



**JULIE D. KOHLER**

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

January 22, 2015

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

**Re: Notice of Exempt Modification  
American Tower Corporation/T-Mobile equipment upgrade  
Site ID CT11603E  
119 Empire Avenue, Meriden CT**

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, American Tower Corporation owns the existing monopole telecommunications tower and related facility located at 119 Empire Avenue, Meriden, Connecticut (Latitude 41.5732/ Longitude -72.77920000). T-Mobile intends to add six (6) antennas, relocate three (3) TMAs (tower mounted amplifiers), and remove three (3) TMAs and add related equipment at this existing telecommunications facility in Meriden ("Meriden 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 also being sent to the Mayor, Manuel A. Santos, and the property owner, Atlas Container LLC.

The existing Meriden Facility consists of a 125 foot tall monopole tower and 95 foot water tower.<sup>1</sup> T-Mobile plans to add six (6) antennas, relocate three (3) TMAs (tower mounted amplifiers), and remove three (3) TMAs on proposed low profile platform that will be attached at a centerline of 115 feet. (See the plans revised to January 22, 2015 attached hereto as Exhibit A). T-Mobile will also install hybrid cable and reuse existing coax cable to be consolidated on the existing icebridge. The existing Meriden Facility is structurally capable of supporting T-Mobile's proposed modifications, as indicated in the structural analysis dated January 5, 2015 and attached hereto as Exhibit B.

<sup>1</sup> The Council approved the monopole's increase in height to 125 feet in Petition No. 727. "T-Mobile has received permission from the City of Meriden to install antennas at 115 feet." Staff Report, Petition No. 727.

January 22, 2015  
Site ID CT11603E  
Page 2

The planned modifications to the Meriden 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 replacement antennas will be installed at a centerline of 115 feet on a tower that is 125 feet in elevation. The enclosed tower drawing confirms that the proposed modification will not increase the height of the tower.

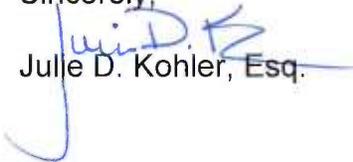
2. The proposed modifications will not require an extension of the site boundaries. T-Mobile's equipment will be located entirely within the existing compound and leased area as shown on Sheet 2 of Exhibit A.

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

4. The operation of the proposed 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 an Emissions Analysis Report prepared by EBI dated January 5, 2015 T-Mobile's operations would add 8.48%% 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 91.86% 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 antennas and equipment at the Meriden 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: City of Meriden, Mayor Manuel A. Santos  
American Tower Corporation  
Atlas Container LLC  
Sheldon Freinle, NSS



T-MOBILE USA, INC.  
 12920 SE 38TH STREET  
 BELLEVUE, WA 98006  
 (425) 378-4000

3024304  
 1/8/2015  
 2000011160

Invoice Number	Inv. Date	Description	Deductions	Voucher	Amount Paid
CKKMB00404	12/23/2014	SS CT11603E SITING COUNCIL	0.00	1100040306	625.00

DO NOT ACCEPT THIS CHECK UNLESS THE FACE FADES FROM BLACK TO RED WITH LOGO IN BACKGROUND. THE BACK OF THIS DOCUMENT HAS HEAT-SENSITIVE INK THAT CHANGES FROM ORANGE TO YELLOW.

**T-Mobile** T-MOBILE USA, INC.  
 12920 SE 38th Street  
 Bellevue, WA 98006  
 (425) 378-4000

The Bank of New York Mellon  
 Pittsburgh, PA  
 60-160/433

3024304  
 1/8/2015  
 VID: 2000011160

PAY **\$625.00**  
SIX TWO FIVE CTS CTS

**\*\$625.00**

\*\*\*Six Hundred Twenty Five Dollars Only\*\*\*

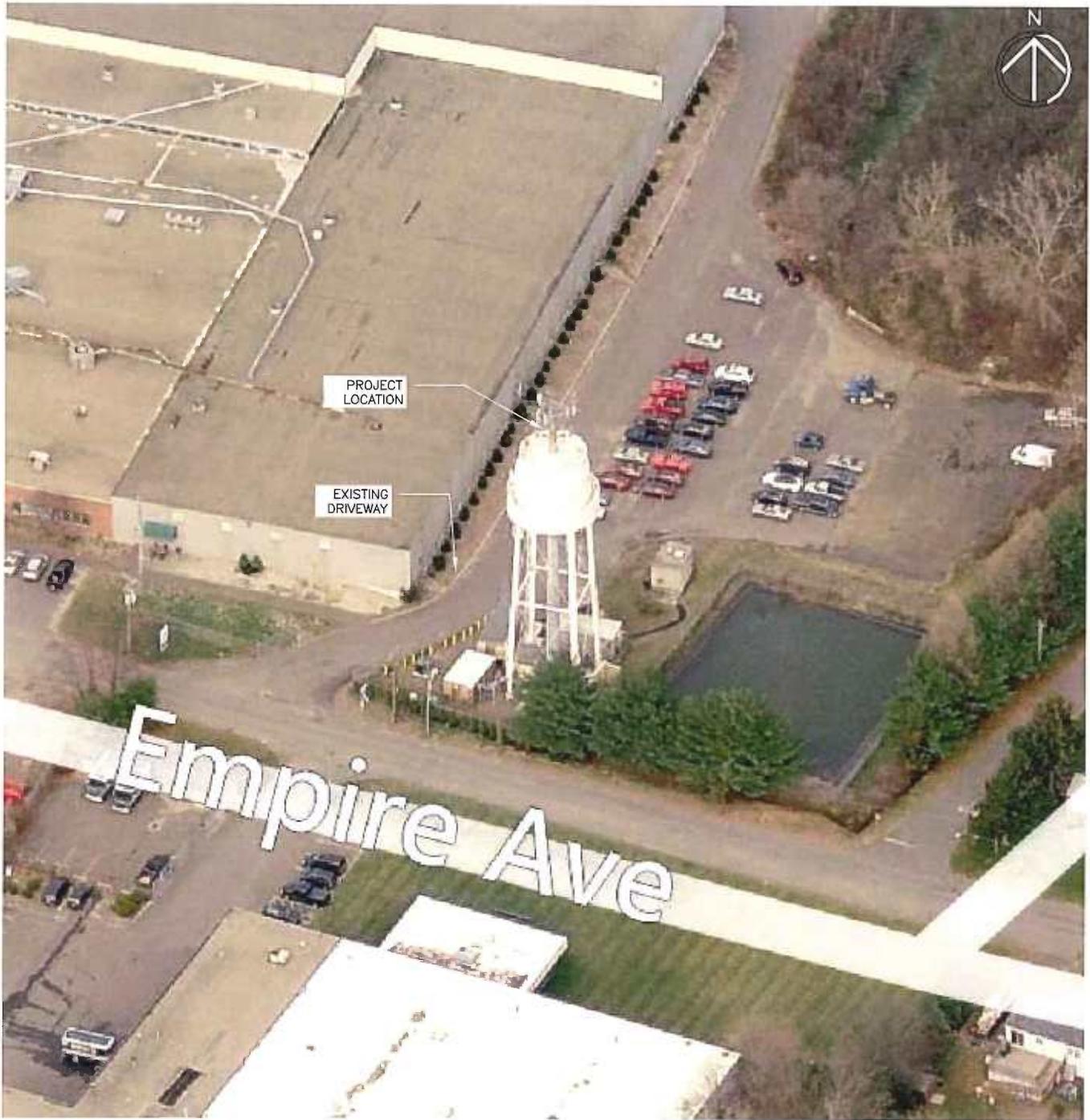
To The Order Of **CONNECTICUT SITING COUNCIL**  
 10 FRANKLIN SQ  
 NEW BRITAIN, CT 06051

VOID AFTER 180 DAYS  
 THIS CHECK CLEARS THROUGH POSITIVE PAY

*David Street*

⑈0003024304⑈ ⑆04330160⑆ 0138430⑈

# **EXHIBIT A**



**KEY PLAN**

N.T.S.

MODERNIZATION

CONFIGURATION

**2C**

SUBMITTALS	
LE REV A	08.21.14
LE REV 0	08.25.14
LE REV 1	12.24.14
LE REV 2	01.22.15


**ATLANTIS GROUP**  
 1340 Centre Street  
 Suite 212  
 Newton, MA 02459  
 Office: 617-965-0789  
 Fax: 617-213-5056

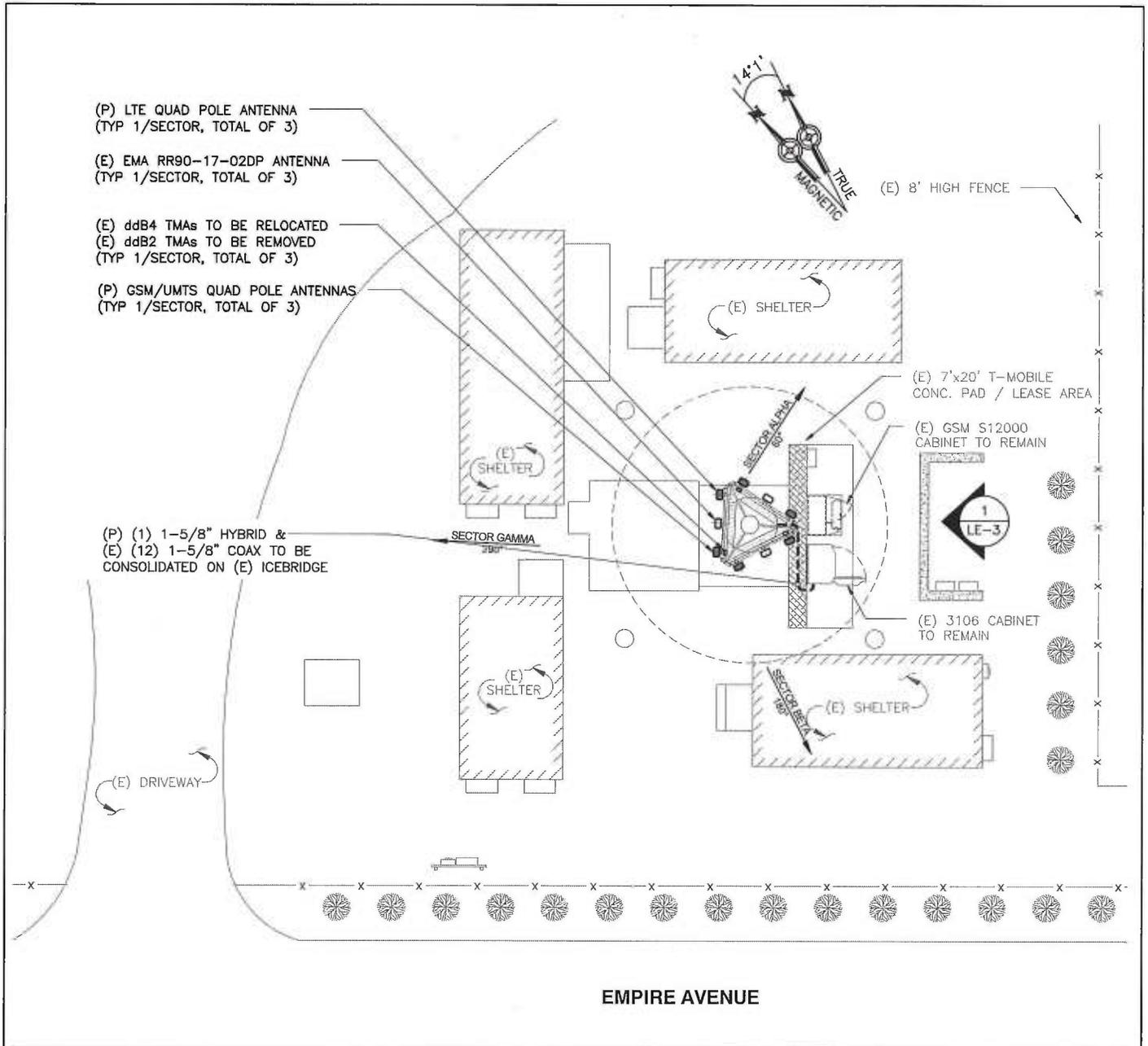
**LEASE EXHIBIT**  
 SITE NUMBER:  
 CT11603E  
 SITE NAME:  
 CT603/ATLAS CONTAINER WT  
 SITE ADDRESS:  
 119 EMPIRE AVE  
 MERIDEN, CT 06468

NORTHEAST SITE SOLUTIONS  
 54 MAIN STREET, UNIT 3  
 STURBRIDGE, MA 01566  
 (508) 434-5237  
 FOR  
**T-MOBILE NORTHEAST, LLC**  
 35 GRIFFIN ROAD SOUTH  
 BLOOMFIELD, CT 06002  
 OFFICE: (860) 692-7100  
 FAX: (860) 692-7159

DRAWN BY: EB

CHECKED BY: SM

PAGE 1 OF 3



ALL EQUIPMENT LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO APPROVAL BY LESSEE/LICENSEE'S STRUCTURAL & RF ENGINEERS. LOCATIONS OF POWER & TELEPHONE FACILITIES ARE SUBJECT TO APPROVAL BY UTILITY COMPANIES.

**SITE PLAN**

N.T.S.



MODERNIZATION  
CONFIGURATION

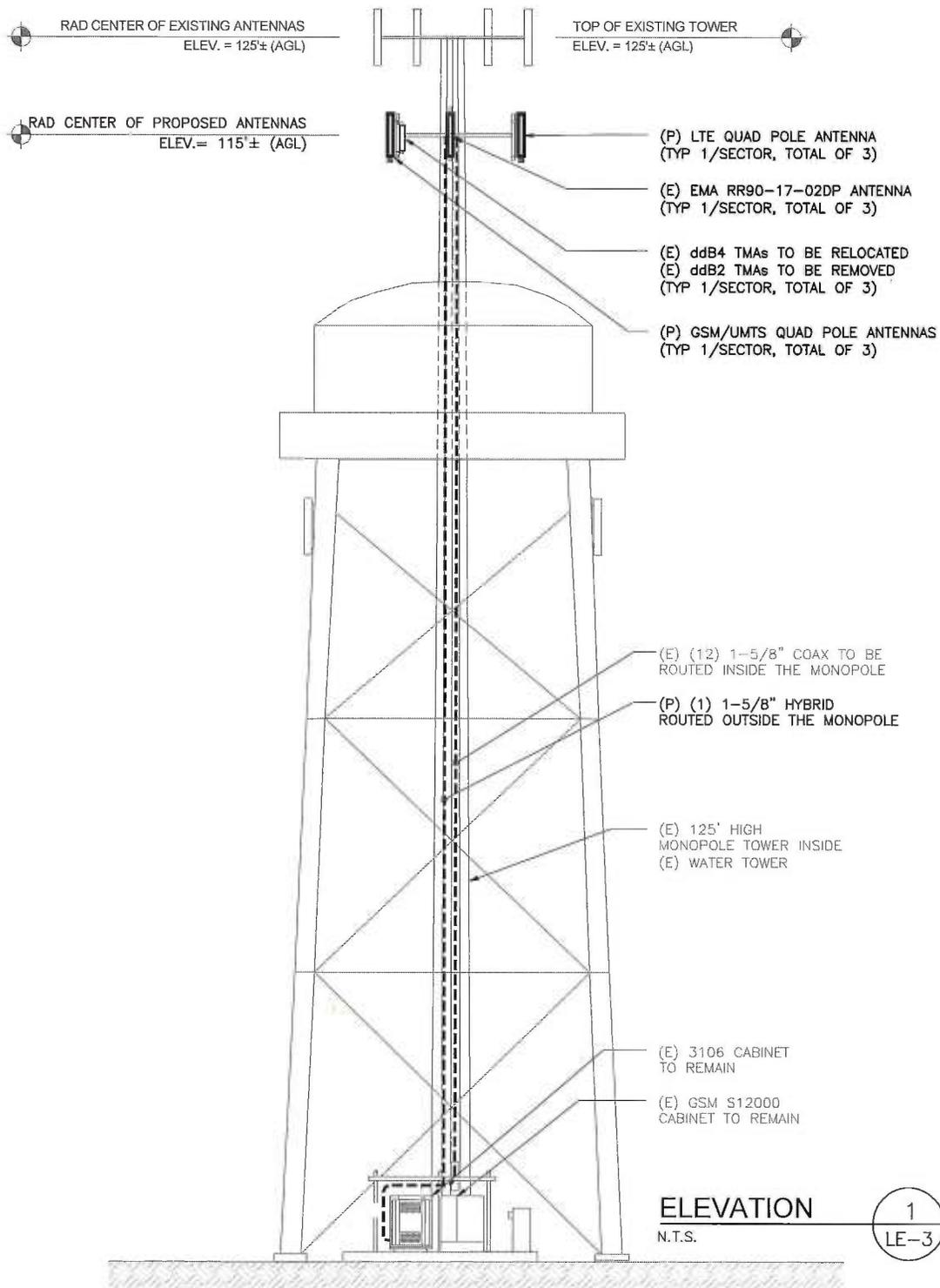
**2C**

SUBMITTALS	
LE REV A	08.21.14
LE REV 0	08.25.14
LE REV 1	12.24.14
LE REV 2	01.22.15

**ATLANTIS GROUP**  
1340 Centre Street  
Suite 212  
Newton, MA 02459  
Office: 617-965-0789  
Fax: 617-213-5056

**LEASE EXHIBIT**  
SITE NUMBER:  
CT11603E  
SITE NAME:  
CT603/ATLAS CONTAINER WT  
SITE ADDRESS:  
119 EMPIRE AVE  
MERIDEN, CT 06468

**NORTHEAST SITE SOLUTIONS**  
54 MAIN STREET, UNIT 3  
STURBRIDGE, MA 01566  
(508) 434-5237  
FOR  
**T-MOBILE NORTHEAST, LLC**  
35 GRIFFIN ROAD SOUTH  
BLOOMFIELD, CT 06002  
OFFICE: (860) 692-7100  
FAX: (860) 692-7159



**ELEVATION**  
N.T.S.

1  
LE-3

MODERNIZATION  
CONFIGURATION

**2C**

SUBMITTALS	
LE REV A	08.21.14
LE REV 0	08.25.14
LE REV 1	12.24.14
LE REV 2	01.22.15

**ATLANTIS GROUP**  
1340 Centre Street  
Suite 212  
Newton, MA 02459  
Office: 617-965-0789  
Fax: 617-213-5056

**LEASE EXHIBIT**  
SITE NUMBER:  
CT11603E  
SITE NAME:  
CT603/ATLAS CONTAINER WT  
SITE ADDRESS:  
119 EMPIRE AVE  
MERIDEN, CT 06468

**NORTHEAST SITE SOLUTIONS**  
54 MAIN STREET, UNIT 3  
STURBRIDGE, MA 01566  
(508) 434-5237  
FOR  
**T-MOBILE NORTHEAST, LLC**  
35 GRIFFIN ROAD SOUTH  
BLOOMFIELD, CT 06002  
OFFICE: (860) 692-7100  
FAX: (860) 692-7159

# **EXHIBIT B**



Structural Evaluation	
ATC Site Number & Name	<b>CT-9009, Atlas Container, CT</b>
Carrier Site Number & Name	<b>CT11603E, CT603/Atlas Container WT</b>
Site Location	119 Empire Avenue Meriden, CT 06450-0000, New Haven County 41.57305556, -72.77916667
Tower Description	<b>125 ft Monopole &amp; 95 ft Water Tower</b>
Basic Wind Speed	85 mph (Fastest Mile)
Basic Wind Speed w/ Ice Code	74 mph (Fastest Mile) w/ ½" ice TIA/EIA-222-F / 2003 IBC, Sec. 1609.1.1, Exception (5) & Sec. 3108.4 / 2005 Connecticut Supplement and 2009 Connecticut Amendment

**Existing and Reserved Equipment**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
125.0	125.0	6	RFS FD9R6004/2C-3L	Low Profile Platform	(12) 1 5/8" Coax	Verizon Wireless
		3	Ryma MG D3-800T0			
		6	Antel LPA-80080/4CF			
		1	Powerwave P65-16-XL-2			
		2	Andrew LNX-6514DS-T4M			
115.0	115.0	3	EMS RR90-17-02DP	Low Profile Platform	(12) 1 5/8" Coax	T-Mobile
106.5	106.5	3	Alcatel-Lucent RRH 2x50-800	Pipe	(3) 1 1/4" Hybriflex (2) 2" Conduit	Sprint Nextel
		3	Alcatel-Lucent RRH4x45-1900			
		3	Argus LLPX310R-V1			
		3	RFS APXVSP18			
		3	Samsung SPI-2213825WB			
94.5	94.5	1	2' Std. Dish	Pipe	(12) 1 5/8" Coax (1) 3/8" Coax (2) 3/4" Conduit	AT&T Mobility
		3	CCI TMA 11" x 11" x 3.5"			
		3	Ericsson RRUS 11 Band 12			
		3	Kathrein 800 10121			
		6	KMW AM-X-CD-16-65-00T-RET			
		6	Powerwave LGP139nn			
3	Strikesorb 10.25"x10.25"x6.25"					
46.5	47.0	1	GPS	Pipe	(1) 1/2" Coax	Sprint Nextel

**Equipment to be Removed**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
115.0	115.0	3	Ericsson KRY 112 144/1	-	-	T-Mobile



**Proposed Equipment**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
115.0	115.0	3	Ericsson KRY 112 71	Low Profile Platform	(1) 1 5/8" Hybriflex	T-Mobile
		6	Ericsson AIR 21, 1.3M, B2A B4P			

<sup>1</sup>Mount elevation is defined as height above bottom of steel structure to bottom of mount, RAD elevation is defined as center of antenna above grade level (AGL).

Install proposed coax on the outside of the pole shaft.

The existing and proposed loads listed in the tables above are compared to the tower's current design capacity or previous structural analysis. The tower should be re-evaluated as future loads are added or if actual loads are found different from those listed in the tables. The subject tower and foundation *are adequate* to support the above stated loads in conformance with specified requirements.



Jan 7 2015 4:08 PM

GM/ NB

# **EXHIBIT C**

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

T-Mobile Existing Facility

Site ID: CT11603E

CT603 / Atlas Container Water Tank  
119 Empire Avenue  
Meriden, CT 06468

**January 5, 2015**

Site Compliance Summary	
Compliance Status:	<b>COMPLIANT</b>
Site total MPE% of FCC general public allowable limit:	<b>91.86 %</b>

January 5, 2015

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

Emissions Analysis for Site: **CT11603E – CT603 / Atlas Container Water Tank**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **119 Empire Avenue, Meriden, 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ). The number of  $\mu\text{W}/\text{cm}^2$  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 ( $\mu\text{W}/\text{cm}^2$ ). The general population exposure limit for both the PCS and AWS bands is 1000  $\mu\text{W}/\text{cm}^2$ . 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 **119 Empire Avenue, Meriden, 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 (AWS Band – 2100 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 (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) 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.

- 5) 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.
- 6) The antennas used in this modeling are the **Ericsson AIR21 B4A/B2P** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **EMS RR90-17-02DP** for 1900 MHz (PCS). This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR21 B4A/B2P** has a maximum gain of **15.9 dBd** at its main lobe. The **EMS RR90-17-02DP** has a maximum gain of **14.4 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.
- 7) The antenna mounting height centerline of the proposed antennas is **115 feet** above ground level (AGL).
- 8) 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.

**T-Mobile Site Inventory and Power Data**

Sector:	A	Sector:	B	Sector:	C
Antenna #:	<b>1</b>	Antenna #:	<b>1</b>	Antenna #:	<b>1</b>
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	115	Height (AGL):	115	Height (AGL):	115
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	2	Channel Count	2	# PCS Channels:	2
Total TX Power:	120	Total TX Power:	120	# AWS Channels:	120
ERP (W):	1,906.06	ERP (W):	1,906.06	ERP (W):	1,906.06
Antenna A1 MPE%	1.41	Antenna B1 MPE%	1.41	Antenna C1 MPE%	1.41
Antenna #:	<b>2</b>	Antenna #:	<b>2</b>	Antenna #:	<b>2</b>
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	115	Height (AGL):	115	Height (AGL):	115
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power:	60	Total TX Power:	60	Total TX Power:	60
ERP (W):	953.03	ERP (W):	953.03	ERP (W):	953.03
Antenna A2 MPE%	0.71	Antenna B2 MPE%	0.71	Antenna C2 MPE%	0.71
Antenna #:	<b>3</b>	Antenna #:	<b>3</b>	Antenna #:	<b>3</b>
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):	115	Height (AGL):	115	Height (AGL):	115
Frequency Bands	1900 MHz(PCS)	Frequency Bands	1900 MHz(PCS)	Frequency Bands	1900 MHz(PCS)
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power:	60	Total TX Power:	60	Total TX Power:	60
ERP (W):	953.03	ERP (W):	953.03	ERP (W):	953.03
Antenna A2 MPE%	0.71	Antenna B2 MPE%	0.71	Antenna C2 MPE%	0.71

Site Composite MPE%	
Carrier	MPE%
T-Mobile	<b>8.48</b>
AT&T	22.36 %
Nextel	27.04 %
Sprint	6.73 %
Verizon Wireless	25.63 %
Clearwire	1.62 %
<b>Site Total MPE %:</b>	<b>91.86 %</b>

T-Mobile Sector 1 Total:	2.83 %
T-Mobile Sector 2 Total:	2.83 %
T-Mobile Sector 3 Total:	2.83 %
<b>Site Total:</b>	<b>91.86 %</b>

## 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:	2.83 %
Sector 2:	2.83 %
Sector 3 :	2.83 %
T-Mobile Total:	8.48 %
Site Total:	91.86 %
Site Compliance Status:	<b>COMPLIANT</b>

The anticipated composite MPE value for this site assuming all carriers present is **91.86%** 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

### EBI Consulting

21 B Street  
Burlington, MA 01803