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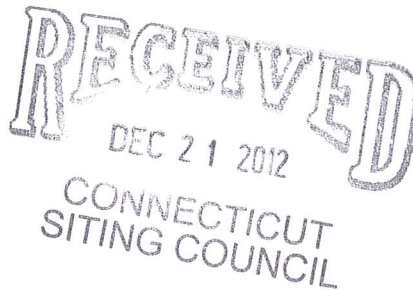
New Cingular Wireless PCS, LLC
154 General Patton Dr.
Naugatuck, CT 06770
Phone: (203)-217-6200
Christopher Bisson
Real Estate Consultant

ORIGINAL

December 20, 2012

Hand Delivered

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



RE: New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 695 Old Colchester Road, Montville, CT 06382, know to AT&T as site CT2049.

Dear Ms. Roberts:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System (“UMTS”) and/or Long Term Evolution (“LTE”) capabilities, and enhance system performance in the state of Connecticut, New Cingular Wireless PCS, LLC (“AT&T”) plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and its attachments is being sent to the chief elected official of the municipality in which affected cell site is located.

UMTS offers services to mobile computer and phone users anywhere in the world. Based on the Global System for Mobile (“GSM”) communication standard, UMTS is the planned worldwide standard for mobile users. UMTS, fully implemented, gives computer and phone users high-speed access to the internet as they travel. They have the same capabilities even when they roam, through both terrestrial wireless and satellite transmissions.

LTE is a new high-performance air interface for cellular mobile communications. It is designed to increase the capacity and speed of mobile telephone networks.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration based on the supplied structural modification plan dated 4/26/2012 requiring the restacking of the existing coaxial cables.

The changes to the facility do not constitute modification as defined Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for the R.C.S.A. Section 16-50j-72(b)(2).

1. The height of the overall structure will not be affected.
2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound as all proposed equipment will be located in the existing AT&T equipment shelter.
3. The proposed changes will not increase the noise level at the existing facility by 6 decibels or more.
4. Radio Frequency power density may increase due to the use of one or more GSM channels for UMTS transmissions. Moreover, LTE will utilize additional radio frequencies newly licensed by the FCC for cellular mobile communications. However, the changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons New Cingular Wireless PCS, LLC respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (203)-217-6200 or email CBisson@Transcendwireless.com with questions concerning this matter. Thank you for your consideration.

Sincerely,

Christopher Bisson
Real Estate Consultant



C Squared Systems, LLC
65 Dartmouth Drive, Unit A3
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions



at&t

CT2049

(Montville)

695 Old Colchester Road, Montville, CT 06382

December 12, 2012

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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modifications to the existing AT&T antenna arrays mounted on the guyed wire tower located at 695 Old Colchester Road in Montville, CT. The coordinates of the tower are 41° 27' 10.9" N, 72° 9' 14.7" W.

AT&T is proposing the following modifications:

- 1) Install three multi-band (700/850/1900/2100 MHz) antennas for their LTE network (one per sector).

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{1.6^2 \times \text{EIRP}}{4\pi \times R^2} \right) \times \text{Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

$$R = \text{Radial Distance} = \sqrt{(H^2 + V^2)}$$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the finished modifications.

4. Calculation Results

Table 1 below outlines the power density information for the site. Because the proposed AT&T antennas are directional in nature, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical patterns of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm ²)	Limit	%MPE
AT&T UMTS	239	880	1	500	0.0031	0.5867	0.54%
AT&T GSM	239	880	4	296	0.0075	0.5867	1.27%
AT&T GSM	239	1900	2	427	0.0054	1.0000	0.54%
BAM/Verizon	303	874.5	19	100	0.0074	0.5830	1.28%
AT&T UMTS	242.5	880	2	565	0.0007	0.5867	0.12%
AT&T UMTS	242.5	1900	2	875	0.0011	1.0000	0.11%
AT&T LTE	242.5	734	1	1615	0.0010	0.4893	0.20%
AT&T GSM	242.5	880	1	283	0.0002	0.5867	0.03%
AT&T GSM	242.5	1900	4	525	0.0013	1.0000	0.13%
						Total	1.86%

Table 1: Carrier Information^{1 2 3}

¹ The existing CSC filing for AT&T should be removed and replaced with the updated AT&T technologies and values provided in Table 1. The power density information for carriers other than AT&T was taken directly from the CSC database dated 7/26/2012. Please note that %MPE values listed are rounded to two decimal points. The total %MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

² In the case where antenna models are not uniform across all 3 sectors for the same frequency band, the antenna model with the highest gain was used for the calculations to present a worse-case scenario.

³ Antenna height listed for AT&T is in reference to the URS Corporation Structural Analysis dated December 5, 2012.

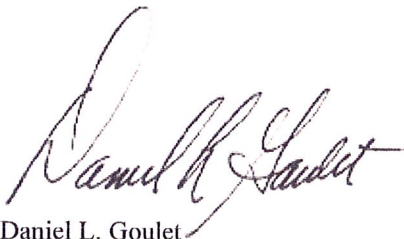
5. Conclusion

The above analysis verifies that emissions from the existing site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Even when using conservative methods, the cumulative power density from the proposed transmit antennas at the existing facility is well below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at ground level is **1.86% of the FCC limit**.

As noted previously, obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.



Daniel L. Goulet
C Squared Systems, LLC

December 12, 2012

Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz. IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave. IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure⁴

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure⁵

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * Plane-wave equivalent power density

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

⁴ Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

⁵ General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

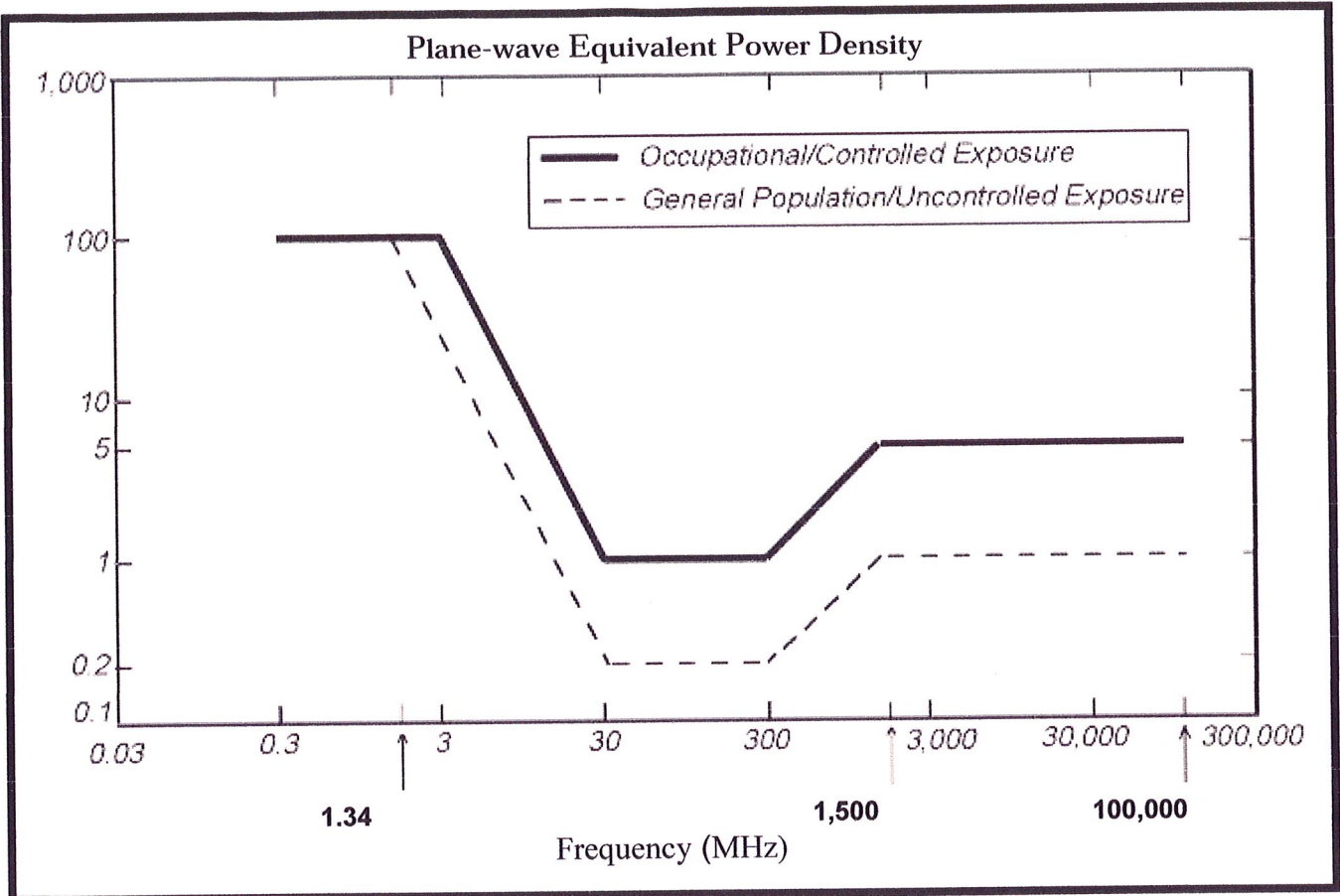
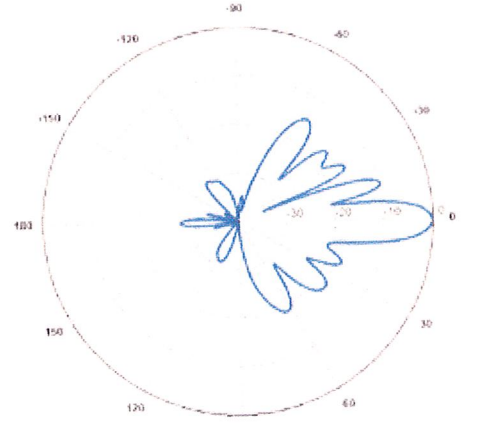
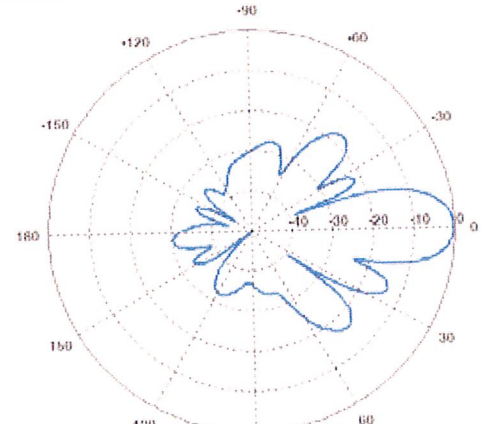
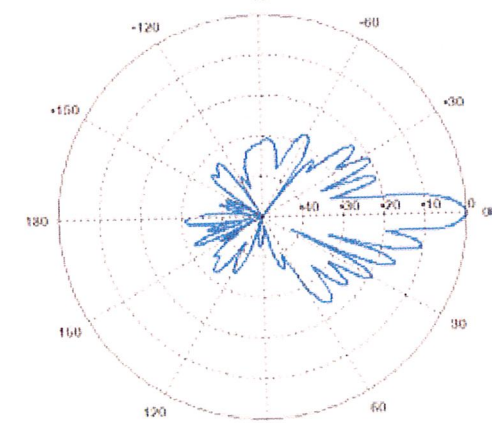


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

<p>700 MHz</p> <p>Manufacturer: Powerwave Model #: P65-17-XLH-RR Frequency Band: 698-806 MHz Gain: 14.3 dBd Vertical Beamwidth: 8.4° Horizontal Beamwidth: 70° Polarization: Dual Linear ± 45° Size L x W x D: 96.0" x 12.0" x 6.0"</p>	
<p>850 MHz</p> <p>Manufacturer: Powerwave Model #: 7770.00 Frequency Band: 824-896 MHz Gain: 11.5 dBd Vertical Beamwidth: 15° Horizontal Beamwidth: 82° Polarization: Dual Linear ± 45° Size L x W x D: 55.0" x 11.0" x 5.0"</p>	
<p>1900 MHz</p> <p>Manufacturer: Powerwave Model #: 7770.00 Frequency Band: 1850-1990 MHz Gain: 13.4 dBd Vertical Beamwidth: 7° Horizontal Beamwidth: 86° Polarization: Dual Linear ± 45° Size L x W x D: 55.0" x 11.0" x 5.0"</p>	

**DETAILED STRUCTURAL ANALYSIS AND
REINFORCEMENT OF EXISTING 370' GUYED
LATTICE TOWER FOR PROPOSED ANTENNA
ARRANGEMENTS**

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VZ5-109 (Rev 2) / 36922267
MET-013 (Rev 1) / 36917439
CTK-022 (Rev 1) / 36922398

December 5, 2012

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1. EXECUTIVE SUMMARY

This report summarizes the structural analysis and reinforcement of the existing 370' guyed lattice tower located at 695 Old Colchester Road in Montville, Connecticut. The analysis was conducted in accordance with the 2005 Connecticut State Building Code and the TIA/EIA-222-F standard requirements for a wind velocity of 95 mph (fastest mile) and 82 mph (fastest mile) concurrent with 1/2" ice. The antenna loading considered in the analysis consists of all existing and proposed antennas, transmission lines, and ancillary items as outlined in the Introduction Section of this report. The proposed Verizon Wireless, MetroPCS and AT&T modifications are as follows:

Proposed Antenna and Equipment	Carrier	Antenna Center Elevation
<u>Remove:</u> (6) SC-9012 / ALPE-9001 (6) 948F85T2E-M	Verizon (existing)	@ 305'
<u>Install:</u> (3) BXA-70063-6CF (6) LPA-80080/4CF (3) BXA-171085-8BF (6) Diplexers	Verizon (proposed)	@ 305'
<u>Install:</u> (3) 12'6" Andrew Quik-Tee Sector Frames (6) Kathrein 742-351 Panel Antennas (6) Kathrein 860-10025 Remote Control Units (12) 1-5/8" coaxial cable (1) 3/8" coaxial cable	MetroPCS (proposed)	@ 285'
<u>Install:</u> (1) KMW AM-X-CD-16-65 (Alpha) (1) Andrew SBNH-1D6565C (Beta) (1) Powerwave P65-17-XLH-RR (Gamma) (6) RRUs (1) Surge Suppressor	AT&T (proposed)	@ 242'-6"

The results of an initial analysis indicated that the tower structure requires modification in order to support the proposed loading conditions. The required modifications are shown in SK-1 to SK-4 in Section 6 of this report. **Once these modifications are performed the tower and its foundation are considered structurally adequate with the wind load classification specified above and all the existing and proposed antenna loading.**

1. **EXECUTIVE SUMMARY** (continued)

This analysis is based on:

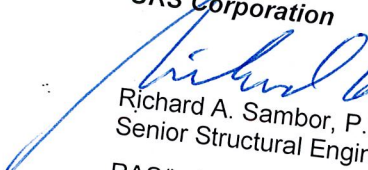
- 1) The tower structure's theoretical capacity, not including any assessment of the condition of the tower.
- 2) Tower geometry and structural member sizes taken from Tower Mapping performed by CSB Communications, LLC, dated January 26, 2006 and revised February 23, 2006.
- 3) Tower base and guy anchor sizes taken from Foundation Inspection performed by Geotel Engineering, Inc., report number E08-383, dated July 30, 2008.
- 4) Geotechnical information taken from Geotechnical Engineering Report prepared by Terracon, project number J2085199, dated November 26, 2008.
- 5) Structural analysis and reinforcement performed by Malouf Engineering Intl., Inc, job number CT01162G-08V3 for SAI Communications / AT&T, signed and sealed December 10, 2008.
- 6) Existing tower inventory taken from inventory provided by Metrocast on July 12, 2012.
- 7) Construction drawings prepared by Chappell Engineering Associates, LLC, project number 736.386, dated May 7, 2012.
- 8) Proposed AT&T antenna information taken from RFDS revision V01, dated September 18, 2012.
- 9) Antenna and mount configuration as specified in Section 2 of this report.

This report is only valid as per the assumptions and data utilized in this report for antenna inventory, mounts and associated cables. The user of this report shall field verify the assumption of the antenna and mount configuration as well as the physical condition of the tower and connections. Notify the engineer in writing immediately if any of the information in this report is found to be other than specified.

If you should have any questions, please call.

Sincerely,

URS Corporation


Richard A. Sambor, P.E.
Senior Structural Engineer

RAS/kab

cc: ICA, CF/Book – URS



2. INTRODUCTION

The subject tower is located at 695 Old Colchester Road in Montville, Connecticut. The structure is a 370' guyed lattice tower designed and manufactured by PiROD and subsequently reinforced. The inventory is summarized in the table below:

Antenna Type	Carrier	Mount	Antenna Centerline Elevation	Cable
(1) Search Antenna	WGBH	Leg Mounted	370'	(1) 7/8"
(1) 8' Parabolic Dish (1) Empty Pipe Mount	Unknown (existing)	Pipe Mount	355'	(1) 7/8"
(1) 20' Omni	Unknown (existing)	Pipe Mount	350'	(2) 7/8"
(1) 10' Omni	Unknown (existing)	3' Stand-Off	325'	(1) 1-5/8"
---	Verizon (existing)	(3) Sector Mounts	305'	(12) 1-5/8"
(3) BXA-70063-6CF (6) LPA-80080/4CF (3) BXA-171085-8BF (6) Diplexers	Verizon (proposed)	Shared with Above	305'	Shared with Above
(6) Kathrein 742-351 Panel Antennas (6) Kathrein 860-10025 Remote Control Units	MetroPCS (proposed)	(3) 12'6" Andrew Quik-Tee Sector Frames	285'	(12) 1-5/8" coaxial cable (1) 3/8" coaxial cable
(1) 20' Omni	Secret Service (existing)	Pipe Mount	250'	None
(6) Powerwave 7770 (6) TMAs (6) Diplexers	AT&T (existing)	(3) Sector Mounts	242.5'	(12) 1-5/8"
(1) KMW AM-X-CD-16-65 (1) Andrew SBNH-1D6565C (1) Powerwave P65-17-XLH-RR (6) RRUs (1) Surge Suppressor	AT&T (proposed)	Shared with Above	242.5'	(1) 3" Flex Conduit with Fiber and DC Cables
(1) 4' Yagi	WFSB	Leg Mounted	200'	(1) 7/8"
(4) 5' Yagi	Hartford UHF (existing)	(2) Pipe Mounts	180'	(1) 7/8"
(1) 5' Yagi	WJAR	Leg Mounted	148'	(1) 1/2"
(1) 8' Yagi	WTNH	Leg Mounted	140'	(1) 7/8"
(1) 4' Yagi	Hartford UHF (existing)	Leg Mounted	125'	(1) 1/2"
(4) 5' PCS Antennas	FM	Leg Mounted	88'	(4) 1/2"
(1) 6' Yagi	WCTX	Leg Mounted	62'	(1) 7/8"
(1) 5' Yagi	WHPX	Leg Mounted	40'	(1) 7/8"

2. **INTRODUCTION** *(continued)*

This structural analysis of the communications tower was performed by URS Corporation (URS) for Verizon Wireless, MetroPCS and AT&T. The purpose of this analysis was to investigate the structural integrity of the reinforced tower with its existing and proposed antenna loads. This analysis was conducted to evaluate stress on the modified tower and the effect of forces to the modified foundation of the tower resulting from existing and proposed antenna arrangements.

3. **ANALYSIS METHODOLOGY AND LOADING CONDITIONS**

The structural analysis was done in accordance with the 2005 Connecticut State Building Code, TIA/EIA-222-F—Structural Standard for Steel Antenna Towers and Antenna Supporting Structures, and the American Institute of Steel Construction (AISC) Manual of Steel Construction—Allowable Stress Design (ASD).

The analysis was conducted using TNX Tower 6.0. Two load conditions were evaluated as shown below which were compared to allowable stresses according to AISC and TIA/EIA.

- Load Condition 1 = 95 mph (fastest mile) Wind Load (without ice) + Tower Dead Load
- Load Condition 2 = 82 mph (fastest mile) Wind Load (with ice) + Ice Load + Tower Dead Load

The TIA/EIA standard permits a one-third increase in allowable stresses for towers and monopoles less than 700 feet tall. For the purposes of this analysis, in computing the load capacity the allowable stresses of the tower members were increased by one-third.

4. **FINDINGS AND EVALUATION**

Stresses on the modified tower structure were evaluated to compare with allowable stresses in accordance with AISC. The calculated stresses under the proposed loading were within the allowable stresses. Detailed analysis and calculations for the proposed load condition are provided in section 6 of this report. Additionally, the modified guy anchors are structurally adequate for the proposed loading. See drawings SK-1 to SK-4 for the required modifications.

Table 1: Tower Component vs. Capacity Summary

COMPONENT (SECTION NO.)	CONTROLLING COMPONENT / ELEVATION	STRESS RATIO (% CAPACITY)	PASS/FAIL
Leg (T34)	SR 3.25 / 100'-125'	94.1	Pass
Diagonal (T21)	SR 3/4 / 243.75'-237.5'	80.4	Pass
Horizontal (T34)	2" Crushed Tube 100'-125'	73.3	Pass
Secondary Horizontal (T27)	L2x2x1/4 / 200'-206.25'	23.2	Pass
Top Girt (T14)	2" Crushed Tube 281.25'-287.5'	45.4	Pass
Guy @ 350'	7/8 EHS	66.5	Pass
Guy @ 300'	7/8 EHS	72.7	Pass
Guy @ 225'	3/4 EHS	89.4	Pass
Guy @ 162.5'	3/4 EHS	93.9	Pass
Guy @ 100'	9/16 EHS	92.5	Pass
Guy @ 50'	9/16 EHS	81.9	Pass
Torque Arm Top (T12)	2L3x2.5x0.25 / 300'	33.7	Pass
Torque Arm Bottom (T12)	2L3x2.5x0.25 / 300'	72.7	Pass
Tower Bolts - Diagonal (T30)	(2) 1/2" A325 162.5'-168.75'	95.8	Pass

Table 2: Foundation

COMPONENT / CONTROLLING ELEMENT	USAGE (% CAPACITY)
Base Foundation / Compression (%)	83.5
Inner Guy Anchor / Uplift (%)	24.8
Inner Guy Anchor / Shear (%)	41.0
160' Radius Guy Anchor / Uplift (%)	74.4
160' Radius Guy Anchor / Shear (%)	75.2
205' Radius Guy Anchor / Uplift (%)	87.0
205' Radius Guy Anchor / Shear (%)	70.9
Outer Guy Anchor / Uplift (%)	64.6
Outer Guy Anchor / Shear (%)	48.3

5. **CONCLUSIONS**

The results of an initial analysis indicated that the tower structure requires modification in order to support the proposed loading conditions. **The required modifications are shown in SK-1 to SK-4 located in Section 6 of this report. Once these modifications are performed the tower and its foundation are considered structurally adequate with the wind load classification specified above and all the existing and proposed antenna loading.**

Limitations/Assumptions:

This report is based on the following:

1. Tower inventory as listed in this report.
2. Tower is properly installed and maintained.
3. All members are as specified in the original design documents and are in good condition.
4. All required members are in place.
5. All bolts are in place and are properly tightened.
6. Tower is in plumb condition.
7. All member protective coatings are in good condition.
8. All tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
9. Foundations were properly constructed to support original design loads as specified in the original design documents.
10. All coaxial cable is installed as specified in Section 6 of this report.

URS is not responsible for any modifications completed prior to or hereafter in which URS is not or was not directly involved. Modifications include but are not limited to:

- A. Adding antennas
- B. Removing/replacing antennas
- C. Adding coaxial cables

URS hereby states that this document represents the entire report and that it assumes no liability for any factual changes that may occur after the date of this report. All representations, recommendations, and conclusions are based upon information contained and set forth herein. If you are aware of any information which conflicts with that which is contained herein, or you are aware of any defects arising from original design, material, fabrication, or erection deficiencies, you should disregard this report and immediately contact URS. URS disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

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.

6. DRAWINGS AND DATA

VZ5-109 (Rev 2) / 36922267
MET-013 (Rev 1) / 36917439
CTK-022 (Rev 1) / 36922398

370' Guyed Lattice Tower
Montville, CT

12/5/2012

REINFORCEMENT DRAWINGS SK-1 TO SK-4

VZ5-109 (Rev 2) / 36922267
MET-013 (Rev 1) / 36917439
CTK-022 (Rev 1) / 36922398

370' Guyed Lattice Tower
Montville, CT

12/5/2012

STRUCTURAL NOTES

THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION. IT IS RECOMMENDED THAT THE REPLACEMENT OF TOWER MEMBERS SHALL BE DONE ONE AT A TIME AND SHALL BE DONE WITH LESS THAN 15 MPH WIND PRESENT. NO MEMBER SHALL BE LEFT DISCONNECTED FOR THE NEXT WORKING DAY

STRUCTURAL STEEL MATERIAL:
STRUCTURAL PLATES ASTM A372 GR60
STEEL BEAMS, CHANNELS & ANGLES ASTM A36
MODIFICATIONS SHOWN ARE FOR EACH FACE OR LEG UNLESS NOTED OTHERWISE

UNLESS OTHERWISE NOTED, ALL STEEL WILL BE GALVANIZED IN ACCORDANCE WITH ASTM 123 AFTER FABRICATION. TOUCH UP ALL DAMAGED GALVANIZED STEEL WITH APPROVED COLD ZINC, "GALVANOX", "DRY GALV", "ZINC-IT", OR APPROVED EQUIVALENT, IN ACCORDANCE WITH MANUFACTURERS GUIDELINES. TOUCH-UP DAMAGED NON GALVANIZED STEEL WITH SAME PAINT APPLIED IN SHOP OR FIELD.

EXISTING DIMENSIONS OF STRUCTURE SHOWN ON THESE DOCUMENTS ARE NOT GUARANTEED. CONTRACTOR SHALL TAKE FIELD DIMENSIONS AS NECESSARY TO ASSURE PROPER FIT OF ALL FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENT ARE SUBMITTED FOR REVIEW, DIMENSIONS ARE PROVIDED FOR THE ENGINEER'S REFERENCE ONLY.

ALL WELDING SHALL BE DONE BY A CERTIFIED WELDER IN ACCORDANCE WITH AWS STANDARDS, USING E70XX ELECTRODES UNLESS OTHERWISE NOTED. WELD SIZES ARE NOT SHOWN. PROVIDE THE MINIMUM SIZES PER "PREQUALIFIED WELDED JOINTS" TABLES IN ASC "MANUAL OF STEEL CONSTRUCTION", NINTH EDITION.

IF WELDING GALVANIZED MATERIALS, USE PRECAUTIONS & PROCEDURES PER AWS D1.1.

MILL BEARING ENDS OF COLUMNS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.

CONNECTIONS / FIELD ASSEMBLY:
BOLTED CONNECTIONS SHALL BE TIGHTENED TO SNUG TIGHT AS DEFINED BY ASC, SPECIFICALLY THE "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".

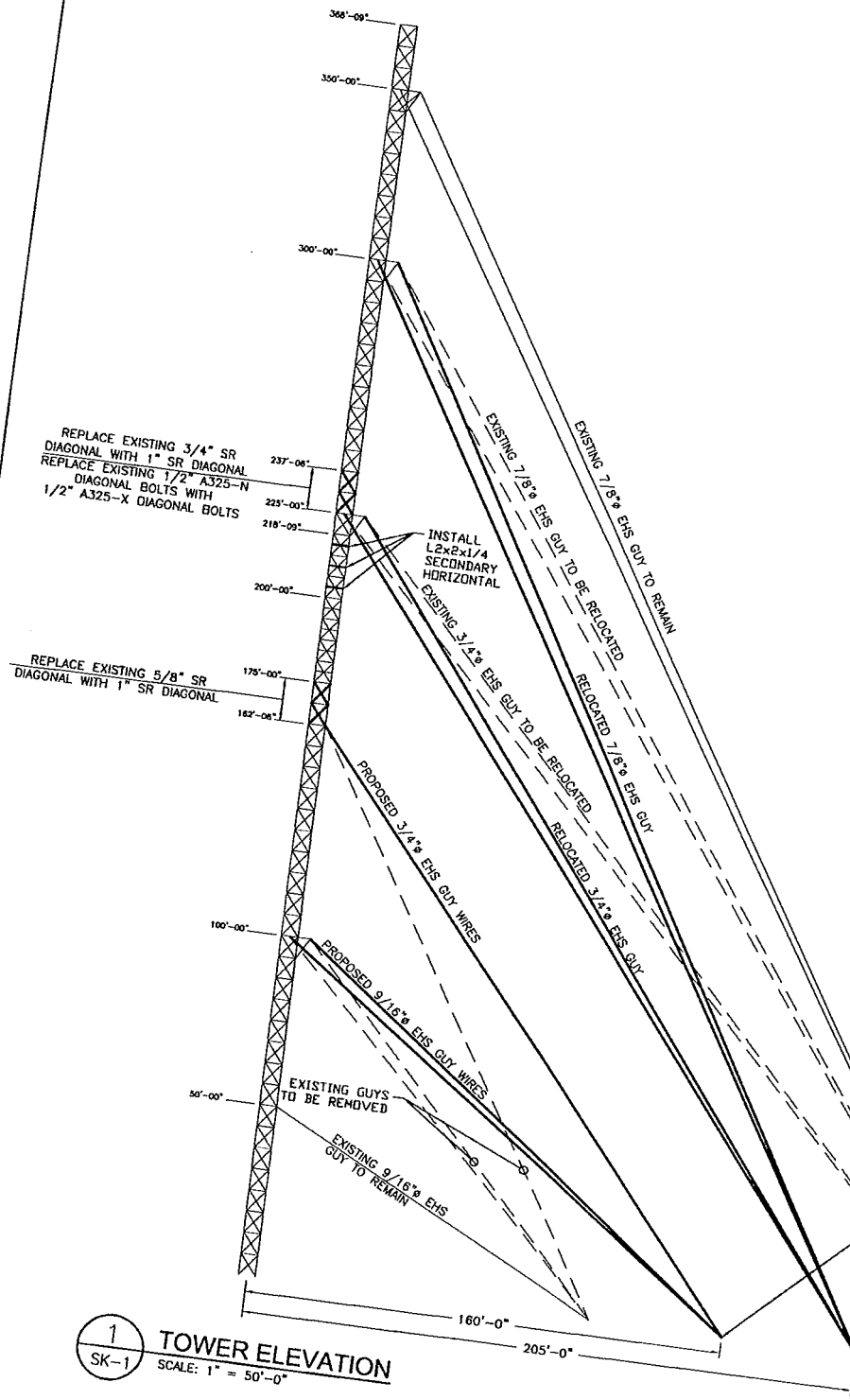
COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.

INSPECTIONS:
SPECIAL INSPECTIONS ARE REQUIRED PER CODE.

OWNER WILL SUPPLY THE SERVICES OF A SPECIAL INSPECTOR AND TESTING AGENTS AS REQUIRED. CONTRACTOR SHALL COORDINATE INSPECTIONS OF FABRICATOR'S AND ERECTOR'S WORK AND MATERIALS TO MEET THE REQUIREMENTS OF THE STATEMENT OF SPECIAL INSPECTIONS FOR THIS PROJECT.

COPIES OF TESTING AND INSPECTION REPORTS WILL BE PROVIDED TO THE OWNER, BUILDING OFFICIAL, ENGINEER OF RECORD AND CONTRACTOR.

(CONTINUED ON SK-2)



1 TOWER ELEVATION
SK-1
SCALE: 1" = 50'-0"

GUY WIRE	INITIAL TENSION
7/8" EHS	7970 LBS
3/4" EHS	5830 LBS
9/16" EHS	3500 LBS

OW NO: MULTIPLE
Designed by: KAB
Drawn by: KAB
Checked by: ICA
Approved by: RAS

URS CORPORATION AES
500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
1-(860)-529-8882

REINFORCEMENT DESIGN
VERIZON WIRELESS, METROPCS & AT&T
WIRELESS COMMUNICATIONS FACILITY
SITE ADDRESS:
MONTVILLE CT
695 OLD COLCHESTER ROAD
MONTVILLE, CONNECTICUT 06353

REV.	DATE:	DESCRIPTION

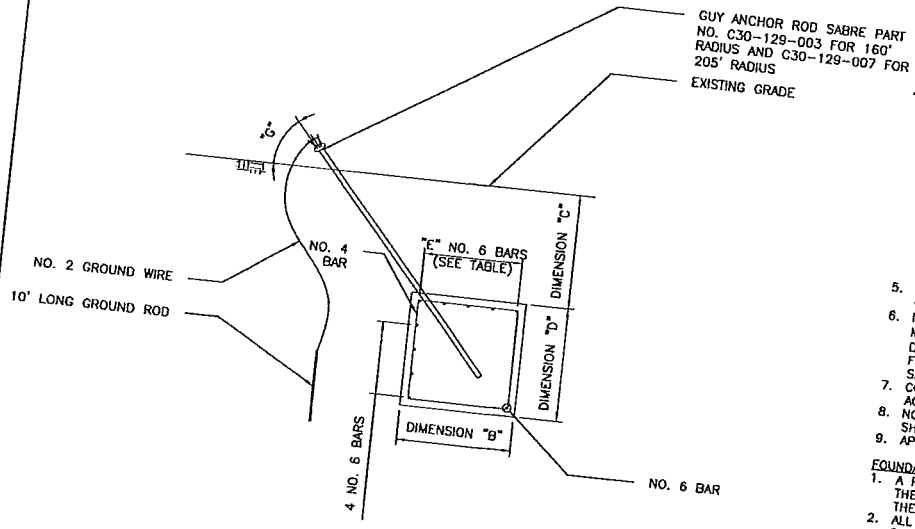
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Job No. _____ File No. _____

Dwg. No.
SK-1
Dwg. 1 of 4

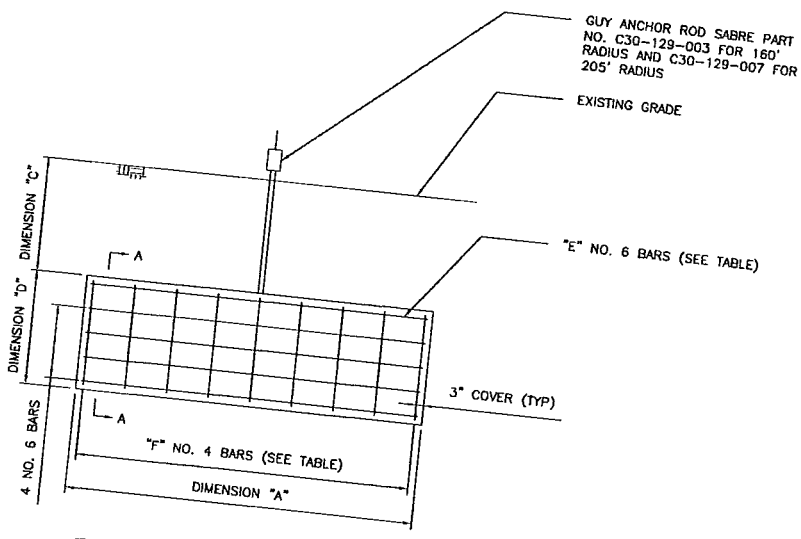
PROPOSED ANCHOR BLOCK INFORMATION

ANCHOR RADIUS	A	B	C	D	E	F	G
160'-0"	10'-0"	4'-0"	6'-0"	4'-0"	5	8	38 DEG
205'-0"	16'-0"	6'-0"	6'-0"	4'-0"	7	12	40 DEG

- ### STRUCTURAL NOTES (CONTINUED)
- SOIL**
1. SOIL BEARING CAPACITY OF 5,000 PSF USED FOR FOUNDATION DESIGN. GENERAL CONTRACTOR RESPONSIBLE FOR VERIFYING BEARING CAPACITIES.
 2. ALL SURFACES MUST BE FREE OF STANDING WATER PRIOR TO PLACING.
 3. SECTION M.02.01 PER CONNECTICUT DOT STANDARD SPEC.
 4. CONTACT THE ENGINEER IF GROUND WATER IS IN ENCOUNTERED AND DEWATERING IS REQUIRED.
- CONCRETE**
1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318 AND THE SPECIFICATION CAST-IN-PLACE CONCRETE.
 2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. CONCRETE SHALL BE AIR ENTRAINED TO (4% TO 6%) AND SLUMP OF 3" TO 5".
 3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
 4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
 CONCRETE CAST AGAINST EARTH.....3 IN.
 CONCRETE EXPOSED TO EARTH OR WEATHER:
 #6 AND LARGER.....2 IN.
 #5 AND SMALLER & WWF1 1/2 IN.
 CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
 SLAB AND WALL.....3/4 IN.
 BEAMS AND COLUMNS.....1 1/2 IN.
5. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
 6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING.
 7. COLD WEATHER CONCRETE PLACING SHALL BE IN ACCORDANCE WITH ACI-306.
 8. NO FOOTING SHALL BE PLACED ON FROZEN GROUND. UNCURED CONCRETE SHALL BE PROTECTED AGAINST FROST.
 9. APPLY NON-SLIP BROOM FINISH IMMEDIATELY AFTER TROWEL FINISHING.



2 SECTION A-A
SK-2 SCALE: N.T.S.



1 PROPOSED GUY ANCHOR
SK-2 SCALE: N.T.S.

DW NO: MULTIPLE
 Designed by: KAB
 Drawn by: KAB
 Checked by: ICA
 Approved by: RAS

URS CORPORATION AES

500 ENTERPRISE DRIVE
 ROCKY HILL, CONNECTICUT
 1-(860)-529-8882

REINFORCEMENT DESIGN
VERIZON WIRELESS, METROPCS & AT&T
 WIRELESS COMMUNICATIONS FACILITY

MONTVILLE CT
 695 OLD COLCHESTER ROAD
 MONTVILLE, CONNECTICUT 06353

REV.	DATE	DESCRIPTION

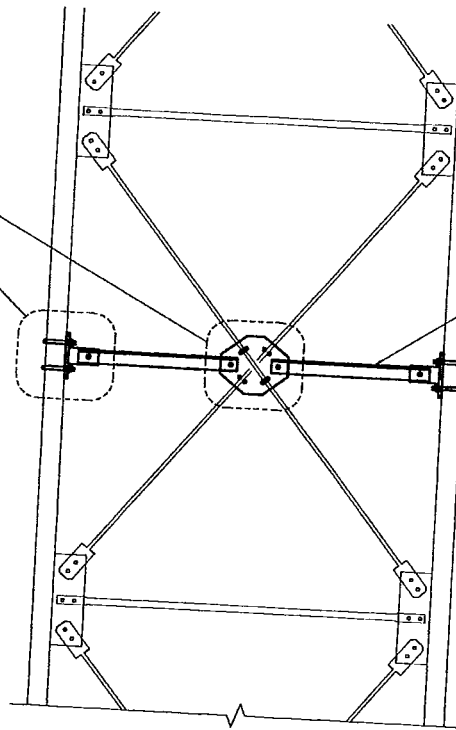
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 Job No. _____ File No. _____

Dwg. No.
SK-2
 Dwg. 2 of 4

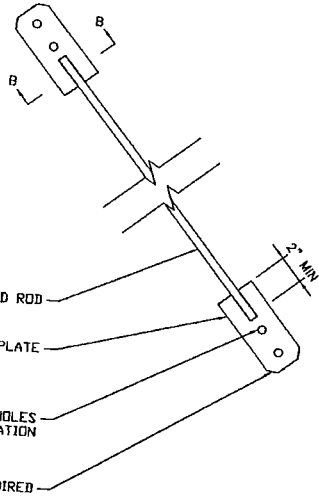
SEE DETAIL "CONNECTION TO DIAGONAL" ON SK-4 FOR ADDITIONAL INFORMATION

SEE DETAIL "CONNECTION TO LEG" ON SK-4 FOR ADDITIONAL INFORMATION

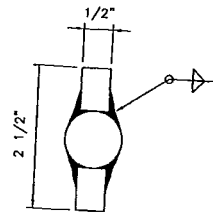
L2X2X1/4 SECONDARY HORIZONTAL



3 BRACING MODIFICATION
SK-3 SCALE: N.T.S.



1 PROPOSED DIAGONAL
SK-3 SCALE: N.T.S.



2 SECTION B-B
SK-3 SCALE: N.T.S.

OW NO: MULTIPLE
Designed by: KAB
Drawn by: KAB
Checked by: ICA
Approved by: RAS

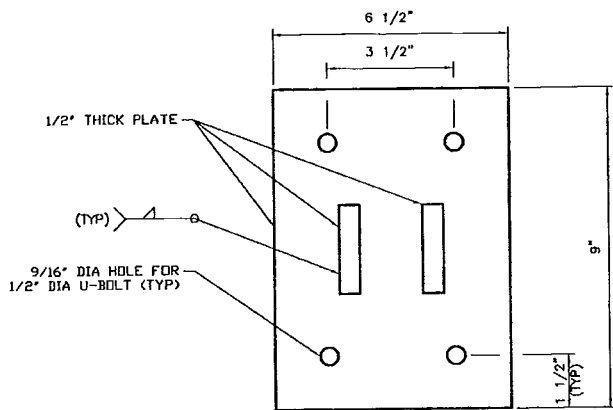
URS CORPORATION AES
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REINFORCEMENT DESIGN
VERIZON WIRELESS, METROPCS & AT&T
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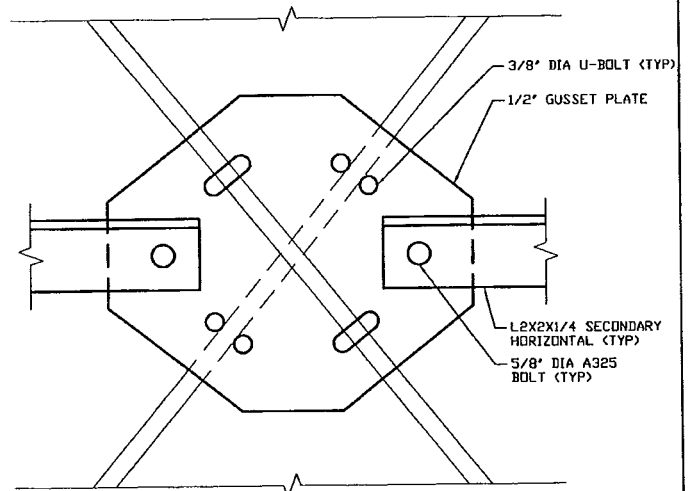
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Job No. File No.

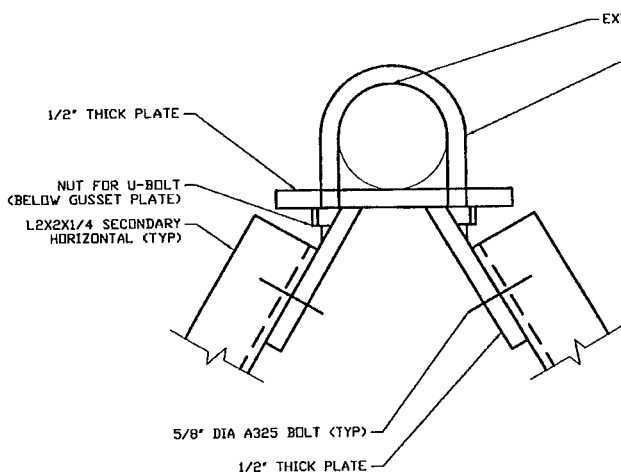
Dwg. No.
SK-3
Dwg. 3 of 4



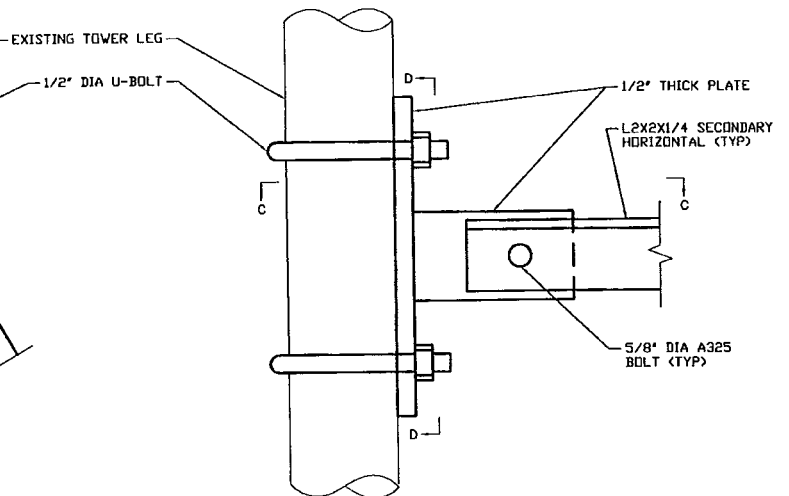
3 SECTION D-D
SK-4 SCALE: N.T.S.



4 CONNECTION AT DIAGONAL
SK-4 SCALE: N.T.S.



2 SECTION C-C
SK-4 SCALE: N.T.S.



1 CONNECTION TO LEG
SK-4 SCALE: N.T.S.

OW NO:
MULTIPLE
Designed by:
KAB
Drawn by:
KAB
Checked by:
ICA
Approved by:
RAS

URS CORPORATION AES
500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
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REINFORCEMENT DESIGN
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REV.	DATE:	DESCRIPTION

Scale: Date: 12-05-12
Job No. File No.

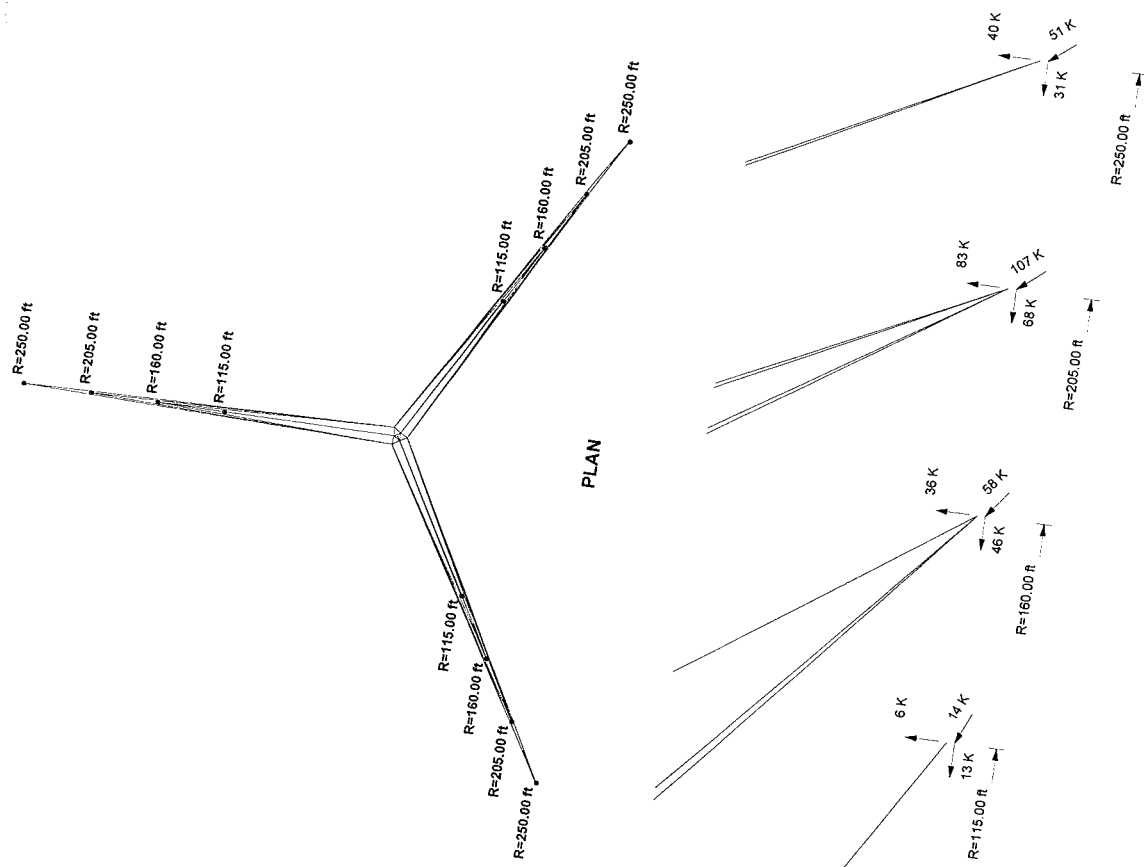
Dwg. No.
SK-4
Dwg. 4 of 4

TNX TOWER INPUT/OUTPUT SUMMARY

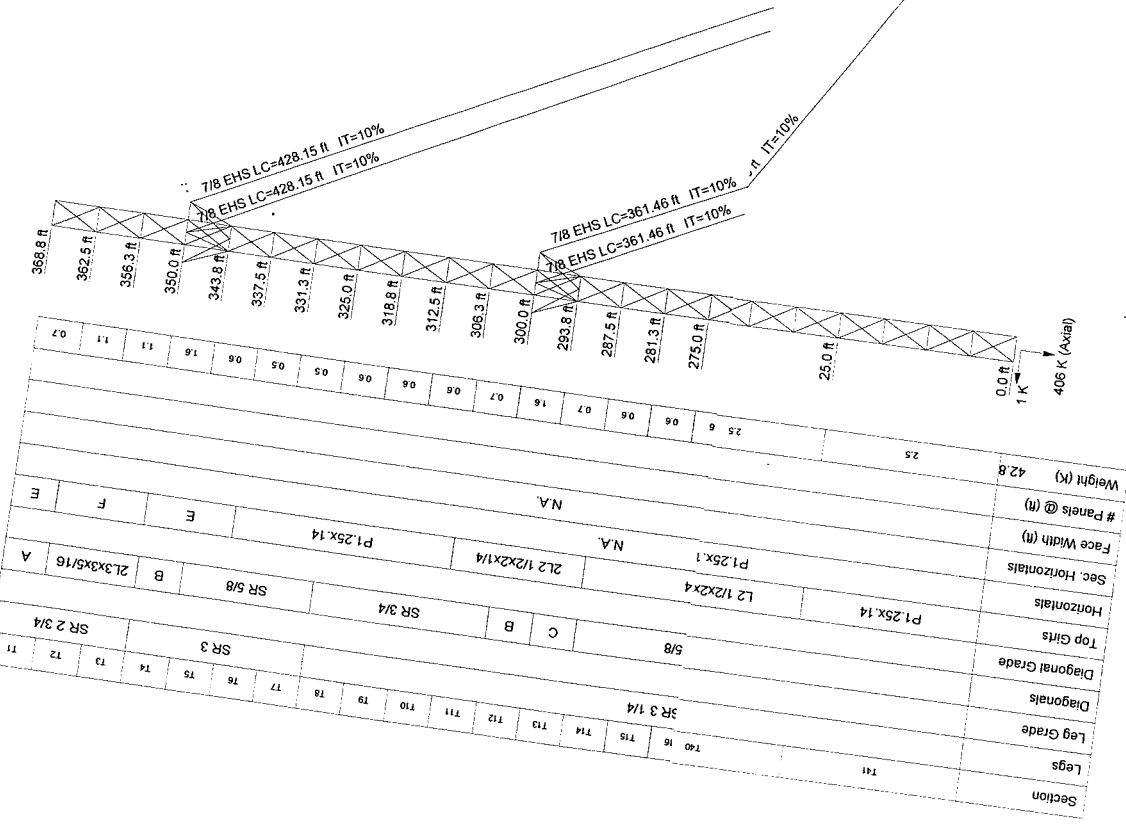
VZ5-109 (Rev 2) / 36922267
MET-013 (Rev 1) / 36917439
CTK-022 (Rev 1) / 36922398

370' Guyed Lattice Tower
Montville, CT

12/5/2012



PLAN



Section	Legs	Leg Grade	Diagonals	Diagonal Grade	Top Girts	Horizontals	Sec. Horizontals	Face Width (ft)	# Panels @ (ft)	Weight (K)
11	T1									42.8
12	T2									25
13	T3									
14	T4									
15	T5									
16	T6									
17	T7									
18	T8									
19	T9									
20	T10									
21	T11									
22	T12									
23	T13									
24	T14									
25	T15									
26	T16									
27	T17									
28	T18									
29	T19									
30	T20									
31	T21									
32	T22									
33	T23									
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36	T26									
37	T27									
38	T28									
39	T29									
40	T30									
41	T31									
42	T32									
43	T33									
44	T34									
45	T35									
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59	T49									
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61	T51									
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77	T67									
78	T68									
79	T69									
80	T70									
81	T71									
82	T72									
83	T73									
84	T74									
85	T75									
86	T76									
87	T77									
88	T78									
89	T79									
90	T80									
91	T81									
92	T82									
93	T83									
94	T84									
95	T85									
96	T86									
97	T87									
98	T88									
99	T89									
100	T90									

URS Corporation
 500 Enterprise Drive, Suite 3B
 Rocky Hill, CT 06067
 Phone: (860) 529-8882
 FAX: (860) 529-3991

Job: **370' Guyed Lattice Tower**
 Project: **Montville, CT**
 Client: **VZW MetroPCS & AT&T**
 Code: **TIA/EIA-222-F**
 Path: **P 0913 Camer Run/NERI File/Montville en**

Drawn by: **Kevin Barker**
 Date: **12/05/12**
 App'd: _____
 Scale: **NTS**
 Dwg No: **E-1**

TNX TOWER FEEDLINE DISTRIBUTION

VZ5-109 (Rev 2) / 36922267
MET-013 (Rev 1) / 36917439
CTK-022 (Rev 1) / 36922398

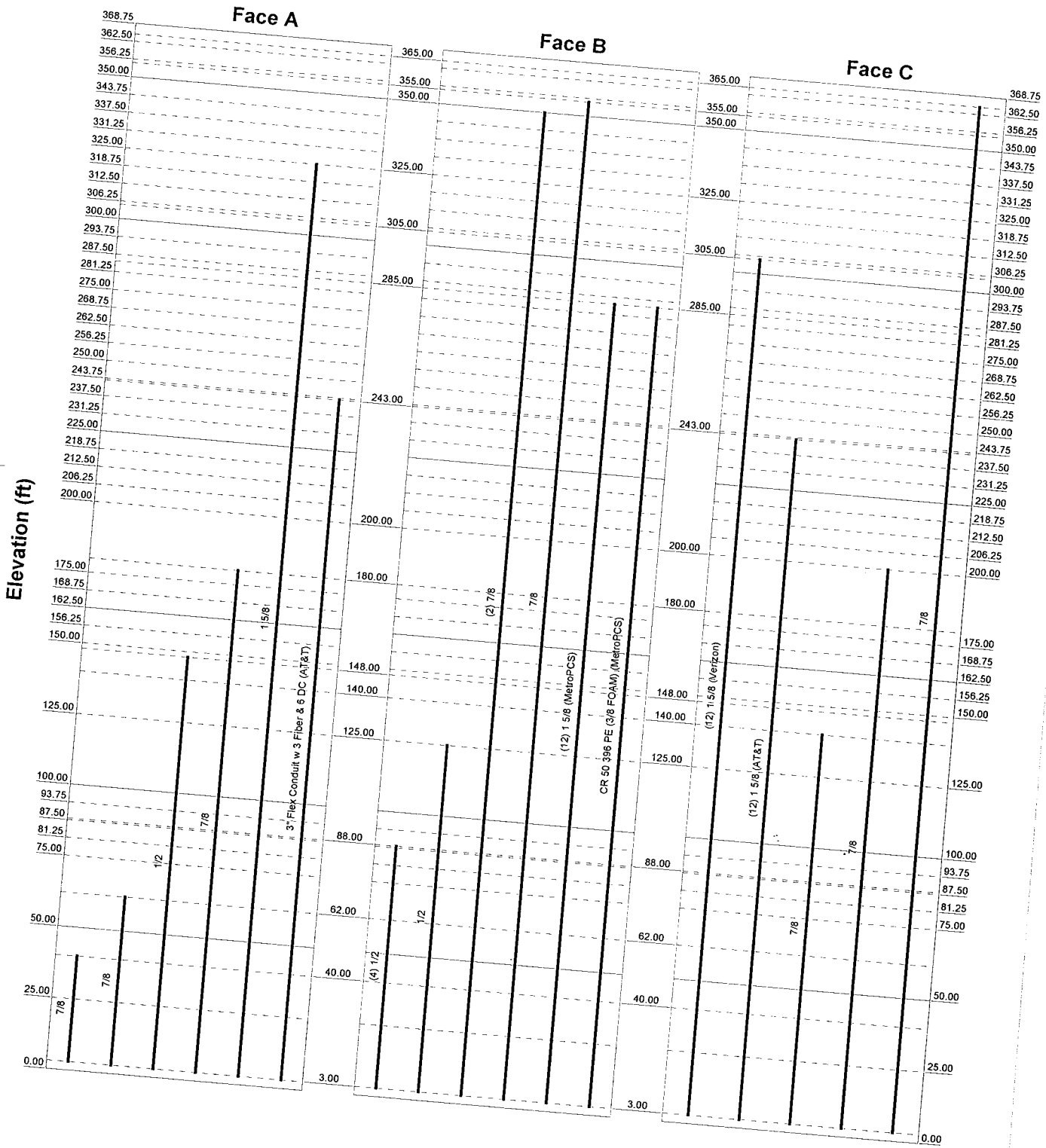
370' Guyed Lattice Tower
Montville, CT

12/5/2012

Feedline Distribution Chart

0' - 368'9"

Round
Flat
App In Face
App Out Face
Truss Leg



URS Corporation		Job: 370' Guyed Lattice Tower	
500 Enterprise Drive, Suite 3B		Project: Montville, CT	
Rocky Hill, CT 06067		Client: VZW, MetroPCS, & AT&T	
Phone: (860) 529-8882		Code: TIA/EIA-222-F	Drawn by: Kevin Barker
FAX: (860) 529-3991		Date: 12/05/12	App'd:
		Path: <small>P:\0813 Carrier Rein\NERI Files\Montville.eri</small>	Scale: NTS
			Dwg No. E-7

TNX TOWER DETAILED OUTPUT

VZ5-109 (Rev 2) / 36922267
MET-013 (Rev 1) / 36917439
CTK-022 (Rev 1) / 36922398

370' Guyed Lattice Tower
Montville, CT

12/5/2012

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	1 of 99
	Project	Montville, CT	Date	08:16:26 12/05/12
	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Tower Input Data

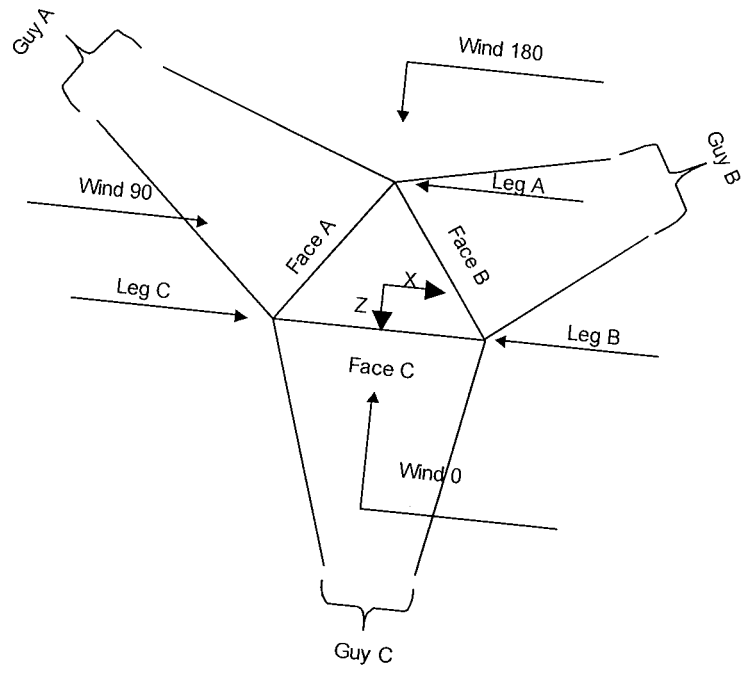
The main tower is a 3x guyed tower with an overall height of 368.75 ft above the ground line.
 The base of the tower is set at an elevation of 0.00 ft above the ground line.
 The face width of the tower is 5.00 ft at the top and 5.00 ft at the base.
 This tower is designed using the TIA/EIA-222-F standard.
 The following design criteria apply:

- Basic wind speed of 95 mph.
- Nominal ice thickness of 0.5000 in.
- Ice density of 56 pcf.
- A wind speed of 82 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 50 mph.
- Tension only take-up is 0.0313 in.
- Pressures are calculated at each section.
- Safety factor used in guy design is 2.
- 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.

Options

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile √ Include Bolts In Member Capacity √ Leg Bolts Are At Top Of Section √ Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) Add IBC .6D+W Combination | <ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area √ Use Clear Spans For KL/r √ Retension Guys To Initial Tension Bypass Mast Stability Checks Use Azimuth Dish Coefficients Project Wind Area of Appurt. √ Autocalc Torque Arm Areas √ SR Members Have Cut Ends √ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing | <ul style="list-style-type: none"> Treat Feedline Bundles As Cylinder Use ASCE 10 X-Brace Ly Rules √ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression √ All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feedline Torque Include Angle Block Shear Check <li style="text-align: center;">Poles Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets |
|--|--|---|

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	3 of 99
	Project	Montville, CT	Date	08:16:26 12/05/12
	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker



Face Guyed

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	<i>ft</i>					
T1	368.75-362.50			5.00	1	6.25
T2	362.50-356.25			5.00	1	6.25
T3	356.25-350.00			5.00	1	6.25
T4	350.00-343.75			5.00	1	6.25
T5	343.75-337.50			5.00	1	6.25
T6-T7	337.50-325.00			5.00	1	6.25
T8-T10	325.00-306.25			5.00	1	6.25
T11	306.25-300.00			5.00	2	6.25
T12	300.00-293.75			5.00	3	6.25
T13	293.75-287.50			5.00	1	6.25
T14-T15	287.50-275.00			5.00	1	6.25
T16-T18	275.00-256.25			5.00	1	6.25
T19	256.25-250.00			5.00	2	6.25
T20	250.00-243.75			5.00	3	6.25
T21	243.75-237.50			5.00	1	6.25
T22	237.50-231.25			5.00	1	6.25

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	5 of 99
	Project	Montville, CT	Date	08:16:26 12/05/12
	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 368.75-362.50	Solid Round	2 3/4	A36	Equal Angle	L2 1/2x2 1/2x1/4	A36
T2 362.50-356.25	Solid Round	2 3/4	(36 ksi) A36	Double Equal Angle	2L3x3x5/16	(36 ksi) A36
T3 356.25-350.00	Solid Round	2 3/4	(36 ksi) A36	Double Equal Angle	2L3x3x5/16	(36 ksi) A36
T4 350.00-343.75	Solid Round	3	(36 ksi) A36	Single Angle	L3x2 1/2x1/4	(36 ksi) A36
T5 343.75-337.50	Solid Round	3	(36 ksi) A36	Solid Round	5/8	(36 ksi) A36
T6-T7 337.50-325.00	Solid Round	3	(36 ksi) A36	Solid Round	5/8	(36 ksi) A36
T8-T10 325.00-306.25	Solid Round	3 1/4	(36 ksi) A36	Solid Round	3/4	(36 ksi) A36
T11 306.25-300.00	Solid Round	3 1/4	(36 ksi) A36	Solid Round	3/4	(36 ksi) A36
T12 300.00-293.75	Solid Round	3 1/4	(36 ksi) A36	Single Angle	L3x2 1/2x1/4	(36 ksi) A36
T13 293.75-287.50	Solid Round	3 1/4	(36 ksi) A36	Solid Round	3/4	(36 ksi) A36
T14-T15 287.50-275.00	Solid Round	3 1/4	(36 ksi) A36	Solid Round	5/8	(36 ksi) A36
T16-T18 275.00-256.25	Solid Round	3 1/4	(36 ksi) A36	Solid Round	5/8	(36 ksi) A36
T19 256.25-250.00	Solid Round	3 1/4	(36 ksi) A36	Solid Round	3/4	(36 ksi) A36
T20 250.00-243.75	Solid Round	3 1/4	(36 ksi) A36	Solid Round	3/4	(36 ksi) A36
T21 243.75-237.50	Solid Round	3 1/4	(36 ksi) A36	Solid Round	3/4	(36 ksi) A36
T22 237.50-231.25	Solid Round	3 1/4	(36 ksi) A36	Solid Round	3/4	(36 ksi) A36
T23 231.25-225.00	Solid Round	3 1/4	(36 ksi) A36	Solid Round	1	(36 ksi) A36
T24 225.00-218.75	Solid Round	3	(36 ksi) A36	Solid Round	1	(36 ksi) A36
T25 218.75-212.50	Solid Round	3	(36 ksi) A36	Double Equal Angle	2L2 1/2x2 1/2x1/4	(36 ksi) A36
T26-T27 212.50-200.00	Solid Round	3	(36 ksi) A36	Solid Round	5/8	(36 ksi) A36
T28 200.00-175.00	Solid Round	3	(36 ksi) A36	Solid Round	5/8	(36 ksi) A36
T29-T30 175.00-162.50	Solid Round	3 1/4	(36 ksi) A36	Solid Round	5/8	(36 ksi) A36
T31 162.50-156.25	Solid Round	3 1/4	(36 ksi) A36	Solid Round	1	(36 ksi) A36
T32 156.25-150.00	Solid Round	3 1/4	(36 ksi) A36	Solid Round	1	(36 ksi) A36
T33 150.00-125.00	Solid Round	3 1/4	(36 ksi) A36	Solid Round	5/8	(36 ksi) A36
T34 125.00-100.00	Solid Round	3 1/4	(36 ksi) A36	Solid Round	5/8	(36 ksi) A36
T35 100.00-93.75	Solid Round	3 1/4	(36 ksi) A36	Equal Angle	L2 1/2x2 1/2x3/16	(36 ksi) A36
T36 93.75-87.50	Solid Round	3 1/4	(36 ksi) A36	Double Equal Angle	2L2 1/2x2 1/2x1/4	(36 ksi) A36
				Solid Round	3/4	(36 ksi) A36

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Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
200.00-175.00	Pipe	P1.25x.14	(36 ksi)			
T29-T30			A36	Pipe		(36 ksi)
175.00-162.50	Double Angle	2L2 1/2x2x1/4	(36 ksi)			A36
T31			A36	Pipe		(36 ksi)
162.50-156.25	Pipe	P1.25x.14	(36 ksi)			A36
T32			A36	Pipe		(36 ksi)
156.25-150.00	Pipe	P1.25x.14	(36 ksi)			A36
T33			A36	Pipe		(36 ksi)
150.00-125.00	Pipe	P1.25x.14	(36 ksi)			A36
T34			A36	Pipe		(36 ksi)
125.00-100.00	Double Angle	2L2 1/2x2x1/4	(36 ksi)			A36
T35			A36	Pipe		(36 ksi)
100.00-93.75	Double Angle	2L2 1/2x2x1/4	(36 ksi)			A36
T36			A36	Pipe		(36 ksi)
93.75-87.50	Double Angle	2L2 1/2x2x1/4	(36 ksi)			A36
T37-T38			A36	Pipe		(36 ksi)
87.50-75.00	Pipe	P1.25x.14	(36 ksi)			A36
T39			A36	Pipe		(36 ksi)
75.00-50.00	Pipe	P1.25x.14	(36 ksi)			A36
T40			A36	Pipe		(36 ksi)
50.00-25.00	Single Angle	L2 1/2x2x1/4	(36 ksi)			A36
T41			A36	Pipe		(36 ksi)
25.00-0.00	Pipe	P1.25x.14	(36 ksi)			A36
			A36	Pipe		(36 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T1 368.75-362.50	None	Flat Bar		A36			
T2 362.50-356.25	None	Flat Bar		(36 ksi)	Pipe	P1.25x.14	A36
T3 356.25-350.00	None	Flat Bar		A36	Pipe	P1.25x.14	(36 ksi)
T4 350.00-343.75	None	Flat Bar		(36 ksi)	Pipe	P1.25x.14	A36
T5 343.75-337.50	None	Flat Bar		A36	Pipe	P1.25x.14	(36 ksi)
T6-T7	None	Flat Bar		(36 ksi)	Pipe	P1.25x.14	A36
337.50-325.00	None	Flat Bar		A36	Pipe	P1.25x.14	(36 ksi)
T8-T10	None	Flat Bar		(36 ksi)	Pipe	P1.25x.14	A36
325.00-306.25	None	Flat Bar		A36	Pipe	P1.25x.14	(36 ksi)
T11	None	Flat Bar		(36 ksi)	Pipe	P1.25x.14	A36
306.25-300.00	None	Flat Bar		A36	Pipe	P1.25x.14	(36 ksi)
T12	None	Flat Bar		(36 ksi)	Pipe	P1.25x.14	A36
300.00-293.75	None	Flat Bar		A36	Pipe	P1.25x.14	(36 ksi)
T13	None	Flat Bar		(36 ksi)	Pipe	P1.25x.14	A36
293.75-287.50	None	Flat Bar		A36	Pipe	P1.25x.14	(36 ksi)
T14-T15	None	Flat Bar		(36 ksi)	Pipe	P1.25x.14	A36
287.50-275.00	None	Flat Bar		A36	Pipe	P1.25x.14	(36 ksi)
T16-T18	None	Flat Bar		(36 ksi)	Pipe	P1.25x.14	A36
275.00-256.25	None	Flat Bar		A36	Pipe	P1.25x.14	(36 ksi)
T19	None	Flat Bar		(36 ksi)	Pipe	P1.25x.14	A36
256.25-250.00	None	Flat Bar		A36	Pipe	P1.25x.14	(36 ksi)

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Tower Section Geometry (cont'd)

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
ft	ft ²	in						
T1	0.00	0.0000	A36	1	1	1	36.0000	36.0000
368.75-362.50			(36 ksi)					
T2	0.00	0.0000	A36	1	1	1	36.0000	36.0000
362.50-356.25			(36 ksi)					
T3	0.00	0.0000	A36	1	1	1	36.0000	36.0000
356.25-350.00			(36 ksi)					
T4	0.00	0.0000	A36	1	1	1	36.0000	36.0000
350.00-343.75			(36 ksi)					
T5	0.00	0.0000	A36	1	1	1	36.0000	36.0000
343.75-337.50			(36 ksi)					
T6-T7	0.00	0.0000	A36	1	1	1	36.0000	36.0000
337.50-325.00			(36 ksi)					
T8-T10	0.00	0.0000	A36	1	1	1	36.0000	36.0000
325.00-306.25			(36 ksi)					
T11	0.00	0.0000	A36	1	1	1	36.0000	36.0000
306.25-300.00			(36 ksi)					
T12	0.00	0.0000	A36	1	1	1	36.0000	36.0000
300.00-293.75			(36 ksi)					
T13	0.00	0.0000	A36	1	1	1	36.0000	36.0000
293.75-287.50			(36 ksi)					
T14-T15	0.00	0.0000	A36	1	1	1	36.0000	36.0000
287.50-275.00			(36 ksi)					
T16-T18	0.00	0.0000	A36	1	1	1	36.0000	36.0000
275.00-256.25			(36 ksi)					
T19	0.00	0.0000	A36	1	1	1	36.0000	36.0000
256.25-250.00			(36 ksi)					
T20	0.00	0.0000	A36	1	1	1	36.0000	36.0000
250.00-243.75			(36 ksi)					
T21	0.00	0.0000	A36	1	1	1	36.0000	36.0000
243.75-237.50			(36 ksi)					
T22	0.00	0.0000	A36	1	1	1	36.0000	36.0000
237.50-231.25			(36 ksi)					
T23	0.00	0.0000	A36	1	1	1	36.0000	36.0000
231.25-225.00			(36 ksi)					
T24	0.00	0.0000	A36	1	1	1	36.0000	36.0000
225.00-218.75			(36 ksi)					
T25	0.00	0.0000	A36	1	1	1	36.0000	36.0000
218.75-212.50			(36 ksi)					
T26-T27	0.00	0.0000	A36	1	1	1	36.0000	36.0000
212.50-200.00			(36 ksi)					
T28	0.00	0.0000	A36	1	1	1	36.0000	36.0000
200.00-175.00			(36 ksi)					
T29-T30	0.00	0.0000	A36	1	1	1	36.0000	36.0000
175.00-162.50			(36 ksi)					
T31	0.00	0.0000	A36	1	1	1	36.0000	36.0000
162.50-156.25			(36 ksi)					
T32	0.00	0.0000	A36	1	1	1	36.0000	36.0000
156.25-150.00			(36 ksi)					
T33	0.00	0.0000	A36	1	1	1	36.0000	36.0000
150.00-125.00			(36 ksi)					
T34	0.00	0.0000	A36	1	1	1	36.0000	36.0000
125.00-100.00			(36 ksi)					
T35	0.00	0.0000	A36	1	1	1	36.0000	36.0000
100.00-93.75			(36 ksi)					
T36	0.00	0.0000	A36	1	1	1	36.0000	36.0000
93.75-87.50			(36 ksi)					

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Guy Data (cont'd)

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap	Pull-Off Grade	Pull-Off Type	Pull-Off Size
50.00	A572-50 (50 ksi)	Solid Round				A36 (36 ksi)	Flat Bar	
100.00	A572-50 (50 ksi)	Solid Round				A36 (36 ksi)	Flat Bar	
162.50	A572-50 (50 ksi)	Solid Round				A36 (36 ksi)	Solid Round	
225.00	A572-50 (50 ksi)	Solid Round				A36 (36 ksi)	Flat Bar	
300.00	A572-50 (50 ksi)	Solid Round				A36 (36 ksi)	Solid Round	
350.00	A572-50 (50 ksi)	Solid Round				A36 (36 ksi)	Solid Round	

Guy Data (cont'd)

Guy Elevation ft	Cable Weight A K	Cable Weight B K	Cable Weight C K	Cable Weight D K	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
50	0.08	0.08	0.08	0.08	1.44	1.44	1.44	1.44
100	0.12	0.12	0.12	0.12	2.1 sec/pulse 3.28	2.1 sec/pulse 3.28	2.1 sec/pulse 3.28	2.1 sec/pulse 3.28
162.5	0.26	0.26	0.26	0.26	3.1 sec/pulse 4.98	3.1 sec/pulse 4.98	3.1 sec/pulse 4.98	3.1 sec/pulse 4.98
225	0.35	0.35	0.35	0.35	3.9 sec/pulse 8.84	3.9 sec/pulse 8.84	3.9 sec/pulse 8.84	3.9 sec/pulse 8.84
300	0.57	0.57	0.57	0.57	5.1 sec/pulse 12.58	5.1 sec/pulse 12.58	5.1 sec/pulse 12.58	5.1 sec/pulse 12.58
350	0.68	0.68	0.68	0.68	6.1 sec/pulse 17.56	6.1 sec/pulse 17.56	6.1 sec/pulse 17.56	6.1 sec/pulse 17.56

Guy Data (cont'd)

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm		Pull Off		Diagonal	
			K _x	K _y	K _x	K _y	K _x	K _y
50	No	No						
100	No	No						
162.5	No	No						
225	No	No						
300	No	No						
350	No	No						

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Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F _x	F _y	F _z	M _x	M _y	M _z	
ft		°	K				kip-ft	kip-ft	kip-ft	
100	C	24.0358	3.53 3.50 Sum:	-2.78	1.47	1.61	2.13	-0.00	3.68	
	A	32.5526	3.57 3.50	0.00	4.42	0.00	0.00	0.00	0.00	
	A	32.5526	3.57 3.50	-0.11	1.96	-2.98	-6.80	18.25	-11.78	
	B	32.5526	3.57 3.50	0.11	1.96	-2.98	-6.80	-18.25	11.78	
	B	32.5526	3.57 3.50	2.63	1.96	1.39	13.60	18.25	0.00	
	C	32.5526	3.57 3.50	2.52	1.96	1.59	-6.80	-18.25	-11.78	
	C	32.5526	3.57 3.50	-2.52	1.96	1.59	-6.80	18.25	11.78	
			Sum:	6.02	0.00	11.78	0.00	13.60	-18.25	0.00
				5.83	0.00	4.39	-4.12	-0.00	0.00	0.00
				6.02	3.57	4.39	2.06	6.33	0.00	-10.97
162.5	A	45.9656	5.83 6.09 Sum:	-3.57	4.39	2.06	6.33	-0.00	10.97	
	B	45.9656	5.83 6.09	0.00	13.17	0.00	0.00	0.00	0.00	
	C	45.9656	5.83 6.09	-0.12	4.61	-3.97	-15.98	24.26	-27.67	
	A	48.1361	5.83 6.09	0.12	4.61	-3.97	-15.98	-24.26	27.67	
	B	48.1361	5.83 6.09	3.50	4.61	1.88	31.96	24.26	0.00	
	B	48.1361	5.83 6.09	3.38	4.61	2.09	-15.98	-24.26	-27.67	
	C	48.1361	5.83 6.09	-3.38	4.61	2.09	-15.98	24.26	27.67	
	C	48.1361	5.83 6.09	-3.50	4.61	1.88	31.96	-24.26	0.00	
			Sum:	8.44	0.00	27.67	0.00	-24.26	0.00	0.00
				7.97	-0.14	7.10	-4.57	-24.58	27.91	-42.58
300	A	56.0956	8.44 7.97 Sum:	0.14	7.10	-4.57	-24.58	-27.91	42.58	
	A	56.0956	8.44 7.97	4.03	7.10	2.17	49.17	27.91	0.00	
	B	56.0956	8.44 7.97	3.89	7.10	2.40	-24.58	-27.91	-42.58	
	B	56.0956	8.44 7.97	-3.89	7.10	2.40	-24.58	27.91	42.58	
	C	56.0956	8.44 7.97	-4.03	7.10	2.17	49.17	-27.91	0.00	
	C	56.0956	8.44 7.97	0.00	42.58	0.00	-0.00	0.00	0.00	
	A	54.8316	8.52 7.97	-0.12	7.08	-4.75	-24.52	28.87	-42.47	
	A	54.8316	8.52 7.97	0.12	7.08	-4.75	-24.52	-28.87	42.47	
	B	54.8316	8.52 7.97	4.17	7.08	2.27	49.04	28.87	0.00	
	B	54.8316	8.52 7.97	4.05	7.08	2.47	-24.52	-28.87	-42.47	
350	C	54.8316	8.52 7.97	-4.05	7.08	2.47	-24.52	-28.87	-42.47	
			Sum:	7.97	7.08	2.47	-24.52	28.87	42.47	

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Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom	F _x	F _y	F _z	M _x	M _y	M _z	
ft		°	K	K	K	kip-ft	kip-ft	kip-ft		
350	B	56.0956	10.83	5.49	9.72	2.96	67.36	38.05	0.00	
	B	56.0956	11.55	5.31	9.72	3.28	-33.68	-38.05	-58.34	
	C	56.0956	10.83	-5.31	9.72	3.28	-33.68	38.05	58.34	
	C	56.0956	11.55	-5.49	9.72	2.96	67.36	-38.05	0.00	
	A	54.8316	10.83	Sum:	0.00	58.34	0.00	-0.00	0.00	0.00
	A	54.8316	11.71	10.87	-0.16	9.75	-6.50	-33.76	39.52	-58.47
	B	54.8316	10.87	11.71	0.16	9.75	-6.50	-33.76	-39.52	58.47
	B	54.8316	11.71	10.87	5.70	9.75	3.11	67.52	39.52	0.00
	C	54.8316	10.87	11.71	5.55	9.75	3.38	-33.76	-39.52	-58.47
	C	54.8316	10.87	11.71	-5.55	9.75	3.38	-33.76	39.52	58.47
	C	54.8316	10.87	11.71	-5.70	9.75	3.11	67.52	-39.52	0.00
				Sum:	0.00	58.47	0.00	-0.00	0.00	0.00

Guy-Mast Forces (Excluding Wind) - Service

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom	F _x	F _y	F _z	M _x	M _y	M _z	
ft		°	K	K	K	kip-ft	kip-ft	kip-ft		
50	A	24.0358	3.53	0.00	1.47	-3.21	-4.25	0.00	0.00	
	B	24.0358	3.50	2.78	1.47	1.61	2.13	0.00	-3.68	
	C	24.0358	3.50	-2.78	1.47	1.61	2.13	-0.00	3.68	
100	A	32.5526	Sum:	0.00	4.42	0.00	0.00	0.00	0.00	
	A	32.5526	3.57	-0.11	1.96	-2.98	-6.80	18.25	-11.78	
	B	32.5526	3.50	0.11	1.96	-2.98	-6.80	-18.25	11.78	
	B	32.5526	3.57	2.63	1.96	1.39	13.60	18.25	0.00	
	C	32.5526	3.50	2.52	1.96	1.59	-6.80	-18.25	-11.78	
	C	32.5526	3.57	-2.52	1.96	1.59	-6.80	18.25	11.78	
	C	32.5526	3.50	-2.63	1.96	1.39	13.60	-18.25	0.00	
	A	45.9656	Sum:	0.00	11.78	0.00	-0.00	0.00	0.00	0.00
	B	45.9656	6.02	0.00	4.39	-4.12	-12.67	0.00	0.00	
	B	45.9656	5.83	3.57	4.39	2.06	6.33	0.00	-10.97	
				6.02						

162.5

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Guy Elevation ft	H ft	V ft	Temperature At Time Of Tensioning														
			0 F		20 F		40 F		60 F		80 F		100 F		120 F		
			Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	
162.5	C	156.65	100.00	4.570	2.51	4.209	2.73	3.851	2.98	3.500	3.28	3.157	3.63	2.825	4.05	2.509	4.56
	A	157.11	162.50	6.959	4.18	6.580	4.42	6.203	4.68	5.830	4.98	5.463	5.31	5.103	5.68	4.751	6.09
	B	157.11	162.50	6.959	4.18	6.580	4.42	6.203	4.68	5.830	4.98	5.463	5.31	5.103	5.68	4.751	6.09
	C	157.11	162.50	6.959	4.18	6.580	4.42	6.203	4.68	5.830	4.98	5.463	5.31	5.103	5.68	4.751	6.09
225	A	201.63	225.00	6.832	7.56	6.493	7.95	6.159	8.38	5.830	8.84	5.508	9.35	5.193	9.90	4.887	10.50
	B	201.63	225.00	6.832	7.56	6.493	7.95	6.159	8.38	5.830	8.84	5.508	9.35	5.193	9.90	4.887	10.50
	C	201.63	225.00	6.832	7.56	6.493	7.95	6.159	8.38	5.830	8.84	5.508	9.35	5.193	9.90	4.887	10.50
300	A	201.63	300.00	8.922	11.26	8.601	11.67	8.284	12.11	7.970	12.58	7.661	13.07	7.356	13.60	7.057	14.16
	B	201.63	300.00	8.922	11.26	8.601	11.67	8.284	12.11	7.970	12.58	7.661	13.07	7.356	13.60	7.057	14.16
	C	201.63	300.00	8.922	11.26	8.601	11.67	8.284	12.11	7.970	12.58	7.661	13.07	7.356	13.60	7.057	14.16
350	A	246.61	350.00	8.938	15.71	8.610	16.29	8.287	16.91	7.970	17.56	7.659	18.25	7.354	18.99	7.056	19.76
	B	246.61	350.00	8.938	15.71	8.610	16.29	8.287	16.91	7.970	17.56	7.659	18.25	7.354	18.99	7.056	19.76
	C	246.61	350.00	8.938	15.71	8.610	16.29	8.287	16.91	7.970	17.56	7.659	18.25	7.354	18.99	7.056	19.76

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
1 5/8 (Verizon)	C	Yes	Ar (CfAe)	305.00 - 3.00	0.0000	-0.3	12	6	0.7500	1.9800		1.04
1 5/8 (AT&T)	C	No	Ar (Leg)	243.00 - 3.00	0.0000	-0.15	12	6	0.7500	1.9800		1.04
7/8	A	No	Ar (Leg)	40.00 - 3.00	0.0000	0.4	1	1	1.1100	1.1100		0.54
1/2	B	No	Ar (Leg)	62.00 - 3.00	0.0000	0.4	1	1	0.5800	0.5800		0.25
7/8	C	No	Ar (Leg)	88.00 - 3.00	0.0000	0	4	4	0.5800	0.5800		0.54
1/2	A	No	Ar (Leg)	125.00 - 3.00	0.0000	0	1	1	1.1100	1.1100		0.25
7/8	A	No	Ar (Leg)	140.00 - 3.00	0.0000	0	1	1	0.5800	0.5800		0.25
7/8	A	No	Ar (Leg)	148.00 - 3.00	0.0000	0	1	1	1.1100	1.1100		0.54
7/8	C	No	Ar (Leg)	180.00 - 3.00	0.0000	0	1	1	0.5800	0.5800		0.25
1 5/8 (MetroPCS)	A	No	Ar (Leg)	200.00 - 3.00	0.0000	0	1	1	1.1100	1.1100		0.54
7/8 CR 50 396 PE (3/8 FOAM)	B	No	Ar (Leg)	325.00 - 3.00	0.0000	0	1	1	1.1100	1.1100		0.54
7/8 (MetroPCS)	B	No	Ar (Leg)	350.00 - 3.00	0.0000	0	1	1	1.1100	1.1100		0.54
7/8 3" Flex Conduit w 3 Fiber & 6 DC (AT&T)	C	No	Ar (Leg)	355.00 - 3.00	0.0000	0	2	2	1.9800	1.9800		1.04
	B	Yes	Ar (CfAe)	365.00 - 3.00	0.0000	0	1	1	1.1100	1.1100		0.54
	B	Yes	Ar (CfAe)	285.00 - 3.00	0.0000	-0.2	12	6	1.9800	1.9800		1.04
	A	Yes	Ar (CfAe)	243.00 - 3.00	0.0000	0	1	1	0.4500	0.4500		0.09
						-0.4	1	1	0.0000	3.0000		3.00

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R	A _F	C _A A ₁ In Face ft ²	C _A A ₁ Out Face ft ²	Weight K
T1	368.75-362.50	A	0.231	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.231	0.000	0.000	0.000	0.00
T2	362.50-356.25	A	0.578	0.000	0.000	0.000	0.00

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	25 of 99
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Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A ₁ In Face ft ²	C _A A ₁ Out Face ft ²	Weight K
T21	243.75-237.50	B		14.917	0.000	0.000	0.000	
		A	0.500	5.948	7.109	0.000	0.000	0.22
		C		5.850	6.256	0.000	0.000	0.22
T22	237.50-231.25	B		14.917	0.000	0.000	0.000	0.04
		A	0.500	7.314	13.366	0.000	0.000	0.22
		C		6.286	7.109	0.000	0.000	0.41
T23	231.25-225.00	B		14.917	0.000	0.000	0.000	0.05
		A	0.500	7.500	14.219	0.000	0.000	0.22
		C		6.286	7.109	0.000	0.000	0.44
T24	225.00-218.75	B		14.917	0.000	0.000	0.000	0.05
		A	0.500	7.500	14.219	0.000	0.000	0.22
		C		6.286	7.109	0.000	0.000	0.44
T25	218.75-212.50	B		14.917	0.000	0.000	0.000	0.05
		A	0.500	7.500	14.219	0.000	0.000	0.22
		C		6.286	7.109	0.000	0.000	0.44
T26	212.50-206.25	B		14.917	0.000	0.000	0.000	0.05
		A	0.500	7.500	14.219	0.000	0.000	0.22
		C		6.286	7.109	0.000	0.000	0.44
T27	206.25-200.00	B		14.917	0.000	0.000	0.000	0.05
		A	0.500	7.500	14.219	0.000	0.000	0.22
		C		6.286	7.109	0.000	0.000	0.44
T28	200.00-175.00	B		14.917	0.000	0.000	0.000	0.05
		A	0.500	7.500	14.219	0.000	0.000	0.22
		C		6.286	7.109	0.000	0.000	0.44
T29	175.00-168.75	B		30.421	28.438	0.000	0.000	0.20
		A	0.500	60.546	0.000	0.000	0.000	0.90
		C		34.396	56.875	0.000	0.000	1.79
T30	168.75-162.50	B		8.484	7.109	0.000	0.000	0.06
		A	0.500	16.016	0.000	0.000	0.000	0.22
		C		8.599	14.219	0.000	0.000	0.45
T31	162.50-156.25	B		8.484	7.109	0.000	0.000	0.06
		A	0.500	16.016	0.000	0.000	0.000	0.22
		C		8.599	14.219	0.000	0.000	0.45
T32	156.25-150.00	B		8.484	7.109	0.000	0.000	0.06
		A	0.500	16.016	0.000	0.000	0.000	0.22
		C		8.599	14.219	0.000	0.000	0.45
T33	150.00-125.00	B		8.484	7.109	0.000	0.000	0.06
		A	0.500	16.016	0.000	0.000	0.000	0.22
		C		8.599	14.219	0.000	0.000	0.45
T34	125.00-100.00	B		39.603	28.438	0.000	0.000	0.45
		A	0.500	67.091	0.000	0.000	0.000	0.25
		C		37.033	56.875	0.000	0.000	0.90
T35	100.00-93.75	B		41.625	28.438	0.000	0.000	1.81
		A	0.500	70.646	0.000	0.000	0.000	0.25
		C		42.083	56.875	0.000	0.000	0.92
T36	93.75-87.50	B		10.406	7.109	0.000	0.000	0.06
		A	0.500	17.661	0.000	0.000	0.000	0.23
		C		10.521	14.219	0.000	0.000	0.46
T37	87.50-81.25	B		10.406	7.109	0.000	0.000	0.06
		A	0.500	17.727	0.145	0.000	0.000	0.23
		C		10.587	14.364	0.000	0.000	0.46
T38	81.25-75.00	B		10.406	7.109	0.000	0.000	0.06
		A	0.500	18.484	1.813	0.000	0.000	0.25
		C		11.344	16.031	0.000	0.000	0.46
T39	75.00-50.00	B		10.406	7.109	0.000	0.000	0.06
		A	0.500	18.484	1.813	0.000	0.000	0.25
		C		11.344	16.031	0.000	0.000	0.46
T40	50.00-25.00	B		43.735	28.438	0.000	0.000	0.27
		A	0.500	76.047	7.250	0.000	0.000	1.01
		C		45.375	64.125	0.000	0.000	1.83
		B		48.658	28.438	0.000	0.000	0.31
		A		80.971	7.250	0.000	0.000	1.01

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Section	Elevation ft	Face	A_R	$A_{R, Ice}$	A_F	$A_{F, Ice}$
			ft^2	ft^2	ft^2	ft^2
T17	268.75-262.50	C	0.302	0.908	0.000	0.000
		A	0.000	0.000	0.000	0.000
		B	0.313	1.055	0.000	0.000
T18	262.50-256.25	C	0.302	0.908	0.000	0.000
		A	0.000	0.000	0.000	0.000
		B	0.313	1.055	0.000	0.000
T19	256.25-250.00	C	0.302	0.908	0.000	0.000
		A	0.000	0.000	0.000	0.000
		B	0.348	1.109	0.000	0.000
T20	250.00-243.75	C	0.335	0.954	0.000	0.000
		A	0.000	0.000	0.000	0.000
		B	0.206	0.886	0.000	0.000
T21	243.75-237.50	C	0.198	0.763	0.214	0.336
		A	0.044	0.161	0.206	0.289
		B	0.206	0.886	0.046	0.061
T22	237.50-231.25	C	0.198	0.763	0.214	0.336
		A	0.067	0.206	0.206	0.289
		B	0.274	0.994	0.052	0.069
T23	231.25-225.00	C	0.264	0.855	0.214	0.336
		A	0.067	0.206	0.206	0.289
		B	0.274	0.994	0.052	0.069
T24	225.00-218.75	C	0.264	0.855	0.214	0.336
		A	0.000	0.117	0.206	0.289
		B	0.000	0.564	0.219	0.292
T25	218.75-212.50	C	0.000	0.485	0.899	1.410
		A	0.042	0.200	0.867	1.213
		B	0.171	0.967	0.094	0.125
T26	212.50-206.25	C	0.165	0.832	0.385	0.604
		A	0.076	0.246	0.371	0.520
		B	0.313	1.190	0.042	0.056
T27	206.25-200.00	C	0.302	1.024	0.171	0.268
		A	0.076	0.246	0.165	0.231
		B	0.313	1.190	0.042	0.056
T28	200.00-175.00	C	0.302	1.024	0.171	0.268
		A	0.443	1.169	0.165	0.231
		B	1.822	5.650	0.000	0.000
T29	175.00-168.75	C	1.756	4.861	0.000	0.000
		A	0.101	0.252	0.000	0.000
		B	0.416	1.217	0.000	0.000
T30	168.75-162.50	C	0.401	1.047	0.000	0.000
		A	0.101	0.252	0.000	0.000
		B	0.416	1.217	0.000	0.000
T31	162.50-156.25	C	0.401	1.047	0.000	0.000
		A	0.067	0.206	0.000	0.000
		B	0.274	0.994	0.052	0.069
T32	156.25-150.00	C	0.264	0.855	0.214	0.336
		A	0.076	0.218	0.206	0.289
		B	0.313	1.055	0.000	0.000
T33	150.00-125.00	C	0.302	0.908	0.000	0.000
		A	0.305	0.874	0.000	0.000
		B	1.254	4.222	0.000	0.000
T34	125.00-100.00	C	1.208	3.632	0.000	0.000
		A	0.138	0.651	0.000	0.000
		B	0.569	3.147	0.667	0.889
T35	100.00-93.75	C	0.548	2.708	2.741	4.298
		A	0.000	0.117	2.641	3.697
		B	0.000	0.564	0.219	0.292
T36	93.75-87.50	C	0.000	0.485	0.899	1.410
		A	0.050	0.183	0.867	1.213
		B	0.206	0.886	0.052	0.069
		C	0.198	0.763	0.214	0.336
				0.206	0.336	0.289

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Section	Elevation	CP _x		CP _z	
		ft	in	Ice	Ice
T37	87.50-81.25				
T38	81.25-75.00	-0.9823	3.0472	-0.2809	1.8781
T39	75.00-50.00	-0.9823	3.0472	-0.2809	1.8781
T40	50.00-25.00	-0.9724	2.9623	-0.2775	1.7904
T41	25.00-0.00	-0.9534	2.7598	-0.2760	1.5907
		-0.9102	2.6129	-0.2584	1.4759

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{M,A1} Front	C _{M,A1} Side	Weight	
			Horz Lateral	Vert						
			ft	ft	°	ft	ft ²	ft ²	K	
Search Antenna	C	From Leg	1.00	0.00	0.0000	370.00	No Ice 1/2" Ice	1.28 1.53	3.73 4.39	0.30 0.45
10'6"x4" Pipe Mount	A	From Face	0.50	0.00	0.0000	355.00	No Ice 1/2" Ice	4.72 5.62	4.72 5.62	0.11 0.15
6'-6" Standoff Mount	A	From Leg	3.00	0.00	0.0000	355.00	No Ice 1/2" Ice	2.30 3.13	2.30 3.13	0.04 0.06
6'x4" Pipe Mount	C	From Leg	0.50	0.00	0.0000	350.00	No Ice 1/2" Ice	2.09 2.46	2.09 2.46	0.05 0.07
3" Dia 20' Omni	C	From Leg	1.00	0.00	0.0000	350.00	No Ice 1/2" Ice	4.00 6.00	4.00 6.00	0.06 0.10
3'-6" Standoff Mount	B	From Face	2.00	0.00	0.0000	325.00	No Ice 1/2" Ice	2.60 3.01	2.60 3.01	0.07 0.09
10' x 3" Dia Omni	B	From Face	3.00	0.00	0.0000	325.00	No Ice 1/2" Ice	3.00 4.03	3.00 4.03	0.03 0.05
54"x13"x3" Yagi	A	From Leg	1.00	0.00	0.0000	200.00	No Ice 1/2" Ice	0.38 0.49	1.58 1.95	0.21 0.31
13' T-Frame Sector Mount (Verizon)	A	From Leg	3.25	0.00	0.0000	304.25	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	0.47 0.60
13' T-Frame Sector Mount (Verizon)	B	From Leg	3.25	0.00	0.0000	304.25	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	0.47 0.60
13' T-Frame Sector Mount (Verizon)	C	From Leg	3.25	0.00	0.0000	304.25	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	0.47 0.60
BXA-70063/6CF (Verizon)	A	From Leg	4.50	0.00	0.0000	305.25	No Ice 1/2" Ice	7.73 8.27	3.76 4.19	0.02 0.06
BXA-70063/6CF (Verizon)	B	From Leg	4.50	0.00	0.0000	305.25	No Ice 1/2" Ice	7.73 8.27	3.76 4.19	0.02 0.06
BXA-70063/6CF (Verizon)	C	From Leg	4.50	0.00	0.0000	305.25	No Ice 1/2" Ice	7.73 8.27	3.76 4.19	0.02 0.06

tnxTower

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement	C _A A ₁ Front	C _A A ₁ Side	Weight	
			ft ft ft	°	ft	ft ²	ft ²	K	
742-351 (MetroPCS)	C	From Leg	0.00 4.00 -6.00	0.0000	285.00	No Ice 1/2" Ice	5.89 6.30	1.73 2.04	0.03 0.06
742-351 (MetroPCS)	C	From Leg	0.00 4.00 6.00	0.0000	285.00	No Ice 1/2" Ice	5.89 6.30	1.73 2.04	0.03 0.06
(2) 860-10025 Remote Control Unit (MetroPCS)	A	From Leg	0.00 4.00	0.0000	285.00	No Ice 1/2" Ice	0.18 0.25	0.15 0.21	0.00 0.00
(2) 860-10025 Remote Control Unit (MetroPCS)	B	From Leg	0.00 4.00	0.0000	285.00	No Ice 1/2" Ice	0.18 0.25	0.15 0.21	0.00 0.00
(2) 860-10025 Remote Control Unit (MetroPCS)	C	From Leg	0.00 4.00	0.0000	285.00	No Ice 1/2" Ice	0.18 0.25	0.15 0.21	0.00 0.00
6'8"x4" Pipe Mount	C	From Leg	0.00 0.50 0.00	0.0000	250.00	No Ice 1/2" Ice	2.60 3.01	2.60 3.01	0.07 0.09
3" Dia 20' Omni	C	From Leg	0.00 1.00 0.00	0.0000	250.00	No Ice 1/2" Ice	4.00 6.00	4.00 6.00	0.06 0.10
12' T-Frame Sector Mount (AT&T)	A	From Leg	0.00 3.25 0.00	0.0000	242.50	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	0.47 0.60
12' T-Frame Sector Mount (AT&T)	B	From Leg	0.00 3.25 0.00	0.0000	242.50	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	0.47 0.60
12' T-Frame Sector Mount (AT&T)	C	From Leg	0.00 3.25 0.00	0.0000	242.50	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	0.47 0.60
(2) TMA (AT&T)	A	From Face	0.00 4.50 0.00	0.0000	242.50	No Ice 1/2" Ice	1.00 1.50	1.00 1.50	0.01 0.01
(2) TMA (AT&T)	B	From Face	0.00 4.50 0.00	0.0000	242.50	No Ice 1/2" Ice	1.00 1.50	1.00 1.50	0.01 0.01
(2) TMA (AT&T)	C	From Face	0.00 4.50 0.00	0.0000	242.50	No Ice 1/2" Ice	1.00 1.50	1.00 1.50	0.01 0.01
(2) Diplexer (AT&T)	A	From Leg	0.00 4.50 0.00	0.0000	242.50	No Ice 1/2" Ice	0.23 0.30	0.17 0.24	0.01 0.01
(2) Diplexer (AT&T)	B	From Leg	0.00 4.50 0.00	0.0000	242.50	No Ice 1/2" Ice	0.23 0.30	0.17 0.24	0.01 0.01
(2) Diplexer (AT&T)	C	From Leg	0.00 4.50 0.00	0.0000	242.50	No Ice 1/2" Ice	0.23 0.30	0.17 0.24	0.01 0.01
(4) 5'x13"x3" Yagi	C	From Leg	0.00 1.00 0.00	0.0000	180.00	No Ice 1/2" Ice	0.38 0.49	1.75 2.16	0.25 0.33
(2) 5'3"x4" Pipe Mount	C	From Leg	0.00 1.00 0.00	0.0000	180.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
54"x13"x3" Yagi	B	From Leg	0.00 1.00 0.00	0.0000	148.00	No Ice 1/2" Ice	0.38 0.49	1.58 1.95	0.21 0.31

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	33 of 99
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	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight	
				ft	°	°	ft	ft	ft ²	K	
9 FT DISH	A	Paraboloid w/o Radome	From Face	1.00 0.00 0.00	Worst		355.00	9.00	No Ice 1/2" Ice	63.62 66.00	0.32 0.73

Tower Pressures - No Ice

$G_H = 1.075$

Section Elevation	z	K _z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _{A,A} In Face	C _{A,A} Out Face
ft	ft		psf	ft ²		ft ²	ft ²	ft ²	%	ft ²	ft ²
T1 368.75-362.50	365.63	1.988	46	32.682	A B	4.176 4.176	3.096 2.865	2.865	39.39 40.69	0.000 0.000	0.000 0.000
T2 362.50-356.25	359.38	1.978	46	32.682	A B	4.176 4.812	3.096 3.443	2.865	39.39 34.70	0.000 0.000	0.000 0.000
T3 356.25-350.00	353.13	1.968	45	32.682	A B	4.812 4.812	2.865 3.443	2.865	37.31 34.70	0.000 0.000	0.000 0.000
T4 350.00-343.75	346.88	1.958	45	32.813	A B	4.812 4.804	3.443 3.905	2.865	34.70 35.19	0.000 0.000	0.000 0.000
T5 343.75-337.50	340.63	1.948	45	32.813	A B	4.804 4.804	3.703 4.859	3.125	32.86 36.73	0.000 0.000	0.000 0.000
T6 337.50-331.25	334.38	1.938	45	32.813	A B	0.990 0.990	5.438 4.495	3.125	30.51 56.98	0.000 0.000	0.000 0.000
T7 331.25-325.00	328.13	1.928	45	32.813	A B	0.990 0.000	5.651 6.309	3.125	47.06 43.29	0.000 0.000	0.000 0.000
T8 325.00-318.75	321.88	1.917	44	32.943	A B	0.000 0.000	6.887 5.152	3.125	60.65 49.54	0.000 0.000	0.000 0.000
T9 318.75-312.50	315.63	1.906	44	32.943	A B	0.000 0.000	6.887 7.757	3.385	45.38 51.29	0.000 0.000	0.000 0.000
T10 312.50-306.25	309.38	1.895	44	32.943	A B	0.000 0.000	6.600 7.303	3.385	45.38 46.35	0.000 0.000	0.000 0.000
T11 306.25-300.00	303.13	1.884	44	32.943	A B	0.000 0.000	7.757 6.595	3.385	43.65 46.39	0.000 0.000	0.000 0.000
T12 300.00-293.75	296.88	1.873	43	32.943	A B	0.985 0.985	7.298 5.941	3.385	43.67 46.39	0.000 0.000	0.000 0.000
T13 293.75-287.50	290.63	1.862	43	32.943	A B	0.820 4.770	7.097 11.436	3.385	48.88 41.89	0.000 0.000	0.000 0.000
					C	4.770 3.772	4.995 6.151		27.62 34.67	0.000 0.000	0.000 0.000
					C	0.985 0.779	11.885 12.634	3.385	31.00 21.62	0.000 0.000	0.000 0.000
					C	0.985	7.097	3.385	48.88 41.89	0.000 0.000	0.000 0.000
					C	0.779	12.634	3.385	25.24	0.000	0.000

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	35 of 99
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	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Section Elevation	z	K _Z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _d A _A In Face	C _d A _A Out Face
ft	ft		psf	ft ²		ft ²	ft ²	ft ²	%	ft ²	ft ²
T34 125.00-100.00	112.50	1.42	33	131.771	A	11.950	61.603	13.542	18.41	0.000	0.000
T35 100.00-93.75	96.88	1.36	31	32.943	B	9.876	57.069		20.23	0.000	0.000
T36 93.75-87.50	90.63	1.335	31	32.943	C	9.976	80.194	3.385	15.02	0.000	0.000
T37 87.50-81.25	84.38	1.308	30	32.943	A	3.921	14.781		18.10	0.000	0.000
T38 81.25-75.00	78.13	1.279	30	32.943	B	3.273	13.755	3.385	19.92	0.000	0.000
T39 75.00-50.00	62.50	1.2	28	131.771	C	0.933	19.531		14.85	0.000	0.000
T40 50.00-25.00	37.50	1.037	24	131.771	A	0.771	15.678	13.542	20.38	0.000	0.000
T41 25.00-0.00	12.50	1	23	131.771	B	0.779	14.593		22.04	0.000	0.000
					C	0.000	20.376	3.385	16.00	0.000	0.000
					A	0.000	16.148		20.97	0.000	0.000
					B	0.000	16.093	3.385	21.04	0.000	0.000
					C	0.000	21.880		15.47	0.000	0.000
					A	0.000	16.148	3.385	20.97	0.000	0.000
					B	0.000	16.093		21.04	0.000	0.000
					C	0.000	21.880	13.542	15.47	0.000	0.000
					A	0.000	65.701		20.61	0.000	0.000
					B	0.000	65.481	13.542	20.68	0.000	0.000
					C	0.000	87.521		15.47	0.000	0.000
					A	0.933	67.671	13.542	19.74	0.000	0.000
					B	0.771	67.559		19.82	0.000	0.000
					C	0.779	87.004		15.43	0.000	0.000
					A	0.000	63.228	13.542	21.42	0.000	0.000
					B	0.000	63.034		21.48	0.000	0.000
					C	0.000	79.336		17.07	0.000	0.000

Tower Pressure - With Ice

$G_H = 1.075$

Section Elevation	z	K _Z	q _z	t _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _d A _A In Face	C _d A _A Out Face
ft	ft		psf	in	ft ²		ft ²	ft ²	ft ²	%	ft ²	ft ²
T1 368.75-362.50	365.63	1.988	34	0.5000	33.203	A	4.176	6.016	3.906	38.33	0.000	0.000
T2 362.50-356.25	359.38	1.978	34	0.5000	33.203	B	4.176	5.577		40.05	0.000	0.000
T3 356.25-350.00	353.13	1.968	34	0.5000	33.203	C	4.176	6.016	3.906	38.33	0.000	0.000
T4 350.00-343.75	346.88	1.958	34	0.5000	33.333	A	4.812	6.676		34.00	0.000	0.000
T5 343.75-337.50	340.63	1.948	34	0.5000	33.333	B	4.812	5.577	3.906	37.60	0.000	0.000
T6 337.50-331.25	334.38	1.938	34	0.5000	33.333	C	4.812	6.676		34.00	0.000	0.000
T7 331.25-325.00	328.13	1.928	33	0.5000	33.333	A	4.812	6.676	3.906	34.00	0.000	0.000
T8 325.00-318.75	321.88	1.917	33	0.5000	33.464	B	4.812	6.456		34.00	0.000	0.000
						C	4.804	7.555	4.167	31.59	0.000	0.000
						A	4.804	6.933		35.50	0.000	0.000
						B	4.804	9.131	4.167	29.90	0.000	0.000
						C	4.804	10.230		27.71	0.000	0.000
						A	0.990	7.721	4.167	47.84	0.000	0.000
						B	0.990	9.919		38.20	0.000	0.000
						C	0.990	11.018	4.167	34.70	0.000	0.000
						A	0.000	8.378		49.73	0.000	0.000
						B	0.000	10.576	4.167	39.40	0.000	0.000
						C	0.000	11.675		35.69	0.000	0.000
						A	0.000	8.378	4.167	49.73	0.000	0.000
						B	0.000	10.576		39.40	0.000	0.000
						C	0.000	11.675	4.167	35.69	0.000	0.000
						A	0.000	10.344		42.80	0.000	0.000
						B	0.000	12.542	4.427	35.30	0.000	0.000

inxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	37 of 99
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	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Section Elevation	z	Kz	qz	tz	AG	F a c e	AF	AR	Aleg	Leg %	CMAA In Face	CMAA Out Face
ft	ft		psf	in	ft ²		ft ²	ft ²	ft ²	%	ft ²	ft ²
T29 175.00-168.75	171.88	1.602	28	0.5000	33.464	C	56.875	62.862			0.000	0.000
T30 168.75-162.50	165.63	1.586	27	0.5000	33.464	A	7.109	16.242	4.427	13.92	0.000	0.000
T31 162.50-156.25	159.38	1.568	27	0.5000	33.464	B	0.000	22.808		18.96	0.000	0.000
T32 156.25-150.00	153.13	1.55	27	0.5000	33.464	C	14.219	15.561	4.427	19.41	0.000	0.000
T33 150.00-125.00	137.50	1.503	26	0.5000	133.854	A	7.109	16.231		14.87	0.000	0.000
T34 125.00-100.00	112.50	1.42	25	0.5000	133.854	B	0.000	22.798	17.708	18.97	0.000	0.000
T35 100.00-93.75	96.88	1.36	24	0.5000	33.464	C	14.219	15.551		19.42	0.000	0.000
T36 93.75-87.50	90.63	1.335	23	0.5000	33.464	A	8.025	15.623	4.427	14.87	0.000	0.000
T37 87.50-81.25	84.38	1.308	23	0.5000	33.464	B	0.650	15.623		18.72	0.000	0.000
T38 81.25-75.00	78.13	1.279	22	0.5000	33.464	C	14.915	22.366	17.708	19.23	0.000	0.000
T39 75.00-50.00	62.50	1.2	21	0.5000	133.854	A	7.109	15.089		14.76	0.000	0.000
T40 50.00-25.00	37.50	1.037	18	0.5000	133.854	B	0.000	15.792	4.427	19.33	0.000	0.000
T41 25.00-0.00	12.50	1	17	0.5000	133.854	C	14.219	22.486		19.69	0.000	0.000
						A	28.438	15.217	17.708	15.04	0.000	0.000
						B	0.000	68.832		18.21	0.000	0.000
						C	56.875	92.972	17.708	19.05	0.000	0.000
						A	40.165	63.504		14.71	0.000	0.000
						B	8.320	67.922	17.708	16.38	0.000	0.000
						C	65.795	94.447		17.23	0.000	0.000
						A	10.957	66.324	4.427	13.40	0.000	0.000
						B	2.730	16.372		16.20	0.000	0.000
						C	17.145	23.180		17.09	0.000	0.000
						A	8.025	16.119		13.31	0.000	0.000
						B	0.795	17.252	4.427	17.51	0.000	0.000
						C	15.060	23.870		17.95	0.000	0.000
						A	7.109	16.853		13.87	0.000	0.000
						B	1.813	17.714	4.427	17.83	0.000	0.000
						C	16.031	24.955		16.54	0.000	0.000
						A	7.109	17.961		13.02	0.000	0.000
						B	1.813	17.714	4.427	17.83	0.000	0.000
						C	16.031	24.955		16.54	0.000	0.000
						A	28.438	17.961	17.708	13.02	0.000	0.000
						B	7.250	72.964		17.46	0.000	0.000
						C	64.125	101.929		16.22	0.000	0.000
						A	29.353	71.846	17.708	13.02	0.000	0.000
						B	7.900	77.279		16.61	0.000	0.000
						C	64.822	106.420	17.708	15.49	0.000	0.000
						A	25.025	71.383		13.00	0.000	0.000
						B	6.380	73.701	17.708	17.94	0.000	0.000
						C	56.430	99.189		16.77	0.000	0.000
						A		66.837		14.37	0.000	0.000

Tower Pressure - Service
 $G_H = 1.075$

Section Elevation	z	Kz	qz	AG	F a c e	AF	AR	Aleg	Leg %	CMAA In Face	CMAA Out Face
ft	ft		psf	ft ²		ft ²	ft ²	ft ²	%	ft ²	ft ²
T1 368.75-362.50	365.63	1.988	13	32.682	A	4.176	3.096				
T2 362.50-356.25	359.38	1.978	13	32.682	B	4.176	2.865	2.865	39.39	0.000	0.000
					C	4.176	3.096		40.69	0.000	0.000
					A	4.812	3.443	2.865	39.39	0.000	0.000
					B	4.812	2.865		34.70	0.000	0.000
					C	4.812	3.443		37.31	0.000	0.000
									34.70	0.000	0.000

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	39 of 99
	Project	Montville, CT	Date	08:16:26 12/05/12
	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Section Elevation	z	K _z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C ₁ A ₁ In Face ft ²	C ₁ A ₁ Out Face ft ²
ft	ft		psf	ft ²		ft ²	ft ²	ft ²			
T23 231.25-225.00	228.13	1.737	11	32.943	A	0.933	13.940	3.385	22.76	0.000	0.000
T24 225.00-218.75	221.88	1.724	11	32.813	B	0.771	13.561		23.62	0.000	0.000
T25 218.75-212.50	215.63	1.71	11	32.813	C	0.779	19.071	3.125	17.06	0.000	0.000
T26 212.50-206.25	209.38	1.695	11	32.813	A	3.928	12.484		19.04	0.000	0.000
T27 206.25-200.00	203.13	1.681	11	32.813	B	3.247	12.313	3.125	20.08	0.000	0.000
T28 200.00-175.00	187.50	1.643	11	131.250	C	3.280	17.813		14.82	0.000	0.000
T29 175.00-168.75	171.88	1.602	10	32.943	A	1.688	13.235	3.125	20.94	0.000	0.000
T30 168.75-162.50	165.63	1.586	10	32.943	B	1.396	12.933		21.81	0.000	0.000
T31 162.50-156.25	159.38	1.568	10	32.943	C	1.410	18.439	3.125	15.74	0.000	0.000
T32 156.25-150.00	153.13	1.55	10	32.943	A	0.750	13.857		21.39	0.000	0.000
T33 150.00-125.00	137.50	1.503	10	131.771	B	0.620	13.448	3.125	22.21	0.000	0.000
T34 125.00-100.00	112.50	1.42	9	131.771	C	0.627	18.960		15.96	0.000	0.000
T35 100.00-93.75	96.88	1.36	9	32.943	A	0.750	13.857	3.125	21.39	0.000	0.000
T36 93.75-87.50	90.63	1.335	9	32.943	B	0.620	13.448		22.21	0.000	0.000
T37 87.50-81.25	84.38	1.308	8	32.943	C	0.627	18.960	3.125	15.96	0.000	0.000
T38 81.25-75.00	78.13	1.279	8	32.943	A	0.000	60.694		22.21	0.000	0.000
T39 75.00-50.00	62.50	1.2	8	131.771	B	0.000	56.315	12.500	15.96	0.000	0.000
T40 50.00-25.00	37.50	1.037	7	131.771	C	0.000	80.231		20.60	0.000	0.000
T41 25.00-0.00	12.50	1	6	131.771	A	0.000	15.721	3.385	15.58	0.000	0.000
					B	0.000	14.656		21.53	0.000	0.000
					C	0.000	20.172	3.385	23.10	0.000	0.000
					A	0.000	15.716		16.78	0.000	0.000
					B	0.000	14.651	3.385	21.54	0.000	0.000
					C	0.933	20.166		23.11	0.000	0.000
					A	0.771	15.096	3.385	16.79	0.000	0.000
					B	0.779	14.139		21.12	0.000	0.000
					C	0.000	19.649	3.385	22.71	0.000	0.000
					A	0.000	15.268		16.57	0.000	0.000
					B	0.000	14.280	3.385	22.17	0.000	0.000
					C	0.000	19.792		23.71	0.000	0.000
					A	0.000	63.569	13.542	17.11	0.000	0.000
					B	0.000	58.233		21.30	0.000	0.000
					C	0.000	80.555		23.25	0.000	0.000
					A	11.950	61.603	13.542	16.81	0.000	0.000
					B	9.876	57.069		18.41	0.000	0.000
					C	9.976	80.194		20.23	0.000	0.000
					A	3.921	14.781	3.385	15.02	0.000	0.000
					B	3.240	13.755		18.10	0.000	0.000
					C	3.273	19.531		19.92	0.000	0.000
					A	0.933	15.678	3.385	14.85	0.000	0.000
					B	0.771	14.593		20.38	0.000	0.000
					C	0.779	20.376		22.04	0.000	0.000
					A	0.000	16.148	3.385	16.00	0.000	0.000
					B	0.000	16.093		20.97	0.000	0.000
					C	0.000	21.880		21.04	0.000	0.000
					A	0.000	16.148	3.385	15.47	0.000	0.000
					B	0.000	16.093		20.97	0.000	0.000
					C	0.000	21.880		21.04	0.000	0.000
					A	0.000	65.701	13.542	15.47	0.000	0.000
					B	0.000	65.481		20.61	0.000	0.000
					C	0.000	87.521		20.68	0.000	0.000
					A	0.933	67.671	13.542	15.47	0.000	0.000
					B	0.771	67.559		19.74	0.000	0.000
					C	0.779	87.004		19.82	0.000	0.000
					A	0.000	63.228	13.542	15.43	0.000	0.000
					B	0.000	63.034		21.42	0.000	0.000
					C	0.000	79.336		21.48	0.000	0.000
									17.07	0.000	0.000

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	41 of 99
	Project	Montville, CT	Date	08:16:26 12/05/12
	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T20 250.00-243.75	0.18	0.71	A	0.21	2.562	0.593	1	1	4.506	0.85	136.42	B
T21 243.75-237.50	0.26	0.71	B	0.428	2.012	0.663	1	1	9.601	1.13	180.33	C
			C	0.407	2.05	0.655	1	1	9.048			
			A	0.415	2.036	0.658	1	1	9.303			
T22 237.50-231.25	0.27	0.77	B	0.428	2.012	0.663	1	1	9.601	1.19	190.38	C
			C	0.572	1.824	0.737	1	1	14.105			
			A	0.451	1.971	0.674	1	1	10.328			
T23 231.25-225.00	0.27	0.77	B	0.435	1.999	0.667	1	1	9.810	1.18	188.92	C
			C	0.603	1.802	0.755	1	1	15.180			
			A	0.451	1.971	0.674	1	1	10.328			
T24 225.00-218.75	0.27	0.95	B	0.435	1.999	0.667	1	1	9.810	1.31	209.99	C
			C	0.603	1.802	0.755	1	1	15.180			
			A	0.5	1.9	0.698	1	1	12.637			
T25 218.75-212.50	0.27	0.66	B	0.474	1.936	0.685	1	1	11.677	1.17	187.97	C
			C	0.643	1.784	0.781	1	1	17.187			
			A	0.455	1.966	0.675	1	1	10.627			
T26 212.50-206.25	0.27	0.58	B	0.437	1.996	0.667	1	1	10.026	1.13	181.03	C
			C	0.605	1.801	0.757	1	1	15.362			
			A	0.445	1.981	0.671	1	1	10.049			
T27 206.25-200.00	0.27	0.58	B	0.429	2.01	0.664	1	1	9.547	1.12	179.47	C
			C	0.597	1.806	0.752	1	1	14.879			
			A	0.445	1.981	0.671	1	1	10.049			
T28 200.00-175.00	1.11	2.28	B	0.429	2.01	0.664	1	1	9.547	4.48	179.01	C
			C	0.597	1.806	0.752	1	1	14.879			
			A	0.462	1.954	0.679	1	1	41.215			
T29 175.00-168.75	0.28	0.69	B	0.429	2.009	0.664	1	1	37.387	1.10	175.70	C
			C	0.611	1.797	0.761	1	1	61.022			
			A	0.477	1.931	0.686	1	1	10.787			
T30 168.75-162.50	0.28	0.69	B	0.445	1.982	0.671	1	1	9.834	1.09	173.78	C
			C	0.612	1.797	0.761	1	1	15.355			
			A	0.477	1.932	0.686	1	1	10.782			
T31 162.50-156.25	0.28	0.77	B	0.445	1.982	0.671	1	1	9.829	1.11	176.90	C
			C	0.612	1.797	0.761	1	1	15.348			
			A	0.487	1.918	0.691	1	1	11.361			
T32 156.25-150.00	0.28	0.61	B	0.453	1.969	0.674	1	1	10.307	1.04	165.84	C
			C	0.62	1.793	0.766	1	1	15.832			
			A	0.463	1.952	0.68	1	1	10.375			
T33 150.00-125.00	1.13	2.45	B	0.433	2.002	0.666	1	1	9.508	4.11	164.49	C
			C	0.601	1.804	0.754	1	1	14.925			
			A	0.482	1.924	0.689	1	1	43.780			
T34 125.00-100.00	1.15	2.84	B	0.442	1.987	0.67	1	1	38.993	4.69	187.45	C
			C	0.611	1.797	0.761	1	1	61.270			
			A	0.558	1.836	0.729	1	1	56.853			
T35 100.00-93.75	0.29	1.03	B	0.684	1.776	0.809	1	1	49.918	1.15	184.10	C
			C	0.568	1.828	0.734	1	1	74.838			
			A	0.516	1.88	0.706	1	1	14.776			
T36 93.75-87.50	0.29	0.71	B	0.692	1.776	0.814	1	1	12.948	0.99	157.80	C
			C	0.504	1.895	0.7	1	1	19.179			
			A	0.466	1.948	0.681	1	1	11.902			
T37 87.50-81.25	0.29	0.61	B	0.642	1.784	0.78	1	1	10.708	1.00	160.73	C
			C	0.49	1.913	0.693	1	1	16.679			
			A	0.489	1.915	0.692	1	1	11.183			
T38 81.25-75.00	0.29	0.61	B	0.664	1.778	0.795	1	1	11.132	0.98	157.24	C
			C	0.49	1.913	0.693	1	1	17.395			
			A	0.489	1.915	0.692	1	1	11.183			
T39 75.00-50.00	1.18	2.45	B	0.664	1.778	0.795	1	1	11.132	3.69	147.53	C
			C	0.499	1.902	0.697	1	1	17.395			
			A	0.497	1.904	0.696	1	1	45.780			
			C	0.664	1.778	0.795	1	1	45.571			
									69.578			

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	43 of 99
	Project	Montville, CT	Date	08:16:26 12/05/12
	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T15 281.25-275.00	0.18	0.61	A	0.195	2.611	0.589						
T16 275.00-268.75	0.18	0.61	B	0.416	2.033	0.658	0.8	1	3.795	0.84	133.99	B
			C	0.395	2.073	0.65	0.8	1	9.019			
			A	0.195	2.611	0.589	0.8	1	8.464			
T17 268.75-262.50	0.18	0.61	B	0.416	2.033	0.658	0.8	1	3.795	0.83	133.13	B
			C	0.395	2.073	0.65	0.8	1	9.019			
			A	0.195	2.611	0.589	0.8	1	8.464			
T18 262.50-256.25	0.18	0.61	B	0.416	2.033	0.658	0.8	1	3.795	0.83	132.25	B
			C	0.395	2.073	0.65	0.8	1	9.019			
			A	0.195	2.611	0.589	0.8	1	8.464			
T19 256.25-250.00	0.18	0.64	B	0.416	2.033	0.658	0.8	1	3.795	0.82	131.35	B
			C	0.395	2.073	0.65	0.8	1	9.019			
			A	0.2	2.595	0.59	0.8	1	8.464			
T20 250.00-243.75	0.18	0.71	B	0.42	2.026	0.66	0.8	1	3.894	0.82	131.48	B
			C	0.399	2.066	0.651	0.8	1	9.123			
			A	0.21	2.562	0.593	0.8	1	8.565			
T21 243.75-237.50	0.26	0.71	B	0.428	2.012	0.663	0.8	1	4.309	0.84	134.23	B
			C	0.407	2.05	0.655	0.8	1	9.447			
			A	0.415	2.036	0.658	0.8	1	8.892			
T22 237.50-231.25	0.27	0.77	B	0.428	2.012	0.663	0.8	1	9.115	1.11	178.34	C
			C	0.572	1.824	0.737	0.8	1	9.447			
			A	0.451	1.971	0.674	0.8	1	13.949			
T23 231.25-225.00	0.27	0.77	B	0.435	1.999	0.667	0.8	1	10.141	1.18	188.43	C
			C	0.603	1.802	0.755	0.8	1	9.655			
			A	0.451	1.971	0.674	0.8	1	15.025			
T24 225.00-218.75	0.27	0.95	B	0.435	1.999	0.667	0.8	1	10.141	1.17	186.98	C
			C	0.603	1.802	0.755	0.8	1	9.655			
			A	0.5	1.9	0.698	0.8	1	15.025			
T25 218.75-212.50	0.27	TA 0.79	B	0.474	1.936	0.685	0.8	1	11.851	1.26	201.97	C
			C	0.643	1.784	0.781	0.8	1	11.028			
			A	0.455	1.966	0.675	0.8	1	16.531			
T26 212.50-206.25	0.27	0.58	B	0.437	1.996	0.667	0.8	1	10.290	1.15	184.52	C
			C	0.605	1.801	0.757	0.8	1	9.747			
			A	0.445	1.981	0.671	0.8	1	15.080			
T27 206.25-200.00	0.27	0.58	B	0.429	2.01	0.664	0.8	1	9.899	1.12	179.51	C
			C	0.597	1.806	0.752	0.8	1	9.423			
			A	0.445	1.981	0.671	0.8	1	14.754			
T28 200.00-175.00	1.11	2.28	B	0.429	2.01	0.664	0.8	1	9.899	1.11	177.96	C
			C	0.597	1.806	0.752	0.8	1	9.423			
			A	0.462	1.954	0.679	0.8	1	14.754			
T29 175.00-168.75	0.28	0.69	B	0.429	2.009	0.664	0.8	1	41.215	4.48	179.01	C
			C	0.611	1.797	0.761	0.8	1	37.387			
			A	0.477	1.931	0.686	0.8	1	61.022			
T30 168.75-162.50	0.28	0.69	B	0.445	1.982	0.671	0.8	1	10.787	1.10	175.70	C
			C	0.612	1.797	0.761	0.8	1	9.834			
			A	0.477	1.932	0.686	0.8	1	15.355			
T31 162.50-156.25	0.28	0.77	B	0.445	1.982	0.671	0.8	1	10.782	1.09	173.78	C
			C	0.612	1.797	0.761	0.8	1	9.829			
			A	0.487	1.918	0.691	0.8	1	15.348			
T32 156.25-150.00	0.28	0.61	B	0.453	1.969	0.674	0.8	1	11.174	1.09	175.15	C
			C	0.62	1.793	0.766	0.8	1	10.153			
			A	0.463	1.952	0.68	0.8	1	15.676			
T33 150.00-125.00	1.13	2.45	B	0.433	2.002	0.666	0.8	1	10.375	1.04	165.84	C
			C	0.601	1.804	0.754	0.8	1	9.508			
			A	0.482	1.924	0.689	0.8	1	14.925			
T34 125.00-100.00	1.15	2.84	B	0.442	1.987	0.67	0.8	1	43.780	4.11	164.49	C
			C	0.611	1.797	0.761	0.8	1	38.993			
			A	0.558	1.836	0.729	0.8	1	61.270			
			B	0.508	1.89	0.702	0.8	1	54.463			
			C	0.684	1.776	0.809	0.8	1	47.942	4.56	182.45	C
							1	72.843				

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job		370' Guyed Lattice Tower		Page
	Project		Montville, CT		Date
	Client		VZW, MetroPCS, & AT&T		08:16:26 12/05/12
					Designed by Kevin_Barker

Section Elevation <i>ft</i>	Add Weight <i>K</i>	Self Weight <i>K</i>	<i>F</i> <i>a</i> <i>c</i> <i>e</i>	<i>e</i>	<i>C_F</i>	<i>R_R</i>	<i>D_F</i>	<i>D_R</i>	<i>A_E</i> <i>ft</i> ²	<i>F</i>	<i>w</i>	<i>Crrl.</i> <i>Face</i>
T10 312.50-306.25	0.02	0.64	A 0.2 2.595	0.59	0.85							
T11 306.25-300.00	0.08	0.71	B 0.235 2.482	0.598	0.85	1		3.894				
			C 0.222 2.526	0.595	0.85	1	4.637	0.54	86.71	B		
			A 0.21 2.562	0.593	0.85	1	4.343					
T12 300.00-293.75	0.10	0.85	B 0.245 2.452	0.601	0.85	1		4.358	0.80	127.49	C	
			C 0.372 2.122	0.641	0.85	1	5.101					
			A 0.296 2.306	0.615	0.85	1	8.023					
T13 293.75-287.50	0.10	0.71	TA 0.332 2.216	0.626	0.85	1		7.126	1.02	163.42	C	
			A 0.475 1.934	0.685	0.85	1	7.906					
			B 0.21 2.562	0.593	0.85	1	11.350					
T14 287.50-281.25	0.15	0.61	C 0.407 2.05	0.601	0.85	1		4.358	0.85	135.47	C	
			A 0.195 2.611	0.589	0.85	1	8.931					
			B 0.342 2.191	0.63	0.85	1	3.795					
T15 281.25-275.00	0.18	0.61	C 0.395 2.073	0.65	0.85	1		7.088	0.81	129.02	C	
			A 0.195 2.611	0.589	0.85	1	8.464					
			B 0.416 2.033	0.658	0.85	1	3.795					
T16 275.00-268.75	0.18	0.61	A 0.195 2.611	0.589	0.85	1		9.019	0.84	133.99	B	
			B 0.416 2.033	0.658	0.85	1	8.464					
			C 0.395 2.073	0.65	0.85	1	3.795					
T17 268.75-262.50	0.18	0.61	A 0.195 2.611	0.589	0.85	1		9.019	0.83	133.13	B	
			B 0.416 2.033	0.658	0.85	1	8.464					
			C 0.395 2.073	0.65	0.85	1	3.795					
T18 262.50-256.25	0.18	0.61	A 0.195 2.611	0.589	0.85	1		9.019	0.83	132.25	B	
			B 0.416 2.033	0.658	0.85	1	8.464					
			C 0.395 2.073	0.65	0.85	1	3.795					
T19 256.25-250.00	0.18	0.64	A 0.195 2.611	0.589	0.85	1		8.464	0.82	131.35	B	
			B 0.416 2.033	0.658	0.85	1	9.019					
			C 0.395 2.073	0.65	0.85	1	8.464					
T20 250.00-243.75	0.18	0.71	A 0.21 2.562	0.651	0.85	1		9.123	0.82	131.48	B	
			B 0.428 2.012	0.663	0.85	1	8.565					
			C 0.407 2.05	0.655	0.85	1	4.358					
T21 243.75-237.50	0.26	0.71	A 0.415 2.036	0.658	0.85	1		9.485	0.84	134.78	B	
			B 0.428 2.012	0.663	0.85	1	8.931					
			C 0.407 2.05	0.655	0.85	1	9.162					
T22 237.50-231.25	0.27	0.77	A 0.572 1.824	0.737	0.85	1		9.485	1.12	178.84	C	
			B 0.451 1.971	0.674	0.85	1	13.988					
			C 0.435 1.999	0.667	0.85	1	10.188					
T23 231.25-225.00	0.27	0.77	A 0.603 1.802	0.755	0.85	1		9.694	1.18	188.91	C	
			B 0.451 1.971	0.674	0.85	1	15.063					
			C 0.435 1.999	0.667	0.85	1	10.188					
T24 225.00-218.75	0.27	0.95	A 0.603 1.802	0.755	0.85	1		9.694	1.17	187.46	C	
			B 0.5 1.9	0.698	0.85	1	15.063					
			C 0.474 1.936	0.685	0.85	1	12.048					
T25 218.75-212.50	0.27	0.66	A 0.643 1.784	0.781	0.85	1		11.190	1.27	203.98	C	
			B 0.455 1.966	0.675	0.85	1	16.695					
			C 0.437 1.996	0.667	0.85	1	10.374					
T26 212.50-206.25	0.27	0.58	A 0.605 1.801	0.757	0.85	1		9.816	1.16	185.39	C	
			B 0.445 1.981	0.671	0.85	1	15.150					
			C 0.429 2.01	0.664	0.85	1	9.937					
T27 206.25-200.00	0.27	0.58	A 0.597 1.806	0.752	0.85	1		9.454	1.12	179.89	C	
			B 0.445 1.981	0.671	0.85	1	14.785					
			C 0.429 2.01	0.664	0.85	1	9.937					
T28 200.00-175.00	1.11	2.28	A 0.597 1.806	0.752	0.85	1		9.454	1.11	178.34	C	
			B 0.462 1.954	0.679	0.85	1	14.785					
			C 0.429 2.009	0.664	0.85	1	41.215					
T29 175.00-168.75	0.28	0.69	A 0.611 1.797	0.761	0.85	1		37.387	4.48	179.01	C	
			B 0.477 1.931	0.686	0.85	1	61.022					
			C 0.445 1.982	0.671	0.85	1	10.787					
				0.761	0.85	1		15.355				

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	47 of 99
	Project	Montville, CT	Date	08:16:26 12/05/12
	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T5 343.75-337.50	0.04	0.73	A B C	0.261 0.327 0.36	2.404 2.226 2.148	0.605 0.625 0.636	1 1 1	1 1 1	5.659 7.185 7.999	0.62	99.77	C
T6 337.50-331.25	0.04	0.63	A B C	0.251 0.317 0.35	2.433 2.251 2.171	0.621 0.621 0.633	1 1 1	1 1 1	5.045 6.571 7.385	0.58	92.60	C
T7 331.25-325.00	0.04	0.63	A B C	0.251 0.317 0.35	2.433 2.251 2.171	0.621 0.621 0.633	1 1 1	1 1 1	5.045 6.571 7.385	0.58	92.11	C
T8 325.00-318.75	0.05	0.74	A B C	0.309 0.375 0.361	2.272 2.116 2.146	0.619 0.642 0.637	1 1 1	1 1 1	7.385 8.047 8.047	0.61	97.29	B
T9 318.75-312.50	0.05	0.74	A B C	0.309 0.375 0.361	2.273 2.117 2.146	0.619 0.642 0.636	1 1 1	1 1 1	7.695 8.040 8.040	0.60	96.69	B
T10 312.50-306.25	0.05	0.74	A B C	0.309 0.375 0.361	2.273 2.117 2.146	0.619 0.642 0.636	1 1 1	1 1 1	7.688 8.040 8.040	0.60	96.14	B
T11 306.25-300.00	0.23	0.83	A B C	0.361 0.319 0.384	2.146 2.247 2.096	0.636 0.622 0.645	1 1 1	1 1 1	6.393 8.040 7.004	0.60	157.08	C
T12 300.00-293.75	0.27	1.06	A B C	0.553 0.404 0.469	1.841 2.057 1.943	0.726 0.653 0.682	1 1 1	1 1 1	8.651 15.193 10.474	0.98	194.86	C
T13 293.75-287.50	0.27	0.83	A B C	0.658 0.319 0.384	1.779 2.247 2.096	0.791 0.622 0.645	1 1 1	1 1 1	12.229 19.614 7.004	1.22	170.26	C
T14 287.50-281.25	0.39	0.71	A B C	0.598 0.304 0.531	1.805 2.285 1.863	0.753 0.617 0.714	1 1 1	1 1 1	8.651 16.998 6.281	1.06	164.75	C
T15 281.25-275.00	0.46	0.71	A B C	0.588 0.304 0.639	1.812 2.285 1.785	0.746 0.617 0.778	1 1 1	1 1 1	12.697 16.487 6.281	1.03	163.71	C
T16 275.00-268.75	0.46	0.71	A B C	0.588 0.304 0.639	1.812 2.285 1.785	0.746 0.617 0.778	1 1 1	1 1 1	16.646 16.487 6.281	1.02	162.65	C
T17 268.75-262.50	0.46	0.71	A B C	0.588 0.304 0.639	1.812 2.285 1.785	0.746 0.617 0.778	1 1 1	1 1 1	16.646 16.487 6.281	1.02	161.57	C
T18 262.50-256.25	0.46	0.71	A B C	0.588 0.304 0.639	1.812 2.285 1.785	0.746 0.617 0.778	1 1 1	1 1 1	16.646 16.487 6.281	1.01	160.48	C
T19 256.25-250.00	0.46	0.74	A B C	0.588 0.309 0.642	1.812 2.273 1.784	0.746 0.619 0.78	1 1 1	1 1 1	16.646 16.487 6.393	1.00	160.21	C
T20 250.00-243.75	0.46	0.83	A B C	0.591 0.319 0.649	1.81 2.247 1.782	0.748 0.622 0.785	1 1 1	1 1 1	16.770 16.596 7.004	1.00	162.51	C
T21 243.75-237.50	0.68	0.83	A B C	0.598 0.595 0.649	1.805 1.807 1.782	0.753 0.75 0.785	1 1 1	1 1 1	17.174 16.998 16.723	1.02	256.32	C
T22 237.50-231.25	0.71	0.90	A B C	0.826 0.641 0.655	1.838 1.784 1.78	0.918 0.78 0.789	1 1 1	1 1 1	17.174 26.529 18.491	1.60	276.35	C
T23 231.25-225.00	0.71	0.90	A B C	0.864 0.641 0.655	1.877 1.784 1.78	0.951 0.78 0.789	1 1 1	1 1 1	17.425 28.213 18.491	1.73	274.22	C
T24 225.00-218.75	0.71	1.20	A B C	0.864 0.689 0.687	1.877 1.776 1.776	0.951 0.812 0.811	1 1 1	1 1 1	17.425 28.213 20.703	1.71	294.23	C
		TA 1.10	C	0.9	1.924	0.983	1	1	19.101	1.84		C

tnxTower

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Job	370' Guyed Lattice Tower		Page	49 of 99
Project	Montville, CT		Date	08:16:26 12/05/12
Client	VZW, MetroPCS, & AT&T		Designed by	Kevin_Barker

Section Elevation	Add Weight	Self Weight	F	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K	a						ft ²	K	plf	
T1 368.75-362.50	0.00	0.88	A 0.307	2.278	0.618	0.8						
T2 362.50-356.25	0.01	1.38	B 0.294	2.313	0.614	0.8	1		7.059	0.60	95.27	C
T3 356.25-350.00	0.02	1.38	C 0.307	2.278	0.618	0.8	1		6.765			
T4 350.00-343.75	0.04	0.98	A 0.346	2.181	0.631	0.8	1		7.059			
T5 343.75-337.50	0.04	0.73	B 0.313	2.262	0.62	0.8	1		8.063	0.65	103.68	C
T6 337.50-331.25	0.04	0.63	C 0.346	2.181	0.631	0.8	1		7.307			
T7 331.25-325.00	0.04	0.63	A 0.346	2.181	0.631	0.8	1		8.063			
T8 325.00-318.75	0.05	0.74	B 0.339	2.197	0.629	0.8	1		8.063	0.68	108.15	C
T9 318.75-312.50	0.05	0.74	C 0.372	2.121	0.641	0.8	1		7.909			
T10 312.50-306.25	0.05	0.74	TA 1.10	0.352	2.167	0.633	0.8	1	8.691			
T11 306.25-300.00	0.23	0.83	A 0.418	2.029	0.659	0.8	1		8.234	0.77	123.56	C
T12 300.00-293.75	0.27	1.06	B 0.451	1.972	0.674	0.8	1		9.862			
T13 293.75-287.50	0.27	0.83	C 0.261	2.404	0.605	0.8	1		10.736	0.61	97.31	C
T14 287.50-281.25	0.39	0.71	A 0.327	2.226	0.625	0.8	1		5.461			
T15 281.25-275.00	0.46	0.71	B 0.36	2.148	0.636	0.8	1		6.987	0.61	97.31	C
T16 275.00-268.75	0.46	0.71	C 0.251	2.433	0.602	0.8	1		7.801			
T17 268.75-262.50	0.46	0.71	A 0.317	2.251	0.621	0.8	1		5.045	0.58	92.60	C
T18 262.50-256.25	0.46	0.71	B 0.35	2.171	0.633	0.8	1		6.571			
T19 256.25-250.00	0.46	0.74	C 0.251	2.433	0.602	0.8	1		7.385	0.58	92.11	C
T20 250.00-243.75	0.46	0.83	A 0.317	2.251	0.621	0.8	1		5.045			
			B 0.309	2.272	0.619	0.8	1		6.571	0.58	92.11	C
			C 0.375	2.116	0.642	0.8	1		7.385			
			TA 1.10	0.361	2.146	0.637	0.8	1	6.400	0.61	97.29	B
			A 0.309	2.273	0.619	0.8	1		8.047			
			B 0.375	2.117	0.642	0.8	1		7.695	0.61	97.29	B
			C 0.361	2.146	0.636	0.8	1		6.393	0.60	96.69	B
			A 0.309	2.273	0.619	0.8	1		8.040			
			B 0.375	2.117	0.642	0.8	1		7.688	0.60	96.69	B
			C 0.361	2.146	0.636	0.8	1		6.393	0.60	96.14	B
			TA 1.10	0.319	2.247	0.622	0.8	1	8.040	0.60	96.14	B
			A 0.384	2.096	0.645	0.8	1		7.688			
			B 0.553	1.841	0.726	0.8	1		6.807	0.90	143.76	C
			C 0.404	2.057	0.653	0.8	1		8.454			
			TA 1.10	0.469	1.943	0.682	0.8	1	13.905	1.09	174.03	C
			A 0.658	1.779	0.791	0.8	1		9.520			
			B 0.319	2.247	0.622	0.8	1		11.275	1.09	174.03	C
			C 0.384	2.096	0.645	0.8	1		17.518			
			TA 1.10	0.598	1.805	0.753	0.8	1	6.807	0.97	154.63	C
			A 0.304	2.285	0.617	0.8	1		8.454			
			B 0.531	1.863	0.714	0.8	1		15.437	0.97	154.63	C
			C 0.588	1.812	0.746	0.8	1		6.281	0.94	150.54	C
			TA 1.10	0.304	2.285	0.617	0.8	1	12.697			
			A 0.639	1.785	0.778	0.8	1		15.065	1.02	162.82	B
			B 0.588	1.812	0.746	0.8	1		6.281	1.02	162.82	B
			C 0.304	2.285	0.617	0.8	1		16.646	1.01	161.77	B
			TA 1.10	0.639	1.785	0.778	0.8	1	6.281	1.01	161.77	B
			A 0.588	1.812	0.746	0.8	1		16.646	1.01	161.77	B
			B 0.304	2.285	0.617	0.8	1		15.065	1.00	160.69	B
			C 0.639	1.785	0.778	0.8	1		6.281	1.00	160.69	B
			TA 1.10	0.588	1.812	0.746	0.8	1	16.646	1.00	159.61	B
			A 0.304	2.285	0.617	0.8	1		6.281	1.00	159.61	B
			B 0.639	1.785	0.778	0.8	1		16.646	1.00	159.61	B
			C 0.588	1.812	0.746	0.8	1		15.065	1.00	159.59	B
			TA 1.10	0.309	2.273	0.619	0.8	1	6.393	1.00	159.59	B
			A 0.642	1.784	0.78	0.8	1		16.770	1.00	159.59	B
			B 0.591	1.81	0.748	0.8	1		15.174	1.00	159.59	B
			C 0.319	2.247	0.622	0.8	1		6.807	1.01	160.85	B
			TA 1.10	0.649	1.782	0.785	0.8	1	17.044	1.01	160.85	B
			A 0.598	1.805	0.753	0.8	1		15.437			

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower		Page	51 of 99
	Project	Montville, CT		Date	08:16:26 12/05/12
	Client	VZW, MetroPCS, & AT&T		Designed by	Kevin_Barker

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K	A B C						ft ²	K	plf	
T41 25.00-0.00	2.79	2.84	A	0.738	1.783	0.847	0.8					
Sum Weight:	33.09	51.49	B	0.789	1.808	0.887	0.8	1	82.477	4.08	163.14	C
			C	0.921	1.955	1	0.8	1	93.108			
								1	111.981	72.43		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K	A B C						ft ²	K	plf	
T1 368.75-362.50	0.00	0.88	A	0.307	2.278	0.618						
T2 362.50-356.25	0.01	1.38	B	0.294	2.313	0.614	0.85	1	7.268	0.61	98.09	C
T3 356.25-350.00	0.02	1.38	C	0.307	2.278	0.618	0.85	1	6.974			
T4 350.00-343.75	0.04	0.98	A	0.346	2.181	0.631	0.85	1	7.268	0.67	106.77	C
T5 343.75-337.50	0.04	0.73	B	0.313	2.262	0.62	0.85	1	8.303	0.69	111.14	C
T6 337.50-331.25	0.04	0.63	C	0.346	2.181	0.631	0.85	1	7.548	0.79	126.33	C
T7 331.25-325.00	0.04	0.63	A	0.346	2.181	0.631	0.85	1	8.303	0.61	97.92	C
T8 325.00-318.75	0.05	0.74	B	0.339	2.197	0.629	0.85	1	8.303	0.58	92.60	C
T9 318.75-312.50	0.05	0.74	C	0.372	2.121	0.641	0.85	1	8.150	0.58	92.11	C
T10 312.50-306.25	0.05	0.74	A	0.352	2.167	0.633	0.85	1	8.931	0.61	97.29	B
T11 306.25-300.00	0.23	0.83	B	0.418	2.029	0.659	0.85	1	8.474	0.60	96.69	B
T12 300.00-293.75	0.27	1.06	C	0.451	1.972	0.674	0.85	1	10.102	0.60	96.14	B
T13 293.75-287.50	0.27	0.83	A	0.261	2.404	0.605	0.85	1	10.976	0.92	147.09	C
T14 287.50-281.25	0.39	0.71	B	0.327	2.226	0.625	0.85	1	5.511	1.12	179.24	C
T15 281.25-275.00	0.46	0.71	C	0.36	2.148	0.636	0.85	1	7.037	0.99	158.54	C
			A	0.251	2.433	0.602	0.85	1	7.850	0.96	154.09	C
			B	0.317	2.251	0.621	0.85	1	5.045	1.02	162.82	B
			C	0.35	2.171	0.633	0.85	1	6.571			
			A	0.251	2.433	0.602	0.85	1	7.385			
			B	0.317	2.251	0.621	0.85	1	5.045			
			C	0.35	2.171	0.633	0.85	1	6.571			
			A	0.309	2.272	0.619	0.85	1	6.400			
			B	0.375	2.116	0.642	0.85	1	8.047			
			C	0.361	2.146	0.637	0.85	1	7.695			
			A	0.309	2.273	0.619	0.85	1	6.393			
			B	0.375	2.117	0.642	0.85	1	8.040			
			C	0.361	2.146	0.636	0.85	1	7.688			
			A	0.309	2.273	0.619	0.85	1	6.393			
			B	0.375	2.117	0.642	0.85	1	8.040			
			C	0.361	2.146	0.636	0.85	1	7.688			
			A	0.319	2.247	0.622	0.85	1	6.857			
			B	0.384	2.096	0.645	0.85	1	8.503			
			C	0.553	1.841	0.726	0.85	1	14.227			
			A	0.404	2.057	0.653	0.85	1	9.759			
			B	0.469	1.943	0.682	0.85	1	11.514			
			C	0.658	1.779	0.791	0.85	1	18.042			
			A	0.319	2.247	0.622	0.85	1	6.857			
			B	0.384	2.096	0.645	0.85	1	8.503			
			C	0.598	1.805	0.753	0.85	1	15.827			
			A	0.304	2.285	0.617	0.85	1	6.281			
			B	0.531	1.863	0.714	0.85	1	12.697			
			C	0.588	1.812	0.746	0.85	1	15.421			
			A	0.304	2.285	0.617	0.85	1	6.281			
			B	0.639	1.785	0.778	0.85	1	16.646			
			C	0.588	1.812	0.746	0.85	1	15.421			

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	53 of 99
	Project	Montville, CT	Date	08:16:26 12/05/12
	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T36 93.75-87.50	0.75	0.83	A	0.755	1.79	0.861	0.85	1	21.675	1.48	237.10	C
T37 87.50-81.25	0.77	0.71	B	0.737	1.783	0.847	0.85	1	20.895	1.62	258.53	C
			C	0.954	2.01	1	0.85	1	29.655			
			A	0.742	1.784	0.851	0.85	1	21.111			
T38 81.25-75.00	0.77	0.71	B	0.8	1.816	0.896	0.85	1	23.908	1.58	252.91	C
			C	1	2.1	1	0.85	1	31.588			
			A	0.742	1.784	0.851	0.85	1	21.111			
T39 75.00-50.00	3.11	2.84	B	0.8	1.816	0.896	0.85	1	23.908	5.93	237.29	C
			C	1	2.1	1	0.85	1	31.588			
			A	0.758	1.791	0.863	0.85	1	87.117			
T40 50.00-25.00	3.15	2.87	B	0.816	1.828	0.909	0.85	1	98.846	5.13	205.27	C
			C	1	2.1	1	0.85	1	126.352			
			A	0.797	1.814	0.894	0.85	1	94.012			
T41 25.00-0.00	2.79	2.84	B	0.854	1.866	0.942	0.85	1	106.964	4.18	167.25	C
			C	1	2.1	1	0.85	1	126.481			
			A	0.738	1.783	0.847	0.85	1	83.728			
Sum Weight:	33.09	51.49	B	0.789	1.808	0.887	0.85	1	93.427			
			C	0.921	1.955	1	0.85	1	114.802	74.14		

Tower Forces - Service - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 368.75-362.50	0.00	0.68	A	0.223	2.523	0.595	1	1	6.019	0.21	33.23	C
T2 362.50-356.25	0.00	1.09	B	0.215	2.545	0.594	1	1	5.877	0.23	36.44	C
			C	0.223	2.523	0.595	1	1	6.019			
			A	0.253	2.43	0.603	1	1	6.887			
T3 356.25-350.00	0.01	1.09	B	0.235	2.484	0.598	1	1	6.526	0.23	37.16	C
			C	0.253	2.43	0.603	1	1	6.887			
			A	0.253	2.43	0.603	1	1	6.814			
T4 350.00-343.75	0.01	0.77	B	0.249	2.44	0.602	1	1	7.180	0.25	39.90	C
			C	0.267	2.388	0.606	1	1	7.042			
			A	0.259	2.41	0.604	1	1	7.789			
T5 343.75-337.50	0.01	0.61	B	0.295	2.311	0.614	1	1	8.174	0.16	25.48	C
			C	0.312	2.264	0.62	1	1	3.616			
			A	0.167	2.709	0.584	1	1	4.329			
T6 337.50-331.25	0.01	0.54	B	0.202	2.588	0.591	1	1	4.694	0.14	22.31	C
			C	0.22	2.531	0.595	1	1	3.002			
			A	0.157	2.746	0.583	1	1	3.715			
T7 331.25-325.00	0.01	0.54	B	0.192	2.622	0.589	1	1	4.080	0.14	22.19	C
			C	0.21	2.563	0.592	1	1	3.002			
			A	0.157	2.746	0.583	1	1	3.715			
T8 325.00-318.75	0.02	0.64	B	0.192	2.622	0.589	1	1	4.080	0.15	24.30	B
			C	0.21	2.563	0.592	1	1	3.894			
			A	0.2	2.595	0.59	1	1	4.346			
T9 318.75-312.50	0.02	0.64	B	0.235	2.482	0.598	1	1	3.894	0.15	24.16	B
			C	0.222	2.525	0.595	1	1	4.637			
			A	0.2	2.595	0.59	1	1	4.343			
T10 312.50-306.25	0.02	0.64	B	0.235	2.482	0.598	1	1	3.894	0.15	24.02	B
			C	0.222	2.526	0.595	1	1	4.637			
			A	0.2	2.595	0.59	1	1	4.343			

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	55 of 99
	Project	Montville, CT	Date	08:16:26 12/05/12
	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T31 162.50-156.25	0.28	0.77	A	0.487	1.918	0.691						
			B	0.453	1.969	0.674			11.361	0.31	49.00	C
T32 156.25-150.00	0.28	0.61	C	0.62	1.793	0.766			10.307			
			A	0.463	1.952	0.68			15.832			
			B	0.433	2.002	0.666			10.375	0.29	45.94	C
T33 150.00-125.00	1.13	2.45	C	0.601	1.804	0.754			9.508			
			A	0.482	1.924	0.689			14.925			
			B	0.442	1.987	0.67			43.780	1.14	45.56	C
T34 125.00-100.00	1.15	2.84	C	0.611	1.797	0.761			38.993			
			A	0.558	1.836	0.729			61.270			
			B	0.508	1.89	0.702			56.853			
T35 100.00-93.75	0.29	1.03	C	0.684	1.776	0.809			49.918	1.30	51.92	C
		TA 0.79	A	0.568	1.828	0.734			74.838			
			B	0.516	1.88	0.706			14.776			
T36 93.75-87.50	0.29	0.71	C	0.692	1.776	0.814			12.948	0.32	51.00	C
			A	0.504	1.895	0.7			19.179			
			B	0.466	1.948	0.681			11.902			
T37 87.50-81.25	0.29	0.61	C	0.642	1.784	0.78			10.708	0.27	43.71	C
			A	0.49	1.913	0.693			16.679			
			B	0.489	1.915	0.692			11.183			
T38 81.25-75.00	0.29	0.61	C	0.664	1.778	0.795			11.132	0.28	44.52	C
			A	0.49	1.913	0.693			17.395			
			B	0.489	1.915	0.692			11.183			
T39 75.00-50.00	1.18	2.45	C	0.664	1.778	0.795			11.132	0.27	43.56	C
			A	0.499	1.902	0.697			17.395			
			B	0.497	1.904	0.696			45.780			
T40 50.00-25.00	1.19	2.47	C	0.664	1.778	0.795			45.571	1.02	40.87	C
			A	0.521	1.875	0.708			69.578			
			B	0.519	1.877	0.707			48.861			
T41 25.00-0.00	1.05	2.45	C	0.666	1.778	0.796			48.545	0.89	35.56	C
			A	0.48	1.928	0.687			70.063			
			B	0.478	1.93	0.687			43.464			
Sum Weight:	12.60	42.78	C	0.602	1.803	0.755			43.286	0.74	29.71	C
									59.889	15.13		

Tower Forces - Service - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 368.75-362.50	0.00	0.68	A	0.223	2.523	0.595						
			B	0.215	2.545	0.594	0.8		5.184			
T2 362.50-356.25	0.00	1.09	C	0.223	2.523	0.595	0.8		5.041	0.18	28.62	C
			A	0.253	2.43	0.603	0.8		5.184			
			B	0.235	2.484	0.598	0.8		5.924			
T3 356.25-350.00	0.01	1.09	C	0.253	2.43	0.603	0.8		5.563	0.20	31.35	C
			A	0.253	2.43	0.603	0.8		5.924			
			B	0.249	2.44	0.602	0.8		5.924			
T4 350.00-343.75	0.01	0.77	C	0.267	2.388	0.606	0.8		5.852	0.20	32.18	C
		TA 0.79	A	0.259	2.41	0.604	0.8		6.218			
			B	0.295	2.311	0.614	0.8		6.081			
T5 343.75-337.50	0.01	0.61	C	0.312	2.264	0.62	0.8		6.828	0.22	35.21	C
			A	0.167	2.709	0.584	0.8		7.213			
			B	0.202	2.588	0.591	0.8		3.418			
			C	0.22	2.531	0.595	0.8		4.131	0.15	24.40	C
									4.496			

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	57 of 99
	Project	Montville, CT	Date	08:16:26 12/05/12
	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T26 212.50-206.25	0.27	0.58	A	0.445	1.981	0.671	0.8					
			B	0.429	2.01	0.664	0.8	1	9.899			
T27 206.25-200.00	0.27	0.58	C	0.597	1.806	0.752	0.8	1	9.423	0.31	49.73	C
			A	0.445	1.981	0.671	0.8	1	14.754			
			B	0.429	2.01	0.664	0.8	1	9.899			
T28 200.00-175.00	1.11	2.28	C	0.597	1.806	0.752	0.8	1	9.423	0.31	49.30	C
			A	0.462	1.954	0.679	0.8	1	14.754			
			B	0.429	2.009	0.664	0.8	1	41.215			
T29 175.00-168.75	0.28	0.69	C	0.611	1.797	0.761	0.8	1	37.387	1.24	49.59	C
			A	0.477	1.931	0.686	0.8	1	61.022			
			B	0.445	1.982	0.671	0.8	1	10.787			
T30 168.75-162.50	0.28	0.69	C	0.612	1.797	0.761	0.8	1	9.834	0.30	48.67	C
			A	0.477	1.932	0.686	0.8	1	15.355			
			B	0.445	1.982	0.671	0.8	1	10.782			
T31 162.50-156.25	0.28	0.77	C	0.612	1.797	0.761	0.8	1	9.829	0.30	48.14	C
			A	0.487	1.918	0.691	0.8	1	15.348			
			B	0.453	1.969	0.674	0.8	1	11.174			
T32 156.25-150.00	0.28	0.61	C	0.62	1.793	0.766	0.8	1	10.153	0.30	48.52	C
			A	0.463	1.952	0.68	0.8	1	15.676			
			B	0.433	2.002	0.666	0.8	1	10.375			
T33 150.00-125.00	1.13	2.45	C	0.601	1.804	0.754	0.8	1	9.508	0.29	45.94	C
			A	0.482	1.924	0.689	0.8	1	14.925			
			B	0.442	1.987	0.67	0.8	1	43.780			
T34 125.00-100.00	1.15	2.84	C	0.611	1.797	0.761	0.8	1	38.993	1.14	45.56	C
			A	0.558	1.836	0.729	0.8	1	61.270			
			B	0.508	1.89	0.702	0.8	1	54.463			
T35 100.00-93.75	0.29	1.03	C	0.684	1.776	0.809	0.8	1	47.942	1.26	50.54	C
		TA 0.79	A	0.568	1.828	0.734	0.8	1	72.843			
			B	0.516	1.88	0.706	0.8	1	13.992			
T36 93.75-87.50	0.29	0.71	C	0.692	1.776	0.814	0.8	1	12.300	0.31	49.26	C
			A	0.504	1.895	0.7	0.8	1	18.524			
			B	0.466	1.948	0.681	0.8	1	11.716			
T37 87.50-81.25	0.29	0.61	C	0.642	1.784	0.78	0.8	1	10.553	0.27	43.30	C
			A	0.49	1.913	0.693	0.8	1	16.523			
			B	0.489	1.915	0.692	0.8	1	11.183			
T38 81.25-75.00	0.29	0.61	C	0.664	1.778	0.795	0.8	1	11.132	0.28	44.52	C
			A	0.49	1.913	0.693	0.8	1	17.395			
			B	0.489	1.915	0.692	0.8	1	11.183			
T39 75.00-50.00	1.18	2.45	C	0.664	1.778	0.795	0.8	1	11.132	0.27	43.56	C
			A	0.499	1.902	0.697	0.8	1	17.395			
			B	0.497	1.904	0.696	0.8	1	45.780			
T40 50.00-25.00	1.19	2.47	C	0.664	1.778	0.795	0.8	1	45.571	1.02	40.87	C
			A	0.521	1.875	0.708	0.8	1	69.578			
			B	0.519	1.877	0.707	0.8	1	48.674			
T41 25.00-0.00	1.05	2.45	C	0.666	1.778	0.796	0.8	1	48.391	0.89	35.48	C
			A	0.48	1.928	0.687	0.8	1	69.908			
			B	0.478	1.93	0.687	0.8	1	43.464			
Sum Weight:	12.60	42.78	C	0.602	1.803	0.755	0.8	1	43.286	0.74	29.71	C
									59.889			
									14.88			

Tower Forces - Service - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	59 of 99
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	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T21 243.75-237.50	0.26	0.71	A	0.415	2.036	0.658	0.85					
T22 237.50-231.25	0.27	0.77	B	0.428	2.012	0.663	0.85	1	9.162	0.31	49.54	C
T23 231.25-225.00	0.27	0.77	C	0.572	1.824	0.737	0.85	1	9.485			
T24 225.00-218.75	0.27	0.95	A	0.451	1.971	0.674	0.85	1	13.988	0.33	52.33	C
T25 218.75-212.50	0.27	0.66	B	0.435	1.999	0.667	0.85	1	10.188			
T26 212.50-206.25	0.27	0.58	C	0.603	1.802	0.755	0.85	1	9.694	0.32	51.93	C
T27 206.25-200.00	0.27	0.58	A	0.451	1.971	0.674	0.85	1	15.063			
T28 200.00-175.00	1.11	2.28	B	0.435	1.999	0.667	0.85	1	10.188	0.35	56.50	C
T29 175.00-168.75	0.28	0.69	C	0.603	1.802	0.755	0.85	1	9.694			
T30 168.75-162.50	0.28	0.69	A	0.5	1.9	0.698	0.85	1	15.063	0.31	49.83	C
T31 162.50-156.25	0.28	0.77	B	0.474	1.936	0.685	0.85	1	12.048			
T32 156.25-150.00	0.28	0.61	C	0.643	1.784	0.781	0.85	1	11.190	0.32	51.35	C
T33 150.00-125.00	1.13	2.45	A	0.455	1.966	0.675	0.85	1	16.695			
T34 125.00-100.00	1.15	2.84	B	0.437	1.996	0.667	0.85	1	10.374	0.32	51.35	C
T35 100.00-93.75	0.29	1.03	C	0.605	1.801	0.757	0.85	1	9.816			
T36 93.75-87.50	0.29	0.71	A	0.445	1.981	0.671	0.85	1	15.150	0.31	49.83	C
T37 87.50-81.25	0.29	0.61	B	0.429	2.01	0.664	0.85	1	9.937			
T38 81.25-75.00	0.29	0.61	C	0.597	1.806	0.752	0.85	1	9.454	0.31	49.83	C
T39 75.00-50.00	1.18	2.45	A	0.445	1.981	0.671	0.85	1	14.785			
T40 50.00-25.00	1.19	2.47	B	0.429	2.01	0.664	0.85	1	9.937	0.31	49.40	C
			C	0.597	1.806	0.752	0.85	1	9.454			
			A	0.462	1.954	0.679	0.85	1	14.785	0.31	49.40	C
			B	0.429	2.009	0.664	0.85	1	41.215	1.24	49.59	C
			C	0.611	1.797	0.761	0.85	1	37.387			
			A	0.477	1.931	0.686	0.85	1	61.022			
			B	0.445	1.982	0.671	0.85	1	10.787	0.30	48.67	C
			C	0.612	1.797	0.761	0.85	1	9.834			
			A	0.477	1.932	0.686	0.85	1	15.355			
			B	0.445	1.982	0.671	0.85	1	10.782	0.30	48.14	C
			C	0.612	1.797	0.761	0.85	1	9.829			
			A	0.487	1.918	0.691	0.85	1	15.348			
			B	0.453	1.969	0.674	0.85	1	11.221	0.30	48.64	C
			C	0.62	1.793	0.766	0.85	1	10.192			
			A	0.463	1.952	0.68	0.85	1	15.715			
			B	0.433	2.002	0.666	0.85	1	10.375	0.29	45.94	C
			C	0.601	1.804	0.754	0.85	1	9.508			
			A	0.482	1.924	0.689	0.85	1	14.925			
			B	0.442	1.987	0.67	0.85	1	43.780	1.14	45.56	C
			C	0.611	1.797	0.761	0.85	1	38.993			
			A	0.558	1.836	0.729	0.85	1	61.270			
			B	0.508	1.89	0.702	0.85	1	55.061	1.27	50.89	C
			C	0.684	1.776	0.809	0.85	1	48.436			
			A	0.568	1.828	0.734	0.85	1	73.341			
			B	0.516	1.88	0.706	0.85	1	14.188	0.31	49.69	C
			C	0.692	1.776	0.814	0.85	1	12.462			
			A	0.504	1.895	0.7	0.85	1	18.688			
			B	0.466	1.948	0.681	0.85	1	11.762	0.27	43.41	C
			C	0.642	1.784	0.78	0.85	1	10.592			
			A	0.49	1.913	0.693	0.85	1	16.562			
			B	0.489	1.915	0.692	0.85	1	11.183	0.28	44.52	C
			C	0.664	1.778	0.795	0.85	1	11.132			
			A	0.49	1.913	0.693	0.85	1	17.395			
			B	0.489	1.915	0.692	0.85	1	11.183	0.27	43.56	C
			C	0.664	1.778	0.795	0.85	1	11.132			
			A	0.499	1.902	0.697	0.85	1	17.395			
			B	0.497	1.904	0.696	0.85	1	45.780	1.02	40.87	C
			C	0.664	1.778	0.795	0.85	1	45.571			
			A	0.521	1.875	0.708	0.85	1	69.578			
			B	0.519	1.877	0.707	0.85	1	48.721	0.89	35.50	C
			C	0.666	1.778	0.796	0.85	1	48.429			
								1	69.947			

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	61 of 99
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	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft		
T1	368.75 - 362.5	Leg	Max Tension	4	0.35	0.00	-0.00		
			Max. Compression	8	-0.94	0.04	0.16		
		Diagonal	Max. Mx	3	-0.14	0.19	-0.00	0.22	
			Max. My	4	-0.75	0.06	-0.00	0.00	
			Max. Vy	3	-0.14	0.00	0.00	0.00	
			Max. Vx	2	0.21	0.00	0.00	0.00	
			Max Tension	2	0.41	0.00	0.00	0.00	
			Max. Compression	2	-0.48	0.00	0.00	0.00	
			Max. Mx	8	0.33	0.01	0.00	0.00	
			Max. My	6	0.10	0.01	0.00	0.00	
		Top Girt	Max. Vy	8	-0.01	0.01	-0.00	0.00	
			Max. Vx	6	0.00	0.01	0.00	0.00	
			Max Tension	2	0.11	0.00	0.00	0.00	
			Max. Compression	3	-0.09	0.00	0.00	0.00	
			Max. Mx	5	-0.01	0.03	0.00	0.00	
			Max. My	6	-0.03	0.00	0.00	0.00	
			Max. Vy	5	0.03	0.00	0.00	0.00	
			Max. Vx	6	-0.00	0.00	0.00	0.00	
		T2	362.5 - 356.25	Leg	Max Tension	4	0.88	-0.13	0.11
					Max. Compression	2	-1.50	-0.52	0.73
Diagonal	Max. Mx			3	-0.31	-1.01	-0.00	-1.15	
	Max. My			4	-1.20	-0.24	-1.01	-0.00	
	Max. Vy			3	0.23	-1.01	0.25	1.15	
	Max. Vx			2	-0.27	0.00	0.00	0.00	
	Max Tension			4	0.62	0.00	0.00	0.00	
	Max. Compression			2	-0.89	0.00	0.00	0.00	
	Max. Mx			8	-0.56	-0.03	-0.02	0.01	
	Max. My			3	-0.48	-0.03	0.00	0.00	
Top Girt	Max. Vy			8	0.03	0.00	0.00	0.00	
	Max. Vx			3	0.00	0.00	0.00	0.00	
	Max Tension			4	0.33	0.00	0.00	0.00	
	Max. Compression			2	-0.18	0.00	0.00	0.00	
	Max. Mx			5	0.04	0.04	0.00	0.00	
	Max. My			6	0.21	0.00	0.00	0.00	
	Max. Vy			5	0.03	0.00	0.00	0.00	
	Max. Vx			6	0.00	0.00	0.00	0.00	
T3	356.25 - 350			Leg	Max Tension	4	6.45	0.53	-0.72
					Max. Compression	2	-9.21	-0.36	0.81
		Diagonal	Max. Mx	3	-1.32	1.68	-0.01	1.87	
			Max. My	4	-5.32	-0.21	-0.00	-1.15	
			Max. Vy	3	-2.16	-1.01	0.00	0.00	
			Max. Vx	4	-2.42	-0.24	0.00	0.00	
			Max Tension	2	5.50	0.00	0.00	0.00	
			Max. Compression	4	-5.25	0.00	0.00	0.00	
			Max. Mx	6	0.37	-0.06	-0.03	-0.08	
			Max. My	2	-4.17	0.00	-0.06	-0.03	
		Top Girt	Max. Vy	6	-0.03	-0.06	0.00	0.00	
			Max. Vx	2	0.02	0.00	0.00	0.00	
			Max Tension	2	1.43	0.00	0.00	0.00	
			Max. Compression	4	-1.35	0.00	0.00	0.00	
			Max. Mx	5	0.04	0.04	0.00	0.00	
			Max. My	6	-0.54	0.00	0.00	0.00	
			Max. Vy	5	0.03	0.00	0.00	0.00	
			Max. Vx	6	-0.00	0.00	0.00	0.00	
		T4	350 - 343.75	Leg	Max Tension	4	5.32	0.35	-0.82
					Max. Compression	2	-7.80	0.22	0.20
Diagonal	Max. Mx			3	-1.55	-1.10	-0.01	1.18	
	Max. My			2	1.65	0.20	0.16	1.18	
	Max. Vy			3	-0.71	-0.73	0.20	0.16	
	Max. Vx			2	0.88	0.20	0.16	1.18	
	Max Tension			7	4.06	0.00	0.00	0.00	

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	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft	
T7	331.25 - 325	Diagonal Top Girt	Max. Compression	8	-50.17	-0.02	-0.02	
			Max. Mx	7	-48.62	0.08	0.02	
			Max. My	6	-42.76	0.00	-0.10	
			Max. Vy	3	0.05	-0.03	-0.00	
			Max. Vx	2	-0.06	-0.00	0.03	
			Max Tension	6	4.77	0.00	0.00	
		Leg	Max. Compression	6	0.00	0.00	0.00	0.00
			Max. Mx	5	-3.13	0.00	0.00	0.00
			Max. My	6	-2.45	0.01	0.00	0.00
			Max. Vy	6	-2.32	0.00	-0.00	0.00
			Max. Vx	5	-0.01	0.00	0.00	0.00
			Max Tension	6	0.00	0.00	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00	0.00
			Max. Mx	8	-51.93	0.04	0.00	0.00
T8	325 - 318.75	Diagonal Top Girt	Max. My	7	-9.27	0.07	0.01	
			Max. Vy	6	-44.92	0.02	-0.11	
			Max. Vx	3	-0.05	-0.03	-0.00	
			Max Tension	2	0.06	-0.00	0.03	
			Max Tension	6	4.05	0.00	0.00	
			Max. Compression	1	0.00	0.00	0.00	
		Leg	Max. Compression	6	0.00	0.00	0.00	0.00
			Max. Mx	5	-2.82	0.00	0.00	0.00
			Max. My	6	-2.33	0.01	0.00	0.00
			Max. Vy	6	-2.28	0.00	-0.00	0.00
			Max. Vx	5	-0.01	0.00	0.00	0.00
			Max Tension	6	0.00	0.00	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00	0.00
			Max. Mx	8	-53.99	-0.02	-0.03	0.02
T9	318.75 - 312.5	Diagonal Top Girt	Max. My	7	-52.79	0.07	0.02	
			Max. Vy	6	-47.46	0.02	-0.11	
			Max. Vx	3	-0.18	0.01	0.02	
			Max Tension	4	-0.21	-0.02	0.05	
			Max Tension	2	4.07	0.00	0.00	
			Max. Compression	1	0.00	0.00	0.00	
		Leg	Max. Compression	4	0.00	0.00	0.00	0.00
			Max. Mx	5	-3.02	0.00	0.00	0.00
			Max. My	7	-2.79	0.01	0.00	0.00
			Max. Vy	5	-2.59	0.00	0.00	0.00
			Max. Vx	5	-0.01	0.00	0.00	0.00
			Max Tension	7	-0.00	0.00	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00	0.00
			Max. Mx	8	-53.59	0.01	0.12	0.00
T10	312.5 - 306.25	Diagonal Top Girt	Max. My	3	-45.04	0.14	0.01	
			Max. Vy	6	-48.92	-0.02	-0.14	
			Max. Vx	3	-0.07	-0.04	0.01	
			Max Tension	2	0.07	-0.00	0.04	
			Max Tension	2	3.67	0.00	0.00	
			Max. Compression	1	0.00	0.00	0.00	
		Leg	Max. Compression	4	-3.45	0.00	0.00	0.00
			Max. Mx	5	-3.23	0.01	0.00	0.00
			Max. My	7	-3.03	0.00	0.00	0.00
			Max. Vy	5	-0.01	0.00	0.00	0.00
			Max. Vx	7	-0.00	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00	0.00
			Max. Compression	8	-52.90	-0.05	-0.42	0.01
			Max. Mx	3	-45.10	-0.48	-0.48	0.01
Diagonal Top Girt	Max. My	4	-44.88	-0.05	-0.48	0.01		
	Max. Vy	3	0.14	-0.48	-0.48	0.01		
	Max. Vx	4	0.14	-0.05	-0.48	0.00		
	Max Tension	2	3.80	0.00	0.00	0.00		
	Max Tension	1	0.00	0.00	0.00	0.00		
	Max. Compression	11	0.00	0.00	0.00	0.00		
	Max. Mx	5	-3.48	0.00	0.00	0.00		
	Max. Mx	5	-3.33	0.01	0.00	0.00		

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	65 of 99
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	Client	VZW, MetroPCS, & AT&T	Designed by	Kevin_Barker

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft		
T13	293.75 - 287.5	Torque Arm Bottom	Max. My	7	24.94	0.00	0.00		
			Max. Vy	6	-0.04	0.00	-0.00		
			Max. Vx	7	0.00	0.00	0.00		
			Max Tension	1	0.00	0.00	0.00		
			Max. Compression	8	-32.37	0.00	0.00		
			Max. Mx	6	-25.41	0.08	0.00		
		Leg	Max. My	6	-5.60	0.00	0.00		
			Max. Vy	6	-0.04	0.00	0.00		
			Max. Vx	6	-0.00	0.00	0.00		
			Max Tension	6	4.95	0.09	0.00		
			Max. Compression	8	-117.72	-0.02	0.08		
			Max. Mx	3	-3.80	-0.58	-0.43		
		Diagonal Top Girt	Max. My	4	-28.90	-0.00	0.00		
			Max. Vy	3	0.14	-0.56	-0.58		
			Max. Vx	4	0.14	-0.00	0.03		
			Max Tension	7	9.50	0.00	-0.58		
			Max. Compression	6	0.09	0.00	0.00		
			Max. Mx	6	-2.87	0.00	0.00		
T14	287.5 - 281.25	Leg	Max. My	7	-1.17	0.03	0.00		
			Max. Vy	5	-2.37	0.00	0.00		
			Max. Vx	5	0.03	0.00	-0.00		
			Max Tension	7	-0.00	0.00	0.00		
			Max. Compression	6	17.96	0.03	0.00		
			Max. Mx	8	-124.70	0.02	0.50		
		Diagonal Top Girt	Max. My	3	-102.26	1.58	-0.29		
			Max. Vy	2	-86.63	-0.02	0.03		
			Max. Vx	3	-0.86	-0.58	-1.59		
			Max Tension	4	-0.87	-0.00	0.00		
			Max. Compression	7	5.71	0.00	-0.58		
			Max. Mx	1	0.00	0.00	0.00		
		T15	281.25 - 275	Leg	Max. My	6	-4.98	0.00	0.00
					Max. Vy	5	-2.47	0.01	0.00
					Max. Vx	7	-3.07	0.00	0.00
					Max Tension	5	-0.01	0.00	-0.00
					Max. Compression	7	0.00	0.00	0.00
					Max. Mx	6	24.59	0.00	0.00
Diagonal Top Girt	Max. My			8	-127.40	-0.02	0.20		
	Max. Vy			3	-62.32	-0.03	0.18		
	Max. Vx			4	-108.66	-0.41	0.01		
	Max Tension			3	-0.13	0.02	-0.41		
	Max. Compression			2	0.15	-0.41	0.01		
	Max. Mx			6	0.15	-0.00	0.01		
T16	275 - 268.75	Leg	Max Tension	6	2.98	0.00	0.38		
			Max. Compression	1	0.00	0.00	0.00		
			Max. Mx	6	-3.06	0.00	0.00		
			Max. My	5	-1.96	0.00	0.00		
			Max. Vy	7	-2.51	0.01	0.00		
			Max. Vx	5	-0.01	0.00	-0.00		
		Diagonal Top Girt	Max Tension	7	0.00	0.00	0.00		
			Max. Compression	6	27.51	0.03	0.00		
			Max. Mx	8	-129.13	0.02	-0.21		
			Max. My	7	-78.60	-0.02	0.07		
			Max. Vy	6	-109.64	0.22	0.03		
			Max. Vx	3	0.06	-0.01	-0.24		
T17	268.75 - 262.5	Leg	Max Tension	4	0.08	0.06	0.02		
			Max. Compression	6	2.54	0.01	0.03		
			Max. Mx	1	0.00	0.00	0.00		
			Max. My	4	-2.50	0.00	0.00		
			Max. Vy	5	-1.96	0.00	0.00		
			Max. Vx	7	-2.28	0.01	0.00		
		Diagonal Top Girt	Max Tension	5	-0.01	0.00	-0.00		
			Max. Compression	6	28.98	0.00	0.00		
			Max. Mx	6	0.02	0.00	-0.11		

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	67 of 99
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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T22	237.5 - 231.25	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-104.71	0.02	-0.40
			Max. Mx	3	-83.96	-0.68	0.00
		Diagonal	Max. My	4	-49.09	0.02	-0.72
			Max. Vy	3	-0.21	-0.68	0.00
			Max. Vx	4	-0.21	-0.02	-0.72
			Max Tension	7	13.87	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	7	-7.51	0.00	0.00
			Max. My	5	-3.86	0.03	0.00
		Top Girt	Max. Vy	3	-7.46	0.00	0.00
			Max. Vx	5	0.03	0.00	0.00
			Max Tension	3	-0.00	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
Max. Mx	6		-96.25	-0.06	0.64		
Max. My	3		-74.15	-0.71	0.01		
Max. Vy	4		-59.96	0.08	-0.77		
T23	231.25 - 225	Leg	Max. Vx	3	0.20	-0.66	-0.04
			Max Tension	4	0.21	-0.08	-0.74
			Max. Compression	7	14.75	0.00	0.00
		Diagonal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	7	-8.95	0.00	0.00
			Max. Mx	5	-5.02	0.03	0.00
			Max. My	3	-8.66	0.00	0.00
			Max. Vy	5	0.03	0.00	0.00
			Max. Vx	3	-0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
		Top Girt	Max. Compression	6	-72.88	0.11	0.15
			Max. Mx	3	-55.31	-0.71	0.01
			Max. My	4	-43.12	0.08	-0.77
			Max. Vy	3	-0.53	-0.71	0.01
Max. Vx	4		-0.54	0.08	-0.77		
Max Tension	1		0.00	0.00	0.00		
Max. Compression	7		-16.37	0.00	0.00		
T24	225 - 218.75	Leg	Max. Mx	7	-4.04	-0.11	0.01
			Max. My	7	-13.17	0.04	-0.03
			Max. Vy	7	0.04	-0.11	0.01
		Diagonal	Max. Vx	7	0.00	0.00	0.00
			Max Tension	8	18.78	0.00	0.00
			Max. Compression	2	-6.47	0.00	0.00
			Max. Mx	5	2.17	0.03	0.00
			Max. My	4	-4.51	0.00	-0.00
			Max. Vy	5	0.03	0.00	0.00
			Max. Vx	4	0.00	0.00	0.00
		Top Girt	Bottom Tension	8	25.63	0.00	0.00
			Top Tension	8	26.05	0.00	0.00
			Top Cable Vert	8	19.72	0.00	0.00
			Top Cable Norm	8	17.02	0.00	0.00
Top Cable Tan	8		0.01	0.00	0.00		
Bot Cable Vert	8		-18.63	0.00	0.00		
Bot Cable Norm	8		17.60	0.00	0.00		
Guy A	Bot Cable Tan	8	0.02	0.00	0.00		
	Bottom Tension	6	21.81	0.00	0.00		
	Top Tension	6	22.24	0.00	0.00		
	Top Cable Vert	6	16.81	0.00	0.00		
	Top Cable Norm	6	14.55	0.00	0.00		
	Top Cable Tan	6	0.43	0.00	0.00		
	Bot Cable Vert	6	-15.89	0.00	0.00		
Guy B	Bot Cable Norm	6	14.93	0.00	0.00		
	Bot Cable Tan	6	0.68	0.00	0.00		
	Bottom Tension	7	25.46	0.00	0.00		
	Bottom Tension	7	25.46	0.00	0.00		

tnxTower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	370' Guyed Lattice Tower	Page	69 of 99
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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T28	200 - 175	Diagonal Secondary Horizontal	Max. Mx	7	-28.02	0.29	0.07
			Max. My	6	-8.60	0.03	-0.34
			Max. Vy	7	-0.15	-0.09	-0.04
			Max. Vx	6	0.16	-0.01	0.09
			Max Tension	7	2.05	0.00	0.00
			Max Tension	6	2.35	0.00	0.00
		Top Girt	Max. Compression	6	-2.35	0.00	0.00
			Max. Mx	5	1.05	-0.02	0.00
			Max. My	3	1.69	0.00	-0.00
			Max. Vy	5	0.01	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
			Max Tension	7	0.01	0.00	0.00
		Leg	Max. Compression	6	-1.94	0.00	0.00
			Max. Mx	5	-1.27	0.01	0.00
			Max. My	3	-1.21	0.00	0.00
			Max. Vy	5	-0.01	0.00	0.00
			Max. Vx	3	-0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-136.28	-0.01	-0.17
			Max. Mx	7	-37.01	0.41	0.12
			Max. My	6	-19.45	-0.01	-0.55
			Max. Vy	7	-0.27	-0.11	-0.03
			Max. Vx	4	-0.29	0.05	-0.08
			Max Tension	7	6.86	0.00	0.00
Diagonal Horizontal	Max. Compression	6	2.36	0.00	0.00		
	Max. Mx	6	-3.60	0.00	0.00		
	Max. My	5	1.08	0.01	0.00		
	Max. Vy	7	2.33	0.00	0.00		
	Max. Vx	5	-0.01	0.00	0.00		
	Max Tension	7	-0.00	0.00	0.00		
Secondary Horizontal	Max. Compression	6	2.36	0.00	0.00		
	Max. Mx	6	-2.36	0.00	0.00		
	Max. My	5	1.08	0.01	0.00		
	Max. Vy	7	2.33	0.00	0.00		
	Max. Vx	5	-0.01	0.00	0.00		
	Max Tension	7	-0.00	0.00	0.00		
Top Girt	Max. Compression	1	0.00	0.00	0.00		
	Max. Mx	11	-1.64	0.00	0.00		
	Max. My	5	-1.26	0.01	0.00		
	Max. Vy	7	-0.96	0.00	0.00		
	Max. Vx	5	-0.01	0.00	0.00		
	Max Tension	7	-0.00	0.00	0.00		
	Max. Compression	1	0.00	0.00	0.00		
	Max. Mx	6	-127.07	0.02	-0.25		
	Max. My	7	-56.97	-0.38	0.00		
	Max. Vy	6	-43.68	-0.07	0.40		
	Max. Vx	7	-0.13	-0.38	0.00		
	Max Tension	6	0.14	0.08	0.29		
Diagonal Top Girt	Max. Compression	6	0.20	0.00	0.00		
	Max. Mx	6	-4.99	0.00	0.00		
	Max. My	5	-2.09	0.01	0.00		
	Max. Vy	7	-4.93	0.00	0.00		
	Max. Vx	5	-0.01	0.00	0.00		
	Max Tension	7	-0.00	0.00	0.00		
Leg	Max. Compression	1	0.00	0.00	0.00		
	Max. Mx	6	-121.59	-0.03	0.38		
	Max. My	7	-110.42	-0.39	0.02		
	Max. My	8	-99.61	0.02	-0.41		

tnxTower

URS Corporation
500 Enterprise Drive, Suite 3B
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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T34	125 - 100	Diagonal	Max. Mx	7	-124.90	-0.27	-0.08
			Max. My	6	-130.94	0.04	0.35
			Max. Vy	7	0.11	-0.27	-0.08
			Max. Vx	6	-0.14	0.04	0.35
		Horizontal	Max Tension	6	6.72	0.00	0.00
			Max. Compression	6	2.34	0.00	0.00
			Max. Mx	5	-3.90	0.00	0.00
			Max. My	7	1.25	0.01	0.00
		Top Girt	Max. Vy	5	2.24	0.00	0.00
			Max. Vx	5	-0.01	0.00	0.00
			Max Tension	7	-0.00	0.00	0.00
			Max. Compression	6	0.23	0.00	0.00
		Leg	Max. Mx	10	-1.62	0.00	0.00
			Max. My	5	-1.30	0.01	0.00
			Max. Vy	7	-0.89	0.00	0.00
			Max. Vx	5	-0.01	0.00	0.00
			Max Tension	7	-0.00	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	6	-145.00	-0.05	0.52
			Max. My	7	-91.58	-0.66	-0.13
Diagonal	Max. Vy	6	-106.63	0.06	0.81		
	Max. Vx	7	0.17	-0.66	-0.13		
	Max Tension	6	-0.20	0.06	0.81		
	Max. Compression	6	13.34	0.00	0.00		
Horizontal	Max. Mx	6	2.51	0.00	0.00		
	Max. My	5	-8.04	0.00	0.00		
	Max. Vy	7	1.34	0.01	0.00		
	Max. Vx	5	2.39	0.00	0.00		
	Max Tension	7	-0.01	0.00	0.00		
	Max. Compression	1	-0.00	0.00	0.00		
	Max. Mx	6	0.00	0.00	0.00		
	Max. My	5	-4.96	0.00	0.00		
Top Girt	Max. Vy	7	-2.05	0.01	0.00		
	Max. Vx	5	-4.36	0.00	0.00		
	Max Tension	7	-0.01	0.00	0.00		
	Max. Compression	1	0.00	0.00	0.00		
	Max. Mx	6	-119.61	0.00	0.00		
	Max. My	7	-62.74	-0.66	0.33		
	Max. Vy	6	-78.28	0.06	-0.13		
	Max. Vx	3	-0.38	-0.48	0.81		
Leg	Max Tension	6	0.41	0.06	-0.05		
	Max. Compression	1	0.00	0.06	0.81		
	Max. Mx	7	0.00	0.00	0.00		
	Max. My	7	-17.15	0.00	0.00		
	Max. Vy	7	-14.32	-0.10	0.01		
	Max. Vx	7	-17.11	0.01	-0.03		
	Max Tension	7	0.04	-0.10	0.01		
	Max. Compression	8	-0.01	0.01	-0.03		
Diagonal	Max. Mx	6	19.90	0.00	0.00		
	Max. My	5	-5.49	0.00	0.00		
	Max. Vy	6	4.08	0.03	0.00		
	Max. Vx	5	12.75	0.00	0.00		
	Bottom Tension	6	0.03	0.00	-0.00		
	Top Tension	8	-0.00	0.00	0.00		
	Top Cable Vert	8	15.43	0.00	0.00		
	Top Cable Norm	8	15.56	0.00	0.00		
Top Girt	Top Cable Tan	8	8.51	0.00	0.00		
	Bot Cable Vert	8	13.03	0.00	0.00		
	Bot Cable Norm	8	0.00	0.00	0.00		
	Bot Cable Tan	8	-8.11	0.00	0.00		
		8	13.13				

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T39	75 - 50	Diagonal Top Girt	Max Tension	7	2.85	0.00	0.00
			Max Tension	6	0.17	0.00	0.00
		Leg	Max. Compression	7	-2.40	0.00	0.00
			Max. Mx	5	-1.06	0.01	0.00
			Max. My	7	-2.40	0.00	0.00
			Max. Vy	5	-0.01	0.00	0.00
			Max. Vx	7	-0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	0.00	0.00	0.00
			Max. Mx	7	-136.90	-0.01	0.00
			Max. My	7	-121.24	-0.84	-0.78
			Max. Vy	6	-126.63	-0.07	-0.09
		Diagonal Horizontal	Max. Vx	7	0.21	-0.84	0.85
			Max Tension	6	-0.21	-0.07	-0.09
			Max Tension	6	4.32	0.00	0.85
			Max. Compression	6	2.37	0.00	0.00
			Max. Mx	5	-2.50	0.00	0.00
			Max. My	7	1.46	0.01	0.00
			Max. Vy	5	2.28	0.00	0.00
			Max. Vx	7	-0.01	0.00	0.00
Top Girt	Max Tension		7	-0.00	0.00	0.00	
	Max. Compression		6	0.19	0.00	0.00	
	Max. Mx	10	-1.45	0.00	0.00		
	Max. My	5	-1.06	0.01	0.00		
	Max. Vy	7	-1.17	0.00	0.00		
	Max. Vx	5	-0.01	0.00	0.00		
	Max Tension	7	-0.00	0.00	0.00		
	Max. Compression	6	0.00	0.00	0.00		
	Leg	Max. Mx	7	-139.84	-0.01	0.00	
		Max. My	7	-128.51	-0.84	-0.07	
Max. Vy		6	-132.47	-0.07	-0.09		
Max. Vx		7	-0.20	-0.84	0.85		
Max Tension		6	0.20	-0.07	-0.09		
Max. Compression		7	5.67	0.00	0.85		
Max. Mx		6	2.42	0.00	0.00		
Max. My		7	-3.23	0.00	0.00		
Max. Vy		5	1.52	0.01	0.00		
Max. Vx		7	2.42	0.00	0.00		
Diagonal Horizontal	Max Tension	5	-0.01	0.00	0.00		
	Max Tension	7	-0.00	0.00	0.00		
	Max. Compression	6	6.67	0.00	0.00		
	Max. Mx	4	-0.14	0.00	0.00		
	Max. My	5	1.27	-0.02	0.00		
	Max. Vy	7	0.83	0.00	0.00		
	Max. Vx	5	0.01	0.00	-0.00		
	Top Girt	Bottom Tension	7	-0.00	0.00	0.00	
		Top Tension	8	13.59	0.00	0.00	
		Top Cable Vert	8	13.65			
Top Cable Norm		8	5.64				
Top Cable Tan		8	12.43				
Bot Cable Vert		8	0.00				
Bot Cable Norm		8	-5.42				
Bot Cable Tan		8	12.46				
Guy A		Bottom Tension	8	0.00			
		Top Tension	6	12.70			
	Top Cable Vert	6	12.76				
	Top Cable Norm	6	5.28				
	Top Cable Tan	6	11.62				
	Bot Cable Vert	6	0.09				
	Bot Cable Norm	6	-5.06				
	Bot Cable Tan	6	11.64				
	Guy B	Bot Cable Tan	6	0.18			

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Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Azimuth 0 deg	Max. H _x	8	-5.42	0.00	-12.46
	Max. H _z	2	-0.07	-0.00	-0.22
	Min. Vert	8	-5.42	0.00	-12.46
	Min. H _x	7	-3.11	-0.20	-7.17
	Min. H _z	8	-5.42	0.00	-12.46
Guy C @ 160 ft Elev 0 ft	Max. Vert	4	-4.26	-4.92	2.30
Azimuth 240 deg	Max. H _x	4	-4.26	-4.92	2.30
	Max. H _z	7	-35.84	-40.33	22.56
	Min. Vert	7	-35.84	-40.33	22.56
	Min. H _x	7	-35.84	-40.33	22.56
	Min. H _z	4	-4.26	-4.92	2.30
Guy B @ 160 ft Elev 0 ft	Max. Vert	3	-1.16	1.08	0.86
Azimuth 120 deg	Max. H _x	6	-31.69	34.86	21.46
	Max. H _z	6	-31.69	34.86	21.46
	Min. Vert	6	-31.69	34.86	21.46
	Min. H _x	3	-1.16	1.08	0.86
	Min. H _z	3	-1.16	1.08	0.86
Guy A @ 160 ft Elev 0 ft	Max. Vert	2	-0.30	-0.00	-0.29
Azimuth 0 deg	Max. H _x	4	-25.55	0.01	-32.22
	Max. H _z	2	-0.30	-0.00	-0.29
	Min. Vert	8	-34.98	0.01	-44.94
	Min. H _x	7	-18.85	-1.24	-24.40
	Min. H _z	8	-34.98	0.01	-44.94
Guy C @ 205 ft Elev 0 ft	Max. Vert	4	-17.05	-11.69	4.76
Azimuth 240 deg	Max. H _x	4	-17.05	-11.69	4.76
	Max. H _z	7	-79.63	-57.77	31.28
	Min. Vert	7	-79.63	-57.77	31.28
	Min. H _x	7	-79.63	-57.77	31.28
	Min. H _z	4	-17.05	-11.69	4.76
Guy B @ 205 ft Elev 0 ft	Max. Vert	3	-7.77	3.84	3.21
Azimuth 120 deg	Max. H _x	6	-67.07	46.00	30.32
	Max. H _z	6	-67.07	46.00	30.32
	Min. Vert	6	-67.07	46.00	30.32
	Min. H _x	3	-7.77	3.84	3.21
	Min. H _z	3	-7.77	3.84	3.21
Guy A @ 205 ft Elev 0 ft	Max. Vert	2	-4.92	-0.00	-2.67
Azimuth 0 deg	Max. H _x	4	-69.93	0.01	-56.36
	Max. H _z	2	-4.92	-0.00	-2.67
	Min. Vert	8	-82.74	0.01	-68.16
	Min. H _x	7	-44.53	-3.66	-35.43
	Min. H _z	8	-82.74	0.01	-68.16
Guy C @ 250 ft Elev 0 ft	Max. Vert	11	-11.33	-7.32	3.82
Azimuth 240 deg	Max. H _x	11	-11.33	-7.32	3.82
	Max. H _z	6	-32.34	-20.36	14.22
	Min. Vert	7	-37.78	-25.93	13.67
	Min. H _x	7	-37.78	-25.93	13.67

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Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-75.66	0.00	-0.00	75.66	-0.00	0.000%
2	0.00	-76.35	-102.85	-0.00	76.35	102.85	0.001%
3	102.17	-75.66	-0.00	-0.00	75.66	0.00	0.002%
4	-0.00	-74.98	101.96	-102.17	74.98	-101.96	0.000%
5	0.00	-116.05	0.00	0.00	116.05	0.00	0.001%
6	0.00	-117.24	-134.77	-0.00	117.24	134.77	0.002%
7	130.78	-116.05	-0.00	-130.78	116.05	0.00	0.001%
8	-0.00	-114.85	129.10	-0.00	114.85	-129.10	0.002%
9	0.00	-75.85	-28.49	-0.00	75.85	28.49	0.001%
10	28.30	-75.66	-0.00	-28.30	75.66	0.00	0.002%
11	-0.00	-75.47	28.24	-0.00	75.47	-28.24	0.006%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	7	0.00000001	0.00001624
2	Yes	15	0.00000001	0.00003497
3	Yes	14	0.00004900	0.00007462
4	Yes	10	0.00000001	0.00008461
5	Yes	6	0.00000001	0.00001016
6	Yes	15	0.00000001	0.00006430
7	Yes	15	0.00000001	0.00004981
8	Yes	11	0.00000001	0.00004165
9	Yes	9	0.00000001	0.00006237
10	Yes	9	0.00000001	0.00005236
11	Yes	8	0.00000001	0.00008669

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt	Twist
T1	368.75 - 362.5		11	°	°
T2	362.5 - 356.25	2.506	11	0.0583	0.0989
T3	356.25 - 350	2.554	11	0.0583	0.0983
T4	350 - 343.75	2.603	11	0.0585	0.0983
T5	343.75 - 337.5	2.651	11	0.0600	0.0958
T6	337.5 - 331.25	2.708	11	0.0612	0.0951
T7	331.25 - 325	2.764	11	0.0591	0.0805
T8	325 - 318.75	2.816	11	0.0566	0.0649
T9	318.75 - 312.5	2.864	11	0.0538	0.0501
T10	312.5 - 306.25	2.906	11	0.0512	0.0415
T11	306.25 - 300	2.944	11	0.0488	0.0333
T12	300 - 293.75	2.978	11	0.0464	0.0251
T13	293.75 - 287.5	3.001	11	0.0446	0.0176
T14	287.5 - 281.25	3.039	11	0.0424	0.0174
T15	281.25 - 275	3.077	11	0.0357	0.0144
		3.102	11	0.0279	0.0110

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Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	368.75 - 362.5	17.786	2	0.4960	0.4526
T2	362.5 - 356.25	18.019	2	0.4962	0.4505
T3	356.25 - 350	18.255	2	0.4968	0.4507
T4	350 - 343.75	18.486	2	0.5017	0.4417
T5	343.75 - 337.5	18.752	2	0.5043	0.4390
T6	337.5 - 331.25	19.027	2	0.4933	0.3805
T7	331.25 - 325	19.620	6	0.4794	0.3181
T8	325 - 318.75	20.262	6	0.4629	0.2588
T9	318.75 - 312.5	20.869	6	0.4473	0.2239
T10	312.5 - 306.25	21.449	6	0.4308	0.1987
T11	306.25 - 300	22.006	6	0.4136	0.1793
T12	300 - 293.75	22.510	6	0.3977	0.1618
T13	293.75 - 287.5	23.047	6	0.3795	0.1611
T14	287.5 - 281.25	23.613	6	0.3433	0.1140
T15	281.25 - 275	24.113	6	0.3012	0.0750
T16	275 - 268.75	24.503	6	0.2557	0.0658
T17	268.75 - 262.5	24.824	6	0.2084	0.0701
T18	262.5 - 256.25	25.071	6	0.1602	0.0937
T19	256.25 - 250	25.245	6	0.1614	0.1197
T20	250 - 243.75	25.348	6	0.1883	0.1364
T21	243.75 - 237.5	25.385	6	0.2128	0.1486
T22	237.5 - 231.25	25.293	6	0.2332	0.1366
T23	231.25 - 225	25.176	6	0.2448	0.1191
T24	225 - 218.75	25.019	6	0.2561	0.1014
T25	218.75 - 212.5	24.919	6	0.2662	0.1021
T26	212.5 - 206.25	24.845	6	0.2905	0.1465
T27	206.25 - 200	24.680	6	0.3162	0.1807
T28	200 - 175	24.411	6	0.3421	0.2066
T29	175 - 168.75	22.369	6	0.4311	0.3175
T30	168.75 - 162.5	21.720	6	0.4596	0.3018
T31	162.5 - 156.25	21.033	6	0.4808	0.2877
T32	156.25 - 150	20.396	6	0.5057	0.2885
T33	150 - 125	19.728	6	0.5321	0.2885
T34	125 - 100	16.419	6	0.6236	0.2087
T35	100 - 93.75	12.768	6	0.6229	0.1117
T36	93.75 - 87.5	11.975	6	0.6088	0.1121
T37	87.5 - 81.25	11.250	6	0.6049	0.1522
T38	81.25 - 75	10.528	6	0.6043	0.2065
T39	75 - 50	9.770	6	0.6060	0.2440
T40	50 - 25	6.385	6	0.6059	0.3300
T41	25 - 0	3.471	6	0.6166	0.4386

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
370.00	Search Antenna	2	17.786	0.4960	0.4526	75037
355.00	9 FT DISH	2	18.300	0.4975	0.4488	177299
350.00	Guy	2	18.486	0.5017	0.4417	12331
325.00	3'-6" Standoff Mount	6	20.262	0.4629	0.2588	12591

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Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load/Allowable	Allowable Ratio	Criteria
T10	312.5	Diagonal	A325N	0.5000	2	1.83	4.12	0.445	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	1.72	4.12	0.418	1.333	Bolt Shear
		Leg	A325N	0.7500	6	0.00	19.44	0.000	1.333	Bolt Tension
T11	306.25	Diagonal	A325N	0.5000	2	1.90	4.12	0.461	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	1.74	4.12	0.421	1.333	Bolt Shear
		Leg	A325N	0.6250	2	3.26	4.12	0.792	1.333	Bolt Shear
T12	300	Diagonal	A325N	0.7500	6	2.44	12.89	0.189	1.333	Bolt Shear
		Top Girt	A325N	0.6250	2	1.25	19.44	0.064	1.333	Bolt Tension
		Leg	A325N	0.6250	2	4.73	6.44	0.734	1.333	Bolt Shear
T13	293.75	Diagonal	A325N	0.5000	2	5.99	12.89	0.465	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	4.75	4.12	1.152	1.333	Bolt Shear
		Leg	A325N	0.6250	2	1.44	12.89	0.111	1.333	Bolt Shear
T14	287.5	Diagonal	A325N	0.5000	2	2.85	4.12	0.692	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	2.49	4.12	0.604	1.333	Bolt Shear
		Leg	A325N	0.5000	2	1.49	4.12	0.361	1.333	Bolt Shear
T15	281.25	Diagonal	A325N	0.5000	2	1.53	4.12	0.371	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	4.59	19.44	0.236	1.333	Bolt Tension
		Leg	A325N	0.5000	2	1.27	4.12	0.308	1.333	Bolt Shear
T16	275	Diagonal	A325N	0.7500	6	1.25	4.12	0.303	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	4.83	19.44	0.248	1.333	Bolt Tension
		Leg	A325N	0.5000	2	1.09	4.12	0.264	1.333	Bolt Shear
T17	268.75	Diagonal	A325N	0.7500	6	1.29	4.12	0.313	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	4.80	19.44	0.247	1.333	Bolt Tension
		Leg	A325N	0.5000	2	1.18	4.12	0.285	1.333	Bolt Shear
T18	262.5	Diagonal	A325N	0.5000	2	1.26	4.12	0.304	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	1.81	4.12	0.438	1.333	Bolt Shear
		Leg	A325N	0.5000	2	1.52	4.12	0.370	1.333	Bolt Shear
T19	256.25	Diagonal	A325N	0.7500	6	3.61	19.44	0.186	1.333	Bolt Tension
		Top Girt	A325N	0.5000	2	2.04	4.12	0.496	1.333	Bolt Shear
		Leg	A325N	0.5000	2	1.82	8.25	0.221	1.333	Bolt Shear
T20	250	Diagonal	A325X	0.5000	2	5.12	4.12	1.241	1.333	Bolt Shear
		Top Girt	A325N	0.6250	2	2.58	12.89	0.200	1.333	Bolt Shear
		Leg	A325N	0.5000	2	6.94	5.89	1.177	1.333	Bolt Shear
T21	243.75	Diagonal	A325X	0.5000	2	3.76	12.89	0.292	1.333	Bolt Shear
		Top Girt	A325N	0.6250	2	7.38	5.89	1.252	1.333	Bolt Shear
		Leg	A325N	0.7500	2	4.48	12.89	0.347	1.333	Bolt Shear
T22	237.5	Diagonal	A325N	0.6250	6	0.00	19.44	0.000	1.333	Bolt Tension
		Top Girt	A325N	0.6250	2	8.19	12.89	0.635	1.333	Bolt Shear
		Leg	A325N	0.6250	2	9.39	12.89	0.729	1.333	Bolt Shear
T23	231.25	Diagonal	A325N	0.5000	2	2.95	4.12	0.717	1.333	Bolt Shear

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	Mast Stability Index	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T10	312.5 - 306.25	3 1/4	6.25	6.25	K=1.00						
T11	306.25 - 300	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-52.90	115.55	0.458 ✓
T12	300 - 293.75	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-52.35	115.55	0.453 ✓
T13	293.75 - 287.5	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-46.24	115.55	0.400 ✓
T14	287.5 - 281.25	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-117.72	115.55	1.019 ✓
T15	281.25 - 275	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-124.70	115.55	1.079 ✓
T16	275 - 268.75	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-127.40	115.55	1.103 ✓
T17	268.75 - 262.5	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-129.13	115.55	1.118 ✓
T18	262.5 - 256.25	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-129.30	115.55	1.119 ✓
T19	256.25 - 250	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-127.87	115.55	1.107 ✓
T20	250 - 243.75	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-125.58	115.55	1.087 ✓
T21	243.75 - 237.5	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-121.47	115.55	1.051 ✓
T22	237.5 - 231.25	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-116.84	115.55	1.011 ✓
T23	231.25 - 225	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-104.71	115.55	0.906 ✓
T24	225 - 218.75	3	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-96.25	115.55	0.833 ✓
T25	218.75 - 212.5	3	6.25	3.13	100.0 K=1.00	1.00	12.978	7.0686	-72.88	91.73	0.795 ✓
T26	212.5 - 206.25	3	6.25	3.13	50.0 K=1.00	1.00	18.351	7.0686	-130.15	129.71	1.003 ✓
T27	206.25 - 200	3	6.25	3.13	50.0 K=1.00	1.00	18.351	7.0686	-133.40	129.71	1.028 ✓
T28	200 - 175	3	25.00	3.13	50.0 K=1.00	1.00	18.351	7.0686	-135.41	129.71	1.044 ✓
T29	175 - 168.75	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-136.28	129.71	1.051 ✓
T30	168.75 - 162.5	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-127.07	115.55	1.100 ✓
T31	162.5 - 156.25	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-121.59	115.55	1.052 ✓
T32	156.25 - 150	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-133.43	115.55	1.155 ✓
T33	150 - 125	3 1/4	25.00	6.25	92.3 K=1.00	1.00	13.928	8.2958	-134.25	115.55	1.162 ✓
T34	125 - 100	3 1/4	25.00	6.25	92.3 K=1.00	1.00	13.928	8.2958	-135.34	115.55	1.171 ✓
T35	100 - 93.75	3 1/4	6.25	6.25	92.3 K=1.00	1.00	13.928	8.2958	-145.00	115.55	1.255 ✓
									-119.61	115.55	1.035 ✓

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T34	125 - 100	P1.25x.14	5.00	4.73	105.2 K=1.00	12.315	0.6685	-8.04	8.23	0.977
T39	75 - 50	P1.25x.14	5.00	4.73	105.2 K=1.00	12.315	0.6685	-2.50	8.23	0.303
T40	50 - 25	P1.25x.14	5.00	4.73	105.2 K=1.00	12.315	0.6685	-3.23	8.23	0.392
T41	25 - 0	P1.25x.14	5.00	4.73	105.2 K=1.00	12.315	0.6685	-2.43	8.23	0.296

Secondary Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T25	218.75 - 212.5	L2x2x1/4	5.00	4.75	135.9 K=0.93	8.091	0.9380	-2.25	7.59	0.297
T26	212.5 - 206.25	L2x2x1/4	5.00	4.75	135.9 K=0.93	8.091	0.9380	-2.31	7.59	0.304
T27	206.25 - 200	L2x2x1/4	5.00	4.75	135.9 K=0.93	8.091	0.9380	-2.35	7.59	0.309
T28	200 - 175	P1.25x.14	5.00	4.75	105.6 K=1.00	12.254	0.6685	-2.36	8.19	0.288

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	368.75 - 362.5	2L2 1/2x2x1/4	5.00	4.34	93.2 K=1.40	13.815	2.1300	-0.09	29.43	0.003
T2	362.5 - 356.25	2L2 1/2x3x1/4	5.00	4.42	95.2 K=1.35	13.577	2.6300	-0.18	35.71	0.005
T3	356.25 - 350	2L2 1/2x3x1/4	5.00	4.42	95.2 K=1.35	13.577	2.6300	-1.35	35.71	0.038
T4	350 - 343.75	2L2 1/2x2x1/4	5.00	4.34	93.2 K=1.40	13.815	2.1300	-7.34	29.43	0.250
T5	343.75 - 337.5	2L2 1/2x2x1/4	5.00	4.32	93.1 K=1.41	13.835	2.1300	-4.10	29.47	0.139
T6	337.5 - 331.25	P1.25x.14	5.00	4.75	105.6 K=1.00	12.254	0.6685	-2.53	8.19	0.309*
T7	331.25 - 325	P1.25x.14	5.00	4.75	105.6 K=1.00	12.254	0.6685	-2.41	8.19	0.295*
T8	325 - 318.75	P1.25x.14	5.00	4.75	105.6 K=1.00	12.254	0.6685	-2.88	8.19	0.351*
T9	318.75 - 312.5	P1.25x.14	5.00	4.75	105.6 K=1.00	12.254	0.6685	-3.32	8.19	0.406*

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T39	75 - 50	P1.25x.14	5.00	4.73	K=1.00	12.315	0.6685	-1.45	8.23	0.176*
T40	50 - 25	L2 1/2x2x1/4	5.00	4.38	K=1.00	9.943	1.0600	-0.14	10.54	0.013
T41	25 - 0	P1.25x.14	5.00	4.73	K=0.99 105.2 K=1.00	12.315	0.6685	-1.36	8.23	0.166*

* DL controls

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T35	100 - 93.75 (681)	2L3x2 1/2x1/4	6.03	5.89	74.8 K=1.00	15.921	2.6300	-1.00	41.87	0.024
T35	100 - 93.75 (687)	2L3x2 1/2x1/4	6.03	5.89	74.8 K=1.00	15.921	2.6300	-0.76	41.87	0.018
T35	100 - 93.75 (693)	2L3x2 1/2x1/4	6.03	5.89	74.8 K=1.00	15.921	2.6300	-0.93	41.87	0.022
T35	100 - 93.75 (694)	2L3x2 1/2x1/4	6.03	5.89	74.8 K=1.00	15.921	2.6300	-0.06	41.87	0.001

Torque-Arm Bottom Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T4	350 - 343.75 (740)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	11.943	2.6300	-26.54	31.41	0.845
T4	350 - 343.75 (741)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	11.943	2.6300	-27.45	31.41	0.874
T4	350 - 343.75 (746)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	11.943	2.6300	-26.25	31.41	0.836
T4	350 - 343.75 (747)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	11.943	2.6300	-23.41	31.41	0.745
T4	350 - 343.75 (752)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	11.943	2.6300	-22.80	31.41	0.726
T4	350 - 343.75 (753)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	11.943	2.6300	-28.11	31.41	0.895
T12	300 - 293.75 (722)	2L3x2 1/2x1/4	8.68	8.49	107.8 K=1.00	11.968	2.6300	-30.06	31.48	0.955
T12	300 - 293.75 (723)	2L3x2 1/2x1/4	8.68	8.49	107.8 K=1.00	11.968	2.6300	-32.05	31.48	1.018
T12	300 - 293.75 (728)	2L3x2 1/2x1/4	8.68	8.49	107.8 K=1.00	11.968	2.6300	-31.31	31.48	0.995

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Section No.	Elevation ft	Size	L ft	L _n ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T13	293.75 - 287.5	3 1/4	6.25	6.25	92.3	21.600	8.2958	4.95	179.19	0.028
T14	287.5 - 281.25	3 1/4	6.25	6.25	92.3	21.600	8.2958	17.96	179.19	0.100
T15	281.25 - 275	3 1/4	6.25	6.25	92.3	21.600	8.2958	24.59	179.19	0.137
T16	275 - 268.75	3 1/4	6.25	6.25	92.3	21.600	8.2958	27.51	179.19	0.154
T17	268.75 - 262.5	3 1/4	6.25	6.25	92.3	21.600	8.2958	28.98	179.19	0.162
T18	262.5 - 256.25	3 1/4	6.25	6.25	92.3	21.600	8.2958	28.79	179.19	0.161
T19	256.25 - 250	3 1/4	6.25	6.25	92.3	21.600	8.2958	25.57	179.19	0.143
T20	250 - 243.75	3 1/4	6.25	6.25	92.3	21.600	8.2958	21.66	179.19	0.121
T21	243.75 - 237.5	3 1/4	6.25	6.25	92.3	21.600	8.2958	9.49	179.19	0.053

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _n ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	368.75 - 362.5	L2 1/2x2 1/2x1/4	8.00	3.64	59.6	29.000	0.7753	0.41	22.48	0.018
T2	362.5 - 356.25	2L3x3x5/16	8.00	3.64	49.7	29.000	2.3695	0.62	68.72	0.009
T3	356.25 - 350	2L3x3x5/16	8.00	3.64	49.7	29.000	2.3695	5.50	68.72	0.080
T4	350 - 343.75	L3x2 1/2x1/4	8.00	3.60	61.0	29.000	0.8419	4.06	24.41	0.166
T5	343.75 - 337.5	5/8	8.00	7.60	584.0	21.600	0.3068	5.12	6.63	0.772
T6	337.5 - 331.25	5/8	8.00	7.60	584.0	21.600	0.3068	4.77	6.63	0.719
T7	331.25 - 325	5/8	8.00	7.60	584.0	21.600	0.3068	4.05	6.63	0.612
T8	325 - 318.75	3/4	8.00	7.59	485.6	21.600	0.4418	4.07	9.54	0.426
T9	318.75 - 312.5	3/4	8.00	7.59	485.6	21.600	0.4418	3.67	9.54	0.384
T10	312.5 - 306.25	3/4	8.00	7.59	485.6	21.600	0.4418	2.88	9.54	0.302*
T11	306.25 - 300	3/4	8.00	7.57	484.5	21.600	0.4418	6.53	9.54	0.684
T12	300 - 293.75	L3x2 1/2x1/4	8.00	3.57	60.4	29.000	0.8419	4.06	24.41	0.166
T13	293.75 - 287.5	3/4	8.00	7.57	484.5	21.600	0.4418	9.50	9.54	0.995

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
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* DL controls

Horizontal Design Data (Tension)										
Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T28	200 - 175	P1.25x.14	5.00	4.75	105.6	21.600	0.6685	2.36	14.44	0.163
T33	150 - 125	P1.25x.14	5.00	4.73	105.2	21.600	0.6685	2.34	14.44	0.162
T34	125 - 100	P1.25x.14	5.00	4.73	105.2	21.600	0.6685	2.51	14.44	0.174
T39	75 - 50	P1.25x.14	5.00	4.73	105.2	21.600	0.6685	2.37	14.44	0.164
T40	50 - 25	P1.25x.14	5.00	4.73	105.2	21.600	0.6685	2.42	14.44	0.168
T41	25 - 0	P1.25x.14	5.00	4.73	105.2	21.600	0.6685	2.43	14.44	0.169

Secondary Horizontal Design Data (Tension)										
Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T25	218.75 - 212.5	L2x2x1/4	5.00	4.75	93.6	21.600	0.9380	2.25	20.26	0.111
T26	212.5 - 206.25	L2x2x1/4	5.00	4.75	93.6	21.600	0.9380	2.31	20.26	0.114
T27	206.25 - 200	L2x2x1/4	5.00	4.75	93.6	21.600	0.9380	2.35	20.26	0.116
T28	200 - 175	P1.25x.14	5.00	4.75	105.6	21.600	0.6685	2.36	14.44	0.163

Top Girt Design Data (Tension)										
Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	368.75 - 362.5	2L2 1/2x2x1/4	5.00	4.34	73.0	29.000	1.3162	0.11	38.17	0.003
T2	362.5 - 356.25	2L2 1/2x3x1/4	5.00	4.42	76.0	29.000	1.7381	0.33	50.41	0.007

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T4	350 - 343.75 (751)	2L3x2 1/2x1/4	6.03	5.91	75.1	21.600	2.6300	18.82	56.81	0.331
T12	300 - 293.75 (720)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	24.37	56.81	0.429
T12	300 - 293.75 (721)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	24.94	56.81	0.439
T12	300 - 293.75 (726)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	23.57	56.81	0.415
T12	300 - 293.75 (727)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	23.12	56.81	0.407
T12	300 - 293.75 (732)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	23.90	56.81	0.421
T12	300 - 293.75 (733)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	18.98	56.81	0.334
T24	225 - 218.75 (702)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	23.96	56.81	0.422
T24	225 - 218.75 (703)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	24.48	56.81	0.431
T24	225 - 218.75 (708)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	22.21	56.81	0.391
T24	225 - 218.75 (709)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	23.03	56.81	0.405
T24	225 - 218.75 (714)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	23.95	56.81	0.422
T24	225 - 218.75 (715)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	19.62	56.81	0.345
T35	100 - 93.75 (681)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	16.17	56.81	0.285
T35	100 - 93.75 (682)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	15.71	56.81	0.277
T35	100 - 93.75 (687)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	13.89	56.81	0.244
T35	100 - 93.75 (688)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	17.03	56.81	0.300
T35	100 - 93.75 (693)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	15.74	56.81	0.277
T35	100 - 93.75 (694)	2L3x2 1/2x1/4	6.03	5.89	74.8	21.600	2.6300	15.22	56.81	0.268

Torque-Arm Bottom Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T35	100 - 93.75 (684)	2L3x2 1/2x1/4	8.68	8.49	107.8	21.600	2.6300	0.58	56.81	0.010
T35	100 - 93.75 (690)	2L3x2 1/2x1/4	8.68	8.49	107.8	21.600	2.6300	0.32	56.81	0.006
T35	100 - 93.75 (696)	2L3x2 1/2x1/4	8.68	8.49	107.8	21.600	2.6300	0.56	56.81	0.010

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Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail
T7	331.25 - 325	Diagonal	5/8					
T8	325 - 318.75	Diagonal	3/4	82	4.05	8.83	45.9	Pass
T9	318.75 - 312.5	Diagonal	3/4	94	4.07	12.72	32.0	Pass
T10	312.5 - 306.25	Diagonal	3/4	106	3.67	12.72	37.0 (b)	Pass
T11	306.25 - 300	Diagonal	3/4	115	2.88	9.54	28.8	Pass
T12	300 - 293.75	Diagonal	3/4	131	6.53	12.72	33.4 (b)	Pass
T13	293.75 - 287.5	Diagonal	L3x2 1/2x1/4	142	-9.46	24.62	30.2	Pass
T14	287.5 - 281.25	Diagonal	3/4	152	9.50	12.72	34.6 (b)	Pass
T15	281.25 - 275	Diagonal	5/8				51.3	Pass
T16	275 - 268.75	Diagonal	5/8	164	5.71	8.83	59.4 (b)	Pass
T17	268.75 - 262.5	Diagonal	5/8	178	2.98	8.83	38.4	Pass
T18	262.5 - 256.25	Diagonal	5/8	190	2.54	8.83	55.0 (b)	Pass
T19	256.25 - 250	Diagonal	5/8	204	1.70	6.63	74.7	Pass
T20	250 - 243.75	Diagonal	3/4	214	2.35	8.83	86.4 (b)	Pass
T21	243.75 - 237.5	Diagonal	3/4	225	3.61	12.72	64.6	Pass
T22	237.5 - 231.25	Diagonal	3/4	238	4.09	12.72	33.7	Pass
T23	231.25 - 225	Diagonal	1	247	10.23	12.72	32.1	Pass
T24	225 - 218.75	Diagonal	1	259	13.87	22.61	37.2 (b)	Pass
T25	218.75 - 212.5	Diagonal	2L2 1/2x2 1/2x1/4	271	14.75	22.61	80.4	Pass
T26	212.5 - 206.25	Diagonal	5/8	288	-16.37	51.46	93.1 (b)	Pass
T27	206.25 - 200	Diagonal	5/8	296	5.91	8.83	61.3	Pass
T28	200 - 175	Diagonal	5/8	311	4.17	8.83	88.3 (b)	Pass
T29	175 - 168.75	Diagonal	5/8	326	2.05	8.83	65.2	Pass
T30	168.75 - 162.5	Diagonal	1	340	6.86	8.83	31.8	Pass
T31	162.5 - 156.25	Diagonal	1	391	9.18	22.61	47.7 (b)	Pass
T32	156.25 - 150	Diagonal	1	403	10.53	22.61	66.9	Pass
T33	150 - 125	Diagonal	5/8	420	3.24	16.96	47.2	Pass
T34	125 - 100	Diagonal	5/8	429	2.58	8.83	23.3	Pass
T35	100 - 93.75	Diagonal	L2 1/2x2 1/2x3/16	444	6.72	8.83	77.6	Pass
T36	93.75 - 87.5	Diagonal	2L2 1/2x2 1/2x1/4	483	13.34	22.75	40.6	Pass
T37	87.5 - 81.25	Diagonal	3/4	517	-17.15	51.53	83.5 (b)	Pass
T38	81.25 - 75	Diagonal	5/8	530	6.57	12.72	46.6	Pass
T39	75 - 50	Diagonal	5/8	542	4.79	8.83	95.8 (b)	Pass
T40	50 - 25	Diagonal	5/8	554	2.85	8.83	19.1	Pass
T41	25 - 0	Diagonal	5/8	567	4.32	8.83	35.1 (b)	Pass
T28	200 - 175	Horizontal	5/8	632	5.67	8.83	29.3	Pass
T33	150 - 125	Horizontal	P1.25x.14	643	3.83	8.83	76.1	Pass
T34	125 - 100	Horizontal	P1.25x.14	347	-3.60	10.92	58.6	Pass
T39	75 - 50	Horizontal	P1.25x.14	447	-3.90	10.97	84.9 (b)	Pass
T40	50 - 25	Horizontal	P1.25x.14	486	-8.04	10.97	33.3	Pass
T41	25 - 0	Horizontal	P1.25x.14	572	-2.50	10.97	51.7	Pass
T25	218.75 - 212.5	Secondary Horizontal	P1.25x.14	628	-3.23	10.97	59.8 (b)	Pass
T26	212.5 - 206.25	Secondary Horizontal	L2x2x1/4	649	-2.43	10.97	51.7	Pass
			L2x2x1/4	301	-2.25	10.12	22.2	Pass
				316	-2.31	10.12	22.3	Pass
							22.8	Pass

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Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail	
T4	350 - 343.75	Guy A@350							
T12	300 - 293.75	Guy A@300	7/8						
T24	225 - 218.75	Guy A@225	7/8	749	26.52	39.85	66.5	Pass	
T31	162.5 - 156.25	Guy A@162.5	3/4	731	28.98	39.85	72.7	Pass	
T35	100 - 93.75	Guy A@100	3/4	713	26.05	29.15	89.4	Pass	
T40	50 - 25	Guy A@50	9/16	699	27.10	29.15	93.0	Pass	
T4	350 - 343.75	Guy B@350	9/16	692	15.56	17.50	88.9	Pass	
T12	300 - 293.75	Guy B@300	7/8	678	13.65	17.50	78.0	Pass	
T24	225 - 218.75	Guy B@225	7/8	743	21.71	39.85	54.5	Pass	
T31	162.5 - 156.25	Guy B@162.5	3/4	725	23.96	39.85	60.1	Pass	
T35	100 - 93.75	Guy B@100	3/4	707	22.24	29.15	76.3	Pass	
T40	50 - 25	Guy B@50	9/16	698	23.92	29.15	82.1	Pass	
T4	350 - 343.75	Guy C@350	9/16	685	14.52	17.50	83.0	Pass	
T12	300 - 293.75	Guy C@300	7/8	677	12.76	17.50	72.9	Pass	
T24	225 - 218.75	Guy C@225	7/8	737	25.03	39.85	62.8	Pass	
T31	162.5 - 156.25	Guy C@162.5	3/4	719	28.05	39.85	70.4	Pass	
T35	100 - 93.75	Guy C@100	3/4	701	25.88	29.15	88.8	Pass	
T40	50 - 25	Guy C@50	9/16	697	27.38	29.15	93.9	Pass	
T4	350 - 343.75	Torque Arm Top@350	9/16 2L3x2 1/2x1/4	680 676 738	16.19 14.32 24.26	17.50 17.50 75.73	92.5 81.9 32.0	Pass Pass Pass	
T12	300 - 293.75	Torque Arm Top@300	2L3x2 1/2x1/4	721	24.94	75.73	32.9	Pass	
T24	225 - 218.75	Torque Arm Top@225	2L3x2 1/2x1/4	703	24.48	75.73	32.3	Pass	
T35	100 - 93.75	Torque Arm Top@100	2L3x2 1/2x1/4	688	17.03	75.73	22.5	Pass	
T4	350 - 343.75	Torque Arm Bottom@350	2L3x2 1/2x1/4	753	-28.11	41.87	67.1	Pass	
T12	300 - 293.75	Torque Arm Bottom@300	2L3x2 1/2x1/4	735	-32.37	41.96	77.1	Pass	
T24	225 - 218.75	Torque Arm Bottom@225	2L3x2 1/2x1/4	710	-26.43	41.87	63.1	Pass	
T35	100 - 93.75	Torque Arm Bottom@100	2L3x2 1/2x1/4	689	-13.57	41.96	32.3	Pass	
							Summary		
							Leg (T34)	94.1	Pass
							Diagonal (T30)	95.8	Pass
							Horizontal (T34)	73.3	Pass
							Secondary Horizontal (T27)	23.2	Pass
							Top Girt (T40)	60.7	Pass
							Guy A (T31)	93.0	Pass
							Guy B (T35)	83.0	Pass
							Guy C (T31)	93.9	Pass
							Torque Arm Top (T12)	32.9	Pass
							Torque Arm Bottom (T12)	77.1	Pass
							Bolt Checks	95.8	Pass
							RATING =	95.8	Pass

FOUNDATION ANALYSIS

VZ5-109 (Rev 2) / 36922267
MET-013 (Rev 1) / 36917439
CTK-022 (Rev 1) / 36922398

370' Guyed Lattice Tower
Montville, CT

12/5/2012

FOUNDATION ANALYSIS

TOWER FORCES:

Moment Caused by Tower $M_t := 0\text{-ft}\cdot\text{kips}$
 Shear at Base of Tower $S_t := 1\text{ kip}$
 Max Compressive Force $C_t := 406\text{-kip}$
 Height of Tower $H_t := 370\text{-ft}$

FOOTING DIMENSIONS:

Overall Depth of Footing $D_f := 3.5\text{ft}$
 Length of Pier $L_p := 3\text{-ft}$
 Extension of Pier Above Grade $L_{pag} := 1.5\text{-ft}$
 Diameter of Pier $d_p := 3\text{-ft}$
 Thickness of Footing $T_f := 2\text{-ft}$
 Width of Footing: $W_f := 7\text{ft}$

PROPERTIES:

Internal Friction Angle of Soil $\phi_s := 30\text{-deg}$
 Allowable Bearing Capacity $q_s := \frac{4}{3} \cdot 8000\text{-psf}$
 Note: 1/3 increase in allowable bearing capacity for transient loadings, such as wind and seismic per geotech report.
 Unit Weight of Soil $\gamma_s := 120\text{-pcf}$
 Unit Weight of Concrete $\gamma_c := 150\text{-pcf}$
 Depth to Neglect $n := 0\text{ft}$
 Cohesion of Clay Type Soil $c_w := 0\text{-ksf}$
 Note: Use 0 for Sandy Soil
 Seismic Zone Factor: UBC Fig 23-2 $Z := 2$
 Coefficient of Friction between Concrete: $\mu := 0.45$

STABILITY OF FOOTING

Coefficient of Lateral Soil Pressure:	$K_p := \frac{1 + \sin(\phi_s)}{1 - \sin(\phi_s)}$	$K_p = 3$
Passive Pressure:	$P_{pn} := K_p \cdot \gamma_s \cdot n + c \cdot 2 \cdot \sqrt{K_p}$	$P_{pn} = 0\text{-ksf}$
	$P_{pt} := K_p \cdot \gamma_s \cdot (D_f - T_f) + c \cdot 2 \cdot \sqrt{K_p}$	$P_{pt} = 0.54\text{-ksf}$
	$P_{top} := \text{if}[n < (D_f - T_f), P_{pt}, P_{pn}]$	$P_{top} = 0.54\text{-ksf}$
	$P_{bot} := K_p \cdot \gamma_s \cdot D_f + c \cdot 2 \cdot \sqrt{K_p}$	$P_{bot} = 1.26\text{-ksf}$
	$P_{ave} := \frac{P_{top} + P_{bot}}{2}$	$P_{ave} = 0.9\text{-ksf}$
	$T_p := \text{if}[n < (D_f - T_f), T_f, (D_f - n)]$	$T_p = 2\text{-ft}$
Ultimate Shear:	$A_p := W_f \cdot T_p$	$A_p = 14\text{-ft}^2$
	$S_u := P_{ave} \cdot A_p$	$S_u = 12.6\text{-kip}$

Weight of Concrete Pad:	$WT_c := \left[(W_f^2 \cdot T_f) + d_p^2 L_p \right] \cdot \gamma_c$	WT _c = 18.75·kip
Weight of Soil above Footing:	$WT_{s1} := \left[W_f^2 \cdot (L_p - L_{pag}) - \frac{d_p^2 \cdot \pi}{4} \cdot (L_p - L_{pag}) \right] \cdot \gamma_s$	WT _{s1} = 7.5477·kip
Weight of Soil Wedge at back face:	$WT_{s2} := \left(\frac{D_f^2 \cdot \tan(\phi_s)}{2} \cdot W_f \right) \cdot \gamma_s$	WT _{s2} = 2.9705·kip
Total Weight:	$WT_{tot} := WT_c + WT_{s1} + C_t$	WT _{tot} = 432.2977·kip
Resisting Moment:	$M_r := (WT_{tot}) \cdot \frac{W_f}{2} + S_u \cdot \frac{T_f}{3} + WT_{s2} \cdot \left(W_f + \frac{D_f \cdot \tan(\phi_s)}{3} \right)$	M _r = 1544.2359·kip·ft
Overturing Moment:	$M_{ot} := M_t + S_t \cdot (L_p + T_f)$	M _{ot} = 5·kip·ft
Factor of Safety:	$FS := \frac{M_r}{M_{ot}} \quad FS_{req} := 2$	FS = 308.85
	SafetyCheck := if(FS > FS _{req} , "Okay", "No Good")	SafetyCheck = "Okay"

BEARING PRESSURE CAUSED BY FOOTING

$A_{mat} := W_f^2$	A _{mat} = 49·ft ²
$S := \frac{W_f^3}{6}$	S = 57.1667·ft ³
$P_{max} := \frac{WT_{tot}}{A_{mat}} + \frac{M_{ot}}{S}$	P _{max} = 8.9099·ksf
$P_{min} := \frac{WT_{tot}}{A_{mat}} - \frac{M_{ot}}{S}$	P _{min} = 8.7349·ksf
$q_s = 10.6667 \cdot \text{ksf}$	
MaxPressure := if(P _{max} < q _s , "Okay", "No Good")	MaxPressure = "Okay"
MinPressure := if[(P _{min} ≥ 0) · (P _{min} < q _s), "Okay", "No Good"]	MinPressure = "Okay"

GUY ANCHOR ANALYSIS

VZ5-109 (Rev 2) / 36922267
MET-013 (Rev 1) / 36917439
CTK-022 (Rev 1) / 36922398

370' Guyed Lattice Tower
Montville, CT

12/5/2012

CHECK UPLIFT RESISTANCE

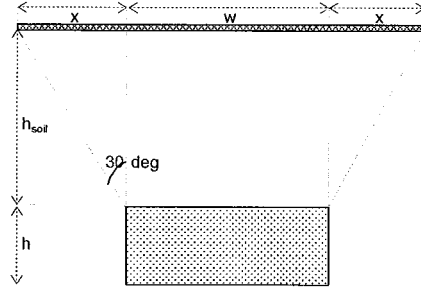
RESULTS FROM COMPUTER ANALYSIS:

Uplift = 6 kips
 Sliding = 13 kips

CONCRETE PARAMETERS:

$\gamma_{conc} = 150$ pcf
 $w = 4$ ft
 $h = 3$ ft
 $d = 10$ ft

 Vol. = 120 ft³
 Wc = 18.00 kips



Foundation Section

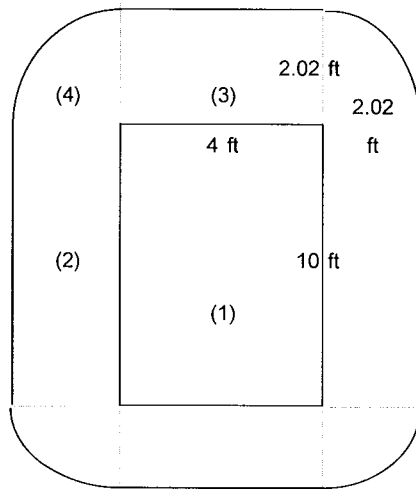
SOIL PARAMETERS:

$\gamma_{soil} = 120$ pcf
 $h_{soil} = 3.5$ ft
 $x = 2.02$ ft

Soil Weight (Wr):

(1) = 16.80 kips
 (2) = 8.49 kips
 (3) = 3.39 kips
 (4) = 1.80 kips

*(5) Anchor Reinf. = 0 kips
 Total = 30.48 kips



Foundation Plan View

CHECK UPLIFT (PER EIA/TIA-222-F STANDARD):

$W_r / 2.0 + W_c / 1.25 > \text{UPLIFT}$
 29.64 > 6 OK

$(W_r + W_c) / 1.5 > \text{UPLIFT}$
 32.32 > 6 OK

CHECK UPLIFT (PER 2005 CT BLDG CODE 3108.4):

→ $(W_r + W_c) / 2.0 > \text{UPLIFT}$
 24.24 > 6 OK
GUY ANCHORS AGAINST UPLIFT ARE ADEQUATE

Job : Old Colchester Rd - Montville, CT
 Description: Anchor Block Evaluation
 Inner Anchor Block

Project No.: VZW / Metro / AT&T
 Computed by: KAB
 Checked by:

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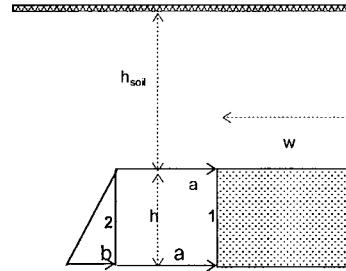
CHECK SLIDING RESISTANCE

SOIL PARAMETERS

$\gamma_{soil} = 120$ pcf
 $h_{soil} = 3.5$ ft
 $h = 3$ ft
 $\phi = 30$ degrees

ANCHOR PARAMETERS

$w = 4.0$ ft
 $h = 3.0$ ft
 $d = 10.0$ ft



Foundation Elevation View

$K_a = 0.33$

$K_p = 3.00$

$\Delta = 2.67$

HORIZONTAL FORCES

1 = 33.60 k
 2 = 8.64 k
RESIST TO SLIDING = 42.24 k

SOIL & CONCRETE WEIGHT = $W_r + W_c = 48.48$ k
 UPLIFT REACTIONS = -6 k
SUM = 42.48 k

COEF. OF FRICTION, (0.5) = 21.24 k
RESIST TO SLIDING = 42.24 k
SUM = 63.48 k

SF AGAINST SLIDING

$SF = 4.88 > 2.0$ OK

→ GUY ANCHORS AGAINST SLIDING ARE ADEQUATE

Job : Old Colchester Rd - Montville, CT
 Description: Anchor Block Evaluation
 160' Radius Anchor Block

Project No.: VZW / Metro / AT&T
 Computed by: KAB
 Checked by:

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CHECK UPLIFT RESISTANCE

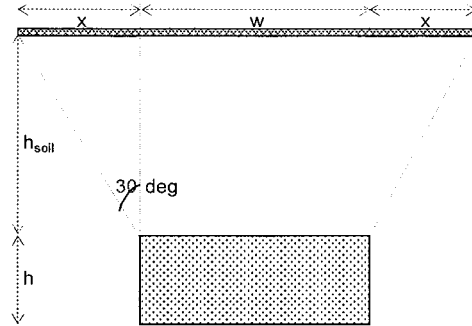
RESULTS FROM COMPUTER ANALYSIS:

Uplift = 36 kips
 Sliding = 46 kips

CONCRETE PARAMETERS:

$\gamma_{conc} = 150$ pcf
 $w = 4$ ft
 $h = 4$ ft
 $d = 10$ ft

 Vol. = 160 ft³
 Wc = 24.00 kips



Foundation Section

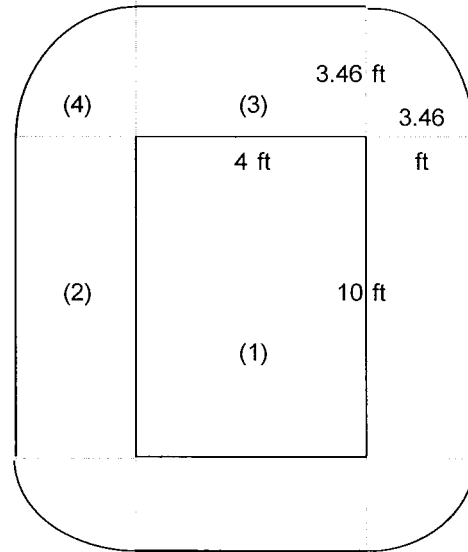
SOIL PARAMETERS:

$\gamma_{soil} = 120$ pcf
 $h_{soil} = 6$ ft
 $x = 3.46$ ft

Soil Weight (Wr):

(1) = 28.80 kips
 (2) = 24.94 kips
 (3) = 9.98 kips
 (4) = 9.05 kips

*(5) Anchor Reinf. = 0 kips
 Total = 72.77 kips



Foundation Plan View

CHECK UPLIFT (PER EIA/TIA-222-F STANDARD):

$$W_r / 2.0 + W_c / 1.25 > \text{UPLIFT}$$

55.58 > 36 OK

$$(W_r + W_c) / 1.5 > \text{UPLIFT}$$

64.51 > 36 OK

CHECK UPLIFT (PER 2005 CT BLDG CODE 3108.4):

$$(W_r + W_c) / 2.0 > \text{UPLIFT}$$

48.38 > 36 OK

→ GUY ANCHORS AGAINST UPLIFT ARE ADEQUATE

Job : Old Colchester Rd - Montville, CT
 Description: Anchor Block Evaluation
 160' Radius Anchor Block

Project No.: VZW / Metro / AT&T
 Computed by: KAB
 Checked by:

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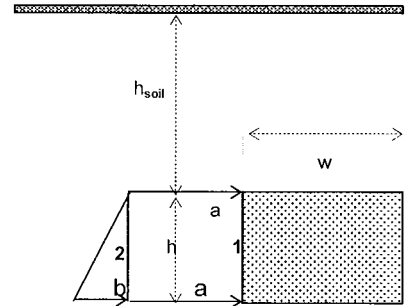
CHECK SLIDING RESISTANCE

SOIL PARAMETERS

$\gamma_{soil} = 120$ pcf
 $h_{soil} = 6$ ft
 $h = 4$ ft
 $\phi = 30$ degrees

ANCHOR PARAMETERS

$w = 4.0$ ft
 $h = 4.0$ ft
 $d = 10.0$ ft



Foundation Elevation View

$K_a = 0.33$

$K_p = 3.00$

$\Delta = 2.67$

HORIZONTAL FORCES

1 =	76.80	k
2 =	15.36	k
RESIST TO SLIDING =	<u>92.16</u>	k

SOIL & CONCRETE WEIGHT =	$W_r + W_c =$	96.77	k
UPLIFT REACTIONS =		-36	k
SUM =		<u>60.77</u>	k

COEF. OF FRICTION, (0.5) =	30.38	k
RESIST TO SLIDING =	<u>92.16</u>	k
SUM =	<u>122.54</u>	k

SF AGAINST SLIDING

$SF = 2.66 > 2.0$ OK

→ GUY ANCHORS AGAINST SLIDING ARE ADEQUATE

Job : Old Colchester Rd - Montville, CT
 Description: Anchor Block Evaluation
205' Radius Anchor Block

Project No.: VZW / Metro / AT&T
 Computed by: KAB
 Checked by: _____

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CHECK UPLIFT RESISTANCE

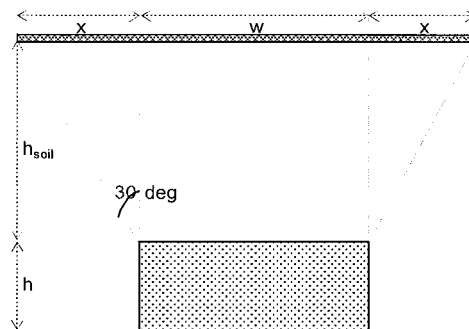
RESULTS FROM COMPUTER ANALYSIS:

Uplift = 83 kips
 Sliding = 68 kips

CONCRETE PARAMETERS:

$\gamma_{conc} = 150$ pcf
 $w = 6$ ft
 $h = 4$ ft
 $d = 16$ ft

 Vol. = 384 ft³
 Wc = 57.60 kips



Foundation Section

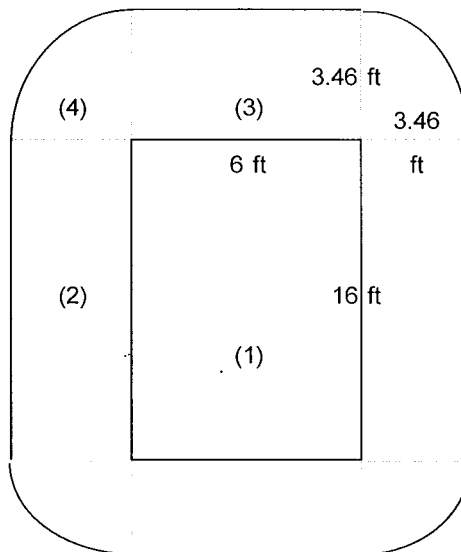
SOIL PARAMETERS:

$\gamma_{soil} = 120$ pcf
 $h_{soil} = 6$ ft
 $x = 3.46$ ft

Soil Weight (Wr):

(1) = 69.12 kips
 (2) = 39.91 kips
 (3) = 14.96 kips
 (4) = 9.05 kips

* (5) Anchor Reinf. = 0 kips
 Total = 133.04 kips



Foundation Plan View

CHECK UPLIFT (PER EIA/TIA-222-F STANDARD):

$$W_r / 2.0 + W_c / 1.25 > \text{UPLIFT}$$

$$112.60 > 83 \quad \text{OK}$$

$$(W_r + W_c) / 1.5 > \text{UPLIFT}$$

$$127.09 > 83 \quad \text{OK}$$

CHECK UPLIFT (PER 2005 CT BLDG CODE 3108.4):

$$(W_r + W_c) / 2.0 > \text{UPLIFT}$$

$$95.32 > 83 \quad \text{OK}$$

→ GUY ANCHORS AGAINST UPLIFT ARE ADEQUATE

Job : Old Colchester Rd - Montville, CT
 Description: Anchor Block Evaluation
205' Radius Anchor Block

Project No.: VZW / Metro / AT&T
 Computed by: KAB
 Checked by: _____

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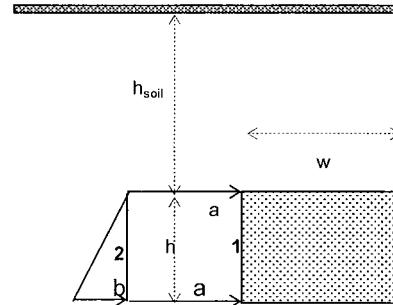
CHECK SLIDING RESISTANCE

SOIL PARAMETERS

$\gamma_{soil} = 120$ pcf
 $h_{soil} = 6$ ft
 $h = 4$ ft
 $\phi = 30$ degrees

ANCHOR PARAMETERS

$w = 6.0$ ft
 $h = 4.0$ ft
 $d = 16.0$ ft



Foundation Elevation View

$K_a = 0.33$

$K_p = 3.00$

$\Delta = 2.67$

HORIZONTAL FORCES

1 =	122.88 k
2 =	15.36 k
RESIST TO SLIDING =	<u>138.24 k</u>

SOIL & CONCRETE WEIGHT =	$W_r + W_c = 190.64$ k
UPLIFT REACTIONS =	-83 k
SUM =	<u>107.64 k</u>

COEF. OF FRICTION, (0.5) =	53.82 k
RESIST TO SLIDING =	<u>138.24 k</u>
SUM =	<u>192.06 k</u>

SF AGAINST SLIDING

$SF = 2.82 > 2.0$ OK

→ GUY ANCHORS AGAINST SLIDING ARE ADEQUATE

Job : Old Colchester Rd - Montville, CT
 Description: Anchor Block Evaluation
 Outer Anchor Block

Project No.: VZW / Metro / AT&T
 Computed by: KAB
 Checked by:

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CHECK UPLIFT RESISTANCE

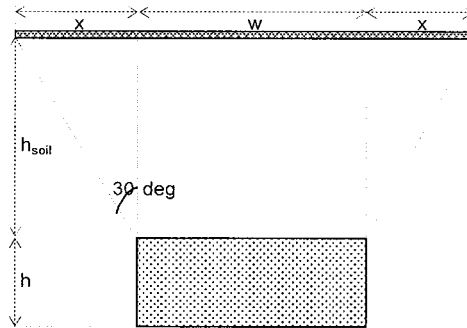
RESULTS FROM COMPUTER ANALYSIS:

Uplift = 40 kips
 Sliding = 31 kips

CONCRETE PARAMETERS:

$\gamma_{conc} = 150$ pcf
 $w = 4$ ft
 $h = 3$ ft
 $d = 12$ ft

 Vol. = 144 ft³
 Wc = 21.60 kips



Foundation Section

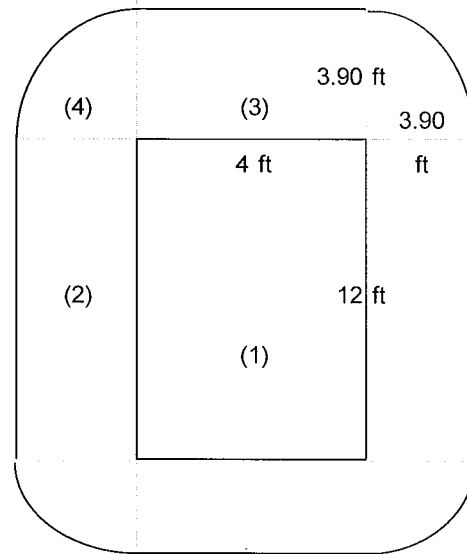
SOIL PARAMETERS:

$\gamma_{soil} = 120$ pcf
 $h_{soil} = 6.75$ ft
 $x = 3.90$ ft

Soil Weight (Wr):

(1) = 38.88 kips
 (2) = 37.88 kips
 (3) = 12.63 kips
 (4) = 12.88 kips

* (5) Anchor Reinf. = 0 kips
 Total = 102.27 kips



Foundation Plan View

FORCE
 ←

Note: Previous reinforcement accounted for in soil height. 3' @ 130pcf = 3.25' @ 120pcf

CHECK UPLIFT (PER EIA/TIA-222-F STANDARD):

$$Wr / 2.0 + Wc / 1.25 > \text{UPLIFT}$$

$$68.41 > 40 \quad \text{OK}$$

$$(Wr + Wc) / 1.5 > \text{UPLIFT}$$

$$82.58 > 40 \quad \text{OK}$$

CHECK UPLIFT (PER 2005 CT BLDG CODE 3108.4):

$$\longrightarrow (Wr + Wc) / 2.0 > \text{UPLIFT}$$

$$61.93 > 40 \quad \text{OK}$$

GUY ANCHORS AGAINST UPLIFT ARE ADEQUATE

Job : Old Colchester Rd - Montville, CT
 Description: Anchor Block Evaluation
Outer Anchor Block

Project No.: VZW / Metro / AT&T
 Computed by: KAB
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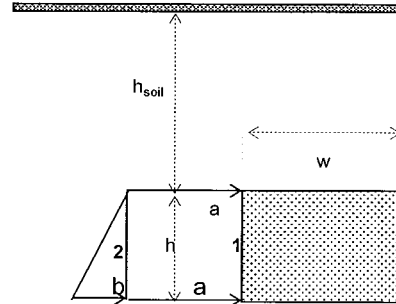
CHECK SLIDING RESISTANCE

SOIL PARAMETERS

$\gamma_{soil} = 120$ pcf
 $h_{soil} = 6.75$ ft
 $h = 3$ ft
 $\phi = 30$ degrees

ANCHOR PARAMETERS

$w = 4.0$ ft
 $h = 3.0$ ft
 $d = 12.0$ ft



Foundation Elevation View

$K_a = 0.33$

$K_p = 3.00$

$\Delta = 2.67$

HORIZONTAL FORCES

1 = 77.76 k

2 = 8.64 k

RESIST TO SLIDING = 86.40 k

SOIL & CONCRETE WEIGHT = $W_r + W_c = 123.87$ k

UPLIFT REACTIONS = -40 k

SUM = 83.87 k

COEF. OF FRICTION, (0.5) = 41.93 k

RESIST TO SLIDING = 86.40 k

SUM = 128.33 k

SF AGAINST SLIDING

$SF = 4.14 > 2.0$ OK

→ GUY ANCHORS AGAINST SLIDING ARE ADEQUATE

PROJECT INFORMATION

SCOPE OF WORK: UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS
 1. INSTALL (3) NEW LTE ANTENNAS, (6) RRH'S, (1) SURGE ARRESTOR, (1) FIBER LINE & (2) DC POWER LINES & (1) GPS ANTENNA
 2. INSTALL LTE 6601 CABINET

SITE ADDRESS: 695 OLD COLCHESTER ROAD
 MONTVILLE, CT 06382

LATITUDE: 41.45304 N 41° 27' 10.9" N
 LONGITUDE: 72.15408 W 72° 09' 14.7" W

CURRENT USE: TELECOMMUNICATIONS FACILITY
 PROPOSED USE: TELECOMMUNICATIONS FACILITY



SITE NUMBER: CT2049
SITE NAME: MONTVILLE

DRAWING INDEX

REV

VICINITY MAP

GENERAL NOTES

- T-1 TITLE SHEET
- GN-1 GENERAL NOTES
- A-1 COMPOUND PLAN & EQUIPMENT PLAN
- A-2 ANTENNA PLAN & ELEVATION
- A-3 DETAILS
- G-1 PLUMBING DIAGRAM & GROUNDING DETAILS

- 1
- 1
- 1
- 1
- 1
- 1

DIRECTIONS TO SITE:
 START OUT GOING NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD 0.3 MI - TURN LEFT ONTO CAPITAL BLVD 0.3 MI - TURN LEFT ONTO WEST ST 0.2 MI - TURN LEFT TO MERGE ONTO I-91 N TOWARD HARTFORD 4.5 MI - TAKE EXIT 25 TO MERGE ONTO CT-3 N TOWARD GLASTONBURY 2.3 MI - KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR CT-2 E/NORWICH AND MERGE ONTO CT-2 E 20.1 MI - SLIGHT RIGHT ONTO CT-11 S 7.3 MI - TAKE EXIT 4 FOR CT-82 TOWARD SALEM/HADLYME 0.2 MI - TURN LEFT ONTO CT-82 E/E HADDAM RD/CONTINUE TO FOLLOW CT-82 E 3.8 MI - TURN RIGHT ONTO OLD COLCHESTER RD. SITE ENTRANCE WILL BE ON THE LEFT.



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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 AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL



BEFORE YOU DIG



CALL TOLL FREE 800-922-4455 OR DIAL 811

UNDERGROUND SERVICE ALERT

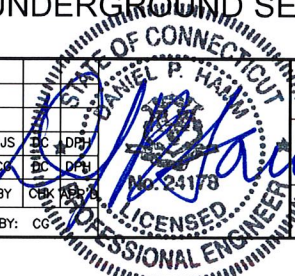
Hudson Design Group
 1400 OSGOOD STREET
 BUILDING 20 NORTH, SUITE 309D
 N. ANDOVER, MA 01845
 TEL: (978) 557-5553
 FAX: (978) 336-5586

NEXLINK GLOBAL SERVICES
 a UniTek GLOBAL SERVICES company
 800 MARSHALL PHELPS ROAD UNIT#: 2A
 WINDSOR, CT 06095

SITE NUMBER: CT2049
SITE NAME: MONTVILLE
 695 OLD COLCHESTER ROAD
 MONTVILLE, CT 06382
 NEW LONDON COUNTY

at&t
 500 ENTERPRISE DRIVE, SUITE 3A
 ROCKY HILL, CT 06067

										AT&T	
										TITLE SHEET (LTE)	
NO.	DATE	REVISIONS	BY	DATE	REVISIONS	BY	DATE	JOB NUMBER	DRAWING NUMBER	REV	
1	12/12/12	ISSUED FOR CONSTRUCTION	MJS	08/21/12	ISSUED FOR REVIEW	CG		2049.01	T-1	1	
SCALE: AS SHOWN		DESIGNED BY: HC		DRAWN BY: CG							



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, LPI, OR NFPA) LIGHTNING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA 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-OFF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) 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 ANTIOXIDANT 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 AWS 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 – NEXLINK
 SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER – AT&T MOBILITY
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 TELCO PLAN 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 SCRATCHES 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 AT&T MOBILITY 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: 2003 IBC WITH 2005 CT SUPPLEMENT & 2009 CT AMENDMENTS
 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		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE		
EGR	EQUIPMENT GROUND RING	REQUIRED		TYP	TYPICAL




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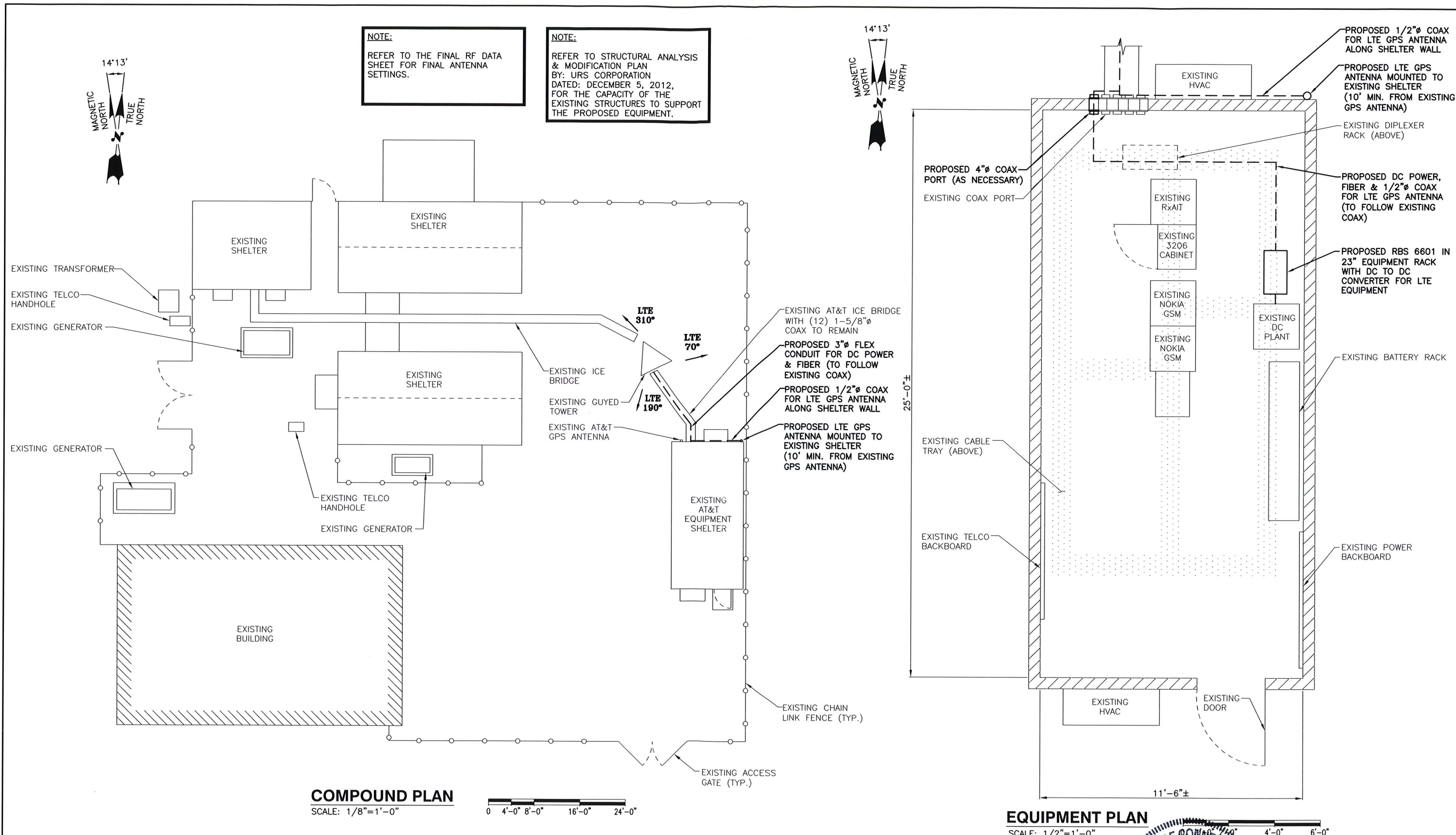
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										AT&T	
1	12/12/12	ISSUED FOR CONSTRUCTION	MOS	DC	DPH					GENERAL NOTES (LTE)	
0	08/21/12	ISSUED FOR REVIEW	GC	DC	DPH						
NO.	DATE	REVISIONS	BY	CHKD	APPD	NO. 24178					
SCALE: AS SHOWN		DESIGNED BY: HC	DRAWN BY: CG							2049.01	DRAWING NUMBER: GN-1
											REV: 1



Hudson Design Group

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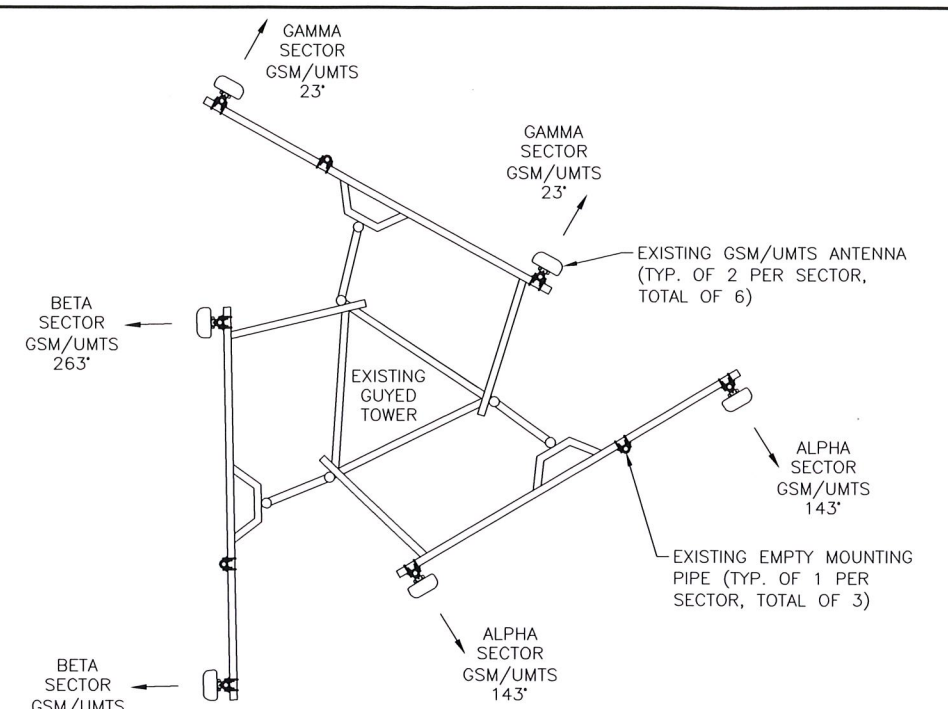
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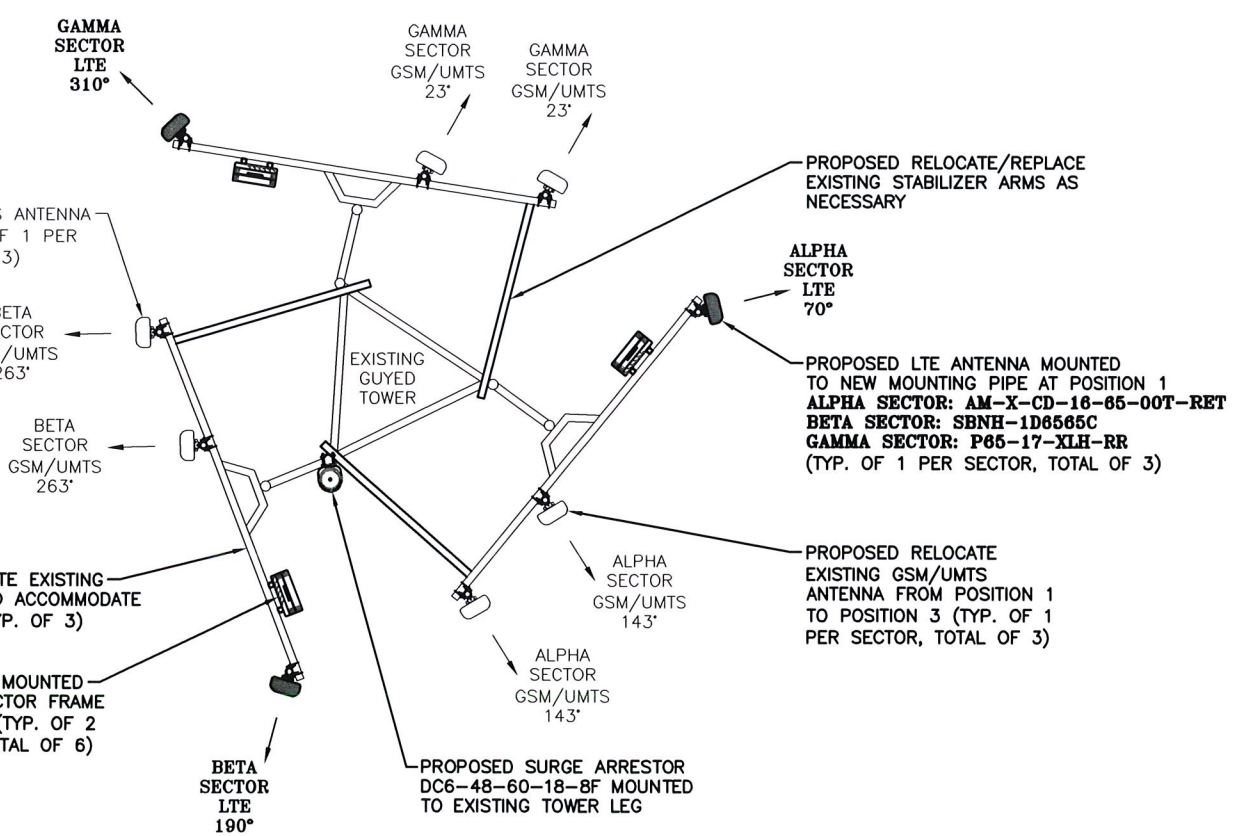
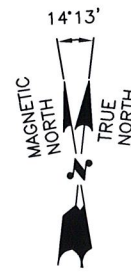
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0	08/21/12	ISSUED FOR REVIEW	CG	DC	DPH		
NO.	DATE	REVISIONS	BY	CHK	APP	DWG NUMBER	REV
SCALE: AS SHOWN		DESIGNED BY: HC	DRAWN BY: CG			049.01	A-1



EXISTING GSM/UMTS ANTENNA PLAN
SCALE: N.T.S.

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
REFER TO STRUCTURAL ANALYSIS & MODIFICATION PLAN BY: URS CORPORATION DATED: DECEMBER 5, 2012, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.



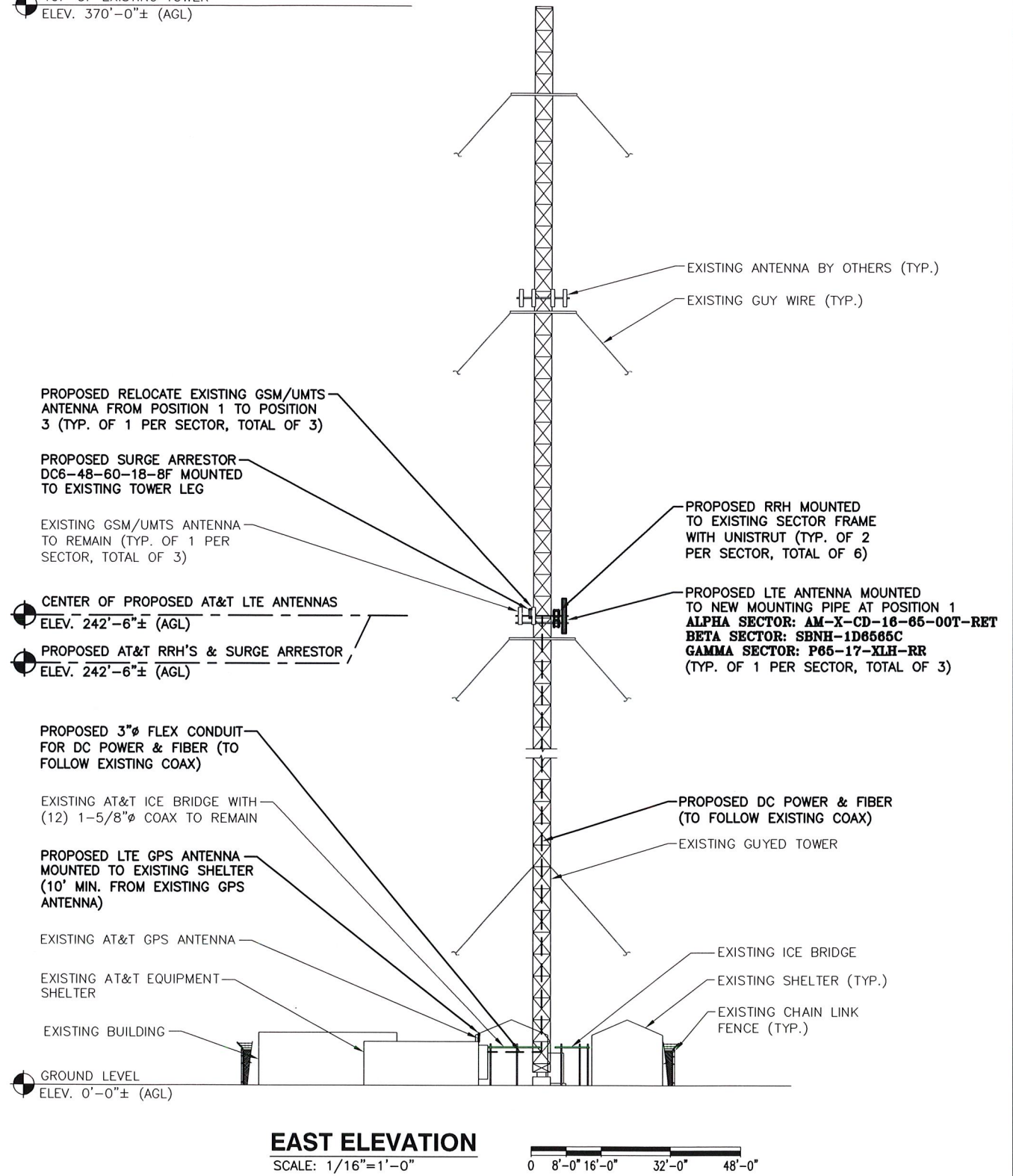
PROPOSED LTE ANTENNA PLAN
SCALE: N.T.S.

TOP OF EXISTING TOWER
ELEV. 370'-0"± (AGL)

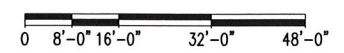
CENTER OF PROPOSED AT&T LTE ANTENNAS
ELEV. 242'-6"± (AGL)

PROPOSED AT&T RRH'S & SURGE ARRESTOR
ELEV. 242'-6"± (AGL)

GROUND LEVEL
ELEV. 0'-0"± (AGL)



EAST ELEVATION
SCALE: 1/16"=1'-0"



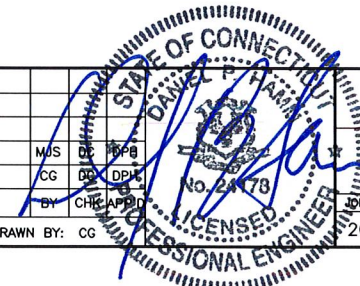
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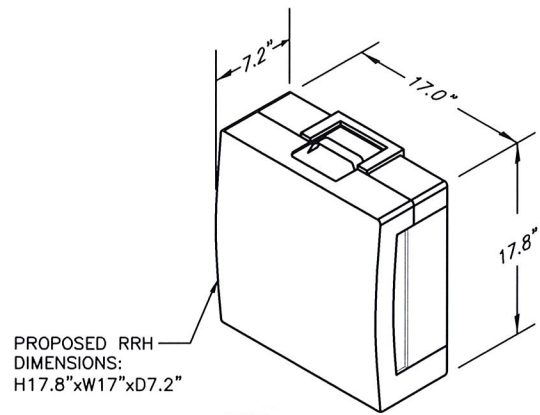
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				AT&T	
				ANTENNA PLAN & ELEVATION (LTE)	
NO.	DATE	REVISIONS	BY	CHK	APP
1	12/12/12	ISSUED FOR CONSTRUCTION	MJS	CG	DPB
0	08/21/12	ISSUED FOR REVIEW	CG	CG	DPB
SCALE: AS SHOWN		DESIGNED BY: HC	DRAWN BY: CG		
		PROJECT NUMBER	DRAWING NUMBER		REV
		2049.01	A-2		1



NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
REFER TO STRUCTURAL ANALYSIS & MODIFICATION PLAN BY: URS CORPORATION DATED: DECEMBER 5, 2012, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

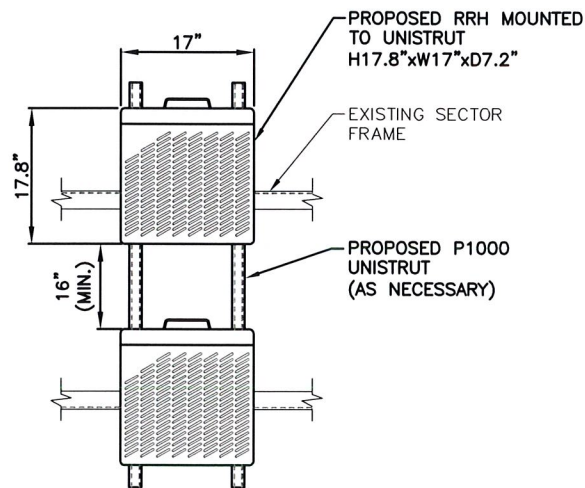
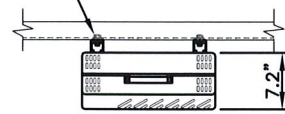


NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

RRH DETAIL

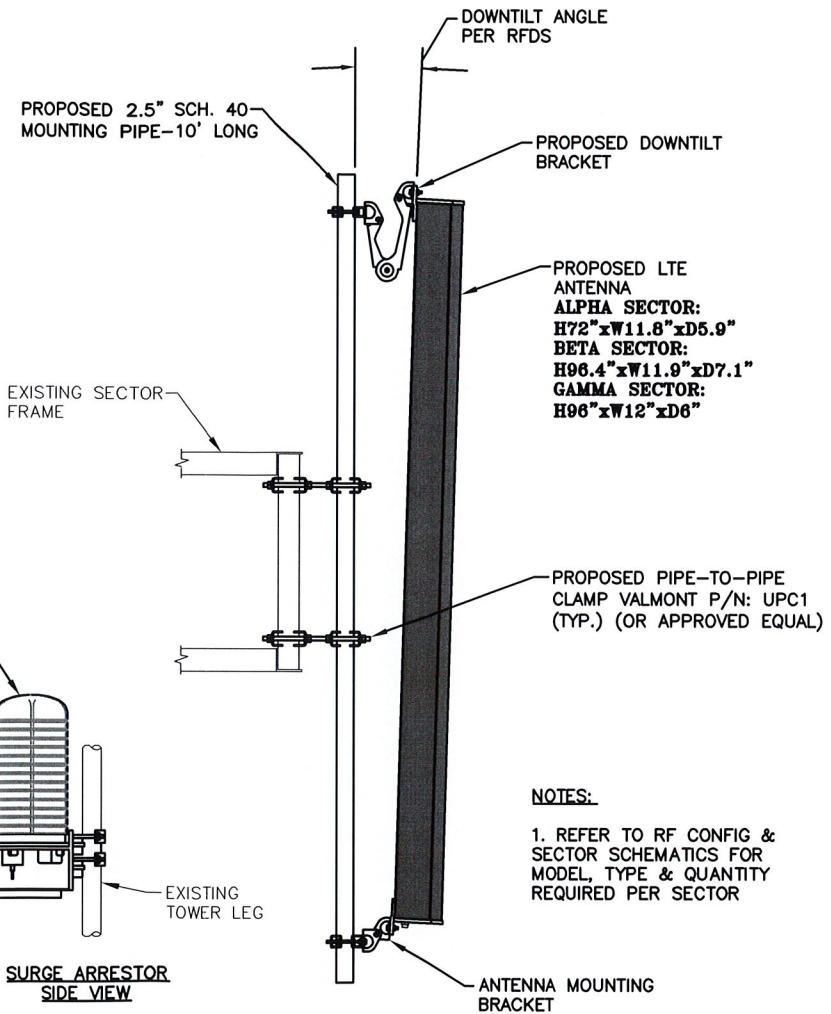
SCALE: N.T.S.

PROPOSED 1/2"Ø A325 BOLT (TYP.)



PROPOSED RRH MOUNTING DETAIL

SCALE: N.T.S.



PROPOSED LTE ANTENNA & SURGE ARRESTOR MOUNTING DETAIL

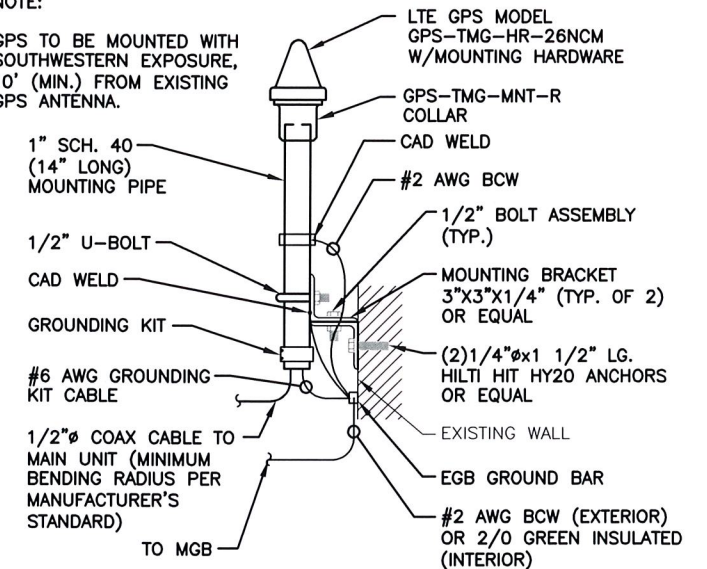
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NOTES:

1. REFER TO RF CONFIG & SECTOR SCHEMATICS FOR MODEL, TYPE & QUANTITY REQUIRED PER SECTOR

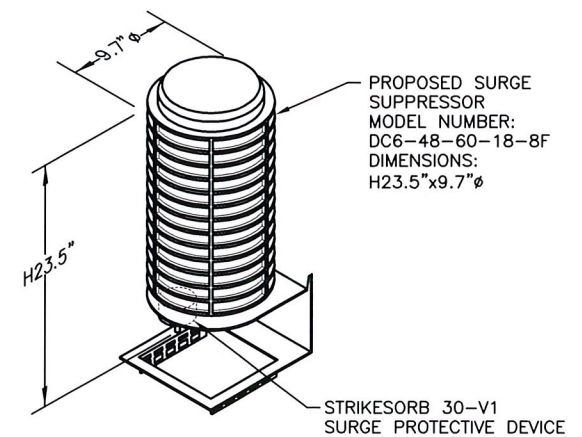
NOTE:

GPS TO BE MOUNTED WITH SOUTHWESTERN EXPOSURE, 10' (MIN.) FROM EXISTING GPS ANTENNA.



GPS MOUNTING DETAIL

SCALE: N.T.S.



NOTE:

MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL

SCALE: N.T.S.



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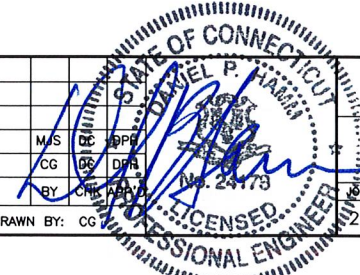
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SITE NAME: MONTVILLE

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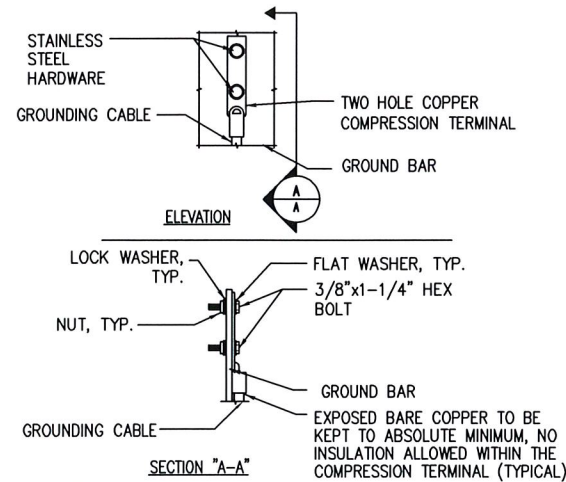
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0	08/21/12	ISSUED FOR REVIEW	CG	DPH							



AT&T

DETAILS
(LTE)

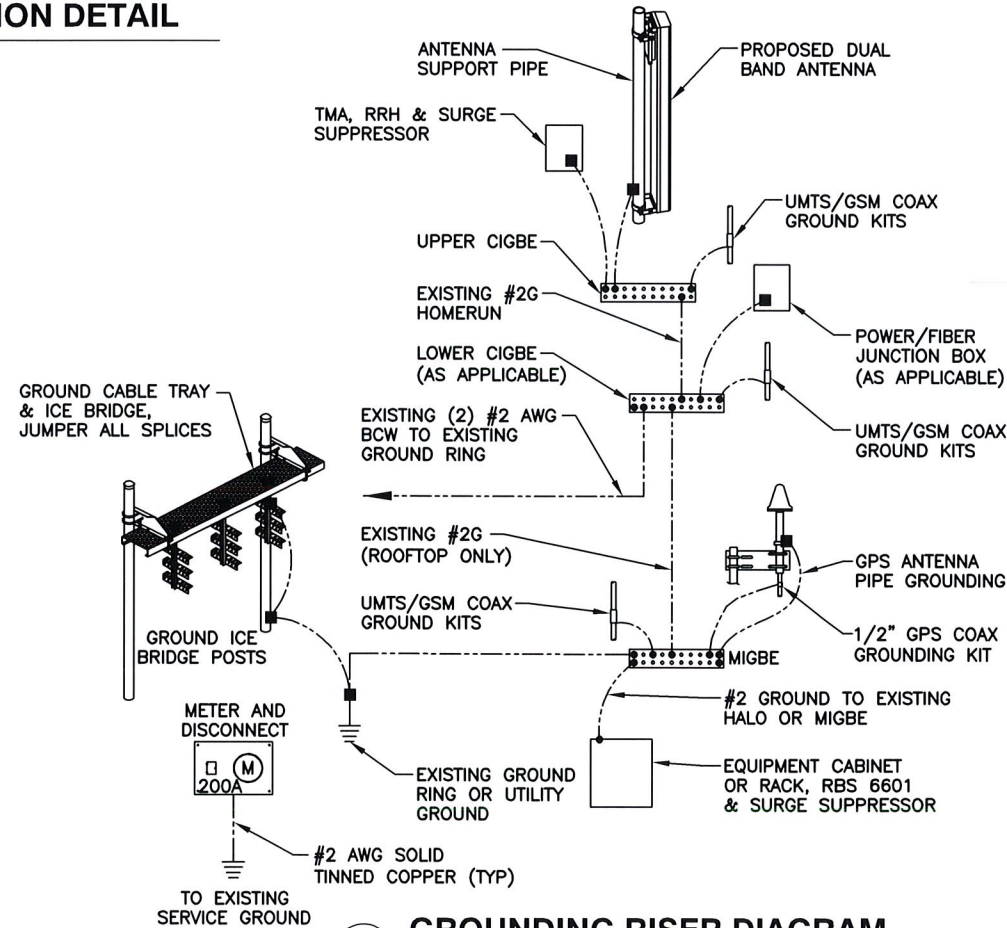
DRAWING NUMBER
A-3



- NOTE:
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
 2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
 3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.

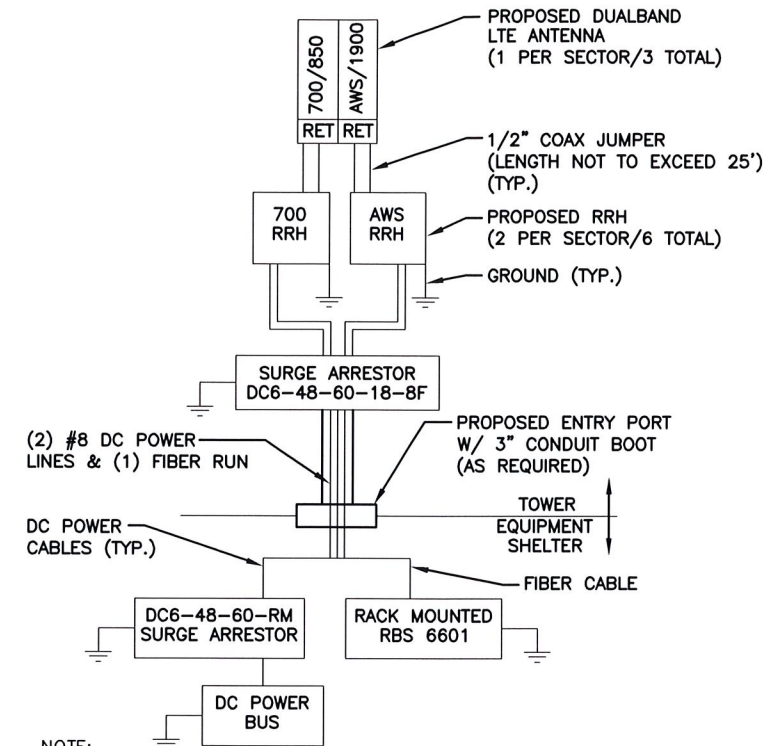
TYPICAL GROUND BAR CONNECTION DETAIL

1
-
N.T.S.



GROUNDING RISER DIAGRAM

3
-
N.T.S.



NOTE:

CONTRACTOR TO CONFIRM ALL PARTS & INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS.

PLUMBING DIAGRAM

2
-
N.T.S.

WIRELESS SOLUTIONS INC.			
NO.	REQ.	PART NO.	DESCRIPTION
1	1	HLGB-0420-IS	SOLID GND. BAR (20"x4"x1/4")
2	2		WALL MTG. BRKT.
3	2		INSULATORS
4	4		5/8"-11x1" H.H.C.S.
5	4		5/8 LOCKWASHER

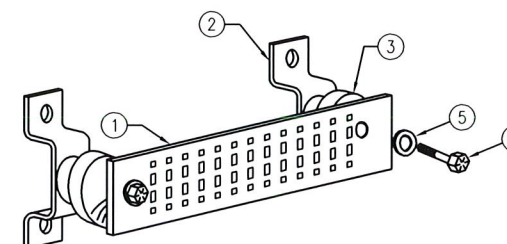
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

- CABLE ENTRY PORTS (HATCH PLATES) (#2)
- GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
- TELCO GROUND BAR
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
- +24V POWER SUPPLY RETURN BAR (#2)
- 48V POWER SUPPLY RETURN BAR (#2)
- RECTIFIER FRAMES.

SECTION "A" - SURGE ABSORBERS

- INTERIOR GROUND RING (#2)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
- METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
- BUILDING STEEL (IF AVAILABLE) (#2)



GROUND BAR DETAIL

4
-
N.T.S.



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				AT&T	
1 12/12/12 ISSUED FOR CONSTRUCTION		M/S	DR	PLUMBING DIAGRAM & GROUNDING DETAILS	
0 08/21/12 ISSUED FOR REVIEW		CG	DC	(LTE)	
NO.	DATE	REVISIONS	BY	JOB NUMBER	DRAWING NUMBER
			CHIK	2049.01	G-1
SCALE: AS SHOWN		DESIGNED BY: HC	DRAWN BY: CG		1

