

July 12, 2017

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

**Re: Notice of Exempt Modification – Facility Modification
1363 Boston Post Road, Old Saybrook, Connecticut**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains twelve (12) antennas at the 85-foot level of an existing 99-foot tower at 1363 Boston Post Road in Old Saybrook, Connecticut (the “Property”). The tower is owned by New Cingular Wireless PCS LLC (“New Cingular”). The Council approved Cellco’s use of this tower in 2015. Cellco now intends to remove nine (9) of its existing antennas and install six (6) new antennas (three (3) model SBNHH-1D65B, 700 MHz antennas and three (3) model SBNHH-1D65B, 2100 MHz antennas) all at the 85-foot level on the tower. Cellco also intends to install three (3) new remote radio heads (“RRHs”) behind its new 2100 MHz antennas. Included in Attachment 1 are specifications for Cellco’s replacement antennas and RRHs.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent Carl P. Fortuna, Jr., First Selectman of the Town of Old Saybrook; Christine Nelson, Old Saybrook’s Town Planner; New Cingular, the tower owner; and Wilcox Family LLC, the owner of the Property.

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

1. The proposed modifications will not result in an increase in the height of the existing structure. Cellco’s new antennas and RRHs will be attached to its existing antenna platform at the 85-foot level of the tower.

Robinson+Cole

Melanie A. Bachman, Esq.

July 12, 2017

Page 2

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The installation of new antennas and RRHs will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative General Power Density table for Cellco's modified facility is included in Attachment 2.


5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The tower and its foundation can support Cellco's proposed modifications. (See Rigorous Structural Analysis included in Attachment 3).

A copy of the parcel map and property owner information is included in Attachment 4. A Certificate of Mailing verifying that this filing was sent to municipal officials and the owner of the Property is included in Attachment 5. A copy of the stamped Certificate of Mailing will be forwarded to the Council upon receipt

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,



Kenneth C. Baldwin

Enclosures

Copy to:

Carl P. Fortuna, Jr., Old Saybrook First Selectman

Christine Nelson, Old Saybrook Town Planner

Wilcox Family LLC

New Cingular Wireless PCS LLC

Tim Parks

ATTACHMENT 1



SBNHH-1D65B

6-port sector antenna, 2x 698–896 and 4x 1695–2360 MHz, 65° HPBW, 2x RET. Both high bands share the same electrical tilt.

- Interleaved dipole technology providing for attractive, low wind load mechanical package

Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	14.9	14.7	17.7	18.2	18.6	18.6
Beamwidth, Horizontal, degrees	68	66	69	66	63	58
Beamwidth, Vertical, degrees	12.1	10.7	5.6	5.2	5.0	4.5
Beam Tilt, degrees	0–14	0–14	0–7	0–7	0–7	0–7
USLS (First Lobe), dB	14	13	15	15	15	13
Front-to-Back Ratio at 180°, dB	27	29	28	28	28	27
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
VSWR Return Loss, dB	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350	350	350	300
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

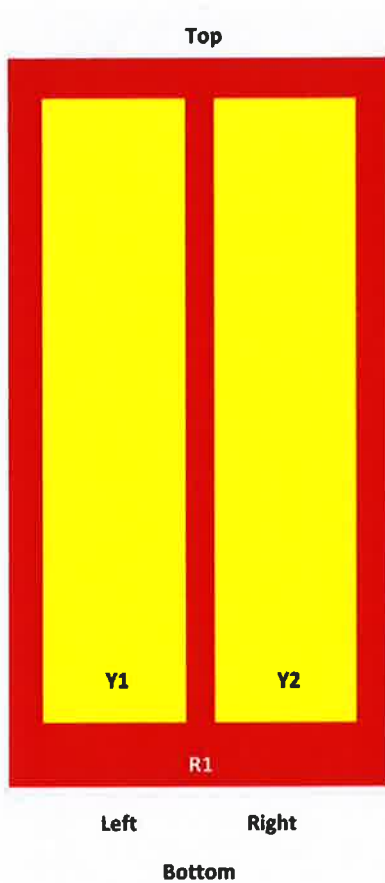
Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	14.5	14.3	17.4	17.9	18.2	18.3
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.8	±0.4	±0.3	±0.5	±0.3
	0° 14.6	0° 14.5	0° 17.4	0° 17.8	0° 18.1	0° 18.2
Gain by Beam Tilt, average, dBi	7° 14.6	7° 14.4	3° 17.5	3° 17.9	3° 18.3	3° 18.4
	14° 14.2	14° 13.6	7° 17.4	7° 17.9	7° 18.2	7° 18.4
Beamwidth, Horizontal Tolerance, degrees	±2.2	±3.4	±2	±4.6	±5.7	±4.3
Beamwidth, Vertical Tolerance, degrees	±0.8	±1	±0.3	±0.2	±0.3	±0.2
USLS, beampeak to 20° above beampeak, dB	16	14	16	16	16	15
Front-to-Back Total Power at 180° ± 30°, dB	25	26	27	26	26	26
CPR at Boresight, dB	22	23	21	20	20	22
CPR at Sector, dB	13	11	16	12	11	4

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, [download the whitepaper Time to Raise the Bar on BSAs.](#)

Array Layout

SBNHH-1D65B

SBNHH 65



Array	Freq (MHz)	Conns	RET (MRET)	AISG RET UID
R1	698-896	1-2	1	ANXXXXXXXXXXXXX.1
Y1	1695-2360	3-4	2	ANXXXXXXXXXXXXX.2
Y2	1695-2360	5-6		

View from the front of the antenna
 (Sizes of colored boxes are not true depictions of array sizes)

General Specifications

Operating Frequency Band	1695 – 2360 MHz 698 – 896 MHz
Antenna Type	Sector
Band	Multiband
Performance Note	Outdoor usage

Mechanical Specifications

RF Connector Quantity, total	6
RF Connector Quantity, low band	2
RF Connector Quantity, high band	4
RF Connector Interface	7-16 DIN Female

SBNHH-1D65B

Color	Light gray
Grounding Type	RF connector inner conductor and body grounded to reflector and mounting bracket
Radiator Material	Aluminum Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Location	Bottom
Wind Loading, frontal	618.0 N @ 150 km/h 138.9 lbf @ 150 km/h
Wind Loading, lateral	197.0 N @ 150 km/h 44.3 lbf @ 150 km/h
Wind Loading, rear	728.0 N @ 150 km/h 163.7 lbf @ 150 km/h
Wind Speed, maximum	241 km/h 150 mph

Dimensions

Length	1851.0 mm 72.9 in
Width	301.0 mm 11.9 in
Depth	180.0 mm 7.1 in
Net Weight, without mounting kit	18.4 kg 40.6 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Internal RET	High band (1) Low band (1)
Power Consumption, idle state, maximum	2.0 W
Power Consumption, normal conditions, maximum	13.0 W
Protocol	3GPP/AISG 2.0 (Multi-RET)
RET Interface	8-pin DIN Female 8-pin DIN Male
RET Interface, quantity	1 female 1 male

Packed Dimensions

Length	2025.0 mm 79.7 in
Width	390.0 mm 15.4 in
Depth	296.0 mm 11.7 in
Shipping Weight	31.0 kg 68.3 lb

Regulatory Compliance/Certifications

Agency

RoHS 2011/65/EU
China RoHS SJ/T 11364-2006
ISO 9001:2008

Classification

Compliant by Exemption
Above Maximum Concentration Value (MCV)
Designed, manufactured and/or distributed under this quality management system



SBNHH-1D65B

Included Products

BSAMNT-1 — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Performance Note Severe environmental conditions may degrade optimum performance

ALCATEL-LUCENT B66A RRH4X45

The Alcatel-Lucent B66a Remote Radio Head 4x45 is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering. Its operational range covers beyond that of B4 (AWS) and B10 (AWS+).

Supporting 2Tx/4Tx MIMO and 2-way/4-way Rx diversity, the Alcatel-Lucent B66a RRH4x45 allows operators to have a compact radio solution to deploy LTE in the 2100 band (3GPP band 4, 10, and 66), providing them with the means to achieve high capacity, high quality, high reliability, large instantaneous bandwidth, and high coverage with minimum site requirements.

The Alcatel-Lucent B66a RRH4x45 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x90W or 4x45W RF output power. It also supports 4-way Rx diversity at the 70 MHz instantaneous bandwidth.



The Alcatel-Lucent B66a RRH4x45 is a compact (near zero-footprint) solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

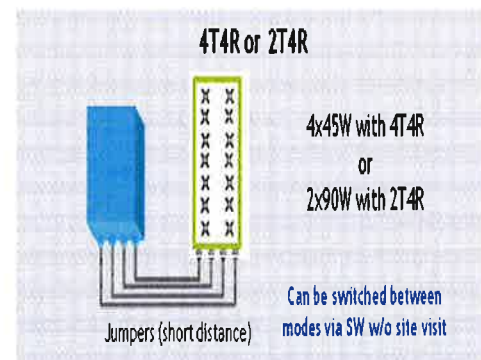
Its compactness and slim design makes the Alcatel-Lucent B66a RRH4x45 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 2110 - 2180 MHz band/DL, 1710-1780MHz/UL (3GPP band 4, 10, and 66a)
- LTE 2Tx or 4Tx MIMO (SW selectable)
- Configuration: 2T2R/2T4R/4T4R
- Output power: Up to 2x90W or 4x45W (SW configurable)
- 70MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in AWS 1-3 band
- Selection of MIMO configuration (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through 4Tx MIMO
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



TECHNICAL SPECIFICATIONS

Features & Performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R selectable by SW)
Frequency band	AWS 1-3, B4/B66a DL: 2110-2180 MHz / UL: 1710-1780 MHz
Instantaneous bandwidth - #carriers	70 MHz – 4 LTE MIMO carriers (in 70 MHz occupied bandwidth)
LTE carrier bandwidth	5, 10, 15, 20 MHz
RF output power	2x90W or 4x45W (selectable by SW)
Noise figure – RX Diversity scheme	2 dB typical (<2.5 dB max) – 2 or 4 way Rx diversity
Receiver Sensivity (FRC A1-3)	-104.5 dBm maximum
Sizes (HxWxD) in mm (in.)	655x299x182 (25.8x11.8x7.2) (with solar shield) 640x290x160 (25.2x11.4x6.3) (without solar shield)
Volume in Liters	35.5 (with solar shield) 29.7 (without solar shield)
Weight in kg (lb) (w/o mounting HW)	25.8kg (56.8lb) (with solar shield)
DC voltage range	Nominal: -48V, -40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption
DC power consumption	750W typical @100% RF load (In 2Tx or 4Tx mode); Add 58W for 2A*29V for AISG
Environmental conditions	-40°C (-40°F) / +55°C (+131°F) UL50E Type 4 Enclosure
Wind load (@150km/h or 93mph)	250N (56lb) Frontal/150N (34lb) Lateral
Antenna ports	4 ports 4.3-10 female (50 ohms) VSWR < 1.5
CPRI ports	2 CPRI ports (HW ready for Rate 7, 9.8 Gbps) SFP: SMDF (HW supports also SMSF and MMDF)
AISG interfaces	1 AISG 2.0 output (RS485) Integrated Smart Bias Tees (x2)
Misc. Interfaces	4 external alarms (1 connector) 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-487 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27 / FCC Part 15 / GR-3178-CORE

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ATTACHMENT 2

Site Name: Old Saybrook 2 Tower Height: 99ft		General	Power	Density				
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total
*AT&T	1	500	97	700	0.0217	0.4667	0.47%	
*AT&T	1	500	97	1900	0.0217	1.0000	0.22%	
*AT&T	1	500	97	2300	0.0217	1.0000	0.22%	
*AT&T	2	500	97	880	0.0434	0.5867	0.74%	
*AT&T	1	500	97	1900	0.0217	1.0000	0.22%	
Verizon	0	523	85	0.0000	1970	1.0000	0.00%	
Verizon	0	319	85	0.0000	869	0.5793	0.00%	
Verizon	1	6907	85	0.3437	2145	1.0000	34.37%	
Verizon	1	1773	85	0.0882	746	0.4973	17.74%	
								53.97%
* Source: Siting Council								

ATTACHMENT 3



ENGINEERING INNOVATION

AT&T Towers
2300 Northlake Center Dr., Ste 40
Tucker GA 30084
404-532-5800
Tuesday, April 25, 2017

Velocitel Inc., d.b.a FDH Velocitel
6521 Meridien Dr.
Raleigh, NC 27616
919-755-1012

RIGOROUS STRUCTURAL ANALYSIS
99' Monopole

AT&T DESIGNATION: Site ID: 105130-A
Site FA: 10133875
Site Name: Old Saybrook Boston Post Rd.
Project Number: 17QBDY1400
ANALYSIS CRITERIA: 2016 Connecticut State Building Code
Codes: ANSI/TIA-222-G
2012 International Building Code
SITE DATA: 1363 Boston Post Road, Old Saybrook, CT 6475, Middlesex County
Latitude 41.28978, Longitude -72.40594
Market: MA/RI/VT/NH/ME/CT
99' Monopole

Deborah Krenc,

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

Analysis Results

Tower Stress Level with Proposed Equipment: 61.2% Pass
Foundation Ratio with Proposed Equipment: 59.7% Pass

We at FDH Velocitel appreciate the opportunity of providing our continuing professional services to you and AT&T
Towers. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully Submitted by: Richard Torbert, EI
Analysis Prepared by: Richard Torbert, EI
Analysis Reviewed by: Dennis D. Abel, PE



**Rigorous Structural Analysis for
AT&T Towers**

99.0' Monopole Tower (99.0' AGL)

Site Name: Old Saybrook Boston Post

Site ID: 105130-A

Site FA: 10133875

Verizon Site Name: Old Saybrook 2 CT

Verizon Site ID: 119656

Site Address: 1363 Boston Post Road, Old Saybrook, CT 06475

FDH Velocitel Project Number 17QBDY1400

Analysis Results

Tower Components	61.2%	Sufficient
Foundation	59.7%	Sufficient

Prepared By:



Richard Torbert, EI
Project Engineer II

Reviewed By:



Dennis D. Abel, PE
Director
CT License No. 23247

Velocitel, Inc., d.b.a. FDH Velocitel

6521 Meridien Drive

Raleigh, NC, 27616

(919) 755-1012

Structural@fdhvelocitel.com



April 25, 2017

Prepared pursuant to the ANSI/TIA-222-G Structural Standard for Antenna Supporting Structures and Antennas and the 2016 Connecticut State Building Code

TABLE OF CONTENTS

EXECUTIVE SUMMARY..... 3

 Conclusions..... 3

 Recommendations 3

RESULTS..... 4

GENERAL COMMENTS 4

LIMITATIONS 4

APPENDIX 5

EXECUTIVE SUMMARY

At the request of AT&T Towers, FDH Velocitel performed a structural analysis of the existing Monopole Tower located in Old Saybrook, CT to determine whether the tower is structurally adequate to support the antenna configuration in place per the **Tower Analysis Summary Form (TAS)** pursuant to the *ANSI/TIA-222-G Structural Standard for Antenna Supporting Structures and Antennas and the 2016 Connecticut State Building Code*. Information pertaining to the antenna loading, current tower geometry, member sizes, and below grade parameters was obtained from:

Source	Document Type	Reference	Date
Sabre Towers & Poles	Tower & Foundation Drawings	Job No. 49722	September 22, 2011
Dr. Clarence Welti, P.E., P.C.	Geotechnical Report	Site No. SR2597	June 01, 2011
All Documents and Photos taken from AT&T's FileNet			

The *ultimate design wind speed* per the *2016 Connecticut State Building Code* is 132 mph without ice and a *basic design wind speed* of 50 mph with 3/4" radial ice. The *ultimate design wind speed* is converted to a *basic design wind speed* of 102 mph per the *ANSI/TIA-222-G* standard and the *2016 Connecticut State Building Code* Section 1609.3.1. Ice is considered to increase in thickness with height. Furthermore, this structure was analyzed as a Class II structure in Exposure Category B using Topographical Factor of 1 and Spectral Response Accelerations of $S_s = 0.165$ and $S_1 = 0.059$.

Note: Per *Section 2.7.3* of the *ANSI/TIA-222-G* Standard, the seismic/earthquake loading effects can be ignored if the spectral response acceleration at short periods (S_s) is less than or equal to 1.00. The tower's location mandates a design S_s of less than 1.00, thus seismic loading was not considered as part of the analysis of this structure.

Conclusions

With the antenna configuration in place per the **TAS** we have determined the tower stress level to be sufficient and the foundation(s) to be sufficient pursuant to the requirements stipulated by *ANSI/TIA-222-G Structural Standard for Antenna Supporting Structures and Antennas and the 2016 Connecticut State Building Code* provided the **Recommendations** listed below are satisfied. For a more detailed description of the analysis of the tower, see the **Results** section of this report.

Our structural analysis has been performed assuming all information provided to FDH Velocitel is accurate (i.e., the structure member information, tower layout, existing antenna loading, and proposed antenna loading) and that the tower has been properly erected and maintained per the original design drawings.

Recommendations

To ensure the requirements of the current analysis standards are met with the antenna configuration in place per the **TAS**, we have the following recommendations:

- Existing/Proposed feed lines must be installed inside the monopoles shaft unless otherwise noted.
- RRU/RRH Stipulation: The equipment may be installed in any arrangement as determined by the client.

RESULTS

The following material grades for individual members were used for analysis:

Table 1 - Material Grade

Member Type	Material Grade
Shaft	A572-65
Base Plate	A572-50
Anchor Rods	A615-75

Table 2 and **Table 3** display the summary of capacities for the analyzed structure and its additional components. Values greater than 100% indicate locations where the maximum force in the member exceeds its capacity.

If the assumptions outlined in this report differ from actual field conditions, FDH Velocitel should be contacted to perform a revised analysis. Furthermore, as no information pertaining to the allowable twist and sway requirements for the appurtenances was provided, deflection and rotation were not taken into consideration when performing this analysis.

See the **Appendix** for detailed modeling information.

Table 2 - Structure Member Capacities

Section No.	Elevation (ft.)	Component Type	Size	% Capacity	Pass / Fail
L1	99 - 48.5	Pole	TP34.15x22.14x0.25	53.6	Pass
L2	48.5 - 0	Pole	TP45.2x32.5203x0.3125	61.2	Pass

Table 3 – Additional Structure Component Capacities

Elevation (ft.)	Component	% Capacity	Pass / Fail	Notes
0	Base Plate	55.5	Pass	-
0	Anchor Rods	51.4	Pass	-
0	Base Foundation (Soil Interaction)	48.5	Pass	1
0	Base Foundation (Structural)	59.7	Pass	1

1. Two types of foundation designs appeared in the original design drawings. Both foundations were analyzed and the controlling capacities were reported.

GENERAL COMMENTS

This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of AT&T Towers to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading information) modeled. If there are substantial modifications to be made or the assumptions made in this analysis are not accurate, FDH Velocitel should be notified immediately to perform a revised analysis.

LIMITATIONS

All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of this report. All opinions and conclusions are subject to revision based upon receipt of new or additional/updated information. All services are provided exercising a level of care and diligence equivalent to the standard and care of our profession. No other warranty or guarantee, expressed or implied, is offered. Our services are confidential in nature and we will not release this report to any other party without the client's consent. The use of this engineering work is limited to the express purpose for which it was commissioned and it may not be reused, copied, or distributed for any other purpose without the written consent of FDH Velocitel.

APPENDIX

Tower Analysis Summary Form

General Info	
Site Name	Old Saybrook Boston Post
Site Number	105130-A
FA Number	10133875
Date of Analysis	4/25/2017
Company Performing Analysis	FDH Velocity

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

Tower Info	Description	Date
Tower Type (G, SST, MP)	Monopole Tower	-
Tower Height (top of steel AGL)	99' (99' AGL)	-
Tower Manufacturer	Sabre Towers & Poles	-
Tower Model	100'120' Monopole	-
Tower & Foundation Drawings	Sabre Towers & Poles	9/22/2011
Geotechnical Report	Dr. Clarence Weili, P.E., P.C.	6/1/2011

Design Parameters	
Design Code Used	TIA-222-G
Location of Tower (County, State)	2018 CSBC Middlesex, CT
Basic Wind Speed (mph)	102
Ice Thickness (in)	0.75
Structure Classification (I, II, III)	II
Exposure Category (B, C, D)	B
Topographic Category (1 to 5)	1

Steel Yield Strength (ksi)	Assumed?
Shaft	A572-65 N
Base Plate	A572-50 N
Anchor Rods	A615-75 N

Existing / Reserved Loading

Antenna		Mount			Transmission Line								
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Type	Manufacturer	Model	Size	Attachment Leg/Face
Verizon	97	97	3	Panel	KMW	AM-X-CD-16-65-40T-RET	4071502170	6	12.5 T-Arm Mounts	Site Pro	Unknown	1.56"	Internal
Verizon	97	97	9	Panel	CCI	HPA-65R-BUL-H6	4071502017	6			Unknown	15.4mm DC	Internal
Verizon	97	97	3	TMA	CCI	DTMABP7819VG12A TMA		1			Fiber	10mm	Internal
Verizon	97	97	5	RRU	Ericsson	RRUS 11							
Verizon	97	97	5	RRU	Ericsson	RRUS 12							
Verizon	97	97	3	RRU	Ericsson	RRUS-E2							
Verizon	97	97	3	RRU	Ericsson	RRUS-32							
Verizon	97	97	6	RRU	Ericsson	KRC 161 2861 (RRU A2 Module)		1	Collar Mounts				
Verizon	95	95	3	Surge	Raycap	DC6-46-60-18-8F			Platform with Handrails (PIN K10994A)		Hybrid	1.56"	Internal
Verizon	85	85	3	Panel	Commscope	LNX-6515DS-VTM	3071502170	1					
Verizon	85	85	3	Panel	Commscope	LNX-6515DS-VTM	3071502170						
Verizon	85	85	6	Panel	Commscope	HBXX-6517DS-VTM	3071502170						
Verizon	85	85	3	RRH	Alcatel Lucent	RRH-10-4R							
Verizon	85	85	3	RRH	Alcatel Lucent	RH_60W-PGS							
Verizon	85	85	3	RRH	Alcatel Lucent	RH_240L-AWS							
Verizon	85	85	2	Surge	RFS	DB-T1-602-36B-6Z							

*Existing equipment to be removed prior to the installation of the proposed equipment below.

Proposed Loading

Antenna		Mount			Transmission Line								
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Type	Manufacturer	Model	Size	Attachment Leg/Face
Verizon	85	85	6	Panel	Andrew	SBNHH-1D65B	3071502170						
Verizon	85	85	3	RRH	Alcatel Lucent	B66A RRH4X45			On Existing Mount				

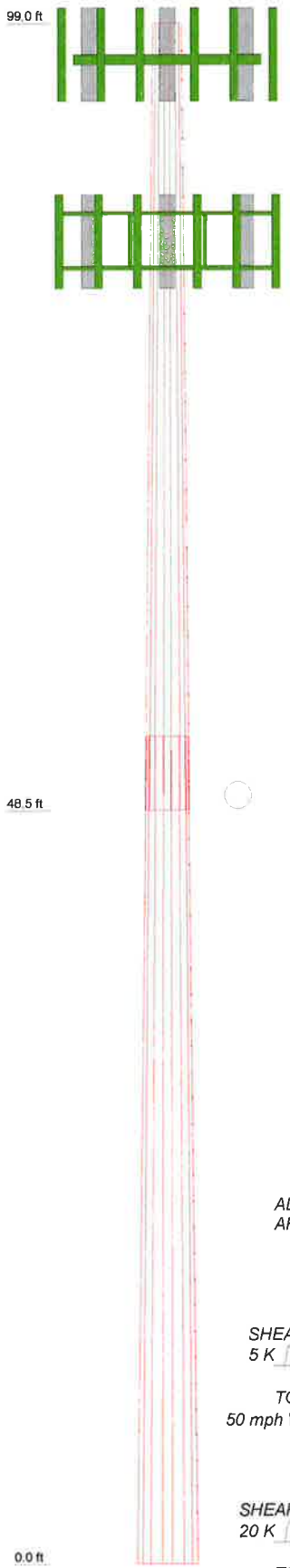
*Proposed equipment to be installed in addition to the remaining existing equipment listed above.

Future Loading

Antenna		Mount			Transmission Line								
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Type	Manufacturer	Model	Size	Attachment Leg/Face
AT&T	97	97	3	Panel	CCI	OPA-65R-L-CUL-H6	3071502170	3	On Existing Mount		DC/Fiber	3/4"	Internal
AT&T	97	97	3	TMA	CCI	DTMABP7819VG12A		3			DC/Fiber	1/2"	Internal
AT&T	97	97	12	RRU	Ericsson	RRUS-12							
AT&T	95	95	3	Surge	Raycap	DC6-46-60-18-8F							

NOTE: THIS FORM MUST BE SAVED AS EXCEL 97-2003 TO UPLOAD IN SITERRA

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Die (in)	Bot Die (in)	Grade	Weight (K)
1	50.50	18	0.2500	4.75	22.1400	34.1500	A572-65	3.8
2	53.25	18	0.3125	32.5203	45.2000		A572-65	6.9
								10.7



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lighning Rod	99	DTMABP7819VG12A TMA	97
AM-X-CD-16-65-00T-RET w/ Mount Pipe	97	DTMABP7819VG12A TMA	97
AM-X-CD-16-65-00T-RET w/ Mount Pipe	97	DTMABP7819VG12A TMA	97
AM-X-CD-16-65-00T-RET w/ Mount Pipe	97	(4) RRUS-12	97
AM-X-CD-16-65-00T-RET w/ Mount Pipe	97	(4) RRUS-12	97
AM-X-CD-16-65-00T-RET w/ Mount Pipe	97	(4) RRUS-12	97
(3) HPA-65R-BUU-H6 w/ Mount Pipe	97	DC6-48-60-18-8F	95
(3) HPA-65R-BUU-H6 w/ Mount Pipe	97	DC6-48-60-18-8F	95
(3) HPA-65R-BUU-H6 w/ Mount Pipe	97	Collar Mounts	95
DTMABP7819VG12A TMA	97	DC6-48-60-18-8F	95
DTMABP7819VG12A TMA	97	DC6-48-60-18-8F	95
DTMABP7819VG12A TMA	97	DC6-48-60-18-8F	95
(2) RRUS 11	97	DC6-48-60-18-8F	95
(2) RRUS 11	97	DC6-48-60-18-8F	95
(2) RRUS 11	97	LNX-6515DS-VTM w/ Mount Pipe	85
(2) RRUS 12	97	LNX-6515DS-VTM w/ Mount Pipe	85
(2) RRUS 12	97	LNX-6515DS-VTM w/ Mount Pipe	85
(2) RRUS 12	97	(2) SBNHH-1D65B w/ Mount Pipe	85
(2) RRUS 12	97	(2) SBNHH-1D65B w/ Mount Pipe	85
RRUS E2	97	(2) SBNHH-1D65B w/ Mount Pipe	85
RRUS E2	97	RRH4x30-4R	85
RRUS E2	97	RRH4x30-4R	85
RRUS-32	97	RRH4x30-4R	85
RRUS-32	97	RH_60W-PCS	85
RRUS-32	97	RH_60W-PCS	85
(2) KRC 161 286/1 RRU A2 Module	97	RH_60W-PCS	85
(2) KRC 161 286/1 RRU A2 Module	97	B66A RRH4X45	85
(2) KRC 161 286/1 RRU A2 Module	97	B66A RRH4X45	85
(2) (6) 12.5' T-Arm Mounts	97	B66A RRH4X45	85
OPA-65R-LCUU-H8 w/ Mount Pipe	97	B66A RRH4X45	85
OPA-65R-LCUU-H8 w/ Mount Pipe	97	DB-T1-6Z-8AB-0Z	85
OPA-65R-LCUU-H8 w/ Mount Pipe	97	DB-T1-6Z-8AB-0Z	85
OPA-65R-LCUU-H8 w/ Mount Pipe	97	EEL K10994A Platform with Handrails	85

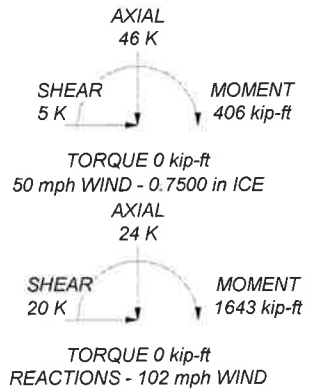
MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Middlesex County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 102 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 61.2%

ALL REACTIONS ARE FACTORED



<p>ENGINEERING INNOVATION</p> <p>Tower Analysis</p>	<p>FDH Velocitel</p> <p>6521 Meridien Drive, Suite 107</p> <p>Raleigh, North Carolina 27616</p> <p>Phone: 9197551012</p> <p>FAX: 9197551031</p>	<p>Job: 105130-A Old Saybrook Boston Post</p>		
		<p>Project: 17QBDY1400</p> <p>Client: AT&T Towers</p> <p>Code: TIA-222-G</p> <p>Path:</p>	<p>Drawn by: RTorbert</p> <p>Date: 04/25/17</p>	<p>App'd:</p> <p>Scale: N</p> <p>Dwg No:</p>

tnxTower FDH Velocitel 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 9197551012 FAX: 9197551031	Job 105130-A Old Saybrook Boston Post	Page 1 of 14
	Project 17QBDY1400	Date 15:53:04 04/25/17
	Client AT&T Towers	Designed by RTorbert

Tower Input Data

There is a pole section.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Tower is located in Middlesex County, Connecticut.

ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).

Basic wind speed of 102 mph.

Structure Class II.

Exposure Category B.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 0.7500 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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) SR Members Have Cut Ends SR Members Are Concentric	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 Add IBC .6D+W Combination ✓ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line 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 Feed Line Torque Include Angle Block Shear Check Use TIA-222-G Bracing Resist. Exemption Use TIA-222-G Tension Splice Exemption Poles ✓ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets
--	--	---

Tapered Pole Section Geometry

Section	Elevation	Section Length	Splice Length	Number of Sides	Top Diameter	Bottom Diameter	Wall Thickness	Bend Radius	Pole Grade
	ft	ft	ft		in	in	in	in	
L1	99.00-48.50	50.50	4.75	18	22.1400	34.1500	0.2500	1.0000	A572-65 (65 ksi)
L2	48.50-0.00	53.25		18	32.5203	45.2000	0.3125	1.2500	A572-65

tnxTower FDH Velocitel 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 9197551012 FAX: 9197551031	Job 105130-A Old Saybrook Boston Post	Page 2 of 14
	Project 17QBDY1400	Date 15:53:04 04/25/17
	Client AT&T Towers	Designed by RTorbert

Section	Elevation	Section Length	Splice Length	Number of Sides	Top Diameter	Bottom Diameter	Wall Thickness	Bend Radius	Pole Grade
	ft	ft	ft		in	in	in	in	(65 ksi)

Tapered Pole Properties

Section	Tip Dia.	Area	J	r	C	I/C	J	I/Q	w	w/t
	in	in ²	in ⁴	in	in	in ³	in ⁴	in ²	in	
L1	22.4815	17.3697	1051.5300	7.7710	11.2471	93.4933	2104.4436	8.6865	3.4566	13.827
	34.6768	26.8996	3905.5615	12.0345	17.3482	225.1278	7816.2619	13.4524	5.5704	22.282
L2	34.1705	31.9462	4186.7734	11.4338	16.5203	253.4315	8379.0559	15.9761	5.1736	16.555
	45.8973	44.5228	11333.6722	15.9351	22.9616	493.5924	22682.2576	22.2656	7.4052	23.697

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
L1 99.00-48.50				1	1	1			
L2 48.50-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement	Total Number	Number Per Row	Start/End Position	Width or Diameter	Perimeter	Weight
			ft				in	in	plf
Safety Line 3/8	C	Surface Ar (CaAa)	99.00 - 0.00	1	1	0.000 0.000	0.3750		0.22
**									

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement	Total Number		C _{AA}	Weight	
				ft			ft ² /ft	plf	
**									
LDF7-50A(1-5/8")	B	No	Inside Pole	97.00 - 0.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.82 0.82 0.82	
15.4mm DC	B	No	Inside Pole	97.00 - 0.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.14 0.14 0.14	
LDF2-50A(3/8")	B	No	Inside Pole	97.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.08 0.08 0.08	
**									
HJ7-50A(1-5/8")	C	No	Inside Pole	85.00 - 0.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	1.04 1.04 1.04	
**									

tnxTower FDH Velocitel 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 9197551012 FAX: 9197551031	Job 105130-A Old Saybrook Boston Post	Page 3 of 14
	Project 17QBDY1400	Date 15:53:04 04/25/17
	Client AT&T Towers	Designed by RTorbert

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C _{AA} ft ² /ft	Weight plf
3/4"	C	No	Inside Pole	97.00 - 0.00	3	No Ice	0.00	0.47
						1/2" Ice	0.00	0.47
						1" Ice	0.00	0.47
1/2"	C	No	Inside Pole	97.00 - 0.00	3	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	99.00-48.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.28
		C	0.000	0.000	1.894	0.000	0.18
L2	48.50-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.28
		C	0.000	0.000	1.819	0.000	0.20

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	99.00-48.50	A	1.623	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.28
		C		0.000	0.000	18.286	0.000	0.38
L2	48.50-0.00	A	1.449	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.28
		C		0.000	0.000	17.562	0.000	0.39

Feed Line Center of Pressure

Section	Elevation ft	CP _X in	CP _Z in	CP _X Ice in	CP _Z Ice in
L1	99.00-48.50	0.0000	0.0553	0.0000	0.4283
L2	48.50-0.00	0.0000	0.0553	0.0000	0.4539

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _n No Ice	K _n Ice
L1	1	Safety Line 3/8	48.50 - 99.00	1.0000	1.0000

tnxTower FDH Velocitel 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 9197551012 FAX: 9197551031	Job 105130-A Old Saybrook Boston Post	Page 4 of 14
	Project 17QBDY1400	Date 15:53:04 04/25/17
	Client AT&T Towers	Designed by RTorbert

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral Vert						
			ft	ft	°	ft	ft ²	ft ²	K	
Lightning Rod	A	From Leg	1.00		0.0000	99.00	No Ice	0.25	0.25	0.03
			0.00				1/2" Ice	0.66	0.66	0.03
			0.00				1" Ice	0.97	0.97	0.04
**										
AM-X-CD-16-65-00T-RET w/ Mount Pipe	A	From Leg	4.00		0.0000	97.00	No Ice	6.52	5.66	0.06
			0.00				1/2" Ice	7.07	6.61	0.12
			0.00				1" Ice	7.56	7.35	0.18
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	4.00		0.0000	97.00	No Ice	6.52	5.66	0.06
			0.00				1/2" Ice	7.07	6.61	0.12
			0.00				1" Ice	7.56	7.35	0.18
AM-X-CD-16-65-00T-RET w/ Mount Pipe	C	From Leg	4.00		0.0000	97.00	No Ice	6.52	5.66	0.06
			0.00				1/2" Ice	7.07	6.61	0.12
			0.00				1" Ice	7.56	7.35	0.18
(3) HPA-65R-BUU-H6 w/ Mount Pipe	A	From Leg	4.00		0.0000	97.00	No Ice	9.90	8.11	0.08
			0.00				1/2" Ice	10.47	9.30	0.16
			0.00				1" Ice	11.01	10.21	0.25
(3) HPA-65R-BUU-H6 w/ Mount Pipe	B	From Leg	4.00		0.0000	97.00	No Ice	9.90	8.11	0.08
			0.00				1/2" Ice	10.47	9.30	0.16
			0.00				1" Ice	11.01	10.21	0.25
(3) HPA-65R-BUU-H6 w/ Mount Pipe	C	From Leg	4.00		0.0000	97.00	No Ice	9.90	8.11	0.08
			0.00				1/2" Ice	10.47	9.30	0.16
			0.00				1" Ice	11.01	10.21	0.25
DTMABP7819VG12A TMA	A	From Leg	4.00		0.0000	97.00	No Ice	0.98	0.34	0.02
			0.00				1/2" Ice	1.10	0.42	0.03
			0.00				1" Ice	1.23	0.51	0.04
DTMABP7819VG12A TMA	B	From Leg	4.00		0.0000	97.00	No Ice	0.98	0.34	0.02
			0.00				1/2" Ice	1.10	0.42	0.03
			0.00				1" Ice	1.23	0.51	0.04
DTMABP7819VG12A TMA	C	From Leg	4.00		0.0000	97.00	No Ice	0.98	0.34	0.02
			0.00				1/2" Ice	1.10	0.42	0.03
			0.00				1" Ice	1.23	0.51	0.04
(2) RRUS 11	A	From Leg	4.00		0.0000	97.00	No Ice	2.78	1.19	0.05
			0.00				1/2" Ice	2.99	1.33	0.07
			0.00				1" Ice	3.21	1.49	0.10
(2) RRUS 11	B	From Leg	4.00		0.0000	97.00	No Ice	2.78	1.19	0.05
			0.00				1/2" Ice	2.99	1.33	0.07
			0.00				1" Ice	3.21	1.49	0.10
(2) RRUS 11	C	From Leg	4.00		0.0000	97.00	No Ice	2.78	1.19	0.05
			0.00				1/2" Ice	2.99	1.33	0.07
			0.00				1" Ice	3.21	1.49	0.10
(2) RRUS 12	A	From Leg	4.00		0.0000	97.00	No Ice	3.15	1.29	0.06
			0.00				1/2" Ice	3.36	1.44	0.08
			0.00				1" Ice	3.59	1.60	0.11
(2) RRUS 12	B	From Leg	4.00		0.0000	97.00	No Ice	3.15	1.29	0.06
			0.00				1/2" Ice	3.36	1.44	0.08
			0.00				1" Ice	3.59	1.60	0.11
(2) RRUS 12	C	From Leg	4.00		0.0000	97.00	No Ice	3.15	1.29	0.06
			0.00				1/2" Ice	3.36	1.44	0.08
			0.00				1" Ice	3.59	1.60	0.11
RRUS E2	A	From Leg	4.00		0.0000	97.00	No Ice	1.60	0.39	0.05
			0.00				1/2" Ice	1.76	0.48	0.06
			0.00				1" Ice	1.92	0.58	0.07
RRUS E2	B	From Leg	4.00		0.0000	97.00	No Ice	1.60	0.39	0.05
			0.00				1/2" Ice	1.76	0.48	0.06

tnxTower FDH Velocitel 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 9197551012 FAX: 9197551031	Job 105130-A Old Saybrook Boston Post	Page 5 of 14
	Project 17QBDY1400	Date 15:53:04 04/25/17
	Client AT&T Towers	Designed by RTorbert

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Vert					
			0.00						
RRUS E2	C	From Leg	4.00		0.0000	97.00	1" Ice 1.92	0.58	0.07
			0.00				No Ice 1.60	0.39	0.05
			0.00				1/2" Ice 1.76	0.48	0.06
			0.00				1" Ice 1.92	0.58	0.07
RRUS-32	A	From Leg	4.00		0.0000	97.00	No Ice 2.77	1.67	0.06
			0.00				1/2" Ice 2.99	1.86	0.08
			0.00				1" Ice 3.22	2.05	0.11
RRUS-32	B	From Leg	4.00		0.0000	97.00	No Ice 2.77	1.67	0.06
			0.00				1/2" Ice 2.99	1.86	0.08
			0.00				1" Ice 3.22	2.05	0.11
RRUS-32	C	From Leg	4.00		0.0000	97.00	No Ice 2.77	1.67	0.06
			0.00				1/2" Ice 2.99	1.86	0.08
			0.00				1" Ice 3.22	2.05	0.11
(2) KRC 161 286/1 RRU A2 Module	A	From Leg	4.00		0.0000	97.00	No Ice 2.08	0.50	0.02
			0.00				1/2" Ice 2.26	0.61	0.03
			0.00				1" Ice 2.44	0.73	0.05
(2) KRC 161 286/1 RRU A2 Module	B	From Leg	4.00		0.0000	97.00	No Ice 2.08	0.50	0.02
			0.00				1/2" Ice 2.26	0.61	0.03
			0.00				1" Ice 2.44	0.73	0.05
(2) KRC 161 286/1 RRU A2 Module	C	From Leg	4.00		0.0000	97.00	No Ice 2.08	0.50	0.02
			0.00				1/2" Ice 2.26	0.61	0.03
			0.00				1" Ice 2.44	0.73	0.05
(2) (6) 12.5' T-Arm Mounts	C	None			0.0000	97.00	No Ice 11.59	11.59	0.77
							1/2" Ice 15.44	15.44	0.99
							1" Ice 19.29	19.29	1.21
**									
DC6-48-60-18-8F	A	From Leg	1.00		0.0000	95.00	No Ice 1.21	1.21	0.03
			0.00				1/2" Ice 1.89	1.89	0.05
			0.00				1" Ice 2.11	2.11	0.08
DC6-48-60-18-8F	B	From Leg	1.00		0.0000	95.00	No Ice 1.21	1.21	0.03
			0.00				1/2" Ice 1.89	1.89	0.05
			0.00				1" Ice 2.11	2.11	0.08
DC6-48-60-18-8F	C	From Leg	1.00		0.0000	95.00	No Ice 1.21	1.21	0.03
			0.00				1/2" Ice 1.89	1.89	0.05
			0.00				1" Ice 2.11	2.11	0.08
Collar Mounts	C	None			0.0000	95.00	No Ice 4.39	4.39	0.20
							1/2" Ice 5.48	5.48	0.24
							1" Ice 6.57	6.57	0.28

OPA-65R-LCUU-H8 w/ Mount Pipe	A	From Leg	4.00		0.0000	97.00	No Ice 13.06	9.82	0.13
			0.00				1/2" Ice 13.68	11.22	0.23
			0.00				1" Ice 14.28	12.29	0.34
OPA-65R-LCUU-H8 w/ Mount Pipe	B	From Leg	4.00		0.0000	97.00	No Ice 13.06	9.82	0.13
			0.00				1/2" Ice 13.68	11.22	0.23
			0.00				1" Ice 14.28	12.29	0.34
OPA-65R-LCUU-H8 w/ Mount Pipe	C	From Leg	4.00		0.0000	97.00	No Ice 13.06	9.82	0.13
			0.00				1/2" Ice 13.68	11.22	0.23
			0.00				1" Ice 14.28	12.29	0.34
DTMABP7819VG12A TMA	A	From Leg	4.00		0.0000	97.00	No Ice 0.98	0.34	0.02
			0.00				1/2" Ice 1.10	0.42	0.03
			0.00				1" Ice 1.23	0.51	0.04
DTMABP7819VG12A TMA	B	From Leg	4.00		0.0000	97.00	No Ice 0.98	0.34	0.02
			0.00				1/2" Ice 1.10	0.42	0.03
			0.00				1" Ice 1.23	0.51	0.04
DTMABP7819VG12A TMA	C	From Leg	4.00		0.0000	97.00	No Ice 0.98	0.34	0.02
			0.00				1/2" Ice 1.10	0.42	0.03
			0.00				1" Ice 1.23	0.51	0.04

tnxTower FDH Velocitel 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 9197551012 FAX: 9197551031	Job	105130-A Old Saybrook Boston Post	Page	6 of 14
	Project	17QBDY1400	Date	15:53:04 04/25/17
	Client	AT&T Towers	Designed by	RTorbert

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft ²	ft ²	K
(4) RRUS-12	A	From Leg	4.00	0.0000	97.00	No Ice	2.70	1.21	0.06
			0.00			1/2" Ice	2.90	1.36	0.08
			0.00			1" Ice	3.11	1.52	0.11
(4) RRUS-12	B	From Leg	4.00	0.0000	97.00	No Ice	2.70	1.21	0.06
			0.00			1/2" Ice	2.90	1.36	0.08
			0.00			1" Ice	3.11	1.52	0.11
(4) RRUS-12	C	From Leg	4.00	0.0000	97.00	No Ice	2.70	1.21	0.06
			0.00			1/2" Ice	2.90	1.36	0.08
			0.00			1" Ice	3.11	1.52	0.11
DC6-48-60-18-8F	A	From Leg	1.00	0.0000	95.00	No Ice	1.21	1.21	0.03
			0.00			1/2" Ice	1.89	1.89	0.05
			0.00			1" Ice	2.11	2.11	0.08
DC6-48-60-18-8F	B	From Leg	1.00	0.0000	95.00	No Ice	1.21	1.21	0.03
			0.00			1/2" Ice	1.89	1.89	0.05
			0.00			1" Ice	2.11	2.11	0.08
DC6-48-60-18-8F	C	From Leg	1.00	0.0000	95.00	No Ice	1.21	1.21	0.03
			0.00			1/2" Ice	1.89	1.89	0.05
			0.00			1" Ice	2.11	2.11	0.08
**									
LNX-6515DS-VTM w/ Mount Pipe	A	From Leg	4.00	0.0000	85.00	No Ice	11.68	9.84	0.08
			0.00			1/2" Ice	12.40	11.37	0.17
			0.00			1" Ice	13.14	12.91	0.27
LNX-6515DS-VTM w/ Mount Pipe	B	From Leg	4.00	0.0000	85.00	No Ice	11.68	9.84	0.08
			0.00			1/2" Ice	12.40	11.37	0.17
			0.00			1" Ice	13.14	12.91	0.27
LNX-6515DS-VTM w/ Mount Pipe	C	From Leg	4.00	0.0000	85.00	No Ice	11.68	9.84	0.08
			0.00			1/2" Ice	12.40	11.37	0.17
			0.00			1" Ice	13.14	12.91	0.27
(2) SBNHH-1D65B w/ Mount Pipe	A	From Leg	4.00	0.0000	85.00	No Ice	8.62	7.30	0.07
			0.00			1/2" Ice	9.28	8.58	0.14
			0.00			1" Ice	9.91	9.72	0.22
(2) SBNHH-1D65B w/ Mount Pipe	B	From Leg	4.00	0.0000	85.00	No Ice	8.62	7.30	0.07
			0.00			1/2" Ice	9.28	8.58	0.14
			0.00			1" Ice	9.91	9.72	0.22
(2) SBNHH-1D65B w/ Mount Pipe	C	From Leg	4.00	0.0000	85.00	No Ice	8.62	7.30	0.07
			0.00			1/2" Ice	9.28	8.58	0.14
			0.00			1" Ice	9.91	9.72	0.22
RRH4x30-4R	A	From Leg	4.00	0.0000	85.00	No Ice	2.16	1.62	0.06
			0.00			1/2" Ice	2.35	1.79	0.08
			0.00			1" Ice	2.55	1.97	0.10
RRH4x30-4R	B	From Leg	4.00	0.0000	85.00	No Ice	2.16	1.62	0.06
			0.00			1/2" Ice	2.35	1.79	0.08
			0.00			1" Ice	2.55	1.97	0.10
RRH4x30-4R	C	From Leg	4.00	0.0000	85.00	No Ice	2.16	1.62	0.06
			0.00			1/2" Ice	2.35	1.79	0.08
			0.00			1" Ice	2.55	1.97	0.10
RH_60W-PCS	A	From Leg	4.00	0.0000	85.00	No Ice	3.78	2.05	0.06
			0.00			1/2" Ice	4.09	2.32	0.08
			0.00			1" Ice	4.41	2.61	0.10
RH_60W-PCS	B	From Leg	4.00	0.0000	85.00	No Ice	3.78	2.05	0.06
			0.00			1/2" Ice	4.09	2.32	0.08
			0.00			1" Ice	4.41	2.61	0.10
RH_60W-PCS	C	From Leg	4.00	0.0000	85.00	No Ice	3.78	2.05	0.06
			0.00			1/2" Ice	4.09	2.32	0.08
			0.00			1" Ice	4.41	2.61	0.10
B66A RRH4X45	A	From Leg	4.00	0.0000	85.00	No Ice	2.58	1.63	0.06
			0.00			1/2" Ice	2.79	1.81	0.08

tnxTower FDH Velocitel 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 9197551012 FAX: 9197551031	Job	105130-A Old Saybrook Boston Post	Page	7 of 14
	Project	17QBDY1400	Date	15:53:04 04/25/17
	Client	AT&T Towers	Designed by	RTorbert

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral						
			ft	ft	°	ft	ft ²	ft ²	K	
B66A RRH4X45	B	From Leg	0.00		0.0000	85.00	1" Ice	3.01	2.00	0.10
			4.00				No Ice	2.58	1.63	0.06
			0.00				1/2" Ice	2.79	1.81	0.08
			0.00				1" Ice	3.01	2.00	0.10
B66A RRH4X45	C	From Leg	4.00		0.0000	85.00	No Ice	2.58	1.63	0.06
			0.00				1/2" Ice	2.79	1.81	0.08
			0.00				1" Ice	3.01	2.00	0.10
			0.00				No Ice	4.80	2.00	0.04
DB-T1-6Z-8AB-0Z	A	From Leg	4.00		0.0000	85.00	1/2" Ice	5.07	2.19	0.08
			0.00				1" Ice	5.35	2.39	0.12
			0.00				No Ice	4.80	2.00	0.04
			0.00				1/2" Ice	5.07	2.19	0.08
DB-T1-6Z-8AB-0Z	C	From Leg	4.00		0.0000	85.00	1" Ice	5.35	2.39	0.12
			0.00				No Ice	4.80	2.00	0.04
			0.00				1/2" Ice	5.07	2.19	0.08
			0.00				1" Ice	5.35	2.39	0.12
EEI K10994A Platform with Handrails	C	None			0.0000	85.00	No Ice	32.79	32.79	2.04
							1/2" Ice	44.63	44.63	2.48
							1" Ice	56.47	56.47	2.91

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp

tnxTower FDH Velocitel 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 9197551012 FAX: 9197551031	Job 105130-A Old Saybrook Boston Post	Page 8 of 14
	Project 17QBDY1400	Date 15:53:04 04/25/17
	Client AT&T Towers	Designed by RTorbert

Comb. No.	Description
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	99 - 48.5	Pole	Max Tension	27	0.00	-0.00	-0.00
			Max. Compression	26	-32.48	0.83	0.36
			Max. Mx	20	-14.09	631.26	-1.17
			Max. My	2	-14.09	-1.13	632.78
			Max. Vy	20	-17.31	631.26	-1.17
			Max. Vx	2	-17.36	-1.13	632.78
			Max. Torque	16			-0.35
L2	48.5 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.32	0.83	-0.00
			Max. Mx	20	-24.21	1636.57	-3.40
			Max. My	2	-24.21	-3.34	1640.62
			Max. Vy	20	-20.45	1636.57	-3.40
			Max. Vx	2	-20.50	-3.34	1640.62
			Max. Torque	16			-0.35

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	46.32	0.00	0.00
	Max. H _x	21	18.17	20.43	-0.04
	Max. H _z	3	18.17	-0.04	20.47
	Max. M _x	2	1640.62	-0.04	20.47
	Max. M _z	8	1636.13	-20.43	0.04
	Max. Torsion	4	0.35	-10.25	17.75
	Min. Vert	3	18.17	-0.04	20.47
	Min. H _x	9	18.17	-20.43	0.04
	Min. H _z	15	18.17	0.04	-20.47

tnxTower FDH Velocitel 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 9197551012 FAX: 9197551031	Job 105130-A Old Saybrook Boston Post	Page 9 of 14
	Project 17QBDY1400	Date 15:53:04 04/25/17
	Client AT&T Towers	Designed by RTorbert

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Min. M _x	14	-1640.29	0.04	-20.47
	Min. M _y	20	-1636.57	20.43	-0.04
	Min. Torsion	16	-0.35	10.25	-17.75

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _y K	Overturning Moment, M _x kip-ft	Overturning Moment, M _y kip-ft	Torque kip-ft
Dead Only	20.19	-0.00	0.00	-0.13	0.18	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	24.23	0.04	-20.47	-1640.62	-3.34	-0.29
0.9 Dead+1.6 Wind 0 deg - No Ice	18.17	0.04	-20.47	-1628.98	-3.37	-0.29
1.2 Dead+1.6 Wind 30 deg - No Ice	24.23	10.25	-17.75	-1422.66	-821.06	-0.35
0.9 Dead+1.6 Wind 30 deg - No Ice	18.17	10.25	-17.75	-1412.54	-815.30	-0.35
1.2 Dead+1.6 Wind 60 deg - No Ice	24.23	17.71	-10.27	-823.50	-1418.73	-0.32
0.9 Dead+1.6 Wind 60 deg - No Ice	18.17	17.71	-10.27	-817.62	-1408.73	-0.32
1.2 Dead+1.6 Wind 90 deg - No Ice	24.23	20.43	-0.04	-3.72	-1636.13	-0.20
0.9 Dead+1.6 Wind 90 deg - No Ice	18.17	20.43	-0.04	-3.65	-1624.62	-0.19
1.2 Dead+1.6 Wind 120 deg - No Ice	24.23	17.67	10.20	817.02	-1415.17	-0.02
0.9 Dead+1.6 Wind 120 deg - No Ice	18.17	17.67	10.20	811.27	-1405.20	-0.02
1.2 Dead+1.6 Wind 150 deg - No Ice	24.23	10.18	17.71	1418.79	-814.90	0.16
0.9 Dead+1.6 Wind 150 deg - No Ice	18.17	10.18	17.71	1408.78	-809.18	0.16
1.2 Dead+1.6 Wind 180 deg - No Ice	24.23	-0.04	20.47	1640.29	3.78	0.29
0.9 Dead+1.6 Wind 180 deg - No Ice	18.17	-0.04	20.47	1628.74	3.70	0.29
1.2 Dead+1.6 Wind 210 deg - No Ice	24.23	-10.25	17.75	1422.34	821.50	0.35
0.9 Dead+1.6 Wind 210 deg - No Ice	18.17	-10.25	17.75	1412.30	815.63	0.35
1.2 Dead+1.6 Wind 240 deg - No Ice	24.23	-17.71	10.27	823.18	1419.17	0.32
0.9 Dead+1.6 Wind 240 deg - No Ice	18.17	-17.71	10.27	817.39	1409.06	0.31
1.2 Dead+1.6 Wind 270 deg - No Ice	24.23	-20.43	0.04	3.40	1636.57	0.20
0.9 Dead+1.6 Wind 270 deg - No Ice	18.17	-20.43	0.04	3.41	1624.95	0.19
1.2 Dead+1.6 Wind 300 deg - No Ice	24.23	-17.67	-10.20	-817.34	1415.62	0.02
0.9 Dead+1.6 Wind 300 deg - No Ice	18.17	-17.67	-10.20	-811.51	1405.53	0.02
1.2 Dead+1.6 Wind 330 deg - No Ice	24.23	-10.18	-17.71	-1419.11	815.34	-0.16
0.9 Dead+1.6 Wind 330 deg - No Ice	18.17	-10.18	-17.71	-1409.02	809.51	-0.16

tnxTower FDH Velocitel 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 9197551012 FAX: 9197551031	Job 105130-A Old Saybrook Boston Post	Page 10 of 14
	Project 17QBDY1400	Date 15:53:04 04/25/17
	Client AT&T Towers	Designed by RTorbert

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
No Ice						
1.2 Dead+1.0 Ice+1.0 Temp	46.32	-0.00	-0.00	0.00	0.83	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	46.32	0.01	-5.09	-405.34	0.32	-0.06
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	46.32	2.55	-4.41	-351.34	-201.90	-0.08
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	46.32	4.40	-2.55	-203.21	-349.77	-0.08
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	46.32	5.08	-0.01	-0.63	-403.68	-0.05
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	46.32	4.40	2.54	202.10	-349.17	-0.02
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	46.32	2.54	4.40	350.67	-200.85	0.03
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	46.32	-0.01	5.09	405.28	1.53	0.06
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	46.32	-2.55	4.41	351.28	203.76	0.08
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	46.32	-4.40	2.55	203.15	351.63	0.08
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	46.32	-5.08	0.01	0.58	405.54	0.05
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	46.32	-4.40	-2.54	-202.16	351.03	0.02
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	46.32	-2.54	-4.40	-350.73	202.71	-0.03
Dead+Wind 0 deg - Service	20.19	0.01	-3.96	-316.24	-0.50	-0.06
Dead+Wind 30 deg - Service	20.19	1.98	-3.43	-274.23	-158.07	-0.07
Dead+Wind 60 deg - Service	20.19	3.43	-1.99	-158.78	-273.23	-0.06
Dead+Wind 90 deg - Service	20.19	3.95	-0.01	-0.82	-315.13	-0.04
Dead+Wind 120 deg - Service	20.19	3.42	1.97	157.33	-272.55	-0.00
Dead+Wind 150 deg - Service	20.19	1.97	3.43	273.28	-156.88	0.03
Dead+Wind 180 deg - Service	20.19	-0.01	3.96	315.97	0.87	0.06
Dead+Wind 210 deg - Service	20.19	-1.98	3.43	273.97	158.43	0.07
Dead+Wind 240 deg - Service	20.19	-3.43	1.99	158.51	273.60	0.06
Dead+Wind 270 deg - Service	20.19	-3.95	0.01	0.55	315.50	0.04
Dead+Wind 300 deg - Service	20.19	-3.42	-1.97	-157.59	272.91	0.00
Dead+Wind 330 deg - Service	20.19	-1.97	-3.43	-273.55	157.25	-0.03

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	-20.19	0.00	0.00	20.19	0.00	0.000%
2	0.04	-24.23	-20.47	-0.04	24.23	20.47	0.002%
3	0.04	-18.17	-20.47	-0.04	18.17	20.47	0.002%
4	10.25	-24.23	-17.75	-10.25	24.23	17.75	0.000%
5	10.25	-18.17	-17.75	-10.25	18.17	17.75	0.000%
6	17.71	-24.23	-10.27	-17.71	24.23	10.27	0.000%
7	17.71	-18.17	-10.27	-17.71	18.17	10.27	0.000%
8	20.43	-24.23	-0.04	-20.43	24.23	0.04	0.002%
9	20.43	-18.17	-0.04	-20.43	18.17	0.04	0.002%
10	17.67	-24.23	10.20	-17.67	24.23	-10.20	0.000%
11	17.67	-18.17	10.20	-17.67	18.17	-10.20	0.000%
12	10.18	-24.23	17.71	-10.18	24.23	-17.71	0.000%
13	10.18	-18.17	17.71	-10.18	18.17	-17.71	0.000%
14	-0.04	-24.23	20.47	0.04	24.23	-20.47	0.002%

tnxTower FDH Velocitel 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 9197551012 FAX: 9197551031	Job 105130-A Old Saybrook Boston Post	Page 11 of 14
	Project 17QBDY1400	Date 15:53:04 04/25/17
	Client AT&T Towers	Designed by RTorbert

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
15	-0.04	-18.17	20.47	0.04	18.17	-20.47	0.002%
16	-10.25	-24.23	17.75	10.25	24.23	-17.75	0.000%
17	-10.25	-18.17	17.75	10.25	18.17	-17.75	0.000%
18	-17.71	-24.23	10.27	17.71	24.23	-10.27	0.000%
19	-17.71	-18.17	10.27	17.71	18.17	-10.27	0.000%
20	-20.43	-24.23	0.04	20.43	24.23	-0.04	0.002%
21	-20.43	-18.17	0.04	20.43	18.17	-0.04	0.002%
22	-17.67	-24.23	-10.20	17.67	24.23	10.20	0.000%
23	-17.67	-18.17	-10.20	17.67	18.17	10.20	0.000%
24	-10.18	-24.23	-17.71	10.18	24.23	17.71	0.000%
25	-10.18	-18.17	-17.71	10.18	18.17	17.71	0.000%
26	0.00	-46.32	0.00	0.00	46.32	0.00	0.000%
27	0.01	-46.32	-5.09	-0.01	46.32	5.09	0.001%
28	2.55	-46.32	-4.41	-2.55	46.32	4.41	0.001%
29	4.41	-46.32	-2.55	-4.40	46.32	2.55	0.001%
30	5.08	-46.32	-0.01	-5.08	46.32	0.01	0.001%
31	4.40	-46.32	2.54	-4.40	46.32	-2.54	0.001%
32	2.54	-46.32	4.41	-2.54	46.32	-4.40	0.001%
33	-0.01	-46.32	5.09	0.01	46.32	-5.09	0.001%
34	-2.55	-46.32	4.41	2.55	46.32	-4.41	0.001%
35	-4.41	-46.32	2.55	4.40	46.32	-2.55	0.001%
36	-5.08	-46.32	0.01	5.08	46.32	-0.01	0.001%
37	-4.40	-46.32	-2.54	4.40	46.32	2.54	0.001%
38	-2.54	-46.32	-4.41	2.54	46.32	4.40	0.001%
39	0.01	-20.19	-3.96	-0.01	20.19	3.96	0.002%
40	1.98	-20.19	-3.43	-1.98	20.19	3.43	0.002%
41	3.43	-20.19	-1.99	-3.43	20.19	1.99	0.002%
42	3.95	-20.19	-0.01	-3.95	20.19	0.01	0.002%
43	3.42	-20.19	1.97	-3.42	20.19	-1.97	0.002%
44	1.97	-20.19	3.43	-1.97	20.19	-3.43	0.002%
45	-0.01	-20.19	3.96	0.01	20.19	-3.96	0.002%
46	-1.98	-20.19	3.43	1.98	20.19	-3.43	0.002%
47	-3.43	-20.19	1.99	3.43	20.19	-1.99	0.002%
48	-3.95	-20.19	0.01	3.95	20.19	-0.01	0.002%
49	-3.42	-20.19	-1.97	3.42	20.19	1.97	0.002%
50	-1.97	-20.19	-3.43	1.97	20.19	3.43	0.002%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	10	0.00000001	0.00008344
3	Yes	10	0.00000001	0.00006742
4	Yes	12	0.00000001	0.00003619
5	Yes	11	0.00000001	0.00011883
6	Yes	12	0.00000001	0.00003721
7	Yes	11	0.00000001	0.00012232
8	Yes	10	0.00000001	0.00008355
9	Yes	10	0.00000001	0.00006752
10	Yes	12	0.00000001	0.00003622
11	Yes	11	0.00000001	0.00011911
12	Yes	12	0.00000001	0.00003603
13	Yes	11	0.00000001	0.00011844
14	Yes	10	0.00000001	0.00008450
15	Yes	10	0.00000001	0.00006825

tnxTower FDH Velocitel 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 9197551012 FAX: 9197551031	Job	105130-A Old Saybrook Boston Post	Page	12 of 14
	Project	17QBDY1400	Date	15:53:04 04/25/17
	Client	AT&T Towers	Designed by	RTorbert

16	Yes	12	0.0000001	0.00003730
17	Yes	11	0.0000001	0.00012260
18	Yes	12	0.0000001	0.00003623
19	Yes	11	0.0000001	0.00011899
20	Yes	10	0.0000001	0.00008285
21	Yes	10	0.0000001	0.00006698
22	Yes	12	0.0000001	0.00003638
23	Yes	11	0.0000001	0.00011955
24	Yes	12	0.0000001	0.00003661
25	Yes	11	0.0000001	0.00012033
26	Yes	6	0.0000001	0.00000001
27	Yes	10	0.0000001	0.00007816
28	Yes	10	0.0000001	0.00009193
29	Yes	10	0.0000001	0.00009219
30	Yes	10	0.0000001	0.00007755
31	Yes	10	0.0000001	0.00009133
32	Yes	10	0.0000001	0.00009139
33	Yes	10	0.0000001	0.00007792
34	Yes	10	0.0000001	0.00009277
35	Yes	10	0.0000001	0.00009239
36	Yes	10	0.0000001	0.00007825
37	Yes	10	0.0000001	0.00009252
38	Yes	10	0.0000001	0.00009258
39	Yes	9	0.0000001	0.00009063
40	Yes	9	0.0000001	0.00008171
41	Yes	9	0.0000001	0.00008207
42	Yes	9	0.0000001	0.00009022
43	Yes	9	0.0000001	0.00008151
44	Yes	9	0.0000001	0.00008153
45	Yes	9	0.0000001	0.00009046
46	Yes	9	0.0000001	0.00008225
47	Yes	9	0.0000001	0.00008163
48	Yes	9	0.0000001	0.00009042
49	Yes	9	0.0000001	0.00008175
50	Yes	9	0.0000001	0.00008199

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	99 - 48.5	8.263	40	0.7004	0.0005
L2	53.25 - 0	2.461	40	0.4290	0.0002

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
99.00	Lightning Rod	40	8.263	0.7004	0.0005	44967
97.00	AM-X-CD-16-65-00T-RET w/ Mount Pipe	40	7.972	0.6895	0.0005	44967
95.00	DC6-48-60-18-8F	40	7.682	0.6786	0.0005	44967
85.00	LNx-6515DS-VTM w/ Mount Pipe	40	6.251	0.6236	0.0004	16059

tnxTower FDH Velocitel 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 9197551012 FAX: 9197551031	Job 105130-A Old Saybrook Boston Post	Page 13 of 14
	Project 17QBDY1400	Date 15:53:04 04/25/17
	Client AT&T Towers	Designed by RTorbert

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	99 - 48.5	42.886	4	3.6379	0.0027
L2	53.25 - 0	12.777	4	2.2278	0.0009

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
99.00	Lightning Rod	4	42.886	3.6379	0.0027	8715
97.00	AM-X-CD-16-65-00T-RET w/ Mount Pipe	4	41.377	3.5814	0.0026	8715
95.00	DC6-48-60-18-8F	4	39.870	3.5247	0.0025	8715
85.00	LNx-6515DS-VTM w/ Mount Pipe	4	32.446	3.2387	0.0021	3111

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _n K	φP _i K	Ratio P _n φP _n
L1	99 - 48.5 (1)	TP34.15x22.14x0.25	50.50	0.00	0.0	26.0033	-14.09	1781.64	0.008
L2	48.5 - 0 (2)	TP45.2x32.5203x0.3125	53.25	0.00	0.0	44.5228	-24.21	2946.36	0.008

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{ux} kip-ft	Ratio M _{ux} φM _{ux}	M _{uy} kip-ft	φM _{uy} kip-ft	Ratio M _{uy} φM _{uy}
L1	99 - 48.5 (1)	TP34.15x22.14x0.25	633.44	1200.86	0.527	0.00	1200.86	0.000
L2	48.5 - 0 (2)	TP45.2x32.5203x0.3125	1642.59	2722.01	0.603	0.00	2722.01	0.000

Pole Shear Design Data

tnxTower FDH Velocitel 6521 Meridien Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 9197551012 FAX: 9197551031	Job 105130-A Old Saybrook Boston Post	Page 14 of 14
	Project 17QBDY1400	Date 15:53:04 04/25/17
	Client AT&T Towers	Designed by RTorbert

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio V_u ϕV_n	Actual T_u kip-ft	ϕT_n kip-ft	Ratio T_u ϕT_n
L1	99 - 48.5 (1)	TP34.15x22.14x0.25	17.38	890.82	0.020	0.35	2404.66	0.000
L2	48.5 - 0 (2)	TP45.2x32.5203x0.3125	20.52	1473.18	0.014	0.35	5450.68	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u ϕP_n	Ratio M_{ux} ϕM_{ux}	Ratio M_{uy} ϕM_{uy}	Ratio V_u ϕV_n	Ratio T_u ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	99 - 48.5 (1)	0.008	0.527	0.000	0.020	0.000	0.536	1.000	4.8.2 ✓
L2	48.5 - 0 (2)	0.008	0.603	0.000	0.014	0.000	0.612	1.000	4.8.2 ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	99 - 48.5	Pole	TP34.15x22.14x0.25	1	-14.09	1781.64	53.6	Pass
L2	48.5 - 0	Pole	TP45.2x32.5203x0.3125	2	-24.21	2946.36	61.2	Pass
Summary								
Pole (L2)							61.2	Pass
RATING =							61.2	Pass

Square, Stiffened / Unstiffened Base Plate, Any Rod Material - Rev. F /G

- Assumptions:**
- 1) Rod groups at corners. Total # rods divisible by 4. Maximum total # of rods = 48 (12 per Corner).
 - 2) Rod Spacing = Straight Center-to-Center distance between any (2) adjacent rods (same corner)
 - 3) Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data

BU#: 0
 Site Name: 0
 App #: 0

Anchor Rod Data

Eta Factor, η	0.5	TIA G (Fig. 4-4)
Qty:	12	
Diam:	2.25	in
Rod Material:	A615-J	
Yield, F_y :	75	ksi
Strength, F_u :	100	ksi
Bolt Circle:	51.25	in
Anchor Spacing:	6	in

Plate Data

W=Side:	49.75	in
Thick:	2.5	in
Grade:	50	ksi
Clip Distance:	8	in

Stiffener Data (Welding at both sides)

Configuration:	Unstiffened	
Weld Type:		**
Groove Depth:		<-- Disregard
Groove Angle:		<-- Disregard
Fillet H. Weld:		in
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

Pole Data

Diam:	45.2	in
Thick:	0.3125	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round

Base Reactions

TIA Revision:	G	
Factored Moment, M_u :	1643	ft-kips
Factored Axial, P_u :	24	kips
Factored Shear, V_u :	21	kips

Anchor Rod Results

TIA G --> Max Rod ($C_u + V_u/\eta$): 133.6 Kips
 Axial Design Strength, $\Phi^*F_u^*A_{net}$: 260.0 Kips
 Anchor Rod Stress Ratio: 51.4% **Pass**

Base Plate Results

Base Plate Stress: 25.0 ksi
 PL Design Bending Strength, Φ^*F_y : 45.0 ksi
 Base Plate Stress Ratio: 55.5% **Pass**

Flexural Check

PL Ref. Data

Yield Line (in):	25.16
Max PL Length:	25.16

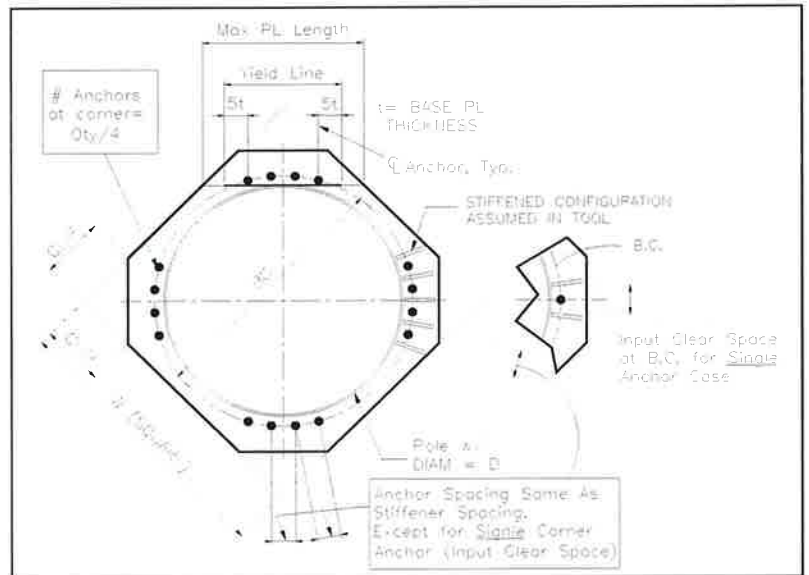
N/A - Unstiffened

Stiffener Results

Horizontal Weld : N/A
 Vertical Weld: N/A
 Plate Flex+Shear, $f_b/F_b + (f_v/F_v)^2$: N/A
 Plate Tension+Shear, $f_t/F_t + (f_v/F_v)^2$: N/A
 Plate Comp. (AISC Bracket): N/A

Pole Results

Pole Punching Shear Check: N/A



** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

BU:
 Site Name: Old Saybrook Boston Post
 App Number:
 Work Order:

Monopole Drilled Pier

Input

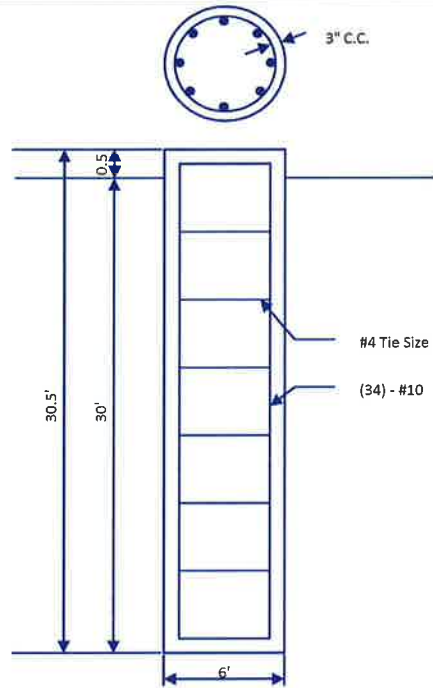
Criteria
 TIA Revision: G
 ACI 318 Revision: 2008
 Seismic Category: B

Forces
 Compression 24 kips
 Shear 20 kips
 Moment 1643 k-ft
 Swelling Force 0 kips

Foundation Dimensions
 Pier Diameter: 6 ft
 Ext. above grade: 0.5 ft
 Depth below grade: 30 ft

Material Properties
 Number of Rebar: 34
 Rebar Size: 10
 Tie Size 4
 Rebar tensile strength: 60 ksi
 Concrete Strength: 4000 psi
 Ultimate Concrete Strain 0.003 in/in
 Clear Cover to Ties: 3 in

Soil Profile: Soil



Layer	Thickness (ft)	From (ft)	To (ft)	Unit Weight (pcf)	Cohesion (psf)	Friction Angle (deg)	Ultimate Uplift Skin Friction (ksf)	Ultimate Comp. Skin Friction (ksf)	Ultimate Bearing Capacity (ksf)	SPT 'N' Counts
1	3.33	0	3.33	125	0				0	
2	1.67	3.33	5	125	0	34			0	
3	25	5	30	65	0	34			8	

Analysis Results

Soil Lateral Capacity
 Depth to Zero Shear: 6.86 ft
 Max Moment, Mu: 1755.42 k-ft
 Soil Safety Factor: 6.83
 Safety Factor Req'd: 1.33
RATING: 19.5%

Soil Axial Capacity
 Skin Friction (k): 210.59 kips
 End Bearing (k): 169.65 kips
 Comp. Capacity (k), ϕC_n : 380.23 kips
 Comp. (k), Cu: 24.00 kips
RATING: 6.3%

Concrete/Steel Check
 Mu (from soil analysis) 1755.42 k-ft
 ϕM_n 5618.19 k-ft
RATING: 31.2%

rho provided 1.06
 rho required 0.33 OK

Rebar Spacing 4.62
 Spacing required 20.32 OK

Dev. Length required 22.89
 Dev. Length provided 48.19 OK

Overall Foundation Rating: 31.2%

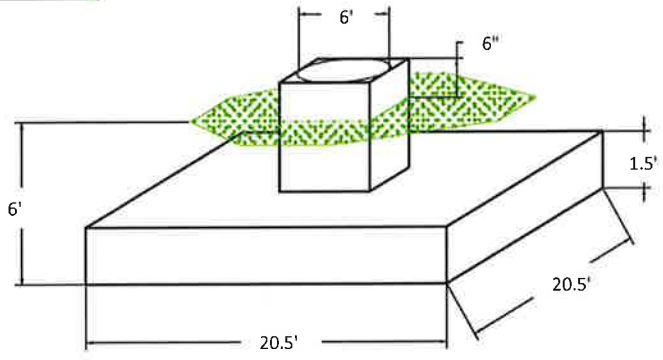
FDH Velocitel -- 6521 Meriden Drive, Raleigh, NC 27616 -- Ph. 919.755.1012 -- Fax 919.755.1031

MONOPOLE PAD AND PIER STEEL CHECKS

Project & Site Details			
Project No.	17QBDY1400	Rev.	
Project Name	Old Saybrook Boston Post		
Site ID	105130-A		
Date	Tuesday, April 25, 2017		
Code	ANSI/TIA-222-G		
Overstress Capacity	100%		

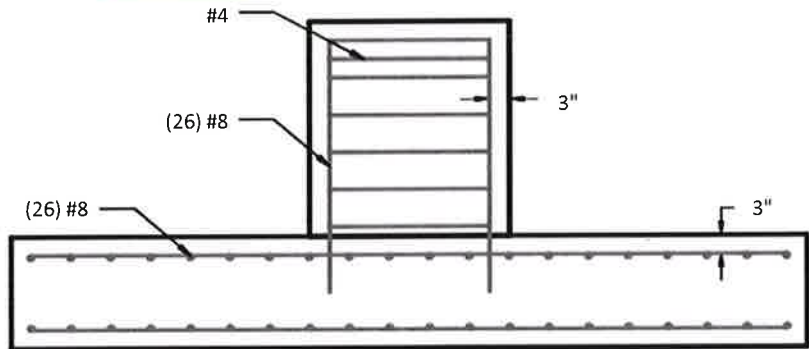
tnx Reactions		
Moment, M	1,643	kip-ft
Shear, V	20	k
Axial, P	24	k

Foundation Details		
Pier Above Grade, E	0.5	ft
Pad Depth Below Grade, D	6.0	ft
Pad Width, W	20.5	ft
Pad Thickness, T	1.5	ft
Pier Shape	Round	-
Pier Diameter, D_p	6.0	ft
Density of Soil, γ_s	0.125	kcf
Density of Concrete, γ_c	0.150	kcf



Pad Steel Details		
Horiz. Bar Size	#8	-
Pad Bar Diameter, d_b	1	in
Number of pad bars, n	26	-
Strength of Concrete, f_c'	4,500	psi
Clear Cover, cc	3.0	in
Yield Strength of Steel, F_y	60	ksi

Pier Steel Details		
Vertical Bar Size	#8	-
Pier Bar Diameter, d_v	1	in
Number of pier bars, n_v	26	-
Tie Size	#4	-
Tie Bar Diameter, d_t	0.5	in
Clear Cover, cc	3.0	in



Pad Steel Checks		
Pad Shear	33.5%	PASS
Two-Way Shear	32.5%	PASS
Pad Flexure	44.3%	PASS
Steel Yielding	OK	

Pier Steel Checks		
Pier Compression	0.3%	PASS
DSMC Moment, M_u	1743.00	k-ft

Moment Capacity of Drilled Concrete Shaft (Caisson) for TIA Rev F or G

Note: Shaft assumed to have ties, not spiral, transverse reinforcing

Site Data

BU#: _____
 Site Name: _____
 App #: _____

Loads Already Factored

For M (WL)	1.3	<----Disregard
For P (DL)	1.3	<----Disregard

Pier Properties

Concrete:

Pier Diameter = **6** ft
 Concrete Area = 4071.5 in²

Reinforcement:

Clear Cover to Tie = **3** in
 Horiz. Tie Bar Size = **4**
 Vert. Cage Diameter = 5.33 ft
 Vert. Cage Diameter = 64.00 in
Vertical Bar Size = 8
 Bar Diameter = 1.00 in
 Bar Area = 0.79 in²
 Number of Bars = **26**
 As Total = 20.54 in²
 A s/ Aconc, Rho: 0.0050 0.50%

ACI 10.5, ACI 21.10.4, and IBC 1810.

Min As for Flexural, Tension Controlled, Shafts:

$$(3) * (\sqrt{f_c}) / F_y = 0.0034$$

$$200 / F_y = 0.0033$$

Minimum Rho Check:

Actual Req'd Min. Rho:	0.33%	Flexural
Provided Rho:	0.50%	OK

Maximum Shaft Superimposed Forces

TIA Revision:	G	
Max. Factored Shaft Mu:	1743	ft-kips (* Note)
Max. Factored Shaft Pu:	24	kips
Max Axial Force Type:	Comp.	

(* Note: Max Shaft Superimposed Moment does not necessarily equal to the shaft top reaction moment

Load Factor	Shaft Factored Loads	
1.00	Mu:	1743 ft-kips
1.00	Pu:	24 kips

Material Properties

Concrete Comp. strength, f _c =	4500	psi
Reinforcement yield strength, F _y =	60	ksi
Reinforcing Modulus of Elasticity, E =	29000	ksi
Reinforcement yield strain =	0.00207	
Limiting compressive strain =	0.003	

ACI 318 Code

Select Analysis ACI Code = **2008**

Seismic Properties

Seismic Design Category = **B**

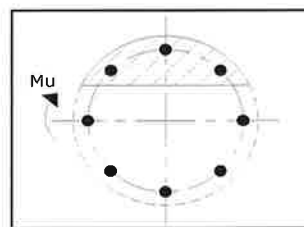
Seismic Risk = **Low**

Solve
(Run)

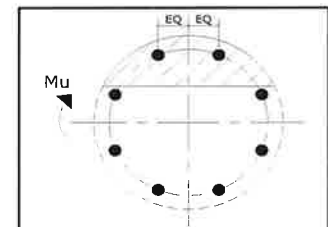
<-- Press Upon Completing All Input

Results:

Governing Orientation Case: 1



Case 1



Case 2

Dist. From Edge to Neutral Axis: **9.08** in

Extreme Steel Strain, ϵ_t : **0.0195**

$\epsilon_t > 0.0050$, Tension Controlled

Reduction Factor, ϕ : **0.900**

Ref. Shaft Max Axial Capacities, ϕ Max(P_n or T_n):

Max Pu = ($\phi=0.65$) P _n ,		
P _n per ACI 318 (10-2)	8698.22	kips
at Mu=($\phi=0.65$)M _n =	4553.78	ft-kips
Max Tu, ($\phi=0.9$) T _n =	1109.16	kips
at Mu= $\phi=(0.90)$ M _n =	0.00	ft-kips

Output Note: Negative Pu=Tension

For Axial Compression, ϕ P_n = Pu: 24.00 kips
 Drilled Shaft Moment Capacity, ϕ M_n: **2919.24** ft-kips
 Drilled Shaft Superimposed Mu: **1743.00** ft-kips

(Mu/ ϕ M_n, Drilled Shaft Flexure CSR): **59.7%**

(Bearing and Stability Checks) Tool for TIA Rev F or G - Application (MP, SST with unitbase)

Site Data

BU#:	
Site Name:	
App #:	

Loads Already Factored

For P (DL)	1.2	<----Disregard
For P,V, and M (WL)	1.35	<----Disregard

Pad & Pier Data

Base PL Dist. Above Pier:	3	in
Pier Dist. Above Grade:	6	in
Pad Bearing Depth, D:	6	ft
Pad Thickness, T:	1.5	ft
Pad Width=Length, L:	20.5	ft
Pier Cross Section Shape:	Round	<--Pull Down
Enter Pier Diameter:	6	ft
Concrete Density:	150	pcf
Pier Cross Section Area:	28.27	ft^2
Pier Height:	5.00	ft
Soil (above pad) Height:	4.50	ft

Soil Parameters

Unit Weight, γ :	125	pcf
Ultimate Bearing Capacity, q_n :	8.75	ksf
Strength Reduct. factor, ϕ :	0.75	
Angle of Friction, Φ :	34	degrees
Undrained Shear Strength, C_u :	0	ksf
Allowable Bearing: $\phi * q_n$:	6.56	ksf
Passive Pres. Coeff., K_p	3.54	

Forces/Moments due to Wind and Lateral Soil

Minimum of ($\phi * \text{Ultimate Pad Passive Force, } V_u$):	20.0	kips
Pad Force Location Above D:	0.71	ft
ϕ (Passive Pressure Moment):	14.29	ft-kips
Factored O.T. M(WL), "1.6W":	1778.0	ft-kips
Factored OT (MW-Msoil), M1	1763.71	ft-kips

Resistance due to Foundation Gravity

Soil Wedge Projection grade, a:	3.04	ft
Sum of Soil Wedges Wt:	35.23	kips
Soil Wedges ecc, K1:	9.17	ft
Ftg+Soil above Pad wt:	336.2	kips
Unfactored (Total ftg-soil Wt):	371.48	kips
1.2D. No Soil Wedges.	427.50	kips
0.9D. With Soil Wedges	352.33	kips

Resistance due to Cohesion (Vertical)

$\phi * (1/2 * C_u)$ (Total Vert. Planes)	0.00	kips
Cohesion Force Eccentricity, K2	0.00	ft

Monopole Base Reaction Forces

TIA Revision:	G	<--Pull Down
Factored DL Axial, PDU:	24	kips
Factored WL Shear, Vu:	20	kips
Factored WL Moment, Mu:	1643	ft-kips

Load Factor Shaft Factored Loads

1.00	1.2D+1.6W, Pu:	24	kips
0.90	0.9D+1.6W, Pu:	18	kips
1.00	Vu:	20	kips
	Mu:	1643	ft-kips

1.2D+1.6W Load Combination, Bearing Results:

(No Soil Wedges) [Reaction+Conc+Soil]	427.50	P1="1.2D+1.6W" (Kips)
Factored "1.6W" Overturning Moment (MW-Msoil), M1	1763.71	ft-kips

Orthogonal Direction:

ecc1 = M1/P1 = 4.13 ft
 Orthogonal qu= 1.84 ksf
 qu/ $\phi * q_n$ Ratio= **27.98% Pass**

Diagonal Direction:

ecc2 = (0.707M1)/P1 = 2.92 ft
 Diagonal qu= 1.99 ksf
 qu/ $\phi * q_n$ Ratio= **30.28% Pass**

<-- Press Upon Completing All Input

Overturning Stability Check

0.9D+1.6W Load Combination, Bearing Results:

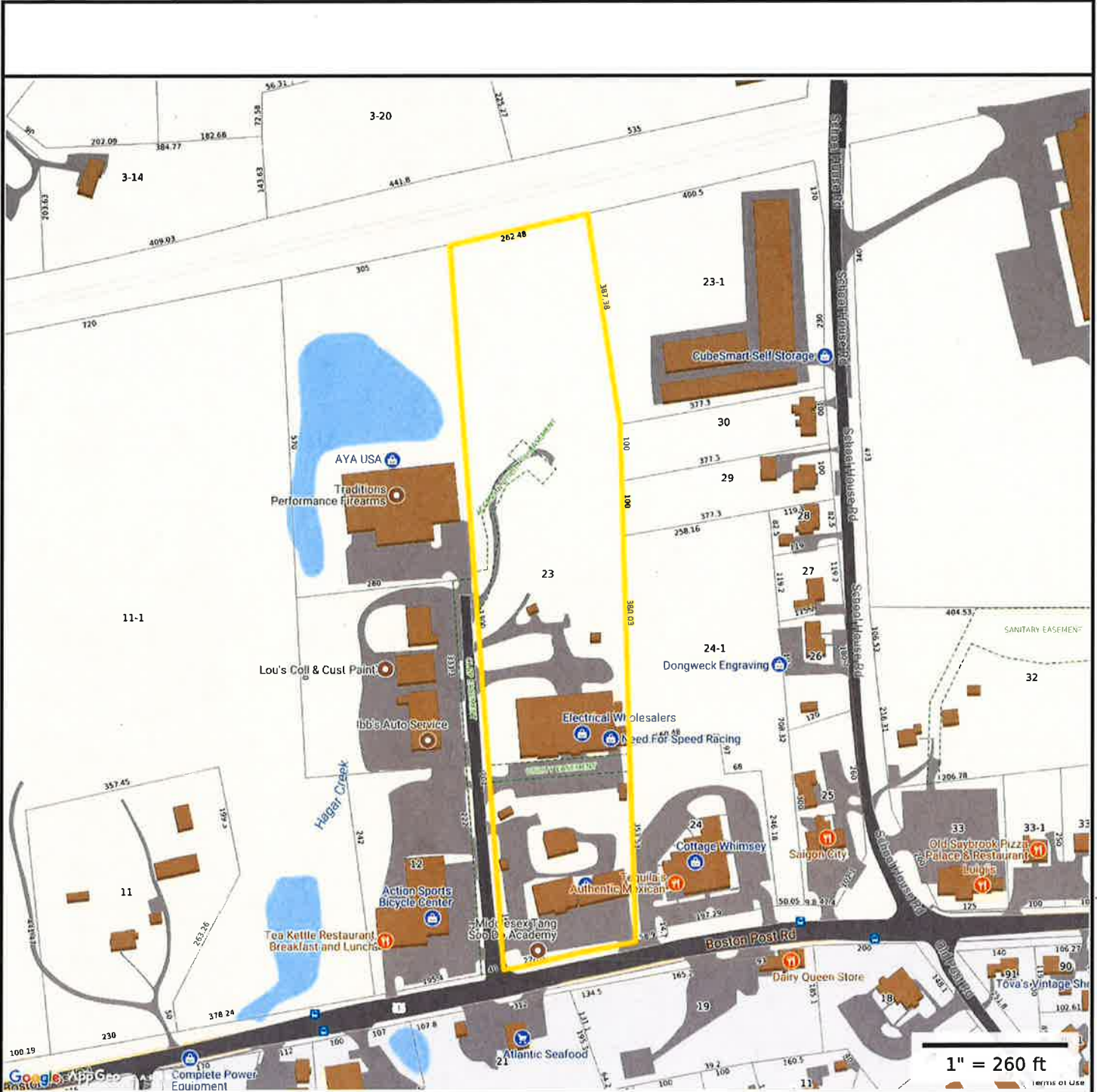
(w/ Soil Wedges) [Reaction+Conc+Soil]	352.33	P2="0.9D+1.6W" (Kips)
Factored "1.6W" Overturning Moment (MW-Msoil) - 0.9(M of Wedge + M of Cohesion), M2	1472.95	ft-kips

Orthogonal ecc3 = M2/P2 = 4.18 ft
 Ortho Non Bearing Length, NBL= **8.36 ft**
 Orthogonal qu= 1.52 ksf
 Diagonal qu= 1.66 ksf

Max Reaction Moment (ft-kips) so that qu= $\phi * q_n$ = 100% Capacity Rating


Actual M:	1643.00		
M Orthogonal:	3388.92	48.48%	Pass
M Diagonal:	3388.92	48.48%	Pass

ATTACHMENT 4



Property Information

Property ID	027/023-0000
Location	1363 BOSTON POST RD
Owner	WILCOX FAMILY LLC



**MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT**

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Parcels updated October 2016
Properties updated 07/12/2017

Terms of Use

1363 BOSTON POST RD

Location 1363 BOSTON POST RD

MBLU 027/ 023/ / /

Acct# 00366000

Owner WILCOX FAMILY LLC

Assessment \$1,365,700

Appraisal \$1,950,700

PID 809

Building Count 4

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$845,400	\$1,105,300	\$1,950,700

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$592,000	\$773,700	\$1,365,700

Owner of Record

Owner WILCOX FAMILY LLC

Sale Price \$0

Co-Owner

Certificate

Address 26 QUARRY ST
OLD SAYBROOK, CT 06475

Book & Page 0487/0320

Sale Date 08/16/2005

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
WILCOX FAMILY LLC	\$0		0487/0320	08/16/2005
WILCOX FAMILY LTD PARTNERSHIPS	\$450,000		0340/0791	12/31/1996

Building Information

Building 1 : Section 1

Year Built: 1994

Living Area: 3,500

Building Attributes	
Field	Description
STYLE	Store
MODEL	Commercial
Stories:	1

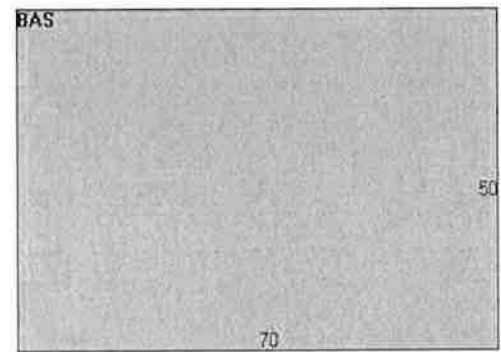
Occupancy	1
Exterior Wall 1	Pre-finish Metl
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Metal/Tin
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Vinyl/Asphalt
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Hot Water
AC Type	Central
Bldg Use	STORE/SHOP MDL-96
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	032I
Heat/AC	NONE
Frame Type	STEEL
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEILING ONLY
Rooms/Prtns	AVERAGE
Wall Height	14
% Comn Wall	0

Building Photo



(<http://images.vgsi.com/photos/OldSaybrookCTPhotos//\00\01>)

Building Layout



Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	3,500	3,500
		3,500	3,500

Building 2 : Section 1

Year Built: 1950
Living Area: 3,330

Building Attributes : Bldg 2 of 4	
Field	Description
STYLE	Store
MODEL	Commercial
Stories:	1
Occupancy	2
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Flat

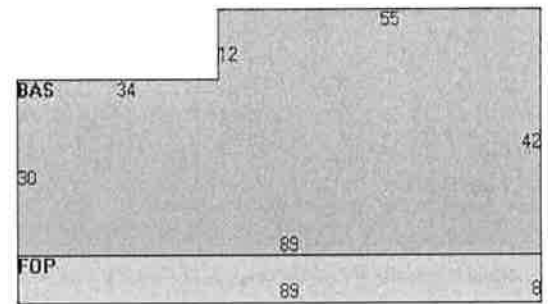
Roof Cover	Tar & Gravel
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	Concr-Finished
Heating Fuel	Gas
Heating Type	Forced Air-Duc
AC Type	Central
Bldg Use	STORE/SHOP MDL-96
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	032I
Heat/AC	NONE
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
Celling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	10
% Comn Wall	0

Building Photo



(<http://images.vgsi.com/photos/OldSaybrookCTPhotos//\00\01>)

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	3,330	3,330
FOP	Porch, Open, Finished	712	0
		4,042	3,330

Building 3 : Section 1

Year Built: 1945
Living Area: 1,446

Building Attributes : Bldg 3 of 4	
Field	Description
Style	Ranch
Model	Residential
Stories:	1 Story
Occupancy	1
Exterior Wall 1	Brick Veneer
Exterior Wall 2	

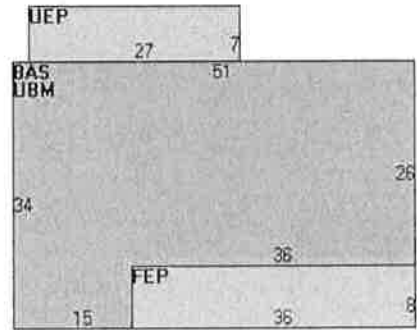
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Forced Air-Duc
AC Type:	None
Total Bedrooms:	2 Bedrooms
Total Bthrms:	1
Total Half Baths:	0
Total Rooms:	5 Rooms

Building Photo



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Building Layout



Building Sub-Areas (sq ft)			Legend	
Code	Description	Gross Area	Living Area	
BAS	First Floor	1,446	1,446	
FEP	Porch, Enclosed, Framed	288	0	
UBM	Basement, Unfinished	1,446	0	
UEP	Porch, Enclosed, Unfinished	189	0	
		3,369	1,446	

Building 4 : Section 1

Year Built: 1999
Living Area: 17,000

Building Attributes : Bldg 4 of 4	
Field	Description
STYLE	Pre-Eng Warehs
MODEL	Commercial
Stories:	1
Occupancy	4

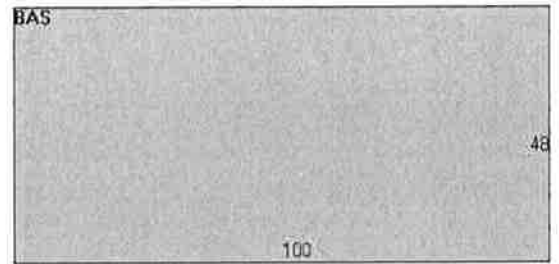
Exterior Wall 1	Pre-finish Metl
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Metal/Tin
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	Carpet
Heating Fuel	Gas
Heating Type	Forced Air-Duc
AC Type	Central
Bldg Use	STORE/SHOP MDL-96
Total Rooms	6
Total Bedrms	00
Total Baths	0
1st Floor Use:	032I
Heat/AC	HEAT/AC SPLIT
Frame Type	STEEL
Baths/Plumbing	ABOVE AVERAGE
Ceiling/Wall	NONE
Rooms/Prtns	ABOVE AVERAGE
Wall Height	12
% Comn Wall	

Building Photo



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Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	17,000	17,000
		17,000	17,000

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
DUW2	WIDE BAY	1 UNITS	\$3,100	4
FPL1	FIREPLACE 1 ST	1 UNITS	\$1,300	3
OHD2	Over Head Dr 2	108 S.F.	\$600	1

Land

Land Use

Use Code 032I

Land Line Valuation

Size (Acres) 7.53

Description STORE/SHOP MDL-96
Zone B-4

Depth 0
Assessed Value \$773,700
Appraised Value \$1,105,300

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
PAV1	PAVING-ASPHALT			7500 S.F.	\$2,300	1
SHD1	SHED FRAME			100 S.F.	\$1,800	2
SHD4	COMM,METAL			560 S.F.	\$3,700	1
SHD4	COMM,METAL			168 S.F.	\$3,300	1
SHD1	SHED FRAME			140 S.F.	\$2,500	1
SHD1	SHED FRAME			80 S.F.	\$1,400	1
FGR1	GARAGE-AVE			288 S.F.	\$10,400	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$845,400	\$1,105,300	\$1,950,700
2015	\$587,300	\$1,105,300	\$1,692,600
2014	\$587,300	\$1,105,300	\$1,692,600

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$592,000	\$773,700	\$1,365,700
2015	\$411,300	\$773,700	\$1,185,000
2014	\$411,300	\$773,700	\$1,185,000

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ATTACHMENT 5



Certificate of Mailing — Firm

Name and Address of Sender Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here Postmark with Date of Receipt.				
USPS® Tracking Number Firm-specific Identifier		Address (Name, Street, City, State, and ZIP Code™)		Postage	Fee	Special Handling	Parcel Airlift
1.			Carl B. Fortuna, Jr., First Selectman Town of Old Saybrook 302 Main Street Old Saybrook, CT 06475				
2.			Christine Nelson, Town Planner Town of Old Saybrook 302 Main Street Old Saybrook, CT 06475				
3.			Wilcox Family LLC 26 Quarry Street Old Saybrook, CT 06475				
4.							
5.							
6.							