STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

Internet: ct.gov/csc

Daniel F. Caruso
Chairman

May 27, 2010

Thomas F. Flynn III
Site Development Project Manager
Maxton Technology Inc.
1296 Blue Hills Avenue
Bloomfield, CT 06002

RE: **EM-CLEARWIRE-011-100401** – Clearwire Corporation notice of intent to modify an existing telecommunications facility located at 785 Park Avenue, Bloomfield, Connecticut.

Dear Mr. Flynn:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- The coax and remote radio heads shall be installed per the structural analysis report dated March 10, 2010 and sealed by Christopher Michael Murphy, P.E.; and

- Not more than 45 days after completion of construction, the Council shall be notified in writing that the coax and remote radio heads were installed as specified.

The proposed modifications are to be implemented as specified here and in your notice dated April 1, 2010, including the placement of all necessary equipment and shelters within the tower compound. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to

General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/MP/laf

c: The Honorable Sydney Schulman, Mayor, Town of Bloomfield
Louie Chapman, Jr., Town Manager, Town of Bloomfield
Thomas B. Hooper, Director of Planning, Town of Bloomfield

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www.ct.gov/csc

April 16, 2010

The Honorable Sydney Schulman
Mayor
Town of Bloomfield
Town Hall
800 Bloomfield Avenue
P. O. Box 337
Bloomfield, CT 06002-0337

RE: **EM-CLEARWIRE-011-100401** – Clearwire Corporation notice of intent to modify an existing telecommunications facility located at 785 Park Avenue, Bloomfield, Connecticut.

Dear Mayor Schulman:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

If you have any questions or comments regarding this proposal, please call me or inform the Council by April 30, 2010.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps

S. Derek Phelps
Executive Director

SDP/jbw

Enclosure: Notice of Intent

c: Louie Chapman, Jr., Town Manager, Town of Bloomfield
Thomas B. Hooper, Director of Planning, Town of Bloomfield

EM-CLEARWIRE-011-100401

April 1, 2010

S. Derek Phelps, Executive Director
Connecticut Siting Council ORIGINAL
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 785 Park Avenue, Bloomfield, CT
Clearwire Site Number CT-HFD0021

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 Wethersfield, CT. of Clearwire's intent to make an exempt modification to an existing monopole tower (tower) located at 785 Park Avenue, Bloomfield, 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 95'' 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 Louie Chapman Jr. of the Town of Bloomfield, 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 136' lattice tower located at 785 Park Avenue, Bloomfield, Connecticut (Latitude 41 49 42.6 N Longitude 72 44 1W). The monopole is owned by the Town of Bloomfield. Currently, AT&T, Verizon, Nextel and TMO and the Town of Bloomfield 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 tower. 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 55'. Nine coaxial cables will be added to the structure, 2 per antenna and one per microwave dish. These cables will be on the inside of the monopole and bundled so that there

will be no additional wind loading. To confirm that the tower can support these changes, Clearwire commissioned Bay State Design Inc. to perform a structural analysis of the tower and the proposed changes. According to that structural dated September 29, 2009 and attached hereto, the structure is not sufficient to support the proposed loading but will be modified in accordance with the proposed modifications. The tower, with the additions and the modifications will be at less than 48.2% 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.

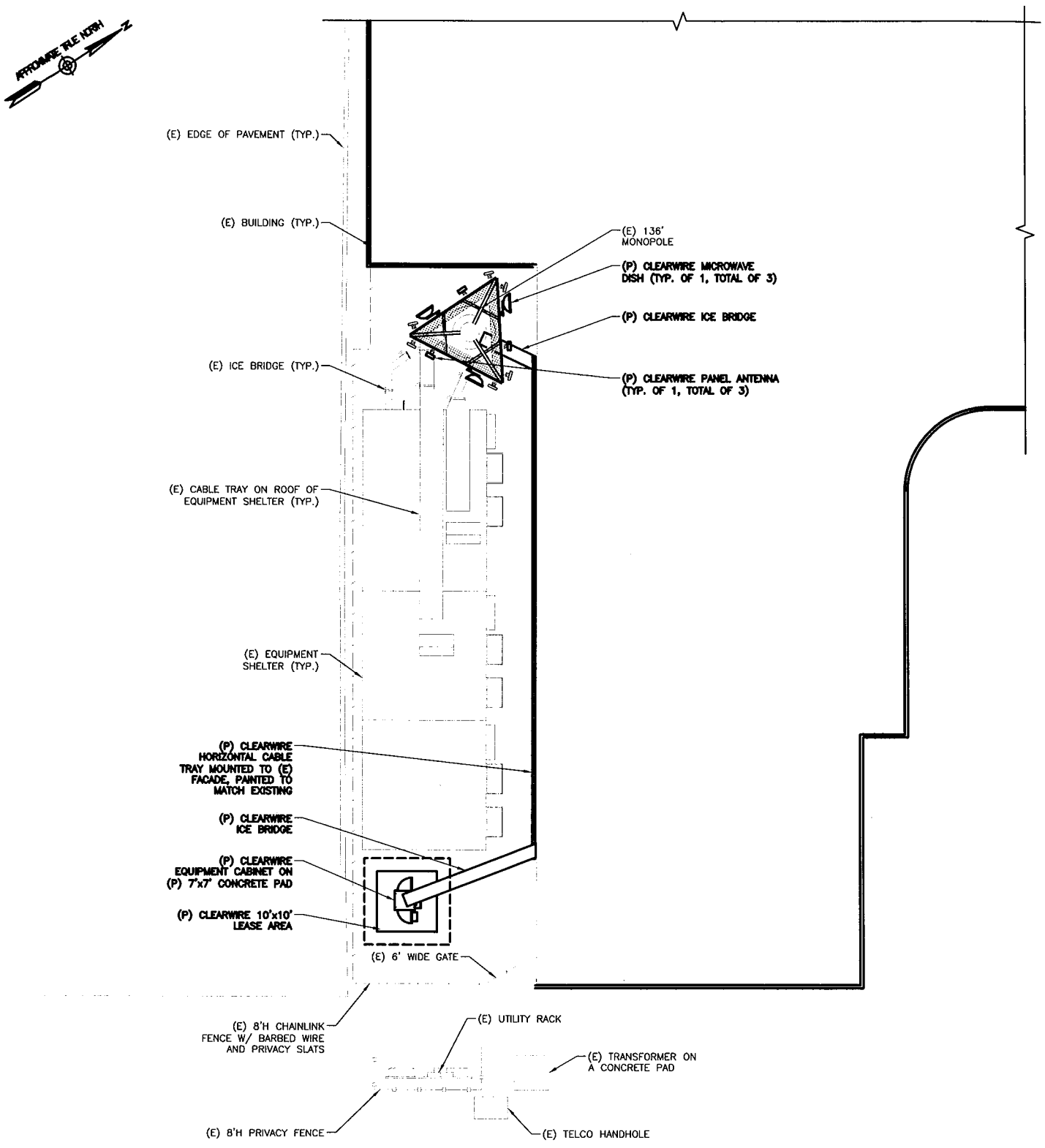
The addition of new WiMAX antennas and microwave dishes will not adversely impact the health and safety of the surrounding community or the people working on the tower. The total radio frequency exposure measured around the base of the tower will be well below the National Council on Radiation Protection 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 .37% of the NCRP's standard for maximum permissible exposure. The cumulative power density analysis indicates that all the antennas on the structure will emit 34.2157% 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 Louie Chapman Jr.
800 Bloomfield Ave.
Bloomfield CT 06002



ROOF PLAN

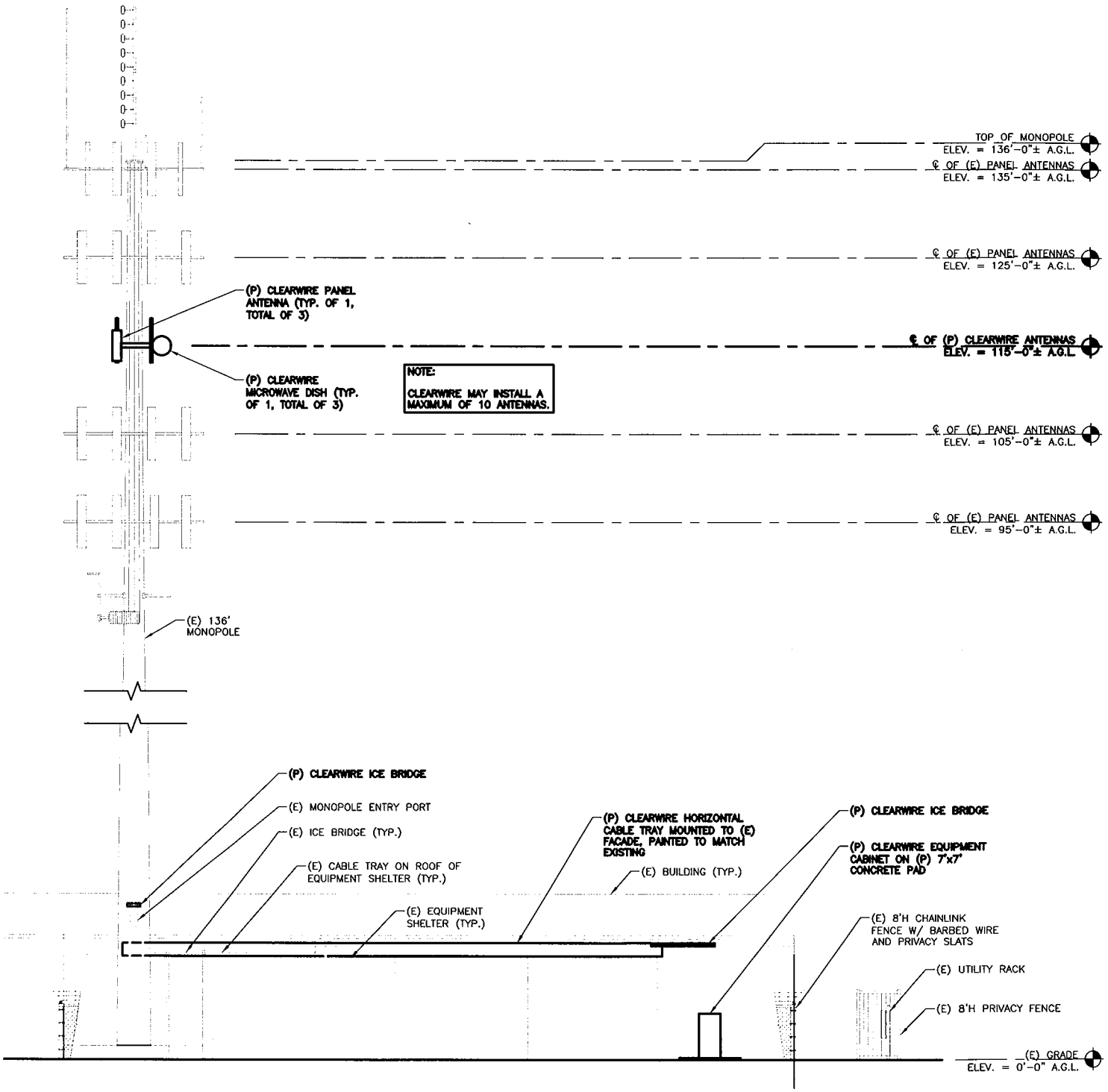
SCALE: N.T.S

1

MAXTON
BAY STATE DESIGN
241 BOSTON POST RD WEST
MARLBOROUGH, MA. 01752
Phone: 508-229-4100
Fax: 508-485-5321
Bay State, Design, Inc.
Architects Engineers
241 BOSTON POST RD 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: BLOOMFIELD CT-HFD0021C 785 PARK AVE BLOOMFIELD, CT 06002	SITE TYPE: MONOPOLE		BSDA PROJ. #: 2908.019
	PROJECT MANAGER: JP	DRAWN BY: PN	SHEET: L1
APPROVED BY:	DATE: 02/26/10	REVISION: 3	



ELEVATION 1

SCALE: N.T.S

MAXTON
241 BOSTON POST RD WEST
MARLBOROUGH, MA. 01752
Phone: 508-229-4100
Fax: 508-485-5321

BAY STATE DESIGN
Bay State, Design, Inc.
Architects Engineers
241 BOSTON POST RD WEST
MARLBOROUGH, MA. 01752
Phone: 508-229-4100
Fax: 508-485-5321

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

PROJECT LOCATION: BLOOMFIELD CT-HFD0021C 785 PARK AVE BLOOMFIELD, CT 06002	SITE TYPE: MONOPOLE		BSDA PROJ. #: 2908.019
	PROJECT MANAGER: JP	DRAWN BY: PN	SHEET: L2
APPROVED BY:	DATE: 02/26/10	REVISION: 3	

BAY STATE
DESIGN

STRUCTURAL ANALYSIS REPORT

CT-HFD0021B

785 Park Ave
Bloomfield, CT 06002

clearwire
wireless broadband

September 29, 2009

Gordon Govalet, P.E.

Bay State Design, Inc. 241 Boston Post Road Marlborough, MA 01752 TEL: (508) 229-4100 FAX: (508) 485-5321
Architects • Engineers

INTRODUCTION:

The purpose of this analysis is to determine the structural capability of the existing 136'-0" Monopole at 785 Park Avenue in Bloomfield, CT for the proposed loading of the following Clearwire wireless equipment at an elevation of 95'-0":

3	Argus 2300-2700MHz Remote Tilt Panel Antenna
3	Samsung WiMAX U-RAS Flexible RRU
3	Dragonwave 2'-0" Microwave Dish

In addition, a total of (6) lines of 5/16" coax and (3) lines of ½" coax will be run inside the monopole to the proposed antennas.

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
- International Building Code 2003 Edition with the CT Supplement
- CT State Building Code 2005

CONCLUSION:

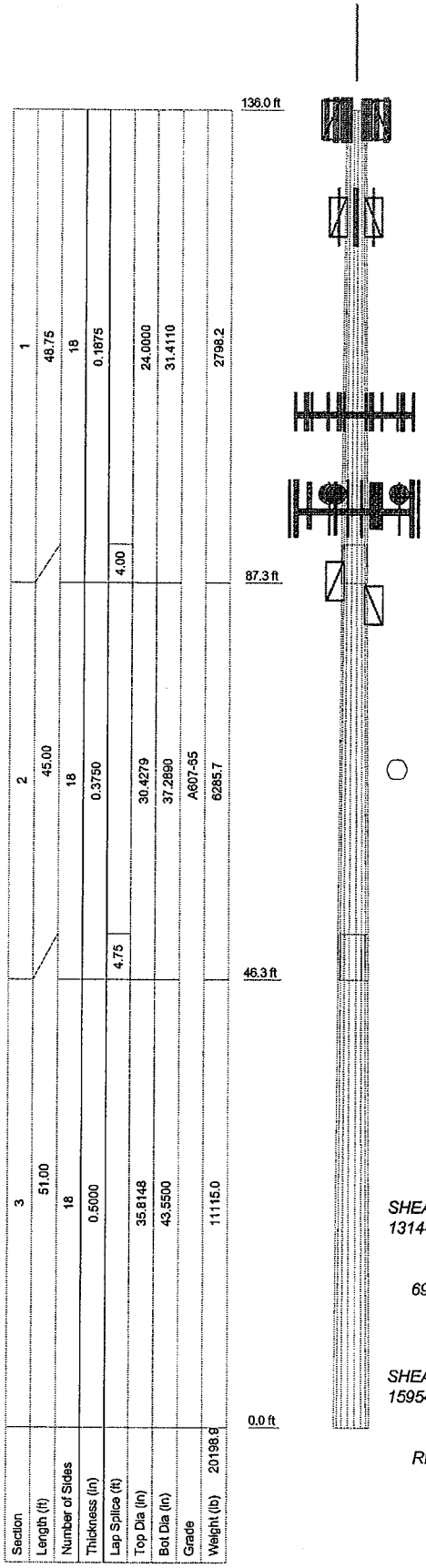
Based on our analysis, Bay State Design, Inc. has concluded the above referenced monopole is sufficient for the proposed loading. No modifications are required. The monopole is rated at 48.2% of its structural capacity. Performed concurrently was an analysis of the tower foundation. The analysis resulted in the following proposed loading:

Axial - 29 kips
Shear - 16 kips
Moment – 1,434 kips

Design loading (Summit Tubular LLC) is:

Axial – 29 kips
Shear – 27 kips
Moment – 2,800 kips

Because the proposed loading does not exceed the design loading, the foundation can be considered structurally sufficient.



Section	1	2	3
Length (ft)	48.75	45.00	51.00
Number of Sides	18	18	18
Thickness (in)	0.1875	0.3750	0.5000
Lap Splice (ft)	4.00	4.75	
Top Dia (in)	24.0000	30.4279	35.8148
Bot Dia (in)	31.4110	37.2890	43.5500
Grade	A607-65		
Weight (lb)	2798.2	6285.7	11115.0
20198.9			

DESIGNED APPURTENANCE LOADING

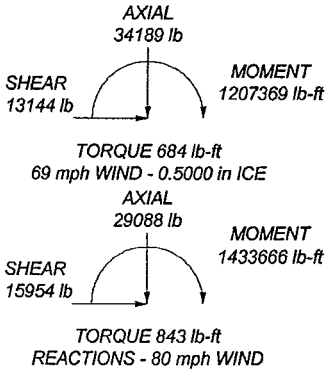
TYPE	ELEVATION	TYPE	ELEVATION
DB205-A	135	(4) DB844H90	105
PD1610	135	(4) DB844H90	105
ANT450D6-9	135	14' Low Profile Platform (Monopole)	95
ANT450F6	135		
2' Standoff T-Arm (5' face width)	135	6' Panel Antenna	95
2' Standoff T-Arm (5' face width)	135	6' Panel Antenna	95
2' Standoff T-Arm (5' face width)	135	6' Panel Antenna	95
APX16DWV-16DWVS-C-A20	135	6' Panel Antenna	95
APX16DWV-16DWVS-C-A20	135	6' Panel Antenna	95
APX16DWV-16DWVS-C-A20	135	6' Panel Antenna	95
APX16PV-16PVL-C	135	LLPX310R	95
APX16PV-16PVL-C	135	LLPX310R	95
APX16PV-16PVL-C	135	LLPX310R	95
(2) ATMAA142112D-1A20 (TMA)	135	U-RAS	95
		U-RAS	95
(2) ATMAA142112D-1A20 (TMA)	135	U-RAS	95
		3"x 5.5' pipe	95
(2) ATMAA142112D-1A20 (TMA)	135	3"x 5.5' pipe	95
		3"x 5.5' pipe	95
1' Side Mount Standoff	125	DragonWave	95
1' Side Mount Standoff	125	DragonWave	95
1' Side Mount Standoff	125	DragonWave	95
APXV18-206517S-C-ACU	125	1' Side Mount Standoff	87.5
APXV18-206517S-C-ACU	125	SRL312	87.5
APXV18-206517S-C-ACU	125	1' Side Mount Standoff	85
14' Low Profile Platform (Monopole)	105	DB205-A	85
(4) DB844H90	105	1' Side Mount Standoff	82.5
		MF-900B	82.5

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-65	65 ksi	80 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: 48.2%



Bay State Design
241 Boston Post Road West
Marlborough, MA 01752
Phone: (508) 229-4100
FAX: (508) 485-5321

Job: CT-HFD0021A			
Project: 136' Monopole			
Client: Clearwire CT	Drawn by: kw	App'd:	
Code: TIA/EIA-222-F	Date: 09/29/09	Scale: NTS	
Path: N:\PROJECTS\Clearwire-CT\CT-HFD0021A\CT-HFD0021A.eri		Dwg No. E-1	

CLEAR

4400 Carillon Point
Kirkland, WA 98033

To: Maxton
From: Frantz Pierre – Radio Frequency Engineer
Cc: Micah Hawthorne
Subject: Power Density Report for CT-HFD0021
Date: March 29, 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 Steel Monopole at 785 Park Avenue, Bloomfield, CT, 06002. 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 VHLP2-23 with 24" Diameter.
5) The Clearwire Panel antenna centerline is 115 feet.
6) The Clearwire Microwave dish centerline is 115 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 Steel Monopole at 785 Park Avenue, Bloomfield, CT, 06002 is 0.003667 mW/cm^2. This value represents 0.37% 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 33.8457%. The combined Power Density for this site is 34.2157% of the M.P.E. standard.