EM-CLEARWIRE-052-100326

March 25, 2010

S. Derek Phelps, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

ORIGINAL

Re: Notice of Exempt Modification
Clearwire Corporation Notice to make an Exempt Modification to an Existing Facility at Rattlesnake Mountain, Farmington, CT
Clearwire Site Number CT-HFD0145

Dear Mr. Phelps,

Pursuant to Conn. Agency Regulations Sections 16-50j-73 and 16-50j-72(b), Clearwire Corporation (Clearwire) hereby gives notice to the Connecticut Siting Council (Council) and the Town of South Windsor, CT. of Clearwire's intent to make an exempt modification to an existing monopole tower (tower) located at Rattlesnake Mountain, Farmington, CT. Specifically, Clearwire plans to add three (3) antennas to the tower, one (1) per sector and to add three (3) microwave dishes, one (1) per sector for backhaul at the 190' AGL. Pursuant to the Council's regulations, (Conn. Agency Regulations Section 16-50j-72(b)), Clearwire's plans do not constitute a modification subject to the Council's review because Clearwire will not change the height of the tower, will not extend the boundaries of the compound, will not increase the noise levels at the site and will not increase the total radio frequency electromagnetic radiation power density at the site to levels above applicable standards. A copy of this notice has been sent to Town Manager Kathleen Eagan of the Town Farmington, CT.

Clearwire is currently developing a 4G wireless broadband network to provide high-speed wireless data and VoIP service within the State of Connecticut. Clearwire's 4G service leverages the WiMAX technology to enable enhanced wireless data communications. In order to accomplish the upgrade at this site, Clearwire plans to add three (3) WiMAX antennas, three (3) dishes and to install additional WiMAX related electronic equipment at the base of the tower.

The tower is a 1339' guyed lattice tower located at Rattlesnake Mountain, Farmington, Connecticut (Latitude 41 42 13 N Longitude 72 49 56 W). The tower is owned by the Chase Family Limited Partnership. Currently, Verizon, XM Satellite Radio, Sprint, Pocket, Media FLO and United Cab and BAM are located on the tower, as well as a number of other public service antennas. Presently, Clearwire is not located at the site. Clearwire's base station equipment will be located on the ground next to the pole. A site plan with the tower elevations and site plan specifications is attached.

Clearwire will add three (3) antennas, one (1) to each sector, and mount three (3) microwave dishes, one (1) above each of those antennas. The center line for the microwave dishes will be 190'. Nine coaxial cables will be added to the structure, 2 per antenna and one per

microwave dish. These cables will be inside the tower and bundled. To confirm that the tower can support these changes, Clearwire commissioned Turis Corp. to perform a structural analysis of the tower and the proposed changes. According to that structural dated March 9, 2010 and attached hereto, the structure is sufficient to support the proposed loading and will not need to be modified. The tower, with the additions and the modifications will be at less than 100% of its capacity.

Within the existing compound, Clearwire will install one (1) WiMAX radio and power cabinet on the existing pad at the site. The new equipment will be adjacent to the existing tower. Excluding brief, construction related noise during the addition of this equipment, the proposed changes to the tower will not increase noise levels at the site.

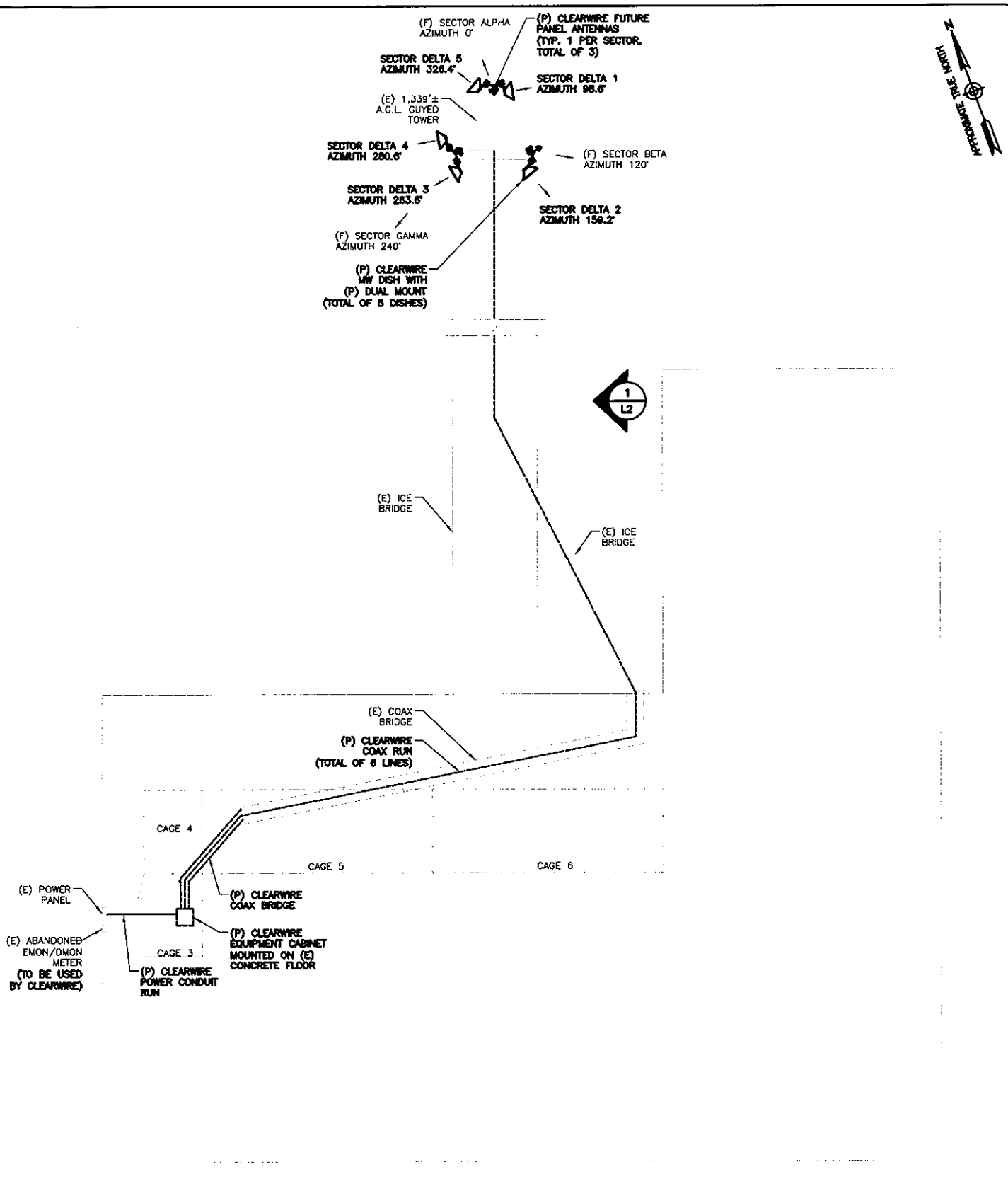
The addition of new WiMAX antennas and microwave dishes will not adversely impact the health and safety of the surrounding community or the people working on the tower. The total radio frequency exposure measured around the base of the tower will be well below the National Council on Radiation Protection and Measurements' (NCRP) standard adopted by the Federal Communications Commission (FCC). The worst case power density analysis for the WiMAX antennas and dishes, measured at the base of the tower, indicates that the WiMAX antennas and dishes will emit .36% of the NCRP's standard for maximum permissible exposure. The cumulative power density analysis indicates that all the antennas on the structure will emit 28.01% of the NRCP's standard for maximum permissible exposure. Therefore, the power density levels will be well below the FCC mandated radio frequency exposure limits in all locations around the base of the tower. The power density analysis is attached.

In conclusion, Clearwire's proposed plan to add three (3) WiMAX antennas, three (3) microwave dishes and the associated base station equipment does not constitute a modification subject to the Council's jurisdiction because Clearwire will not increase the height of the tower, will not extend the boundaries of the compound at the site, will not increase the noise levels at the site and the radio frequency electromagnetic radiation power density will stay within all applicable standards.

Respectfully Submitted

Thomas F. Flynn III
Site Development Project Manager
Maxton Technology Inc.
1296 Blue Hills Avenue
Bloomfield, CT 06002
508-821-6974
Tom.Flynn@maxtontech.com
Agent for Clearwire Corporation

Cc: Town Manager Kathleen Eagan
Farmington, CT.



(E) EXISTING
(P) PROPOSED

SITE PLAN

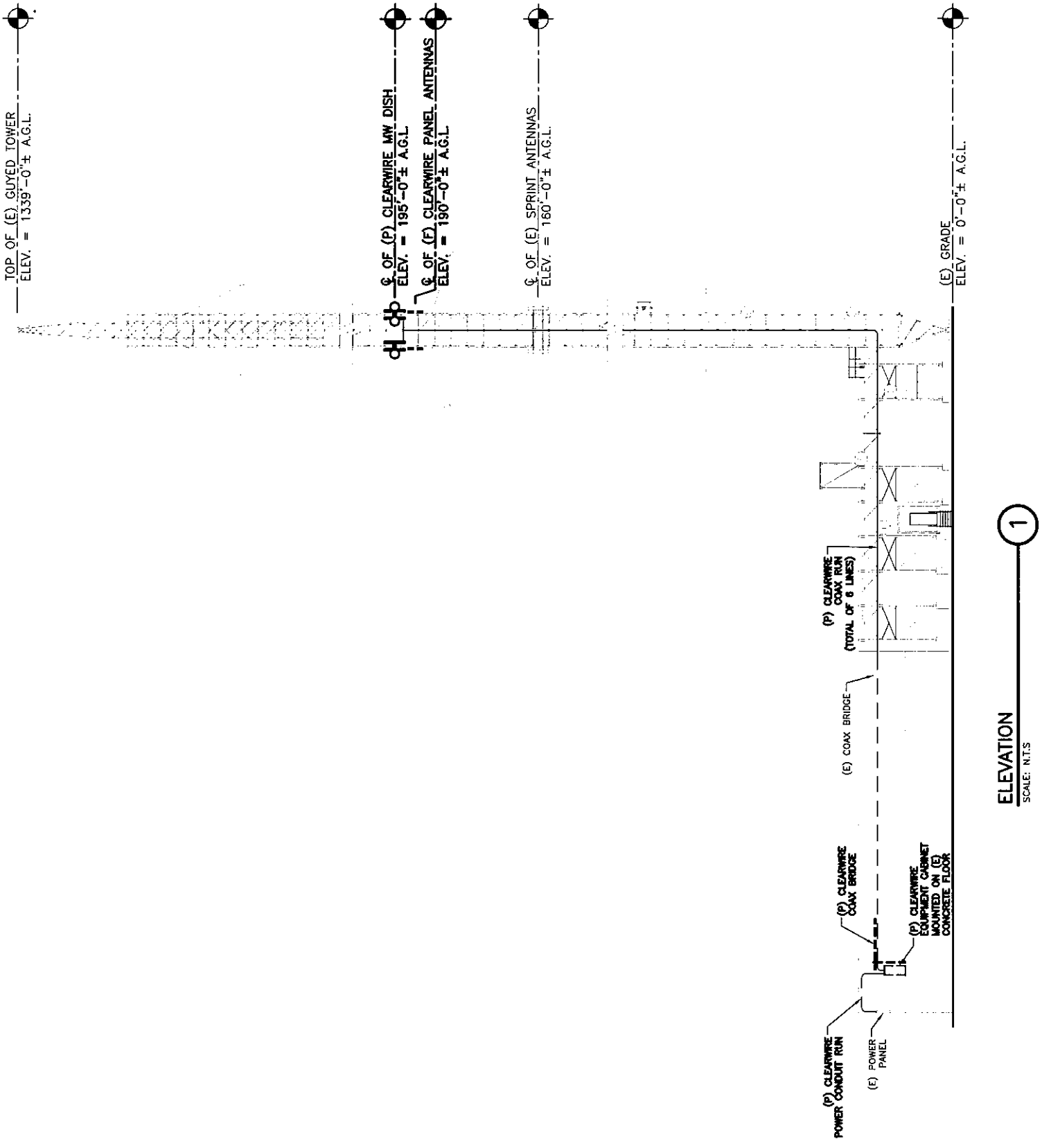
SCALE: N.T.S

1

MIXTON BAY STATE DESIGN
241 Boston Post Road West
Marlborough, MA. 01752
Phone: 508-229-4100
Fax: 508-485-5321
Bay State Design, Inc.
Architects • Engineers
241 Boston Post Road West
Marlborough, MA. 01752
Phone: 508-229-4100
Fax: 508-485-5321

clearwire
5808 LAKE WASHINGTON BLVD.
NE SUITE 300
KIRKLAND, WA 98033

PROJECT LOCATION: RATTLESNAKE MOUNTAIN CT-HFD0145A 200 COLT HIGHWAY FARMINGTON, CT 06032	SITE TYPE: GUYED TOWER		BSDA PROJ. #: 2908.190
	PROJECT MANAGER: JP	DRAWN BY: KW	SHEET: L1
APPROVED BY:	DATE: 03/23/10	REVISION: 1	



1 ELEVATION
SCALE: N.T.S

(E) EXISTING
(P) PROPOSED

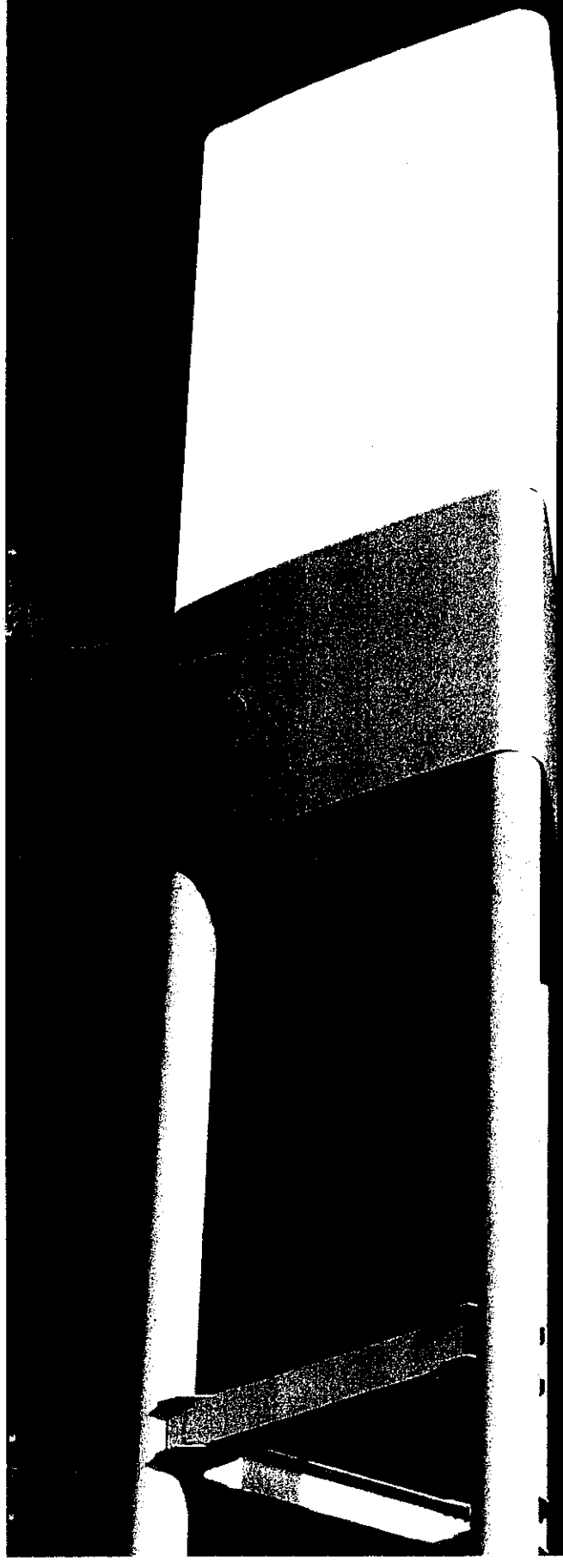
MAXTON
241 Boston Post Road West
Marlborough, MA. 01752
Phone: 508-229-4100
Fax: 508-485-5321

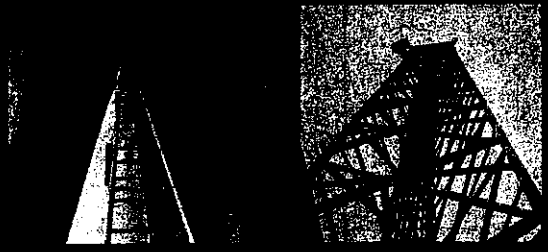
BAY STATE DESIGN
Bay State Design, Inc.
Architects - Engineers
241 Boston Post Road West
Marlborough, MA. 01752
Phone: 508-229-4100
Fax: 508-485-5321

clearwire
5808 LAKE WASHINGTON BLVD.
NE SUITE 300
KIRKLAND, WA 98033

PROJECT LOCATION: RATTLESNAKE MOUNTAIN CT-HFD0145A 200 COLT HIGHWAY FARMINGTON, CT 06032	SITE TYPE: GUYED TOWER		BSDA PROJ. #: 2908.190
	PROJECT MANAGER: JP	DRAWN BY: KW	SHEET: L2
APPROVED BY:	DATE: 03/23/10	REVISION: 1	

TURRIS





PROJECT:
STRUCTURAL ANALYSIS
of
Existing 1339ft
LRM3700 Guyed Mast

CUSTOMER:
Maxton Technology

SITE:
Rattlesnake
(aka Farmington), CT

TURRIS FILE:
10-0023

Turris Project: 10-0023

STRUCTURAL ANALYSIS OF

Existing 1339 Ft. LRM3700 Guyed Mast

at Rattlesnake (aka Farmington), CT

FOR:

Maxton Technology

Attention: Steven Milana
Maxton Technology
1296 Blue Hills Avenue
Bloomfield, CT 06002

CC: Joe Legere
Communications Site Management LLC.
Goodwin Square
225 Asylum Street, 29th Floor
Hartford, CT 06103

Prepared by: Simon Pong, P.Eng, P.E.
TURRIS CORP.
70 Todd Road, Georgetown, ON, Canada L7G 4R7
Phone: (905) 877-8885
Fax: (905) 877-8835

March 9, 2010

Introduction

The structural analysis for the existing 1339ft LRM3700 guyed mast at Rattlesnake (aka Farmington), CT is completed. The purpose of this analysis is to evaluate the tower for compliance with ANSI/TIA-222-G-2005 with modifications to existing antenna and feedline loading on the tower. Table 1 tabulates the new antennas and feedlines to be added onto the tower.

Table 1 – Equipment to be added

ID	Pos	Description	Qty	Elev (ft)	Tx Line	Qty	AZ	Status
89		ARGUS LLPX310R panel^^	4	195	5/8" coax	10	TBD	P
90		Andrew VHLP 2.5 (30")	5	190			TBD	P
91		Andrew VHLP 2.5 (30")	1	190			TBD	F
92		BTS/DAP (16"x11.6"x5")	3	195			TBD	P

^^Panel antennas are assumed to be mounted on Valmont stand-off mount no more than 8" from the leg.

Table 2 – Equipment to be removed

ID	Pos	Description	Qty	Elev (ft)	Tx Line	Qty	AZ	Status
35	51	DB408L	1	320	7/8"	1	39	E

1.0 Terms of Reference

The following documents and drawings were examined:

Tower Profile:	Radian dwg. No. 37-1030-E01-01 Rev. 2 dated Jan/10/2005.
Tower Foundations:	LeBlanc dwg. No. 3.7A1001-FE10 Issue 2 dated Aug/31/84.
	LeBlanc dwg. No. 3.7A1001-FE1 Issue 1 dated May/7/84.
	LeBlanc dwg. No. 3.7A1001-FE2 Issue 1 dated May/1/84.
	LeBlanc dwg. No. 3.7A1001-FE3 Issue 1 dated Apr/30/84.
	LeBlanc dwg. No. 3.7A1001-FE4 Issue 1 dated Apr/30/84.
	LeBlanc dwg. No. 3.7A1001-FE5 Issue 1 dated May/1/84.
	LeBlanc dwg. No. 3.7A1001-FE6 Issue 1 dated Apr/30/84.
	Radian dwg. No. 37-1030-F01-01 Rev. 0 dated Oct/4/2004.
	Radian dwg. No. 37-1030-F02-01 Rev. 0 dated Oct/5/2004.
	Radian dwg. No. 37-1030-F03-01 Rev. 0 dated Oct/5/2004.
Antenna Inventory:	Refer to Appendix A.
Soil Report:	Dr. Clarence Welti, Geotechnical Engineering
	Report dated January 30, 2004

2.0 Analysis Parameters

- Standard: ANSI/TIA-222-G-2005
- County: Hartford, CT
- Basic Wind Speed: 100.00(mph)
- Basic Wind Speed With Ice: 50.00(mph)
- Design Ice Thickness: 1.00(in)
- Structure Class: II
- Exposure Category: C
- Topographic Category: 1

3.0 Assumptions

1. The tower is in good, non-corroded conditions. A tower inspection was not performed in conjunction with this analysis. The tower and loading data used in this analysis are based on and is as accurate as the data furnished/obtained.
2. This analysis assumes that all previous reinforcing recommendations and antenna rearrangement have been implemented.
3. All existing/future tx lines less than 3" in diameter are considered grouped together in blocks.
4. This analysis assumes that the back-to-back diagonals at sections 6, 7, 12, 13, 19, 20, 21, and 33 had been upgraded with (1) 5/8" stitch bolt on each side of the existing middle stitch bolt.

4.0 Analysis Results

Appendix A shows the tower profile, along with the antennas, transmission lines and ancillary loading considered in this analysis. The existing structure was analysed using the comprehensive computer program "TSTower". Graphical and tabular results are presented in Appendix B.

5.0 Conclusions & Recommendations

The existing 1339 ft LRM3700 guyed tower at Rattlesnake (aka Farmington), CT, was examined for compliance with American standard ANSI/TIA-222-G-2005. A summary of member stresses are listed below:

Summary of member stress ratios

Leg				
Section	Maximum stress ratio	Location	Member size	Comment
15	0.97	1-4 panels	SR 6	Acceptable

Diagonal				
Section	Maximum stress ratio	Location	Member size	Comment
6	0.75	Forth panel	(2) L3x2x1/4	Acceptable

Horizontal				
Section	Maximum stress ratio	Location	Member size	Comment
6	0.63	Fourth panel	(2) L2 1/2x2x3/16	Acceptable

Guy				
Section	Maximum stress ratio		Member size	Comment
Top	0.71		UH 2 1/16	Acceptable

*Summary of original base reactions as per Rev. F**

Axial (Kips)	Shear (Kips)
3087.9	10.4

* values increased by 1.35 for comparison

*Summary of base reactions as per Rev. G***

Axial (Kips)	Shear (Kips)
3748.1	74.3

**foundation is acceptable after re-checking the original design.

*Summary of original anchor design reactions as per Rev. F**

Anchor #	Azimuth (deg)	Radius (ft)	Elevation (ft)	Horizontal Load (Kips)	Vertical Load (Kips)	Axial Load (Kips)
1C	39.0	685.00	-25.0	579.29	378.41	692.01
2C	159.0	645.00	-30.0	582.39	409.32	711.86
3C	279.0	729.00	-120.0	575.51	422.15	713.61
1B	39.0	845.00	-140.0	143.51	166.46	219.78
2B	159.0	735.00	-38.0	151.47	184.95	239.09
3B	279.0	827.00	-130.0	149.45	175.91	230.85
1A	39.0	875.00	-150.0	284.31	386.24	479.12
2A	159.0	765.00	-33.0	295.79	423.77	515.97
3A	279.0	857.00	-129.0	289.04	395.82	489.78

* values increased by 1.35 for comparison

Summary of anchor reactions as per Rev. G

Anchor #	Azimuth (deg)	Radius (ft)	Elevation (ft)	Horizontal Load (Kips)	Vertical Load (Kips)	Axial Load (Kips)
1C	39.0	685.00	-25.0	503.84	355.10	616.40
2C	159.0	645.00	-30.0	502.30	375.80	627.32
3C	279.0	729.00	-120.0	494.12	390.19	629.61
1B	39.0	845.00	-140.0	124.39	157.29	200.53
2B	159.0	735.00	-38.0	130.11	171.16	215.00
3B	279.0	827.00	-130.0	128.02	163.87	207.95
1A	39.0	875.00	-150.0	240.06	363.31	435.45
2A	159.0	765.00	-33.0	247.28	390.34	464.07
3A	279.0	857.00	-129.0	242.27	368.40	440.92

A check to the base foundation shows that it is adequate for the base reactions as per Rev.G. A comparison of the reactions shows that the anchor reactions as per Rev.G are less than the original design allowable reactions increased by 1.35 for comparison. The tower remains in compliance with ANSI/TIA-222-G-2005.

We trust the analysis and recommendations presented in the report will meet your requirements. However, please do not hesitate to contact us if you have any questions, or require any further information regarding this study.

Prepared by:

Simon Pong, P.Eng., P.E.
Senior Project Engineer
Turris Corp.

Reviewed by:

March 10/2016

John Wahba, Ph. D, P. E., P. Eng.
Principal Engineer
Turris Corp.

SCOPE & LIMITATIONS FOR THE PROVISION OF PROFESSIONAL ENGINEERING SERVICES FOR STRUCTURES

All engineering services performed by Turris Corp. (Turris) in connection with the structural analysis of the tower is limited to the strength of the members and does not account for any variations due fabrication, including welding and connection capacities and installations, except as outlined in this Report.

This analysis report is based on assumptions that the information below, but is not necessarily limited to:

- information supplied by the client regarding the structure and its components, foundations, soil conditions, appurtenances loading on the structure, and other site-specific information.
- information from documents and/or drawings in the possession of Turris Corporation, or acquired from field inspections.

It is the responsibility of the client to ensure that the information provided to Turris, and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications provided, and are in non-corroded condition and have not deteriorated. Therefore, we assume that the member capacities have not changed from the "as new" condition.

All services will be performed to meet the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed to in writing. If wind and ice loads or other relevant parameters are to be different than the minimum values recommended by the standards, the client shall specify the requirement.

All services are performed in accordance with generally accepted engineering principles and practices. Turris is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

Furthermore, Turris assumes no obligations to revise any of the information or conclusions contained in this Report in the event that such engineering and analysis procedures and formulas are hereafter modified or revised. In addition, under no circumstances will Turris have any obligations or responsibility whatsoever for or on account of consequential or incidental damages sustained by any person, firm or organization as a result of any information or conclusions contained in the report and the maximum liability of Turris Corp., if any, pursuant to this Report shall be limited to the total funds actually received by Turris Corp. for preparation of this Report.

APPENDIX A
Tower Profile

DESIGN SPECIFICATION: ANSI/TIA-222-G-2005
BASIC WIND SPEED (No Ice): 100 mph
BASIC WIND SPEED (With Ice): 50 mph
DESIGN ICE THICKNESS: 1.00 inch
EXPOSURE CATEGORY: C
STRUCTURE CLASS: II
TOPOGRAPHIC CATEGORY: 1

SECTION NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
LEGS GRADE = A572 or 50	F			SR 7				SR 7 1/4		SR 7	F	E		SR 6				SR 6 1/2		D	SR 5 1/4		SR 5 3/4	J	K	C	SR 4 3/4		SR 5 1/4	I	B	SR 4 1/4			I	SR 4			A	HG
DIAGONALS GRADE = 300W	J	I	(2) L3x2x1/4									(2) L3x2x3/8			(2) L3x2x1/4			(2) L3x2x1/4			(2) L3x2x1/4																					
HORIZONTALS GRADE = 300W			(2) L2 1/2x2x3/16									(2) L2 1/2x2x1/4			(2) L2 1/2x2x3/16			(2) L2 1/2x2x3/16			L2 1/2x2x1/4				K																	
RED. DIAG. GRADE = 300W													L																													
RED. HORIZ. GRADE = 300W													L																													
INT. BRACING GRADE = 300W																																										

ELEVATIONS: 1248'-3", 1221'-3", 1191'-9", 1162'-3", 1132'-8", 1103'-2", 1073'-8", 1044'-1", 1014'-7", 985'-1", 955'-6", 926'-0", 896'-6", 866'-11", 837'-5", 807'-11", 778'-4", 748'-10", 719'-4", 689'-9", 660'-3", 630'-9", 601'-2", 571'-8", 542'-2", 512'-7", 483'-1", 453'-7", 424'-0", 394'-6", 365'-0", 335'-5", 305'-11", 276'-5", 246'-10", 217'-4", 187'-10", 158'-3", 128'-9", 99'-3", 69'-8", 40'-2", 18'-0"

A = SR 4 1/2
F = SR 6 3/4
K = (2) L2 1/2x2x1/4

B = SR 4 3/4
G = (2) L3 1/2x2 1/2x3/8
L = (2) L2x2x3/16

C = SR 5 1/4
H = (2) L3x2 1/2x3/8

D = SR 5 3/4
I = (2) L3x2x5/16

E = SR 6 1/2
J = (2) L3x2x3/8

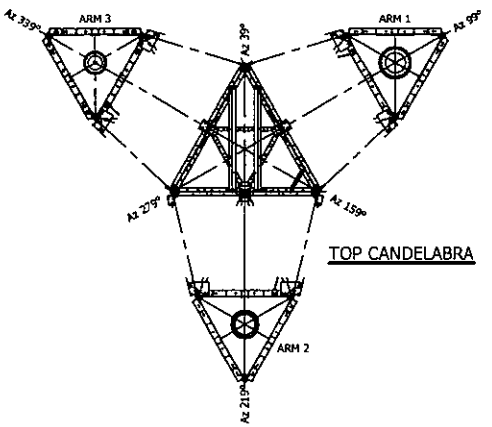
* Existing leg reinforcing

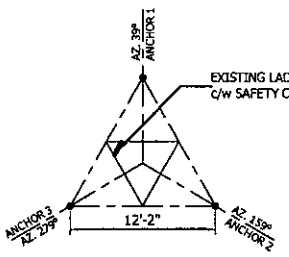
EL. 1228'-8-1/8"
EL. 1096'-0"
EL. 919'-0"
EL. 727'-0"
EL. 535'-0"
EL. 343'-0"
EL. 151'-0"
EL. 0'-0"
TOP OF CONCRETE

* DIAGONALS PREVIOUSLY REINFORCED WITH STITCH BOLTS

UH 2 1/16"Ø 59.8 Kips L = 1568'-4"
UH 2"Ø 55.0 Kips L = 1455'-2"
UH 2"Ø 54.0 Kips L = 1294'-6"
BS 1 15/16"Ø 40.0 Kips L = 1038'-2"
BS 2 1/8"Ø 44.3 Kips L = 901'-9"
BS 2"Ø 48.0 Kips L = 788'-11"
BS 1 9/16"Ø 45.0 Kips L = 711'-2"

685'-0"
845'-0"
875'-0"





TURRIS ENGINEERING PROCUREMENT PROJECT MGMT
995 Westport Crescent
Mississauga, Ontario, L5T 1E8, Canada
Tel: +1 905 461 9699 Fax: +1 905 461 0967
www.turriscorp.com

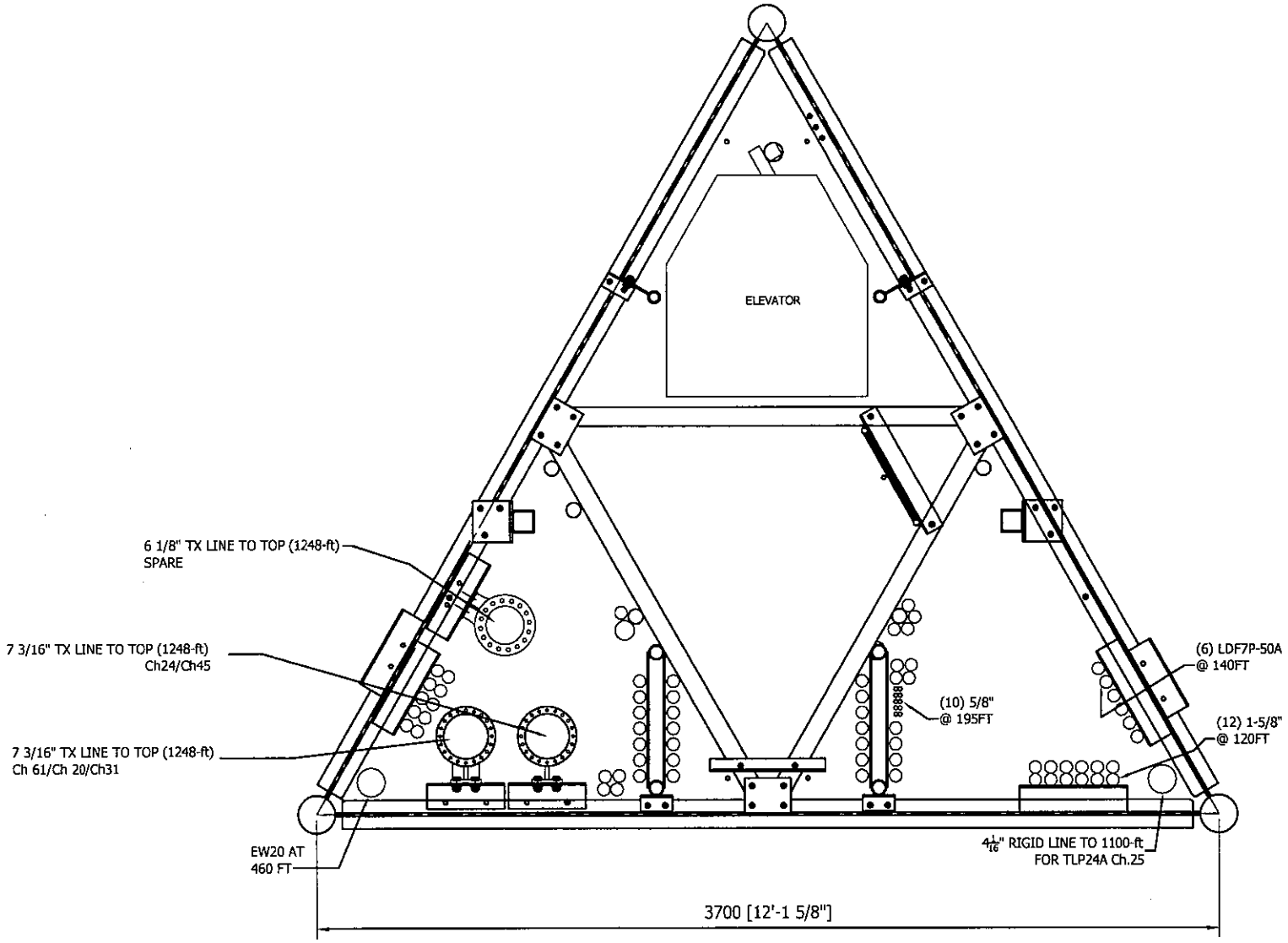
REV.	DESCRIPTION	DWN.	CHK.	APP

DWG REFERENCE

PROJECT: EXISTING 1339FT LRM3700
CUSTOMER: MAXTON TECHNOLOGY
SITE NAME: RATTLESNAKE (HARTFORD CTY), CT

TITLE: TOWER PROFILE

DATE	DWG BY	PROJECT NO	REV
MAR.05.10	S.P.	10-0023	0
ENGR APPD	CHKD BY	DWG NO	
		10-0023-P01-01	



TX LINE POSITION

TURRIS SPECIFICATION PROCUREMENT PROJECT MGMT
995 Westport Crescent
Mississauga, Ontario, L5T 1E8, Canada
Tel: +1 905 461 9999 Fax: +1 905 461 0987
www.turriscorp.com

REV.	DESCRIPTION	DWN.	CHK.	APP

DWG REFERENCE

EXISTING 1339FT LRM3700

MAXTON TECHNOLOGY

RATTLESNAKE (HARTFORD CTY), CT

TX LINE LAYOUT

DATE	DWG. BY	PROJECT NO	REV
FEB.16.10	S.P.	10-0023	0
	CHK'D BY	DWG. NO	
		10-0023-P02-01	

APPENDIX A
Antenna Loading Chart

ID	Pos	Description	Qty	Elev (ft)	Tx Line	Qty	AZ	Comments	Status
Top Candelabra loading									
1	2b	TFU-16DSC-R C170	1	1273.00	7 3/16" **	** Shared		East Arm Bottom Up	E
1	3a	TFU-18JTH/VP-R-04	1	1315.55	7 3/16" *	* Shared		NW Arm Top Up	E
1	3b	TFU-18DSC/VP-R C170	1	1266.70	7 3/16" *	* Shared		NW Arm Bottom Up	E
				1248.25	6-1/8"	Spare			F
Miscellaneous loading on tower mast									
4	4	Radio Waves PR09-DRB-2C	1	1209	1 5/8" + 1"	1 Each	39	ProscanIII	P
6		TLP24A	1	1100	4 1/16"	1	None	Side mounted	E
9	7	FM ERI-1053-1CP	1	845	3 5/8" + 1 5/8"	1	1 Bay Each		E
10		DB809-H	1	800	3 1/8"	1	39		E
11	9	DB413	2	778	1 5/8"	1	39, S Face		E
12	10	DB413	2	755	1 5/8"	1	39, S Face		E
14	13	DB809K	1	740	1 5/8"	1	39		E
15		DB809-H	1	726	1 5/8"	1	39		E
16	14	DB254C	2	715	None	None	S Face		E
17	15	DB8983P	1	715	None	None	159		E
18	16	DB420B	1	708	None	None	39		E
19		DB809K	1	688	1 5/8"	1	39		E
20		DB224	1	671	1 5/8"	1	39		E
23		Kathrein 740-195	1	564	1 5/8"	1	279		E
25	25	Scala OGB9-900K	1	514	1 5/8"	1	39		E
26	26	Dish Mounts & I/G	3	512	None	None	39, 159, 279		E
27	29	TA2335	3	460	EW 20	1	1 Each Leg		E
28	30	Antel BCD 87010N25-6	1	440	1 5/8"	1	39		E
29	32	DB Dipole	1	416	7/8"	1	39		E
30	33	FM-XH 3A3	1	405	3 1/8"	1	159		E
31	34	DB225	1	400	1 1/4"	1	39		E
32	35	Ice Guards	2	374	None	None	39, 159		E
33	37	DB230	1	360	7/8"	1	279		E
34		6' Microwave Dish	2	355	WE71	2	39 & 159		E
35	51	Scala OGB9-900N	1	320	7/8"	1	279		E
36	52	I/G	3	310	None	None	1 Each Face		E
39	55	Scala 450	1	300	7/8"	1	279		E
42		PXL8	1	283	EW 63	2	279		E
43		MF900B	1	270	1 1/4"	1	279		E
52	64	BMR 10A	1	165	1 5/8"	1	39		E
53		DB950F65T4E-M	2	160	2 1/4"	2	279		E
54		DB950F65T4E-M	1	160	2 1/4"	1	39		F
56	65	HP6	1	155	EW52	1	211		E
64	66	PD400	1	121	7/8"	1	159		E
66		PD1110	1	110	1 1/4"	1	159		E
67	70	Ice Guards	1	96	None	None	39	RELOCATED	E
69		10' Microwave Dish	1	87	EW52	1	39		E
70		A-18A24	1	70	2 1/4"	1	39		E
71		Dish Mount	1	64	None	None	39		E
72		Dish Mount	1	57	None	None	39		E
73		Dish Mount	1	46	None	None	39		E

74	73	Ice Guards	1	35	None	None	39		E
75	74	PL6	1	30	EW63	1	39		E
76		Kathrein 742 213	3	140	1 5/8"	6	30, 150, 270	Leg flush mounted	E
77		Hyperlink 3ft dish w/ radome	1	210	Cat 5 cable^	1		Computer hospital	E
78		Proxim 5054R-LR Base panels	2	210	Cat 5 cable^	3		Computer hospital	E
79		Scala PR-950U	1	328	1 5/8"	1	159	WJMJ Radio and TV	E
80		Scala PR-950U	1	50	7/8"	1	279	WJMJ Radio and TV	E
81		SC-E 6016 Rev 2	2	120	1-5/8"	12	0		P (TBD)
82		SP-E 5017	2	120			0		P (TBD)
83		SP-E 5017 T4	2	106			120		P (TBD)
84		SC-E 6016 Rev 2	2	120			270		P (TBD)
85		SP-E 5017	2	120			270		P (TBD)
86		12' lightweight T-frame	1	120			0		P (TBD)
87		12' lightweight T-frame	1	106			120		P (TBD)
88		12' lightweight T-frame	1	120			270		P (TBD)
89		**ARGUS LLPX310R panel^^**	**4**	**195**	**5/8" coax**	**10**	**TBD**		**P**
90		**Andrew VHLP 2.5 (30")**	**5**	**190**			**TBD**		**P**
91		**Andrew VHLP 2.5 (30")**	**1**	**190**			**TBD**		**F**
92		**BTS/DAP (16"x11.6"x5")**	**3**	**195**			**TBD**		**P**

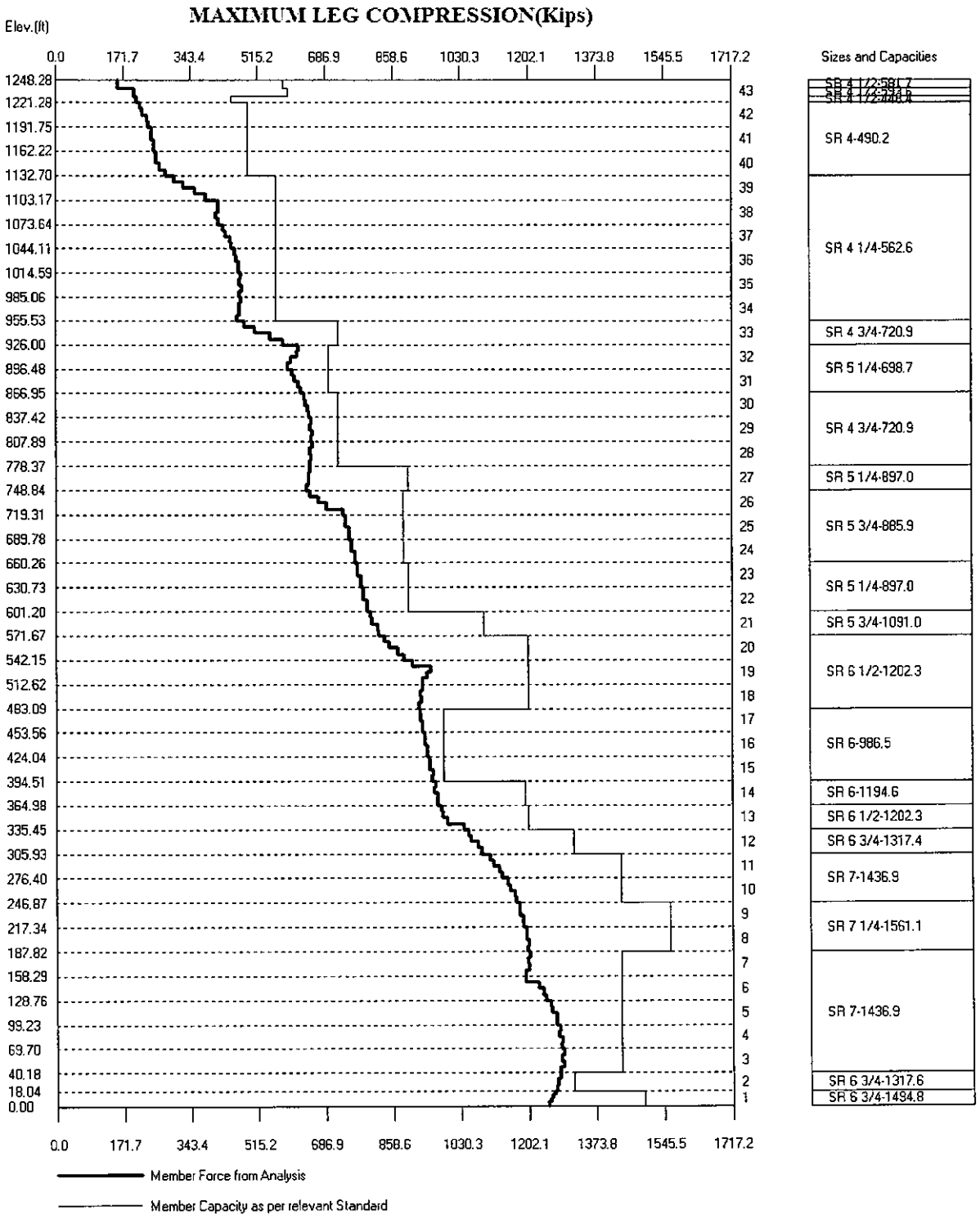
^Cat 5 cables are bundled together to 210'

^^Panel antennas are assumed to be mounted on Valmont stand-off mount no more than 8" from the leg.

APPENDIX B
Results of Analysis

Guy Elevation (ft)	Guy Maximum Stress Levels (% of Rated Capacity)
1228.68	71
1096.00	68
919.00	66
727.00	68
535.00	62
343.00	54
151.00	64

Elevation (ft)	Maximum Beam Rotation (Degrees) for Serviceability Conditions
1209.00	0.95
800.00	0.76
740.00	0.76
726.00	0.76
688.00	0.77
671.00	0.78
564.00	0.76
440.00	0.74
355.00	0.69
328.00	0.68
283.00	0.65
210.00	0.55
195.00	0.50
190.00	0.50
155.00	0.43
140.00	0.40
120.00	0.36


MAXIMUM LEG COMPRESSION(Kips)
Elev.(ft)
0.0
171.7
343.4
515.2
686.9
858.6
1030.3
1202.1
1373.8
1545.5
1717.2
1248.28
1221.28
1191.75
1162.22
1132.70
1103.17
1073.64
1044.11
1014.59
985.06
955.53
926.00
896.48
866.95
837.42
807.89
778.37
748.84
719.31
689.78
660.26
630.73
601.20
571.67
542.15
512.62
483.09
453.56
424.04
394.51
364.98
335.45
305.93
276.40
246.87
217.34
187.82
158.29
128.76
99.23
69.70
40.18
18.04
0.00
43
42
41
40
39
38
37
36
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32
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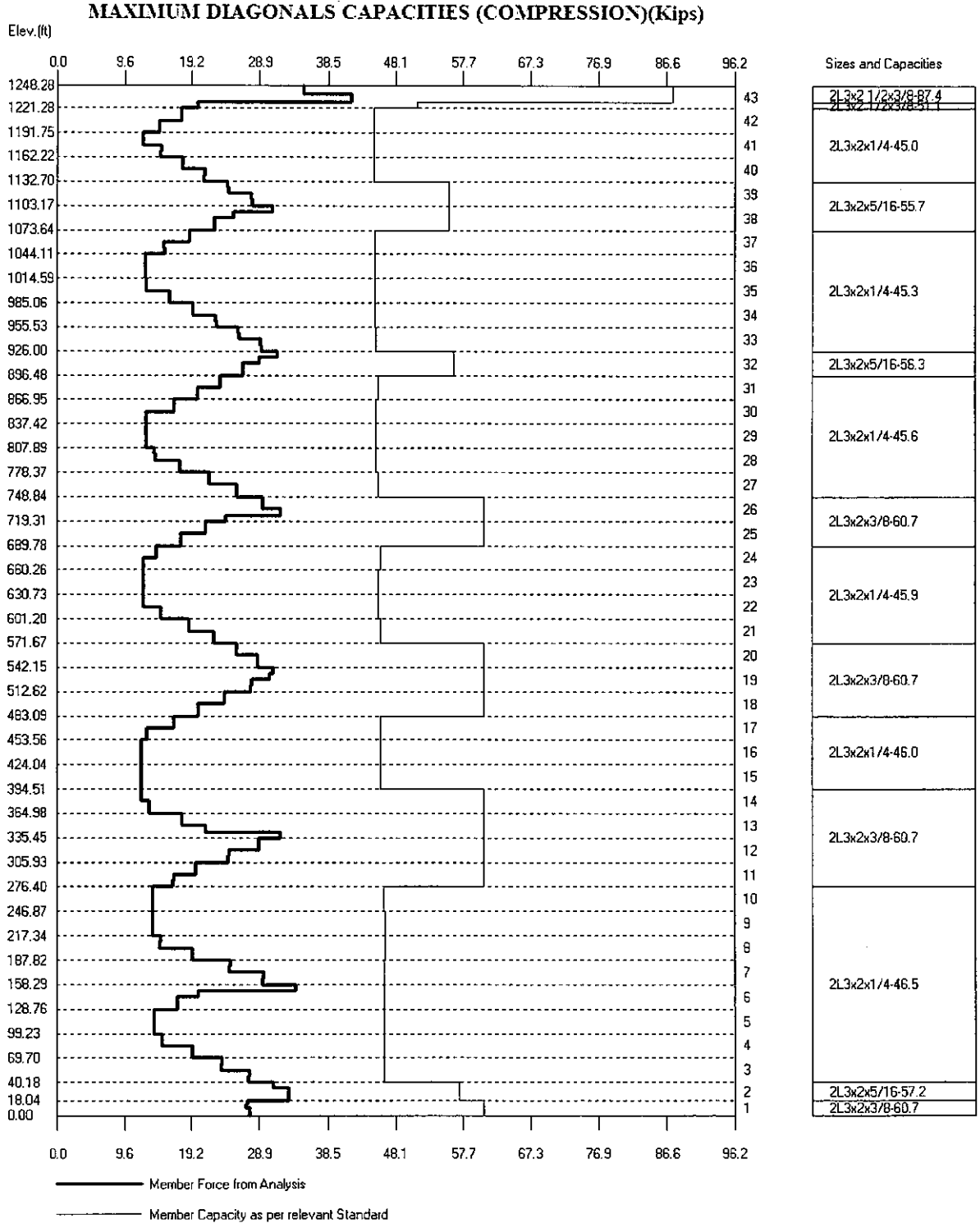
8
7
6
5
4
3
2
1
Member Force from Analysis
Member Capacity as per relevant Standard
Sizes and Capacities
SR 4 1/2-581.7
SR 4 1/2-594.6
SR 4-490.2
SR 4 1/4-562.6
SR 4 3/4-720.9
SR 5 1/4-698.7
SR 4 3/4-720.9
SR 5 1/4-897.0
SR 5 3/4-885.9
SR 5 1/4-897.0
SR 5 3/4-1091.0
SR 6 1/2-1202.3
SR 6-986.5
SR 6-1194.6
SR 6 1/2-1202.3
SR 6 3/4-1317.4
SR 7-1436.9
SR 7 1/4-1561.1
SR 7-1436.9
SR 6 3/4-1317.6
SR 6 3/4-1494.8

MAXIMUM DIAGONALS CAPACITIES (COMPRESSION)(Kips)



CLEAR

4400 Carillon Point
Kirkland, WA 98033

To: Maxton
From: Frantz Pierre – Radio Frequency Engineer
Cc: Micah Hawthorne
Subject: Power Density Report for CT-HFD0145
Date: March 25, 2010

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1. Introduction:

This report is the result of Electromagnetic Field Intensities (EMF – Power Densities) study for the Clearwire broadband antenna installation on a guyed lattice tower at 200 Colt Highway, AKA Rattlesnake Mountain, Farmington, CT. This study incorporates the most conservative consideration for determining the practical combined worst case power density levels that would be theoretically encountered from locations surrounding the transmitting location:

2: Discussion:

The following assumptions were used in the calculations:

1) The emissions from Clearwire transmitters are in the (2496 – 2960) Frequency Band
2) The emissions from the Clearwire Microwave dishes are in the 11 GHz Frequency Band
3) The model number for Clearwire Antenna is Argus LLPX310R
4) The model number for the Microwave dish is Andrew VHLP2.5-11 with 30" Diameter.
5) The Clearwire Panel antenna centerline is 190 feet.
6) The Clearwire Microwave dish centerline is 190 feet.
7) The Maximum Transmit power from any Clearwire panel antenna is 251 Watts Effective Isotropic Radiated Power (EiRP) assuming 2 channels per sector.
8) The Maximum Transmit power from any Clearwire Microwave Dish is 346 Watts Effective Isotropic Radiated Power (EiRP) assuming 1 channel per dish.
9) All antennas are simultaneously transmitting and receiving 24 hours per day.
10) The average ground level of the studied area does not change significantly with respect to the transmitting location.

Equations given in "FCC OET Bulletin 65, Edition 97-01" were used with the above information to perform the calculations.

3: Conclusion:

Based on the above worst case assumptions, the power density calculation from the Clearwire antenna installation on a guyed lattice tower at 200 Colt Highway, Farmington, CT, is 0.003587 mW/cm^2. This value represents 0.36% of the Maximum Permissible Exposure (MPE) standard of 1 milliwatt per square centimeter (mW/cm^2) set forth in the FCC/ANSI/IEEE C95-1-1991. Furthermore, the proposed antenna location for Clearwire will not interfere with existing public safety communications, AM or FM radio broadcasts, TV, Police Communications, HAM Radio communications or any other signals in the area.

The combined Power Density from all other carriers is 28.1 %. The combined Power Density for this site is 28.01% of the M.P.E. standard.