COHEN and WOLF P.C.
ATTORNEYS AT LAW

JULIE D. KOHLER

PLEASE REPLY TO: Bridgeport
WRITER'S DIRECT DIAL: (203) 337-4157
E-Mail Address: jkohler@cohenandwolf.com

March 4, 2015

Attorney Melanie Bachman
Acting Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Notice of Exempt Modification
Town of Killingly/T-Mobile equipment upgrade
Site ID CT11396B
79 Putnam Pike, Killingly Connecticut

Dear Attorney Bachman:

This office represents T-Mobile Northeast LLC ("T-Mobile") and has been retained to file exempt modification filings with the Connecticut Siting Council on its behalf.

In this case, the Town of Killingly ("Town") owns the existing monopole tower and related facility located at 453 Loon Meadow Road, Killingly, Connecticut (Latitude: 41.847436; Longitude: -71.878883). T-Mobile intends to replace (3) antennas and add related equipment at this existing telecommunications facility in Killingly ("Killingly Facility"). Please accept this letter as notification, pursuant to R.C.S.A. § 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the Town Manager, Sean Hendricks. The Town is also the property owner.

The existing Killingly Facility consists of a 150 foot tall monopole tower.[1] T-Mobile plans to replace three (3) antennas at a centerline of 148 feet. T-Mobile will install a BBU cabinet on a concrete pad and mount three (3) RRU's (remote radio units) on new unistruts spanning the ice canopy posts, all within the existing compound area. T-Mobile will also add coax cable. (See the plans revised to February 25, 2015 attached hereto as Exhibit A). The existing Killingly Facility is structurally capable of supporting T-Mobile's proposed modifications, as indicated in the structural analysis dated February 12, 2015 and attached hereto as Exhibit B.

The planned modifications to the Killingly Facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modification will not increase the height of the tower. T-Mobile's

[1] The Connecticut Siting Council database does not contain any Dockets or Petitions relative to this Facility however there are several notices of intent, the most recent being EM-VER-069-140828, EM-CING-069-140516 and EM-AT&T-069-140114.

proposed modifications will be installed at a centerline of 148 feet, merely modifying existing antennas located at the same 148 foot elevation. The enclosed tower drawing confirms that the proposed modification will not increase the height of the tower.

2. The proposed modifications will not require an extension of the site boundaries. T-Mobile's modifications are all within the existing compound area as shown on Sheets LE-1 and LE-2.

3. The proposed modification to the Killingly Facility will not increase the noise levels at the existing facility by six decibels or more.

4. The operation of the replacement antennas will not increase the total radio frequency (RF) power density, measured at the base of the tower, to a level at or above the applicable standard. According to a Radio Frequency Emissions Analysis Report prepared by EBI dated February 25, 2015, T-Mobile's operations would add 4.43% of the FCC Standard. Therefore, the calculated "worst case" power density for the planned combined operation at the site including all of the proposed antennas would be 97.45% of the FCC Standard as calculated for a mixed frequency site as evidenced by the engineering exhibit attached hereto as Exhibit C.

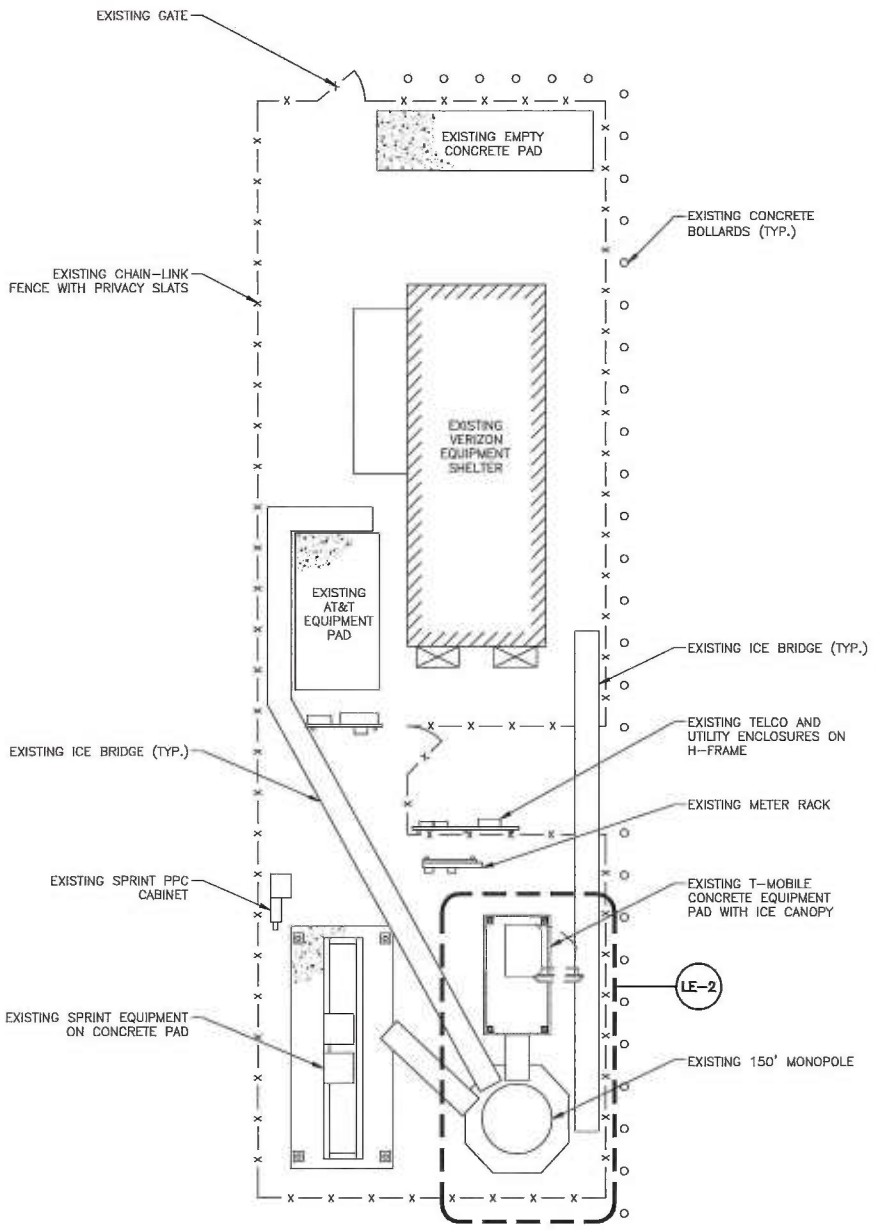
For the foregoing reasons, T-Mobile respectfully submits that the proposed replacement antennas and additional equipment at the Killingly Facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Upon acknowledgement by the Council of this proposed exempt modification, T-Mobile shall commence construction approximately sixty days from the date of the Council's notice of acknowledgement.

Sincerely,

Julie D. Kohler, Esq.

cc: Town of Killingly, Town Manager Sean Hendricks
Jamie Ford, EBI Consulting

EXHIBIT A



CONFIGURATION

704G

APPROX. NORTH

NOTE:
ALL EQUIPMENT LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO APPROVAL BY LESSEE/LICENSEE STRUCTURAL AND RF ENGINEERS.

SITE PLAN

SCALE: 1" = 15'-0"

PREPARED BY:

EBI Consulting
environmental | engineering | due diligence
21 B Street | Burlington, MA 01803
Tel: (781) 273-2500 | Fax: (781) 273-3311
www.ebiconsulting.com

EBI JOB NO.:
8115000114

CLIENT:

T-Mobile Northeast, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860.692.7100

SITE INFO:

CT11396B
KILLINGLY/
I-395/X93_1
79 PUTNAM PIKE
KILLINGLY, CT 06241

SUBMITTALS			
NO.	DATE	DESCRIPTION	BY
A	02/25/15	FOR REVIEW	LF
B	03/02/15	REVISED - BBU	BB
0	03/02/15	REVISED - SMALLER BBU	BB

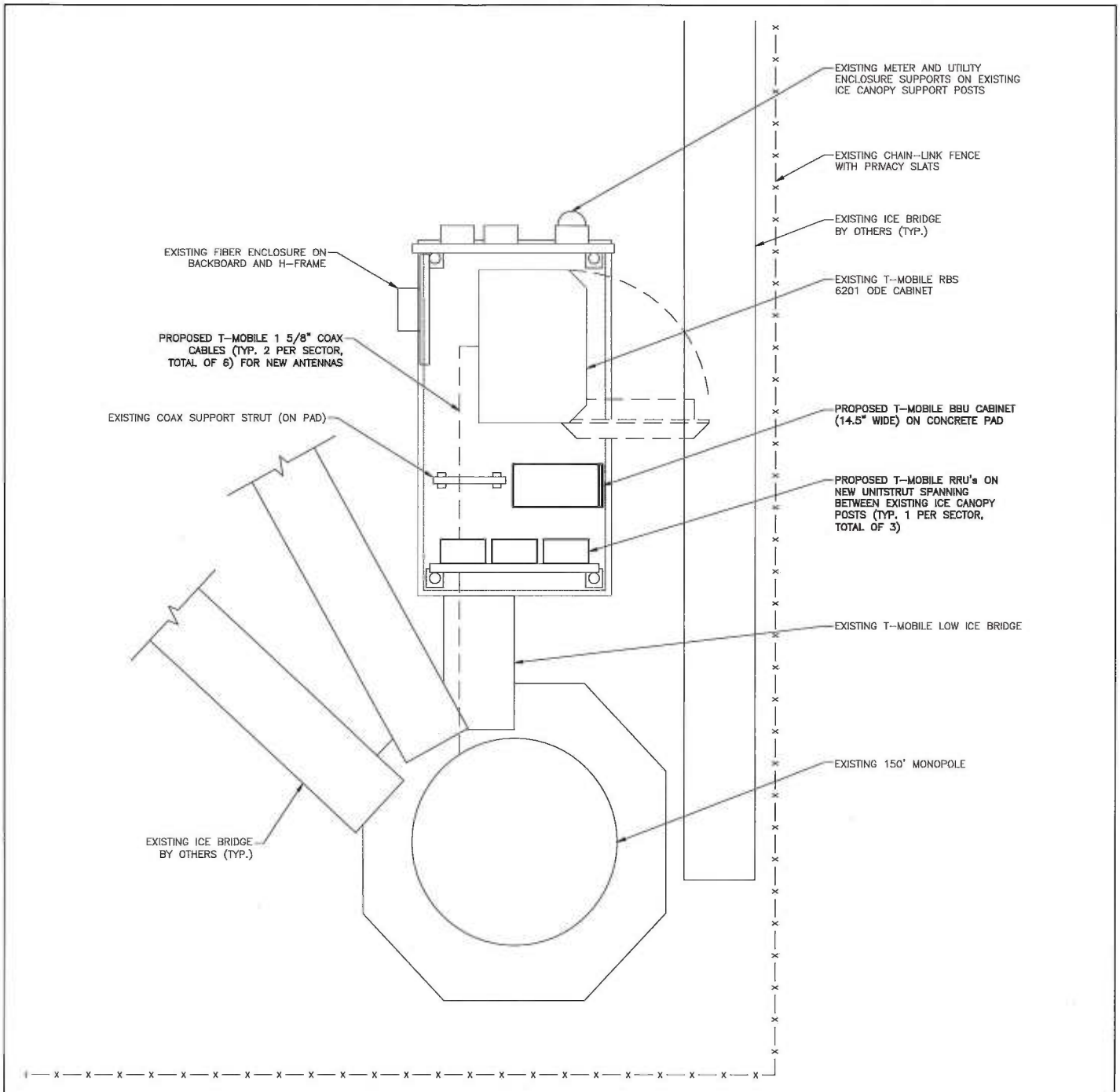
DRAWN BY: LF

CHECKED BY: MD

DATE: 02/25/15

SHEET NO:

LE-1



CONFIGURATION

704G

APPROX. NORTH

NOTE:
ALL EQUIPMENT LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO APPROVAL BY LESSEE/LICENSEE STRUCTURAL AND RF ENGINEERS.

EQUIPMENT PLAN

SCALE: 1/4" = 1'-0"

PREPARED BY:

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Tel: (781) 273-2500 | Fax: (781) 273-3311
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EBI JOB NO.:
8115000114

CLIENT:

T-Mobile Northeast, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860.692.7100

SITE INFO:

CT11396B
KILLINGLY/
I-395/X93_1
79 PUTNAM PIKE
KILLINGLY, CT 06241

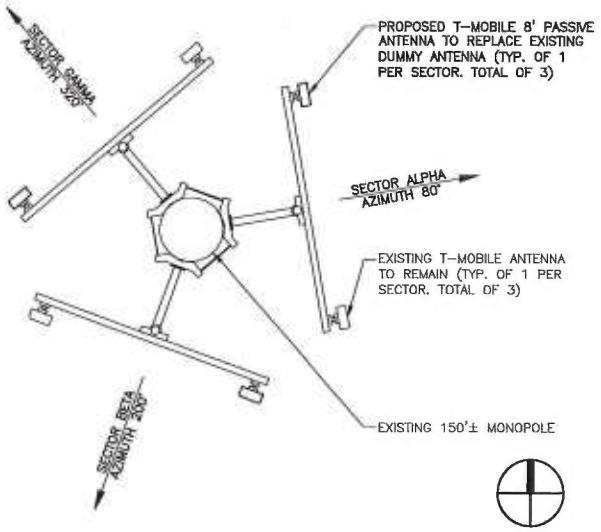
SUBMITTALS			
NO.	DATE	DESCRIPTION	BY
A	02/25/15	FOR REVIEW	LF
B	03/02/15	REVISED - BBU	BB
0	03/02/15	REVISED - SMALLER BBU	BB

DRAWN BY: LF

CHECKED BY: MD

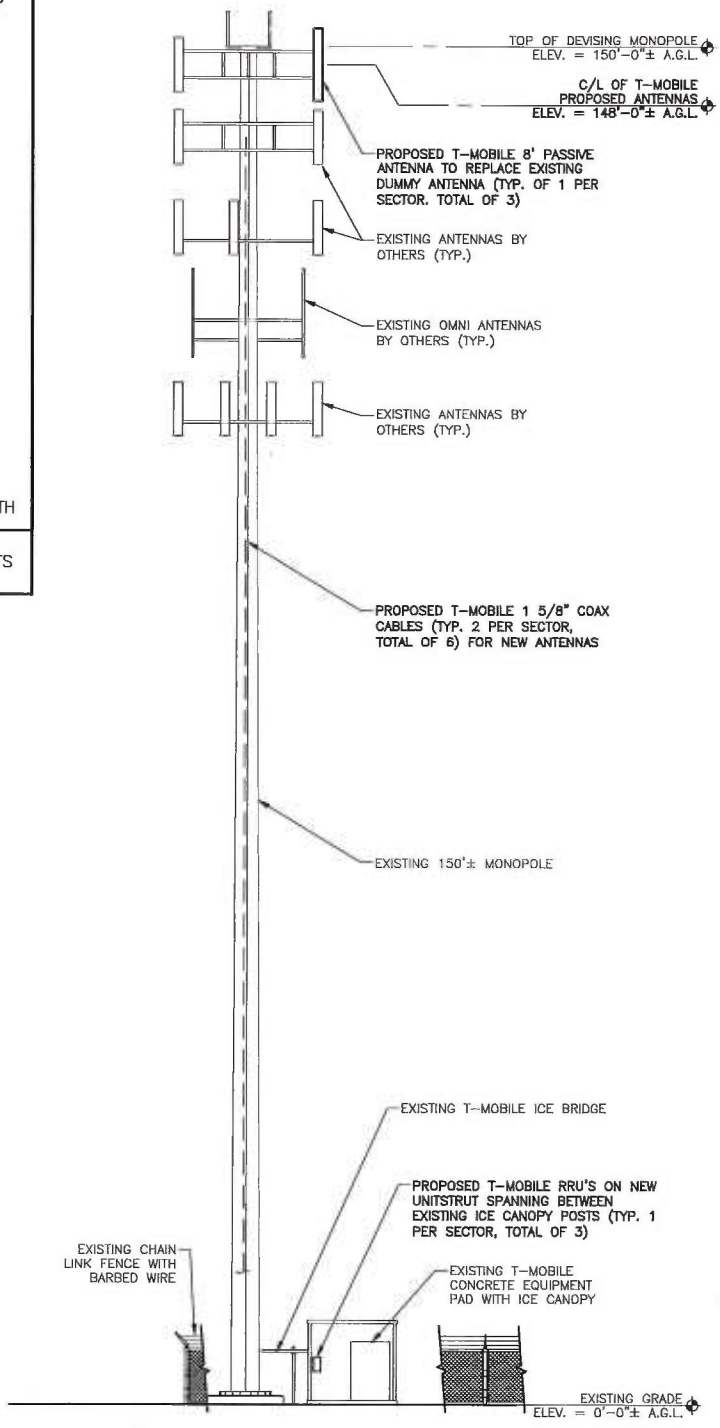
DATE: 02/25/15

SHEET NO: LE-2



ANTENNA CONFIGURATION

NTS



CONFIGURATION

704G

NOTE:
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TOWER ELEVATION

SCALE: 1:20

PREPARED BY:
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EBI JOB NO.: 8115000114

CLIENT:
T-Mobile Northeast, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860.692.7100

SITE INFO:
CT11396B
KILLINGLY/
I-395/X93_1
79 PUTNAM PIKE
KILLINGLY, CT 06241

SUBMITTALS			
NO.	DATE	DESCRIPTION	BY
A	02/25/15	FOR REVIEW	LF
B	03/02/15	REVISED - BBU	BB
0	03/02/15	REVISED -- SMALLER BBU	BB

DRAWN BY: LF
CHECKED BY: MD
DATE: 02/25/15

SHEET NO: LE-3

EXHIBIT B

EBI Consulting
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Tel: (781) 273- 2500
Fax: (781) 273- 3311
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STRUCTURAL ANALYSIS REPORT

February 12, 2015

T-Mobile, USA
35 Griffin Rd
South Bloomfield, CT 06002
Attention: Mark Richard

Subject: 700MHz Upgrade Project
Site #: CT 11396 B
EBI Reference #: 81150114
Site Name: Killingly / I-395 / X 93-1
Address: 79 Putman Pike, Dayville, CT 06241

Dear Mr. Richard:

In accordance with your request, EBI Consulting's structural engineers have reviewed the available documentation for the above site in order to assess its capability for supporting the structural loads from the proposed antennas, remote radio units, coaxial cables, and related equipment. This analysis is in accordance with the following design codes governing this project:

- International Building Code, 2003 with CT 2005, 2009, 2011, and 2013 amendments
- ASCE 7-05
- AISC Steel Construction Manual, 13th Edition
- ANSI/TIA-222-F

The following sources of information were considered in preparing this analysis:

- Photographs taken by EBI personnel on a site visit on January 21, 2015
- Structural analysis report prepared by Hudson Design Group, dated May 1, 2014
- Structural analysis report prepared by Hudson Design Group, dated October 18, 2012
- Geotechnical report dated June 15, 1998

The tower was analyzed for a wind speed of 85 mph without ice and with 1/2" radial ice at a reduced wind speed of 74 mph.

Three Commscope LNX 6515DS-VTM (96.4"x11.9"x7.1") antennas are proposed to replace (3) existing dummy antennas on existing mast pipes, mounted to existing sector frames at a centerline elevation of approximately 148'-0". Additionally, six 1-5/8" diameter coax cables are proposed to be installed inside the monopole. The three RRUS11 B12 remote radio units are proposed to be installed at ground level.

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Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
149.0	148.0	3	-	LNX 6515DS - VTM W/ Mast pipe	6 (inside)	1-5/8"
0	0	3	-	RRUS11_B12		

Table 2 - Existing Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
153.0	153.0	2	-	3" x 4' Omni	2 (inside)	7/8"
152.5	152.5	1	-	Lightning Rod 3/4" x 6'		
150.9	150.9	1	-	10.5' horizontal pipe		
149.0	150.0	3	-	Gen TMA	6 (inside)	1-5/8"
		3	-	RV90-17-02DP W/ Mast pipe		
		3	-	Gen TMA*		
		3	-	RV90-17-02DP W/ Mast pipe*		
	149	3	-	Pirod 12' T-Frame Sector Mount (1)		
138.0	138.0	6	-	DB980H90-M W/ Mast pipe	6 (inside)	1-5/8"
		3	-	Pirod 12' T-Frame Sector Mount (1)		
130.0	132.0	3	-	7770.00 Antenna	13 (inside)	1-5/8"
		9	-	HPA-65R-BBU-H8 W/ Mast pipe		
	130.0	6	-	Diplexer	2 (inside)	1/2"
		3	-	Surge Suppressor		
		3	-	TMA		
		1	-	Platform Mount [LP 304-1]		
129.0	131.0	6	-	A2		
		3	-	RRUS-11		
		3	-	RRUS-11 W/ Mast pipe		
	129.0	6	-	RRUS-12		

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Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		1	-	Ring Mount		
	127.0	3	-	RRUS-32		
		3		RRUS-E2		
119.0	124.0	2		3" x 4' Omni	2 (inside)	1/2"
	119.0	1		2' Side Mount Standoff		
		2	tower mounts	Pirod 6' Side Mount Standoff (1)		
106.0	108.0	12		73"x12"x7" Antenna W/ Mast pipe	12 (inside)	1-5/8"
	107.0	6		RRUS-11		
	106.0	1	crown mounts (2)	Platform Mount [LP 304-1]		

Note: * Existing antennas to be removed

Summary of Results: (Refer to attached TNX Tower Analysis for detailed analysis results)

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	$SF*P_{allow}$ lb	% Capacity	Pass Fail
L1	150 - 130	Pole	TP34.3125x27.8125x0.25	1	-4541.18	939803.62	14.3	Pass
L2	130 - 115	Pole	TP38.6875x32.1875x0.25	2	-11814.50	1072699.71	56.4	Pass
L3	115 - 95	Pole	TP45.1875x38.6875x0.3125	3	-17057.60	1554571.20	62.7	Pass
L4	95 - 91	Pole	TP45.8125x42.6125x0.3125	4	-19842.60	1632405.06	77.3	Pass
L5	91 - 51	Pole	TP58.875x45.8125x0.375	5	-27989.20	2378058.57	84.9	Pass
L6	51 - 40	Pole	TP61.6875x55.5125x0.375	6	-35310.80	2479259.93	98.7	Pass
L7	40 - 19	Pole	TP68.5x61.6875x0.4375	7	-39544.10	3235364.16	83.2	Pass
L8	19 - 0	Pole	TP73.8125x64.7054x0.4375	8	-52770.20	3408814.11	95.4	Pass
							Summary	
						Pole (L6)	98.7	Pass
						RATING =	**98.7**	**Pass**

The maximum stress under the proposed conditions and configurations is **98.7%** of the tower capacity, governed by pole section L6, and is considered **adequate.**

Detailed base plate and anchor bold data was not available at the time of this analysis. Thus, rigorous evaluation of those elements was unable to be performed for determining their adequacy. EBI makes no claim on the anchor bolt and base plate adequacy for supporting the existing and proposed installations, neither written nor implied.

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Foundation:

The foundation reactions are summarized below:

Load	Current analysis loads (TIA 222 Rev F)
Moment (k-ft)	4792
Shear (k)	48
Axial (k)	63

The foundation was analyzed for supporting the overall tower reactions, and it was determined that the existing foundation is structurally adequate for supporting the tower under the proposed loading configuration.

Limitations and Assumptions:

The report is based on the following:

1. Tower is properly installed and maintained.
2. All members are as specified in the original design documents and are in good condition.
3. All required members are in place.
4. All bolts are in place and are tightly fastened.
5. Tower is in plumb condition.
6. All member protective coatings are in good condition.
7. All tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
8. Modifications listed in the previous report have been installed.

EBI is not responsible for any modifications completed prior to or hereafter in which EBI is not or was not directly involved. Modifications include but are not limited to:

A. Adding antennas
B. Removing / replacing antennas
C. Adding coaxial cables

EBI hereby states that this document represents the entire report and that it assumes no liability for any factual changes that may occur after the date of this report. All representations, recommendations, and conclusions are based upon information contained and set forth herein. If you are aware of any information which conflicts with that which is contained herein, or you are aware of any defects arising from the original design, material, fabrication, or erection deficiencies, you should disregard this report and immediately contact EBI. EBI disclaims all liability for representation, recommendation, or conclusion not expressly stated herein.

THE CONCLUSION OF THE TOWER STRUCTURAL ANALYSIS IS THAT THE TOWER IS AT 98.7% CAPACITY FOR THE PROPOSED AND EXISTING LOADING AND IS CONSIDERED ADEQUATE.

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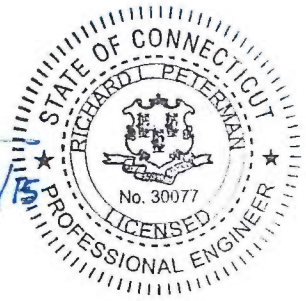
Please feel free to contact our office should you have any questions.

Sincerely yours,
EBI Consulting
February 12, 2015

Brandon Kelsey, E.I.T.

Richard L. Peterman, P.E.
Professional Engineer



Attachment: Photograph Log, Calculations

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PHOTOGRAPH LOG

Photo 1: Existing monopole.	
Photo 2: T-Mobile existing antennas.	

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Photo 3: Existing monopole base.	

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STRUCTURAL DESIGN PARAMETERS

BUILDING CODE:	2003 IBC WITH CT 2005, 2009, 2011, and 2013 AMENDMENTS ASCE7-05 TIA- 222-F	
OCCUPANCY CATEGORY:	II	
WIND LOADS:		
BASIC WIND SPEED (fastest mile), V:	85 MPH	(Tia 222 Rev F)
IMPORTANCE FACTOR, I:	1.0	
ICE LOADS:		
ICE THICKNESS	0.5 INCH	
BASIC WIND SPEED WITH ICE, Vi	74 MPH	

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APPENDIX A

TNX Tower Results

tnxTower	Job	Page
	CT11396B	1 of 25
EBI Consulting 21 B St Burlington, MA 01803 Phone: (781) 273 - 2500 FAX: (781) 273 - 3311	Project 81150114	Date 15:26:13 02/17/15
	Client T-Mobile	Designed by Brandon Kelsey

Tower Input Data

There is a pole section.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in Windham County, Connecticut.
Basic wind speed of 85 mph.
Nominal ice thickness of 0.5000 in.
Ice density of 56 pcf.
A wind speed of 74 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 50 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.333.
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	Treat Feedline Bundles As Cylinder
Consider Moments - Horizontals	Assume Legs Pinned	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Calculate Redundant Bracing Forces
Use Moment Magnification	√ Use Clear Spans For Wind Area	Ignore Redundant Members in FEA
√ Use Code Stress Ratios	√ Use Clear Spans For KL/r	SR Leg Bolts Resist Compression
√ Use Code Safety Factors - Guys	Retension Guys To Initial Tension	All Leg Panels Have Same Allowable
Escalate Ice	√ Bypass Mast Stability Checks	Offset Girt At Foundation
Always Use Max Kz	√ Use Azimuth Dish Coefficients	√ Consider Feedline Torque
Use Special Wind Profile	√ Project Wind Area of Appurt.	Include Angle Block Shear Check
Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Poles
Leg Bolts Are At Top Of Section	SR Members Have Cut Ends	Include Shear-Torsion Interaction
Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	Always Use Sub-Critical Flow
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Use Top Mounted Sockets
Add IBC .6D+W Combination	Use TIA-222-G Tension Splice Capacity Exemption	

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	150.00-130.00	20.00	5.00	12	27.8125	34.3125	0.2500	1.0000	A36M-45 (45 ksi)
L2	130.00-115.00	20.00	0.00	12	32.1875	38.6875	0.2500	1.0000	A36M-45 (45 ksi)
L3	115.00-95.00	20.00	6.00	12	38.6875	45.1875	0.3125	1.2500	A36M-45 (45 ksi)
L4	95.00-91.00	10.00	0.00	12	42.6125	45.8125	0.3125	1.2500	A36M-45 (45 ksi)
L5	91.00-51.00	40.00	8.00	12	45.8125	58.8750	0.3750	1.5000	A36M-45 (45 ksi)

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
L6	51.00-40.00	19.00	0.00	12	55.5125	61.6875	0.3750	1.5000	A36M-45 (45 ksi)
L7	40.00-19.00	21.00	9.00	12	61.6875	68.5000	0.4375	1.7500	A36M-45 (45 ksi)
L8	19.00-0.00	28.00		12	64.7054	73.8125	0.4375	1.7500	A36M-45 (45 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	28.7936	22.1878	2151.4817	9.8674	14.4069	149.3372	4359.4852	10.9202	6.7838	27.135
	35.5229	27.4203	4060.7980	12.1944	17.7739	228.4700	8228.2777	13.4954	8.5258	34.103
L2	35.0053	25.7097	3347.2225	11.4336	16.6731	200.7556	6782.3803	12.6535	7.9562	31.825
	40.0522	30.9422	5835.0856	13.7606	20.0401	291.1701	11823.4654	15.2288	9.6982	38.793
L3	40.0522	38.6148	7258.3350	13.7382	20.0401	362.1901	14707.3546	19.0051	9.5307	30.498
	46.7815	45.1555	11606.6056	16.0652	23.4071	495.8578	23518.1297	22.2241	11.2728	36.073
L4	46.1034	42.5644	9721.0448	15.1434	22.0733	440.3988	19697.4723	20.9489	10.5826	33.864
	47.4286	45.7844	12098.3469	16.2890	23.7309	509.8146	24514.5309	22.5337	11.4403	36.609
L5	47.4286	54.8658	14458.2714	16.2666	23.7309	609.2599	29296.3778	27.0033	11.2728	30.061
	60.9519	70.6388	30856.0755	20.9430	30.4973	1011.7658	62522.7744	34.7662	14.7735	39.396
L6	60.1625	66.5785	25835.3472	19.7392	28.7555	898.4497	52349.4177	32.7679	13.8724	36.993
	63.8636	74.0348	35523.8611	21.9499	31.9541	1111.7144	71980.9737	36.4377	15.5273	41.406
L7	63.8636	86.2859	41317.8922	21.9275	31.9541	1293.0378	83721.2515	42.4673	15.3598	35.108
	70.9164	95.8830	56694.8448	24.3664	35.4830	1597.8030	114879.126 2	47.1907	17.1855	39.281
L8	70.0185	90.5373	47731.0885	23.0079	33.5174	1424.0700	96716.1258	44.5597	16.1685	36.957
	76.4163	103.3670	71033.6649	26.2682	38.2349	1857.8239	143933.463 2	50.8741	18.6092	42.535

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
L1 150.00-130.00				1	1	1		
L2 130.00-115.00				1	1	1		
L3 115.00-95.00				1	1	1		
L4 95.00-91.00				1	1	1		
L5 91.00-51.00				1	1	1		
L6 51.00-40.00				1	1	1		
L7 40.00-19.00				1	1	1		
L8 19.00-0.00				1	1	1		

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	C_AA_A ft^2/ft	Weight plf

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
LDF5-50A (7/8 FOAM)	A	No	Inside Pole	7.00 - 150.00	2	No Ice	0.00	0.33
						1/2" Ice	0.00	0.33
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	7.00 - 149.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	7.00 - 149.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	7.00 - 138.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	7.00 - 130.00	13	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
LDF4RN-50A (1/2 FOAM)	A	No	Inside Pole	7.00 - 130.00	2	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
LDF4RN-50A (1/2 FOAM)	A	No	Inside Pole	7.00 - 120.00	2	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	7.00 - 106.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
L1	150.00-130.00	A	0.000	0.000	0.000	0.000	239.52
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L2	130.00-115.00	A	0.000	0.000	0.000	0.000	397.20
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L3	115.00-95.00	A	0.000	0.000	0.000	0.000	641.84
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L4	95.00-91.00	A	0.000	0.000	0.000	0.000	146.08
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L5	91.00-51.00	A	0.000	0.000	0.000	0.000	1460.80
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L6	51.00-40.00	A	0.000	0.000	0.000	0.000	401.72
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L7	40.00-19.00	A	0.000	0.000	0.000	0.000	766.92
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L8	19.00-0.00	A	0.000	0.000	0.000	0.000	438.24
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00

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 In Face ft^2	C_AA_A Out Face ft^2	Weight lb
L1	150.00-130.00	A	0.500	0.000	0.000	0.000	0.000	239.52
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
L2	130.00-115.00	A	0.500	0.000	0.000	0.000	0.000	397.20
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L3	115.00-95.00	A	0.500	0.000	0.000	0.000	0.000	641.84
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L4	95.00-91.00	A	0.500	0.000	0.000	0.000	0.000	146.08
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L5	91.00-51.00	A	0.500	0.000	0.000	0.000	0.000	1460.80
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L6	51.00-40.00	A	0.500	0.000	0.000	0.000	0.000	401.72
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L7	40.00-19.00	A	0.500	0.000	0.000	0.000	0.000	766.92
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L8	19.00-0.00	A	0.500	0.000	0.000	0.000	0.000	438.24
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	150.00-130.00	0.0000	0.0000	0.0000	0.0000
L2	130.00-115.00	0.0000	0.0000	0.0000	0.0000
L3	115.00-95.00	0.0000	0.0000	0.0000	0.0000
L4	95.00-91.00	0.0000	0.0000	0.0000	0.0000
L5	91.00-51.00	0.0000	0.0000	0.0000	0.0000
L6	51.00-40.00	0.0000	0.0000	0.0000	0.0000
L7	40.00-19.00	0.0000	0.0000	0.0000	0.0000
L8	19.00-0.00	0.0000	0.0000	0.0000	0.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
Lightning Rod 3/4" x 6'	C	None		0.0000	152.50	No Ice	0.45	0.45	30.00
						1/2" Ice	1.06	1.06	34.66
3" x 4' Omni	C	From Leg	4.00 0.00 0.00	0.0000	153.00	No Ice	0.68	0.68	15.00
						1/2" Ice	0.87	0.87	21.82
3" x 4' Omni	B	From Leg	4.00 0.00	0.0000	153.00	No Ice	0.68	0.68	15.00
						1/2" Ice	0.87	0.87	21.82

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00						
10.5' horizontal pipe	C	None		0.0000	150.90	No Ice	2.01	2.01	61.00
						1/2" Ice	2.73	2.73	490.04
RV90-17-02DP W/ Mast pipe	A	From Leg	3.00	0.0000	149.00	No Ice	4.91	3.64	43.55
			6.00			1/2" Ice	5.57	4.70	81.64
			1.00						
RV90-17-02DP W/ Mast pipe	B	From Leg	3.00	0.0000	149.00	No Ice	4.91	3.64	43.55
			6.00			1/2" Ice	5.57	4.70	81.64
			1.00						
RV90-17-02DP W/ Mast pipe	C	From Leg	3.00	0.0000	149.00	No Ice	4.91	3.64	43.55
			6.00			1/2" Ice	5.57	4.70	81.64
			1.00						
Gen TMA	A	From Leg	3.00	0.0000	149.00	No Ice	0.68	0.45	13.20
			6.00			1/2" Ice	0.80	0.56	18.38
			1.00						
Gen TMA	B	From Leg	3.00	0.0000	149.00	No Ice	0.68	0.45	13.20
			6.00			1/2" Ice	0.80	0.56	18.38
			1.00						
Gen TMA	C	From Leg	3.00	0.0000	149.00	No Ice	0.68	0.45	13.20
			6.00			1/2" Ice	0.80	0.56	18.38
			1.00						
LNX 6515DS - VTM W/ Mast pipe	A	From Leg	3.00	0.0000	149.00	No Ice	11.45	10.00	90.00
			-6.00			1/2" Ice	12.06	11.42	181.00
			-1.00						
LNX 6515DS - VTM W/ Mast pipe	B	From Leg	3.00	0.0000	149.00	No Ice	11.45	10.00	90.00
			-6.00			1/2" Ice	12.06	11.42	181.00
			-1.00						
LNX 6515DS - VTM W/ Mast pipe	C	From Leg	3.00	0.0000	149.00	No Ice	11.45	10.00	90.00
			-6.00			1/2" Ice	12.06	11.42	181.00
			-1.00						
Pirod 12' T-Frame Sector Mount (1)	A	From Leg	1.50	0.0000	149.00	No Ice	13.60	13.60	465.00
			0.00			1/2" Ice	18.40	18.40	600.00
			0.00						
Pirod 12' T-Frame Sector Mount (1)	B	From Leg	1.50	0.0000	149.00	No Ice	13.60	13.60	465.00
			0.00			1/2" Ice	18.40	18.40	600.00
			0.00						
Pirod 12' T-Frame Sector Mount (1)	C	From Leg	1.50	0.0000	149.00	No Ice	13.60	13.60	465.00
			0.00			1/2" Ice	18.40	18.40	600.00
			0.00						
DB980H90-M W/ Mast pipe	A	From Leg	3.00	0.0000	138.00	No Ice	4.27	3.86	34.05
			6.00			1/2" Ice	4.86	4.95	69.84
			0.00						
DB980H90-M W/ Mast pipe	B	From Leg	3.00	0.0000	138.00	No Ice	4.27	3.86	34.05
			6.00			1/2" Ice	4.86	4.95	69.84
			0.00						
DB980H90-M W/ Mast pipe	C	From Leg	3.00	0.0000	138.00	No Ice	4.27	3.86	34.05
			6.00			1/2" Ice	4.86	4.95	69.84
			0.00						
DB980H90-M W/ Mast pipe	A	From Leg	3.00	0.0000	138.00	No Ice	4.27	3.86	34.05
			-6.00			1/2" Ice	4.86	4.95	69.84
			0.00						
DB980H90-M W/ Mast pipe	B	From Leg	3.00	0.0000	138.00	No Ice	4.27	3.86	34.05
			-6.00			1/2" Ice	4.86	4.95	69.84
			0.00						
DB980H90-M W/ Mast pipe	C	From Leg	3.00	0.0000	138.00	No Ice	4.27	3.86	34.05
			-6.00			1/2" Ice	4.86	4.95	69.84
			0.00						

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
Pirod 12' T-Frame Sector Mount (1)	A	From Leg	1.50 0.00 0.00	0.0000	138.00	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	465.00 600.00
Pirod 12' T-Frame Sector Mount (1)	B	From Leg	1.50 0.00 0.00	0.0000	138.00	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	465.00 600.00
Pirod 12' T-Frame Sector Mount (1)	C	From Leg	1.50 0.00 0.00	0.0000	138.00	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	465.00 600.00
7770.00 Antenna	A	From Leg	3.00 6.00 2.00	0.0000	130.00	No Ice 1/2" Ice	6.29 6.81	4.65 5.36	70.00 121.00
7770.00 Antenna	B	From Leg	3.00 6.00 2.00	0.0000	130.00	No Ice 1/2" Ice	6.29 6.81	4.65 5.36	70.00 121.00
7770.00 Antenna	C	From Leg	3.00 6.00 2.00	0.0000	130.00	No Ice 1/2" Ice	6.29 6.81	4.65 5.36	70.00 121.00
HPA-65R-BBU-H8 W/ Mast pipe	A	From Leg	3.00 3.00 2.00	0.0000	130.00	No Ice 1/2" Ice	13.38 14.11	9.82 11.22	139.32 237.96
HPA-65R-BBU-H8 W/ Mast pipe	B	From Leg	3.00 3.00 2.00	0.0000	130.00	No Ice 1/2" Ice	13.38 14.11	9.82 11.22	139.32 237.96
HPA-65R-BBU-H8 W/ Mast pipe	C	From Leg	3.00 3.00 2.00	0.0000	130.00	No Ice 1/2" Ice	13.38 14.11	9.82 11.22	139.32 237.96
TMA	A	From Leg	3.00 3.00 0.00	0.0000	130.00	No Ice 1/2" Ice	0.95 1.09	0.37 0.48	20.00 25.00
TMA	B	From Leg	3.00 3.00 0.00	0.0000	130.00	No Ice 1/2" Ice	0.95 1.09	0.37 0.48	20.00 25.00
TMA	C	From Leg	3.00 3.00 0.00	0.0000	130.00	No Ice 1/2" Ice	0.95 1.09	0.37 0.48	20.00 25.00
HPA-65R-BBU-H8 W/ Mast pipe	A	From Leg	3.00 -3.00 2.00	0.0000	130.00	No Ice 1/2" Ice	13.38 14.11	9.82 11.22	139.32 237.96
HPA-65R-BBU-H8 W/ Mast pipe	B	From Leg	3.00 -3.00 2.00	0.0000	130.00	No Ice 1/2" Ice	13.38 14.11	9.82 11.22	139.32 237.96
HPA-65R-BBU-H8 W/ Mast pipe	C	From Leg	3.00 -3.00 2.00	0.0000	130.00	No Ice 1/2" Ice	13.38 14.11	9.82 11.22	139.32 237.96
Diplexer	A	From Leg	3.00 -3.00 0.00	0.0000	130.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	10.00 15.00
Diplexer	B	From Leg	3.00 -3.00 0.00	0.0000	130.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	10.00 15.00
Diplexer	C	From Leg	3.00 -3.00 0.00	0.0000	130.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	10.00 15.00
HPA-65R-BBU-H8 W/ Mast pipe	A	From Leg	3.00 -6.00 2.00	0.0000	130.00	No Ice 1/2" Ice	13.38 14.11	9.82 11.22	139.32 237.96

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
HPA-65R-BBU-H8 W/ Mast pipe	B	From Leg	3.00 -6.00 2.00	0.0000	130.00	No Ice 1/2" Ice	13.38 14.11	9.82 11.22	139.32 237.96
HPA-65R-BBU-H8 W/ Mast pipe	C	From Leg	3.00 -6.00 2.00	0.0000	130.00	No Ice 1/2" Ice	13.38 14.11	9.82 11.22	139.32 237.96
Diplexer	A	From Leg	3.00 -6.00 0.00	0.0000	130.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	10.00 15.00
Diplexer	B	From Leg	3.00 -6.00 0.00	0.0000	130.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	10.00 15.00
Diplexer	C	From Leg	3.00 -6.00 0.00	0.0000	130.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	10.00 15.00
Surge Suppressor	A	From Leg	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice	1.27 1.46	1.27 1.46	30.00 45.12
Surge Suppressor	B	From Leg	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice	1.27 1.46	1.27 1.46	30.00 45.12
Surge Suppressor	C	From Leg	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice	1.27 1.46	1.27 1.46	30.00 45.12
Platform Mount [LP 304-1]	A	None		0.0000	130.00	No Ice 1/2" Ice	17.46 22.44	17.46 22.44	1349.00 1624.58
RRUS-11 W/ Mast pipe	A	From Leg	1.00 0.00 2.00	0.0000	129.00	No Ice 1/2" Ice	4.51 5.02	3.10 3.65	100.74 140.34
RRUS-11 W/ Mast pipe	B	From Leg	1.00 0.00 2.00	0.0000	129.00	No Ice 1/2" Ice	4.51 5.02	3.10 3.65	100.74 140.34
RRUS-11 W/ Mast pipe	C	From Leg	1.00 0.00 2.00	0.0000	129.00	No Ice 1/2" Ice	4.51 5.02	3.10 3.65	100.74 140.34
RRUS-11	A	From Leg	1.00 0.00 2.00	0.0000	129.00	No Ice 1/2" Ice	3.26 3.50	1.38 1.56	66.00 86.87
RRUS-11	B	From Leg	1.00 0.00 2.00	0.0000	129.00	No Ice 1/2" Ice	3.26 3.50	1.38 1.56	66.00 86.87
RRUS-11	C	From Leg	1.00 0.00 2.00	0.0000	129.00	No Ice 1/2" Ice	3.26 3.50	1.38 1.56	66.00 86.87
(2) A2	A	From Leg	1.00 0.00 2.00	0.0000	129.00	No Ice 1/2" Ice	1.87 2.05	0.44 0.55	30.00 40.42
(2) A2	A	From Leg	1.00 0.00 2.00	0.0000	129.00	No Ice 1/2" Ice	1.87 2.05	0.44 0.55	30.00 40.42
(2) A2	A	From Leg	1.00 0.00 2.00	0.0000	129.00	No Ice 1/2" Ice	1.87 2.05	0.44 0.55	30.00 40.42
(2) RRUS-12	A	From Leg	1.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice	3.67 3.93	1.49 1.67	66.00 89.22
(2) RRUS-12	B	From Leg	1.00	0.0000	129.00	No Ice	3.67	1.49	66.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00 0.00			1/2" Ice	3.93	1.67	89.22
(2) RRUS-12	C	From Leg	1.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice	3.67 3.93	1.49 1.67	66.00 89.22
RRUS-E2	A	From Leg	1.00 0.00 -2.00	0.0000	129.00	No Ice 1/2" Ice	3.97 4.23	1.85 2.04	87.00 114.31
RRUS-E2	B	From Leg	1.00 0.00 -2.00	0.0000	129.00	No Ice 1/2" Ice	3.97 4.23	1.85 2.04	87.00 114.31
RRUS-E2	C	From Leg	1.00 0.00 -2.00	0.0000	129.00	No Ice 1/2" Ice	3.97 4.23	1.85 2.04	87.00 114.31
RRUS-32	A	From Leg	1.00 0.00 -2.00	0.0000	129.00	No Ice 1/2" Ice	3.87 4.15	2.76 3.02	92.00 119.93
RRUS-32	B	From Leg	1.00 0.00 -2.00	0.0000	129.00	No Ice 1/2" Ice	3.87 4.15	2.76 3.02	92.00 119.93
RRUS-32	C	From Leg	1.00 0.00 -2.00	0.0000	129.00	No Ice 1/2" Ice	3.87 4.15	2.76 3.02	92.00 119.93
Ring Mount	A	None		0.0000	129.00	No Ice 1/2" Ice	1.40 2.40	1.40 2.40	90.00 130.00
3" x 4' Omni	B	From Leg	6.00 0.00 5.00	0.0000	119.00	No Ice 1/2" Ice	0.68 0.87	0.68 0.87	15.00 21.82
3" x 4' Omni	C	From Leg	6.00 0.00 5.00	0.0000	119.00	No Ice 1/2" Ice	0.68 0.87	0.68 0.87	15.00 21.82
Pirod 6' Side Mount Standoff (1)	B	From Leg	3.00 0.00 0.00	0.0000	119.00	No Ice 1/2" Ice	4.97 6.12	4.97 6.12	70.00 130.00
Pirod 6' Side Mount Standoff (1)	C	From Leg	3.00 0.00 0.00	0.0000	119.00	No Ice 1/2" Ice	4.97 6.12	4.97 6.12	70.00 130.00
2' Side Mount Standoff	A	From Leg	1.00 0.00 0.00	0.0000	119.00	No Ice 1/2" Ice	1.00 1.50	1.00 1.50	30.00 50.00
73x12x7 Antenna W/ Mast pipe	A	From Leg	3.00 6.00 2.00	0.0000	106.00	No Ice 1/2" Ice	8.39 8.94	7.14 7.96	104.74 173.91
73x12x7 Antenna W/ Mast pipe	B	From Leg	3.00 6.00 2.00	0.0000	106.00	No Ice 1/2" Ice	8.39 8.94	7.14 7.96	104.74 173.91
73x12x7 Antenna W/ Mast pipe	C	From Leg	3.00 6.00 2.00	0.0000	106.00	No Ice 1/2" Ice	8.39 8.94	7.14 7.96	104.74 173.91
RRUS-11	A	From Leg	3.00 6.00 1.00	0.0000	106.00	No Ice 1/2" Ice	3.26 3.50	1.38 1.56	66.00 86.87
RRUS-11	B	From Leg	3.00 6.00 1.00	0.0000	106.00	No Ice 1/2" Ice	3.26 3.50	1.38 1.56	66.00 86.87
RRUS-11	C	From Leg	3.00 6.00	0.0000	106.00	No Ice 1/2" Ice	3.26 3.50	1.38 1.56	66.00 86.87

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
73x12x7 Antenna W/ Mast pipe	A	From Leg	1.00 3.00 3.00 2.00	0.0000	106.00	No Ice 1/2" Ice	8.39 8.94	7.14 7.96	104.74 173.91
73x12x7 Antenna W/ Mast pipe	B	From Leg	3.00 3.00 2.00	0.0000	106.00	No Ice 1/2" Ice	8.39 8.94	7.14 7.96	104.74 173.91
73x12x7 Antenna W/ Mast pipe	C	From Leg	3.00 3.00 2.00	0.0000	106.00	No Ice 1/2" Ice	8.39 8.94	7.14 7.96	104.74 173.91
RRUS-11	A	From Leg	3.00 3.00 1.00	0.0000	106.00	No Ice 1/2" Ice	3.26 3.50	1.38 1.56	66.00 86.87
RRUS-11	B	From Leg	3.00 3.00 1.00	0.0000	106.00	No Ice 1/2" Ice	3.26 3.50	1.38 1.56	66.00 86.87
RRUS-11	C	From Leg	3.00 3.00 1.00	0.0000	106.00	No Ice 1/2" Ice	3.26 3.50	1.38 1.56	66.00 86.87
73x12x7 Antenna W/ Mast pipe	A	From Leg	3.00 -3.00 2.00	0.0000	106.00	No Ice 1/2" Ice	8.39 8.94	7.14 7.96	104.74 173.91
73x12x7 Antenna W/ Mast pipe	B	From Leg	3.00 -3.00 2.00	0.0000	106.00	No Ice 1/2" Ice	8.39 8.94	7.14 7.96	104.74 173.91
73x12x7 Antenna W/ Mast pipe	C	From Leg	3.00 -3.00 2.00	0.0000	106.00	No Ice 1/2" Ice	8.39 8.94	7.14 7.96	104.74 173.91
73x12x7 Antenna W/ Mast pipe	A	From Leg	3.00 -6.00 2.00	0.0000	106.00	No Ice 1/2" Ice	8.39 8.94	7.14 7.96	104.74 173.91
73x12x7 Antenna W/ Mast pipe	B	From Leg	3.00 -6.00 2.00	0.0000	106.00	No Ice 1/2" Ice	8.39 8.94	7.14 7.96	104.74 173.91
73x12x7 Antenna W/ Mast pipe	C	From Leg	3.00 -6.00 2.00	0.0000	106.00	No Ice 1/2" Ice	8.39 8.94	7.14 7.96	104.74 173.91
Platform Mount [LP 304-1]	A	None		0.0000	106.00	No Ice 1/2" Ice	17.46 22.44	17.46 22.44	1349.00 1624.58

Tower Pressures - No Ice

$G_H = 1.690$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 150.00-130.00	139.65	1.51	28	51.771	A B	0.000 0.000	51.771 51.771	51.771	100.00 100.00	0.000 0.000	0.000 0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
					C	0.000	51.771		100.00	0.000	0.000
L2	122.33	1.454	27	45.313	A	0.000	45.313	45.313	100.00	0.000	0.000
130.00-115.00					B	0.000	45.313		100.00	0.000	0.000
					C	0.000	45.313		100.00	0.000	0.000
L3	104.74	1.391	26	69.896	A	0.000	69.896	69.896	100.00	0.000	0.000
115.00-95.00					B	0.000	69.896		100.00	0.000	0.000
					C	0.000	69.896		100.00	0.000	0.000
L4 95.00-91.00	92.99	1.344	25	15.057	A	0.000	15.057	15.057	100.00	0.000	0.000
					B	0.000	15.057		100.00	0.000	0.000
					C	0.000	15.057		100.00	0.000	0.000
L5 91.00-51.00	70.57	1.243	23	174.479	A	0.000	174.479	174.479	100.00	0.000	0.000
					B	0.000	174.479		100.00	0.000	0.000
					C	0.000	174.479		100.00	0.000	0.000
L6 51.00-40.00	45.45	1.096	20	54.908	A	0.000	54.908	54.908	100.00	0.000	0.000
					B	0.000	54.908		100.00	0.000	0.000
					C	0.000	54.908		100.00	0.000	0.000
L7 40.00-19.00	29.32	1	18	113.914	A	0.000	113.914	113.914	100.00	0.000	0.000
					B	0.000	113.914		100.00	0.000	0.000
					C	0.000	113.914		100.00	0.000	0.000
L8 19.00-0.00	9.36	1	18	111.977	A	0.000	111.977	111.977	100.00	0.000	0.000
					B	0.000	111.977		100.00	0.000	0.000
					C	0.000	111.977		100.00	0.000	0.000

Tower Pressure - With Ice

$G_H = 1.690$

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1	139.65	1.51	21	0.5000	53.438	A	0.000	53.438	53.438	100.00	0.000	0.000
150.00-130.00						B	0.000	53.438		100.00	0.000	0.000
						C	0.000	53.438		100.00	0.000	0.000
L2	122.33	1.454	20	0.5000	46.563	A	0.000	46.563	46.563	100.00	0.000	0.000
130.00-115.00						B	0.000	46.563		100.00	0.000	0.000
						C	0.000	46.563		100.00	0.000	0.000
L3 115.00-95.00	104.74	1.391	19	0.5000	71.563	A	0.000	71.563	71.563	100.00	0.000	0.000
						B	0.000	71.563		100.00	0.000	0.000
						C	0.000	71.563		100.00	0.000	0.000
L4 95.00-91.00	92.99	1.344	19	0.5000	15.391	A	0.000	15.391	15.391	100.00	0.000	0.000
						B	0.000	15.391		100.00	0.000	0.000
						C	0.000	15.391		100.00	0.000	0.000
L5 91.00-51.00	70.57	1.243	17	0.5000	177.813	A	0.000	177.813	177.813	100.00	0.000	0.000
						B	0.000	177.813		100.00	0.000	0.000
						C	0.000	177.813		100.00	0.000	0.000
L6 51.00-40.00	45.45	1.096	15	0.5000	55.825	A	0.000	55.825	55.825	100.00	0.000	0.000
						B	0.000	55.825		100.00	0.000	0.000
						C	0.000	55.825		100.00	0.000	0.000
L7 40.00-19.00	29.32	1	14	0.5000	115.664	A	0.000	115.664	115.664	100.00	0.000	0.000
						B	0.000	115.664		100.00	0.000	0.000
						C	0.000	115.664		100.00	0.000	0.000
L8 19.00-0.00	9.36	1	14	0.5000	113.561	A	0.000	113.561	113.561	100.00	0.000	0.000
						B	0.000	113.561		100.00	0.000	0.000
						C	0.000	113.561		100.00	0.000	0.000

Tower Pressure - Service

$G_H = 1.690$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 150.00-130.00	139.65	1.51	10	51.771	A	0.000	51.771	51.771	100.00	0.000	0.000
					B	0.000	51.771		100.00	0.000	0.000
					C	0.000	51.771		100.00	0.000	0.000
L2 130.00-115.00	122.33	1.454	9	45.313	A	0.000	45.313	45.313	100.00	0.000	0.000
					B	0.000	45.313		100.00	0.000	0.000
					C	0.000	45.313		100.00	0.000	0.000
L3 115.00-95.00	104.74	1.391	9	69.896	A	0.000	69.896	69.896	100.00	0.000	0.000
					B	0.000	69.896		100.00	0.000	0.000
					C	0.000	69.896		100.00	0.000	0.000
L4 95.00-91.00	92.99	1.344	9	15.057	A	0.000	15.057	15.057	100.00	0.000	0.000
					B	0.000	15.057		100.00	0.000	0.000
					C	0.000	15.057		100.00	0.000	0.000
L5 91.00-51.00	70.57	1.243	8	174.479	A	0.000	174.479	174.479	100.00	0.000	0.000
					B	0.000	174.479		100.00	0.000	0.000
					C	0.000	174.479		100.00	0.000	0.000
L6 51.00-40.00	45.45	1.096	7	54.908	A	0.000	54.908	54.908	100.00	0.000	0.000
					B	0.000	54.908		100.00	0.000	0.000
					C	0.000	54.908		100.00	0.000	0.000
L7 40.00-19.00	29.32	1	6	113.914	A	0.000	113.914	113.914	100.00	0.000	0.000
					B	0.000	113.914		100.00	0.000	0.000
					C	0.000	113.914		100.00	0.000	0.000
L8 19.00-0.00	9.36	1	6	111.977	A	0.000	111.977	111.977	100.00	0.000	0.000
					B	0.000	111.977		100.00	0.000	0.000
					C	0.000	111.977		100.00	0.000	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
L1 150.00-130.00	239.52	1688.06	A	1	1.03	1	1	1	51.771	2517.07	125.85	C
			B	1	1.03	1	1	1	51.771			
			C	1	1.03	1	1	1	51.771			
L2 130.00-115.00	397.20	1927.74	A	1	1.03	1	1	1	45.313	2121.28	141.42	C
			B	1	1.03	1	1	1	45.313			
			C	1	1.03	1	1	1	45.313			
L3 115.00-95.00	641.84	2850.52	A	1	1.03	1	1	1	69.896	3130.18	156.51	C
			B	1	1.03	1	1	1	69.896			
			C	1	1.03	1	1	1	69.896			
L4 95.00-91.00	146.08	1503.16	A	1	1.03	1	1	1	15.057	651.79	162.95	C
			B	1	1.03	1	1	1	15.057			
			C	1	1.03	1	1	1	15.057			
L5 91.00-51.00	1460.80	8541.29	A	1	1.03	1	1	1	174.479	6954.40	173.86	C
			B	1	1.03	1	1	1	174.479			
			C	1	1.03	1	1	1	174.479			
L6 51.00-40.00	401.72	4545.53	A	1	1.03	1	1	1	54.908	1937.08	176.10	C
			B	1	1.03	1	1	1	54.908			
			C	1	1.03	1	1	1	54.908			

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
L7	766.92	6508.75	A	1	1.03	1	1	1	113.914	3667.58	174.65	C
40.00-19.00			B	1	1.03	1	1	1	113.914			
			C	1	1.03	1	1	1	113.914			
L8 19.00-0.00	438.24	9237.39	A	1	1.03	1	1	1	111.977	3605.22	189.75	C
			B	1	1.03	1	1	1	111.977			
			C	1	1.03	1	1	1	111.977			
Sum Weight:	4492.32	36802.43						OTM	1719576.8 0 lb-ft	24584.60		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
L1	239.52	1688.06	A	1	1.03	1	1	1	51.771	2517.07	125.85	C
150.00-130.00			B	1	1.03	1	1	1	51.771			
			C	1	1.03	1	1	1	51.771			
L2	397.20	1927.74	A	1	1.03	1	1	1	45.313	2121.28	141.42	C
130.00-115.00			B	1	1.03	1	1	1	45.313			
			C	1	1.03	1	1	1	45.313			
L3	641.84	2850.52	A	1	1.03	1	1	1	69.896	3130.18	156.51	C
115.00-95.00			B	1	1.03	1	1	1	69.896			
			C	1	1.03	1	1	1	69.896			
L4	146.08	1503.16	A	1	1.03	1	1	1	15.057	651.79	162.95	C
95.00-91.00			B	1	1.03	1	1	1	15.057			
			C	1	1.03	1	1	1	15.057			
L5	1460.80	8541.29	A	1	1.03	1	1	1	174.479	6954.40	173.86	C
91.00-51.00			B	1	1.03	1	1	1	174.479			
			C	1	1.03	1	1	1	174.479			
L6	401.72	4545.53	A	1	1.03	1	1	1	54.908	1937.08	176.10	C
51.00-40.00			B	1	1.03	1	1	1	54.908			
			C	1	1.03	1	1	1	54.908			
L7	766.92	6508.75	A	1	1.03	1	1	1	113.914	3667.58	174.65	C
40.00-19.00			B	1	1.03	1	1	1	113.914			
			C	1	1.03	1	1	1	113.914			
L8 19.00-0.00	438.24	9237.39	A	1	1.03	1	1	1	111.977	3605.22	189.75	C
			B	1	1.03	1	1	1	111.977			
			C	1	1.03	1	1	1	111.977			
Sum Weight:	4492.32	36802.43						OTM	1719576.8 0 lb-ft	24584.60		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
L1	239.52	1688.06	A	1	1.03	1	1	1	51.771	2517.07	125.85	C
150.00-130.00			B	1	1.03	1	1	1	51.771			
			C	1	1.03	1	1	1	51.771			

tnxTower	Job	Page
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EBI Consulting 21 B St Burlington, MA 01803 Phone: (781) 273 - 2500 FAX: (781) 273 - 3311	Project 81150114	Date 15:26:13 02/17/15
	Client T-Mobile	Designed by Brandon Kelsey

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
L2	397.20	1927.74	A	1	1.03	1	1	1	45.313	2121.28	141.42	C
130.00-115.00			B	1	1.03	1	1	1	45.313			
			C	1	1.03	1	1	1	45.313			
L3	641.84	2850.52	A	1	1.03	1	1	1	69.896	3130.18	156.51	C
115.00-95.00			B	1	1.03	1	1	1	69.896			
			C	1	1.03	1	1	1	69.896			
L4	146.08	1503.16	A	1	1.03	1	1	1	15.057	651.79	162.95	C
95.00-91.00			B	1	1.03	1	1	1	15.057			
			C	1	1.03	1	1	1	15.057			
L5	1460.80	8541.29	A	1	1.03	1	1	1	174.479	6954.40	173.86	C
91.00-51.00			B	1	1.03	1	1	1	174.479			
			C	1	1.03	1	1	1	174.479			
L6	401.72	4545.53	A	1	1.03	1	1	1	54.908	1937.08	176.10	C
51.00-40.00			B	1	1.03	1	1	1	54.908			
			C	1	1.03	1	1	1	54.908			
L7	766.92	6508.75	A	1	1.03	1	1	1	113.914	3667.58	174.65	C
40.00-19.00			B	1	1.03	1	1	1	113.914			
			C	1	1.03	1	1	1	113.914			
L8 19.00-0.00	438.24	9237.39	A	1	1.03	1	1	1	111.977	3605.22	189.75	C
			B	1	1.03	1	1	1	111.977			
			C	1	1.03	1	1	1	111.977			
Sum Weight:	4492.32	36802.43						OTM	1719576.8 0 lb-ft	24584.60		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
L1	239.52	2083.29	A	1	1.03	1	1	1	53.438	1948.58	97.43	C
150.00-130.00			B	1	1.03	1	1	1	53.438			
			C	1	1.03	1	1	1	53.438			
L2	397.20	2272.88	A	1	1.03	1	1	1	46.563	1634.85	108.99	C
130.00-115.00			B	1	1.03	1	1	1	46.563			
			C	1	1.03	1	1	1	46.563			
L3	641.84	3381.93	A	1	1.03	1	1	1	71.563	2403.61	120.18	C
115.00-95.00			B	1	1.03	1	1	1	71.563			
			C	1	1.03	1	1	1	71.563			
L4	146.08	1617.54	A	1	1.03	1	1	1	15.391	499.66	124.92	C
95.00-91.00			B	1	1.03	1	1	1	15.391			
			C	1	1.03	1	1	1	15.391			
L5	1460.80	9864.73	A	1	1.03	1	1	1	177.813	5315.45	132.89	C
91.00-51.00			B	1	1.03	1	1	1	177.813			
			C	1	1.03	1	1	1	177.813			
L6	401.72	4961.51	A	1	1.03	1	1	1	55.825	1477.06	134.28	C
51.00-40.00			B	1	1.03	1	1	1	55.825			
			C	1	1.03	1	1	1	55.825			
L7	766.92	7371.20	A	1	1.03	1	1	1	115.664	2792.94	133.00	C
40.00-19.00			B	1	1.03	1	1	1	115.664			
			C	1	1.03	1	1	1	115.664			
L8 19.00-0.00	438.24	10084.67	A	1	1.03	1	1	1	113.561	2742.15	144.32	C
			B	1	1.03	1	1	1	113.561			
			C	1	1.03	1	1	1	113.561			
Sum Weight:	4492.32	41637.75						OTM	1320141.1	18814.32		

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
									5 lb-ft			

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
L1	239.52	2083.29	A	1	1.03	1	1	1	53.438	1948.58	97.43	C
150.00-130.00			B	1	1.03	1	1	1	53.438			
			C	1	1.03	1	1	1	53.438			
L2	397.20	2272.88	A	1	1.03	1	1	1	46.563	1634.85	108.99	C
130.00-115.00			B	1	1.03	1	1	1	46.563			
			C	1	1.03	1	1	1	46.563			
L3	641.84	3381.93	A	1	1.03	1	1	1	71.563	2403.61	120.18	C
115.00-95.00			B	1	1.03	1	1	1	71.563			
			C	1	1.03	1	1	1	71.563			
L4	146.08	1617.54	A	1	1.03	1	1	1	15.391	499.66	124.92	C
95.00-91.00			B	1	1.03	1	1	1	15.391			
			C	1	1.03	1	1	1	15.391			
L5	1460.80	9864.73	A	1	1.03	1	1	1	177.813	5315.45	132.89	C
91.00-51.00			B	1	1.03	1	1	1	177.813			
			C	1	1.03	1	1	1	177.813			
L6	401.72	4961.51	A	1	1.03	1	1	1	55.825	1477.06	134.28	C
51.00-40.00			B	1	1.03	1	1	1	55.825			
			C	1	1.03	1	1	1	55.825			
L7	766.92	7371.20	A	1	1.03	1	1	1	115.664	2792.94	133.00	C
40.00-19.00			B	1	1.03	1	1	1	115.664			
			C	1	1.03	1	1	1	115.664			
L8 19.00-0.00	438.24	10084.67	A	1	1.03	1	1	1	113.561	2742.15	144.32	C
			B	1	1.03	1	1	1	113.561			
			C	1	1.03	1	1	1	113.561			
Sum Weight:	4492.32	41637.75						OTM	1320141.1 5 lb-ft	18814.32		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
L1	239.52	2083.29	A	1	1.03	1	1	1	53.438	1948.58	97.43	C
150.00-130.00			B	1	1.03	1	1	1	53.438			
			C	1	1.03	1	1	1	53.438			
L2	397.20	2272.88	A	1	1.03	1	1	1	46.563	1634.85	108.99	C
130.00-115.00			B	1	1.03	1	1	1	46.563			
			C	1	1.03	1	1	1	46.563			
L3	641.84	3381.93	A	1	1.03	1	1	1	71.563	2403.61	120.18	C
115.00-95.00			B	1	1.03	1	1	1	71.563			
			C	1	1.03	1	1	1	71.563			
L4	146.08	1617.54	A	1	1.03	1	1	1	15.391	499.66	124.92	C

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
95.00-91.00			B	1	1.03	1	1	1	15.391			
			C	1	1.03	1	1	1	15.391			
L5	1460.80	9864.73	A	1	1.03	1	1	1	177.813	5315.45	132.89	C
91.00-51.00			B	1	1.03	1	1	1	177.813			
			C	1	1.03	1	1	1	177.813			
L6	401.72	4961.51	A	1	1.03	1	1	1	55.825	1477.06	134.28	C
51.00-40.00			B	1	1.03	1	1	1	55.825			
			C	1	1.03	1	1	1	55.825			
L7	766.92	7371.20	A	1	1.03	1	1	1	115.664	2792.94	133.00	C
40.00-19.00			B	1	1.03	1	1	1	115.664			
			C	1	1.03	1	1	1	115.664			
L8 19.00-0.00	438.24	10084.67	A	1	1.03	1	1	1	113.561	2742.15	144.32	C
			B	1	1.03	1	1	1	113.561			
			C	1	1.03	1	1	1	113.561			
Sum Weight:	4492.32	41637.75						OTM	1320141.15 lb-ft	18814.32		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
L1	239.52	1688.06	A	1	1.03	1	1	1	51.771	870.96	43.55	C
150.00-130.00			B	1	1.03	1	1	1	51.771			
			C	1	1.03	1	1	1	51.771			
L2	397.20	1927.74	A	1	1.03	1	1	1	45.313	734.01	48.93	C
130.00-115.00			B	1	1.03	1	1	1	45.313			
			C	1	1.03	1	1	1	45.313			
L3	641.84	2850.52	A	1	1.03	1	1	1	69.896	1083.11	54.16	C
115.00-95.00			B	1	1.03	1	1	1	69.896			
			C	1	1.03	1	1	1	69.896			
L4	146.08	1503.16	A	1	1.03	1	1	1	15.057	225.53	56.38	C
95.00-91.00			B	1	1.03	1	1	1	15.057			
			C	1	1.03	1	1	1	15.057			
L5	1460.80	8541.29	A	1	1.03	1	1	1	174.479	2406.37	60.16	C
91.00-51.00			B	1	1.03	1	1	1	174.479			
			C	1	1.03	1	1	1	174.479			
L6	401.72	4545.53	A	1	1.03	1	1	1	54.908	670.27	60.93	C
51.00-40.00			B	1	1.03	1	1	1	54.908			
			C	1	1.03	1	1	1	54.908			
L7	766.92	6508.75	A	1	1.03	1	1	1	113.914	1269.06	60.43	C
40.00-19.00			B	1	1.03	1	1	1	113.914			
			C	1	1.03	1	1	1	113.914			
L8 19.00-0.00	438.24	9237.39	A	1	1.03	1	1	1	111.977	1247.48	65.66	C
			B	1	1.03	1	1	1	111.977			
			C	1	1.03	1	1	1	111.977			
Sum Weight:	4492.32	36802.43						OTM	595009.27 lb-ft	8506.78		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
L1	239.52	1688.06	A	1	1.03	1	1	1	51.771	870.96	43.55	C
150.00-130.00			B	1	1.03	1	1	1	51.771			
			C	1	1.03	1	1	1	51.771			
L2	397.20	1927.74	A	1	1.03	1	1	1	45.313	734.01	48.93	C
130.00-115.00			B	1	1.03	1	1	1	45.313			
			C	1	1.03	1	1	1	45.313			
L3	641.84	2850.52	A	1	1.03	1	1	1	69.896	1083.11	54.16	C
115.00-95.00			B	1	1.03	1	1	1	69.896			
			C	1	1.03	1	1	1	69.896			
L4	146.08	1503.16	A	1	1.03	1	1	1	15.057	225.53	56.38	C
95.00-91.00			B	1	1.03	1	1	1	15.057			
			C	1	1.03	1	1	1	15.057			
L5	1460.80	8541.29	A	1	1.03	1	1	1	174.479	2406.37	60.16	C
91.00-51.00			B	1	1.03	1	1	1	174.479			
			C	1	1.03	1	1	1	174.479			
L6	401.72	4545.53	A	1	1.03	1	1	1	54.908	670.27	60.93	C
51.00-40.00			B	1	1.03	1	1	1	54.908			
			C	1	1.03	1	1	1	54.908			
L7	766.92	6508.75	A	1	1.03	1	1	1	113.914	1269.06	60.43	C
40.00-19.00			B	1	1.03	1	1	1	113.914			
			C	1	1.03	1	1	1	113.914			
L8 19.00-0.00	438.24	9237.39	A	1	1.03	1	1	1	111.977	1247.48	65.66	C
			B	1	1.03	1	1	1	111.977			
			C	1	1.03	1	1	1	111.977			
Sum Weight:	4492.32	36802.43						OTM	595009.27 lb-ft	8506.78		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
L1	239.52	1688.06	A	1	1.03	1	1	1	51.771	870.96	43.55	C
150.00-130.00			B	1	1.03	1	1	1	51.771			
			C	1	1.03	1	1	1	51.771			
L2	397.20	1927.74	A	1	1.03	1	1	1	45.313	734.01	48.93	C
130.00-115.00			B	1	1.03	1	1	1	45.313			
			C	1	1.03	1	1	1	45.313			
L3	641.84	2850.52	A	1	1.03	1	1	1	69.896	1083.11	54.16	C
115.00-95.00			B	1	1.03	1	1	1	69.896			
			C	1	1.03	1	1	1	69.896			
L4	146.08	1503.16	A	1	1.03	1	1	1	15.057	225.53	56.38	C
95.00-91.00			B	1	1.03	1	1	1	15.057			
			C	1	1.03	1	1	1	15.057			
L5	1460.80	8541.29	A	1	1.03	1	1	1	174.479	2406.37	60.16	C
91.00-51.00			B	1	1.03	1	1	1	174.479			
			C	1	1.03	1	1	1	174.479			
L6	401.72	4545.53	A	1	1.03	1	1	1	54.908	670.27	60.93	C
51.00-40.00			B	1	1.03	1	1	1	54.908			
			C	1	1.03	1	1	1	54.908			
L7	766.92	6508.75	A	1	1.03	1	1	1	113.914	1269.06	60.43	C
40.00-19.00			B	1	1.03	1	1	1	113.914			
			C	1	1.03	1	1	1	113.914			
L8 19.00-0.00	438.24	9237.39	A	1	1.03	1	1	1	111.977	1247.48	65.66	C
			B	1	1.03	1	1	1	111.977			

tnxTower	Job	Page
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EBI Consulting 21 B St Burlington, MA 01803 Phone: (781) 273 - 2500 FAX: (781) 273 - 3311	**Project** 81150114	**Date** 15:26:13 02/17/15
	Client T-Mobile	**Designed by** Brandon Kelsey

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
Sum Weight:	4492.32	36802.43	C	1	1.03	1	1	1 OTM	111.977 595009.27 lb-ft	8506.78		

Force Totals

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M_x lb-ft	Sum of Overturning Moments, M_z lb-ft	Sum of Torques lb-ft
Leg Weight	36802.43					
Bracing Weight	0.00					
Total Member Self-Weight	36802.43			-2.97	0.00	
Total Weight	52778.28			-2.97	0.00	
Wind 0 deg - No Ice		0.00	-47812.48	-4728075.59	0.00	0.00
Wind 30 deg - No Ice		23707.40	-41406.82	-4094633.97	-2337988.78	507.10
Wind 60 deg - No Ice		41062.43	-23906.24	-2364039.28	-4049515.35	878.32
Wind 90 deg - No Ice		47414.81	0.00	-2.97	-4675977.55	1014.19
Wind 120 deg - No Ice		41062.43	23906.24	2364033.34	-4049515.35	878.32
Wind 150 deg - No Ice		23707.40	41406.82	4094628.03	-2337988.78	507.10
Wind 180 deg - No Ice		0.00	47812.48	4728069.65	0.00	0.00
Wind 210 deg - No Ice		-23707.40	41406.82	4094628.03	2337988.78	-507.10
Wind 240 deg - No Ice		-41062.43	23906.24	2364033.34	4049515.35	-878.32
Wind 270 deg - No Ice		-47414.81	0.00	-2.97	4675977.55	-1014.19
Wind 300 deg - No Ice		-41062.43	-23906.24	-2364039.28	4049515.35	-878.32
Wind 330 deg - No Ice		-23707.40	-41406.82	-4094633.97	2337988.78	-507.10
Member Ice	4835.32					
Total Weight Ice	62868.64			154.62	0.00	
Wind 0 deg - Ice		0.00	-39164.61	-3966726.16	0.00	0.00
Wind 30 deg - Ice		19425.88	-33917.55	-3435264.91	-1962948.43	461.92
Wind 60 deg - Ice		33646.61	-19582.31	-1983285.77	-3399926.41	800.07
Wind 90 deg - Ice		38851.76	0.00	154.62	-3925896.85	923.84
Wind 120 deg - Ice		33646.61	19582.31	1983595.01	-3399926.41	800.07
Wind 150 deg - Ice		19425.88	33917.55	3435574.15	-1962948.43	461.92
Wind 180 deg - Ice		0.00	39164.61	3967035.40	0.00	0.00
Wind 210 deg - Ice		-19425.88	33917.55	3435574.15	1962948.43	-461.92
Wind 240 deg - Ice		-33646.61	19582.31	1983595.01	3399926.41	-800.07
Wind 270 deg - Ice		-38851.76	0.00	154.62	3925896.85	-923.84
Wind 300 deg - Ice		-33646.61	-19582.31	-1983285.77	3399926.41	-800.07
Wind 330 deg - Ice		-19425.88	-33917.55	-3435264.91	1962948.43	-461.92
Total Weight	52778.28			-2.97	0.00	
Wind 0 deg - Service		0.00	-16544.11	-1636014.26	0.00	0.00
Wind 30 deg - Service		8203.25	-14327.62	-1416830.30	-808992.66	175.47
Wind 60 deg - Service		14208.45	-8272.06	-818008.61	-1401216.38	303.92
Wind 90 deg - Service		16406.51	0.00	-2.97	-1617985.31	350.93
Wind 120 deg - Service		14208.45	8272.06	818002.68	-1401216.38	303.92
Wind 150 deg - Service		8203.25	14327.62	1416824.37	-808992.66	175.47
Wind 180 deg - Service		0.00	16544.11	1636008.32	0.00	0.00
Wind 210 deg - Service		-8203.25	14327.62	1416824.37	808992.66	-175.47
Wind 240 deg - Service		-14208.45	8272.06	818002.68	1401216.38	-303.92
Wind 270 deg - Service		-16406.51	0.00	-2.97	1617985.31	-350.93
Wind 300 deg - Service		-14208.45	-8272.06	-818008.61	1401216.38	-303.92
Wind 330 deg - Service		-8203.25	-14327.62	-1416830.30	808992.66	-175.47

Load Combinations

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L1	150 - 130	Pole	Max Tension	14	0.00	0.00	0.00
			Max. Compression	14	-7131.53	0.00	-112.57
			Max. Mx	5	-4546.59	-85603.23	-72.62
			Max. My	8	-4541.18	-0.00	-85702.68
			Max. Vy	5	9508.61	-85603.23	-72.62
			Max. Vx	2	-9511.23	-0.00	85548.14
			Max. Torque	5			-173.32
L2	130 - 115	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-17498.74	0.00	-154.62
			Max. Mx	5	-11842.41	-458902.33	29.41
			Max. My	2	-11814.47	-0.00	465388.02

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
			Max. Vy	5	22503.29	-458902.33	29.41
			Max. Vx	2	-22906.84	-0.00	465388.02
			Max. Torque	5			-1012.32
L3	115 - 95	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-24492.82	0.00	-154.62
			Max. Mx	5	-17085.35	-825405.74	21.44
			Max. My	2	-17057.63	-0.00	837549.83
			Max. Vy	5	30226.03	-825405.74	21.44
			Max. Vx	2	-30631.15	-0.00	837549.83
			Max. Torque	5			-1012.25
L4	95 - 91	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-27518.85	0.00	-154.62
			Max. Mx	5	-19868.43	-1136128.18	16.27
			Max. My	2	-19842.62	-0.00	1152326.56
			Max. Vy	5	31901.75	-1136128.18	16.27
			Max. Vx	2	-32307.27	-0.00	1152326.56
			Max. Torque	5			-1011.94
L5	91 - 51	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-36381.35	0.00	-154.62
			Max. Mx	5	-28005.32	-2241799.83	7.19
			Max. My	2	-27989.17	0.00	2270953.84
			Max. Vy	5	37280.77	-2241799.83	7.19
			Max. Vx	2	-37684.77	0.00	2270953.84
			Max. Torque	5			-1011.84
L6	51 - 40	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-44207.61	0.00	-154.62
			Max. Mx	5	-35321.83	-2982144.11	4.73
			Max. My	2	-35310.83	0.00	3018968.15
			Max. Vy	5	40587.28	-2982144.11	4.73
			Max. Vx	2	-40990.11	0.00	3018968.15
			Max. Torque	5			-1011.20
L7	40 - 19	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-48763.02	0.00	-154.62
			Max. Mx	5	-39551.45	-3480593.62	4.31
			Max. My	2	-39544.10	0.00	3522242.37
			Max. Vy	5	42518.24	-3480593.62	4.31
			Max. Vx	2	-42919.65	0.00	3522242.37
			Max. Torque	5			-1011.06
L8	19 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-62868.64	0.00	-154.62
			Max. Mx	5	-52770.39	-4739416.27	-10.50
			Max. My	2	-52770.24	0.00	4792264.91
			Max. Vy	5	47423.58	-4739416.27	-10.50
			Max. Vx	2	-47821.35	0.00	4792264.91
			Max. Torque	5			-1010.94

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Pole	Max. Vert	21	62868.64	0.00	-39164.61
	Max. H_x	11	52778.28	47414.81	-30.84
	Max. H_z	2	52778.28	0.00	47812.48
	Max. M_x	2	4792264.91	0.00	47812.48
	Max. M_z	5	4739416.27	-47414.81	-30.84
	Max. Torsion	11	1010.89	47414.81	-30.84
	Min. Vert	27	52778.28	0.00	16544.11
	Min. H_x	5	52778.28	-47414.81	-30.84
	Min. H_z	8	52778.28	0.00	-47812.48
	Min. M_x	8	-4792257.96	0.00	-47812.48
	Min. M_z	11	-4739416.27	47414.81	-30.84
	Min. Torsion	5	-1010.89	-47414.81	-30.84

Tower Mast Reaction Summary

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
Dead Only	52778.28	0.00	17.81	5.94	0.00	0.00
Dead+Wind 0 deg - No Ice	52778.28	0.00	-47812.48	-4792264.91	0.00	0.00
Dead+Wind 30 deg - No Ice	52778.28	23707.40	-41406.82	-4150231.81	-2369694.78	494.79
Dead+Wind 60 deg - No Ice	52778.28	41062.43	-23906.24	-2396148.52	-4104447.09	864.81
Dead+Wind 90 deg - No Ice	52778.28	47414.81	30.84	10.45	-4739416.27	1010.89
Dead+Wind 120 deg - No Ice	52778.28	41062.43	23906.24	2396139.32	-4104448.40	886.08
Dead+Wind 150 deg - No Ice	52778.28	23707.40	41406.82	4150224.10	-2369696.09	516.06
Dead+Wind 180 deg - No Ice	52778.28	0.00	47812.48	4792257.96	0.00	0.00
Dead+Wind 210 deg - No Ice	52778.28	-23707.40	41406.82	4150224.10	2369696.09	-516.06
Dead+Wind 240 deg - No Ice	52778.28	-41062.43	23906.24	2396139.32	4104448.40	-886.08
Dead+Wind 270 deg - No Ice	52778.28	-47414.81	30.84	10.45	4739416.27	-1010.89
Dead+Wind 300 deg - No Ice	52778.28	-41062.43	-23906.24	-2396148.52	4104447.09	-864.81
Dead+Wind 330 deg - No Ice	52778.28	-23707.40	-41406.82	-4150231.81	2369694.78	-494.79
Dead+Ice+Temp	62868.64	0.00	0.00	154.62	0.00	0.00
Dead+Wind 0 deg+Ice+Temp	62868.64	0.00	-39164.61	-4038909.02	0.00	0.00
Dead+Wind 30 deg+Ice+Temp	62868.64	19425.88	-33917.55	-3497781.27	-1998634.49	456.01
Dead+Wind 60 deg+Ice+Temp	62868.64	33646.61	-19582.31	-2019383.65	-3461745.71	795.20
Dead+Wind 90 deg+Ice+Temp	62868.64	38851.76	-0.00	157.79	-3997285.42	926.69
Dead+Wind 120 deg+Ice+Temp	62868.64	33646.61	19582.31	2019699.95	-3461746.97	809.86
Dead+Wind 150 deg+Ice+Temp	62868.64	19425.88	33917.55	3498099.01	-1998635.75	470.66
Dead+Wind 180 deg+Ice+Temp	62868.64	0.00	39164.61	4039227.47	0.00	0.00
Dead+Wind 210 deg+Ice+Temp	62868.64	-19425.88	33917.55	3498099.01	1998635.75	-470.66
Dead+Wind 240 deg+Ice+Temp	62868.64	-33646.61	19582.31	2019699.95	3461746.97	-809.86
Dead+Wind 270 deg+Ice+Temp	62868.64	-38851.76	-0.00	157.79	3997285.42	-926.69
Dead+Wind 300 deg+Ice+Temp	62868.64	-33646.61	-19582.31	-2019383.65	3461745.71	-795.20
Dead+Wind 330 deg+Ice+Temp	62868.64	-19425.88	-33917.55	-3497781.27	1998634.49	-456.01
Dead+Wind 0 deg - Service	52778.28	0.00	-16544.11	-1658648.15	0.00	0.00
Dead+Wind 30 deg - Service	52778.28	8203.25	-14327.62	-1436432.26	-820171.06	173.97
Dead+Wind 60 deg - Service	52778.28	14208.45	-8272.06	-829326.51	-1420578.62	302.26
Dead+Wind 90 deg - Service	52778.28	16406.51	22.18	7.39	-1640343.34	350.49
Dead+Wind 120 deg - Service	52778.28	14208.45	8272.06	829319.20	-1420578.77	304.81
Dead+Wind 150 deg - Service	52778.28	8203.25	14327.62	1436425.14	-820171.21	176.52
Dead+Wind 180 deg - Service	52778.28	0.00	16544.11	1658641.11	0.00	0.00
Dead+Wind 210 deg - Service	52778.28	-8203.25	14327.62	1436425.14	820171.21	-176.52
Dead+Wind 240 deg - Service	52778.28	-14208.45	8272.06	829319.20	1420578.77	-304.81
Dead+Wind 270 deg - Service	52778.28	-16406.51	22.18	7.39	1640343.34	-350.49
Dead+Wind 300 deg - Service	52778.28	-14208.45	-8272.06	-829326.51	1420578.62	-302.26
Dead+Wind 330 deg - Service	52778.28	-8203.25	-14327.62	-1436432.26	820171.06	-173.97

Solution Summary

Load Comb.	Sum of Applied Forces PX lb	PY lb	PZ lb	Sum of Reactions PX lb	PY lb	PZ lb	% Error
1	0.00	-52778.28	0.00	0.00	52778.28	-17.81	0.034%
2	0.00	-52778.28	-47812.48	0.00	52778.28	47812.48	0.000%
3	23707.40	-52778.28	-41406.82	-23707.40	52778.28	41406.82	0.000%
4	41062.43	-52778.28	-23906.24	-41062.43	52778.28	23906.24	0.000%
5	47414.81	-52778.28	0.00	-47414.81	52778.28	-30.84	0.043%
6	41062.43	-52778.28	23906.24	-41062.43	52778.28	-23906.24	0.000%
7	23707.40	-52778.28	41406.82	-23707.40	52778.28	-41406.82	0.000%
8	0.00	-52778.28	47812.48	0.00	52778.28	-47812.48	0.000%
9	-23707.40	-52778.28	41406.82	23707.40	52778.28	-41406.82	0.000%
10	-41062.43	-52778.28	23906.24	41062.43	52778.28	-23906.24	0.000%
11	-47414.81	-52778.28	0.00	47414.81	52778.28	-30.84	0.043%
12	-41062.43	-52778.28	-23906.24	41062.43	52778.28	23906.24	0.000%
13	-23707.40	-52778.28	-41406.82	23707.40	52778.28	41406.82	0.000%
14	0.00	-62868.64	0.00	0.00	62868.64	0.00	0.000%
15	0.00	-62868.64	-39164.61	0.00	62868.64	39164.61	0.000%
16	19425.88	-62868.64	-33917.55	-19425.88	62868.64	33917.55	0.000%
17	33646.61	-62868.64	-19582.31	-33646.61	62868.64	19582.31	0.000%
18	38851.76	-62868.64	0.00	-38851.76	62868.64	0.00	0.000%
19	33646.61	-62868.64	19582.31	-33646.61	62868.64	-19582.31	0.000%
20	19425.88	-62868.64	33917.55	-19425.88	62868.64	-33917.55	0.000%
21	0.00	-62868.64	39164.61	0.00	62868.64	-39164.61	0.000%
22	-19425.88	-62868.64	33917.55	19425.88	62868.64	-33917.55	0.000%
23	-33646.61	-62868.64	19582.31	33646.61	62868.64	-19582.31	0.000%
24	-38851.76	-62868.64	0.00	38851.76	62868.64	0.00	0.000%
25	-33646.61	-62868.64	-19582.31	33646.61	62868.64	19582.31	0.000%
26	-19425.88	-62868.64	-33917.55	19425.88	62868.64	33917.55	0.000%
27	0.00	-52778.28	-16544.11	0.00	52778.28	16544.11	0.000%
28	8203.25	-52778.28	-14327.62	-8203.25	52778.28	14327.62	0.000%
29	14208.45	-52778.28	-8272.06	-14208.45	52778.28	8272.06	0.000%
30	16406.51	-52778.28	0.00	-16406.51	52778.28	-22.18	0.040%
31	14208.45	-52778.28	8272.06	-14208.45	52778.28	-8272.06	0.000%
32	8203.25	-52778.28	14327.62	-8203.25	52778.28	-14327.62	0.000%
33	0.00	-52778.28	16544.11	0.00	52778.28	-16544.11	0.000%
34	-8203.25	-52778.28	14327.62	8203.25	52778.28	-14327.62	0.000%
35	-14208.45	-52778.28	8272.06	14208.45	52778.28	-8272.06	0.000%
36	-16406.51	-52778.28	0.00	16406.51	52778.28	-22.18	0.040%
37	-14208.45	-52778.28	-8272.06	14208.45	52778.28	8272.06	0.000%
38	-8203.25	-52778.28	-14327.62	8203.25	52778.28	14327.62	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	5	0.00000001	0.00096590
2	Yes	4	0.00000001	0.00006195
3	Yes	5	0.00000001	0.00003328
4	Yes	5	0.00000001	0.00003214
5	Yes	4	0.00000001	0.00051270
6	Yes	5	0.00000001	0.00003348
7	Yes	5	0.00000001	0.00003247
8	Yes	4	0.00000001	0.00006195

9	Yes	5	0.00000001	0.00003247
10	Yes	5	0.00000001	0.00003348
11	Yes	4	0.00000001	0.00051270
12	Yes	5	0.00000001	0.00003214
13	Yes	5	0.00000001	0.00003328
14	Yes	4	0.00000001	0.00000001
15	Yes	5	0.00000001	0.00005430
16	Yes	5	0.00000001	0.00009316
17	Yes	5	0.00000001	0.00009209
18	Yes	5	0.00000001	0.00005403
19	Yes	5	0.00000001	0.00009337
20	Yes	5	0.00000001	0.00009242
21	Yes	5	0.00000001	0.00005431
22	Yes	5	0.00000001	0.00009242
23	Yes	5	0.00000001	0.00009337
24	Yes	5	0.00000001	0.00005403
25	Yes	5	0.00000001	0.00009209
26	Yes	5	0.00000001	0.00009316
27	Yes	4	0.00000001	0.00003249
28	Yes	4	0.00000001	0.00014398
29	Yes	4	0.00000001	0.00013488
30	Yes	4	0.00000001	0.00087515
31	Yes	4	0.00000001	0.00014590
32	Yes	4	0.00000001	0.00013726
33	Yes	4	0.00000001	0.00003249
34	Yes	4	0.00000001	0.00013726
35	Yes	4	0.00000001	0.00014590
36	Yes	4	0.00000001	0.00087515
37	Yes	4	0.00000001	0.00013488
38	Yes	4	0.00000001	0.00014398

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 130	15.808	27	0.9157	0.0008
L2	135 - 115	12.948	27	0.8990	0.0007
L3	115 - 95	9.335	27	0.8011	0.0006
L4	101 - 91	7.129	27	0.7000	0.0004
L5	91 - 51	5.715	27	0.6372	0.0004
L6	59 - 40	2.320	27	0.3738	0.0001
L7	40 - 19	1.045	27	0.2469	0.0001
L8	28 - 0	0.532	27	0.1618	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
153.00	3" x 4' Omni	27	15.808	0.9157	0.0008	94864
152.50	Lightning Rod 3/4" x 6'	27	15.808	0.9157	0.0008	94864
150.90	10.5' horizontal pipe	27	15.808	0.9157	0.0008	94864
149.00	RV90-17-02DP W/ Mast pipe	27	15.617	0.9152	0.0008	94864
138.00	DB980H90-M W/ Mast pipe	27	13.516	0.9053	0.0007	39262
130.00	7770.00 Antenna	27	12.011	0.8832	0.0007	17063

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
129.00	RRUS-11 W/ Mast pipe	27	11.825	0.8793	0.0007	15618
119.00	3" x 4' Omni	27	10.021	0.8275	0.0007	8459
106.00	73x12x7 Antenna W/ Mast pipe	27	7.885	0.7352	0.0005	8901

Maximum Tower Deflections - Design Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		°	°
L1	150 - 130	45.655	2	2.6446	0.0024
L2	135 - 115	37.397	2	2.5963	0.0021
L3	115 - 95	26.965	2	2.3141	0.0018
L4	101 - 91	20.592	2	2.0221	0.0012
L5	91 - 51	16.510	2	1.8408	0.0010
L6	59 - 40	6.702	2	1.0798	0.0004
L7	40 - 19	3.020	2	0.7133	0.0002
L8	28 - 0	1.538	2	0.4675	0.0001

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
153.00	3" x 4' Omni	2	45.655	2.6446	0.0024	32978
152.50	Lightning Rod 3/4" x 6'	2	45.655	2.6446	0.0024	32978
150.90	10.5' horizontal pipe	2	45.655	2.6446	0.0024	32978
149.00	RV90-17-02DP W/ Mast pipe	2	45.101	2.6434	0.0024	32978
138.00	DB980H90-M W/ Mast pipe	2	39.037	2.6146	0.0021	13648
130.00	7770.00 Antenna	2	34.690	2.5508	0.0020	5933
129.00	RRUS-11 W/ Mast pipe	2	34.154	2.5394	0.0020	5430
119.00	3" x 4' Omni	2	28.945	2.3901	0.0019	2941
106.00	73x12x7 Antenna W/ Mast pipe	2	22.777	2.1237	0.0015	3091

Compression Checks

Pole Design Data

Section No.	Elevation	Size	L	L_u	Kl/r	F_a	A	Actual P	Allow. P_a	Ratio $\frac{P}{P_a}$
	ft		ft	ft		ksi	in^2	lb	lb	
L1	150 - 130 (1)	TP34.3125x27.8125x0.25	20.00	0.00	0.0	27.000	26.1122	-4541.18	705029.00	0.006
L2	130 - 115 (2)	TP38.6875x32.1875x0.25	20.00	0.00	0.0	26.007	30.9422	-11814.50	804726.00	0.015
L3	115 - 95 (3)	TP45.1875x38.6875x0.3125	20.00	0.00	0.0	27.000	43.1933	-17057.60	1166220.00	0.015
L4	95 - 91 (4)	TP45.8125x42.6125x0.3125	10.00	0.00	0.0	26.747	45.7844	-19842.60	1224610.00	0.016
L5	91 - 51 (5)	TP58.875x45.8125x0.375	40.00	0.00	0.0	26.436	67.4842	-27989.20	1783990.00	0.016
L6	51 - 40 (6)	TP61.6875x55.5125x0.375	19.00	0.00	0.0	25.122	74.0348	-35310.80	1859910.00	0.019

tnxTower	Job	Page
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EBI Consulting 21 B St Burlington, MA 01803 Phone: (781) 273 - 2500 FAX: (781) 273 - 3311	**Project** 81150114	**Date** 15:26:13 02/17/15
	Client T-Mobile	**Designed by** Brandon Kelsey

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P lb	Allow. P_a lb	Ratio $\frac{P}{P_a}$
L7	40 - 19 (7)	TP68.5x61.6875x0.4375	21.00	0.00	0.0	26.448	91.7700	-39544.10	2427130.00	0.016
L8	19 - 0 (8)	TP73.8125x64.7054x0.4375	28.00	0.00	0.0	24.740	103.3670	-52770.20	2557250.00	0.021

Pole Bending Design Data

Section No.	Elevation ft	Size	Actual M_x lb-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y lb-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L1	150 - 130 (1)	TP34.3125x27.8125x0.25	85702.50	-4.965	27.000	0.184	0.00	0.000	27.000	0.000
L2	130 - 115 (2)	TP38.6875x32.1875x0.25	465388.33	-19.180	26.007	0.737	0.00	0.000	26.007	0.000
L3	115 - 95 (3)	TP45.1875x38.6875x0.3125	837550.00	-22.160	27.000	0.821	0.00	0.000	27.000	0.000
L4	95 - 91 (4)	TP45.8125x42.6125x0.3125	1152325.00	-27.123	26.747	1.014	0.00	0.000	26.747	0.000
L5	91 - 51 (5)	TP58.875x45.8125x0.375	2270950.00	-29.520	26.436	1.117	0.00	0.000	26.436	0.000
L6	51 - 40 (6)	TP61.6875x55.5125x0.375	3018966.67	-32.587	25.122	1.297	0.00	0.000	25.122	0.000
L7	40 - 19 (7)	TP68.5x61.6875x0.4375	3522241.67	-28.886	26.448	1.092	0.00	0.000	26.448	0.000
L8	19 - 0 (8)	TP73.8125x64.7054x0.4375	4792266.67	-30.954	24.740	1.251	0.00	0.000	24.740	0.000

Pole Interaction Design Data

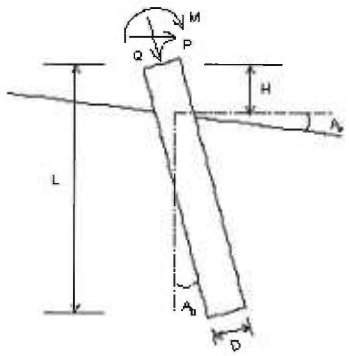
Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	150 - 130 (1)	TP34.3125x27.8125x0.25	0.006	0.184	0.000	0.190 ✔	1.333	H1-3 ✔
L2	130 - 115 (2)	TP38.6875x32.1875x0.25	0.015	0.737	0.000	0.752 ✔	1.333	H1-3 ✔
L3	115 - 95 (3)	TP45.1875x38.6875x0.3125	0.015	0.821	0.000	0.835 ✔	1.333	H1-3 ✔
L4	95 - 91 (4)	TP45.8125x42.6125x0.3125	0.016	1.014	0.000	1.030 ✔	1.333	H1-3 ✔
L5	91 - 51 (5)	TP58.875x45.8125x0.375	0.016	1.117	0.000	1.132 ✔	1.333	H1-3 ✔
L6	51 - 40 (6)	TP61.6875x55.5125x0.375	0.019	1.297	0.000	1.316 ✔	1.333	H1-3 ✔
L7	40 - 19 (7)	TP68.5x61.6875x0.4375	0.016	1.092	0.000	1.108 ✔	1.333	H1-3 ✔
L8	19 - 0 (8)	TP73.8125x64.7054x0.4375	0.021	1.251	0.000	1.272 ✔	1.333	H1-3 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	$SF*P_{allow}$ lb	% Capacity	Pass Fail
L1	150 - 130	Pole	TP34.3125x27.8125x0.25	1	-4541.18	939803.62	14.3	Pass
L2	130 - 115	Pole	TP38.6875x32.1875x0.25	2	-11814.50	1072699.71	56.4	Pass
L3	115 - 95	Pole	TP45.1875x38.6875x0.3125	3	-17057.60	1554571.20	62.7	Pass
L4	95 - 91	Pole	TP45.8125x42.6125x0.3125	4	-19842.60	1632405.06	77.3	Pass
L5	91 - 51	Pole	TP58.875x45.8125x0.375	5	-27989.20	2378058.57	84.9	Pass
L6	51 - 40	Pole	TP61.6875x55.5125x0.375	6	-35310.80	2479259.93	98.7	Pass
L7	40 - 19	Pole	TP68.5x61.6875x0.4375	7	-39544.10	3235364.16	83.2	Pass
L8	19 - 0	Pole	TP73.8125x64.7054x0.4375	8	-52770.20	3408814.11	95.4	Pass
							Summary	
						Pole (L6)	98.7	Pass
						RATING =	**98.7**	**Pass**

VERTICAL ANALYSIS

Figure 1



Drilled Shaft (dia >24 in. or 61 cm)

Loads:
Load Factor for Vertical Loads= 1.0
Load Factor for Lateral Loads= 1.0
Loads Supported by Pile Cap= 0 %
Shear Condition: Static

(with Load Factor)
Vertical Load, Q= 63.0 -kp
Torsion Load with Load Factor, T= 1.0 -kp-f

Profile:
Pile Length, L= 24.0 -ft
Top Height, H= .25 -ft
Slope Angle, As= 0
Batter Angle, Ab= 0

Soil Data:

Depth -ft	Gamma -lb/f3	Phi	C -kp/f2	K -lb/i3	e50 or Dr %	Nspt
0	97.8	28.1	0.00	0.6	4.47	1
5	123.0	38.0	0.00	258.0	65.70	30
8	123.1	38.0	0.00	258.0	65.80	30
11.5	123.0	38.0	0.00	258.0	65.50	30
15	60.6	38.0	0.00	95.3	65.70	30
18	60.6	38.0	0.00	94.7	65.50	30

Pile Data:

Depth -ft	Width -in	Area -in2	Per. -in	I -in4	E -kp/i2	Weight -kp/f
0.0	108	18668.2	339.3	7878452.5	3000	12.115
12.0	90	12977.9	282.7	3799407.8	3000	8.627
24.0						

Vertical Capacity
Weight above Ground= 3.03 Total Weight= 200.93-kp *Soil Weight is not included
Side Resistance (Down)= 295.810-kp Side Resistance (Up)= 169.034-kp
Tip Resistance (Down)= 4591.833-kp Tip Resistance (Up)= 0.000-kp
Total Ultimate Capacity (Down) Qult= 4887.643-kp Total Ultimate Capacity (Up)= 369.959-kp
Total Allowable Capacity (Down) Qallow= 2493.123-kp Total Allowable Capacity (Up) Qallow= 285.443-kp
OK! Qallow > Q

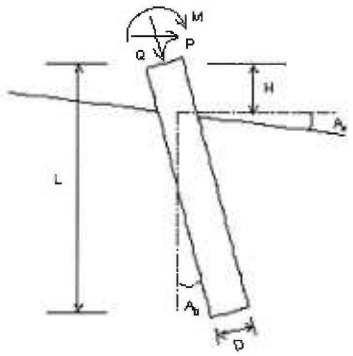
Torsion Capacity
Total Ultimate Torsion Capacity (single pile), T= 918.614-kp-f
Total Allowable Capacity (single pile), Tallow= 612.409-kp-f
OK! Tallow > T (Torsion Load)

Settlement Calculation:
At Q= 63.00-kp Settlement= 0.03019-in
At Xallow= 1.00-in Q= 1297.45969-kp

Note: If the program cannot find a result or the result exceeds the upper limit. The result will be displayed as 99999.

LATERAL ANALYSIS

Figure 2



Drilled Shaft (dia >24 in. or 61 cm)

Loads:
Load Factor for Vertical Loads= 1.0
Load Factor for Lateral Loads= 1.0
Loads Supported by Pile Cap= 0 %
Shear Condition: Static

(with Load Factor)
Vertical Load, Q= 63.0 -kp
Shear Load, P= 48.0 -kp
Moment, M= 4792.0 -kp-f

Profile:
Pile Length, L= 24.0 -ft
Top Height, H= .25 -ft
Slope Angle, As= 0
Batter Angle, Ab= 0

Soil Data:

Depth -ft	Gamma -lb/ft3	Phi	C -kp/f2	K -lb/i3	e50 or Dr %	Nspt
0	97.8	28.1	0.00	0.6	4.47	1
5	123.0	38.0	0.00	288.0	65.70	30
8	123.1	38.0	0.00	288.0	65.80	30
11.5	123.0	38.0	0.00	288.0	65.50	30
15	60.6	38.0	0.00	95.3	65.70	30
18	60.6	38.0	0.00	94.7	65.50	30

Pile Data:

Depth -ft	Width -in	Area -in2	Per. -in	I -in4	E -kp/i2	Weight -kp/f
0.0	108	18688.2	339.3	7878452.5	3000	12.115
12.0	90	12977.9	282.7	3799407.8	3000	8.627
24.0						

Single Pile Lateral Analysis:
Top Deflection, yt= 0.77400-in
Max Moment, M= 5075.00-kp-f
Top Deflection Slope, St= -0.00443
OK! Top Deflection, 0.7740-in is less than the Allowable Deflection= 1.00-in

Note: If the program cannot find a result or the result exceeds the upper limit. The result will be displayed as 99999.
The Max Moment calculated by program is an internal force from the applied load conditions. Structural engineer has to check whether the pile has enough capacity to resist the moment with adequate factor of safety. If not, the pile may fail under the load conditions.

Concrete Column

Description : Check existing foundation bending capacity

Code References

Calculations per ACI 318-08, IBC 2009, CBC 2010, ASCE 7-05
Load Combinations Used : ASCE 7-05

General Information

f'c : Concrete 28 day strength	=	4.0 ksi
E =	=	3,122.0 ksi
Density	=	145.0 pcf
β	=	0.850
fy - Main Rebar	=	60.0 ksi
E - Main Rebar	=	29,000.0 ksi
Allow. Reinforcing Limits		*ASTM A615 Bars Used*
Min. Reinf.	=	1.0 %
Max. Reinf.	=	8.0 %

Load Combination : ASCE 7-05

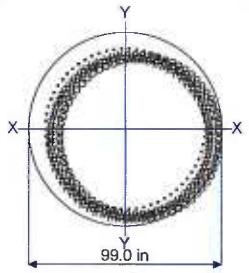
Overall Column Height = 24.0 ft
End Fixity Top Free, Bottom Fixed

Brace condition for deflection (buckling) along columns :
X-X (width) axis :
Unbraced Length for X-X Axis buckling = 24.0 ft, K = 2.10
Y-Y (depth) axis :
Unbraced Length for X-X Axis buckling = 24.0 ft, K = 2.10

Column Cross Section

Column Dimensions : 99.0in Diameter, Column Edge to Rebar Edge Cover = 8.0in

Column Reinforcing : 66.0 - #8 bars



Applied Loads

Entered loads are factored per load combinations specified by user.

Column self weight included : 186,027 lbs * Dead Load Factor
AXIAL LOADS . . .
Axial Load at 24.0 ft above base, D = 63.0 k
BENDING LOADS . . .
Lat. Point Load at 24.0 ft creating Mx-x, W = 48.0 k
Moment acting about X-X axis, W = 4,792.0 k-ft

DESIGN SUMMARY

Load Combination +1.20D+0.50Lr+0.50L+1.60W
Location of max.above base 23.839 ft

Maximum Stress Ratio **0.931 : 1**
Ratio = (Pu^2+Mu^2)^.5 / (PhiPn^2+PhiMn^2)^.5

Pu =	298.833 k	φ * Pn =	273.831 k
Mu-x =	-9,510.40 k-ft	φ * Mn-x =	10,384.8 k-ft
Mu-y =	0.0 k-ft	φ * Mn-y =	0.0 k-ft
Mu Angle =	180.0 deg		
Mu at Angle =	9,510.40 k-ft	φMn at Angle =	10,218.3 k-ft

Pn & Mn values located at Pu-Mu vector intersection with capacity curve

Column Capacities . . .

Pnmax : Nominal Max. Compressive Axial Capacity	29,123.3 k
Pnmin : Nominal Min. Tension Axial Capacity	-3,128.40 k
φ Pn, max : Usable Compressive Axial Capacity	18,566.1 k
φ Pn, min : Usable Tension Axial Capacity	-2,346.30 k

Maximum SERVICE Load Reactions . .

Top along Y-Y	0.0 k	Bottom along Y-Y	0.0 k
Top along X-X	0.0 k	Bottom along X-X	48.0 k

Maximum SERVICE Load Deflections . . .
Along Y-Y 0.1869 in at 24.0 ft above base
for load combination : W Only
Along X-X 0.0 in at 0.0 ft above base
for load combination :

General Section Information . φ = 0.750 β = 0.850 θ = 0.850
ρ : % Reinforcing 0.6773 % Rebar < Min of 1.0 %
Reinforcing Area 52.140 in^2
Concrete Area 7,697.69 in^2

Concrete Column

Lic. # : KW-06008663
Licensee : ENVIROBUSINESS, INC.

Description : Check existing foundation bending capacity

Governing Load Combination Results

Governing Factored Load Combination	Moment Source X-X	Moment Source Y-Y	Dist. from base ft	Axial Load k Pu	φ * Pn	Bending Analysis k-ft δx	δx * Mux	δy	δy * Muy	Alpha (deg)	δ Mu	φ Mn	Utilization Ratio
+1.40D			23.84	348.64	18,566.08					0.000			**0.019**
+1.20D+0.50Lr+1.60L+1.60H			23.84	298.83	18,566.08					0.000			**0.016**
+1.20D+1.60L+0.50S+1.60H			23.84	298.83	18,566.08					0.000			**0.016**
+1.20D+1.60Lr+0.50L			23.84	298.83	18,566.08					0.000			**0.016**
+1.20D+1.60Lr+0.80W	Actual		23.84	298.83	739.97	1.000	-4,755.20			180.000	4,755.20	11,521.10	**0.413**
+1.20D+0.50L+1.60S			23.84	298.83	18,566.08					0.000			**0.016**
+1.20D+1.60S+0.80W	Actual		23.84	298.83	739.97	1.000	-4,755.20			180.000	4,755.20	11,521.10	**0.413**
+1.20D+0.50Lr+0.50L+1.60W	Actual		23.84	298.83	273.83	1.000	-9,510.40			180.000	9,510.40	10,218.26	**0.931**
+1.20D+0.50L+0.50S+1.60W	Actual		23.84	298.83	273.83	1.000	-9,510.40			180.000	9,510.40	10,218.26	**0.931**
+1.20D+0.50L+0.20S+E			23.84	298.83	18,566.08					0.000			**0.016**
+0.90D+1.60W+1.60H	Actual		23.84	224.12	273.83	1.000	-9,510.40			180.000	9,510.40	10,218.26	**0.931**
+0.90D+E+1.60H			23.84	224.12	18,566.08					0.000			**0.012**

Maximum Reactions - Unfactored

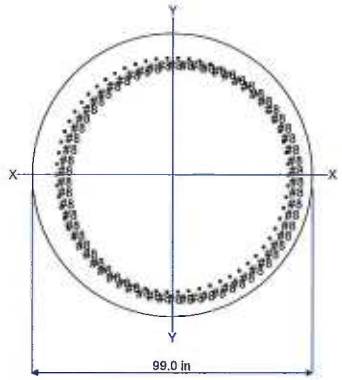
Note: Only non-zero reactions are listed.

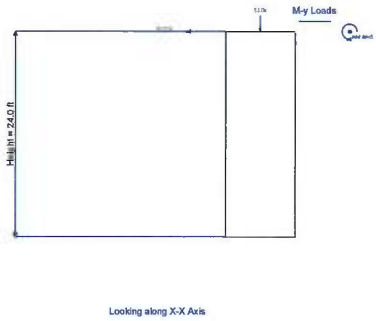
Load Combination	Reaction along X-X Axis @ Base	Reaction along X-X Axis @ Top	Reaction along Y-Y Axis @ Base	Reaction along Y-Y Axis @ Top	Axial Reaction @ Base
D Only		k		k	249.027 k
W Only	48.000	k		k	k
D+W	48.000	k		k	249.027 k

Maximum Deflections for Load Combinations - Unfactored Loads

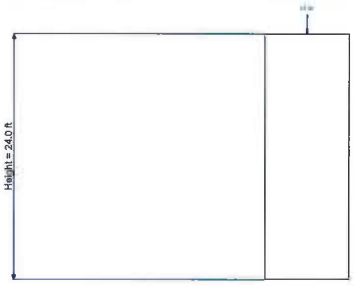
Load Combination	Max. X-X Deflection		Distance		Max. Y-Y Deflection		Distance	
D Only	0.0000	in	0.000	ft	0.000	in	0.000	ft
W Only	0.0000	in	0.000	ft	0.187	in	24.000	ft
D+W	0.0000	in	0.000	ft	0.185	in	23.839	ft

Sketches





Looking along X-X Axis

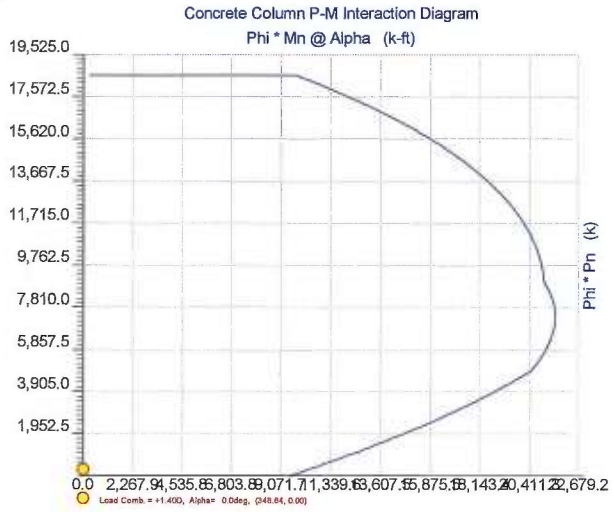


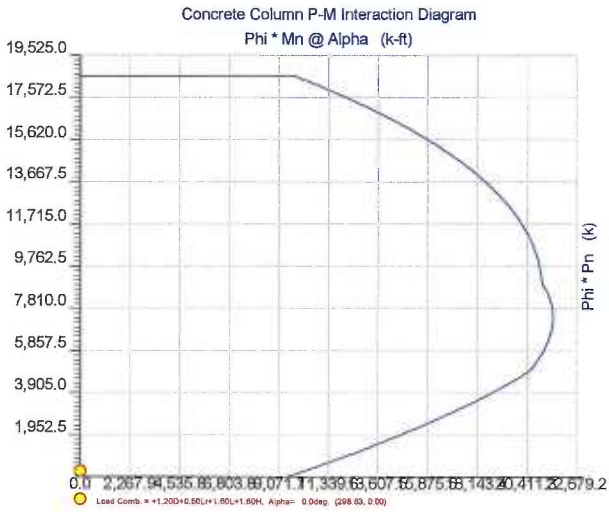
Looking along Y-Y Axis

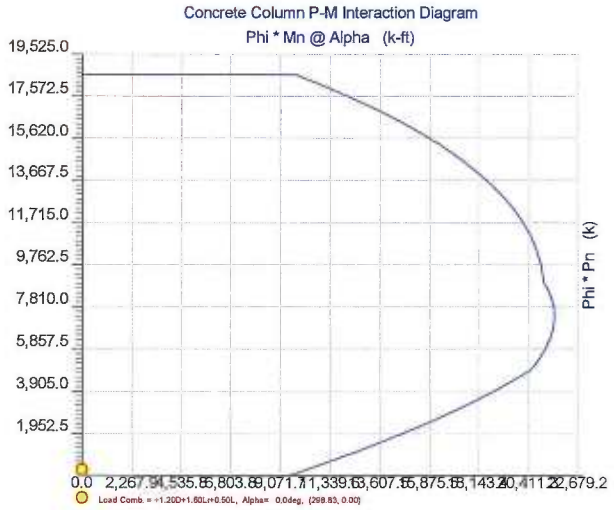
Interaction Diagrams

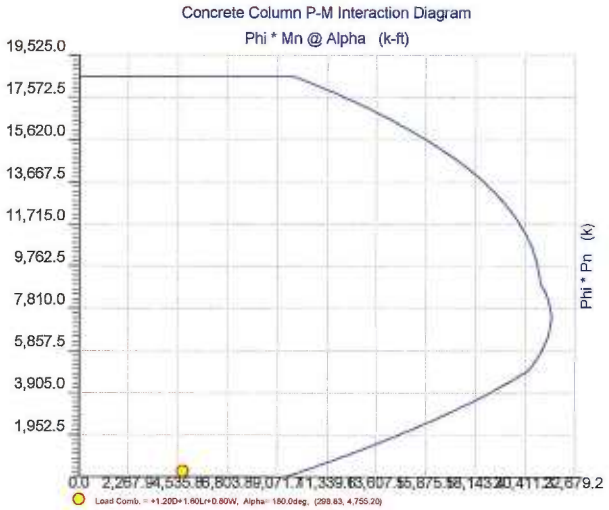
Concrete Column

Description : Check existing foundation bending capacity









Concrete Column

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ENERCALC, INC. 1983-2014, Build:6.14.1.26, Ver:6.14.1.26

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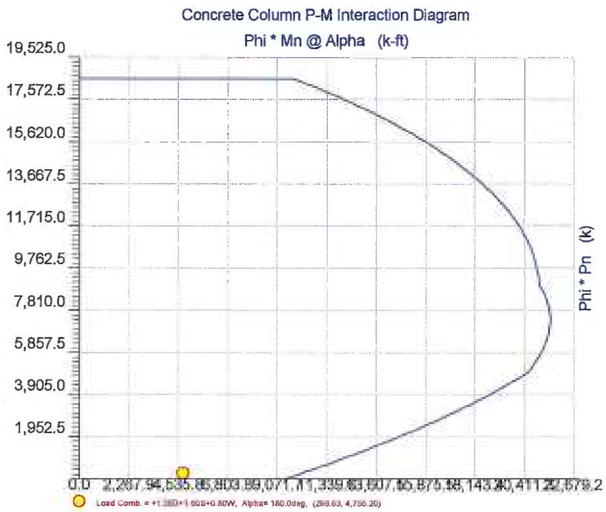
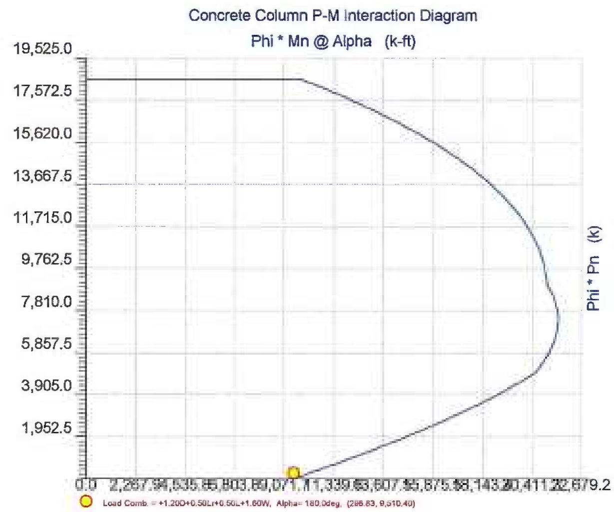
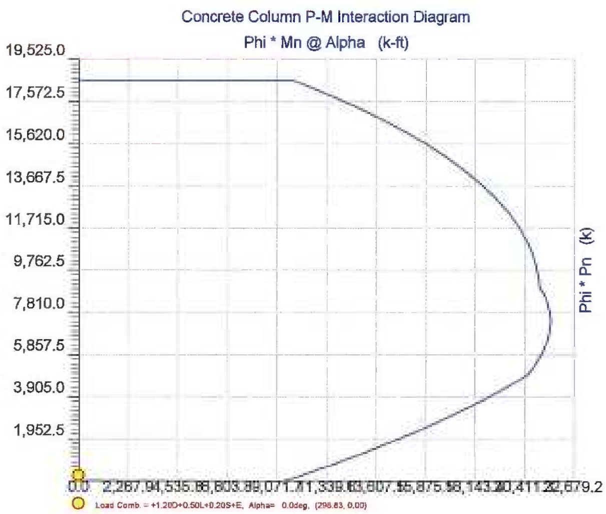
Description : Check existing foundation bending capacity







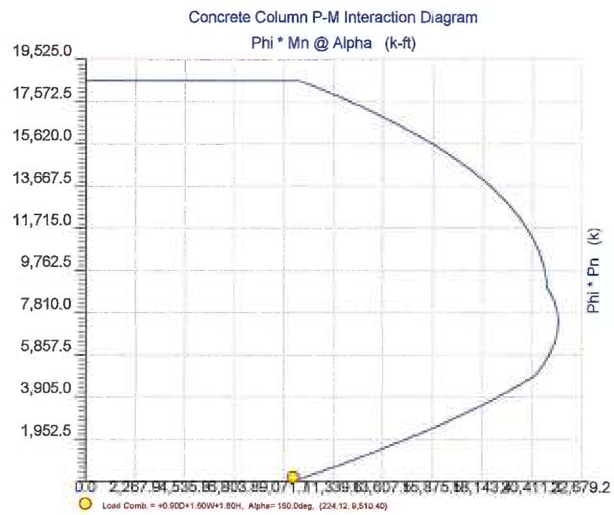


EXHIBIT C

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RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CT11396B

Killingly / I-395 / X93-1
79 Putnam Pike
Killingly, CT 06241

February 25, 2015

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	97.45 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
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February 25, 2015

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CT11396B – Killingly / I-395 / X93-1**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **79 Putnam Pike, Killingly, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limit for the 700 MHz Band is 467 $\mu W/cm^2$, and the general population exposure limit for the PCS and AWS bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **79 Putnam Pike, Killingly, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 2 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel

2) 2 UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

4) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.

5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

6) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

7) The antennas used in this modeling are the **EMS RR90_17_02DP** for 1900 MHz (PCS) channels and the **Commscope LNX-6515DS-VTM** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **EMS RR90_17_02DP** has a maximum gain of **14.4 dBd** at its main lobe. The **Commscope LNX-6515DS-VTM** has a maximum gain of **14.6 dBd** at its main lobe. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antenna mounting height centerline of the proposed antennas is **148 feet** above ground level (AGL).

9) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculations were done with respect to uncontrolled / general public threshold limits.

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T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	EMS RR90_17_02DP	Make / Model:	EMS RR90_17_02DP	Make / Model:	EMS RR90_17_02DP
Gain:	14.4 dBd	Gain:	14.4 dBd	Gain:	14.4 dBd
Height (AGL):	148	Height (AGL):	148	Height (AGL):	148
Frequency Bands	1900 MHz (PCS)	Frequency Bands	1900 MHz (PCS)	Frequency Bands	1900 MHz (PCS)
Channel Count	6	Channel Count	6	# PCS Channels:	6
Total TX Power:	240	Total TX Power:	240	# AWS Channels:	240
ERP (W):	6,610.15	ERP (W):	6,610.15	ERP (W):	6,610.15
Antenna A1 MPE%	1.15	Antenna B1 MPE%	1.15	Antenna C1 MPE%	1.15
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	148	Height (AGL):	148	Height (AGL):	148
Frequency Bands	700 Mhz	Frequency Bands	700 Mhz	Frequency Bands	700 Mhz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power:	30	Total TX Power:	30	Total TX Power:	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A2 MPE%	0.33	Antenna B2 MPE%	0.33	Antenna C2 MPE%	0.33

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile	**4.43**
AT&T	9.10 %
Verizon Wireless	47.33 %
MetroPCS	4.98 %
Sprint	1.83 %
Town	29.78 %
Site Total MPE %:	**97.45 %**

T-Mobile Sector 1 Total:	1.48 %
T-Mobile Sector 2 Total:	1.48 %
T-Mobile Sector 3 Total:	1.48 %
Site Total:	97.45 %

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Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general public exposure to RF Emissions.

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

T-Mobile Sector	Power Density Value (%)
Sector 1:	1.48 %
Sector 2:	1.48 %
Sector 3 :	1.48 %
T-Mobile Total:	4.43 %
Site Total:	97.45 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **97.45%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan
RF Engineering Director

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Burlington, MA 01803