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
www.ct.gov/csc

December 24, 2014

Rachel A. Schwartzman, Esq.
Cohen and Wolf, P.C.
P.O. Box 1821
Bridgeport, CT 06601

RE:

EM-T-MOBILE-004-130531	81 Montevideo Road	Avon
EM-T-MOBILE-009-130611	38 Spring Hill Lane	Bethel
EM-T-MOBILE-014-130724	405 Brushy Plain Road	Branford
EM-T-MOBILE-017-130611	2 Willis Street	Bristol
EM-T-MOBILE-017-130729	985 Farmington Avenue	Bristol
EM-T-MOBILE-033-130719	179 Shunpike Road	Cromwell
EM-T-MOBILE-034-130531A	41 Padanaram Road	Danbury
EM-T-MOBILE-034-130531B	303 Boxwood Lane	Danbury
EM-T-MOBILE-034-130726	7 West View Drive	Danbury
EM-T-MOBILE-043-130222	1455 Forbes Street	East Hartford
EM-T-MOBILE-049-130718	1 Ecology Drive	Enfield
EM-T-MOBILE-057-130220	150 Butternut Hollow Road	Greenwich
EM-T-MOBILE-080-130903	11 West Peak Drive	Meriden
EM-T-MOBILE-091-130531A	302 Ball Pond Road	New Fairfield
EM-T-MOBILE-091-130531B	37 Titicus Mountain Road	New Fairfield
EM-T-MOBILE-101-130611	125 Washington Avenue	North Haven
EM-T-MOBILE-110-130621	335 S. Washington Street	Plainville
EM-T-MOBILE-135-130318	555 Main Street	Stamford
EM-T-MOBILE-148-130531	90 N. Plains Industrial Road	Wallingford
EM-T-MOBILE-166-130726	Andrews Road	Wolcott
EM-T-MOBILE-166-130816	Route 322/Meridian Road	Wolcott

Dear Attorney Schwartzman:

The Connecticut Siting Council (Council) is in receipt of your letter dated December 23, 2014, submitted on behalf of T-Mobile, requesting an extension of time to submit a notice of completion of construction and associated post modification inspection reports for the above-referenced exempt modifications.

The Council hereby grants a 60-day extension of time to submit a notice of completion of construction and associated post modification inspection reports for the above-referenced exempt modifications to March 2, 2015.

This extension is granted with the understanding that the Council will be notified should T-Mobile need additional time beyond 60 days to submit a notice of completion and associated post modification inspection reports or decide not to proceed with construction.

Thank you for your attention to this matter.

Sincerley,

Melanie A. Bachman
Acting Executive Director

MAB/cm

COHEN and WOLF P.C.
ATTORNEYS AT LAW

RACHEL A. SCHWARTZMAN

Please Reply To: Bridgeport
Writer's Direct Dial: (203) 337-4110
E-Mail: rschwartzman@cohenandwolf.com

December 23, 2014

Via Electronic and Overnight Mail

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

Re: T-Mobile Exempt Modification Compliance Filings
Connecticut Siting Council Audit Letter dated November 3, 2014
Request For Extension of Time

Dear Attorney Bachman:

T-Mobile Northeast, LLC ("T-Mobile") respectfully requests a 60-day extension of time to March 2, 2015 to respond to the Council's request, dated November 3, 2014, for exempt modification compliance data. The attached spreadsheet provides a list of the sites for which T-Mobile seeks a requested extension.

T-Mobile is actively compiling all of the requested information but needs additional time to provide the necessary documentation.

Please do not hesitate to let me know if you have any questions.

Sincerely,

Rachel A. Schwartzman, Esq.

RAS/lcc
Enclosure

cc: Samuel Simons, T-Mobile Northeast, LLC (via electronic mail)
Mark Richard, T-Mobile Northeast, LLC (via electronic mail)
Robert Stanford, Vertical Development, LLC (via electronic mail)
Julie Kohler, Esq.

EM/TS #	Address	Town	Council Additional Conditions	Compliance with Council Additional Conditions Received	Notice of Completion Received	Decision Date
EM-T-MOBILE-043-130222	1455 Forbes Street	East Hartford	Yes	No	No	3/12/2013
EM-T-MOBILE-057-130220	150 Butternut Hollow Road	Greenwich	N/A	N/A	No	3/12/2013
EM-T-MOBILE-135-130318	555 Main Street	Stamford	Yes	No	No	4/9/2013
EM-T-MOBILE-006-130528	60 Rice Lane	Beacon Falls	Yes	No	No	6/26/2013
EM-T-MOBILE-002-130529	401 Wakelee Avenue	Ansonia	N/A	N/A	No	6/27/2013
EM-T-MOBILE-004-130531	81 Montevideo Road	Avon	N/A	N/A	No	7/9/2013
EM-T-MOBILE-034-130531A	41 Padanaram Road	Danbury	Yes	No	No	7/9/2013
EM-T-MOBILE-034-130531B	303 Boxwood Lane	Danbury	N/A	N/A	No	7/9/2013
EM-T-MOBILE-091-130531A	302 Ball Pond Road	New Fairfield	N/A	N/A	No	7/9/2013
EM-T-MOBILE-091-130531B	37 Titicus Mountain Road	New Fairfield	N/A	N/A	No	7/9/2013
EM-T-MOBILE-148-130531	90 N. Plains Industrial Road	Wallingford	N/A	N/A	No	7/9/2013
EM-T-MOBILE-101-130611	125 Washington Avenue	North Haven	N/A	N/A	No	7/10/2013
EM-T-MOBILE-009-130611	38 Spring Hill Lane	Bethel	Yes	No	No	7/11/2013
EM-T-MOBILE-017-130611	2 Willis Street	Bristol	Yes	No	No	7/12/2013
EM-T-MOBILE-110-130621	335 S. Washington Street	Plainville	N/A	N/A	No	7/12/2013
EM-T-MOBILE-033-130719	179 Shunpike Road	Cromwell	Yes	No	No	8/7/2013
EM-T-MOBILE-049-130718	1 Ecology Drive	Enfield	N/A	N/A	No	8/7/2013
EM-T-MOBILE-014-130724	405 Brushy Plain Road	Branford	Yes	No	No	8/13/2013
EM-T-MOBILE-017-130729	985 Farmington Avenue	Bristol	N/A	N/A	No	8/20/2013
EM-T-MOBILE-034-130726	7 West View Drive	Danbury	N/A	N/A	No	8/20/2013
EM-T-MOBILE-166-130726	Andrews Road	Wolcott	Yes	No	No	8/20/2013
EM-T-MOBILE-166-130816	Route 322/Meridian Road	Wolcott	N/A	N/A	No	9/3/2013
EM-T-MOBILE-080-130903	11 West Peak Drive	Meriden	Yes	No	No	9/18/2013

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August 21, 2014

Julie D. Kohler, Esq.
Cohen and Wolf, P.C.
P.O. Box 1821
Bridgeport, CT 06601-1821

RE: **EM-T-MOBILE-135-130318** - T-Mobile Northeast LLC notice of intent to modify an existing telecommunications facility located at 555 Main Street, Stamford, Connecticut.

Dear Attorney Kohler:

At a public meeting held by the Connecticut Siting Council (Council) on August 21, 2014, the Council considered and denied your request to waive the filing fee for the above mentioned exempt modification which decision expired on April 9, 2014.

Please resubmit your request to modify the above referenced existing telecommunications facility in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies.

Thank you for your attention to this matter.

Sincerely,

Robert Stein MAB

Robert Stein
Chairman

RS/MAB/RM/cm

c: The Honorable David Martin, Mayor, City of Stamford
Norman Cole, Planning and Zoning Dir., City of Stamford

COHEN and WOLF P.C.
ATTORNEYS AT LAW

JULIE D. KOHLER

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

August 13, 2014

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

Re: Notice of Exempt Modification
Crown/T-Mobile co-location
T-Mobile Site ID CT11410A
555 Main Street, Stamford CT

EM-T-MOBILE-135-130318

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.

On March 15, 2013 T-Mobile filed a notice of exempt modification to modify a telecommunication facility pursuant to R.C.S.A. § 16-50j-73. The Council issued an acknowledgment on April 9, 2103. T-Mobile was unable to complete construction prior to the expiration of the one year time frame and hereby requests that the Council reconsider and acknowledge the notice of exempt modification for an additional year. T-Mobile represents that the proposal contained in its March 15, 2013 filing remains unchanged, and that according to the Council's database, no other carrier has filed for co-location on this facility since the date of T-Mobile's acknowledgement.

Please accept this letter as notification 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 Mayor David Martin, and the property owner, Southern New England Telephone Company.

To recap the proposal provided in the March 15, 2013 filing.

- The existing Stamford Facility consists of a rooftop mounted tower facility, which extends to a height of approximately 235' 10" AGL, including the existing T-Mobile antennas.

- T-Mobile plans to replace 3 antenna mounted on the rooftop tower facility at a centerline of 210' 10", will replace 3 antenna mounted on the rooftop tower facility at a centerline of 205' 10", and will add 3 tower mounted amplifiers ("TMAs") at a height of 205' 10".

- Finally, T-Mobile will add 2 equipment cabinets to the rooftop equipment compound, remove 3 existing cabinets from the same area and run fiber conduit along existing coaxial cabling.

- The existing rooftop tower facility is structurally capable of supporting T-Mobile's proposed use, as indicated in the Structural Analysis Report dated February 28, 2013. The planned modifications to the Stamford 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 the 210'10" and 205' 10" foot level. The enclosed plans confirm that the proposed modification will not increase the height of the rooftop facility.

2. The installation of the T-Mobile replacement equipment in the existing equipment room, as reflected on the attached plans, will not require an extension of the site boundaries. T-Mobile's proposed equipment will be located entirely within the existing equipment area.

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 replacement 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 August 14, 2012 T-Mobile's operations would add 0.257% 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 11.457% of the FCC Standard as calculated for a mixed frequency site.

As this exempt modification request has been fully vetted by Council staff, T-Mobile would be grateful if the exempt modification filing fee would be waived for this acknowledgement reissue.

For the foregoing reasons, T-Mobile respectfully submits that the proposed replacement antennas and equipment at the Stamford Facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Julie D. Kohler, Esq.

cc: Mayor David Martin, Mayor of Stamford
Southern New England Telephone Company, property owner
Crown
Halene Fujimoto, HPC Wireless

STATE OF CONNECTICUT
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April 9, 2013

Julie D. Kohler, Esq.
Cohen and Wolf, P.C.
1115 Broad Street
Bridgeport, CT 06604

RE: **EM-T-MOBILE-135-130318** – T-Mobile Northeast LLC notice of intent to modify an existing telecommunications facility located at 555 Main Street, Stamford, Connecticut.

Dear Attorney Kohler:

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 proposed coax shall be installed in accordance with the recommendations made in the Structural Analysis Report prepared by GDP Group dated February 28, 2013 and stamped by John Kabak;
- Within 45 days following completion of the antenna installation, T-Mobile shall provide documentation certified by a professional engineer that its installation complied with the recommendation of the structural analysis;
- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated March 15, 2013. 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. Thank you for your attention and cooperation.

Very truly yours,

LRoberts

Linda Roberts
Executive Director

LR/CDM/jb

c: The Honorable Michael A. Pavia, Mayor, City of Stamford
Norman Cole, Planning and Zoning Dir., City of Stamford
Sean Gormley, SBA

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
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E-Mail: siting.council@ct.gov
www.ct.gov/csc

March 19, 2013

The Honorable Michael A. Pavia
Mayor
City of Stamford
Stamford Government Center
888 Washington Boulevard
P. O. Box 10152
Stamford, CT 06904-2152

RE: **EM-T-MOBILE-135-130318** – T-Mobile Northeast LLC notice of intent to modify an existing telecommunications facility located at 555 Main Street, Stamford, Connecticut.

Dear Mayor Pavia:

The Connecticut Siting Council (Council) received a request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72, a copy of which has already been provided to you.

If you have any questions or comments regarding the proposal, please call me or inform the Council by April 3, 2013.

Thank you for your cooperation and consideration.

Very truly yours,

Linda Roberts
Executive Director

LR/jb

c: Norman Cole, Planning and Zoning Dir., City of Stamford

CSC
CONNECTICUT SITING COUNCIL

COHEN and WOLF P.C.
ATTORNEYS AT LAW

EM-T-MOBILE-135-130318

JULIE D. KOHLER

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

ORIGINAL

March 15, 2013

RECEIVED
MAR 18 2013
CONNECTICUT
SITING COUNCIL

Ms. Linda Roberts,
Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Notice of Exempt Modification
AT&T/T-Mobile co-location
T-Mobile Site ID CT11410A
555 Main Street, Stamford CT

Dear Ms. Roberts:

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, AT&T owns the existing rooftop telecommunications tower and related facility at 555 Main Street, Stamford Connecticut (latitude 41.03.14; longitude -73.32.09). T-Mobile intends to replace six antennas and add related equipment at this existing rooftop tower facility in Stamford ("Stamford 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 Mayor Michael Pavia, and the property owner, Southern New England Telephone Company.

The existing Stamford Facility consists of a rooftop mounted tower facility, which extends to a height of approximately 235' 10" AGL, including the existing T-Mobile antennas. T-Mobile plans to replace 3 antenna mounted on the rooftop tower facility at a centerline of 210' 10", will replace 3 antenna mounted on the rooftop tower facility at a centerline of 205' 10", and will add 3 tower mounted amplifiers ("TMAs") at a height of 205' 10". Finally, T-Mobile will add 2 equipment cabinets to the rooftop equipment compound, remove 3 existing cabinets from the same area and run fiber conduit along existing coaxial cabling. (See the plans revised to April 27, 2012 attached hereto as Exhibit A). The existing rooftop tower facility is structurally capable of supporting T-Mobile's proposed use, as indicated in the Structural Analysis Report dated February 28, 2013 and attached hereto as Exhibit B.

The planned modifications to the Stamford 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 the 210'10" and 205' 10" foot level. The enclosed plans confirm that the proposed modification will not increase the height of the rooftop facility.

2. The installation of the T-Mobile replacement equipment in the existing equipment room, as reflected on the attached plans, will not require an extension of the site boundaries. T-Mobile's proposed equipment will be located entirely within the existing equipment area.

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 replacement 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 August 14, 2012 T-Mobile's operations would add 0.257% 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 11.457% of the FCC Standard as calculated for a mixed frequency site as evidenced by the engineering exhibit attached hereto as Exhibit C.

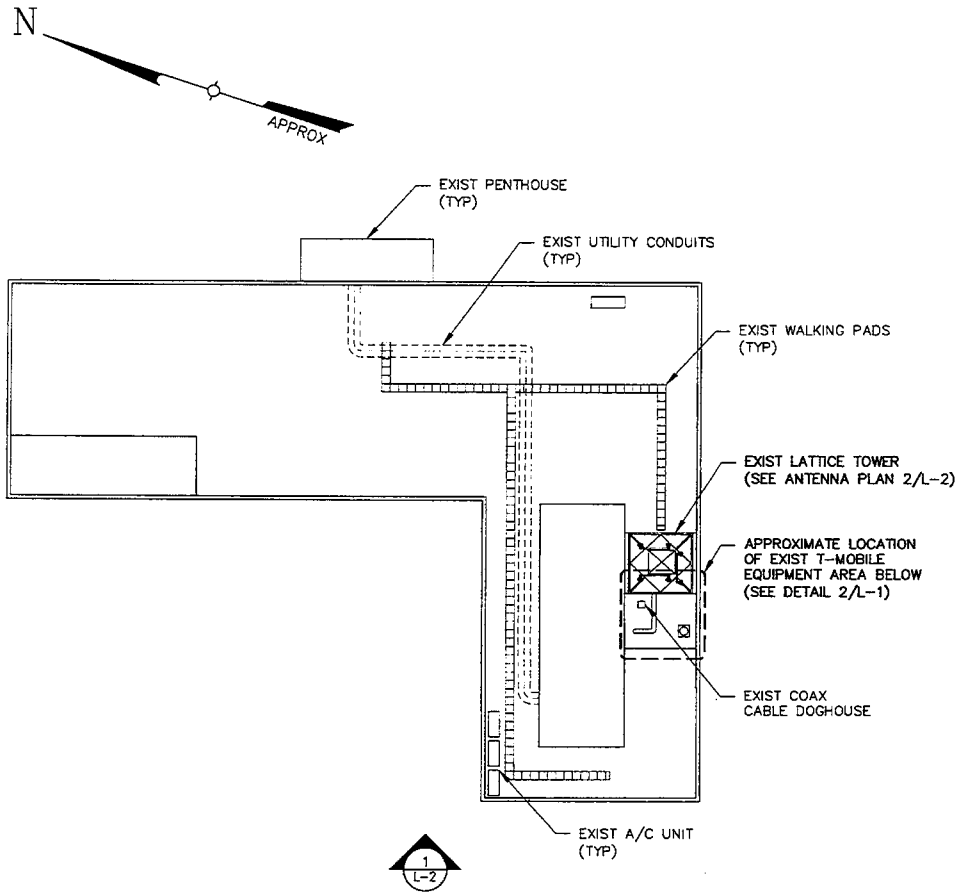
For the foregoing reasons, T-Mobile respectfully submits that the proposed replacement antennas and equipment at the Stamford Facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Julie D. Kohler, Esq.

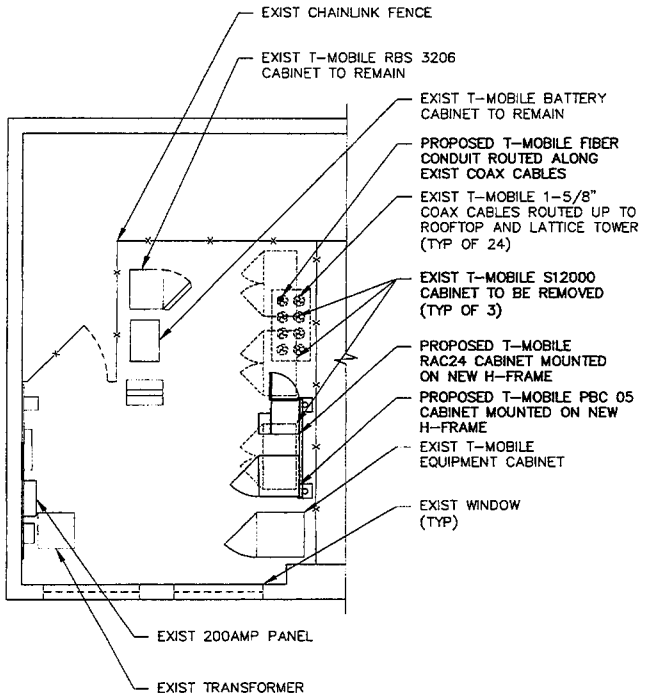
cc: Mayor Michael Pavia, Mayor of Stamford
Southern New England Telephone Company, property owner
Jamie Ford, HPC Wireless

EXHIBIT A



1/L-1 ROOF PLAN

SCALE: 1/32" = 1'-0"



2/L-1 EQUIPMENT PLAN

SCALE: 3/16" = 1'-0"

STRUCTURAL NOTE:
EXIST MOUNTS, PLATFORMS, BUILDING AND TOWER STRUCTURE TO BE VERIFIED FOR STRUCTURAL SUITABILITY OF PROPOSED INSTALLATION BY A STATE LICENSED P.E.

CONFIGURATION
2C

0 1 2 3
ORIGINAL SIZE IN INCHES

TECTONIC
• PLANNING • SURVEYING
• ENGINEERING • CONSTRUCTION MANAGEMENT
TECTONIC Engineering & Surveying Consultants P.C.
1279 Route 300
Newburgh, NY 12550
Phone: (845) 567-6656
Fax: (845) 567-8703

T-Mobile NORTHEAST LLC.

T-MOBILE NORTHEAST, LLC.
4 SYLVAN DRIVE
PARSIPPANY, NJ 07054
PHONE: (973) 656-6500

APPROVALS

T-MOBILE	
LANDLORD	
RF	
CONSTRUCTION	

PROJECT NUMBER	DESIGNED BY
6203.CT11410A	GL

REV	DATE	REVISION	DRAWN BY
6	04/26/12	FOR COMMENT	MJR
5	4/27/12	PER COMMENT	SP

ISSUED BY | DATE

SITE INFORMATION

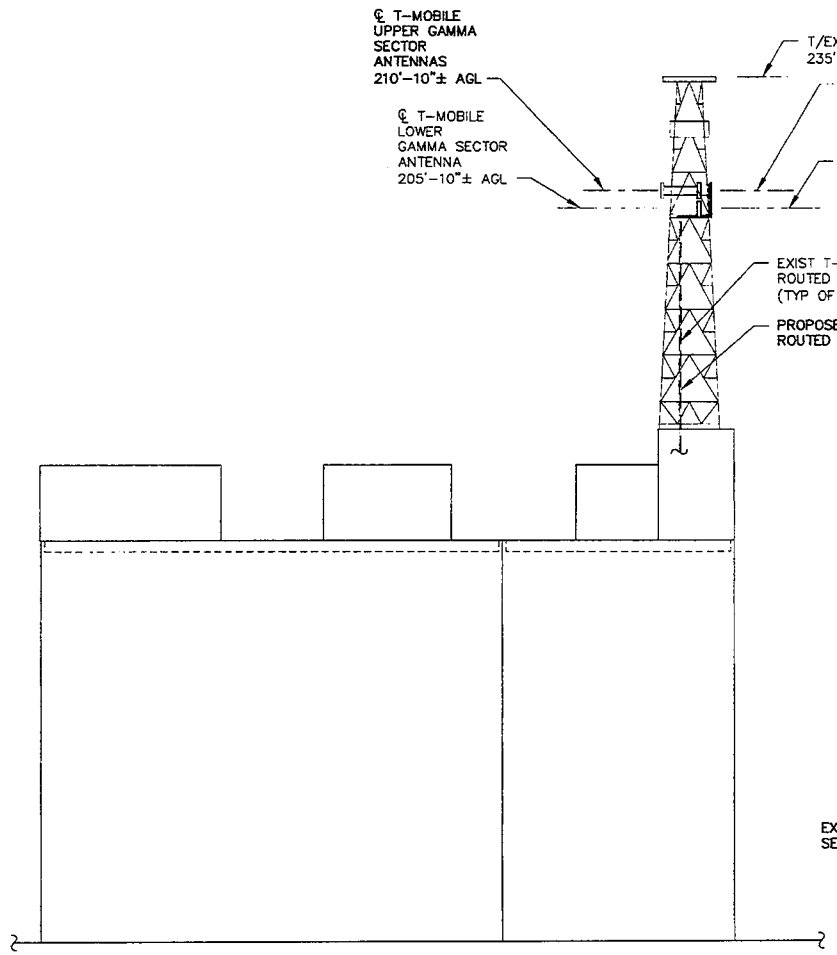
CT11410A
MAIN STREET
555 EAST MAIN STREET
STAMFORD, CT 06901

SHEET TITLE

ROOF PLAN AND EQUIOMENT PLAN

SHEET NUMBER

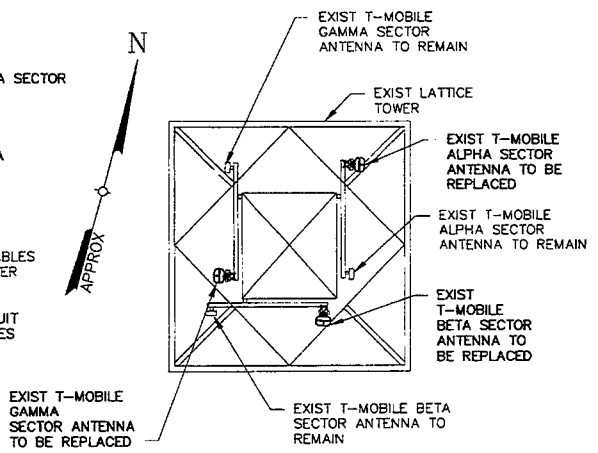
L-1



1 / L-2 ELEVATION

SCALE: 1/32" = 1'-0"

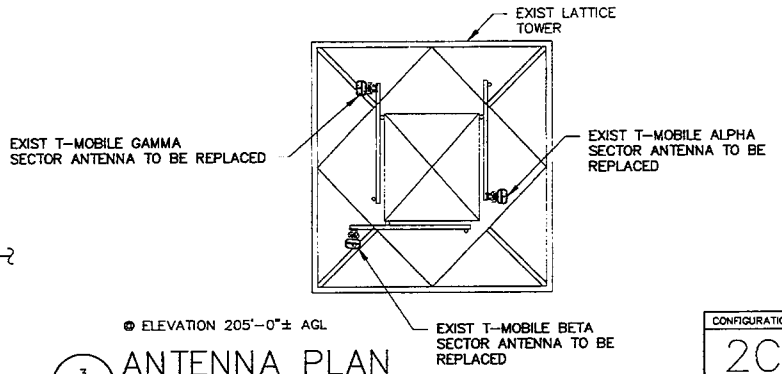
STRUCTURAL NOTE:
EXIST MOUNTS, PLATFORMS, BUILDING AND TOWER STRUCTURE TO BE VERIFIED FOR STRUCTURAL SUITABILITY OF PROPOSED INSTALLATION BY A STATE LICENSED P.E.



℄ ELEVATION 210'-0"± AGL

2 / L-2 ANTENNA PLAN

SCALE: 1/8" = 1'-0"



℄ ELEVATION 205'-0"± AGL

3 / L-2 ANTENNA PLAN

SCALE: 1/8" = 1'-0"

CONFIGURATION 2C

0 1 2 3

ORIGINAL SIZE IN INCHES

TECTONIC
• PLANNING • SURVEYING
• ENGINEERING • CONSTRUCTION MANAGEMENT
TECTONIC Engineering & Surveying Consultants P.C.
1279 Route 300
Newburgh, NY 12550
Phone: (845) 567-6656
Fax: (845) 567-8703

T-Mobile NORTHEAST LLC.

T-MOBILE NORTHEAST, LLC. PHONE: (973) 886-6500
4 SYLVAN DRIVE
PARSIPPANY, NJ 07054

APPROVALS

T-MOBILE
LANDLORD
RF
CONSTRUCTION

PROJECT NUMBER	DESIGNED BY
6203.CT11410A	GL

REV	DATE	REVISION	DRAWN BY
2	04/25/12	FOR COMMENT	MJR
1	4/27/12	PER COMMENT	SP

ISSUED BY DATE

SITE INFORMATION

CT11410A
MAIN STREET
555 EAST MAIN STREET
STAMFORD, CT 06901

SHEET TITLE

ELEVATION

SHEET NUMBER

L-2

EXHIBIT B

HPC Development
46 Mill Plain Road
Danbury, CT 06811
(203) 797-1112

GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.
Kevin Clements
1117 Perimeter Center West, Suite W303
Atlanta, GA 30338
(678) 781-5061
kclements@gpdgroup.com

GPD #: 2012814.17 Rev. 1
February 28, 2013

STRUCTURAL ANALYSIS REPORT

AT&T DESIGNATION:	**Site USID:**	**SNET026**
	Site FA:	**10137413**
	Site Name:	**STAMFORD CO**
	AT&T Project:	**T-Mobile (modrn) Rooftop 06-18-12**
ANALYSIS CRITERIA:	**Codes:**	**TIA/EIA-222-F, 2003 IBC, & ASCE 7-05** **85 mph with 0" ice** **37 mph with 3/4" ice**
SITE DATA:		**555 East Main Street, Stamford, CT 06902, Fairfield County** **Latitude 41° 3' 11.999" N, Longitude 73° 32' 9.999" W** **Market: NEW ENGLAND** **125' Modified Self Support Tower**

Mr. Thomas Wilson,

GPD is pleased to submit this Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

Analysis Results

Tower Stress Level with Proposed Equipment:	93.8%	Pass

We at GPD appreciate the opportunity of providing our continuing professional services to you and HPC Development. If you have any questions or need further assistance on this or any other projects please do not hesitate to call.

Respectfully submitted,

John N. Kabak, P.E.
Connecticut #: PEN.0028336

SUMMARY & RESULTS

The purpose of this analysis was to verify whether the existing structure is capable of carrying the proposed loading configuration as specified by T-Mobile to AT&T Towers. This report was commissioned by Mr. Thomas Wilson of AT&T Towers.

No foundation or geotechnical information was available or provided for this report. Therefore, the in place capacity of the foundation could not be verified. A more thorough and accurate assessment of foundation capacity will require a site specific geotechnical report and foundation information.

Insufficient information regarding the frame that connects the tower to the building was available or provided for this report. Therefore, the in place capacity of the frame could not be verified. A more thorough and accurate assessment of the mounting frame capacity will require a tower mapping.

Modifications designed by MEI Project #: CT02786-11V0, dated 7/28/11 were found to be ineffective and were not considered in this analysis.

The proposed coax shall be placed next to the existing coax on tower face C in order for the results of this analysis to be valid. See Appendix C for more details.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Legs	76.2%	Pass
Leg Bolts	56.3%	Pass
Diagonals	93.8%	Pass
Horizontals	58.6%	Pass
Redundants	84.1%	Pass
Member Bolts	51.6%	Pass
Base Frame	Not Verified	N/A

ANALYSIS METHOD

tnxTower (Version 6.0.4.0), a commercially available software program, was used to create a three-dimensional model of the tower and calculate primary member stresses for various dead, live, wind, and ice load cases. Selected output from the analysis is included in Appendix B. The following table details the information provided to complete this structural analysis. This analysis is solely based on this information and is being completed without the benefit of a GPD detailed site visit.

DOCUMENTS PROVIDED

Document	Remarks	Source
Site Lease Application	T-Mobile Application, dated 7/19/12	Siterra
Tower Design	Not Provided	N/A
Foundation Design	Not Provided	N/A
Geotechnical Report	Not Provided	N/A
Previous Structural Analysis	MEI Project #: CT02786-11V0, dated 7/28/11	Siterra
Modification Drawings	MEI Project #: CT02786-11V0, dated 7/28/11	Siterra

ASSUMPTIONS

This structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The tower member sizes and shapes are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated in the materials section.
2. The antenna configuration is as supplied and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements.
3. Some assumptions are made regarding antennas and mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
4. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5. The soil parameters are as per data supplied or as assumed and stated in the calculations. If no data is available, the foundation system is not verified. In the case of absent foundation data, it is the tower owner's responsibility to insure that the foundation system is adequate to support the structure with its new reactions.
6. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
7. All welds and connections are assumed to develop at least the member capacity unless determined otherwise and explicitly stated in this report.
8. Modifications designed by MEI Project #: CT02786-11V0, dated 7/28/11 were found to be ineffective and were not considered in this analysis.
9. Loading interpreted from photos is accurate to $\pm 5'$ AGL, antenna size accurate to ± 3.3 sf, and coax equal to the number of existing antennas without reserve.
10. All existing loading was obtained from the previous structural analysis by MEI Project #: CT02786-11V0, dated 7/28/11, site photos, the provided Site Lease Application, and is assumed to be accurate.
11. Tower Leg A is assumed to be at an azimuth of 315° based on satellite imagery.
12. The proposed coax shall be placed next to the existing coax on tower face C in order for the results of this analysis to be valid.
13. The existing T-Mobile loading elevations found in site photos and the Site Lease Application were found to vary from the elevations listed within the previous structural analysis by MEI Project #: CT02786-11V0, dated 7/28/11. The existing and proposed elevations have been modeled based on elevations listed within site photos and the Site Lease Application.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD Group should be allowed to review any new information to determine its effect on the structural integrity of the tower.

DISCLAIMER OF WARRANTIES

GPD GROUP has not performed a site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD GROUP in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

GPD GROUP does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD GROUP provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation in excess of the specified code recommended amount, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD GROUP, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

GPD GROUP makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD GROUP will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD GROUP pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

Tower Analysis Summary Form

Tower Analysis Summary Form

General Info

Site Name	STAMFORD CO
Site Number	SNET026
FA Number	10137413
Date of Analysis	2/28/2013
Company Performing Analysis	GPD

The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Tower Info	Description	Date
Tower Type (G, SST, MP)	SST	
Tower Height (top of steel AGL)	231.5'	
Tower Manufacturer	N/A	
Tower Model	N/A	
Tower Design	N/A	
Foundation Design	N/A	
Geotech Report	N/A	
Tower Mapping	MEI Project #: CT02786-11V0	6/1/2011
Previous Structural Analysis	MEI Project #: CT02786-11V0	7/28/2011
Modification Design	MEI Project #: CT02786-11V0	7/28/2011

Design Parameters

Design Code Used	TIA/EIA-222-F 2003 IBC & ASCE 7-05
Location of Tower (County, State)	Fairfield, CT
Basic Wind Speed (mph)	85 fastest-mile
Ice Thickness (in)	0.75
Structure Classification (I, II, III)	
Exposure Category (B, C, D)	
Topographic Category (1 to 5)	

Analysis Results (% Maximum Usage)

Existing/Reserved + Future + Proposed Condition	
Tower (%)	93.8%
Tower Base (%)	N/A
Foundation (%)	N/A
Foundation Adequate?	Not Verified

Modifications designed by MEI Project #: CT02786-11V0, dated 7/28/11 were found to be ineffective and were not considered in this analysis.

Steel Yield Strength (ksi)

Legs	36
Bracing Members	36
Member Bolts	A325

Note: Yield strengths assumed based on previous structural analysis.

Existing / Reserved Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face
Unknown	234	250	1	Lightning Rod	Unknown	6' Lightning Rod		1	Unknown	13' T Beam Mount	1	Conduit	1-1/4"	Face C
Unknown	234	247	2	Beacon	Unknown	Small Beacons				on the same mount				
AT&T Mobility	234	234	3	Panel	KMW	AM-X-CD-14-65-00T-RET	60/160/300	1	Unknown	Platform	12	Unknown	1-5/8"	Leg AB
AT&T Mobility	234	234	6	Panel	Powerwave	P65-15-XLH-RR	0/110/280			on the same mount	6	DC Power	5/8"	Inside Conduit
AT&T Mobility	234	234	6	TMA	Powerwave	LGP21401				on the same mount	3	Fiber	3/8"	Inside Conduit
AT&T Mobility	234	234	6	RRU	Ericsson	RRUS 11				on the same mount	1	Conduit	2"	Leg AB
AT&T Mobility	234	234	1	DC Box	Raycap	DC6-48-60-18-8F				on the same mount	1	Unknown	.3"	Leg AB
Unknown	229	229	1	Yagi	Unknown	1.5' Yagi		1	Unknown	Mount Pipe	1	Unknown	1/2"	Leg AB
Unknown	223.5	223.5	1	Dish	Unknown	10' Dish		1	Unknown	Mount Pipe	2	Elliptical	EW90	Leg AB
Unknown	221.5										2	Unknown	3/8"	Leg AB
Unknown	221	221	1	Dish	Unknown	1' Dish		1	Unknwon	Mount Pipe	1	Unknown	3/8"	Leg AB
Unknown	216.5							1	Unknown	Platform				
T-Mobile	210	210	6	Panel	RFS	APX16PV-16PVL	100/220/330	3	Unknown	10' T-Frames	12	Unknown	1-5/8"	Face C
T-Mobile	210	210	6	TMA	Unknown	13" x 6.5" x 3.5" TMA				on the same mounts	12	Unknown	1-5/8"	Leg CD
T-Mobile	205	205	3	Panel	RFS	APX16DWV-16DWVS	100/220/330	3	Unknown	10' T-Frames	6	Unknown	1-5/8"	Face C
T-Mobile	205	205	3	TMA	Unknown	10" x 9.5" x 3.5" TMA				on the same mounts				
Unknown	132	132	1	Yagi	Unknown	4' Yagi		1	Unknown	2' Sidearm	1	Unknown	1/2"	Leg AB

Note: (3) of the existing Antennas, all of the TMAs, the (12) coax on tower Leg CD and (6) of the coax on tower face C at 210' and the existing Antennas and TMAs at 205' shall be removed prior to the installation of the proposed configuration and have not been considered in this analysis. All other existing/reserved equipment shall be reused.

Proposed Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face
T-Mobile	210	210	3	Panel	Ericsson	AIR21 B4A/B2P	100/220/330			on the existing mounts	1	Hybrid	40 mm	Face C
T-Mobile	205	205	3	Panel	Ericsson	AIR21 B4A/B2P	100/220/330			on the existing mounts				
T-Mobile	205	205	3	TMA	RFS	ATMAA1412D-1A20				on the existing mounts				

Note: The proposed equipment shall be intalled in addition to the remaining existing/reserved loading at the same elevation. The proposed coax shall be placed next to the existing coax on tower face C in order for the results of this analysis to be valid.

Future Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face

APPENDIX B

tnxTower Output File

tnxTower	Job: SNET026 STAMFORD CO	Page: 1 of 9
GPD Group 520 South Main Street, Ste 2531 Akron, OH Phone: (330) 572-2100 FAX: (330) 572-2101	Project: 2012814.17 Rev. 1	Date: 14:32:08 02/28/13
	Client: HPC Development	Designed by: tclark

Tower Input Data

The main tower is a 4x free standing tower with an overall height of 231.50 ft above the ground line.
The base of the tower is set at an elevation of 106.50 ft above the ground line.
The face width of the tower is 5.60 ft at the top and 13.58 ft at the base.
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 mph.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 37 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 50 mph.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.333.
Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Feedline Ladder (Af)	A	No	Af (CfAe)	210.00 - 106.50	0.0000	-0.3	1	1	3.0000	3.0000	12.0000	8.40
LDF7-50A (1-5/8 FOAM)	A	Yes	Ar (CfAe)	205.00 - 106.50	0.0000	-0.3	12	8	0.7500	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	A	Yes	Ar (CfAe)	210.00 - 205.00	0.0000	-0.3	6	6	0.7500	1.9800		0.82
40 mm Hybrid Cable	A	Yes	Ar (CfAe)	210.00 - 106.50	3.0000	-0.255	1	1	1.5500	0.0000		0.66
Feedline Ladder (Af)	B	No	Af (Leg)	231.50 - 106.50	0.0000	0.15	1	1	3.0000	3.0000	12.0000	8.40
LDF7-50A (1-5/8 FOAM)	B	No	Ar (Leg)	231.50 - 106.50	0.0000	0.15	12	1	0.7500	1.9800		0.82
2" Flex Conduit	B	No	Ar (Leg)	231.50 - 106.50	0.0000	0.1	1	1	2.0000	2.0000		0.32
5/8" DC cable	B	No	Ar (Leg)	231.50 - 106.50	0.0000	0.1	6	2	0.6250	0.0000		0.30
3/8" Fiber Cable	B	No	Ar (Leg)	231.50 - 106.50	0.0000	0.1	3	2	0.3750	0.0000		0.10
LDF4-50A (1/2 FOAM)	B	No	Ar (Leg)	132.00 - 106.50	0.0000	0.1	2	2	0.6300	0.0000		0.15
LDF4-50A (1/2 FOAM)	B	No	Ar (Leg)	229.00 - 132.00	0.0000	0.1	1	1	0.6300	0.0000		0.15
EW90	B	No	Af (Leg)	223.50 - 106.50	0.0000	0.1	2	1	0.9869	0.9869	3.2550	0.32
LDF2-50A (3/8 FOAM)	B	No	Ar (Leg)	221.00 - 106.50	0.0000	0.1	3	2	0.4400	0.0000		0.08
LDF2-50A (3/8 FOAM)	B	No	Ar (Leg)	221.50 - 221.00	0.0000	0.1	2	2	0.4400	0.0000		0.08
.3" coax	B	No	Ar (Leg)	231.50 - 106.50	0.0000	0.1	1	1	0.4400	0.0000		0.08

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
Top Platform	C	None		0.0000	234.00	No Ice	42.50	12.60	1700.00
						1/2" Ice	53.13	15.75	2125.00
						1" Ice	63.75	18.90	2550.00
						2" Ice	85.00	25.20	3400.00
						4" Ice	127.50	37.80	5100.00
AM-X-CD-14-65-00T-RET w/ 8' Mount Pipe	B	From	4.00	-60.0000	234.00	No Ice	6.91	5.63	91.44

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
		Centroid-Face	-10.50			1/2" Ice	7.60	6.54	153.88
			0.00			1" Ice	8.25	7.36	220.61
						2" Ice	9.58	9.12	382.75
						4" Ice	12.39	12.85	825.53
AM-X-CD-14-65-00T-RET w/ 8' Mount Pipe	B	From	4.00	60.0000	234.00	No Ice	6.91	5.63	91.44
		Centroid-Face	10.50			1/2" Ice	7.60	6.54	153.88
			0.00			1" Ice	8.25	7.36	220.61
						2" Ice	9.58	9.12	382.75
						4" Ice	12.39	12.85	825.53
AM-X-CD-14-65-00T-RET w/ 8' Mount Pipe	D	From	5.00	0.0000	234.00	No Ice	6.91	5.63	91.44
		Centroid-Face	11.50			1/2" Ice	7.60	6.54	153.88
			0.00			1" Ice	8.25	7.36	220.61
						2" Ice	9.58	9.12	382.75
						4" Ice	12.39	12.85	825.53
P65-15-XLH-RR w/ Mount Pipe	B	From	4.00	0.0000	234.00	No Ice	5.97	4.05	56.82
		Centroid-Face	-4.00			1/2" Ice	6.39	4.64	100.95
			0.00			1" Ice	6.81	5.25	153.59
						2" Ice	7.69	6.60	279.06
						4" Ice	9.56	9.67	635.70
P65-15-XLH-RR w/ Mount Pipe	B	From	4.00	0.0000	234.00	No Ice	5.97	4.05	56.82
		Centroid-Face	-8.00			1/2" Ice	6.39	4.64	100.95
			0.00			1" Ice	6.81	5.25	153.59
						2" Ice	7.69	6.60	279.06
						4" Ice	9.56	9.67	635.70
P65-15-XLH-RR w/ Mount Pipe	C	From	10.50	20.0000	234.00	No Ice	5.97	4.05	56.82
		Centroid-Face	4.00			1/2" Ice	6.39	4.64	100.95
			0.00			1" Ice	6.81	5.25	153.59
						2" Ice	7.69	6.60	279.06
						4" Ice	9.56	9.67	635.70
P65-15-XLH-RR w/ Mount Pipe	C	From	10.50	20.0000	234.00	No Ice	5.97	4.05	56.82
		Centroid-Face	2.00			1/2" Ice	6.39	4.64	100.95
			0.00			1" Ice	6.81	5.25	153.59
						2" Ice	7.69	6.60	279.06
						4" Ice	9.56	9.67	635.70
P65-15-XLH-RR w/ Mount Pipe	A	From	10.50	10.0000	234.00	No Ice	5.97	4.05	56.82
		Centroid-Face	0.00			1/2" Ice	6.39	4.64	100.95
			0.00			1" Ice	6.81	5.25	153.59
						2" Ice	7.69	6.60	279.06
						4" Ice	9.56	9.67	635.70
P65-15-XLH-RR w/ Mount Pipe	A	From	11.50	10.0000	234.00	No Ice	5.97	4.05	56.82
		Centroid-Face	-5.00			1/2" Ice	6.39	4.64	100.95
			0.00			1" Ice	6.81	5.25	153.59
						2" Ice	7.69	6.60	279.06
						4" Ice	9.56	9.67	635.70
(2) RRUS 11	B	From	4.00	-60.0000	234.00	No Ice	2.94	1.25	55.00
		Centroid-Face	-10.50			1/2" Ice	3.17	1.41	74.32
			0.00			1" Ice	3.41	1.59	96.56
						2" Ice	3.91	1.96	150.56
						4" Ice	5.02	2.82	302.12
(2) RRUS 11	B	From	4.00	60.0000	234.00	No Ice	2.94	1.25	55.00
		Centroid-Face	10.50			1/2" Ice	3.17	1.41	74.32
			0.00			1" Ice	3.41	1.59	96.56
						2" Ice	3.91	1.96	150.56
						4" Ice	5.02	2.82	302.12
(2) RRUS 11	D	From	5.00	0.0000	234.00	No Ice	2.94	1.25	55.00
		Centroid-Face	11.50			1/2" Ice	3.17	1.41	74.32
			0.00			1" Ice	3.41	1.59	96.56

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
						2" Ice	3.91	1.96	150.56
						4" Ice	5.02	2.82	302.12
DC6-48-60-18-8F Surge Suppression Unit	B	From Centroid-Face	4.00 -10.00 0.00	0.0000	234.00	No Ice	1.47	1.47	32.80
						1/2" Ice	1.67	1.67	50.52
						1" Ice	1.88	1.88	70.72
						2" Ice	2.33	2.33	119.24
						4" Ice	3.38	3.38	252.92
LGP21401	B	From Centroid-Face	4.00 -4.00 0.00	0.0000	234.00	No Ice	1.29	0.23	14.10
						1/2" Ice	1.45	0.31	21.26
						1" Ice	1.61	0.40	30.32
						2" Ice	1.97	0.61	54.89
						4" Ice	2.79	1.12	135.29
LGP21401	B	From Centroid-Face	4.00 -8.00 0.00	0.0000	234.00	No Ice	1.29	0.23	14.10
						1/2" Ice	1.45	0.31	21.26
						1" Ice	1.61	0.40	30.32
						2" Ice	1.97	0.61	54.89
						4" Ice	2.79	1.12	135.29
LGP21401	C	From Centroid-Face	10.50 4.00 0.00	20.0000	234.00	No Ice	1.29	0.23	14.10
						1/2" Ice	1.45	0.31	21.26
						1" Ice	1.61	0.40	30.32
						2" Ice	1.97	0.61	54.89
						4" Ice	2.79	1.12	135.29
LGP21401	C	From Centroid-Face	10.50 2.00 0.00	20.0000	234.00	No Ice	1.29	0.23	14.10
						1/2" Ice	1.45	0.31	21.26
						1" Ice	1.61	0.40	30.32
						2" Ice	1.97	0.61	54.89
						4" Ice	2.79	1.12	135.29
LGP21401	A	From Centroid-Face	10.50 0.00 0.00	10.0000	234.00	No Ice	1.29	0.23	14.10
						1/2" Ice	1.45	0.31	21.26
						1" Ice	1.61	0.40	30.32
						2" Ice	1.97	0.61	54.89
						4" Ice	2.79	1.12	135.29
LGP21401	A	From Centroid-Face	11.50 -5.00 0.00	10.0000	234.00	No Ice	1.29	0.23	14.10
						1/2" Ice	1.45	0.31	21.26
						1" Ice	1.61	0.40	30.32
						2" Ice	1.97	0.61	54.89
						4" Ice	2.79	1.12	135.29
13' T Beam	D	From Leg	0.00 0.00 6.50	0.0000	234.00	No Ice	11.11	11.11	372.00
						1/2" Ice	11.84	11.84	440.74
						1" Ice	12.58	12.58	518.48
						2" Ice	14.08	14.08	701.78
						4" Ice	17.18	17.18	1185.04
(2) Beacon Light	D	From Leg	0.00 0.00 13.00	0.0000	234.00	No Ice	0.28	0.28	10.00
						1/2" Ice	0.36	0.36	13.82
						1" Ice	0.46	0.46	18.82
						2" Ice	0.69	0.69	32.93
						4" Ice	1.27	1.27	81.93
6' Lightning Rod	D	From Leg	0.00 0.00 16.00	0.0000	234.00	No Ice	0.45	0.45	10.00
						1/2" Ice	1.06	1.06	14.66
						1" Ice	1.70	1.70	23.21
						2" Ice	2.51	2.51	52.61
						4" Ice	4.12	4.12	164.87
Pipe Mount 6'x2.375"	A	From Centroid-Leg	10.50 4.00 -2.50	0.0000	234.00	No Ice	1.43	1.43	26.10
						1/2" Ice	1.92	1.92	36.93
						1" Ice	2.29	2.29	51.81
						2" Ice	3.06	3.06	94.38
						4" Ice	4.70	4.70	234.94

tnxTower	Job	Page
	SNET026 STAMFORD CO	4 of 9
GPD Group 520 South Main Street, Ste 2531 Akron, OH Phone: (330) 572-2100 FAX: (330) 572-2101	Project 2012814.17 Rev. 1	Date 14:32:08 02/28/13
	Client HPC Development	Designed by tclark

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
1.5' Yagi	A	From Centroid-Leg	10.50 4.00 -5.00	0.0000	234.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.30 0.43 0.58 0.93 1.78	0.30 0.43 0.58 0.93 1.78	5.00 8.28 13.14 28.21 84.01
Pipe Mount 10.5'x4.5"	D	From Leg	2.00 0.00 0.00	0.0000	223.50	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	4.72 5.62 6.25 7.55 10.27	4.72 5.62 6.25 7.55 10.27	117.80 150.64 190.51 291.92 585.77
Pipe Mount 6'x2.375"	C	From Leg	4.00 0.00 0.00	0.0000	221.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.43 1.92 2.29 3.06 4.70	1.43 1.92 2.29 3.06 4.70	26.10 36.93 51.81 94.38 234.94
Platform	C	None		0.0000	216.50	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	25.20 31.50 37.80 50.40 75.60	9.45 11.81 14.18 18.90 28.35	1050.00 1312.50 1575.00 2100.00 3150.00
MTS 10' Boom Gate	B	From Leg	0.86 1.23 0.00	55.0000	210.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	15.43 20.15 24.87 34.31 53.19	10.89 15.23 19.57 28.25 45.61	434.00 614.25 794.50 1154.99 1875.98
MTS 10' Boom Gate	D	From Leg	1.49 -0.13 0.00	-5.0000	210.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	15.43 20.15 24.87 34.31 53.19	10.89 15.23 19.57 28.25 45.61	434.00 614.25 794.50 1154.99 1875.98
MTS 10' Boom Gate	A	From Leg	1.45 0.39 0.00	15.0000	210.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	15.43 20.15 24.87 34.31 53.19	10.89 15.23 19.57 28.25 45.61	434.00 614.25 794.50 1154.99 1875.98
MTS 10' Boom Gate	B	From Leg	0.86 1.23 0.00	55.0000	205.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	15.43 20.15 24.87 34.31 53.19	10.89 15.23 19.57 28.25 45.61	434.00 614.25 794.50 1154.99 1875.98
MTS 10' Boom Gate	D	From Leg	1.49 -0.13 0.00	-5.0000	205.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	15.43 20.15 24.87 34.31 53.19	10.89 15.23 19.57 28.25 45.61	434.00 614.25 794.50 1154.99 1875.98
MTS 10' Boom Gate	A	From Leg	1.45 0.39 0.00	15.0000	205.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	15.43 20.15 24.87 34.31 53.19	10.89 15.23 19.57 28.25 45.61	434.00 614.25 794.50 1154.99 1875.98
APX16PV-16PVL w/ Mount Pipe	B	From Leg	1.72 2.46 0.00	55.0000	210.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.79 7.23 7.68 8.60 10.54	3.05 3.65 4.27 5.55 8.43	62.15 103.99 154.52 276.05 626.53
APX16PV-16PVL w/ Mount Pipe	D	From Leg	2.99 -0.26	-5.0000	210.00	No Ice 1/2" Ice	6.79 7.23	3.05 3.65	62.15 103.99

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00			1" Ice	7.68	4.27	154.52
						2" Ice	8.60	5.55	276.05
						4" Ice	10.54	8.43	626.53
APX16PV-16PVL w/ Mount Pipe	A	From Leg	2.90	15.0000	210.00	No Ice	6.79	3.05	62.15
			0.78			1/2" Ice	7.23	3.65	103.99
			0.00			1" Ice	7.68	4.27	154.52
						2" Ice	8.60	5.55	276.05
						4" Ice	10.54	8.43	626.53
AIR 21 B4AB2P w/ Mount Pipe	B	From Leg	1.72	55.0000	210.00	No Ice	6.61	5.50	109.25
			2.46			1/2" Ice	7.08	6.22	162.18
			0.00			1" Ice	7.55	6.95	224.58
						2" Ice	8.53	8.48	371.47
						4" Ice	10.60	11.81	780.90
AIR 21 B4AB2P w/ Mount Pipe	D	From Leg	2.99	-5.0000	210.00	No Ice	6.61	5.50	109.25
			-0.26			1/2" Ice	7.08	6.22	162.18
			0.00			1" Ice	7.55	6.95	224.58
						2" Ice	8.53	8.48	371.47
						4" Ice	10.60	11.81	780.90
AIR 21 B4AB2P w/ Mount Pipe	A	From Leg	2.90	15.0000	210.00	No Ice	6.61	5.50	109.25
			0.78			1/2" Ice	7.08	6.22	162.18
			0.00			1" Ice	7.55	6.95	224.58
						2" Ice	8.53	8.48	371.47
						4" Ice	10.60	11.81	780.90
AIR 21 B4AB2P w/ Mount Pipe	B	From Leg	1.72	55.0000	205.00	No Ice	6.61	5.50	109.25
			2.46			1/2" Ice	7.08	6.22	162.18
			0.00			1" Ice	7.55	6.95	224.58
						2" Ice	8.53	8.48	371.47
						4" Ice	10.60	11.81	780.90
AIR 21 B4AB2P w/ Mount Pipe	D	From Leg	2.99	-5.0000	205.00	No Ice	6.61	5.50	109.25
			-0.26			1/2" Ice	7.08	6.22	162.18
			0.00			1" Ice	7.55	6.95	224.58
						2" Ice	8.53	8.48	371.47
						4" Ice	10.60	11.81	780.90
AIR 21 B4AB2P w/ Mount Pipe	A	From Leg	2.90	15.0000	205.00	No Ice	6.61	5.50	109.25
			0.78			1/2" Ice	7.08	6.22	162.18
			0.00			1" Ice	7.55	6.95	224.58
						2" Ice	8.53	8.48	371.47
						4" Ice	10.60	11.81	780.90
ATMAA1412D-1A20	B	From Leg	1.72	55.0000	205.00	No Ice	1.17	0.47	13.00
			2.46			1/2" Ice	1.31	0.57	20.62
			0.00			1" Ice	1.47	0.69	30.11
						2" Ice	1.81	0.95	55.52
						4" Ice	2.58	1.57	137.44
ATMAA1412D-1A20	D	From Leg	2.99	-5.0000	205.00	No Ice	1.17	0.47	13.00
			-0.26			1/2" Ice	1.31	0.57	20.62
			0.00			1" Ice	1.47	0.69	30.11
						2" Ice	1.81	0.95	55.52
						4" Ice	2.58	1.57	137.44
ATMAA1412D-1A20	A	From Leg	2.90	15.0000	205.00	No Ice	1.17	0.47	13.00
			0.78			1/2" Ice	1.31	0.57	20.62
			0.00			1" Ice	1.47	0.69	30.11
						2" Ice	1.81	0.95	55.52
						4" Ice	2.58	1.57	137.44
2' Sidearm - Flat (GPD)	A	From Leg	1.00	0.0000	132.00	No Ice	0.80	1.60	31.31
			0.00			1/2" Ice	1.05	2.00	39.47
			0.00			1" Ice	1.30	2.40	47.63
						2" Ice	1.80	3.20	63.95

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
4' Yagi	A	From Leg	4.00 0.00 0.00	0.0000	132.00	4" Ice No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.80 0.79 1.03 1.28 1.81 3.11	4.80 0.79 1.03 1.28 1.81 3.11	96.59 5.00 11.34 20.48 47.76 142.65

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight lb
10' HP Dish	D	Paraboloid w/Shroud (HP)	From Leg	4.00 0.00 0.00	0.0000		223.50	10.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	78.54 79.85 81.17 83.80 89.06	320.00 730.00 1140.00 1960.00 3590.00
1' MW	C	Paraboloid w/Shroud (HP)	From Leg	4.00 0.00 0.00	0.0000		221.00	1.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.79 0.92 1.06 1.33 1.88	30.00 30.00 40.00 50.00 70.00

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
234.00	Top Platform	20	2.032	0.1296	0.0364	154780
223.50	10' HP Dish	20	1.819	0.1269	0.0355	133644
221.00	1' MW	20	1.754	0.1251	0.0348	172199
216.50	Platform	20	1.635	0.1222	0.0323	174115
210.00	MTS 10' Boom Gate	20	1.465	0.1182	0.0282	88494
205.00	MTS 10' Boom Gate	20	1.337	0.1140	0.0256	71142
132.00	2' Sidearm - Flat (GPD)	20	0.103	0.0286	0.0059	40642

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load lb	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	231.5	Diagonal	A325N	0.7500	2	977.63	13956.30	0.070 ✔	1.333	Member Block Shear
		Top Girt	A325N	0.7500	2	229.23	9277.52	0.025 ✔	1.333	Bolt Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load lb	Ratio Load / Allowable	Allowable Ratio	Criteria
T2	227.333	Diagonal	A325N	0.7500	2	1285.97	13956.30	0.092 ✓	1.333	Member Block Shear
		Top Girt	A325N	0.7500	2	125.37	6978.13	0.018 ✓	1.333	Member Block Shear
T3	223.167	Leg	A325N	0.7500	8	3023.42	18555.00	0.163 ✓	1.333	Bolt DS
		Diagonal	A325N	0.7500	2	1970.94	13956.30	0.141 ✓	1.333	Member Block Shear
T4	219	Diagonal	A325N	0.7500	2	1968.49	6978.13	0.282 ✓	1.333	Member Block Shear
		Top Girt	A325N	0.7500	2	322.35	9277.52	0.035 ✓	1.333	Bolt Shear
T5	214.2	Diagonal	A325N	0.7500	2	2554.81	6978.13	0.366 ✓	1.333	Member Block Shear
		Top Girt	A325N	0.7500	2	328.22	6978.13	0.047 ✓	1.333	Member Block Shear
T6	204.6	Leg	A325N	0.7500	12	8209.69	18555.00	0.442 ✓	1.333	Bolt DS
		Diagonal	A325N	0.7500	2	2842.74	6978.13	0.407 ✓	1.333	Member Block Shear
		Top Girt	A325N	0.7500	2	264.83	6978.13	0.038 ✓	1.333	Member Block Shear
T7	195	Diagonal	A325N	0.7500	2	4152.57	7431.25	0.559 ✓	1.333	Member Block Shear
		Secondary Horizontal	A325N	0.7500	2	441.84	6978.13	0.063 ✓	1.333	Member Block Shear
		Top Girt	A325N	0.7500	2	1087.80	6978.13	0.156 ✓	1.333	Member Block Shear
T8	185	Leg	A325N	0.7500	16	9306.44	18555.00	0.502 ✓	1.333	Bolt DS
		Diagonal	A325N	0.7500	2	4217.41	7431.25	0.568 ✓	1.333	Member Block Shear
		Secondary Horizontal	A325N	0.7500	2	567.37	6978.13	0.081 ✓	1.333	Member Block Shear
		Top Girt	A325N	0.7500	2	2100.78	6978.13	0.301 ✓	1.333	Member Block Shear
T9	175	Diagonal	A325N	0.7500	2	4315.30	7431.25	0.581 ✓	1.333	Member Block Shear
		Secondary Horizontal	A325N	0.7500	2	689.48	5233.59	0.132 ✓	1.333	Member Block Shear
		Top Girt	A325N	0.7500	2	2337.76	6978.13	0.335 ✓	1.333	Member Block Shear
T10	165	Leg	A325N	0.7500	20	10688.60	18555.00	0.576 ✓	1.333	Bolt DS
		Diagonal	A325N	0.7500	2	4457.01	7431.25	0.600 ✓	1.333	Member Block Shear
		Secondary Horizontal	A325N	0.7500	2	809.84	6978.13	0.116 ✓	1.333	Member Block Shear
		Top Girt	A325N	0.7500	2	2612.99	6978.13	0.374 ✓	1.333	Member Block Shear
T11	155	Diagonal	A325N	0.7500	2	4294.02	7431.25	0.578 ✓	1.333	Member Block Shear
		Secondary Horizontal	A325N	0.7500	2	940.01	6978.13	0.135 ✓	1.333	Member Block Shear
		Top Girt	A325N	0.7500	2	2495.87	6978.13	0.358 ✓	1.333	Member Block Shear
T12	145	Leg	A325N	0.7500	20	13913.40	18555.00	0.750 ✓	1.333	Bolt DS
		Diagonal	A325N	0.7500	2	4660.38	7431.25	0.627 ✓	1.333	Member Block Shear
		Secondary Horizontal	A325N	0.7500	2	1051.26	6978.13	0.151 ✓	1.333	Member Block Shear
		Top Girt	A325N	0.7500	2	2611.77	6978.13	0.374 ✓	1.333	Member Block Shear
T13	135	Diagonal	A325N	0.7500	2	7736.68	13956.30	0.554 ✓	1.333	Member Block Shear
		Top Girt	A325N	0.7500	2	3750.02	13956.30	0.269 ✓	1.333	Member Block Shear
T14	120.75	Leg	A325N	0.7500	28	11365.80	18555.00	0.613 ✓	1.333	Bolt DS
		Diagonal	A325N	0.7500	2	9601.48	13956.30	0.688 ✓	1.333	Member Block Shear
		Top Girt	A325N	0.7500	2	4204.50	13956.30	0.301 ✓	1.333	Member Block Shear

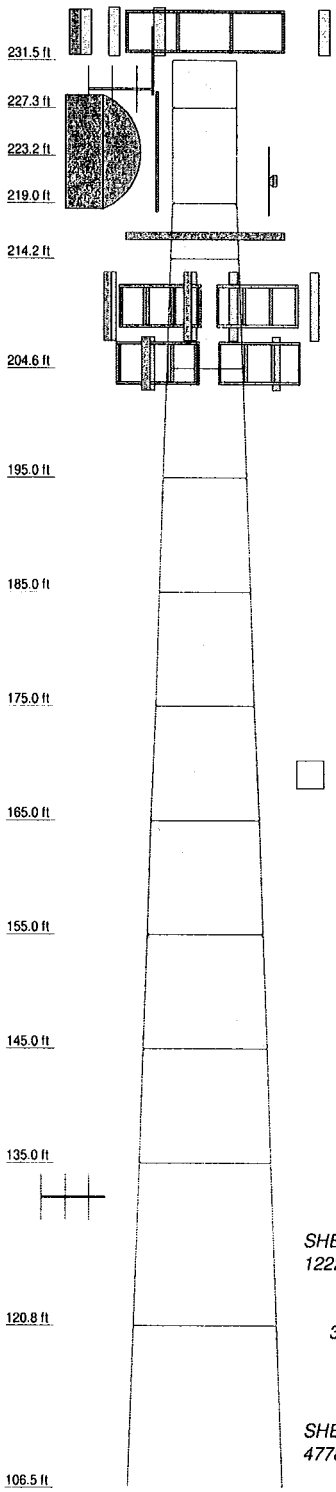
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	$SF*P_{allow}$ lb	% Capacity	Pass Fail
T1	231.5 - 227.333	Leg	L4x4x3/8	4	-4061.02	65166.90	6.2	Pass
T2	227.333 - 223.167	Leg	L4x4x3/8	17	-8371.42	65166.90	12.8	Pass
T3	223.167 - 219	Leg	L4x4x3/8	33	-12093.70	65166.90	18.6	Pass
T4	219 - 214.2	Leg	L5x5x1/2	45	-17585.50	111164.33	15.8	Pass
T5	214.2 - 204.6	Leg	L5x5x1/2	63	-32176.40	111165.67	28.9	Pass
T6	204.6 - 195	Leg	L5x5x1/2	87	-49258.10	111165.00	44.3	Pass
T7	195 - 185	Leg	L6x6x5/8	111	-57658.40	171154.53	33.7	Pass
T8	185 - 175	Leg	L6x6x5/8	136	-74451.50	171325.15	43.5	Pass
T9	175 - 165	Leg	L6x6x5/8	161	-90790.50	171469.11	52.9	Pass
T10	165 - 155	Leg	L6x6x5/8	186	-106886.00	171593.08	62.3	Pass
T11	155 - 145	Leg	L6x6x3/4	211	-124276.00	203401.13	61.1	Pass
T12	145 - 135	Leg	L6x6x3/4	236	-139134.00	203418.46	68.4	Pass
T13	135 - 120.75	Leg	L6x6x7/8	261	-150312.00	208794.45	72.0	Pass
T14	120.75 - 106.5	Leg	L6x6x7/8	298	-159121.00	208789.11	76.2	Pass
T1	231.5 - 227.333	Diagonal	2L2 1/2x2x1/4x3/8	15	-2372.16	38732.05	6.1	Pass
T2	227.333 - 223.167	Diagonal	2L2 1/2x2x1/4x3/8	31	-2465.15	38732.05	6.4	Pass
T3	223.167 - 219	Diagonal	2L2 1/2x2x1/4x3/8	44	-4095.49	38732.05	10.6	Pass
T4	219 - 214.2	Diagonal	L2 1/2x2x1/4	60	-4133.10	17013.61	24.3	Pass
T5	214.2 - 204.6	Diagonal	L2 1/2x2x1/4	76	-5225.57	15959.88	32.7	Pass
T6	204.6 - 195	Diagonal	L2 1/2x2x1/4	100	-5648.43	14807.76	38.1	Pass
T7	195 - 185	Diagonal	L3x3x1/4	123	-8962.92	17803.15	50.3	Pass
T8	185 - 175	Diagonal	L3x3x1/4	148	-9070.10	16942.56	53.5	Pass
T9	175 - 165	Diagonal	L3x3x1/4	173	-9286.51	16089.84	57.7	Pass
T10	165 - 155	Diagonal	L3x3x1/4	203	-9598.53	15257.52	62.9	Pass
T11	155 - 145	Diagonal	L3x3x1/4	223	-9119.50	14479.58	63.0	Pass
T12	145 - 135	Diagonal	L3x3x1/4	253	-10047.20	13668.05	73.5	Pass
T13	135 - 120.75	Diagonal	2L2 1/2x2 1/2x1/4x3/8	293	-15804.00	19482.46	81.1	Pass
T14	120.75 - 106.5	Diagonal	2L2 1/2x2 1/2x1/4x3/4	330	-21092.60	22488.51	93.8	Pass
T7	195 - 185	Secondary Horizontal	L2 1/2x2x1/4	132	-883.68	6918.08	12.8	Pass
T8	185 - 175	Secondary Horizontal	L2 1/2x2x1/4	157	-1134.74	5934.57	19.1	Pass
T9	175 - 165	Secondary Horizontal	L2 1/2x2x3/16	182	-1378.97	3984.27	34.6	Pass
T10	165 - 155	Secondary Horizontal	L2 1/2x2 1/2x1/4	207	-1619.68	6593.58	24.6	Pass
T11	155 - 145	Secondary Horizontal	L2 1/2x2x1/4	232	-1880.02	4017.26	46.8	Pass
T12	145 - 135	Secondary Horizontal	L2 1/2x2x1/4	257	-2102.52	3586.72	58.6	Pass
T1	231.5 - 227.333	Top Girt	C8x11.5	6	-278.47	43272.78	0.6	Pass
T2	227.333 - 223.167	Top Girt	L2 1/2x2 1/2x1/4	24	207.32	21124.70	1.0	Pass
T4	219 - 214.2	Top Girt	C7x9.8	50	-490.32	41637.85	1.2	Pass
T5	214.2 - 204.6	Top Girt	L2 1/2x2x1/4	66	-502.36	10501.27	4.8	Pass
T6	204.6 - 195	Top Girt	L2 1/2x2 1/2x1/4	90	-439.35	12279.94	3.6	Pass
T7	195 - 185	Top Girt	L2 1/2x2 1/2x1/4	114	-1806.93	20213.21	8.9	Pass
T8	185 - 175	Top Girt	L2 1/2x2 1/2x1/4	138	-3479.62	19322.23	18.0	Pass
T9	175 - 165	Top Girt	L2 1/2x2 1/2x1/4	166	-3934.02	18407.13	21.4	Pass
T10	165 - 155	Top Girt	L2 1/2x2 1/2x1/4	191	-4433.15	17467.10	25.4	Pass
T11	155 - 145	Top Girt	L2 1/2x2 1/2x1/4	216	-4250.75	16501.47	25.8	Pass
T12	145 - 135	Top Girt	L2 1/2x2 1/2x1/4	241	-4466.43	15107.16	29.6	Pass
T13	135 - 120.75	Top Girt	2L2 1/2x2 1/2x1/4x3/8	266	-7043.55	39825.64	17.7	Pass
T14	120.75 - 106.5	Top Girt	2L2 1/2x2 1/2x1/4x3/4	303	-7827.10	41573.20	18.8	Pass
T13	135 - 120.75	Redund Horz 1 Bracing	L2 1/2x2x3/16	282	-2256.78	13910.65	16.2	Pass
T14	120.75 - 106.5	Redund Horz 1 Bracing	L2 1/2x2x3/16	320	-2388.71	15539.98	15.4	Pass
T13	135 - 120.75	Redund Diag 1 Bracing	L2 1/2x2x3/16	283	-2967.80	3527.66	84.1	Pass
T14	120.75 - 106.5	Redund Diag 1 Bracing	L2 1/2x2x3/16	321	-9783.11	12864.85	76.0	Pass
T14	120.75 - 106.5	Redund Sub Horz Bracing	2L2 1/2x2 1/2x1/4x3/8	322	-7868.03	38538.23	20.4	Pass
T7	195 - 185	Inner Bracing	L2 1/2x2 1/2x3/16	121	-29.73	5721.66	0.5	Pass
T8	185 - 175	Inner Bracing	L2 1/2x2 1/2x3/16	146	-57.41	4755.04	1.2	Pass
T9	175 - 165	Inner Bracing	L2 1/2x2 1/2x3/16	171	-64.30	4014.29	1.6	Pass
T10	165 - 155	Inner Bracing	L2 1/2x2 1/2x3/16	196	-72.03	3434.01	2.1	Pass
T11	155 - 145	Inner Bracing	L2x2 1/2x3/16	221	-68.87	1982.86	3.5	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	$SF*P_{allow}$ lb	% Capacity	Pass Fail
T12	145 - 135	Inner Bracing	L2x2 1/2x3/16	246	-72.16	1737.39	4.2	Pass
T13	135 - 120.75	Inner Bracing	L3x3x3/16	271	-109.91	4003.45	2.7	Pass
T14	120.75 - 106.5	Inner Bracing	L3x3x3/16	308	-122.48	3391.46	3.6	Pass
							Summary	
						Leg (T14)	76.2	Pass
						Diagonal (T14)	93.8	Pass
						Secondary Horizontal (T12)	58.6	Pass
						Top Girt (T12)	29.6	Pass
						Redund Horz 1 Bracing (T13)	16.2	Pass
						Redund Diag 1 Bracing (T13)	84.1	Pass
						Redund Sub Horz Bracing (T14)	20.4	Pass
						Inner Bracing (T12)	4.2	Pass
						Bolt Checks	56.3	Pass
						RATING =	**93.8**	**Pass**

APPENDIX C

Tower Elevation Drawing



Section	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs	L6x6x7/8		L6x6x3/4			A36	L6x6x5/8			L5x5x1/2			L4x4x3/8	
Leg Grade														
Diagonals	2L2 1/2x2 1/2x1/4x3/4	2L2 1/2x2 1/2x1/4x3/8				L3x3x1/4				L2 1/2x2x1/4			2L2 1/2x2x1/4x3/8	
Diagonal Grade						A36								
Top Girts	2L2 1/2x2 1/2x1/4x3/4	2L2 1/2x2 1/2x1/4x3/8				L2 1/2x2 1/2x1/4			L2 1/2x2x1/4		C7x9.8	N.A.	B	A
Sec. Horizontals	N.A.		L2 1/2x2x1/4		L2 1/2x2 1/2x1/4	L2 1/2x2x3/16		L2 1/2x2x1/4	N.A.					
Red. Horizontals	L2 1/2x2x3/16					N.A.								
Red. Diagonals	L2 1/2x2x3/16					N.A.								
Red. Sub-Horizs	2L2 1/2x2 1/2x1/4x3/8		L2x2 1/2x3/16			N.A.								
Inner Bracing	L3x3x3/16					L2 1/2x2 1/2x3/16				N.A.				
Face Width (ft)	13.5833	12.5625	11.5625	10.1406	9.4323	8.72396	8.01569	7.3073	6.625	5.94792	5.60417			
# Panels @ (ft)	2 @ 14.25				6 @ 10				5 @ 4.8		3 @ 4.16667			
Weight (lb)	25743.7	4154.7	3652.3	2299.5	2247.6	2036.5	1934.3	1856.4	1816.1	1276.0	1222.1	783.7	595.5	680.8	866.2

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Top Platform	234	Pipe Mount 6'x2.375"	234
AM-X-CD-14-65-00T-RET w/ 8' Mount Pipe	234	1.5' Yagi	234
AM-X-CD-14-65-00T-RET w/ 8' Mount Pipe	234	Pipe Mount 10.5'x4.5"	223.5
AM-X-CD-14-65-00T-RET w/ 8' Mount Pipe	234	10' HP Dish	223.5
P65-15-XLH-RR w/ Mount Pipe	234	Pipe Mount 6'x2.375"	221
P65-15-XLH-RR w/ Mount Pipe	234	1' MW	221
P65-15-XLH-RR w/ Mount Pipe	234	Platform	216.5
P65-15-XLH-RR w/ Mount Pipe	234	MTS 10' Boom Gate	210
P65-15-XLH-RR w/ Mount Pipe	234	APX16PV-16PVL w/ Mount Pipe	210
P65-15-XLH-RR w/ Mount Pipe	234	APX16PV-16PVL w/ Mount Pipe	210
(2) RRUS 11	234	APX16PV-16PVL w/ Mount Pipe	210
(2) RRUS 11	234	AIR 21 B4AB2P w/ Mount Pipe	210
(2) RRUS 11	234	AIR 21 B4AB2P w/ Mount Pipe	210
DC6-48-60-18-8F Surge Suppression Unit	234	AIR 21 B4AB2P w/ Mount Pipe	210
		MTS 10' Boom Gate	210
		MTS 10' Boom Gate	210
		MTS 10' Boom Gate	205
LGP21401	234	AIR 21 B4AB2P w/ Mount Pipe	205
LGP21401	234	AIR 21 B4AB2P w/ Mount Pipe	205
LGP21401	234	AIR 21 B4AB2P w/ Mount Pipe	205
LGP21401	234	ATMAA1412D-1A20	205
LGP21401	234	ATMAA1412D-1A20	205
LGP21401	234	ATMAA1412D-1A20	205
13' T Beam	234	MTS 10' Boom Gate	205
(2) Beacon Light	234	MTS 10' Boom Gate	205
6' Lightning Rod	234	2' Sidearm - Flat (GPD)	132
		4' Yagi	132

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	C8x11.5	B	L2 1/2x2 1/2x1/4

MATERIAL STRENGTH

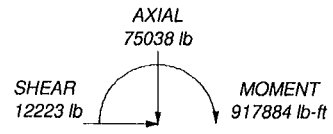
GRADE	Fy	Fu	GRADE	Fy	Fu
A36	36 ksi	58 ksi			

TOWER DESIGN NOTES

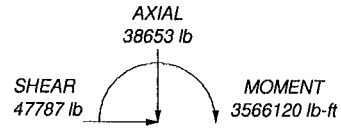
1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 37 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 93.8%

MAX. CORNER REACTIONS AT BASE:
DOWN: 195305 lb
SHEAR: 21801 lb

UPLIFT: -175978 lb
SHEAR: 19845 lb



TORQUE 6365 lb-ft
37 mph WIND - 0.7500 in ICE



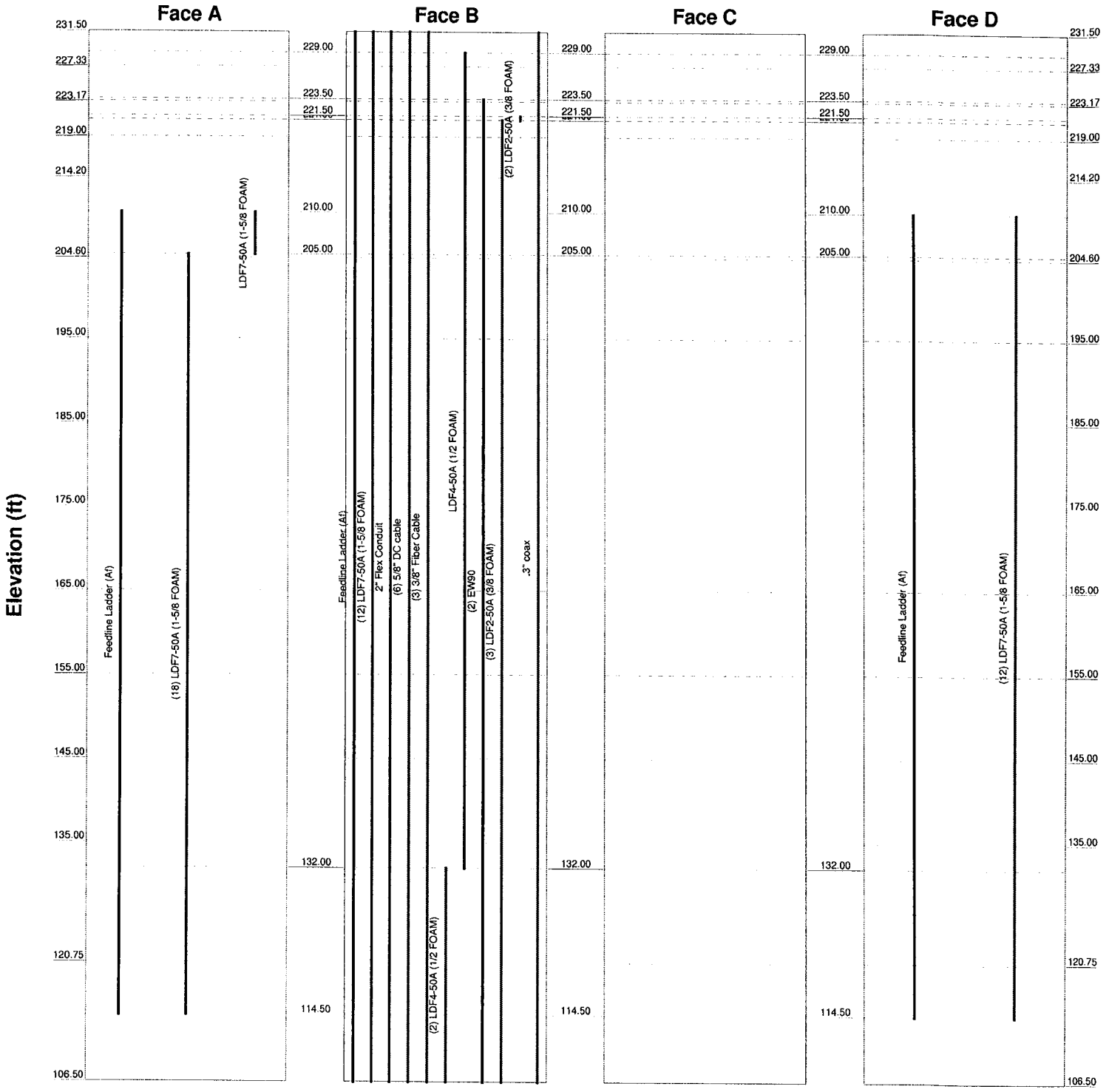
TORQUE 36974 lb-ft
REACTIONS - 85 mph WIND

GPD GROUP
GPD Group
520 South Main Street, Ste 2531
Akron, OH
Phone: (330) 572-2100
FAX: (330) 572-2101

Job: SNET026 STAMFORD CO			
Project: 2012814.17 Rev. 1			
Client: HPC Development	Drawn by: tclark	App'd:	
Code: TIA/EIA-222-F	Date: 02/28/13	Scale: NTS	
Path: C:\Users\tclark\Desktop\useful stuff\TNX\2012814.17\software models\tnxSNET026 revised.er		Dwg No. E-1	

Feedline Distribution Chart
106'6" - 231'6"

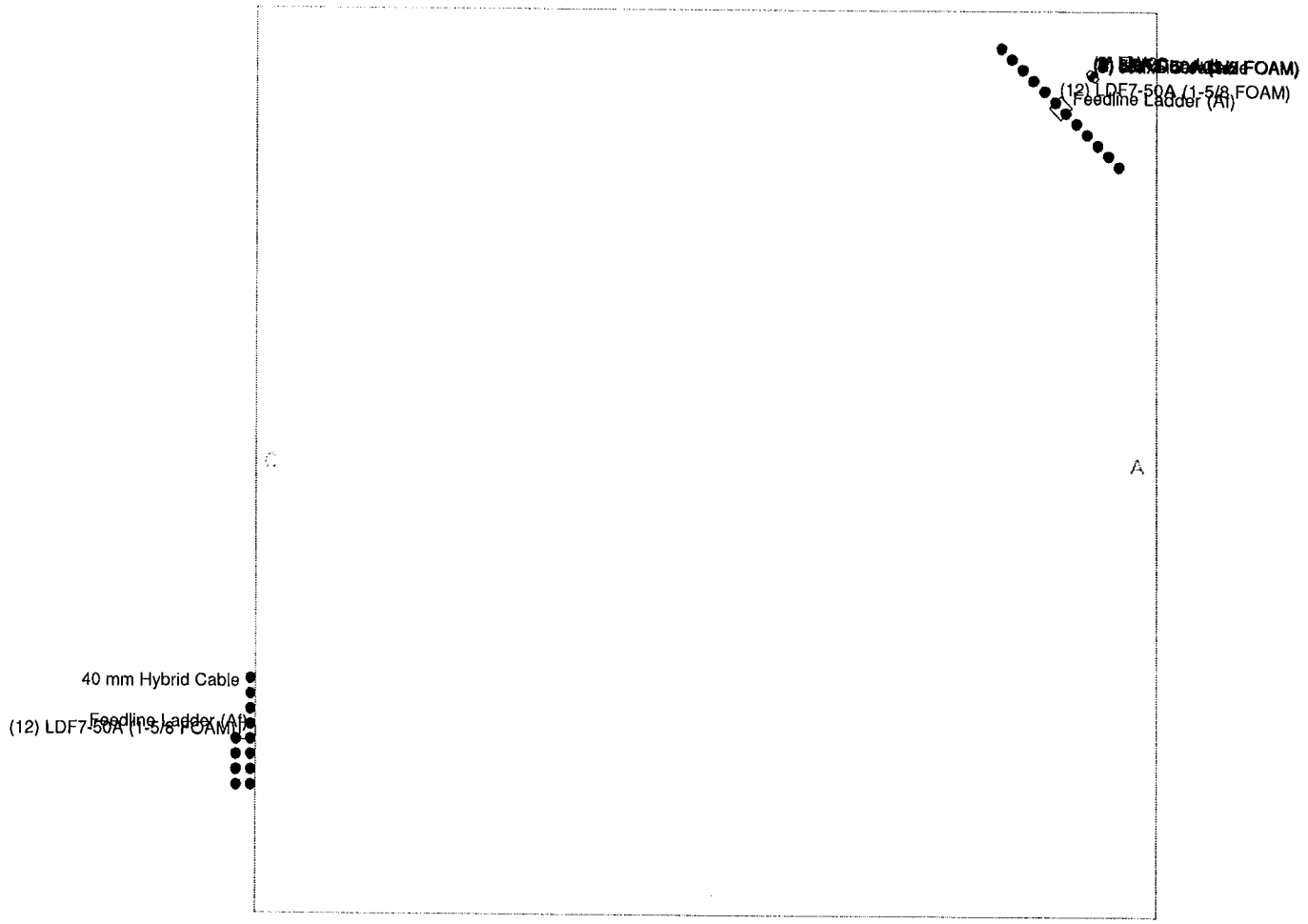
Round Flat App In Face App Out Face Truss Leg



GPD Group 520 South Main Street, Ste 2531 Akron, OH Phone: (330) 572-2100 FAX: (330) 572-2101	Job: SNET026 STAMFORD CO		
	Project: 2012814.17 Rev. 1		
	Client: HPC Development	Drawn by: tclark	App'd:
	Code: TIA/EIA-222-F	Date: 02/28/13	Scale: NTS
	Path: C:\Users\tclark\Desktop\jobs\full\TIA\2012814.17\antenna models\sprint\SNET026 revised.ef		Dwg No. E-7

Feedline Plan

Round _____ Flat _____ App In Face App Out Face



GPD GROUP
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FAX: (330) 572-2101

Job: ***SNET026 STAMFORD CO***			
Project: ***2012814.17***			
Client: HPC Development	Drawn by: tclark		App'd:
Code: TIA/EIA-222-F	Date: 12/07/12		Scale: NTS
Path: C:\Users\tclark\Desktop\useful stuff\TNX\2012814.17\software models\sn\SNET026.e			Dwg No. E-7

EXHIBIT C

EBI Consulting
environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11410A

Stamford Downtown
555 Main Street
Stamford, CT 06901

August 14, 2012

21 B Street Burlington, MA 01803 Tel: (781) 273.2500 Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

August 14, 2012

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

Re: Emissions Values for Site CT11410A – Stamford Downtown

EBI Consulting was directed to analyze the proposed T-Mobile facility located at 555 Main Street, Stamford, 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of μW/cm2 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 (μW/cm2). The general population exposure limit for the cellular band is 567 μW/cm2, and the general population exposure limit for the PCS band is 1000 μW/cm2. 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 555 Main Street, Stamford, 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, the actual antenna pattern gain value in the direction of the sample area was used. For this report the sample point is 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 (1940.000 MHz—to 1950.000 MHz) were considered for each sector of the proposed installation.
2) 2 UMTS channels (2110.000 MHz to 2120.000 MHz / 2140.000 MHz to 2145.000 MHz) were considered for each sector of the proposed installation
3) 2 LTE channels (2110.000 MHz to 2120.000 MHz / 2140.000 MHz to 2145.000 MHz) were considered for each sector of the proposed installation
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 actual gain in this direction was used per the manufactures supplied specifications.
6) The antenna used in this modeling is the Ericsson AIR21 for LTE, UMTS and GSM. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 15.6 dBd gain value at its main lobe. Actual antenna gain values were used for all calculations as per the manufacturers specifications

7) The antenna mounting height centerlines of the proposed antennas are **210.83 feet and 205.83 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 calculation were done with respect to uncontrolled / general public threshold limits

Site ID	CT11410A - Stamford Downtown
Site Addresss	555 Main Street, Stamford, CT 06901
Site Type	Rooftop Self Support Tower

Sector 1

Antenna Number	Antenna Make	Antenna Model	Status	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	210	204	None	0	0	48.326044	0.417472	0.04175%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-			0	-3.95	210	204	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	205	199	1-5/8"	0	0	24.163022	0.219357	0.02194%
2B	Ericsson	AIR21 B2A / B4P	Passive	AWS - 2100 MHz	UMTS	30	2	60	-3.95	205	199	1-5/8"	0	0	24.163022	0.219357	0.02194%
														Sector total Power Density Value:			0.086%

Sector 2

Antenna Number	Antenna Make	Antenna Model	Status	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	210	204	None	0	0	48.326044	0.417472	0.04175%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-			0	-3.95	210	204	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	205	199	1-5/8"	0	0	24.163022	0.219357	0.02194%
2B	Ericsson	AIR21 B2A / B4P	Passive	AWS - 2100 MHz	UMTS	30	2	60	-3.95	205	199	1-5/8"	0	0	24.163022	0.219357	0.02194%
														Sector total Power Density Value:			0.086%

Sector 3

Antenna Number	Antenna Make	Antenna Model	Status	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	210	204	None	0	0	48.326044	0.417472	0.04175%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-			0	-3.95	210	204	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	205	199	1-5/8"	0	0	24.163022	0.219357	0.02194%
2B	Ericsson	AIR21 B2A / B4P	Passive	AWS - 2100 MHz	UMTS	30	2	60	-3.95	205	199	1-5/8"	0	0	24.163022	0.219357	0.02194%
														Sector total Power Density Value:			0.086%

Site Composite MPE %	
Carrier	MPE %
T-Mobile	0.257%
AT&T	4.750%
Winstar	0.710%
PageNet	1.440%
Broadcast Video	4.300%
Total Site MPE %	11.457%

Summary

All calculations performed for this analysis yielded results that were well within the allowable limits for general public exposure to RF Emissions.

The anticipated Maximum Composite contributions from the T-Mobile facility are **0.257% (0.086% from each sector)** of the allowable FCC established general public limit considering all three sectors simultaneously.

The anticipated composite MPE value for this site assuming all carriers present is **11.457%** of the allowable FCC established general public limit. 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 within the allowable 100% threshold standard per the federal government