

JULIE D. KOHLER

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

March 25, 2015

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

**Re: Notice of Exempt Modification
Blue Sky Towers/T-Mobile equipment upgrade
T-Mobile Site ID CT11115F
38 Spring Hill Lane, Bethel 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, Blue Sky Towers owns the existing telecommunications tower and related facility at 38 Spring Hill Lane, Bethel Connecticut (latitude 41.421013 /longitude -72.749453). T-Mobile intends to add three (3) antennas, and related equipment at this existing facility in Bethel ("Bethel 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 First Selectman, Matt Knickerbocker and the property owner, Spring Hill Lane Properties, LLC.

The existing Bethel Facility consists of a 124 foot monopole tower.¹ T-Mobile plans to add three (3) antennas and three (3) RRUs (remote radio units) on proposed pipe mounts on the tower at a centerline of 101 feet. T-Mobile will also add hybrid cable that will run inside the monopole and within the compound area. (See the plans revised to March 23, 2015 attached hereto as Exhibit A). The existing tower is structurally capable of supporting T-Mobile's proposed use. See the Structural Analysis Report dated February 25, 2015 attached hereto as Exhibit B.

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

¹ This Facility was approved in Docket No. 288. The Docket No. 288 Decision and Order contains no limitations or restrictions relevant to T-Mobile's proposed modifications.

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Site ID CT11115F
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1. The proposed modification will not increase the height of the tower. T-Mobile's new antennas and equipment will be installed at the 101 foot level. The enclosed tower drawing confirms that the proposed modification will not increase the height of the tower.
2. The installation of the hybrid cable in the existing compound, as reflected on the attached site plan, will not require an extension of the site boundaries. (See Sheet A-1).
3. The proposed modification to the Facility will not increase the noise levels at the existing facility by six decibels or more.
4. The operation of the additional 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 March 13, 2015 T-Mobile's operations would add 13.37% 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 90.77% 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 additional antennas and equipment at the Bethel 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: First Selectman, Matt Knickerbocker
Blue Sky Towers
Spring Hill Lane Properties, LLC
Elizabeth Jamieson, Transcend Wireless (*via e-mail*)

EXHIBIT A

SITE NAME: CT115/SNET VALLEY_FT

38 SPRING HILL LANE
 BETHEL, CT 06801
 FAIRFIELD COUNTY

SITE NUMBER: CT11115F L700 - 702CU CONFIGURATION

T-MOBILE TECHNICIAN SITE SAFETY NOTES	
LOCATION:	SPECIAL RESTRICTIONS
SECTOR A:	ACCESS NOT PERMITTED
SECTOR B:	ACCESS NOT PERMITTED
SECTOR C:	ACCESS NOT PERMITTED
GPS/LMU:	UNRESTRICTED
RADIO CABINETS:	UNRESTRICTED
PGC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

GENERAL NOTES

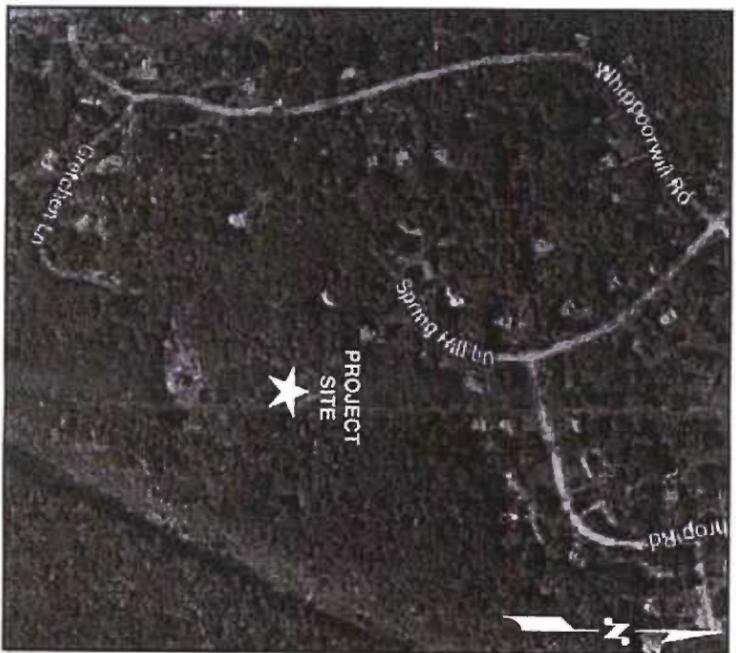
1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE T-MOBILE NORTHEAST, LLC REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SPECIAL STRUCTURAL NOTES

1. STRUCTURAL DESIGNS AND DETAILS FOR ANTENNA MOUNTS COMPLETED BY HUDSON DESIGN ON BEHALF OF T-MOBILE ARE INCLUSIVE OF THE ENTIRE ANTENNA SUPPORT STRUCTURE (GLOBAL STRUCTURAL STABILITY ANALYSIS BY OTHERS), EXISTING TOWER PLATFORM, EXISTING ANTENNA MOUNTS AND ALL OTHER ASPECTS OF THE STRUCTURE THAT WILL SUPPORT THE T-MOBILE MODERNIZATION EQUIPMENT DEPLOYMENT AS DEPICTED HEREIN.
2. HUDSON DESIGN ASSUMES THAT THE TOWER IS PROPERLY CONSTRUCTED AND MAINTAINED. ALL STRUCTURAL MEMBERS AND THEIR CONNECTION ARE ASSUMED TO BE IN GOOD CONDITION AND ARE FREE FROM DEFECTS WITH NO DETERIORATION TO ITS MEMBER CAPACITIES

APPROVALS

PROJECT MANAGER	DATE
CONSTRUCTION	DATE
RF ENGINEERING	DATE
ZONING / SITE ACC.	DATE
OPERATIONS	DATE
TOWER OWNER	DATE



CALL
BEFORE YOU DIG

CALL TOLL FREE 800-922-4455
 OR CALL 811
 UNDERGROUND SERVICE ALERT

PROJECT INFORMATION

SCOPE OF WORK: UNMANNED TELECOMMUNICATIONS FACILITY T-MOBILE EQUIPMENT MODERNIZATION

ZONING JURISDICTION: BASED ON INFORMATION PROVIDED BY T-MOBILE, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS AN ELIGIBLE FACILITY UNDER THE TAX RELIEF ACT OF 2012, 47 USC 1455(A), AND IS SUBJECT TO AN EXPEDITED ELIGIBLE FACILITIES REQUEST/REVIEW AND ZONING PRE-EMPION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW).

SITE ADDRESS: 38 SPRING HILL LANE
 BETHEL, CT 06801

LATITUDE: 41° 21' 44.01" N
 LONGITUDE: 73° 23' 47.62" W

JURISDICTION: NATIONAL, STATE & LOCAL CODES OR ORDINANCES

CURRENT USE: TELECOMMUNICATIONS FACILITY

PROPOSED USE: TELECOMMUNICATIONS FACILITY

DRAWING INDEX

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T-MOBILE NORTHEAST LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 OFFICE: (860) 648-1116

Transcend Wireless
 TRANSCEND WIRELESS
 10 INDUSTRIAL AVE
 MAHWAH, NJ 07430
 TEL: (201) 844-9255
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Hudson Design Group, Inc.
 1407 GREENWOOD STREET
 BUILDING 20 NORTH STREET
 N ANDOVER, MASSACHUSETTS 01945
 TEL: (978) 527-5553
 FAX: (978) 524-5550



APPROVALS

CONSTRUCTION	DATE
RF ENGINEERING	DATE
ZONING/SITE ACC.	DATE
OPERATIONS	DATE
TOWER OWNER	DATE
PROJECT NO:	DATE
CT11115F	
DRAWN BY:	DATE
MH	
CHECKED BY:	DATE
DR	

1 03/23/18 ISSUED FOR REVIEW
 0 02/17/18 ISSUED FOR REVIEW

SITE NUMBER: CT11115F

SITE NAME:
 CT115/SNET VALLEY_FT
 38 SPRING HILL LANE
 BETHEL, CT 06801

SHEET TITLE
 TITLE SHEET

SHEET NUMBER
 T-1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LP1, OR NFPA) LIGHTNING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELECORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND B1) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTI-OXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR - TRANSCEND WIRELESS
SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
OWNER - T-MOBILE
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND T1 CABLES DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCARFACES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH UMTS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF T-MOBILE SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
BUILDING CODE: IBC 2003 W/ 2005 CT SUPPLEMENT + 2009 AMENDMENT
ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS
SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARDS FOR STEEL
ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.
FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS	TBD	TO BE DETERMINED
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBR	TO BE REMOVED
BTS	BASE TRANSCENDER STATION	PROPOSED	NEW	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT EXISTING	N.I.S.	NOT TO SCALE	REF	REFERENCE
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED	TYP	TYPICAL

T-MOBILE NORTHEAST LLC
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Transcend Wireless

TRANSCEND WIRELESS
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MANTWAH, NJ 07430
TEL: (201) 664-0033
FAX: (201) 664-0036



APPROVALS

CONSTRUCTION	DATE
RF ENGINEERING	DATE
ZONING/SITE ACQ.	DATE
OPERATIONS	DATE
TOWER OWNER	DATE
PROJECT NO.:	CT11115F
DRAWN BY:	MH
CHECKED BY:	DR

1	03/23/19	ISSUED FOR REVIEW
0	02/17/19	ISSUED FOR REVIEW
SITE NUMBER: CT11115F		
SITE NAME:		
CT115/SNET VALLEY_FT		
38 SPRING HILL LANE		
BETHEL, CT 06801		

SHEET TITLE	
GENERAL NOTES	
SHEET NUMBER	
GN-1	

STRUCTURAL NOTE:
 STRUCTURAL INFORMATION TAKEN FROM
 STRUCTURAL ANALYSIS
 PERFORMED BY HUDSON DESIGN GROUP LLC
 DATED: FEBRUARY 25, 2015

T-MOBILE NORTHEAST LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 OFFICE: (860) 648-1116

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APPROVALS

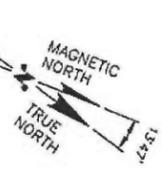
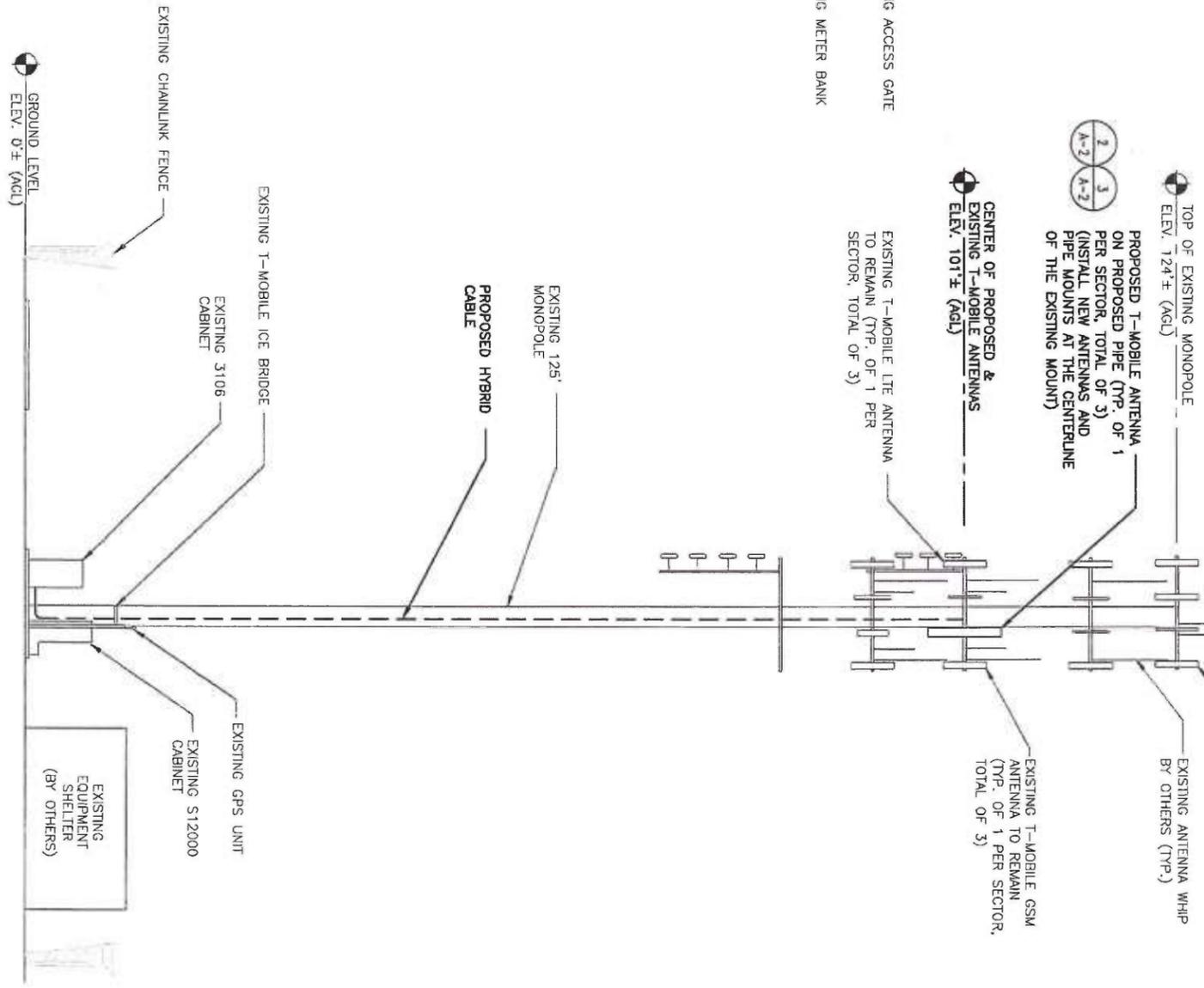
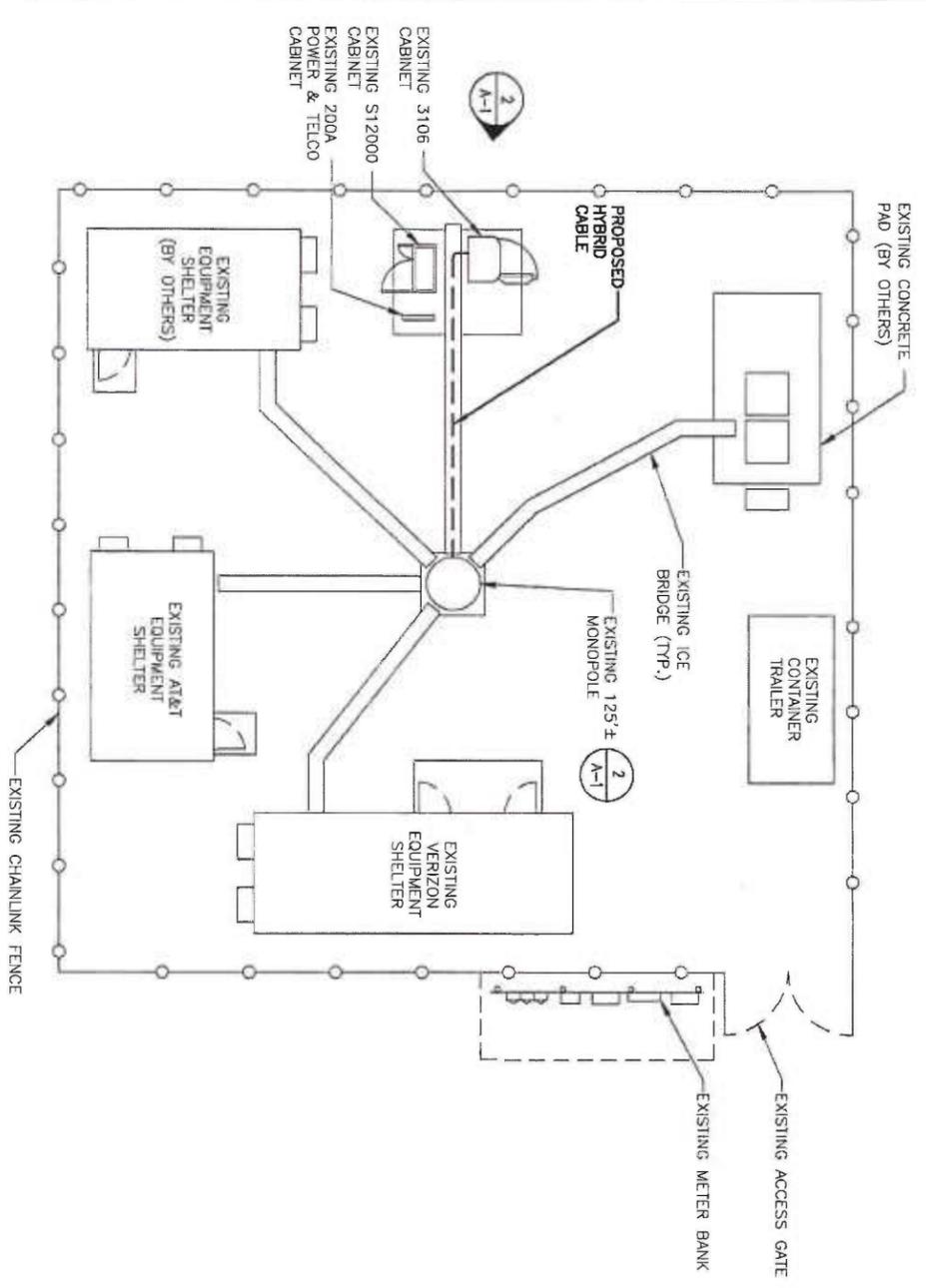
CONSTRUCTION	DATE
RF ENGINEERING	DATE
ZONING/SITE ACO.	DATE
OPERATIONS	DATE
TOWER OWNER	DATE
PROJECT NO.:	CT11115F
DRAWN BY:	MH
CHECKED BY:	DR

1	02/23/15	ISSUED FOR REVIEW
0	02/17/15	ISSUED FOR REVIEW

SITE NUMBER: CT11115F
SITE NAME:
 CT115/SNET VALLEY_FT
 38 SPRING HILL LANE
 BETHEL, CT 06801

SHEET TITLE
 COMPOUND PLAN &
 ELEVATION

SHEET NUMBER
 A-1



1 COMPOUND PLAN

SCALE: 1/8"=1'-0"
 0 4'-0" 8'-0" 16'-0" 24'-0"

2 EAST ELEVATION

SCALE: 1/8"=1'-0"
 0 4'-0" 8'-0" 16'-0" 24'-0"

L700 - 702CU CONFIGURATION

EXHIBIT B

STRUCTURAL ANALYSIS REPORT

For

CT11115F

CT115/SNET VALLEY_FT

38 SPRING HILL LANE
BETHEL, CT 06801

Antennas Mounted to the Monopole



Prepared for:

Transcend Wireless

T-Mobile

Dated: February 25, 2015

Prepared by:



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(P) 978.557.5553 (F) 978.336.5586
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Chai Wang 2/25/2015



SCOPE OF WORK:

Hudson Design Group LLC (HDG) has been authorized by T-Mobile to conduct a structural evaluation of the 124' monopole supporting the existing and proposed T-Mobile's antennas located at elevation 101' above the ground level.

This report represents this office's findings, conclusions and recommendations pertaining to the support of T-Mobile's existing and proposed antennas listed below.

Record drawings of the existing monopole were not available for our use. The previous structural analysis report prepared by RAMAKER & Associates, Inc., dated December 29, 2014, was available and obtained for our use.

CONCLUSION SUMMARY:

Based on our evaluation, we have determined that the existing monopole **is in conformance** with the ANSI/TIA-222-F Standard for the loading considered under the criteria listed in this report. The monopole structure is rated at **94.9%** - (Pole section L2 from EL.47.7' to EL.96.0' Controlling).



APPURTANENCES CONFIGURATION:

Tenant	Appurtenances	Elev.	Mount
	15' Omni	130'	Low Profile Platform
AT&T	(3) RRUS-11	124'	Low Profile Platform
AT&T	(6) 7770 Antennas	123.5'	Low Profile Platform
AT&T	(9) LGP13519	123.5'	Low Profile Platform
AT&T	(3) P65-16-XLH-RR Antennas	122'	Low Profile Platform
AT&T	Surge Arrestor DC6-48-60-18-8F	120'	Low Profile Platform
Sprint	(3) APXVSP18 Antennas	116'	Low Profile Platform
Sprint	(3) APXV9TM14 Antennas	116'	Low Profile Platform
Sprint	(3) RRH8x20-25	116'	Low Profile Platform
Sprint	(3) RRH-800	108'	Low Profile Platform
Sprint	(6) RRH-1900	105'	Low Profile Platform
	10' Dipole	106'	Low Profile Platform
T-Mobile	(6) APX16PV-16PVL Antennas	101'	Low Profile Platform
T-Mobile	(3) LNX-6515DS-VTM Antennas	101'	Low Profile Platform
T-Mobile	(3) RRUS-11	101'	Low Profile Platform
	(2) 10' Omni	96'	Low Profile Platform
Verizon	(6) RRUS-11	93'	Low Profile Platform
Verizon	(6) 5' Panel Antennas	92'	Low Profile Platform
Verizon	(3) 2' Antennas	92'	Low Profile Platform
Verizon	(3) 6.5' Panel Antennas	91'	Low Profile Platform
	Low Profile Platform	81'	
	Low Profile Platform	71'	
	15' Dipole	63'	Low Profile Platform

**Proposed T-Mobile Appurtenances shown in Bold.*

T-MOBILE EXISTING/PROPOSED COAX CABLES:

Tenant	Coax Cables	Elev.	Mount
T-Mobile	(12) 1 5/8" Cables	101'	Inside Monopole
T-Mobile	(1) Hybrid Cable	101'	Inside Monopole

**Proposed T-Mobile Coax Cables shown in Bold.*



ANALYSIS RESULTS SUMMARY:

Component	Max. Stress Ratio	Elev. of Component (ft)	Pass/Fail	Comments
Pole Section-L1	48.7 %	96.0 – 124	PASS	
Pole Section-L2	94.9 %	47.7 – 96.0	PASS	Controlling
Pole Section-L3	88.8 %	1.0 – 47.7	PASS	
Anchor Rod & Base Plate	92.7 %	1.0	PASS	



DESIGN CRITERIA:

1. EIA/TIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures

County: Fairfield
Wind Load: 85 mph (fastest mile)
 105 mph (3 second gust)
Nominal Ice Thickness: 1/2 inch

2. Approximate height above grade to proposed antennas: 101'

***Calculations and referenced documents are attached.**

ASSUMPTIONS:

1. The monopole dimensions, member sizes and strength of material are as indicated in the previous structural analysis report prepared by RAMAKER & Associates, Inc., dated December 29, 2014.
2. The appurtenances configuration is as stated in the previous structural analysis report prepared by RAMAKER & Associates, Inc., dated December 29, 2014. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer requirements.
3. The monopole and foundation are properly constructed and maintained. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
4. The support mounts and platforms are not analyzed and are considered adequate to support the loading. The analysis is limited to the primary support structure itself.
5. All prior structural modification, if any, are assumed to be as per the data supplied (if available), and installed properly.
6. The foundation of the monopole was not checked due to lack of information. As-built foundation drawings and geotechnical report would be required to determine whether the foundation is capable of supporting the proposed loadings.



SUPPORT RECOMMENDATIONS:

HDG recommends that the proposed antennas and RRHs be mounted on the existing steel platform supported by the monopole.

Reference HDG's Latest Construction Drawings for all component and connection requirements (attached).

ONGOING AND PERIODIC INSPECTION AND MAINTENANCE:

After the Contractor has successfully completed the installation and the work has been accepted, the Owner will be responsible for the ongoing and periodic inspection and maintenance of the tower.

The owner shall refer to TIA/EIA-222-F for recommendations for maintenance and inspection. The frequency of the inspection and maintenance intervals is to be determined by the owner based upon actual site and environmental conditions. It is recommended that a complete and thorough inspection of the entire tower structural system be performed at least yearly and more frequently as conditions warrant. According to TIA/EIA-222-F section 14.1, Note 1: It is recommended that the structure be inspected after severe wind and/or ice storms or other extreme loading conditions.

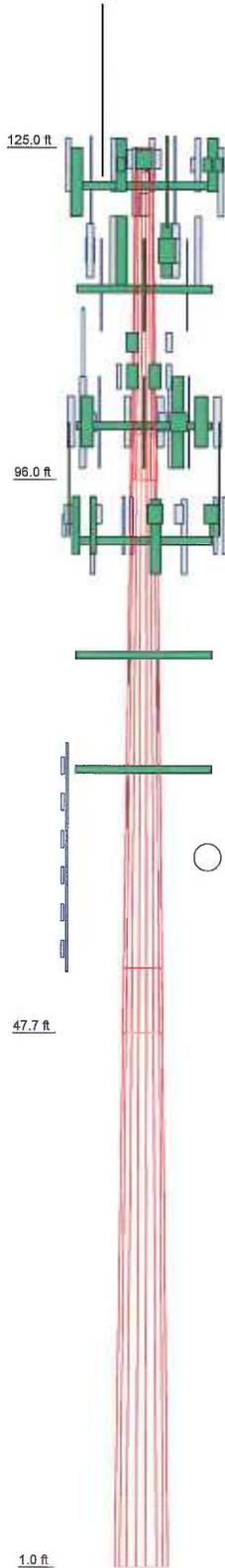


Photo 1: Photo illustrating the Monopole with Appurtenances shown.



CALCULATIONS

Section	2	52.29	18	0.2500	5.67	25.3203	41.2800	A572-65	4666.3
Length (ft)	52.34	18	0.3125	39.0464	55.0000	8251.9			
Number of Sides	18								
Thickness (in)									
Socket Length (ft)									
Top Dia (in)									
Bot Dia (in)									
Grade									
Weight (lb)	14223.9								



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Collar Mount	124	RRH-800	106
PIROD 13' Low Profile Platform (ATJ)	122	RRH-800	106
2"x8' pipe	122	RRH-800	106
2"x8' pipe	122	Collar Mount	105
2"x8' pipe	122	PIROD 13' Low Profile Platform (T-MOBILE - existing)	101
Powerwave 7770 w/mount pipe	122	(4) 2"x8' pipe	101
Powerwave 7770 w/mount pipe	122	(4) 2"x8' pipe	101
Powerwave 7770 w/mount pipe	122	(4) 2"x8' pipe	101
Powerwave 7770 w/mount pipe	122	(2) RFS APX16PV-16PVL	101
Powerwave 7770 w/mount pipe	122	(2) RFS APX16PV-16PVL	101
Powerwave P65-16-XLH-RR w/mount pipe	122	(2) RFS APX16PV-16PVL	101
Powerwave P65-16-XLH-RR w/mount pipe	122	10' Dipole	101
Powerwave P65-16-XLH-RR w/mount pipe	122	LNx-6515DS-VTM (T-MOBILE - proposed)	101
Powerwave P65-16-XLH-RR w/mount pipe	122	LNx-6515DS-VTM	101
Powerwave P65-16-XLH-RR w/mount pipe	122	LNx-6515DS-VTM	101
Powerwave LGP13519 diplexer	122	Ericsson RRUS-11	101
Powerwave LGP13519 diplexer	122	Ericsson RRUS-11	101
Powerwave LGP13519 diplexer	122	Ericsson RRUS-11	101
Powerwave LGP13519 diplexer	122	PIROD 13' Low Profile Platform (Verizon)	91
Powerwave LGP13519 diplexer	122	Panel Antenna 5"x8"x6" w/mount pipe	91
Powerwave LGP13519 diplexer	122	Panel Antenna 5"x8"x6" w/mount pipe	91
Powerwave LGP13519 diplexer	122	Panel Antenna 5"x8"x6" w/mount pipe	91
Powerwave LGP13519 diplexer	122	Panel Antenna 60"x6"x3" w/mount pipe	91
Omni 3"x15'	122	Panel Antenna 60"x6"x3" w/mount pipe	91
Ericsson RRUS-11	120	Panel Antenna 60"x6"x3" w/mount pipe	91
Ericsson RRUS-11	120	Panel Antenna 60"x6"x3" w/mount pipe	91
Ericsson RRUS-11	120	Panel Antenna 60"x6"x3" w/mount pipe	91
DC6-48-60-18-8F	120	Panel Antenna 6.5"x11"x5" w/mount pipe	91
(4) 2"x8' pipe	116	Panel Antenna 6.5"x11"x5" w/mount pipe	91
(4) 2"x8' pipe	116	Panel Antenna 6.5"x11"x5" w/mount pipe	91
(4) 2"x8' pipe	116	Panel Antenna 6.5"x11"x5" w/mount pipe	91
APXV9TM14 w/mount pipe	116	Panel Antenna 6.5"x11"x5" w/mount pipe	91
APXV9TM14 w/mount pipe	116	2x5" Antenna	91
APXV9TM14 w/mount pipe	116	2x5" Antenna	91
APXVSP18-C w/mount pipe	116	RRUS 11	91
APXVSP18-C w/mount pipe	116	RRUS 11	91
APXVSP18-C w/mount pipe	116	RRUS 11	91
RRH 8x20-25	116	RRUS 11	91
RRH 8x20-25	116	RRUS 11	91
RRH 8x20-25	116	RRUS 11	91
PIROD 13' Low Profile Platform (SPRINT)	113	RRUS 11	91
RRH-1900	106	RRUS 11	91
RRH-1900	106	Omni 2 1/2"x10'	91
RRH-1900	106	Omni 2 1/2"x10'	91
RRH-1900	106	PIROD 13' Low Profile Platform	81
RRH-1900	106	PIROD 13' Low Profile Platform	71
RRH-1900	106	15' Dipole	71
RRH-1900	106		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for a 85.0 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 73.6 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50.0 mph wind.

 Hudson Design Group, LLC 1600 Osgood Street, Building 20 North, Suite 3090 North Andover, MA 01845 Phone: (978) 557-5553 FAX: (978) 226-5586	Job: CT11115F
	Project: 124 ft monopole
	Client: T-MOBILE
	Code: TIA/EIA-222-F
	Path: T:\Mobile\CT11115F\11115F.dwg
Drawn by: kw	App'd:
Date: 02/24/15	Scale: NTS
Dwg No. E-1	

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	Client T-MOBILE	Designed by kw

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 Fairfield County, Connecticut.

Basic wind speed of 85.0 mph.

Nominal ice thickness of 0.5000 in.

Ice density of 56.0 pcf.

A wind speed of 73.6 mph is used in combination with ice.

Temperature drop of 50.0 °F.

Deflections calculated using a wind speed of 50.0 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.

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	125.00-96.04	28.96	3.92	18	18.0000	26.9000	0.1875	0.7500	A572-65 (65 ksi)
L2	96.04-47.67	52.29	5.67	18	25.3203	41.2800	0.2500	1.0000	A572-65 (65 ksi)
L3	47.67-1.00	52.34		18	39.0494	55.0000	0.3125	1.2500	A572-65 (65 ksi)

Monopole Base Plate Data

Base Plate Data	
Base plate is square	
Base plate is grouted	
Anchor bolt grade	A615-75
Anchor bolt size	2.2500 in
Number of bolts	12
Embedment length	60.0000 in
f_c	3.0 ksi
Grout space	3.2500 in
Base plate grade	A572-60
Base plate thickness	1.7500 in
Bolt circle diameter	63.0000 in
Outer diameter	69.0000 in
Inner diameter	45.0000 in
Base plate type	Stiffened Plate
Bolts per stiffener	1
Stiffener thickness	0.5000 in
Stiffener height	12.0000 in

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Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_{AA}	Weight
							ft^2/ft	plf
1 5/8 (AT&T)	A	No	Inside Pole	122.00 - 1.00	12	No Ice	0.00	1.04
						1/2" Ice	0.00	1.04
1 5/8 (Sprint)	B	No	Inside Pole	116.00 - 1.00	6	No Ice	0.00	1.04
						1/2" Ice	0.00	1.04
1 5/8 Fiber Cable	B	No	Inside Pole	116.00 - 1.00	1	No Ice	0.00	1.04
						1/2" Ice	0.00	1.04
1 5/8 (T-MOBILE - existing)	C	No	Inside Pole	101.00 - 1.00	7	No Ice	0.00	1.04
						1/2" Ice	0.00	1.04
1 5/8 (Verizon)	C	No	Inside Pole	91.00 - 1.00	14	No Ice	0.00	1.04
						1/2" Ice	0.00	1.04
1 5/8	A	No	Inside Pole	71.00 - 1.00	1	No Ice	0.00	1.04
						1/2" Ice	0.00	1.04

1 5/8 Fiber Cable (T-MOBILE - proposed)	B	No	Inside Pole	101.00 - 1.00	1	No Ice	0.00	1.04
						1/2" Ice	0.00	1.04

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement ft		C_{AA}	C_{AA}	Weight
			Horz	Vert				Front	Side	lb
			ft	ft	°		ft^2	ft^2		
Omni 3"x15'	C	From Leg	3.50	0.0000	122.00	No Ice	4.50	4.50	70.00	
			0.00				1/2" Ice	6.03	6.03	102.48
			8.00							

PiROD 13' Low Profile Platform (AT&T)	A	None		0.0000	122.00	No Ice	15.70	15.70	1300.00	
						1/2" Ice	20.10	20.10	1765.00	
2"x8' pipe	A	From Face	3.50	0.0000	122.00	No Ice	1.90	1.90	30.00	
			-2.00			1/2" Ice	2.73	2.73	44.37	
			0.00							
2"x8' pipe	B	From Face	3.50	0.0000	122.00	No Ice	1.90	1.90	30.00	
			-2.00			1/2" Ice	2.73	2.73	44.37	
			0.00							
2"x8' pipe	C	From Face	3.50	0.0000	122.00	No Ice	1.90	1.90	30.00	
			-2.00			1/2" Ice	2.73	2.73	44.37	
			0.00							
Powerwave 7770 w/mount pipe	A	From Face	3.50	0.0000	122.00	No Ice	6.02	4.10	57.25	
			-6.00			1/2" Ice	6.47	4.75	103.17	
			1.50							
Powerwave 7770 w/mount pipe	B	From Face	3.50	0.0000	122.00	No Ice	6.02	4.10	57.25	
			-6.00			1/2" Ice	6.47	4.75	103.17	
			1.50							
Powerwave 7770 w/mount pipe	C	From Face	3.50	0.0000	122.00	No Ice	6.02	4.10	57.25	
			-6.00			1/2" Ice	6.47	4.75	103.17	
			1.50							
Powerwave 7770 w/mount pipe	A	From Face	3.50	0.0000	122.00	No Ice	6.02	4.10	57.25	
			2.00			1/2" Ice	6.47	4.75	103.17	
			1.50							

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	Client T-MOBILE	Designed by kw

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight lb	
Powerwave 7770 w/mount pipe	B	From Face	3.50 2.00 1.50	0.0000	122.00	No Ice 1/2" Ice	6.02 6.47	4.10 4.75	57.25 103.17
Powerwave 7770 w/mount pipe	C	From Face	3.50 2.00 1.50	0.0000	122.00	No Ice 1/2" Ice	6.02 6.47	4.10 4.75	57.25 103.17
Powerwave P65-16-XLH-RR w/mount pipe	A	From Face	3.50 6.00 0.00	0.0000	122.00	No Ice 1/2" Ice	8.64 9.29	6.36 7.54	48.55 114.33
Powerwave P65-16-XLH-RR w/mount pipe	B	From Face	3.50 6.00 0.00	0.0000	122.00	No Ice 1/2" Ice	8.64 9.29	6.36 7.54	48.55 114.33
Powerwave P65-16-XLH-RR w/mount pipe	C	From Face	3.50 6.00 0.00	0.0000	122.00	No Ice 1/2" Ice	8.64 9.29	6.36 7.54	48.55 114.33
Powerwave LGP13519 diplexer	A	From Face	3.00 -6.50 1.50	0.0000	122.00	No Ice 1/2" Ice	1.23 1.38	0.41 0.52	14.10 21.29
Powerwave LGP13519 diplexer	A	From Face	3.00 -5.50 1.50	0.0000	122.00	No Ice 1/2" Ice	1.23 1.38	0.41 0.52	14.10 21.29
Powerwave LGP13519 diplexer	B	From Face	3.00 -6.50 1.50	0.0000	122.00	No Ice 1/2" Ice	1.23 1.38	0.41 0.52	14.10 21.29
Powerwave LGP13519 diplexer	B	From Face	3.00 -5.50 1.50	0.0000	122.00	No Ice 1/2" Ice	1.23 1.38	0.41 0.52	14.10 21.29
Powerwave LGP13519 diplexer	C	From Face	3.00 -6.50 1.50	0.0000	122.00	No Ice 1/2" Ice	1.23 1.38	0.41 0.52	14.10 21.29
Powerwave LGP13519 diplexer	C	From Face	3.00 -5.50 1.50	0.0000	122.00	No Ice 1/2" Ice	1.23 1.38	0.41 0.52	14.10 21.29
Powerwave LGP13519 diplexer	A	From Face	3.00 2.00 1.50	0.0000	122.00	No Ice 1/2" Ice	1.23 1.38	0.41 0.52	14.10 21.29
Powerwave LGP13519 diplexer	B	From Face	3.00 2.00 1.50	0.0000	122.00	No Ice 1/2" Ice	1.23 1.38	0.41 0.52	14.10 21.29
Powerwave LGP13519 diplexer	C	From Face	3.00 2.00 1.50	0.0000	122.00	No Ice 1/2" Ice	1.23 1.38	0.41 0.52	14.10 21.29
Collar Mount	A	None		0.0000	124.00	No Ice 1/2" Ice	1.40 2.40	1.40 2.40	20.00 35.00
Ericsson RRUS-11	A	From Face	0.50 0.00 4.00	0.0000	120.00	No Ice 1/2" Ice	3.26 3.50	1.38 1.56	50.70 71.57
Ericsson RRUS-11	B	From Face	0.50 0.00 4.00	0.0000	120.00	No Ice 1/2" Ice	3.26 3.50	1.38 1.56	50.70 71.57
Ericsson RRUS-11	C	From Face	0.50 0.00 4.00	0.0000	120.00	No Ice 1/2" Ice	3.26 3.50	1.38 1.56	50.70 71.57
DC6-48-60-18-8F	A	From Leg	1.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice	1.27 1.46	1.27 1.46	20.00 35.12

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight lb
PiROD 13' Low Profile Platform (SPRINT)	A	None		0.0000	113.00	No Ice 15.70 1/2" Ice 20.10	15.70 20.10	1300.00 1765.00
(4) 2"x8' pipe	A	From Face	3.50 0.00 -3.00	0.0000	116.00	No Ice 1.90 1/2" Ice 2.73	1.90 2.73	30.00 44.37
(4) 2"x8' pipe	B	From Face	3.50 0.00 -3.00	0.0000	116.00	No Ice 1.90 1/2" Ice 2.73	1.90 2.73	30.00 44.37
(4) 2"x8' pipe	C	From Face	3.50 0.00 -3.00	0.0000	116.00	No Ice 1.90 1/2" Ice 2.73	1.90 2.73	30.00 44.37
APXV9TM14 w/mount pipe	A	From Face	3.50 -2.00 0.00	0.0000	116.00	No Ice 7.21 1/2" Ice 7.77	5.03 5.89	91.90 147.31
APXV9TM14 w/mount pipe	B	From Face	3.50 -2.00 0.00	0.0000	116.00	No Ice 7.21 1/2" Ice 7.77	5.03 5.89	91.90 147.31
APXV9TM14 w/mount pipe	C	From Face	3.50 -2.00 0.00	0.0000	116.00	No Ice 7.21 1/2" Ice 7.77	5.03 5.89	91.90 147.31
APXVSPP18-C w/mount pipe	A	From Face	3.50 2.00 0.00	0.0000	116.00	No Ice 8.55 1/2" Ice 9.18	7.30 8.32	97.53 168.85
APXVSPP18-C w/mount pipe	B	From Face	3.50 2.00 0.00	0.0000	116.00	No Ice 8.55 1/2" Ice 9.18	7.30 8.32	97.53 168.85
APXVSPP18-C w/mount pipe	C	From Face	3.50 2.00 0.00	0.0000	116.00	No Ice 8.55 1/2" Ice 9.18	7.30 8.32	97.53 168.85
RRH 8x20-25	A	From Face	3.50 -2.00 0.00	0.0000	116.00	No Ice 4.72 1/2" Ice 5.01	1.70 1.92	70.00 97.14
RRH 8x20-25	B	From Face	3.50 -2.00 0.00	0.0000	116.00	No Ice 4.72 1/2" Ice 5.01	1.70 1.92	70.00 97.14
RRH 8x20-25	C	From Face	3.50 -2.00 0.00	0.0000	116.00	No Ice 4.72 1/2" Ice 5.01	1.70 1.92	70.00 97.14
***** Collar Mount	A	None		0.0000	105.00	No Ice 1.40 1/2" Ice 2.40	1.40 2.40	20.00 35.00
RRH-1900	A	From Face	1.00 -1.00 -1.00	0.0000	106.00	No Ice 2.71 1/2" Ice 2.95	3.66 3.92	60.00 88.32
RRH-1900	A	From Face	1.00 1.00 -1.00	0.0000	106.00	No Ice 2.71 1/2" Ice 2.95	3.66 3.92	60.00 88.32
RRH-1900	B	From Face	1.00 -1.00 -1.00	0.0000	106.00	No Ice 2.71 1/2" Ice 2.95	3.66 3.92	60.00 88.32
RRH-1900	B	From Face	1.00 1.00 -1.00	0.0000	106.00	No Ice 2.71 1/2" Ice 2.95	3.66 3.92	60.00 88.32
RRH-1900	C	From Face	1.00 -1.00 -1.00	0.0000	106.00	No Ice 2.71 1/2" Ice 2.95	3.66 3.92	60.00 88.32

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	Client	T-MOBILE	Designed by	kw

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA}		Weight	
			Horz	Lateral			Front	Side		
			ft	ft	°	ft	ft ²	ft ²	lb	
RRH-1900	C	From Face	1.00		0.0000	106.00	No Ice	2.71	3.66	60.00
			1.00				1/2" Ice	2.95	3.92	88.32
			-1.00							
RRH-800	A	From Face	1.00		0.0000	106.00	No Ice	2.49	3.22	64.00
			1.00				1/2" Ice	2.71	3.46	91.74
			2.00							
RRH-800	B	From Face	1.00		0.0000	106.00	No Ice	2.49	3.22	64.00
			1.00				1/2" Ice	2.71	3.46	91.74
			2.00							
RRH-800	C	From Face	1.00		0.0000	106.00	No Ice	2.49	3.22	64.00
			1.00				1/2" Ice	2.71	3.46	91.74
			2.00							

PiROD 13' Low Profile Platform (T-MOBILE - existing)	A	None			0.0000	101.00	No Ice	15.70	15.70	1300.00
(4) 2"x8' pipe	A	From Face	3.50		0.0000	101.00	No Ice	1.90	1.90	30.00
			0.00				1/2" Ice	2.73	2.73	44.37
(4) 2"x8' pipe	B	From Face	3.50		0.0000	101.00	No Ice	1.90	1.90	30.00
			0.00				1/2" Ice	2.73	2.73	44.37
(4) 2"x8' pipe	C	From Face	3.50		0.0000	101.00	No Ice	1.90	1.90	30.00
			0.00				1/2" Ice	2.73	2.73	44.37
(2) RFS APX16PV-16PVL	A	From Face	3.50		0.0000	101.00	No Ice	6.70	2.84	40.00
			0.00				1/2" Ice	7.13	3.17	75.57
(2) RFS APX16PV-16PVL	B	From Face	3.50		0.0000	101.00	No Ice	6.70	2.84	40.00
			0.00				1/2" Ice	7.13	3.17	75.57
(2) RFS APX16PV-16PVL	C	From Face	3.50		0.0000	101.00	No Ice	6.70	2.84	40.00
			0.00				1/2" Ice	7.13	3.17	75.57
10' Dipole	A	From Face	3.50		0.0000	101.00	No Ice	4.00	4.00	25.00
			-3.00				1/2" Ice	4.97	4.97	53.13
			5.00							

LNX-6515DS-VTM (T-MOBILE - proposed)	A	From Face	3.50		0.0000	101.00	No Ice	11.45	7.70	50.30
			-3.00				1/2" Ice	12.06	8.29	116.17
			0.00							
LNX-6515DS-VTM	B	From Face	3.50		0.0000	101.00	No Ice	11.45	7.70	50.30
			-3.00				1/2" Ice	12.06	8.29	116.17
			0.00							
LNX-6515DS-VTM	C	From Face	3.50		0.0000	101.00	No Ice	11.45	7.70	50.30
			-3.00				1/2" Ice	12.06	8.29	116.17
			0.00							
Ericsson RRUS-11	A	From Face	2.50		0.0000	101.00	No Ice	3.26	1.38	50.70
			-3.00				1/2" Ice	3.50	1.56	71.57
			0.00							
Ericsson RRUS-11	B	From Face	2.50		0.0000	101.00	No Ice	3.26	1.38	50.70
			-3.00				1/2" Ice	3.50	1.56	71.57
			0.00							
Ericsson RRUS-11	C	From Face	2.50		0.0000	101.00	No Ice	3.26	1.38	50.70
			-3.00				1/2" Ice	3.50	1.56	71.57
			0.00							

tnxTower Hudson Design Group, LLC 1600 Osgood Street, Building 20 North, Suite 3090 North Andover, MA 01845 Phone: (978) 557-5553 FAX: (978) 226-5586	Job CT11115F	Page 6 of 10
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	Client T-MOBILE	Designed by kw

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight lb
PiROD 13' Low Profile Platform (Verizon)	A	None		0.0000	91.00	No Ice 15.70 1/2" Ice 20.10	15.70 20.10	1300.00 1765.00
Panel Antenna 5'x8"x6" w/mount pipe	A	From Face	3.50 6.00 1.00	0.0000	91.00	No Ice 4.96 1/2" Ice 5.43	5.17 6.05	51.90 99.00
Panel Antenna 5'x8"x6" w/mount pipe	B	From Face	3.50 6.00 1.00	0.0000	91.00	No Ice 4.96 1/2" Ice 5.43	5.17 6.05	51.90 99.00
Panel Antenna 5'x8"x6" w/mount pipe	C	From Face	3.50 6.00 1.00	0.0000	91.00	No Ice 4.96 1/2" Ice 5.43	5.17 6.05	51.90 99.00
Panel Antenna 60"x6"x3" w/mount pipe	A	From Face	3.50 4.50 1.00	0.0000	91.00	No Ice 4.22 1/2" Ice 4.81	3.95 5.04	55.55 94.39
Panel Antenna 60"x6"x3" w/mount pipe	B	From Face	3.50 4.50 1.00	0.0000	91.00	No Ice 4.22 1/2" Ice 4.81	3.95 5.04	55.55 94.39
Panel Antenna 60"x6"x3" w/mount pipe	C	From Face	3.50 4.50 1.00	0.0000	91.00	No Ice 4.22 1/2" Ice 4.81	3.95 5.04	55.55 94.39
Panel Antenna 6.5'x11"x5" w/mount pipe	A	From Face	3.50 -1.00 0.00	0.0000	91.00	No Ice 8.48 1/2" Ice 9.09	6.23 7.43	55.55 119.35
Panel Antenna 6.5'x11"x5" w/mount pipe	B	From Face	3.50 -1.00 0.00	0.0000	91.00	No Ice 8.48 1/2" Ice 9.09	6.23 7.43	55.55 119.35
Panel Antenna 6.5'x11"x5" w/mount pipe	C	From Face	3.50 -1.00 0.00	0.0000	91.00	No Ice 8.48 1/2" Ice 9.09	6.23 7.43	55.55 119.35
2'x5" Antenna	A	From Face	3.50 -6.00 1.00	0.0000	91.00	No Ice 1.17 1/2" Ice 1.36	0.72 0.88	20.00 27.78
2'x5" Antenna	B	From Face	3.50 -6.00 1.00	0.0000	91.00	No Ice 1.17 1/2" Ice 1.36	0.72 0.88	20.00 27.78
2'x5" Antenna	C	From Face	3.50 -6.00 1.00	0.0000	91.00	No Ice 1.17 1/2" Ice 1.36	0.72 0.88	20.00 27.78
RRUS 11	A	From Face	3.00 -1.00 2.00	0.0000	91.00	No Ice 3.25 1/2" Ice 3.49	1.37 1.55	50.70 71.50
RRUS 11	B	From Face	3.00 -1.00 2.00	0.0000	91.00	No Ice 3.25 1/2" Ice 3.49	1.37 1.55	50.70 71.50
RRUS 11	C	From Face	3.00 -1.00 2.00	0.0000	91.00	No Ice 3.25 1/2" Ice 3.49	1.37 1.55	50.70 71.50
RRUS 11	A	From Face	3.00 -6.00 2.00	0.0000	91.00	No Ice 3.25 1/2" Ice 3.49	1.37 1.55	50.70 71.50
RRUS 11	B	From Face	3.00 -6.00 2.00	0.0000	91.00	No Ice 3.25 1/2" Ice 3.49	1.37 1.55	50.70 71.50
RRUS 11	C	From Face	3.00 -6.00 2.00	0.0000	91.00	No Ice 3.25 1/2" Ice 3.49	1.37 1.55	50.70 71.50

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front	C _{AA} Side	Weight lb	
Omni 2 1/2"x10'	B	From Leg	6.50 0.00 5.00	0.0000	91.00	No Ice 1/2" Ice	2.50 3.53	2.50 3.53	25.00 43.64
Omni 2 1/2"x10'	C	From Leg	6.50 0.00 5.00	0.0000	91.00	No Ice 1/2" Ice	2.50 3.53	2.50 3.53	25.00 43.64

PiROD 13' Low Profile Platform	C	None		0.0000	81.00	No Ice 1/2" Ice	15.70 20.10	15.70 20.10	1300.00 1765.00
PiROD 13' Low Profile Platform	C	None		0.0000	71.00	No Ice 1/2" Ice	15.70 20.10	15.70 20.10	1300.00 1765.00
15' Dipole	A	From Face	3.50 -5.00 -8.00	0.0000	71.00	No Ice 1/2" Ice	6.00 7.54	6.00 7.54	40.00 81.87

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

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Comb. No.	Description
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 Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Pole	Max. Vert	24	39715.47	24121.08	0.00
	Max. H _x	11	31136.01	28174.68	-0.00
	Max. H _z	2	31136.01	0.00	28174.68
	Max. M _x	2	2583298.98	0.00	28174.68
	Max. M _z	5	2583009.22	-28174.68	-0.00
	Max. Torsion	13	3594.47	14087.34	24399.99
	Min. Vert	1	31136.01	0.00	0.00
	Min. H _x	5	31136.01	-28174.68	-0.00
	Min. H _z	8	31136.01	0.00	-28174.68
	Min. M _x	8	-2584109.79	0.00	-28174.68
	Min. M _z	11	-2584399.54	28174.68	-0.00
	Min. Torsion	7	-3594.45	-14087.34	-24399.99

Tower Mast Reaction Summary

Load Combination	Vertical lb	Shear _y lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
Dead Only	31136.01	0.00	0.00	388.26	666.69	0.00
Dead+Wind 0 deg - No Ice	31136.01	-0.00	-28174.68	-2583298.98	682.73	-3214.73
Dead+Wind 30 deg - No Ice	31136.01	14087.34	-24399.99	-2237146.51	-1291164.90	-1973.50
Dead+Wind 60 deg - No Ice	31136.01	24399.99	-14087.34	-1291447.30	-2236861.00	-203.54
Dead+Wind 90 deg - No Ice	31136.01	28174.68	0.00	399.18	-2583009.22	1621.02
Dead+Wind 120 deg - No Ice	31136.01	24399.99	14087.34	1292248.76	-2236866.42	3011.16
Dead+Wind 150 deg - No Ice	31136.01	14087.34	24399.99	2237954.21	-1291170.32	3594.45
Dead+Wind 180 deg - No Ice	31136.01	-0.00	28174.68	2584109.79	682.72	3214.68
Dead+Wind 210 deg - No Ice	31136.01	-14087.34	24399.99	2237965.00	1292541.93	1973.47
Dead+Wind 240 deg - No Ice	31136.01	-24399.99	14087.34	1292259.54	2238250.50	203.51
Dead+Wind 270 deg - No Ice	31136.01	-28174.68	0.00	399.17	2584399.54	-1620.99
Dead+Wind 300 deg - No Ice	31136.01	-24399.99	-14087.34	-1291458.11	2238245.09	-3011.10
Dead+Wind 330 deg - No Ice	31136.01	-14087.34	-24399.99	-2237157.31	1292536.53	-3594.47
Dead+Ice+Temp	39715.47	-0.00	0.00	668.41	1238.55	-0.00
Dead+Wind 0 deg+Ice+Temp	39715.47	0.00	-24121.08	-2272843.75	1287.19	-3064.77
Dead+Wind 30 deg+Ice+Temp	39715.47	12060.54	-20889.47	-1968241.88	-1135479.58	-1824.16
Dead+Wind 60 deg+Ice+Temp	39715.47	20889.47	-12060.54	-1136069.71	-1967648.57	-94.80
Dead+Wind 90 deg+Ice+Temp	39715.47	24121.08	-0.00	695.92	-2272246.10	1660.01
Dead+Wind 120 deg+Ice+Temp	39715.47	20889.47	12060.54	1137465.60	-1967655.62	2970.00
Dead+Wind 150 deg+Ice+Temp	39715.47	12060.54	20889.47	1969645.89	-1135486.65	3484.11
Dead+Wind 180 deg+Ice+Temp	39715.47	0.00	24121.08	2274251.81	1287.16	3064.69
Dead+Wind 210 deg+Ice+Temp	39715.47	-12060.54	20889.47	1969658.42	1138068.22	1824.11
Dead+Wind 240 deg+Ice+Temp	39715.47	-20889.47	12060.54	1137478.12	1970251.69	94.74
Dead+Wind 270 deg+Ice+Temp	39715.47	-24121.08	-0.00	695.88	2274849.42	-1659.97
Dead+Wind 300 deg+Ice+Temp	39715.47	-20889.47	-12060.54	-1136082.28	1970244.66	-2969.92
Dead+Wind 330 deg+Ice+Temp	39715.47	-12060.54	-20889.47	-1968254.43	1138061.20	-3484.15

<p>tnxTower</p> <p>Hudson Design Group, LLC 1600 Osgood Street, Building 20 North, Suite 3090 North Andover, MA 01845 Phone: (978) 557-5553 FAX: (978) 226-5586</p>	Job	CT11115F	Page	9 of 10
	Project	124 ft monopole	Date	16:43:37 02/24/15
	Client	T-MOBILE	Designed by	kw

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+Wind 0 deg - Service	31136.01	-0.00	-9749.03	-894440.83	698.37	-1119.44
Dead+Wind 30 deg - Service	31136.01	4874.51	-8442.90	-774553.37	-446725.35	-687.17
Dead+Wind 60 deg - Service	31136.01	8442.90	-4874.51	-447016.35	-774262.00	-70.78
Dead+Wind 90 deg - Service	31136.01	9749.03	0.00	407.23	-894148.95	564.58
Dead+Wind 120 deg - Service	31136.01	8442.90	4874.51	447831.19	-774262.65	1048.66
Dead+Wind 150 deg - Service	31136.01	4874.51	8442.90	775368.96	-446726.01	1251.74
Dead+Wind 180 deg - Service	31136.01	-0.00	9749.03	895256.79	698.36	1119.43
Dead+Wind 210 deg - Service	31136.01	-4874.51	8442.90	775370.25	448123.48	687.16
Dead+Wind 240 deg - Service	31136.01	-8442.90	4874.51	447832.48	775661.62	70.77
Dead+Wind 270 deg - Service	31136.01	-9749.03	0.00	407.23	895548.67	-564.58
Dead+Wind 300 deg - Service	31136.01	-8442.90	-4874.51	-447017.65	775660.97	-1048.66
Dead+Wind 330 deg - Service	31136.01	-4874.51	-8442.90	-774554.67	448122.83	-1251.76

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
1	0.00	-31136.01	0.00	0.00	31136.01	0.00	0.000%
2	0.00	-31136.01	-28174.68	0.00	31136.01	28174.68	0.000%
3	14087.34	-31136.01	-24399.99	-14087.34	31136.01	24399.99	0.000%
4	24399.99	-31136.01	-14087.34	-24399.99	31136.01	14087.34	0.000%
5	28174.68	-31136.01	0.00	-28174.68	31136.01	-0.00	0.000%
6	24399.99	-31136.01	14087.34	-24399.99	31136.01	-14087.34	0.000%
7	14087.34	-31136.01	24399.99	-14087.34	31136.01	-24399.99	0.000%
8	0.00	-31136.01	28174.68	0.00	31136.01	-28174.68	0.000%
9	-14087.34	-31136.01	24399.99	14087.34	31136.01	-24399.99	0.000%
10	-24399.99	-31136.01	14087.34	24399.99	31136.01	-14087.34	0.000%
11	-28174.68	-31136.01	0.00	28174.68	31136.01	-0.00	0.000%
12	-24399.99	-31136.01	-14087.34	24399.99	31136.01	14087.34	0.000%
13	-14087.34	-31136.01	-24399.99	14087.34	31136.01	24399.99	0.000%
14	0.00	-39715.47	0.00	0.00	39715.47	-0.00	0.000%
15	0.00	-39715.47	-24121.07	-0.00	39715.47	24121.08	0.000%
16	12060.54	-39715.47	-20889.46	-12060.54	39715.47	20889.47	0.000%
17	20889.46	-39715.47	-12060.54	-20889.47	39715.47	12060.54	0.000%
18	24121.07	-39715.47	0.00	-24121.08	39715.47	0.00	0.000%
19	20889.46	-39715.47	12060.54	-20889.47	39715.47	-12060.54	0.000%
20	12060.54	-39715.47	20889.46	-12060.54	39715.47	-20889.47	0.000%
21	0.00	-39715.47	24121.07	-0.00	39715.47	-24121.08	0.000%
22	-12060.54	-39715.47	20889.46	12060.54	39715.47	-20889.47	0.000%
23	-20889.46	-39715.47	12060.54	20889.47	39715.47	-12060.54	0.000%
24	-24121.07	-39715.47	0.00	24121.08	39715.47	0.00	0.000%
25	-20889.46	-39715.47	-12060.54	20889.47	39715.47	12060.54	0.000%
26	-12060.54	-39715.47	-20889.46	12060.54	39715.47	20889.47	0.000%
27	0.00	-31136.01	-9749.02	0.00	31136.01	9749.03	0.000%
28	4874.51	-31136.01	-8442.90	-4874.51	31136.01	8442.90	0.000%
29	8442.90	-31136.01	-4874.51	-8442.90	31136.01	4874.51	0.000%
30	9749.02	-31136.01	0.00	-9749.03	31136.01	-0.00	0.000%
31	8442.90	-31136.01	4874.51	-8442.90	31136.01	-4874.51	0.000%
32	4874.51	-31136.01	8442.90	-4874.51	31136.01	-8442.90	0.000%
33	0.00	-31136.01	9749.02	0.00	31136.01	-9749.03	0.000%
34	-4874.51	-31136.01	8442.90	4874.51	31136.01	-8442.90	0.000%
35	-8442.90	-31136.01	4874.51	8442.90	31136.01	-4874.51	0.000%
36	-9749.02	-31136.01	0.00	9749.03	31136.01	-0.00	0.000%
37	-8442.90	-31136.01	-4874.51	8442.90	31136.01	4874.51	0.000%
38	-4874.51	-31136.01	-8442.90	4874.51	31136.01	8442.90	0.000%

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Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	125 - 96.04	24.0311	35	1.7332	0.0093
L2	99.96 - 47.67	15.2683	35	1.5384	0.0062
L3	53.34 - 1	3.9261	35	0.7137	0.0018

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
124.00	Collar Mount	35	23.6685	1.7275	0.0091	19802
122.00	Omni 3"x15'	35	22.9438	1.7160	0.0089	19802
120.00	Ericsson RRUS-11	35	22.2205	1.7042	0.0086	19802
116.00	(4) 2"x8' pipe	35	20.7822	1.6793	0.0081	11001
113.00	PiROD 13' Low Profile Platform	35	19.7144	1.6589	0.0077	8251
106.00	RRH-1900	35	17.2798	1.6020	0.0069	5210
105.00	Collar Mount	35	16.9402	1.5925	0.0068	4950
101.00	PiROD 13' Low Profile Platform	35	15.6075	1.5505	0.0063	4179
91.00	PiROD 13' Low Profile Platform	35	12.4854	1.4140	0.0052	3642
81.00	PiROD 13' Low Profile Platform	35	9.6931	1.2422	0.0041	3348
71.00	PiROD 13' Low Profile Platform	35	7.2594	1.0510	0.0032	3098

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P _{allow} lb	% Capacity	Pass Fail
L1	125 - 96.04	Pole	TP26.9x18x0.1875	1	-7808.54	789179.96	48.7	Pass
L2	96.04 - 47.67	Pole	TP41.28x25.3203x0.25	2	-19094.50	1588016.16	94.9	Pass
L3	47.67 - 1	Pole	TP55x39.0494x0.3125	3	-31114.10	2618145.19	88.8	Pass
Summary								
Pole (L2)							94.9	Pass
Base Plate							92.7	Pass
RATING =							94.9	Pass

EXHIBIT C

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

T-Mobile Existing Facility

Site ID: CT11115F

SNET Valley_FT
38 Spring Hill Lane
Bethel, CT 06801

March 13, 2015

EBI Project Number: 6215001452

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	90.77 %

March 13, 2015

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

Emissions Analysis for Site: **CT11115F – SNET Valley_FT**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **38 Spring Hill Lane, Bethel, 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 the 700 MHz Band is $467 \mu\text{W}/\text{cm}^2$, and the general population exposure limit for 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 **38 Spring Hill Lane, Bethel, 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) 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 **Ericsson AIR21 (B4A/B2P& B2A/B4P)** for 1900 MHz (PCS) and 2100 MHz (AWS) 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 **Ericsson AIR21 (B4A/B2P& B2A/B4P)** has a maximum gain of **15.9 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 **101 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.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
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):	101	Height (AGL):	101	Height (AGL):	101
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):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE%	1.86	Antenna B1 MPE%	1.86	Antenna C1 MPE%	1.86
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	101	Height (AGL):	101	Height (AGL):	101
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	4	Channel Count	4	Channel Count	4
Total TX Power:	120	Total TX Power:	120	Total TX Power:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A2 MPE%	1.86	Antenna B2 MPE%	1.86	Antenna C2 MPE%	1.86
Antenna #:	3	Antenna #:	3	Antenna #:	3
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):	101	Height (AGL):	101	Height (AGL):	101
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 A3 MPE%	0.74	Antenna B3 MPE%	0.74	Antenna C3 MPE%	0.74

Site Composite MPE%	
Carrier	MPE%
T-Mobile	13.37
Bethel PD	No Data Available
Thomas Refuse	No Data Available
Utility Cmcns	No Data Available
Valley Cmcns	No Data Available
Yankee Gas	No Data Available
Sprint	12.34 %
AT&T	22.87 %
Nextel	21.05 %
Verizon Wireless	21.14 %
Site Total MPE %:	90.77 %

T-Mobile Sector 1 Total:	4.46 %
T-Mobile Sector 2 Total:	4.46 %
T-Mobile Sector 3 Total:	4.46 %
Site Total:	90.77 %

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:	4.46 %
Sector 2:	4.46 %
Sector 3 :	4.46 %
T-Mobile Total:	13.37 %
Site Total:	90.77 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **90.77%** 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

CT11115 F

June 11, 2014

By FedEx

T-Mobile USA, Inc.
 12920 SE 38th Street
 Bellevue, WA 98006
 Attention: PCS Lease Administrator

RE: Request for Tenant Estoppel Certificate Relating to Tower Site Owned by Spring Hill Properties; Site Address: 38 Spring Hill Lane, Bethel, CT 06801 ("Property"); Site No. CT11-115-F; Site Name: ATT Valley FT

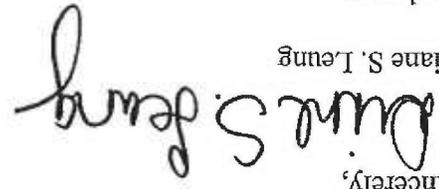
Ladies and Gentlemen:

Your landlord, Spring Hill Lane Properties, LLC ("Spring Hill"), under the Tower Lease with Option dated February 18, 2005 (the "Lease"), intends to assign its interest as landlord under the Lease to another company, Blue Sky Towers, LLC ("BST"), in connection with Spring Hill's sale of the Property to BST.

In connection with the proposed assignment, enclosed is a tenant estoppel certificate (a certificate on your preferred form is also acceptable). I request that you review, sign and return it to me. In addition, if you have a commencement date letter in your file, I would appreciate receiving a copy.

Spring Hill has given BST and me the authority to request the estoppel certificate (see enclosed authorization letter).

Your prompt attention to the estoppel certificate is greatly appreciated. A pre-paid FedEx envelope addressed to me is provided for your use. If you have any questions or require changes to the enclosed estoppel certificate, please contact Spring Hill at (203) 331-2424 or me at (216) 566-5656.

Sincerely,

 Diane S. Leung

Enclosures

cc: Spring Hill Lane Properties, LLC (w/enclosures)
 Omnipoint Facilities Network 2, LLC (w/enclosures)

TENANT ESTOPPEL CERTIFICATE
Tenant Site Number: CT11-115-F
Tenant Site Name: ATT Valley FT

The undersigned ("Tenant") is a party to that Tower Lease with Option Agreement (the "Tower Space License") dated February 18, 2005 by and between Valley Communications, Inc., predecessor in interest to Spring Hill Lane Properties, LLC (the "Tower Owner"), and Tenant, pursuant to which Tenant is leasing space on the Tower Owner's communications tower (the "Tower") at the tower site located at 38 Spring Hill Lane, Bethel, CT 06801. The Tower Owner is in the process of selling the Tower and related assets, including, without limitation, the Tower Owner's rights and obligations under the Tower Space License (collectively, the "Transferred Assets"), to Blue Sky Towers, LLC, a Delaware limited liability company ("Buyer"), and hereby requests that Tenant certify certain facts to Buyer in order to induce Buyer to consummate its acquisition of the Transferred Assets.

Tenant hereby covenants, agrees and certifies to Buyer and its successors and assigns that: (i) the Tower Space License is in full force and effect according to its terms; (ii) the present term of the Tower Space License expires on _____, subject to renewal according to the terms of the Tower Space License; (iii) neither Tenant nor, to Tenant's knowledge, the Tower Owner is in default under the Tower Space License; (iv) the monthly rental payment due under the Tower Space License is \$2,153.51; (v) Tenant's equipment is presently installed and operating at the Tower and Tenant does not intend to remove it equipment and facilities from the Tower and/or terminate its utilization of the Tower prior to the expiration of the present term of the Tower Space License; and (vi) the Tower Space License has not been amended.

Tenant hereby acknowledges and agrees that Buyer and its successors and assigns will rely on this Certificate in agreeing to acquire the Transferred Assets.

TENANT:

OMNIPONT FACILITIES NETWORK 2, LLC
d/b/a T-Mobile

By: _____
Its: _____
Dated: _____

By: May 23
Name: MADEY JO ZITO
Title: MANAGING MEMBER

Spring Hill Lane Properties, LLC

Very truly yours,

Please feel free to contact me by phone at (203) 331-2424, if you have any questions.

Spring Hill Lane Properties, LLC ("Spring Hill"), authorizes your company and its affiliates (together, the "Company") to provide information requested by Blue Sky Towers, LLC through its counsel Thompson Hine, LLP that it may request, including without limitation, an estoppel certificate concerning the lease between Spring Hill and the Company relating to your communications facility.

Ladies and Gentlemen:

RE: Request for Estoppel Certificate for Communications Facility Site Located at 38 Spring Hill Lane Bethel, CT 06801

To Tenants of Spring Hill Lane Properties, LLC

June 10, 2014

Spring Hill Lane Properties, LLC
155 Wooster Street
Shelton, CT 06484