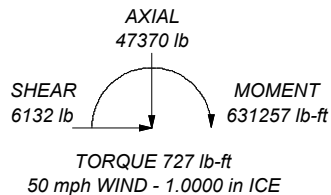
TOWER DESIGN NOTES

1. Tower is located in Suffolk County, New York.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 128 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 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 II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 91.4%

Section	1	2	3	4	
Length (ft)	31.00	40.00	45.00	45.00	18051.6
Number of Sides	18	18	18	18	7452.4
Thickness (in)	0.2188	0.2500	0.3125	0.3750	18051.6
Socket Length (ft)	3.75	4.25	5.00	37.8889	18051.6
Top Dia (in)	24.0000	27.6499	32.5134	44.6400	18051.6
Bot Dia (in)	28.6500	33.6510	39.2640	44.6400	18051.6
Grade	1912.5	3283.4	5403.4	7452.4	18051.6
Weight (lb)					



ALL REACTIONS ARE FACTORED

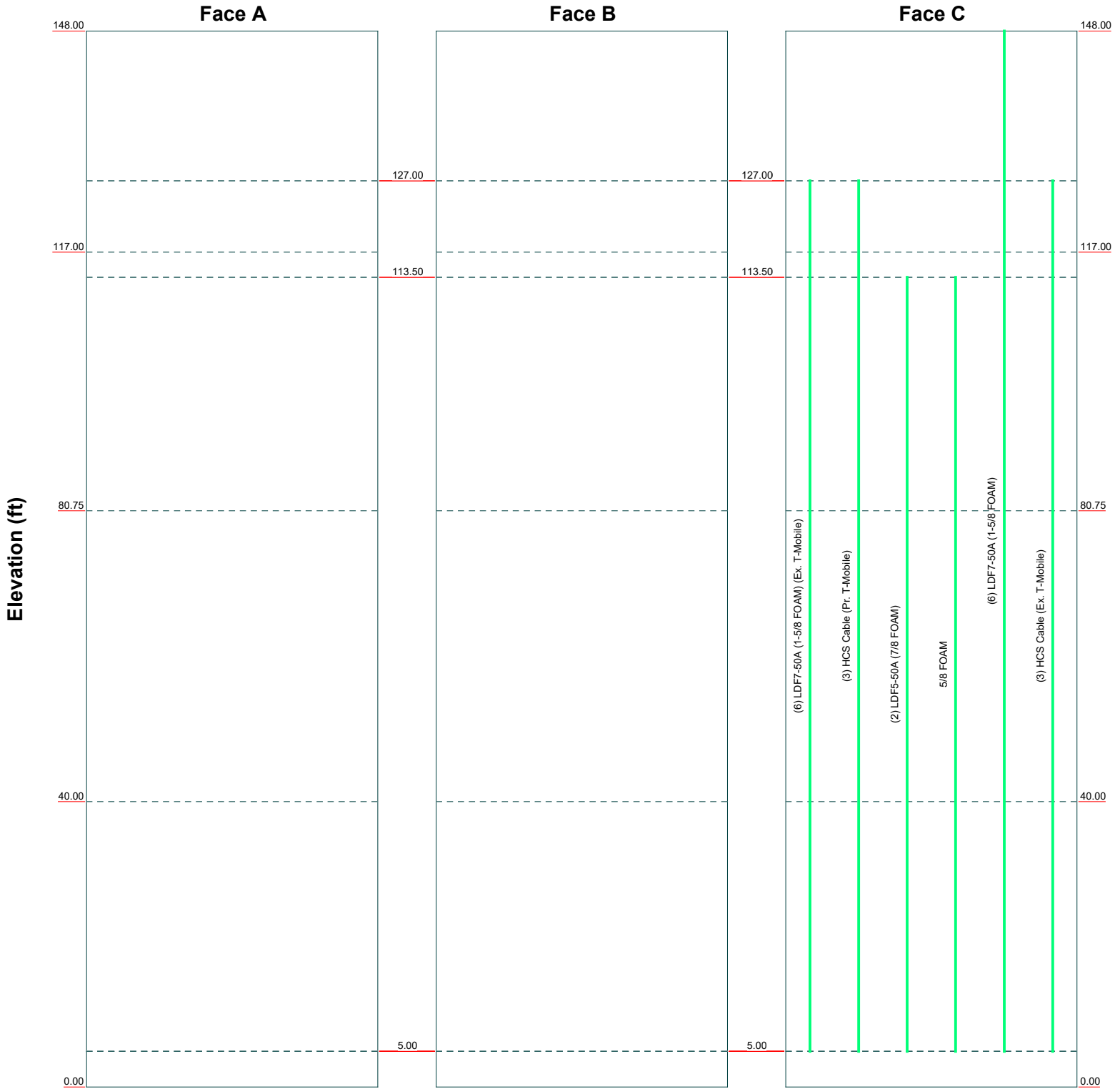


Foresite Group			
3740 Davinci Court, Suite 100 Peachtree Corners, GA 30092 Phone: (770) 368-1399 FAX: (770) 368-1944			
Job: 148' Monopole Analysis Report			
Project: T-Mobile L600 Upgrade		Drawn by: rkwak	App'd:
Client: Complete Development Services		Date: 08/05/20	Scale: NTS
Code: TIA-222-H		Path:	
		Dwg No. E-1	

Feed Line Distribution Chart

0' - 148'

— Round
 — Flat
 — App In Face
 — App Out Face
 — Truss Leg



Foresite Group		Job: 148' Monopole Analysis Report	
3740 Davinci Court, Suite 100		Project: T-Mobile L600 Upgrade	
Peachtree Corners, GA 30092		Client: Complete Development Services	Drawn by: rkwak
Phone: (770) 368-1399		Code: TIA-222-H	Date: 08/05/20
FAX: (770) 368-1944		Path:	Scale: NTS
			Dwg No. E-7

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	Client	Complete Development Services	Designed by	rkwak

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 Suffolk County, New York.

Tower base elevation above sea level: 15.00 ft.

Basic wind speed of 128 mph.

Risk Category II.

Exposure Category C.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.00 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 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

<ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric 	<ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs 	<ul style="list-style-type: none"> Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <li style="text-align: center;">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
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Tapered Pole Section Geometry

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Section	Elevation ft	Section Length ft	Splice Length in	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	148.00-117.00	31.00	45.00	18	24.0000	28.6500	0.2188	0.8752	A607-65 (65 ksi)
L2	117.00-80.75	40.00	51.00	18	27.6499	33.6510	0.2500	1.0000	A607-65 (65 ksi)
L3	80.75-40.00	45.00	60.00	18	32.5134	39.2640	0.3125	1.2500	A607-65 (65 ksi)
L4	40.00-0.00	45.00		18	37.8889	44.6400	0.3750	1.5000	A607-65 (65 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	24.3365	16.5154	1180.0298	8.4423	12.1920	96.7872	2361.6124	8.2592	3.8389	17.545
	29.0582	19.7446	2016.4027	10.0931	14.5542	138.5444	4035.4586	9.8742	4.6573	21.286
L2	28.6092	21.7418	2062.2025	9.7270	14.0461	146.8162	4127.1186	10.8730	4.4264	17.706
	34.1316	26.5037	3735.6208	11.8574	17.0947	218.5250	7476.1571	13.2544	5.4826	21.93
L3	33.6141	31.9393	4184.0584	11.4313	16.5168	253.3214	8373.6223	15.9727	5.1724	16.552
	39.8215	38.6350	7405.7143	13.8278	19.9461	371.2861	14821.1733	19.3212	6.3605	20.353
L4	39.1773	44.6510	7938.7727	13.3174	19.2476	412.4557	15887.9914	22.3297	6.0085	16.023
	45.2708	52.6864	13042.3859	15.7141	22.6771	575.1341	26101.9333	26.3482	7.1966	19.191

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 148.00-117.00				1	1	1			
L2 117.00-80.75				1	1	1			
L3 80.75-40.00				1	1	1			
L4 40.00-0.00				1	1	1			

Monopole Base Plate Data

Base Plate Data	
Base plate is square	√
Base plate is grouted	
Anchor bolt grade	A615
Anchor bolt size	2.2500 in
Number of bolts	12
Embedment length	72.0000 in
f _c	4 ksi
Grout space	3.0000 in
Base plate grade	A572-55
Base plate thickness	2.7500 in
Bolt circle diameter	51.0000 in
Outer diameter	50.0000 in
Inner diameter	40.0000 in
Base plate type	Plain Plate

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Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _{AA} ft ² /ft	Weight plf
LDF7-50A (1-5/8 FOAM) (Ex. T-Mobile)	C	No	No	Inside Pole	127.00 - 5.00	6	No Ice	0.00	0.92
							1/2" Ice	0.00	0.92
							1" Ice	0.00	0.92
HCS Cable (Pr. T-Mobile)	C	No	No	Inside Pole	127.00 - 5.00	3	No Ice	0.00	1.70
							1/2" Ice	0.00	1.70
							1" Ice	0.00	1.70
LDF5-50A (7/8 FOAM)	C	No	No	Inside Pole	113.50 - 5.00	2	No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
5/8 FOAM	C	No	No	Inside Pole	113.50 - 5.00	1	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
LDF7-50A (1-5/8 FOAM)	C	No	No	Inside Pole	148.00 - 5.00	6	No Ice	0.00	0.92
							1/2" Ice	0.00	0.92
							1" Ice	0.00	0.92
HCS Cable (Ex. T-Mobile)	C	No	No	Inside Pole	127.00 - 5.00	3	No Ice	0.00	1.70
							1/2" Ice	0.00	1.70
							1" Ice	0.00	1.70

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight lb
L1	148.00-117.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	328.32
L2	117.00-80.75	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	796.48
L3	80.75-40.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	898.54
L4	40.00-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	771.75

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} In Face ft ²	C _{AA} Out Face ft ²	Weight lb
L1	148.00-117.00	A	1.149	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	328.32
L2	117.00-80.75	A	1.116	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00

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Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight lb
L3	80.75-40.00	C		0.000	0.000	0.000	0.000	796.48
		A	1.062	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
L4	40.00-0.00	C		0.000	0.000	0.000	0.000	898.54
		A	0.952	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	771.75

Feed Line Center of Pressure

Section	Elevation ft	CP _X in	CP _Z in	CP _X Ice in	CP _Z Ice in
L1	148.00-117.00	0.0000	0.0000	0.0000	0.0000
L2	117.00-80.75	0.0000	0.0000	0.0000	0.0000
L3	80.75-40.00	0.0000	0.0000	0.0000	0.0000
L4	40.00-0.00	0.0000	0.0000	0.0000	0.0000

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

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight lb
12' T-Arm Mount (Ex. Sprint)	A	None		0.0000	148.00	No Ice	17.14	1140.00
						1/2" Ice	20.20	1270.00
						1" Ice	23.26	1400.00
12' T-Arm Mount (Ex. Sprint)	B	None		0.0000	148.00	No Ice	17.14	1140.00
						1/2" Ice	20.20	1270.00
						1" Ice	23.26	1400.00
12' T-Arm Mount (Ex. Sprint)	C	None		0.0000	148.00	No Ice	17.14	1140.00
						1/2" Ice	20.20	1270.00
						1" Ice	23.26	1400.00
(2) Decibel 980G65T Antenna (Ex. Sprint)	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice	3.90	10.00
						1/2" Ice	4.28	30.00
						1" Ice	4.66	50.00
(2) Decibel 980G65T Antenna (Ex. Sprint)	B	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice	3.90	10.00
						1/2" Ice	4.28	30.00
						1" Ice	4.66	50.00
(2) Decibel 980G65T Antenna (Ex. Sprint)	C	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice	3.90	10.00
						1/2" Ice	4.28	30.00
						1" Ice	4.66	50.00
12' T-Arm Mount (Ex. T-Mobile)	A	None		0.0000	127.00	No Ice	17.14	1140.00
						1/2" Ice	20.20	1270.00
						1" Ice	23.26	1400.00
12' T-Arm Mount	B	None		0.0000	127.00	No Ice	17.14	1140.00

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	Client	Complete Development Services	Designed by	rkwak

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight lb
			Horz Lateral ft	Vert ft					
(Ex. T-Mobile)									
12' T-Arm Mount (Ex. T-Mobile)	C	None			0.0000	127.00	No Ice 1/2" Ice 1" Ice	20.20 23.26 23.26	1270.00 1400.00 1400.00
(2) Ericsson AIR 21 KRC118023-1 with Mount Pipe (Ex. T-Mobile)	A	From Leg	4.00 0.00 0.00		0.0000	127.00	No Ice 1/2" Ice 1" Ice	6.76 7.26 7.38	110.00 170.00 230.00
(2) Ericsson AIR 21 KRC118023-1 with Mount Pipe (Ex. T-Mobile)	B	From Leg	4.00 0.00 0.00		0.0000	127.00	No Ice 1/2" Ice 1" Ice	6.76 7.26 7.38	110.00 170.00 230.00
(2) Ericsson AIR 21 KRC118023-1 with Mount Pipe (Ex. T-Mobile)	C	From Leg	4.00 0.00 0.00		0.0000	127.00	No Ice 1/2" Ice 1" Ice	6.76 7.26 7.38	110.00 170.00 230.00
(Ex. T-Mobile) TMA (Ex. T-Mobile)	A	From Leg	4.00 0.00 0.00		0.0000	127.00	No Ice 1/2" Ice 1" Ice	0.57 0.72 0.87	20.00 24.55 29.09
TMA (Ex. T-Mobile)	B	From Leg	4.00 0.00 0.00		0.0000	127.00	No Ice 1/2" Ice 1" Ice	0.57 0.72 0.87	20.00 24.55 29.09
TMA (Ex. T-Mobile)	C	From Leg	4.00 0.00 0.00		0.0000	127.00	No Ice 1/2" Ice 1" Ice	0.57 0.72 0.87	20.00 24.55 29.09
RFS APXVAARR24_46-U-NA20 Antenna (Pr. T-Mobile)	A	From Leg	4.00 0.00 0.00		0.0000	127.00	No Ice 1/2" Ice 1" Ice	20.24 21.31 22.37	128.00 240.59 353.19
RFS APXVAARR24_46-U-NA20 Antenna (Pr. T-Mobile)	B	From Leg	4.00 0.00 0.00		0.0000	127.00	No Ice 1/2" Ice 1" Ice	20.24 21.31 22.37	128.00 240.59 353.19
RFS APXVAARR24_46-U-NA20 Antenna (Pr. T-Mobile)	C	From Leg	4.00 0.00 0.00		0.0000	127.00	No Ice 1/2" Ice 1" Ice	20.24 21.31 22.37	128.00 240.59 353.19
Ericsson 4449 B71 + B25 RRU (Pr. T-Mobile)	A	From Leg	4.00 0.00 0.00		0.0000	127.00	No Ice 1/2" Ice 1" Ice	2.30 2.52 2.74	50.00 67.00 84.00
Ericsson 4449 B71 + B25 RRU (Pr. T-Mobile)	B	From Leg	4.00 0.00 0.00		0.0000	127.00	No Ice 1/2" Ice 1" Ice	2.30 2.52 2.74	50.00 67.00 84.00
Ericsson 4449 B71 + B25 RRU (Pr. T-Mobile)	C	From Leg	4.00 0.00 0.00		0.0000	127.00	No Ice 1/2" Ice 1" Ice	2.30 2.52 2.74	50.00 67.00 84.00
2" dia whip	A	From Leg	7.00 0.00 0.00		30.0000	121.00	No Ice 1/2" Ice 1" Ice	3.00 4.53 6.06	30.00 50.00 70.00
1.5" dia whip	B	From Leg	3.00 0.00 0.00		30.0000	116.00	No Ice 1/2" Ice 1" Ice	0.75 1.26 1.77	10.00 10.00 10.00
2" dia whip	B	From Leg	7.00 0.00 0.00		30.0000	113.50	No Ice 1/2" Ice 1" Ice	0.41 0.56 0.71	20.00 20.00 20.00
10' Side Arm Mount	A	From Leg	5.00		0.0000	113.50	No Ice	2.67	250.00

tnxTower Foresite Group 3740 Davinci Court, Suite 100 Peachtree Corners, GA 30092 Phone: (770) 368-1399 FAX: (770) 368-1944	Job	148' Monopole Analysis Report	Page	6 of 6
	Project	T-Mobile L600 Upgrade	Date	13:36:05 08/05/20
	Client	Complete Development Services	Designed by	rkwak

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz Lateral	Vert					
			ft	ft	°	ft	ft ²	ft ²	lb
			0.00			1/2" Ice	3.36	3.36	650.00
			0.00			1" Ice	4.05	4.05	1050.00

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity
L1	148 - 117	Pole	TP28.65x24x0.2188	1	-10768.40	135680.00	32.0
L2	117 - 80.75	Pole	TP33.651x27.6499x0.25	2	-15802.90	251897.00	69.0
L3	80.75 - 40	Pole	TP39.264x32.5134x0.3125	3	-23481.90	499122.00	79.0
L4	40 - 0	Pole	TP44.64x37.8889x0.375	4	-35146.50	931816.00	81.1
Summary							
Pole (L4)							81.1
Base Plate							91.4
RATING =							91.4