

June 7, 2010

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



**Re: Notice of Exempt Modification
Clearwire Corporation Notice to make an Exempt Modification to an Existing
Facility at 1615 Stanley Street, New Britain, CT
Clearwire Site Number CT-HFD0100**

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 City of New Britain, CT. of Clearwire's intent to make an exempt modification to an existing monopole tower (tower) located at 1615 Stanley Street, New Britain, 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 142' 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 the Mayor of the City of New Britain, 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 an 80' guyed lattice tower located at 1615 Stanley Street, New Britain, Connecticut with an AGL of 144' (Latitude 41 41 08 N Longitude 72 45 56 W). The tower is owned by the State of Connecticut (CCSU). Currently, Sprint\Nextel is 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 100'. 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 Bay State Design to perform a structural analysis of the tower and the proposed changes. According to that structural dated April 30, 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 99% 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 .0036% of the NCRP's standard for maximum permissible exposure. The cumulative power density analysis indicates that all the antennas on the structure will emit less than 20% of the NCRP'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.

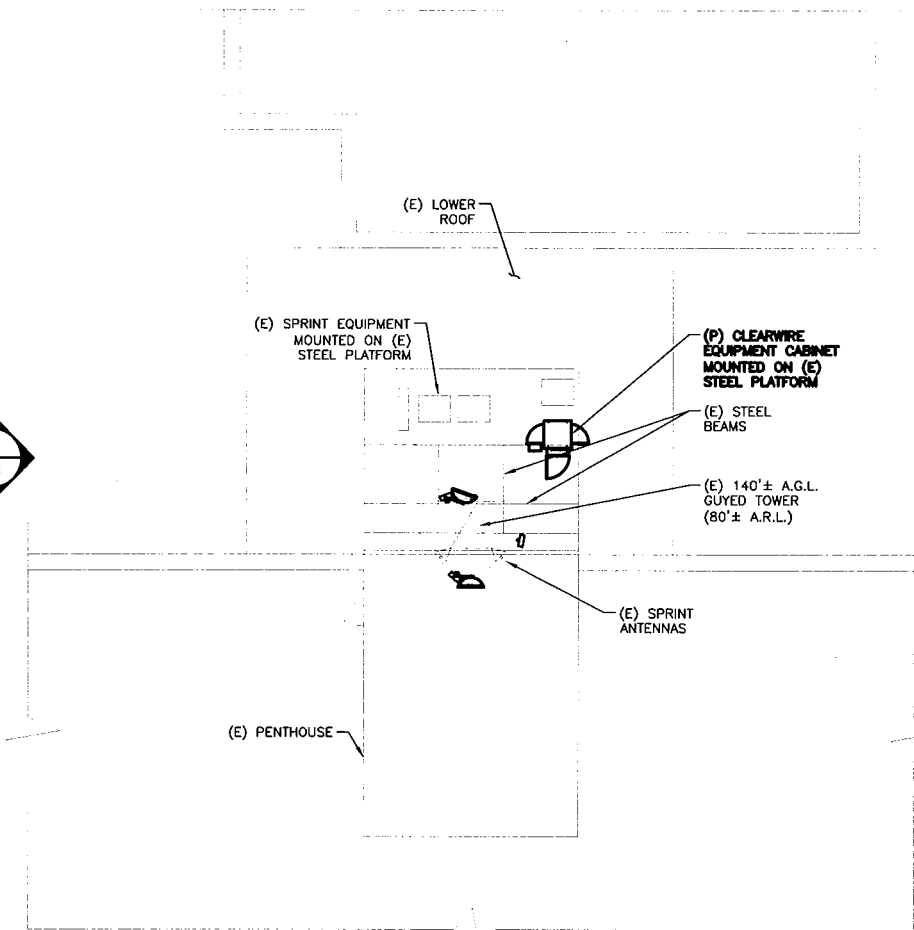
In conclusion, Clearwire's proposed plan to add three (3) WiMAX antennas, three (3) microwave dishes and the associated base station equipment does not constitute a modification subject to the Council's jurisdiction because Clearwire will not increase the height of the tower, will not extend the boundaries 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

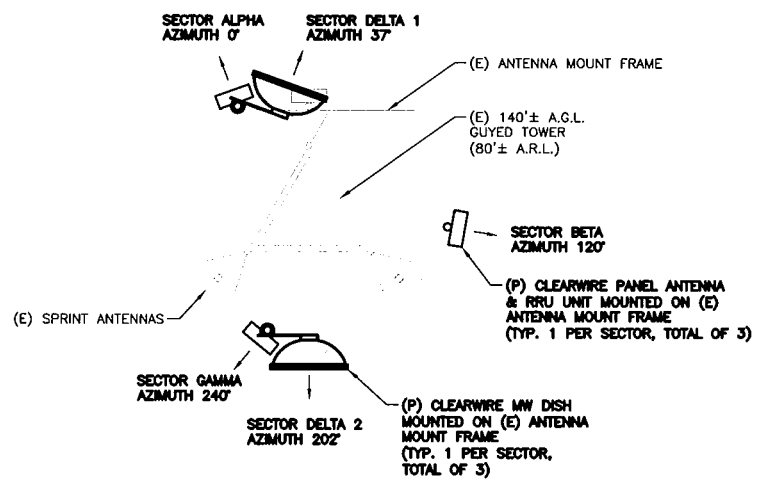


Thomas F. Flynn III
Site Development Project Manager
Maxton Technology Inc.
1296 Blue Hills Avenue
Bloomfield, CT 06002
508-821-6974
Tom.Flynn@maxtontech.com
Agent for Clearwire Corporation

Cc: Mayor Timothy Stewart
City of New Britain



PARTIAL ROOF PLAN ①
SCALE: N.T.S.



ANTENNA AZIMUTH PLAN ②
SCALE: N.T.S.

MIXTON
241 BOSTON POST RD WEST
MARLBOROUGH, MA 01752
Phone: 508-228-4100
Fax: 508-465-3321

BAY STATE DESIGN
Bay State Design, Inc.
Architects Engineers
241 BOSTON POST RD WEST
MARLBOROUGH, MA 01752
Phone: 508-228-4100
Fax: 508-465-3321

clearw're
5808 LAKE WASHINGTON BLVD.
NE SUITE 300
KIRKLAND, WA 98033

PROJECT LOCATION:
CENTRAL CONNECTICUT UNIVERSITY
ROBERT C. VANCE DORMITORY
CT-HFD0100A
1615 STANLEY STREET
NEW BRITAIN, CT 06053

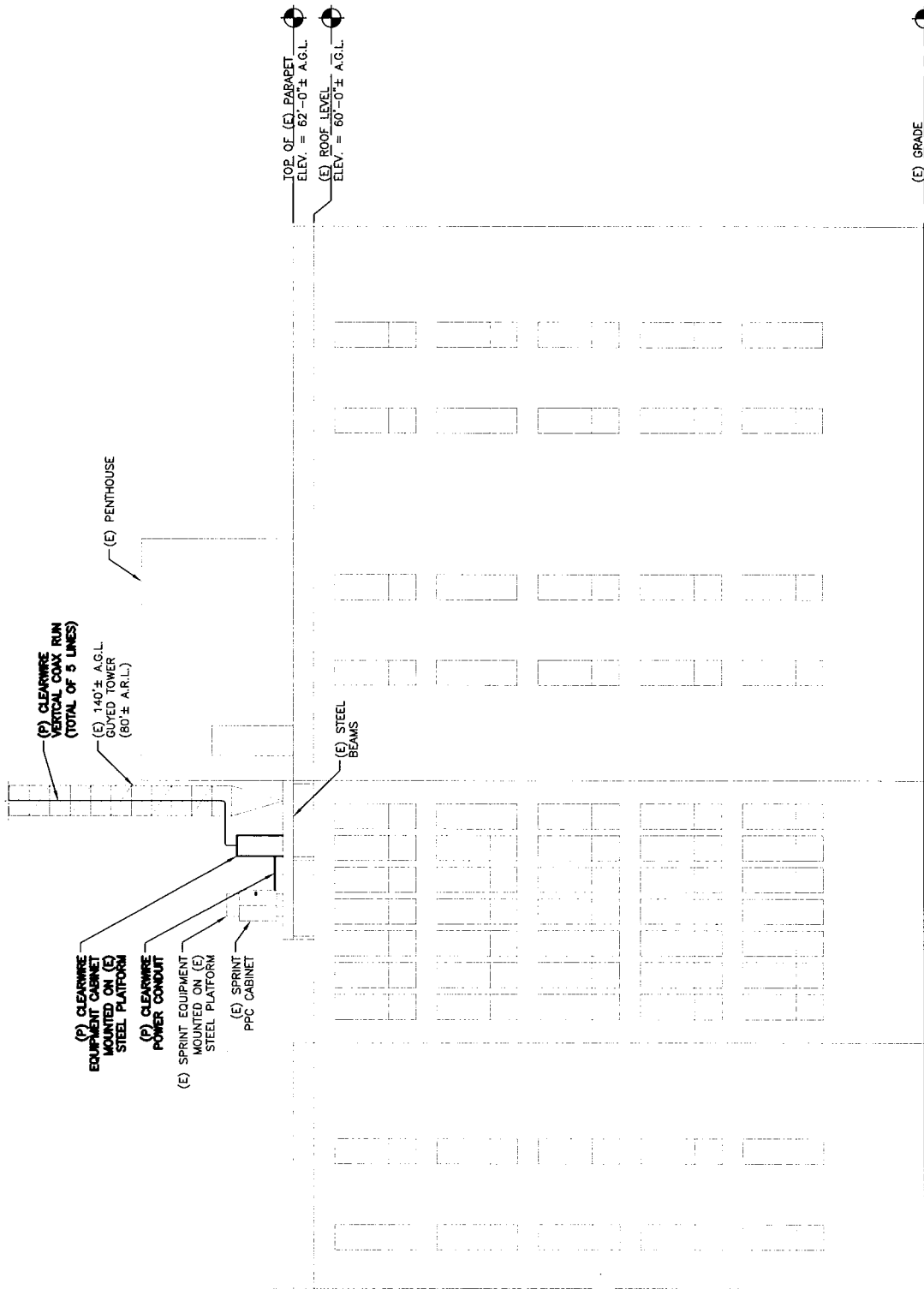
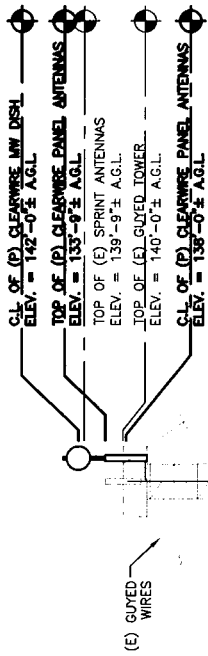
APPROVED BY:

SITE TYPE:
ROOFTOP

PROJECT MANAGER: JP
DRAWN BY: KW

DATE: 06/08/10
REVISION: 0

BSDA PROJ. #: 2908.092
SHEET: L1



1

PARTIAL ELEVATION

SCALE: N.T.S



241 BOSTON POST RD WEST
MARLBOROUGH, MA 01752
Phone: 508-228-4100
Fax: 508-485-5321

Boy State, Design, Inc.
Architects Engineers
241 BOSTON POST RD WEST
MARLBOROUGH, MA 01752
Phone: 508-228-4100
Fax: 508-485-5321

clearw're

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NE SUITE 300
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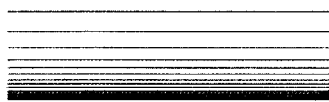
REVISION:
0

BSDA PROJ. #:
2908.092

SHEET:

L2

BAY STATE
DESIGN



STRUCTURAL ANALYSIS REPORT



clearwire[®]
wireless broadband

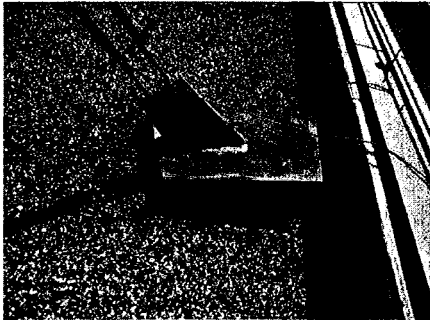
CT-HFD0100B
1615 STANLEY STREET
NEW BRITAIN, CT 06053

April 30, 2010

INTRODUCTION:

The purpose of this analysis is to determine the structural capability of the existing 80' guyed tower installed on the rooftop of Vance Hall on the Central Connecticut State University campus.

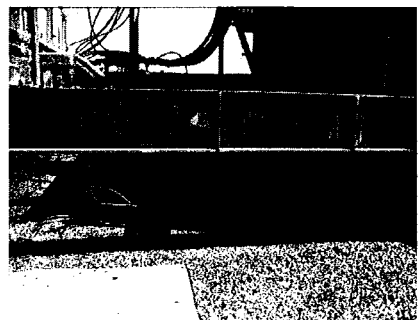
The tower base is anchored to a steel platform installed on the building rooftop at an elevation of 62.8'. The tower is supported by a total of (6) 7/16" guy wires at an elevation of 125' which are anchored to steel plates installed on the building rooftop.



Typical Guy Anchor



Tower Base



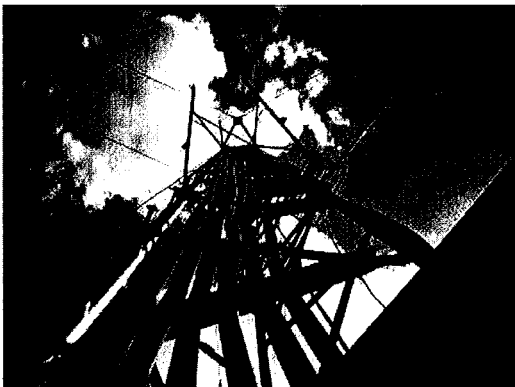
Tower Base Platform

Clearwire is proposing to add the following equipment to the existing Sprint mount:

Quantity	Model No.	Elevation
3	Kathrein 840 10054 Panel Antenna	138'
3	Samsung WiMAX U-RAS Flexible RRU	138'
2	Andrew VHLP2.5 30" Microwave Dish	142'

Clearwire equipment is to be mounted to a 3 1/2" STD pipe sized to accommodate the 4'-0" required separation between panel antenna and microwave dish center lines.

In addition, a total of (6) lines of 5/16" fiber run inside a 2" flexible conduit and (2) lines of 1/2" coax will be run on the tower to the proposed Clearwire equipment. Coax run to be installed on same face of tower as existing Sprint run.



Existing Sprint Coax run

ASSUMPTIONS:

All engineering services have been performed on the basis that the information used is current and accurate. This information may consist of, but is not necessarily limited to:

- Information supplied by the client regarding the structure itself, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of Bay State Design, Inc., or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to Bay State Design, Inc. and used in the performance of our engineering services is correct and complete.

In the absence of information to the contrary, BSD assumes that all structures were constructed in accordance with the drawings / specifications and are in good condition and have not significantly changed from the "as new" condition.

All services were performed to codes specified by the client. BSD does not imply to have met any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are different from the minimum values recommended by code, the client shall specify the exact requirement.

All services are performed in accordance with generally accepted engineering principles and practices. Bay State Design, Inc., is not responsible for the conclusions, opinions and recommendations made by others based on the information provided.

REFERENCES:

This structural analysis was evaluated using RISA Tower, a general-purpose modeling, analysis, and design program created specifically for communications towers in accordance with the following:

- TIA/EIA 222-F Structural Standards for Steel Antenna Tower and Antenna Supporting Structures
- CT State Building Code 2005
- Tower Mapping report prepared by HTS Hightower Solutions, Inc. dated 6/11/08

Existing antenna inventory was compiled using a combination of reference to tower mapping report listed above and observations made from roof level by Bay State Design on 3/29/10.

TOWER ANALYSIS RESULTS:

The following stresses were observed on the tower including the proposed Clearwire loading:

COMPONENT TYPE	CONTROLLING ELEVATION	% CAPACITY	PASS / FAIL
LEG	82' - 102'	60%	PASS
DIAGONAL	102' - 122'	50.90%	PASS
TOP GIRT	102' - 122'	13.40%	PASS
BOTTOM GIRT	67' - 82'	15.60%	PASS
GUY C 7/16"	125'	99%	PASS

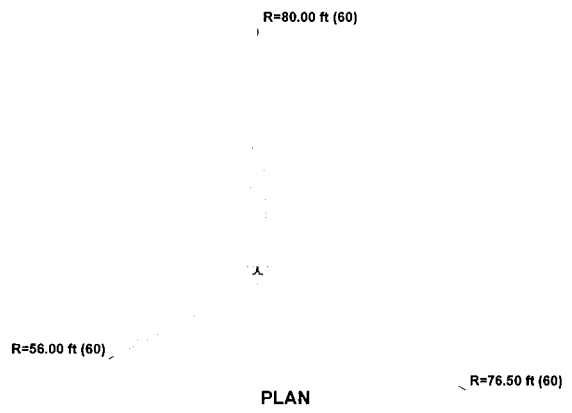
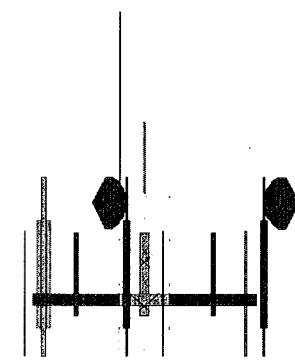
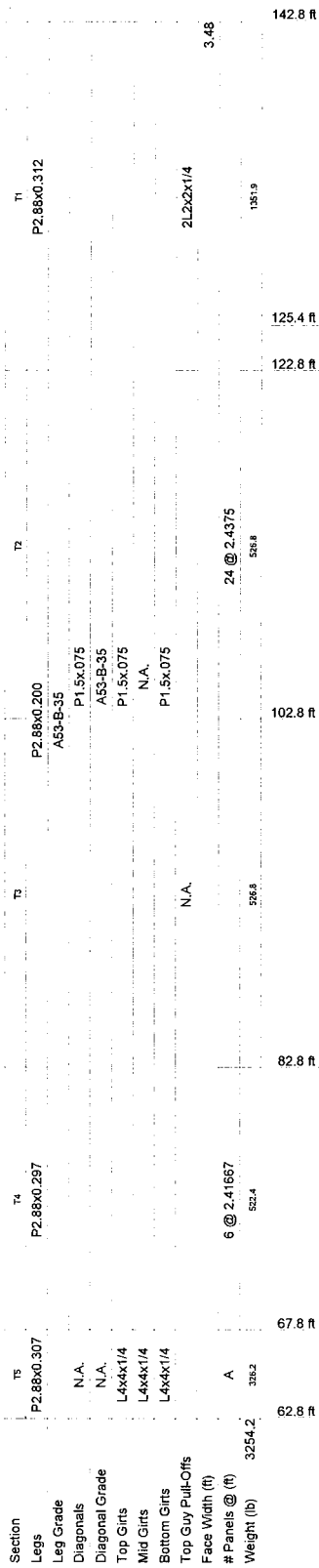
CONCLUSION:

Based on the following calculations, Bay State Design, Inc. concludes the existing tower and base steel platform meet the structural requirements as specified by TIA/EIA-222-F. The highest observed stress on the tower was 99%.



Gordon E. Govalet, P.E.
President
Bay State Design, Inc.

Gordon E. Govalet 4/30/2010



PLAN

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
5/8" x 4' lighting rod	150.83	2" dia. pipe (7' long)	137.08
2 1/2"x 6' pipe	145.83	2" dia. pipe (7' long)	137.08
Safety Climb Extension	144.63	2" dia. pipe (7' long)	137.08
Andrew VHLP2.5-18-2WH	142.16	PIROD 15' T-Frame	137.08
Andrew VHLP2.5-18-2WH	142.16	PIROD 15' T-Frame	137.08
3"x10' pipe	138.58	15"x5" ring	124.58
3"x10' pipe	138.58	L5x3x0.25	124.58
3"x10' pipe	138.58	1 1/2"x 10' pipe	119.33
RR90-17-00DP w/Mount Pipe	138.16	15"x5" ring	116.58
RR90-17-00DP w/Mount Pipe	138.16	L5x3x0.25	114.83
RR90-17-00DP w/Mount Pipe	138.16	15"x5" ring	108.58
Kathrein 840 10054 w/mount pipe	138.16	L5x3x0.25	104.63
Kathrein GPS	138.16	1 1/2"x 20' pipe	104.33
Kathrein 840 10054 w/mount pipe	138.16	15"x5" ring	100.58
Kathrein 840 10054 w/mount pipe	138.16	L5x3x0.25	94.33
U-RAS	138.16	MF-900B	93.83
U-RAS	138.16	2" x 2.83" pipe	93.73
U-RAS	138.16	PC9013N	84.83
PIROD 15' T-Frame	137.08		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	8 @ 0.611111		

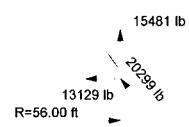
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-35	35 ksi	63 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 69 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 60 mph wind.
5. TOWER RATING: 99%

2541 lb
35537 lb (Axial)
204 lb-ft (Torque)



<p>Bay State Design 241 Boston Post Road West Marlborough, MA 01752 Phone: (508) 229-4100 FAX: (508) 485-5321</p>	<p>Job: CT-HFD0100B</p>
	<p>Project: 1615 Stanley Street, New Britain, CT 06053</p>
	<p>Client: Clearwire Drawn by: kw App'd:</p>
	<p>Code: TIA/EIA-222-F Date: 04/30/10 Scale: NTS</p>
	<p>Path: N:\PROJECTS\Cleawire-CT\CT-HFD0100A\CT-HFD0100B-PROP\CT-HFD0100B.dwg Dwg No. E-1</p>



To: Maxton
From: Frantz Pierre – Radio Frequency Engineer
Cc: Micah Hawthorne
Subject: Power Density Report for CT-HFD0100
Date: May 16, 2010

1. Introduction:

This report is the result of Electromagnetic Field Intensities (EMF – Power Densities) study for the Clearwire broadband antenna installation on a guyed tower at 1615 Stanley St., New Britain, CT, 06050. 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 VHLP2.11 with 30” Diameter.
- 5) The Clearwire Panel antenna centerline is 144 feet.
- 6) The Clearwire Microwave dish centerline is 144 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 tower at 1615 Stanley St., New Britain, CT., is $0.00003597 \text{ mW/cm}^2$. This value represents 0.0036% 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 0.0 %. The combined Power Density for this site is 0.0036% of the M.P.E. standard.