Robinson+Cole

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Also admitted in Massachusetts

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**
363 Riversville Road, Greenwich, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains twelve (12) antennas at the 142-foot level of the existing 160-foot tower at 363 Riversville Road in Greenwich, Connecticut (the "Property"). The tower is owned by Crown Castle ("Crown"). The Council approved Cellco's use of this tower in 1995. Cellco now intends to replace three (3) of its existing antennas with three (3) model QUAD656C0000x, 700 MHz antennas, at the 142-foot level on the tower. Cellco also intends to install six (6) remote radio heads ("RRHs") behind its 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 to Peter Tesei, Greenwich First Selectman; Katie Deluca, Director of Planning and Zoning; Crown, the owner of the tower; and The Greenwich Council, Boy Scouts of America, Inc., 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 tower. Cellco's replacement antennas and RRH's will be located at the 142-foot level on the 160-foot tower.

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 operation of the replacement antennas 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 worst-case 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* Structural Analysis Report 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

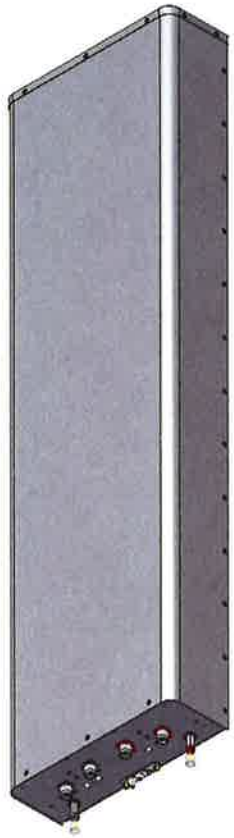
Enclosures
Copy to:
Peter Tesei, Greenwich First Selectman
Katie DeLuca, AICP, Director of Planning and Zoning
The Greenwich Council, Boy Scouts of America Inc.
Crown Castle
Tim Parks, Verizon Wireless

ATTACHMENT 1

QUAD656C0000x

Twin Band | Quad Port | Panel Antenna | (2x) X-Pol | 65° / 65° | 15.0 / 15.0 dBi | Variable Tilt

- Twin band, quad-port panel antenna with variable electrical tilt
- 4x4 MIMO
- Patented internal RET actuator adds no additional length to the antenna



Ordering Options	Model Number
When ordering, replace "x" in the model number with one of the options listed below.	
Manual Electrical Tilt	QUAD656C0000M
Remote Electrical Tilt AISG v2.0 / 3GPP with an MDCU RET Actuator	QUAD656C0000G
Remote Electrical Tilt AISG v2.0 / 3GPP with an MDDU RET Actuator	QUAD656C0000L
Mounting bracket kits and other accessories are ordered separately.	

Electrical Characteristics		(2x) 696-900 MHz	
Frequency Bands		696-806 MHz	806-900 MHz
Polarization		(2x) ±45° (Quad-Pol)	
Horizontal Beamwidth		67°	66°
Vertical Beamwidth		13.6°	12.4°
Gain		14.5 dBi	15.0 dBi
Electrical Downtilt		0-12°	
Impedance		50Ω	
VSWR		≤ 1.5:1	
Upper Sidelobe Suppression		18 dB	18 dB
Front-to-Back Ratio		> 25 dB	> 25 dB
Inband Isolation		25 dB	
Isolation Between Bands		28 dB	
IM3 (2x20W carrier)		< -153 dBc	
Input Power		(4x) 500 W	
Total Number of Connectors		Antennas has 4 connectors located at the bottom	
Connectors Per Band	696-900 MHz	(2x) 7/16-DIN Female	
	696-900 MHz	(2x) 7/16-DIN Female	
Diplexed		No	
Lightning Protection		Direct Ground	
Operating Temperature		-40° to +60° C (-40° to +140° F)	

Mechanical Characteristics			
Dimensions (Length x Width x Depth)		1889 x 520 x 182 mm	74.4 x 20.5 x 7.2 in
Depth with Z-Brackets		227 mm	8.9 in
Weight without Mounting Brackets: MET		24.5 kg	54.0 lbs
Weight without Mounting Brackets: RET		24.8 kg	54.7 lbs
Survival Wind Speed		> 241 km/hr	> 150 mph
Wind Area	Front	0.98 m^2	10.6 ft^2
	Side	0.34 m^2	3.7 ft^2
Wind Loads (160 km/hr or 100 mph)	Front	1200 N	270 lbf
	Side	415 N	93 lbf

QUAD656C0000x

Twin Band | Quad Port | Panel Antenna | (2x) X-Pol | 65° / 65° | 15.0 / 15.0 dBi | Variable Tilt

Electrical Downtilt Control		
Electrical downtilt for each band can be controlled separately. Tilt indicator(s) are covered by removable transparent cap(s).		
Manual Electrical Tilt (MET) Control	A colored knob at the end of the tilt indicator allows change of the tilt without need of a tool. The knob color is identical to the corresponding connector ring color. To access the knob, remove the cap by turning it counter-clockwise. It is re-installed by opposite rotation. Do not remove the transparent cap(s) from the antenna.	
Remote Electrical Tilt (RET) Control	The remote control of the electrical tilt is managed by either a Multi-Device Control Unit (MDCU) or a Multi-Device Dual Unit (MDDU) inserted in the bottom of the antenna. A single actuator individually controls the tilt of each band (no need for daisy chain cables between the bands). This module does not add any additional length to the antenna. For RET control, the transparent caps must be in place and locked. The tilt angle indicators always remain visible and the antenna still has manual tilt control (manual override).	
RET Actuator	Select one of the following RET actuators when ordering this antenna.	
	Multi-Device Control Unit (MCDU)	The MDCU is an electronic module that allows the remote control of the electrical downtilt (RET) in Amphenol antennas with factory embedded motors. The MDCU is factory installed. Refer to ordering options.
	Multi-Device Dual Unit (MDDU)	The MDDU allows two separate RET Controllers to independently drive the RETs in Amphenol antennas with factory installed motors (for antenna sharing). The MDDU is factory installed. Refer to ordering options.
Important Installation Instructions	In order to operate RET control, the transparent caps covering the tilt adjustment indicators must be engaged and locked. Do not cut them from the antenna.	
	Do not install the antenna with the connectors facing upward.	

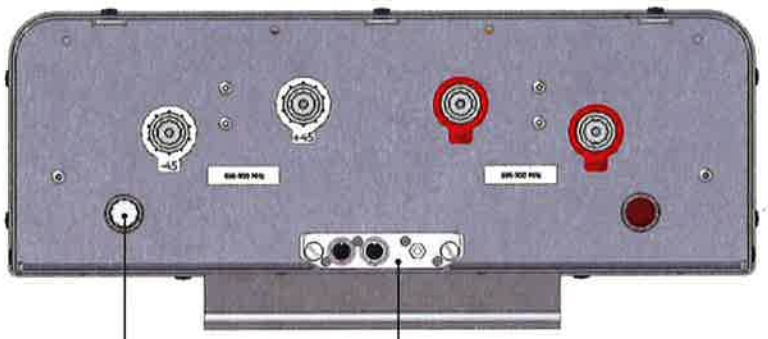
Mounting Options	Part Number	Image	Fits Pipe Diameter	Weight
All mounting bracket kits are ordered separately unless otherwise indicated. Select from the options listed below.				
3-Point Mounting and Downtilt Bracket Kit	36210008		40-115 mm 1.6-4.5 in	6.9 kg 15.2 lbs

Configuration Options
This antenna model **cannot** be used with Amphenol's UNICELL 3-sector antenna enclosures.

QUAD656C0000x

Twin Band | Quad Port | Panel Antenna | (2x) X-Pol | 65° / 65° | 15.0 / 15.0 dBi | Variable Tilt

Bottom View of Antenna

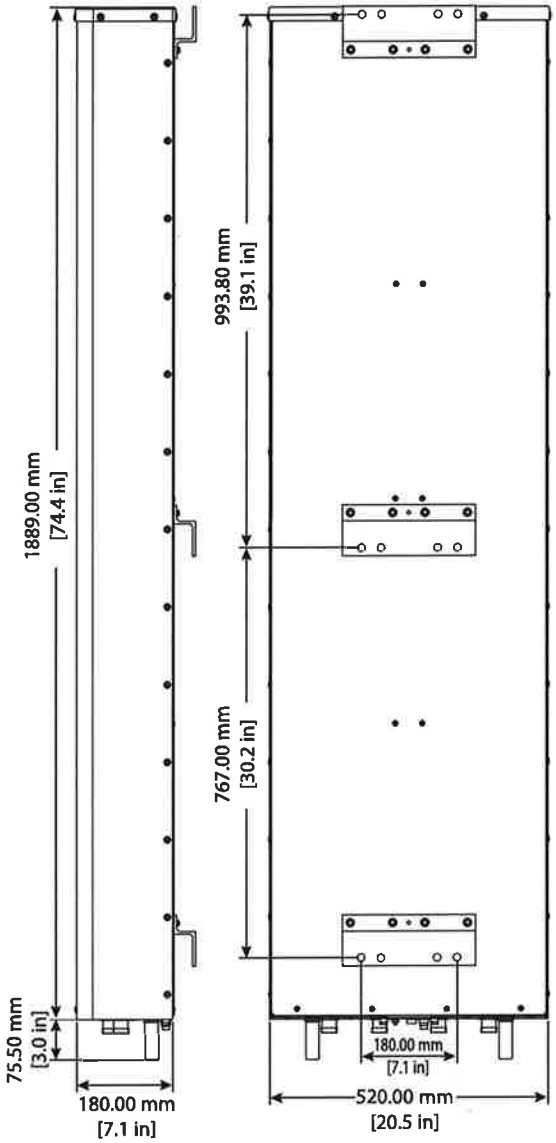


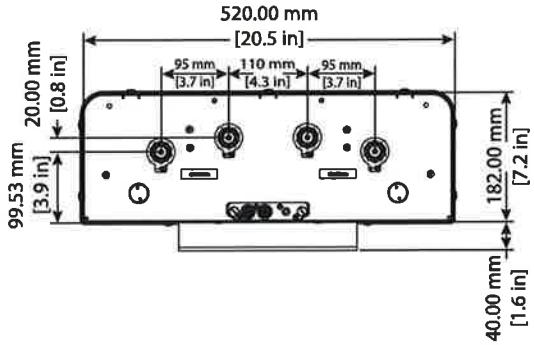
Location of the MDCU or MDDU for RET Control *(MDCU shown)*

Tilt indicators covered by transparent caps.
Manual adjustment is accessed by removing the caps.
Knob colors are the same as the connectors.

In order to operate RET control, the transparent caps covering the tilt adjustment indicators must be engaged and locked. Do not cut them from the antenna.

Dimensions

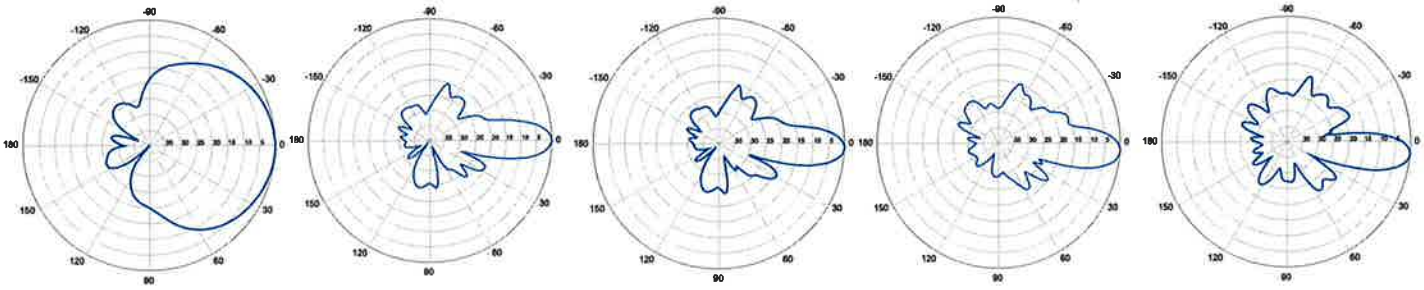




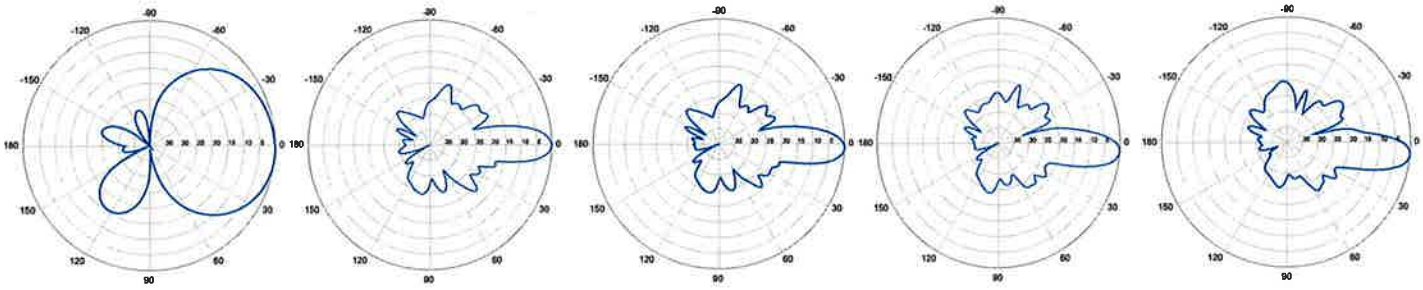
QUAD656C0000x

Twin Band | Quad Port | Panel Antenna | (2x) X-Pol | 65° / 65° | 15.0 / 15.0 dBi | Variable Tilt

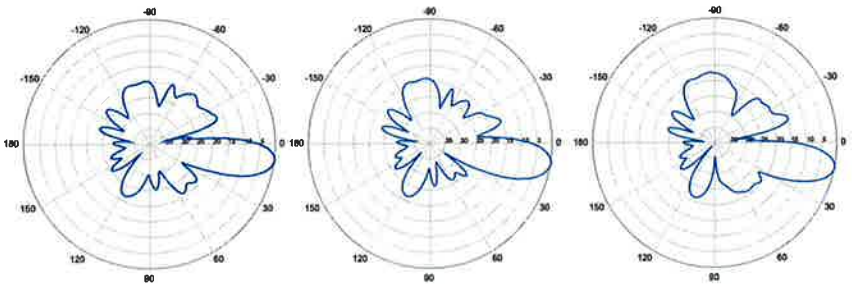
696-900 MHz



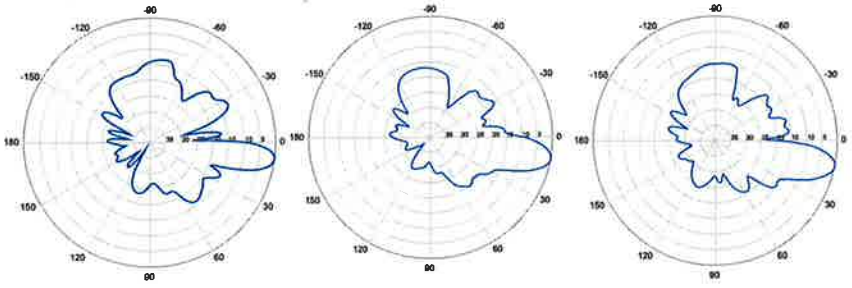
Horizontal | 750 MHz | 0° | Vertical | 750 MHz | 2° | Vertical | 750 MHz | 4° | Vertical | 750 MHz | 6° | Vertical | 750 MHz



Horizontal | 850 MHz | 0° | Vertical | 850 MHz | 2° | Vertical | 850 MHz | 4° | Vertical | 850 MHz | 6° | Vertical | 850 MHz



8° | Vertical | 750 MHz | 10° | Vertical | 750 MHz | 12° | Vertical | 750 MHz



8° | Vertical | 850 MHz | 10° | Vertical | 850 MHz | 12° | Vertical | 850 MHz

ALCATEL-LUCENT B13 RRH4X30-4R

Alcatel-Lucent B13 Remote Radio Head 4x30-4R 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.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B13 RRH4x30-4R allows operators to have a compact radio solution to deploy LTE in the 700U band (700 MHz, 3GPP band 13), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B13 RRH4x30-4R product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity and up to 10MHz instantaneous bandwidth.

The Alcatel-Lucent B13 RRH4x30-4R is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

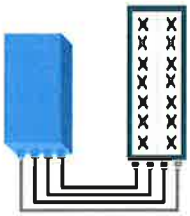
Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 700 MHz band (700U, 3GPP band 13)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- 10MHz 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 700U band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through MIMO4
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



4x30W with 4T4R
or
2x60W with 2T4R

Can be switched between modes via SW w/o site visit

Alcatel·Lucent

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	U700 (C) (3GPP bands 13): DL: 746 - 756 MHz / UL: 777 - 787 MHz
Instantaneous bandwidth - #carriers	10MHz – 1 LTE carrier (in 10MHz occupied bandwidth)
LTE carrier bandwidth	10 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure – RX Diversity scheme	2 dB typ. (<2.5 dB max) – 2 or 4 way Rx diversity
Sizes (HxWxD) in mm (in.) Volume in L Weight in kg (lb) (w/o mounting HW)	550 x 305 x 230 (21.6" x 12.0" x 9") (with solar shield) 38 (with solar shield) 26 (57.2) (with solar shield)
DC voltage range DC power consumption	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 550W typical @100% RF load (In 2Tx or 4TX mode)
Environmental conditions Wind load (@150km/h or 93mph)	-40°C (-40°F) /+55°C (+131°F) IP65 Frontal:<200N / Lateral :<150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5
CPRI ports	2 CPRI ports (HW ready for Rate7, 9.8 Gbps) SFP single mode dual fiber
AISG interfaces	1 AISG2.0 output (RS485) Integrated Smart Bias Tees (x2)
Misc. Interfaces	4 external alarms (1 connector) – 4 RF Tx & 4 RF Rx monitor ports - 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

ALCATEL-LUCENT B25 RRH4X30

Alcatel-Lucent Band 25 Remote Radio Head 4x30W is the new 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.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B25 RRH4x30 allows operators to have a compact radio solution to deploy LTE in the PCS band (1.9 GHz, 3GPP band 25), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B25 RRH4x30 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity, LTE carriers from 3 MHz up to 20 MHz and up to 65 MHz instantaneous bandwidth.

The Alcatel-Lucent B25 RRH4x30 is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

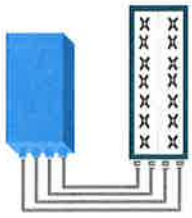
Its compactness and slim design makes the Alcatel-Lucent B25 RRH4x30 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 1.9 GHz band (PCS, 3GPP band 2 & 25)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- Ready for 3, 5, 10, 15 or 20MHz LTE carrier operation with 4Rx Diversity
- Ready to support up to 4 carriers anywhere in 65MHz instantaneous bandwidth
- Convection-cooled (fan-less)
- Supports AISG 2.0 devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in PCS band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Full flexibility for multiple carriers operation over entire PCS spectrum
- Improves downlink spectral efficiency and cell edge throughput through MIMO4
- Increases LTE coverage thanks to 4-way Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options (Pole or Wall)



4x30W with 4T4R
or
2x60W with 2T4R

Can be switched between modes via SW w/o site visit

Alcatel·Lucent

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	3GPP bands 2 & 25 (PCS-G) DL: 1930 - 1995 MHz UL: 1850 - 1915 MHz
Instantaneous bandwidth - #carriers	65MHz – Up to 4 LTE carriers (in 40MHz occupied bandwidth)
LTE carrier bandwidth	3, 5, 10, 15 or 20 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure (3GPP band 2) **RX Diversity scheme**	2.0 dB typ. (<2.5 dB max) 2 or 4 way Rx diversity
Sizes (HxWxD)(w/ solar shield) in mm (in.) **Volume (w/ solar shield) in L** **Weight (w/ solar shield) in kg (lb)**	538 x 304 x 182 (21.2" x 12.0" x 7.2") 30 24 (53)
DC voltage range **DC power consumption**	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 580W typical @100% RF load
Environmental conditions **Wind load (@150km/h or 93mph)**	-40°C (-40°F) /+55°C (+131°F) IP65 Frontal:<200N / Lateral :<150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5 (> 14dB)
CPRI ports	2 CPRI ports (HW ready for Rate7 / 9.8 Gbps)
AISG interfaces	1 AISG2.0 output (RS485), +24V/2A DC power Integrated Smart Bias Tees (x2)
Misc. Interfaces	1 external alarms connector (4 alarms) 4 RF Tx & 4 RF Rx monitor ports 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

ATTACHMENT 2

	General	Power	Density					
Site Name: West Greenwich								
Tower Height: 160ft								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*AT&T-LTE	2	940	150	700	0.0326	0.4667	0.70%	
*AT&T-PCS-LTE	2	1791	150	1900	0.0621	1.0000	0.62%	
*AT&T-UMTS	2	414	150	850	0.0144	0.5667	0.25%	
*AT&T-PCS-UMTS	2	656	150	1900	0.0228	1.0000	0.23%	
*AT&T-GSM	2	414	150	850	0.0144	0.5667	0.25%	
*T-Mobile	1	865	163	700	0.0126	0.4667	0.27%	
*T-Mobile	4	1167	163	1900	0.0681	1.0000	0.68%	
*T-Mobile	2	2334	163	2100	0.0681	1.0000	0.68%	
*Nextel	9	100	130	851	0.0210	0.5673	0.37%	
*Sprint	2	693	122	1900	0.0370	1.0000	0.37%	
*Sprint	1	390	122	850	0.0104	0.5667	0.18%	
*Sprint	2	693	122	2500	0.0370	1.0000	0.37%	
Verizon PCS	**1**	**2281**	**142**	**0.0407**	**1970**	**1.0000**	**4.07%**	
Verizon Cellular	**9**	**276**	**142**	**0.0443**	**869**	**0.5793**	**7.65%**	
Verizon AWS	**1**	**2501**	**142**	**0.0446**	**2145**	**1.0000**	**4.46%**	
Verizon 700	**1**	**887**	**142**	**0.0158**	**746**	**0.4973**	**3.18%**	
								24.34%
* Source: Siting Council								

ATTACHMENT 3

Date: **February 20, 2017**

Charles Trask
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277

JACOBS
Jacobs Engineering Group, Inc.
5449 Bells Ferry Road
Acworth, GA 30102
770-701-2500

Subject: **Structural Analysis Report**

Carrier Designation:

***Verizon Wireless* Co-Locate**
Carrier Site Name: West Greenwich

Crown Castle Designation:

Crown Castle BU Number: 841290
Crown Castle Site Name: GREENWICH NORTH
Crown Castle JDE Job Number: 424710
Crown Castle Work Order Number: 1364630
Crown Castle Application Number: 378661 Rev. 2

Engineering Firm Designation:

Jacobs Engineering Group Inc. Project Number: 1364630

Site Data:

363 RIVERSVILLE ROAD, GREENWICH, Fairfield County, CT
Latitude *41° 3' 58.6"*, Longitude *-73° 40' 17.4"*
160 Foot - Monopole Tower

Dear Charles Trask,

Jacobs Engineering Group Inc. is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 1003470, in accordance with application 378661, revision 2.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Existing + Reserved + Proposed Equipment **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 120 mph converted to a nominal 3-second gust wind speed of 93 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category B and Risk Category II were used in this analysis.

All modifications and equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

We at *Jacobs Engineering Group Inc.* appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Structural analysis prepared by:

Alexander V. Andres
Structural Engineer

Reviewed by:

STATE OF CONNECTICUT
MATTHEW E. WATKINS
No. 29955
LICENSED PROFESSIONAL ENGINEER
02/20/17

Matthew E. Watkins, P.E.
Engineering Project Manager

tnxTower Report - version 7.0.7.0

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 160 ft Monopole tower designed by ENGINEERED ENDEAVORS, INC. in April of 2003. The tower was originally designed for a wind speed of 85 mph per TIA/EIA-222-F.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a 3-second gust wind speed of 93 mph with no ice, 50 mph with 0.75 inch ice thickness and 60 mph under service loads, exposure category B.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
140.0	142.0	3	alcatel lucent	B13 RRH 4X30	-	-	-
		3	alcatel lucent	RRH2X60-AWS			
		3	amphenol	QUAD656C0000G w/ Mount Pipe			
		3	amphenol	WWX063X19G00 w/ Mount Pipe			
		1	commscope	RC2DC-3315-PF-48			

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
160.0	163.0	3	commscope	LNX-6515DS-VTM w/ Mount Pipe	13	1-5/8	1
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe			
		3	ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe			
		3	ericsson	RRUS 11 B12			
		3	rfs celwave	ATMAA1412D-1A20			
	160.0	1	tower mounts	Platform Mount [LP 1201-1]			
153.0	153.0	3	ericsson	TME-RRUS-11	2	3/8	1
		1	raycap	TME-DC6-48-60-18-8F			
		1	tower mounts	Side Arm Mount [SO 102-3]			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
149.0	149.0	6	powerwave technologies	7770.00 w/ Mount Pipe	12 2 2	1-5/8 7/8 3/8	1
		12	powerwave technologies	LGP21401			
		1	tower mounts	Platform Mount [LP 1201-1]			
		3	cci antennas	HPA-65R-BUU-H6 w/ Mount Pipe	2 1	7/8 3/8	2
		3	ericsson	RRUS 11			
		3	ericsson	RRUS 32 B2			
		1	raycap	DC6-48-60-18-8F			
140.0	142.0	1	antel	BXA-70063/8CFx2 w/ Mount Pipe	-	-	3
		2	powerwave technologies	P65-16-XL-M w/ Mount Pipe			
		1	commscope	RC2DC-3315-PF-48	20	1-5/8	1
		3	alcatel lucent	RRH2X60-PCS			
		3	amphenol	WWX063X19G00 w/ Mount Pipe			
		2	decibel	DB844H80E-XY w/ Mount Pipe			
		4	rfs celwave	APL868013-42T0 w/ Mount Pipe			
	140.0	1	tower mounts	Platform Mount [LP 1201-1]			
120.0	122.0	1	tower mounts	Miscellaneous [NA 510-1]	2 3	1/2 1-1/4	1
		3	alcatel lucent	1900MHz RRH			
		3	alcatel lucent	800MHZ RRH			
		3	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe			
	120.0	1	tower mounts	Platform Mount [LP 1201-1]			
119.0	119.0	3	alcatel lucent	TME-1900MHz RRH	-	-	1
		3	alcatel lucent	TME-800MHZ RRH			
		1	tower mounts	Side Arm Mount [SO 102-3]			
72.0	73.0	1	gps	GPS_A	1	1/2	1
	72.0	1	tower mounts	Side Arm Mount [SO 701-1]			

Notes:
1) Existing Equipment
2) Reserved Equipment
3) Equipment To Be Removed; Not Considered In This Analysis

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
160.0	160.0	3	Generic	Panel Directional Antennas	-	-
150.0	150.0	12	Allgon	ALP 11011	-	-
140.0	140.0	12	Allgon	ALP 11011	-	-
130.0	130.0	12	Allgon	ALP 11011	-	-

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	WEI Geotechnical Engineers	5121535	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	WEI Geotechnical Engineers (Mapping)	4468638	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Engineered Endeavors, Inc.	5121536	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Engineered Endeavors, Inc.	5121537	CCISITES

3.1) Analysis Method

tnxTower (version 7.0.7.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
4) Specifications of the weld connecting the tower shaft to the base plate have not been provided to Jacobs and as a result are outside the scope of this report.
5) Porthole details and weld specifications were not provided to Jacobs prior to this analysis and as a result are outside the scope of this report.

This analysis may be affected if any assumptions are not valid or have been made in error. Jacobs Engineering Group Inc. should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	160 - 152	Pole	TP30.62x29x0.1875	1	-4.58	1135.55	7.4	Pass
L2	152 - 111.29	Pole	TP38.86x30.62x0.25	2	-21.59	1934.28	39.4	Pass
L3	111.29 - 77.42	Pole	TP45.09x37.263x0.3125	3	-29.72	2892.94	52.0	Pass
L4	77.42 - 36.46	Pole	TP52.62x43.2359x0.4375	4	-44.17	5028.09	45.5	Pass
L5	36.46 - 0	Pole	TP59x50.3353x0.5	5	-64.47	6604.55	46.0	Pass
							Summary	
						Pole (L3)	52.0	Pass
						Rating =	52.0	Pass

Table 6 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	41.8	Pass
1	Base Plate	0	59.7	Pass
1	Base Foundation Structural	0	47.9	Pass
1	Base Foundation Soil Interaction	0	34.4	Pass
1	Flange Bolts	152	9.7	Pass
1	Flange Plate	152	12.4	Pass

Structure Rating (max from all components) =	59.7%

Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

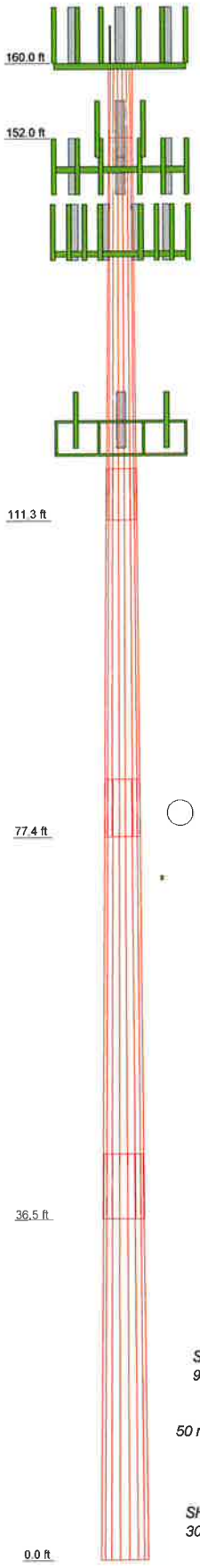
4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the existing, reserved and proposed loads. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	8.00	18	0.1875		29.0000	30.6200		0.5
2	40.71	18	0.2500	5.42	30.6200	38.8600		3.8
3	39.29	18	0.3125	6.17	37.2630	45.0900		5.4
4	47.13	18	0.4375	7.08	43.2359	52.6200		10.6
5	43.54	18	0.5000		50.3353	59.0000		12.7
							A572-65	



ALL REACTIONS ARE FACTORED

AXIAL 102 K
SHEAR 9 K
MOMENT 1079 kip-ft
TORQUE 0 kip-ft
50 mph WIND - 0.7500 in ICE

AXIAL 64 K
SHEAR 30 K
MOMENT 3575 kip-ft
TORQUE 1 kip-ft
REACTIONS - 93 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 5/8x4'	160	RRUS 32 B2	149
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	160	DC6-48-60-18-8F	149
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	160	(2) APL868013-42T0 w/ Mount Pipe	140
		(2) APL868013-42T0 w/ Mount Pipe	140
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	160	WWX063X19G00 w/ Mount Pipe	140
		WWX063X19G00 w/ Mount Pipe	140
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	160	WWX063X19G00 w/ Mount Pipe	140
		(2) DB844H80E-XY w/ Mount Pipe	140
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	160	RC2DC-3315-PF-48	140
		RRH2X60-PCS	140
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	160	RRH2X60-PCS	140
		RRH2X60-PCS	140
LNX-6515DS-VTM w/ Mount Pipe	160	Platform Mount [LP 1201-1]	140
LNX-6515DS-VTM w/ Mount Pipe	160	QUAD656C0000G w/ Mount Pipe	140
LNX-6515DS-VTM w/ Mount Pipe	160	QUAD656C0000G w/ Mount Pipe	140
ATMAA1412D-1A20	160	QUAD656C0000G w/ Mount Pipe	140
ATMAA1412D-1A20	160	WWX063X19G00 w/ Mount Pipe	140
ATMAA1412D-1A20	160	WWX063X19G00 w/ Mount Pipe	140
RRUS 11 B12	160	WWX063X19G00 w/ Mount Pipe	140
RRUS 11 B12	160	B13 RRH 4X30	140
RRUS 11 B12	160	B13 RRH 4X30	140
Platform Mount [LP 1201-1]	160	B13 RRH 4X30	140
6'x2.4" Pipe Mount	160	RRH2X60-AWS	140
6'x2.4" Pipe Mount	160	RRH2X60-AWS	140
6'x2.4" Pipe Mount	160	RRH2X60-AWS	140
TME-DC6-48-60-18-8F	153	RC2DC-3315-PF-48	140
TME-RRUS-11	153	Miscellaneous [NA 510-1]	122
TME-RRUS-11	153	APXVSPP18-C-A20 w/ Mount Pipe	120
TME-RRUS-11	153	APXVSPP18-C-A20 w/ Mount Pipe	120
Side Arm Mount [SO 102-3]	153	1900MHz RRH	120
(2) 7770.00 w/ Mount Pipe	149	1900MHz RRH	120
(2) 7770.00 w/ Mount Pipe	149	1900MHz RRH	120
(2) 7770.00 w/ Mount Pipe	149	800MHZ RRH	120
(4) LGP21401	149	800MHZ RRH	120
(4) LGP21401	149	800MHZ RRH	120
(4) LGP21401	149	APXVSPP18-C-A20 w/ Mount Pipe	120
Platform Mount [LP 1201-1]	149	Platform Mount [LP 1201-1]	120
6'x2.4" Pipe Mount	149	(3) 6'x2.4" Pipe Mount	120
6'x2.4" Pipe Mount	149	(3) 6'x2.4" Pipe Mount	120
6'x2.4" Pipe Mount	149	(3) 6'x2.4" Pipe Mount	120
HPA-65R-BUU-H6 w/ Mount Pipe	149	TME-800MHZ RRH	119
HPA-65R-BUU-H6 w/ Mount Pipe	149	TME-800MHZ RRH	119
HPA-65R-BUU-H6 w/ Mount Pipe	149	TME-800MHZ RRH	119
RRUS 11	149	TME-1900MHz RRH (65MHz)	119
RRUS 11	149	TME-1900MHz RRH (65MHz)	119
RRUS 11	149	TME-1900MHz RRH (65MHz)	119
RRUS 32 B2	149	Side Arm Mount [SO 102-3]	119
RRUS 32 B2	149	Side Arm Mount [SO 701-1]	72
		GPS_A	72

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 93 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: 52%

Jacobs Engineering Group Inc.
5449 Bells Ferry Road
Acworth, GA 30102
Phone: 770-701-2500
FAX: 770-701-2501

Job: GREENWICH NORTH			
Project: BU#841290 WO#1364630			
Client: Crown Castle	Drawn by: Alexander V. Andres	App'd:	
Code: TIA-222-G	Date: 02/20/17	Scale: N	
Path:		Dwg No.	

Tower Input Data

There is a pole section.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

1) Tower is located in Fairfield County, Connecticut.
2) Basic wind speed of 93 mph.
3) Structure Class II.
4) Exposure Category B.
5) Topographic Category 1.
6) Crest Height 0.00 ft.
7) Nominal ice thickness of 0.7500 in.
8) Ice thickness is considered to increase with height.
9) Ice density of 56 pcf.
10) A wind speed of 50 mph is used in combination with ice.
11) Temperature drop of 50 °F.
12) Deflections calculated using a wind speed of 60 mph.
13) A non-linear (P-delta) analysis was used.
14) Pressures are calculated at each section.
15) Stress ratio used in pole design is 1.
16) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	Calculate Redundant Bracing Forces
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans For Wind Area	SR Leg Bolts Resist Compression
√ Use Code Stress Ratios	Use Clear Spans For KL/r	All Leg Panels Have Same Allowable
√ Use Code Safety Factors - Guys	Retension Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	√ Bypass Mast Stability Checks	√ Consider Feed Line Torque
Always Use Max Kz	√ Use Azimuth Dish Coefficients	Include Angle Block Shear Check
Use Special Wind Profile	√ Project Wind Area of Appurt.	Use TIA-222-G Bracing Resist. Exemption
Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Use TIA-222-G Tension Splice Exemption
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	√ Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric		

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	160.00-152.00	8.00	0.00	18	29.0000	30.6200	0.1875	0.7500	A572-65 (65 ksi)
L2	152.00-111.29	40.71	5.42	18	30.6200	38.8600	0.2500	1.0000	A572-65 (65 ksi)
L3	111.29-77.42	39.29	6.17	18	37.2630	45.0900	0.3125	1.2500	A572-65 (65 ksi)
L4	77.42-36.46	47.13	7.08	18	43.2359	52.6200	0.4375	1.7500	A572-65 (65 ksi)
L5	36.46-0.00	43.54		18	50.3353	59.0000	0.5000	2.0000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	29.4474	17.1470	1798.4090	10.2284	14.7320	122.0750	3599.1844	8.5751	4.7740	25.461
	31.0924	18.1111	2119.1346	10.8035	15.5550	136.2353	4241.0576	9.0573	5.0591	26.982
L2	31.0924	24.0986	2808.1400	10.7814	15.5550	180.5302	5619.9750	12.0516	4.9491	19.796
	39.4595	30.6370	5770.1059	13.7066	19.7409	292.2922	11547.8043	15.3214	6.3994	25.597
L3	38.9342	36.6502	6321.9884	13.1174	18.9296	333.9740	12652.2955	18.3286	6.0083	19.226
	45.7856	44.4137	11250.5543	15.8960	22.9057	491.1679	22515.9125	22.2111	7.3858	23.635
L4	45.1503	59.4309	13753.2027	15.1934	21.9638	626.1754	27524.5022	29.7211	6.8395	15.633
	53.4317	72.4619	24928.5533	18.5248	26.7310	932.5723	49889.9082	36.2378	8.4911	19.408
L5	52.5425	79.0886	24815.6294	17.6915	25.5703	970.4854	49663.9118	39.5518	7.9790	15.958
	59.9102	92.8395	40140.4258	20.7675	29.9720	1339.2642	80333.6694	46.4286	9.5040	19.008

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	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	Double Angle Stitch Bolt Spacing Redundants in
L1 160.00-152.00				1	1	1			
L2 152.00-111.29				1	1	1			
L3 111.29-77.42				1	1	1			
L4 77.42-36.46				1	1	1			
L5 36.46-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
Safety Line 3/8	B	Surface Ar (CaAa)	160.00 - 0.00	1	1	0.400 0.400	0.3750		0.22

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
* LDF7-50A(1-5/8")	A	No	Inside Pole	160.00 - 0.00	13	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.82 0.82 0.82
* LDF2-50(3/8")	A	No	Inside Pole	153.00 - 0.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.08 0.08 0.08
* LDF2-50(3/8")	A	No	Inside Pole	149.00 - 0.00	2	No Ice	0.00	0.08

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
						1/2" Ice	0.00	0.08
						1" Ice	0.00	0.08
LDF7-50A(1-5/8")	A	No	Inside Pole	149.00 - 0.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
WR-VG86ST-BRDA(7/8")	A	No	Inside Pole	149.00 - 0.00	2	No Ice	0.00	0.68
						1/2" Ice	0.00	0.68
						1" Ice	0.00	0.68
FB-L98B-034-XXX(3/8)	A	No	Inside Pole	149.00 - 0.00	1	No Ice	0.00	0.06
						1/2" Ice	0.00	0.06
						1" Ice	0.00	0.06
WR-VG86ST-BRDA(7/8")	A	No	Inside Pole	149.00 - 0.00	2	No Ice	0.00	0.68
						1/2" Ice	0.00	0.68
						1" Ice	0.00	0.68
2" Rigid Conduit	A	No	Inside Pole	149.00 - 0.00	1	No Ice	0.00	2.80
						1/2" Ice	0.00	2.80
						1" Ice	0.00	2.80
*								
LDF7-50A(1-5/8")	A	No	Inside Pole	140.00 - 0.00	18	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
HB158-1-08U8-S8J18(1-5/8)	A	No	Inside Pole	140.00 - 0.00	2	No Ice	0.00	1.30
						1/2" Ice	0.00	1.30
						1" Ice	0.00	1.30
*								
LDF4-50A(1/2")	C	No	Inside Pole	120.00 - 0.00	2	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
HB114-1-05U3-S3J(1 1/4)	C	No	Inside Pole	120.00 - 0.00	3	No Ice	0.00	0.90
						1/2" Ice	0.00	0.90
						1" Ice	0.00	0.90
*								
LDF4-50A(1/2)	C	No	Inside Pole	72.00 - 0.00	1	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_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	160.00-152.00	A	0.000	0.000	0.000	0.000	0.09
		B	0.000	0.000	0.300	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L2	152.00-111.29	A	0.000	0.000	0.000	0.000	1.53
		B	0.000	0.000	1.527	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.03
L3	111.29-77.42	A	0.000	0.000	0.000	0.000	1.48
		B	0.000	0.000	1.270	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.10
L4	77.42-36.46	A	0.000	0.000	0.000	0.000	1.79
		B	0.000	0.000	1.536	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.13
L5	36.46-0.00	A	0.000	0.000	0.000	0.000	1.60
		B	0.000	0.000	1.367	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.11

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_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	160.00-152.00	A	1.752	0.000	0.000	0.000	0.000	0.09

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	3.103	0.000	0.04
		C		0.000	0.000	0.000	0.000	0.00
L2	152.00-111.29	A	1.722	0.000	0.000	0.000	0.000	1.53
		B		0.000	0.000	15.546	0.000	0.19
		C		0.000	0.000	0.000	0.000	0.03
L3	111.29-77.42	A	1.666	0.000	0.000	0.000	0.000	1.48
		B		0.000	0.000	12.934	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.10
L4	77.42-36.46	A	1.584	0.000	0.000	0.000	0.000	1.79
		B		0.000	0.000	15.182	0.000	0.18
		C		0.000	0.000	0.000	0.000	0.13
L5	36.46-0.00	A	1.410	0.000	0.000	0.000	0.000	1.60
		B		0.000	0.000	12.918	0.000	0.15
		C		0.000	0.000	0.000	0.000	0.11

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	160.00-152.00	0.0526	0.0171	0.4347	0.1412
L2	152.00-111.29	0.0526	0.0171	0.4418	0.1435
L3	111.29-77.42	0.0526	0.0171	0.4551	0.1479
L4	77.42-36.46	0.0526	0.0171	0.4532	0.1473
L5	36.46-0.00	0.0526	0.0171	0.4427	0.1438

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	1	Safety Line 3/8	152.00 - 160.00	1.0000	1.0000
L2	1	Safety Line 3/8	111.29 - 152.00	1.0000	1.0000
L3	1	Safety Line 3/8	77.42 - 111.29	1.0000	1.0000
L4	1	Safety Line 3/8	36.46 - 77.42	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Lightning Rod 5/8x4'	C	From Leg	0.00	0.00	0.0000	160.00	No Ice	0.25	0.25	0.03
			0.00				1/2" Ice	0.66	0.66	0.03
			2.00				1" Ice	0.97	0.97	0.04

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
160									
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	A	From Leg	4.00 0.00 3.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	6.33 6.78 7.21	5.64 6.43 7.13	0.11 0.17 0.23
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	B	From Leg	4.00 0.00 3.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	6.33 6.78 7.21	5.64 6.43 7.13	0.11 0.17 0.23
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	C	From Leg	4.00 0.00 3.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	6.33 6.78 7.21	5.64 6.43 7.13	0.11 0.17 0.23
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.00 0.00 3.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	6.33 6.78 7.21	5.64 6.43 7.13	0.11 0.17 0.23
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.00 0.00 3.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	6.33 6.78 7.21	5.64 6.43 7.13	0.11 0.17 0.23
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.00 0.00 3.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	6.33 6.78 7.21	5.64 6.43 7.13	0.11 0.17 0.23
LNX-6515DS-VTM w/ Mount Pipe	A	From Leg	4.00 0.00 3.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	11.68 12.40 13.14	9.84 11.37 12.91	0.08 0.17 0.27
LNX-6515DS-VTM w/ Mount Pipe	B	From Leg	4.00 0.00 3.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	11.68 12.40 13.14	9.84 11.37 12.91	0.08 0.17 0.27
LNX-6515DS-VTM w/ Mount Pipe	C	From Leg	4.00 0.00 3.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	11.68 12.40 13.14	9.84 11.37 12.91	0.08 0.17 0.27
ATMAA1412D-1A20	A	From Leg	4.00 0.00 3.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	1.00 1.13 1.26	0.41 0.50 0.59	0.01 0.02 0.03
ATMAA1412D-1A20	B	From Leg	4.00 0.00 3.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	1.00 1.13 1.26	0.41 0.50 0.59	0.01 0.02 0.03
ATMAA1412D-1A20	C	From Leg	4.00 0.00 3.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	1.00 1.13 1.26	0.41 0.50 0.59	0.01 0.02 0.03
RRUS 11 B12	A	From Leg	4.00 0.00 3.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	2.83 3.04 3.26	1.18 1.33 1.48	0.05 0.07 0.10
RRUS 11 B12	B	From Leg	4.00 0.00 3.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	2.83 3.04 3.26	1.18 1.33 1.48	0.05 0.07 0.10
RRUS 11 B12	C	From Leg	4.00 0.00 3.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	2.83 3.04 3.26	1.18 1.33 1.48	0.05 0.07 0.10
Platform Mount [LP 1201-1]	C	None		0.0000	160.00	No Ice 1/2" Ice 1" Ice	23.10 26.80 30.50	23.10 26.80 30.50	2.10 2.50 2.90

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
6'x2.4" Pipe Mount	A	From Leg	4.00 0.00 0.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	1.44 1.93 2.30	1.44 1.93 2.30	0.03 0.04 0.06
6'x2.4" Pipe Mount	B	From Leg	4.00 0.00 0.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	1.44 1.93 2.30	1.44 1.93 2.30	0.03 0.04 0.06
6'x2.4" Pipe Mount	C	From Leg	4.00 0.00 0.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	1.44 1.93 2.30	1.44 1.93 2.30	0.03 0.04 0.06
153 TME-DC6-48-60-18-8F	A	From Leg	1.50 0.00 0.00	0.0000	153.00	No Ice 1/2" Ice 1" Ice	1.47 1.67 1.88	1.47 1.67 1.88	0.02 0.04 0.06
TME-RRUS-11	A	From Leg	1.50 0.00 0.00	0.0000	153.00	No Ice 1/2" Ice 1" Ice	2.85 3.08 3.32	1.53 1.81 2.10	0.05 0.08 0.11
TME-RRUS-11	B	From Leg	1.50 0.00 0.00	0.0000	153.00	No Ice 1/2" Ice 1" Ice	2.85 3.08 3.32	1.53 1.81 2.10	0.05 0.08 0.11
TME-RRUS-11	C	From Leg	1.50 0.00 0.00	0.0000	153.00	No Ice 1/2" Ice 1" Ice	2.85 3.08 3.32	1.53 1.81 2.10	0.05 0.08 0.11
Side Arm Mount [SO 102-3]	C	None		0.0000	153.00	No Ice 1/2" Ice 1" Ice	3.00 3.48 3.96	3.00 3.48 3.96	0.08 0.11 0.14
149 (2) 7770.00 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	5.75 6.18 6.61	4.25 5.01 5.71	0.06 0.10 0.16
(2) 7770.00 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	5.75 6.18 6.61	4.25 5.01 5.71	0.06 0.10 0.16
(2) 7770.00 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	5.75 6.18 6.61	4.25 5.01 5.71	0.06 0.10 0.16
(4) LGP21401	A	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	1.10 1.24 1.38	0.21 0.27 0.35	0.01 0.02 0.03
(4) LGP21401	B	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	1.10 1.24 1.38	0.21 0.27 0.35	0.01 0.02 0.03
(4) LGP21401	C	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	1.10 1.24 1.38	0.21 0.27 0.35	0.01 0.02 0.03
Platform Mount [LP 1201-1]	C	None		0.0000	149.00	No Ice 1/2" Ice 1" Ice	23.10 26.80 30.50	23.10 26.80 30.50	2.10 2.50 2.90
6'x2.4" Pipe Mount	A	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice	1.44 1.93 2.30	1.44 1.93 2.30	0.03 0.04 0.06

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						1" Ice			
6'x2.4" Pipe Mount	B	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	1.44 1.93 2.30	1.44 1.93 2.30	0.03 0.04 0.06
6'x2.4" Pipe Mount	C	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	1.44 1.93 2.30	1.44 1.93 2.30	0.03 0.04 0.06
HPA-65R-BUU-H6 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	9.90 10.47 11.01	8.11 9.30 10.21	0.08 0.16 0.25
HPA-65R-BUU-H6 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	9.90 10.47 11.01	8.11 9.30 10.21	0.08 0.16 0.25
HPA-65R-BUU-H6 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	9.90 10.47 11.01	8.11 9.30 10.21	0.08 0.16 0.25
RRUS 11	A	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	2.78 2.99 3.21	1.19 1.33 1.49	0.05 0.07 0.10
RRUS 11	B	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	2.78 2.99 3.21	1.19 1.33 1.49	0.05 0.07 0.10
RRUS 11	C	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	2.78 2.99 3.21	1.19 1.33 1.49	0.05 0.07 0.10
RRUS 32 B2	A	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B2	B	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B2	C	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
DC6-48-60-18-8F	A	From Leg	4.00 0.00 0.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice	0.92 1.46 1.64	0.92 1.46 1.64	0.03 0.05 0.07
140									
(2) APL868013-42T0 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	140.00	No Ice 1/2" Ice 1" Ice	3.10 3.48 3.85	4.80 5.42 6.04	0.02 0.06 0.11
(2) APL868013-42T0 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	140.00	No Ice 1/2" Ice 1" Ice	3.10 3.48 3.85	4.80 5.42 6.04	0.02 0.06 0.11
WWX063X19G00 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	140.00	No Ice 1/2" Ice 1" Ice	8.84 9.41 9.96	7.28 8.50 9.47	0.06 0.13 0.21
WWX063X19G00 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	140.00	No Ice 1/2" Ice	8.84 9.41 9.96	7.28 8.50 9.47	0.06 0.13 0.21

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
WWX063X19G00 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	8.84 9.41 9.96	7.28 8.50 9.47	0.06 0.13 0.21
(2) DB844H80E-XY w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	3.30 3.67 4.03	4.80 5.42 6.04	0.03 0.07 0.12
RC2DC-3315-PF-48	A	From Leg	4.00 0.00 2.00	0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	3.79 4.04 4.30	2.51 2.72 2.94	0.03 0.06 0.10
RRH2X60-PCS	A	From Leg	4.00 0.00 2.00	0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	2.20 2.39 2.59	1.72 1.90 2.09	0.06 0.08 0.10
RRH2X60-PCS	B	From Leg	4.00 0.00 2.00	0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	2.20 2.39 2.59	1.72 1.90 2.09	0.06 0.08 0.10
RRH2X60-PCS	C	From Leg	4.00 0.00 2.00	0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	2.20 2.39 2.59	1.72 1.90 2.09	0.06 0.08 0.10
Platform Mount [LP 1201-1]	C	None		0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	23.10 26.80 30.50	23.10 26.80 30.50	2.10 2.50 2.90
QUAD656C0000G w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	13.48 14.10 14.68	7.33 8.55 9.50	0.08 0.17 0.28
QUAD656C0000G w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	13.48 14.10 14.68	7.33 8.55 9.50	0.08 0.17 0.28
QUAD656C0000G w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	13.48 14.10 14.68	7.33 8.55 9.50	0.08 0.17 0.28
WWX063X19G00 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	8.84 9.41 9.96	7.28 8.50 9.47	0.06 0.13 0.21
WWX063X19G00 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	8.84 9.41 9.96	7.28 8.50 9.47	0.06 0.13 0.21
WWX063X19G00 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	8.84 9.41 9.96	7.28 8.50 9.47	0.06 0.13 0.21
B13 RRH 4X30	A	From Leg	4.00 0.00 2.00	0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	2.06 2.24 2.43	1.32 1.48 1.64	0.06 0.07 0.09
B13 RRH 4X30	B	From Leg	4.00 0.00 2.00	0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	2.06 2.24 2.43	1.32 1.48 1.64	0.06 0.07 0.09
B13 RRH 4X30	C	From Leg	4.00 0.00 2.00	0.0000	140.00	1" Ice No Ice 1/2" Ice 1" Ice	2.06 2.24 2.43	1.32 1.48 1.64	0.06 0.07 0.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
RRH2X60-AWS	A	From Leg	4.00	0.00	0.0000	140.00	No Ice	3.50	1.82	0.06
							1/2" Ice	3.76	2.05	0.08
				2.00			1" Ice	4.03	2.29	0.11
RRH2X60-AWS	B	From Leg	4.00	0.00	0.0000	140.00	No Ice	3.50	1.82	0.06
							1/2" Ice	3.76	2.05	0.08
				2.00			1" Ice	4.03	2.29	0.11
RRH2X60-AWS	C	From Leg	4.00	0.00	0.0000	140.00	No Ice	3.50	1.82	0.06
							1/2" Ice	3.76	2.05	0.08
				2.00			1" Ice	4.03	2.29	0.11
RC2DC-3315-PF-48	C	From Leg	4.00	0.00	0.0000	140.00	No Ice	3.79	2.51	0.03
							1/2" Ice	4.04	2.72	0.06
				2.00			1" Ice	4.30	2.94	0.10
120										
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.00	0.00	0.0000	120.00	No Ice	8.26	6.95	0.08
							1/2" Ice	8.82	8.13	0.15
				2.00			1" Ice	9.35	9.02	0.23
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.00	0.00	0.0000	120.00	No Ice	8.26	6.95	0.08
							1/2" Ice	8.82	8.13	0.15
				2.00			1" Ice	9.35	9.02	0.23
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.00	0.00	0.0000	120.00	No Ice	8.26	6.95	0.08
							1/2" Ice	8.82	8.13	0.15
				2.00			1" Ice	9.35	9.02	0.23
1900MHz RRH	A	From Leg	4.00	0.00	0.0000	120.00	No Ice	2.49	3.26	0.04
							1/2" Ice	2.70	3.48	0.08
				2.00			1" Ice	2.91	3.72	0.11
1900MHz RRH	B	From Leg	4.00	0.00	0.0000	120.00	No Ice	2.49	3.26	0.04
							1/2" Ice	2.70	3.48	0.08
				2.00			1" Ice	2.91	3.72	0.11
1900MHz RRH	C	From Leg	4.00	0.00	0.0000	120.00	No Ice	2.49	3.26	0.04
							1/2" Ice	2.70	3.48	0.08
				2.00			1" Ice	2.91	3.72	0.11
800MHZ RRH	A	From Leg	4.00	0.00	0.0000	120.00	No Ice	2.13	1.77	0.05
							1/2" Ice	2.32	1.95	0.07
				2.00			1" Ice	2.51	2.13	0.10
800MHZ RRH	B	From Leg	4.00	0.00	0.0000	120.00	No Ice	2.13	1.77	0.05
							1/2" Ice	2.32	1.95	0.07
				2.00			1" Ice	2.51	2.13	0.10
800MHZ RRH	C	From Leg	4.00	0.00	0.0000	120.00	No Ice	2.13	1.77	0.05
							1/2" Ice	2.32	1.95	0.07
				2.00			1" Ice	2.51	2.13	0.10
Miscellaneous [NA 510-1]	C	None			0.0000	122.00	No Ice	6.00	6.00	0.26
							1/2" Ice	8.50	8.50	0.34
							1" Ice	11.00	11.00	0.42
Platform Mount [LP 1201-1]	C	None			0.0000	120.00	No Ice	23.10	23.10	2.10
							1/2" Ice	26.80	26.80	2.50
							1" Ice	30.50	30.50	2.90
(3) 6'x2.4" Pipe Mount	A	From Leg	4.00	0.00	0.0000	120.00	No Ice	1.44	1.44	0.03
							1/2" Ice	1.93	1.93	0.04
				0.00			1" Ice	2.30	2.30	0.06

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(3) 6'x2.4" Pipe Mount	B	From Leg	4.00 0.00 0.00		0.0000	120.00	No Ice 1/2" Ice 1" Ice	1.44 1.93 2.30	1.44 1.93 2.30	0.03 0.04 0.06
(3) 6'x2.4" Pipe Mount	C	From Leg	4.00 0.00 0.00		0.0000	120.00	No Ice 1/2" Ice 1" Ice	1.44 1.93 2.30	1.44 1.93 2.30	0.03 0.04 0.06
119 TME-800MHZ RRH	A	From Leg	1.50 0.00 0.00		0.0000	119.00	No Ice 1/2" Ice 1" Ice	2.13 2.32 2.51	1.77 1.95 2.13	0.05 0.07 0.10
TME-800MHZ RRH	B	From Leg	1.50 0.00 0.00		0.0000	119.00	No Ice 1/2" Ice 1" Ice	2.13 2.32 2.51	1.77 1.95 2.13	0.05 0.07 0.10
TME-800MHZ RRH	C	From Leg	1.50 0.00 0.00		0.0000	119.00	No Ice 1/2" Ice 1" Ice	2.13 2.32 2.51	1.77 1.95 2.13	0.05 0.07 0.10
TME-1900MHz RRH (65MHz)	A	From Leg	1.50 0.00 0.00		0.0000	119.00	No Ice 1/2" Ice 1" Ice	2.31 2.52 2.73	2.38 2.58 2.79	0.06 0.08 0.11
TME-1900MHz RRH (65MHz)	B	From Leg	1.50 0.00 0.00		0.0000	119.00	No Ice 1/2" Ice 1" Ice	2.31 2.52 2.73	2.38 2.58 2.79	0.06 0.08 0.11
TME-1900MHz RRH (65MHz)	C	From Leg	1.50 0.00 0.00		0.0000	119.00	No Ice 1/2" Ice 1" Ice	2.31 2.52 2.73	2.38 2.58 2.79	0.06 0.08 0.11
Side Arm Mount [SO 102-3]	C	None			0.0000	119.00	No Ice 1/2" Ice 1" Ice	3.00 3.48 3.96	3.00 3.48 3.96	0.08 0.11 0.14
73 Side Arm Mount [SO 701-1]	B	None			0.0000	72.00	No Ice 1/2" Ice 1" Ice	0.85 1.14 1.43	1.67 2.34 3.01	0.07 0.08 0.09
GPS_A	B	From Leg	3.00 0.00 1.00		0.0000	72.00	No Ice 1/2" Ice 1" Ice	0.26 0.32 0.39	0.26 0.32 0.39	0.00 0.00 0.01

Force Totals

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Leg Weight	33.00					
Bracing Weight	0.00					
Total Member Self-Weight	33.00			-0.20	0.20	
Total Weight	53.73			-0.20	0.20	
Wind 0 deg - No Ice		0.01	-18.48	-2148.18	-1.88	-0.22

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Wind 30 deg - No Ice		9.25	-16.02	-1861.45	-1074.95	-0.35
Wind 60 deg - No Ice		16.01	-9.25	-1075.99	-1859.94	-0.38
Wind 90 deg - No Ice		18.48	-0.01	-2.28	-2146.50	-0.30
Wind 120 deg - No Ice		15.99	9.23	1071.99	-1857.86	-0.15
Wind 150 deg - No Ice		9.23	16.00	1858.97	-1071.35	0.04
Wind 180 deg - No Ice		-0.01	18.48	2147.78	2.27	0.22
Wind 210 deg - No Ice		-9.25	16.02	1861.04	1075.35	0.35
Wind 240 deg - No Ice		-16.01	9.25	1075.59	1860.33	0.38
Wind 270 deg - No Ice		-18.48	0.01	1.87	2146.90	0.30
Wind 300 deg - No Ice		-15.99	-9.23	-1072.39	1858.26	0.15
Wind 330 deg - No Ice		-9.23	-16.00	-1859.37	1071.75	-0.04
Member Ice	14.34					
Total Weight Ice	89.15			-0.71	-0.42	
Wind 0 deg - Ice		0.00	-8.99	-999.66	-1.06	-0.09
Wind 30 deg - Ice		4.50	-7.79	-866.15	-500.24	-0.15
Wind 60 deg - Ice		7.78	-4.50	-500.74	-865.49	-0.16
Wind 90 deg - Ice		8.99	-0.00	-1.35	-998.94	-0.14
Wind 120 deg - Ice		7.78	4.49	498.21	-864.84	-0.07
Wind 150 deg - Ice		4.49	7.78	864.08	-499.12	0.01
Wind 180 deg - Ice		-0.00	8.99	998.24	0.22	0.09
Wind 210 deg - Ice		-4.50	7.79	864.73	499.40	0.15
Wind 240 deg - Ice		-7.78	4.50	499.32	864.65	0.16
Wind 270 deg - Ice		-8.99	0.00	-0.07	998.10	0.14
Wind 300 deg - Ice		-7.78	-4.49	-499.63	864.00	0.07
Wind 330 deg - Ice		-4.49	-7.78	-865.51	498.28	-0.01
Total Weight	53.73			-0.20	0.20	
Wind 0 deg - Service		0.01	-6.88	-800.17	-0.51	-0.08
Wind 30 deg - Service		3.45	-5.96	-693.38	-400.15	-0.13
Wind 60 deg - Service		5.96	-3.45	-400.87	-692.49	-0.14
Wind 90 deg - Service		6.88	-0.01	-0.99	-799.21	-0.11
Wind 120 deg - Service		5.96	3.44	399.08	-691.72	-0.06
Wind 150 deg - Service		3.44	5.96	692.17	-398.81	0.02
Wind 180 deg - Service		-0.01	6.88	799.73	1.03	0.08
Wind 210 deg - Service		-3.45	5.96	692.94	400.67	0.13
Wind 240 deg - Service		-5.96	3.45	400.42	693.01	0.14
Wind 270 deg - Service		-6.88	0.01	0.55	799.73	0.11
Wind 300 deg - Service		-5.96	-3.44	-399.53	692.24	0.06
Wind 330 deg - Service		-3.44	-5.96	-692.61	399.33	-0.02

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

Comb. No.	Description
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
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	160 - 152	Pole	Max Tension	26	0.00	0.00	0.00
			Max. Compression	26	-10.57	0.02	0.22
			Max. Mx	20	-4.58	49.39	0.04
			Max. My	2	-4.58	0.03	49.40
			Max. Vy	20	-5.62	49.39	0.04
			Max. Vx	2	-5.62	0.03	49.40
			Max. Torque	20			-0.13
L2	152 - 111.29	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.53	0.68	1.12
			Max. Mx	20	-21.59	570.75	-0.37
			Max. My	2	-21.59	-0.33	571.09
			Max. Vy	20	-21.22	570.75	-0.37
			Max. Vx	2	-21.24	-0.33	571.09
			Max. Torque	19			-0.63
L3	111.29 - 77.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.93	0.43	1.03
			Max. Mx	20	-29.73	1317.93	-1.18
			Max. My	2	-29.72	-1.15	1318.79
			Max. Vy	20	-23.84	1317.93	-1.18
			Max. Vx	2	-23.85	-1.15	1318.79
			Max. Torque	19			-0.63
L4	77.42 - 36.46	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-76.70	0.01	0.88
			Max. Mx	20	-44.17	2337.66	-2.16
			Max. My	2	-44.17	-2.14	2339.14
			Max. Vy	20	-26.93	2337.66	-2.16
			Max. Vx	2	-26.95	-2.14	2339.14
			Max. Torque	19			-0.63
L5	36.46 - 0	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-101.68	-0.38	0.75
			Max. Mx	20	-64.47	3570.68	-3.20
			Max. My	2	-64.47	-3.20	3572.81
			Max. Vy	20	-29.59	3570.68	-3.20
			Max. Vx	2	-29.60	-3.20	3572.81
			Max. Torque	19			-0.59

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	27	101.68	-0.00	8.99
	Max. H_x	20	64.48	29.56	-0.02
	Max. H_z	2	64.48	-0.02	29.58
	Max. M_x	2	3572.81	-0.02	29.58
	Max. M_z	8	3570.16	-29.56	0.02
	Max. Torsion	7	0.59	-25.61	14.81
	Min. Vert	11	48.36	-25.59	-14.77
	Min. H_x	8	64.48	-29.56	0.02
	Min. H_z	14	64.48	0.02	-29.58
	Min. M_x	14	-3572.29	0.02	-29.58
	Min. M_z	20	-3570.68	29.56	-0.02
	Min. Torsion	19	-0.59	25.61	-14.81

Tower Mast Reaction Summary

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
Dead Only	53.73	0.00	0.00	-0.20	0.20	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	64.48	0.02	-29.58	-3572.81	-3.20	-0.35
0.9 Dead+1.6 Wind 0 deg - No Ice	48.36	0.02	-29.58	-3537.00	-3.24	-0.35
1.2 Dead+1.6 Wind 30 deg - No Ice	64.48	14.80	-25.62	-3095.92	-1787.95	-0.54
0.9 Dead+1.6 Wind 30 deg - No Ice	48.36	14.80	-25.62	-3064.87	-1770.13	-0.54
1.2 Dead+1.6 Wind 60 deg - No Ice	64.48	25.61	-14.81	-1789.53	-3093.55	-0.59
0.9 Dead+1.6 Wind 60 deg - No Ice	48.36	25.61	-14.81	-1771.56	-3062.67	-0.59
1.2 Dead+1.6 Wind 90 deg - No Ice	64.48	29.56	-0.02	-3.72	-3570.16	-0.48
0.9 Dead+1.6 Wind 90 deg - No Ice	48.36	29.56	-0.02	-3.61	-3534.51	-0.48
1.2 Dead+1.6 Wind 120 deg - No Ice	64.48	25.59	14.77	1783.03	-3090.10	-0.24
0.9 Dead+1.6 Wind 120 deg - No Ice	48.36	25.59	14.77	1765.26	-3059.25	-0.24
1.2 Dead+1.6 Wind 150 deg - No Ice	64.48	14.76	25.60	3091.95	-1781.96	0.06
0.9 Dead+1.6 Wind 150 deg - No Ice	48.36	14.76	25.60	3061.07	-1764.20	0.06
1.2 Dead+1.6 Wind 180 deg - No Ice	64.48	-0.02	29.58	3572.29	3.72	0.35
0.9 Dead+1.6 Wind 180 deg - No Ice	48.36	-0.02	29.58	3536.62	3.61	0.35
1.2 Dead+1.6 Wind 210 deg - No Ice	64.48	-14.80	25.62	3095.40	1788.47	0.54

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
0.9 Dead+1.6 Wind 210 deg - No Ice	48.36	-14.80	25.62	3064.49	1770.50	0.54
1.2 Dead+1.6 Wind 240 deg - No Ice	64.48	-25.61	14.81	1789.02	3094.07	0.59
0.9 Dead+1.6 Wind 240 deg - No Ice	48.36	-25.61	14.81	1771.18	3063.04	0.59
1.2 Dead+1.6 Wind 270 deg - No Ice	64.48	-29.56	0.02	3.20	3570.68	0.48
0.9 Dead+1.6 Wind 270 deg - No Ice	48.36	-29.56	0.02	3.23	3534.89	0.48
1.2 Dead+1.6 Wind 300 deg - No Ice	64.48	-25.59	-14.77	-1783.55	3090.62	0.24
0.9 Dead+1.6 Wind 300 deg - No Ice	48.36	-25.59	-14.77	-1765.64	3059.63	0.24
1.2 Dead+1.6 Wind 330 deg - No Ice	64.48	-14.76	-25.60	-3092.46	1782.48	-0.06
0.9 Dead+1.6 Wind 330 deg - No Ice	48.36	-14.76	-25.60	-3061.46	1764.58	-0.06
1.2 Dead+1.0 Ice+1.0 Temp	101.68	0.00	0.00	-0.75	-0.38	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	101.68	0.00	-8.99	-1078.34	-1.04	-0.08
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	101.68	4.50	-7.79	-934.34	-539.43	-0.14
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	101.68	7.79	-4.50	-540.23	-933.38	-0.16
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	101.68	8.99	-0.00	-1.61	-1077.31	-0.13
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	101.68	7.78	4.49	537.20	-932.68	-0.07
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	101.68	4.49	7.78	931.83	-538.22	0.00
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	101.68	-0.00	8.99	1076.53	0.35	0.08
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	101.68	-4.50	7.79	932.53	538.75	0.14
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	101.68	-7.79	4.50	538.41	932.69	0.16
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	101.68	-8.99	0.00	-0.21	1076.63	0.13
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	101.68	-7.78	-4.49	-539.02	931.99	0.07
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	101.68	-4.49	-7.78	-933.64	537.54	-0.00
Dead+Wind 0 deg - Service	53.73	0.01	-6.88	-826.71	-0.59	-0.08
Dead+Wind 30 deg - Service	53.73	3.45	-5.96	-716.38	-413.48	-0.13
Dead+Wind 60 deg - Service	53.73	5.96	-3.45	-414.15	-715.52	-0.14
Dead+Wind 90 deg - Service	53.73	6.88	-0.01	-1.01	-825.79	-0.11
Dead+Wind 120 deg - Service	53.73	5.96	3.44	412.34	-714.72	-0.06
Dead+Wind 150 deg - Service	53.73	3.44	5.96	715.15	-412.09	0.01
Dead+Wind 180 deg - Service	53.73	-0.01	6.88	826.28	1.01	0.08
Dead+Wind 210 deg - Service	53.73	-3.45	5.96	715.95	413.91	0.13
Dead+Wind 240 deg - Service	53.73	-5.96	3.45	413.72	715.95	0.14
Dead+Wind 270 deg - Service	53.73	-6.88	0.01	0.59	826.21	0.11
Dead+Wind 300 deg - Service	53.73	-5.96	-3.44	-412.77	715.15	0.06
Dead+Wind 330 deg - Service	53.73	-3.44	-5.96	-715.58	412.52	-0.01

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.00	-53.73	0.00	0.00	53.73	0.00	0.000%
2	0.02	-64.48	-29.58	-0.02	64.48	29.58	0.000%
3	0.02	-48.36	-29.58	-0.02	48.36	29.58	0.000%
4	14.80	-64.48	-25.62	-14.80	64.48	25.62	0.000%
5	14.80	-48.36	-25.62	-14.80	48.36	25.62	0.000%
6	25.61	-64.48	-14.81	-25.61	64.48	14.81	0.000%
7	25.61	-48.36	-14.81	-25.61	48.36	14.81	0.000%
8	29.56	-64.48	-0.02	-29.56	64.48	0.02	0.000%
9	29.56	-48.36	-0.02	-29.56	48.36	0.02	0.000%
10	25.59	-64.48	14.77	-25.59	64.48	-14.77	0.000%
11	25.59	-48.36	14.77	-25.59	48.36	-14.77	0.000%
12	14.76	-64.48	25.60	-14.76	64.48	-25.60	0.000%
13	14.76	-48.36	25.60	-14.76	48.36	-25.60	0.000%
14	-0.02	-64.48	29.58	0.02	64.48	-29.58	0.000%
15	-0.02	-48.36	29.58	0.02	48.36	-29.58	0.000%
16	-14.80	-64.48	25.62	14.80	64.48	-25.62	0.000%
17	-14.80	-48.36	25.62	14.80	48.36	-25.62	0.000%
18	-25.61	-64.48	14.81	25.61	64.48	-14.81	0.000%
19	-25.61	-48.36	14.81	25.61	48.36	-14.81	0.000%
20	-29.56	-64.48	0.02	29.56	64.48	-0.02	0.000%
21	-29.56	-48.36	0.02	29.56	48.36	-0.02	0.000%
22	-25.59	-64.48	-14.77	25.59	64.48	14.77	0.000%
23	-25.59	-48.36	-14.77	25.59	48.36	14.77	0.000%
24	-14.76	-64.48	-25.60	14.76	64.48	25.60	0.000%
25	-14.76	-48.36	-25.60	14.76	48.36	25.60	0.000%
26	0.00	-101.68	0.00	0.00	101.68	0.00	0.000%
27	0.00	-101.68	-8.99	-0.00	101.68	8.99	0.000%
28	4.50	-101.68	-7.79	-4.50	101.68	7.79	0.000%
29	7.78	-101.68	-4.50	-7.79	101.68	4.50	0.000%
30	8.99	-101.68	-0.00	-8.99	101.68	0.00	0.000%
31	7.78	-101.68	4.49	-7.78	101.68	-4.49	0.000%
32	4.49	-101.68	7.78	-4.49	101.68	-7.78	0.000%
33	-0.00	-101.68	8.99	0.00	101.68	-8.99	0.000%
34	-4.50	-101.68	7.79	4.50	101.68	-7.79	0.000%
35	-7.78	-101.68	4.50	7.79	101.68	-4.50	0.000%
36	-8.99	-101.68	0.00	8.99	101.68	-0.00	0.000%
37	-7.78	-101.68	-4.49	7.78	101.68	4.49	0.000%
38	-4.49	-101.68	-7.78	4.49	101.68	7.78	0.000%
39	0.01	-53.73	-6.88	-0.01	53.73	6.88	0.000%
40	3.45	-53.73	-5.96	-3.45	53.73	5.96	0.000%
41	5.96	-53.73	-3.45	-5.96	53.73	3.45	0.000%
42	6.88	-53.73	-0.01	-6.88	53.73	0.01	0.000%
43	5.96	-53.73	3.44	-5.96	53.73	-3.44	0.000%
44	3.44	-53.73	5.96	-3.44	53.73	-5.96	0.000%
45	-0.01	-53.73	6.88	0.01	53.73	-6.88	0.000%
46	-3.45	-53.73	5.96	3.45	53.73	-5.96	0.000%
47	-5.96	-53.73	3.45	5.96	53.73	-3.45	0.000%
48	-6.88	-53.73	0.01	6.88	53.73	-0.01	0.000%
49	-5.96	-53.73	-3.44	5.96	53.73	3.44	0.000%
50	-3.44	-53.73	-5.96	3.44	53.73	5.96	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00032214
3	Yes	4	0.00000001	0.00018090
4	Yes	5	0.00000001	0.00067525
5	Yes	5	0.00000001	0.00032421
6	Yes	5	0.00000001	0.00069321
7	Yes	5	0.00000001	0.00033348
8	Yes	4	0.00000001	0.00043952
9	Yes	4	0.00000001	0.00027127
10	Yes	5	0.00000001	0.00067539

11	Yes	5	0.00000001	0.00032466
12	Yes	5	0.00000001	0.00067868
13	Yes	5	0.00000001	0.00032633
14	Yes	4	0.00000001	0.00036644
15	Yes	4	0.00000001	0.00021557
16	Yes	5	0.00000001	0.00069251
17	Yes	5	0.00000001	0.00033310
18	Yes	5	0.00000001	0.00067432
19	Yes	5	0.00000001	0.00032375
20	Yes	4	0.00000001	0.00038742
21	Yes	4	0.00000001	0.00023275
22	Yes	5	0.00000001	0.00068451
23	Yes	5	0.00000001	0.00032916
24	Yes	5	0.00000001	0.00068145
25	Yes	5	0.00000001	0.00032757
26	Yes	4	0.00000001	0.00000001
27	Yes	5	0.00000001	0.00036610
28	Yes	5	0.00000001	0.00044138
29	Yes	5	0.00000001	0.00044287
30	Yes	5	0.00000001	0.00036485
31	Yes	5	0.00000001	0.00043857
32	Yes	5	0.00000001	0.00043899
33	Yes	5	0.00000001	0.00036437
34	Yes	5	0.00000001	0.00044132
35	Yes	5	0.00000001	0.00043971
36	Yes	5	0.00000001	0.00036537
37	Yes	5	0.00000001	0.00044226
38	Yes	5	0.00000001	0.00044195
39	Yes	4	0.00000001	0.00004981
40	Yes	4	0.00000001	0.00021207
41	Yes	4	0.00000001	0.00022922
42	Yes	4	0.00000001	0.00005154
43	Yes	4	0.00000001	0.00021397
44	Yes	4	0.00000001	0.00021685
45	Yes	4	0.00000001	0.00004996
46	Yes	4	0.00000001	0.00022839
47	Yes	4	0.00000001	0.00021142
48	Yes	4	0.00000001	0.00005132
49	Yes	4	0.00000001	0.00022281
50	Yes	4	0.00000001	0.00021974

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	160 - 152	16.061	40	0.8740	0.0007
L2	152 - 111.29	14.602	40	0.8664	0.0007
L3	116.71 - 77.42	8.605	40	0.7194	0.0004
L4	83.59 - 36.46	4.320	40	0.4899	0.0002
L5	43.54 - 0	1.177	40	0.2428	0.0001

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
160.00	Lightning Rod 5/8x4'	40	16.061	0.8740	0.0007	62554
153.00	TME-DC6-48-60-18-8F	40	14.784	0.8677	0.0007	45175
149.00	(2) 7770.00 w/ Mount Pipe	40	14.059	0.8612	0.0007	30184
140.00	(2) APL868013-42T0 w/ Mount Pipe	40	12.454	0.8362	0.0006	17935
122.00	Miscellaneous [NA 510-1]	40	9.428	0.7513	0.0004	9904
120.00	APXVSPP18-C-A20 w/ Mount	40	9.113	0.7395	0.0004	9442

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
	Pipe					
119.00	TME-800MHZ RRH	40	8.957	0.7335	0.0004	9245
72.00	Side Arm Mount [SO 701-1]	40	3.175	0.4132	0.0001	8534

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	160 - 152	69.471	4	3.7835	0.0031
L2	152 - 111.29	63.161	4	3.7504	0.0031
L3	116.71 - 77.42	37.227	4	3.1146	0.0016
L4	83.59 - 36.46	18.690	4	2.1205	0.0007
L5	43.54 - 0	5.088	4	1.0504	0.0003

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
160.00	Lightning Rod 5/8x4'	4	69.471	3.7835	0.0031	14703
153.00	TME-DC6-48-60-18-8F	4	63.947	3.7563	0.0031	10612
149.00	(2) 7770.00 w/ Mount Pipe	4	60.812	3.7279	0.0031	7074
140.00	(2) APL868013-42T0 w/ Mount Pipe	4	53.872	3.6199	0.0028	4186
122.00	Miscellaneous [NA 510-1]	4	40.785	3.2526	0.0018	2304
120.00	APXVSPP18-C-A20 w/ Mount Pipe	4	39.422	3.2017	0.0017	2196
119.00	TME-800MHZ RRH	4	38.748	3.1757	0.0017	2150
72.00	Side Arm Mount [SO 701-1]	4	13.734	1.7883	0.0006	1975

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	160 - 152 (1)	TP30.62x29x0.1875	8.00	0.00	0.0	18.1111	-4.58	1135.55	0.004
L2	152 - 111.29 (2)	TP38.86x30.62x0.25	40.71	0.00	0.0	29.7665	-21.59	1934.28	0.011
L3	111.29 - 77.42 (3)	TP45.09x37.263x0.3125	39.29	0.00	0.0	43.1945	-29.72	2892.94	0.010
L4	77.42 - 36.46 (4)	TP52.62x43.2359x0.4375	47.13	0.00	0.0	70.5044	-44.17	5028.09	0.009
L5	36.46 - 0 (5)	TP59x50.3353x0.5	43.54	0.00	0.0	92.8395	-64.47	6604.55	0.010

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	160 - 152 (1)	TP30.62x29x0.1875	49.41	711.82	0.069	0.00	711.82	0.000
L2	152 - 111.29 (2)	TP38.86x30.62x0.25	571.35	1493.86	0.382	0.00	1493.86	0.000
L3	111.29 - 77.42 (3)	TP45.09x37.263x0.3125	1319.63	2592.38	0.509	0.00	2592.38	0.000
L4	77.42 - 36.46 (4)	TP52.62x43.2359x0.4375	2340.69	5245.66	0.446	0.00	5245.66	0.000
L5	36.46 - 0 (5)	TP59x50.3353x0.5	3575.12	7939.54	0.450	0.00	7939.54	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	160 - 152 (1)	TP30.62x29x0.1875	5.62	567.77	0.010	0.05	1425.37	0.000
L2	152 - 111.29 (2)	TP38.86x30.62x0.25	21.25	967.14	0.022	0.58	2991.37	0.000
L3	111.29 - 77.42 (3)	TP45.09x37.263x0.3125	23.87	1446.47	0.017	0.58	5191.10	0.000
L4	77.42 - 36.46 (4)	TP52.62x43.2359x0.4375	26.96	2514.05	0.011	0.54	10504.17	0.000
L5	36.46 - 0 (5)	TP59x50.3353x0.5	29.62	3302.27	0.009	0.54	15898.50	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	160 - 152 (1)	0.004	0.069	0.000	0.010	0.000	0.074 ✔	1.000	4.8.2 ✔
L2	152 - 111.29 (2)	0.011	0.382	0.000	0.022	0.000	0.394 ✔	1.000	4.8.2 ✔
L3	111.29 - 77.42 (3)	0.010	0.509	0.000	0.017	0.000	0.520 ✔	1.000	4.8.2 ✔
L4	77.42 - 36.46 (4)	0.009	0.446	0.000	0.011	0.000	0.455 ✔	1.000	4.8.2 ✔
L5	36.46 - 0 (5)	0.010	0.450	0.000	0.009	0.000	0.460 ✔	1.000	4.8.2 ✔

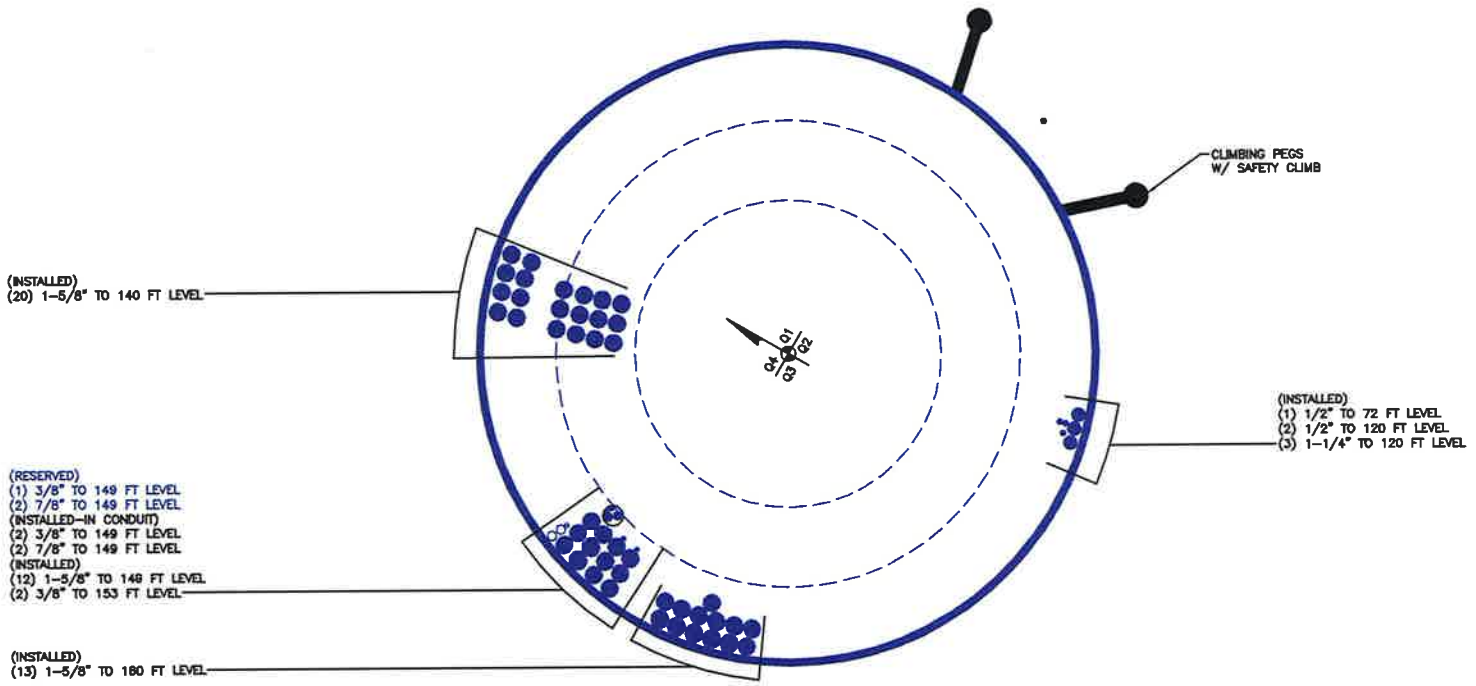
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	160 - 152	Pole	TP30.62x29x0.1875	1	-4.58	1135.55	7.4	Pass
L2	152 - 111.29	Pole	TP38.86x30.62x0.25	2	-21.59	1934.28	39.4	Pass
L3	111.29 - 77.42	Pole	TP45.09x37.263x0.3125	3	-29.72	2892.94	52.0	Pass
L4	77.42 - 36.46	Pole	TP52.62x43.2359x0.4375	4	-44.17	5028.09	45.5	Pass
L5	36.46 - 0	Pole	TP59x50.3353x0.5	5	-64.47	6604.55	46.0	Pass
							Summary	

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
						Pole (L3)	52.0	Pass
						RATING =	**52.0**	**Pass**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 841290 TOWER ID: C_BASELEVEL

CROWN REGION ADDRESS

USA

DRAWN BY:	RJC
CHECKED BY:	
DRAWING DATE:	20/03/14

SITE NUMBER:
SITE NAME:

SITE NAME

GREENWICH NORTH

BUSINESS UNIT NUMBER

841290

SITE ADDRESS

363 RIVERSVILLE ROAD
GREENWICH, CT 06831
FAIRFIELD COUNTY
USA

SHEET TITLE

BASE LEVEL

SHEET NUMBER

A1-0

BASE LEVEL DRAWING	1" = 1'-0"	1

PLOT DATE: 11/2/2016 FILE NAME: 841290_BASELEVEL.dwg

APPENDIX C

ADDITIONAL CALCULATIONS

Stiffened or Unstiffened, Ungrouted, Circular Base Plate - Any Rod Material

TIA Rev G Assumption: Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data

BU#: *841290*
Site Name: *GREENWICH NORTH*
App #: *378661 Rev.2*

Pole Manufacturer:	*Other*

Anchor Rod Data		
Qty:	24	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	69	in

Plate Data		
Diam:	73	in
Thick:	2.25	in
Grade:	60	ksi
Single-Rod B-eff:	7.80	in

Stiffener Data (Welding at both sides)		
Config:	0	*
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:	59	in
Thick:	0.5	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Reactions		
Mu:	3575	ft-kips
Axial, Pu:	64	kips
Shear, Vu:	30	kips
Eta Factor, η	0.5	TIA G (Fig. 4-4)

If No stiffeners, Criteria:	AISC LRFD	<-Only Applcable to Unstiffened Cases

Anchor Rod Results

		Rigid
Max Rod (Cu+ Vu/ń):	108.8 Kips	AISC LRFD
Allowable Axial, Φ*Fu*Anet:	260.0 Kips	φ*Tn
Anchor Rod Stress Ratio:	41.8% Pass	

Base Plate Results

	Flexural Check	Rigid
Base Plate Stress:	32.2 ksi	AISC LRFD
Allowable Plate Stress:	54.0 ksi	φ*Fy
Base Plate Stress Ratio:	59.7% Pass	Y.L. Length:
		35.78

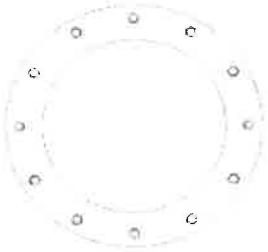
n/a

Stiffener Results

Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results

Pole Punching Shear Check:	n/a



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

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

Stiffened or Unstiffened, Exterior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: *841290*
Site Name: *GREENWICH NORTH*
App #: *378661 Rev.2*

Reactions		
Mu	49.41	ft-kips
Axial, Pu:	4.58	kips
Shear, Vu:	5.62	kips
Elevation:	152	feet

Bolt Threads:
X-Excluded
φVn=φ(0.55*Ab*Fu)
φ=0.75, φ*Vn (kips):
38.88

Pole Manufacturer:	Other

If No stiffeners, Criteria:	TIA G	<-Only Applcable to Unstiffened Cases

Bolt Data			
Qty:	12		
Diameter (in.):	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	100	<-- Disregard	
N/A:	75	<-- Disregard	
Circle (in.):	35		

Plate Data		
Diam:	38	in
Thick, t:	1	in
Grade (Fy):	60	ksi
Strength, Fu:	75	ksi
Single-Rod B-eff:	8.10	in

Stiffener Data (Welding at Both Sides)		
Config:	0	*
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:	30.62	in
Thick:	0.1875	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Flange Bolt Results

Bolt Tension Capacity, φ*Tn,B1:	54.54	kips
Adjusted φ*Tn (due to Vu=Vu/Qty), B:	54.54	kips
Max Bolt directly applied Tu:	5.26	Kips
Min. PL "tc" for B cap. w/o Pry:	0.825	in
Min PL "treq" for actual T w/ Pry:	0.188	in
Min PL "t1" for actual T w/o Pry:	0.256	in
T allowable w/o Prying:	54.54	kips
Prying Force, q:	0.00	kips
Total Bolt Tension=Tu+q:	5.26	kips
Non-Prying Bolt Stress Ratio, Tu/B:	9.7%	Pass

Rigid
φ*Tn
φTn[(1-(Vu/φVn)^2]^0.5

α'<0 case

Exterior Flange Plate Results Flexural Check

Compression Side Plate Stress:	3.9	ksi
Allowable Plate Stress:	54.0	ksi
Compression Plate Stress Ratio:	7.3%	Pass
No Prying		
Tension Side Stress Ratio, (treq/t)^2:	3.5%	Pass

Rigid
TIA G
φ*Fy
Comp. Y.L. Length: 16.95

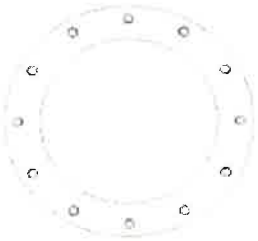
n/a

Stiffener Results

Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results

Pole Punching Shear Check: n/a



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

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

Stiffened or Unstiffened, Interior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: *841290*
Site Name: *GREENWICH NORTH*
App #: *378661 Rev.2*

Manufacturer:	Other

Reactions		
Moment:	49.41	ft-kips
Axial:	4.58	kips
Shear:	5.62	kips
Exterior Flange Run, T+q:	5.26	kips

Bolt Threads:
X-Excluded
φVn=φ(0.55*Ab*Fu)
φ=0.75, φ*Vn (kips):
38.88

Elevation: 152 feet

Bolt Data			
Qty:	12		
Diam:	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	100	<-- Disregard	
N/A:	75	<-- Disregard	
Circle:	35	in	

Plate Data		
Plate Outer Diam:	30.12	in
Plate Inner Diam:	28	in (Hole @ Ctr)
Thick:	1	in
Grade:	60	ksi
Effective Width:	-8.76	in

Stiffener Data (Welding at Both Sides)		
Config:	0	*
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		
Pole OuterDiam:	30.62	in
Thick:	0.25	in
Pole Inner Diam:	30.12	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi

Interior Flange Bolt Results

Maximum Bolt Tension, Tu:	5.3	Kips, Ext. Tu=Interior Tu
Adjusted φ*Tn (due to Vu=Vu/Qty	54.5	Kips
Bolt Stress Ratio:	9.7%	**Pass**

Interior Flange Plate Results Flexural Check

Controlling Bolt Axial Force:	6.0	Kips, Ext. Cu=Interior Cu
Plate Stress:	6.7	ksi
Allowable Plate Stress, φ*Fy:	54.0	ksi
Plate Stress Ratio:	12.4%	**Pass**

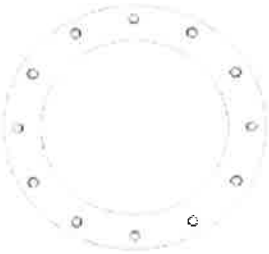
n/a

Stiffener Results

Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results

Pole Punching Shear Check: n/a



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt
** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

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

Site Data

BU#: *841290*
Site Name: *GREENWICH NORTH*
App #: *378661 Rev.2*

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:	0	in
Pier Dist. Above Grade:	6	in
Pad Bearing Depth, D:	9.5	ft
Pad Thickness, T:	4.5	ft
Pad Width=Length, L:	25	ft
Pier Cross Section Shape:	Square	<--Pull Down
Enter Pier Side Width:	7	ft
Concrete Density:	150.0	pcf
Pier Cross Section Area:	49.00	ft^2
Pier Height:	5.50	ft
Soil (above pad) Height:	5.00	ft

Soil Parameters		
Unit Weight, γ:	120.0	pcf
Ultimate Bearing Capacity, qn:	60.00	ksf
Strength Reduct. factor, ϕ:	0.75	
Angle of Friction, Φ:	34.0	degrees
Undrained Shear Strength, Cu:	0.00	ksf
Allowable Bearing: ϕ*qn:	45.00	ksf
Passive Pres. Coeff., Kp	3.54	

Forces/Moments due to Wind and Lateral Soil		
Minimum of (φ*Ultimate Pad Passive Force, Vu):	30.0	kips
Pad Force Location Above D:	2.02	ft
ϕ(Passive Pressure Moment):	60.52	ft-kips
Factored O.T. M(WL), "1.6W":	3875.0	ft-kips
Factored OT (MW-Msoil), M1	3814.48	ft-kips

Resistance due to Foundation Gravity		
Soil Wedge Projection grade, a:	3.37	ft
Sum of Soil Wedges Wt:	46.31	kips
Soil Wedges ecc, K1:	11.79	ft
Ftg+Soil above Pad wt:	807.9	kips
Unfactored (Total ftg-soil Wt):	854.21	kips
1.2D. **No Soil Wedges**	1033.48	kips
0.9D. **With Soil Wedges**	816.79	kips

Resistance due to Cohesion (Vertical)		
ϕ*(1/2*Cu)(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:	64	kips
Factored WL Axial, PWu:	0	kips
Factored WL Shear, Vu:	30	kips
Factored WL Moment, Mu:	3575	ft-kips

Load Factor	Shaft Factored Loads		
1.00	1.2D+1.6W, Pu:	64	kips
0.90	0.9D+1.6W, Pu:	48	kips
1.00	Vu:	30	kips
	Mu:	3575	ft-kips

1.2D+1.6W Load Combination, Bearing Results:

(**No Soil Wedges**) [Reaction+Conc+Soil]	1033.48	P1="1.2D+1.6W" (Kips)
Factored "1.6W" Overturning Moment (MW-Msoil), M1	3814.48	ft-kips

Orthogonal Direction:

ecc1 = M1/P1 =	3.69	ft
Orthogonal qu=	2.63	ksf
qu/ϕ*qn Ratio=	**5.84%**	Pass

Diagonal Direction:

ecc2 = (0.707M1)/P1 =	2.61	ft
Diagonal qu=	2.64	ksf
qu/ϕ*qn Ratio=	**5.87%**	Pass

Run <-- Press Upon Completing All Input

Overturning Stability Check

0.9D+1.6W Load Combination, Bearing Results:

(**w/ Soil Wedges**) [Reaction+Conc+Soil]	816.79	P2="0.9D+1.6W" (Kips)
Factored "1.6W" Overturning Moment (MW-Msoil) - 0.9(M of Wedge + M of Cohesion), M2	3323.03	ft-kips

Orthogonal ecc3 = M2/P2 =	4.07	ft
Ortho Non Bearing Length,NBL=	8.14	ft
Orthogonal qu=	2.16	ksf
Diagonal qu=	2.21	ksf

Max Reaction Moment (ft-kips) so that qu=φ*qn = 100% Capacity Rating			
Actual M:	3575.00		
M Orthogonal:	10402.05	**34.37%**	Pass
M Diagonal:	10402.05	**34.37%**	Pass

Project Name:	GREENWICH NORTH	JACOBS® Jacobs Engineering Group, Inc.	Created On: 06/03/2014
Project Number:	BU#841290		Checked By: DW
Job Number:	WO#1364630		Revised On: 12/01/2016
Date:	02/20/2017		Revision No.: 1.7

Monopole Pad & Pier Foundation

Foundation Parameters

Load		
Code	G	
Axial	64	kips
Shear	30	kips
Moment	3575	k-ft
Soil Unit Weight	120	pcf
Friction Angle	34	
Cohesion	0	psf

Material		
Concrete Strength (F'c)	4000	psi
Concrete Density	150	pcf
Rebar Tensile (Fy)	60	ksi
Clear Cover	3.5	in

Pad		
Thickness	4.5	ft
Bearing Depth	9.5	ft
Width	25	ft
Rebar Size	11	
Rebar Quantity	25	

Pier		
Pier type	Square	
Width	7	ft
Height above Grade	0.5	ft
Rebar Size	9	
Rebar Quantity	44	
Tie Size	4	
Tie C/C Spacing	12	in

Structural Checks

Pad Beam Shear Capacity	1377.1	kips
Pad Beam Shear	424.6	kips
Pad Beam Shear Check	30.8%	Pass

Pad Bending Moment Capacity	8290.3	k-ft
Pad Bending Moment	2088.8	k-ft
Pad Bending Moment Check	25.2%	Pass

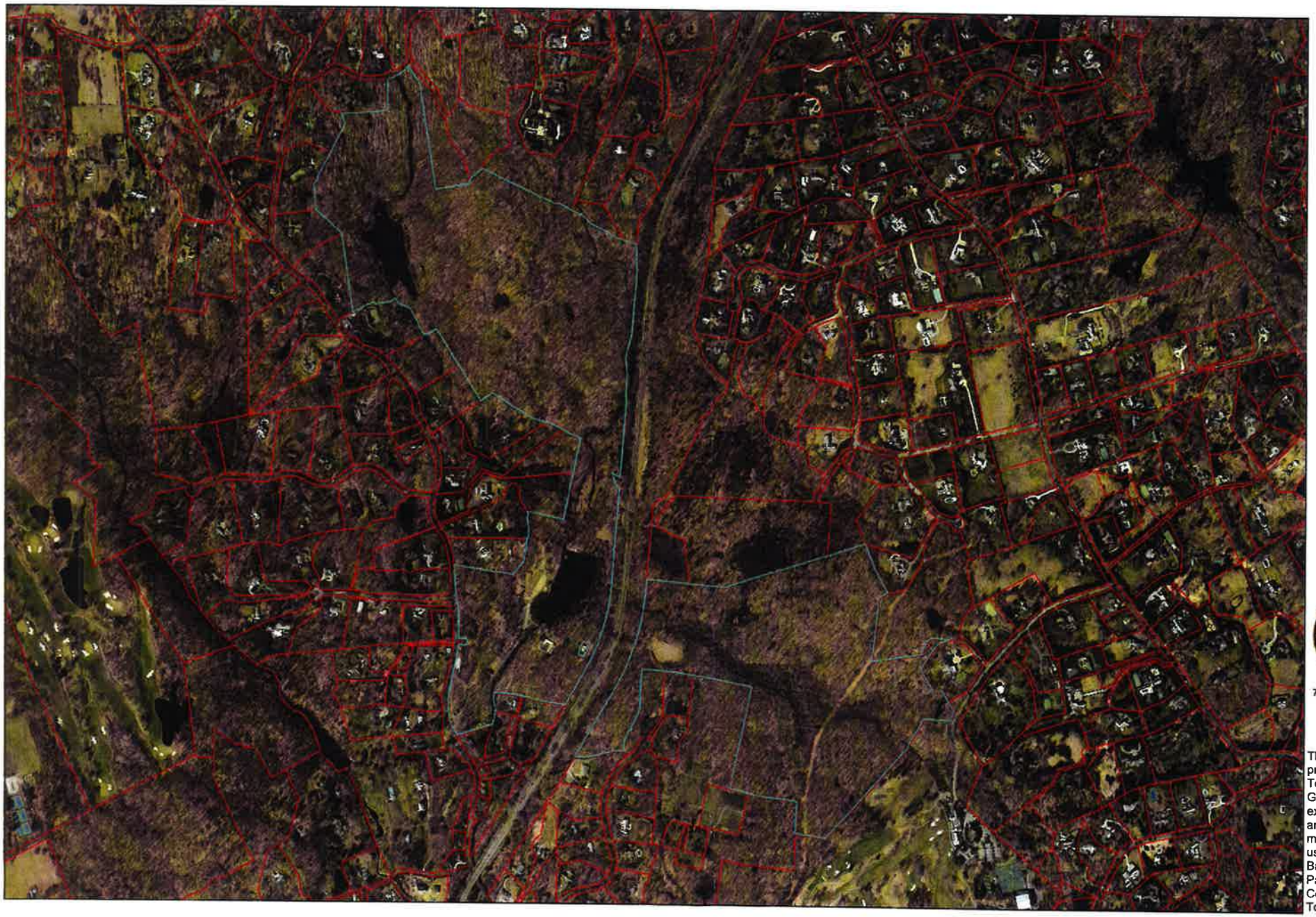
Punching Shear Capacity	4861.4	kips
Punching Shear	498.3	kips
Punching Shear Check	10.2%	Pass

Pad-Pier Bearing Capacity	31187.5	kips
Pad-Pier Bearing	1033.5	kips
Pad-Pier Bearing Check	3.3%	Pass

Pier Beam Shear Capacity	712.5	kips
Pier Beam Shear	30.0	kips
Pier Beam Shear Check	4.2%	Pass

Pier Bending Moment Capacity	7748.9	k-ft
Pier Bending Moment	3712.9	k-ft
Pier Bending Moment Check	47.9%	Pass

ATTACHMENT 4



N

1:9000

1"=750'

7/12/2017 9:22:51 AM

This map was produced from the Town of Greenwich GIS. The Town expressly disclaims any liability that may result from the use of this map. Basemap: 4/2/08. Parcels: 10/1/12. Copyright 2005 Town of Greenwich

Tax ID 081/014 Printed 07/10/2017 Card No. 1 of 1

ADMINISTRATIVE INFORMATION

PARCEL NUMBER
10-4035

Parent Parcel Number

Property Address
RIVERSVILLE ROAD 0363

Neighborhood
162100 MID COUNTRY WEST - DIST 10 [3]

Property Class
699 Exempt Open Space

TAXING DISTRICT INFORMATION

Jurisdiction	57	Greenwich, CT
Area	001	
Corporation	057	
District	10	
Section & Plat	091	
Routing Number	7227E0051	

Site Description

Topography:

Public Utilities:
Electric

Street or Road:

Neighborhood:

Zoning:
RA-2 Single Family 2

Legal Acres:
91.0000

OWNERSHIP

GREENWICH COUNCIL OF BOY SCOUTS INC
63 MASON STREET
GREENWICH, CT 06830

LOT NO PT 25 RIVERSVILLE ES1

TRANSFER OF OWNERSHIP

Date		
01/07/2011	GREENWICH COUNCIL OF BOY SCOUTS INC $0	Bk/Pg: 6081, 35
02/21/1974	NA $0	Bk/Pg: 880, 287

EXEMPT

VALUATION RECORD

Assessment Year		10/01/2005	10/01/2007	10/01/2010	10/01/2015	10/01/2015	10/01/2016
Reason for Change		2005 Reval	2007 List	2010 Reval	2015 Prelim	2015 Final	2016 List
VALUATION	L	7866600	7866600	7162500	3010000	3810000	4710000
Market	B	271100	82200	44600	63500	63500	63500
	T	8137700	7948800	7207100	3073500	3873500	4773500
VALUATION	L	5506620	5506620	5013750	2107000	2667000	3297000
70% Assessed	B	189770	57540	31220	44450	44450	44450
	T	5696390	5564160	5044970	2151450	2711450	3341450

LAND DATA AND CALCULATIONS

	Land Type	Rating Soil ID -or- Actual Frontage	Measured Acreage -or- Effective Frontage	Table Effective Depth	Prod. Factor -or- Depth Factor -or- Square Feet	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Value
1	Residential Land		4.0000		1.00	525000.00	525000.00	2100000		2100000
2	Open Space 1		87.0000		1.00	30000.00	30000.00	2610000		2610000

BP15: 15-1382: 3 antennas: $15,000
BP16: 16-0675 nvc $20,000 replace 3 antennas
DBA: Portion of Seton Boy Scout Reservation southeast of Merritt Parkway. Supporting parcel w/ most improvements on 10-4036, northwest of Merritt.
GEN: Revised NBHD from 180100 to 162100. RCS - 11/30/15.

Permit Number / Type	FilingDate	Est. Cost / Est. SqFt	Field Visit

Supplemental Cards

TRUE TAX VALUE 4710000

Supplemental Cards
TOTAL LAND VALUE 4710000

IMPROVEMENT DATA

PHYSICAL CHARACTERISTICS

01 L.T. Hand Cabin (Winter Camp)

02 3 Latrines w/ hand basin

03 culvert "bridge"

04 4 - 10' x 12' 3-sided shelters

Item Description	Units	Cost	Total

(LCM: 150.00)

SPECIAL FEATURES

Description	Value
01 : C NP	

SUMMARY OF IMPROVEMENTS

ID	Use	Stry Hgt	Const Type	Grade	Year Const	Eff Year	Cond	Base Rate	Feat-ures	Adj Rate	Size or Area	Computed Value	Phys Depr	Obsol Depr	Market Adj	% Comp	Value
01	CABIN	1.00	1	Avg	1985	1985	AV	63.25	Y	94.88	14x 21	24180	13	0	100	100	21000
02	RESTRM	0.00		Low	1985	1985	AV	213.00	N	95.85	50	4790	13	0	100	100	12500
03	BRIDGE	0.00		Low	1985	1985	FR	79.35	N	35.71	18x 16	10280	28	0	100	100	7400
04	CABANA	1.00		Fair	1975	1975	FR	103.50	N	70.38	120	8450	33	0	100	100	22600

Data Collector/Date	Appraiser/Date	Neighborhood	Supplemental Cards
bd 05/23/2007	TOG 10/01/2015	Neigh 162100 AV	TOTAL IMPROVEMENT VALUE 63500

Tax ID 079/009 Printed 07/10/2017 Card No. 1 of 9

ADMINISTRATIVE INFORMATION

PARCEL NUMBER
10-4036

Parent Parcel Number

Property Address
RIVERSVILLE ROAD 0363

Neighborhood
180100 DIST. 10 NO. GREENWICH [3]

Property Class
699 Exempt Open Space

TAXING DISTRICT INFORMATION

Jurisdiction	57	Greenwich, CT
Area	001	
Corporation	057	
District	10	
Section & Plat	089	
Routing Number	7227E0064	

Site Description

Topography:

Public Utilities:
Electric

Street or Road:

Neighborhood:

Zoning:
RA-4 Single Family 4

Legal Acres:
157.5950

OWNERSHIP

GREENWICH COUNCIL OF BOY SCOUTS INC
63 MASON ST
GREENWICH, CT 06830

LOTS 31 30A 32 33 RVRSVLL PRCHCK RDS

TRANSFER OF OWNERSHIP

Date		
10/07/2003	GREENWICH COUNCIL OF BOY SCOUTS INC	Bk/Pg: 4452, 67 $300000
02/02/1959	NA	Bk/Pg: 608, 365 $0

EXEMPT

VALUATION RECORD

Assessment Year		10/01/2008	10/01/2010	10/01/2011	10/01/2012	10/01/2015	10/01/2015	10/01/2016
Reason for Change		2008 List	2010 Reval	2011 List	2012 List	2015 Prelim	2015 Final	2016 List
VALUATION	L	11873400	11158200	11158200	11158200	5007900	5007900	5607900
Market	B	3301900	4126300	4145600	4157100	5015900	5015900	5015900
	T	15175300	15284500	15303800	15315300	10023800	10023800	10623800
VALUATION	L	8311380	7810740	7810740	7810740	3505530	3505530	3925530
70% Assessed	B	2311330	2888410	2901920	2909970	3511130	3511130	3511130
	T	10622710	10699150	10712660	10720710	7016660	7016660	7436660

LAND DATA AND CALCULATIONS

	Land Type	Rating Soil ID -or- Actual Frontage	Measured Acreage -or- Effective Frontage	Table Effective Depth	Prod. Factor -or- Depth Factor -or- Square Feet	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Value
1	Residential Land		4.0000		1.00	250000.00	250000.00	1000000		1000000
2	Open Space 1		153.5950		1.00	30000.00	30000.00	4607900		4607900

BB: 2nd flr apt 5-2-2.5
BP10: 9-3393, 9-3401, 10-0032 Rplcmnt of exstg & add'l ht syst for C02 (Pray bldg) cmplt; 10-0255 new strg shed in vicin. of pool w/ clmbg twr cmplt; 9-2581 cnvrsn of all overhd util (el, ph, cbl) to unddrgrnd cmplt; 9-1967 new Nielson Bldg (cmp ofc, store, nurses ofc, apt) undrwy. 90% cmplt as of 10/10. Rvst.
BP11: 9-1967 Nielson Bldg cmplt w/ 1st flr nurse's ofc, camp ofc, camp store, fpl, 2, 2-fix H lavs; 2nd flr apt w/ 5 rm, 2BR, 2, 3fx and 1, 2fx ba. 11-1051 demo old trading store, nurse's ofc (R02 voided) cmplt.
BP12: 12-2404 Cnstrct Hawk House on slab cmplt (Imp 01 on R03) 12-0118 install 17kw gen for Nielson bldg (C09), and 10kw gen for Pray bldg (C02) cmplt.
CKMP: 4001, 7347A & 7807
DBA: Portion of Seton Boy Scout Reservation w/ most improvements Parcel northwest of Merrit Parkway. Supporting parcel 10-4035

Permit Number / Type	FilingDate	Est. Cost / Est. SqFt	Field Visit

Supplemental Cards

TRUE TAX VALUE 5607900

Supplemental Cards
TOTAL LAND VALUE 5607900

IMPROVEMENT DATA

PHYSICAL CHARACTERISTICS

ROOFING

Built-up

WALLS

	B	1	2	U
Frame				
Brick				
Metal				
Guard				

FRAMING

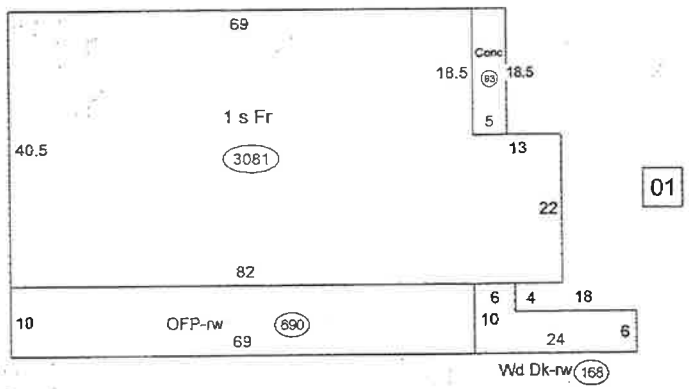
	B	1	2	U
Wd Jst	0	3081	0	0

FINISH

	UF	SF	PO	FD
1	0	0	0	3081
Total	0	0	0	3081

HEATING AND AIR CONDITIONING

	B	1	2	U
Heat	0	3081	0	0



01

Pray Memorial Dining Hall

02

03 10kw genrtr Imp 03

(LCM: 150.00)

SPECIAL FEATURES

Description	Value

SUMMARY OF IMPROVEMENTS

ID	Use	Stry Hgt	Const Type	Grade	Year Const	Eff Year	Cond	Base Rate	Feat-ures	Adj Rate	Size or Area	Computed Value	Phys Depr	Obsol Depr	Market Adj	% Comp	Value
C	FLWSHP	0.00		Avg	1988	2000	GD	0.00	N	0.00	3081	0	0	0	150	100	522400
01	UTLSHED	1.00	1	Avg	1995	1995	GD	44.50	N	66.75	9x 10	6010	0	0	100	100	6000
02	PAVING	0.00	85	Avg	1985	1985	AV	2.90	N	4.35	55000	239250	13	0	100	100	208200
03	MISCFEAT	0.00		Good	2012	2010	AV	0.00	N	0.00	1@ 0	4000	3	SV	100	100	3900

Data Collector/Date: bd 10/25/2012

Appraiser/Date: TOG 10/01/2015

Neighborhood: Neigh 180100 AV

Supplemental Cards

TOTAL IMPROVEMENT VALUE 740500

TRANSFER OF OWNERSHIP

Date

VALUATION RECORD

Assessment Year

Reason for Change

VALUATION

Site Description

LAND DATA AND CALCULATIONS

Land Type	Rating Soil ID -or- Actual Frontage	Measured Acreage -or- Effective Frontage	Table Effective Depth	Prod. Factor -or- Depth Factor -or- Square Feet	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Value

DBA: Portion of Seton Boy Scout Reservation w/ most improvements is southeast of Merrit.
DEPR: C06, C08-2nd flr 1/2 sty; 4.5' bsmt ht C08.
GEN: Situs revised from 411 to 363 Riversville Road. RCS - 11/14/14.
LAND: Land area decreased from 158 ac by 0.22 ac transfer to 10-1446 per Vol 4452, Pg 67. Reduced by additional 8,063 sf for 10/10 per split for telecommunication site (10-3690).
SPLT: Split out 8,063 sq ft (0.1851 ac.) parcel 10-3690 for cellular tower site per 3/4/03 lease agreement (assessor's recds). Land area reduced from 157.7801 acres to 157.5950 acres.
RCS - 10/7/10. Area of site based on GIS config and discussion w/ LPaine, attorney for GwchBSA. See file.
VC: COST

Supplemental Cards
TOTAL LAND VALUE

IMPROVEMENT DATA

PHYSICAL CHARACTERISTICS

ROOFING

Shingle

WALLS

	B	1	2	U
Frame				
Brick				
Metal				
Guard				

FRAMING

	B	1	2	U
Wd Jst	0	1224	0	0

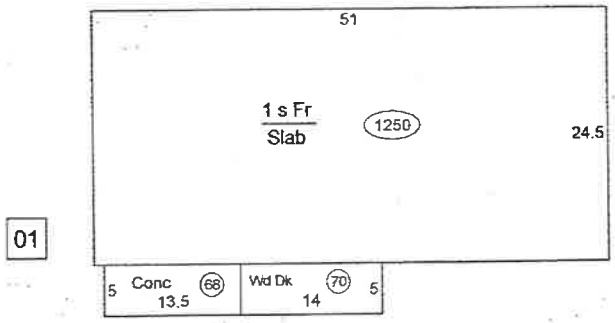
FINISH

	UF	SF	FO	FD
1	0	0	0	1224
Total	0	0	0	1224

HEATING AND AIR CONDITIONING

	B	1	2	U

Gen Activity Bldg



(LCM: 150.00)

SPECIAL FEATURES

Description	Value
C : Remod 2007	
01 : Remod 2007	

SUMMARY OF IMPROVEMENTS

ID	Use	Stry Hgt	Const Type	Grade	Year Const	Eff Year	Cond	Base Rate	Feat-ures	Adj Rate	Size or Area	Computed Value	Phys Depr	Obsol Depr	Market Adj	% Comp	Value
C	CLUBHSE	0.00		Avg	1960	2001	VG	0.00	N	0.00	1250	0	0	0	150	100	215400
01	UTLSHED	1.00	1	Avg	1980	1995	GD	44.50	N	66.75	10x 11	7010	0	0	100	100	7000
02	Bball Ct	0.00		Avg	1995	1995	AV	0.00	N	0.00	0	15000	9	SV	100	100	13700

Data Collector/Date: bd 10/25/2012

Appraiser/Date: TOG 10/01/2015

Neighborhood: Neigh 180100 AV

Supplemental Cards

TOTAL IMPROVEMENT VALUE 236100

ADMINISTRATIVE INFORMATION OWNERSHIP Tax ID 079/009 Printed 07/10/2017 Card No. 3 of 9

TRANSFER OF OWNERSHIP

Date

VALUATION RECORD

Assessment Year

Reason for Change

VALUATION

Site Description

LAND DATA AND CALCULATIONS

Land Type	Rating Soil ID -or- Actual Frontage	Measured Acreage -or- Effective Frontage	Table Effective Depth	Prod. Factor -or- Depth Factor -or- Square Feet	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Value

Supplemental Cards

TOTAL LAND VALUE

IMPROVEMENT DATA

PHYSICAL CHARACTERISTICS

Indian Mill / Lions Den Area plus
Miscellaneous Site Improvements

01 2 - 3-sided camp shelters

02 5 - 3-sided camp shelters

03 Pedestrian Foot Bridge (Steel Fr)

04 2 - Vehicular Bridges

(LCM: 150.00)

SPECIAL FEATURES

Description	Value

SUMMARY OF IMPROVEMENTS

ID	Use	Stry Hgt	Const Type	Grade	Year Const	Eff Year	Cond	Base Rate	Feat-ures	Adj Rate	Size or Area	Computed Value	Phys Depr	Obsol Depr	Market Adj	% Comp	Value
01	CABANA	1.00		Low	1985	1985	AV	103.50	N	46.58	15x 15	10480	13	0	100	100	18200
02	CABANA	1.00		Low	1985	1985	AV	103.50	N	46.58	10x 10	4660	13	0	100	100	16200
03	BRIDGEP	0.00	51	Avg	1985	1985	AV	150.00	N	225.00	5x 25	28130	13	0	100	100	24500
04	BRIDGEMC	0.00	6	Avg+	1995	1995	GD	130.50	N	225.77	10x 21	47410	0	0	100	100	94800

Data Collector/Date	Appraiser/Date	Neighborhood	Supplemental Cards
bd 10/25/2012	TOG 10/01/2015	Neigh 180100 AV	TOTAL IMPROVEMENT VALUE 153700

ADMINISTRATIVE INFORMATION OWNERSHIP Tax ID 079/009 Printed 07/10/2017 Card No. 4 of 9

TRANSFER OF OWNERSHIP

Date

VALUATION RECORD

Assessment Year

Reason for Change

VALUATION

Site Description

LAND DATA AND CALCULATIONS

Land Type	Rating Soil ID -or- Actual Frontage	Measured Acreage -or- Effective Frontage	Table Effective Depth	Prod. Factor -or- Depth Factor -or- Square Feet	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Value

Supplemental Cards
TOTAL LAND VALUE

IMPROVEMENT DATA

PHYSICAL CHARACTERISTICS

ROOFING

Shingle

WALLS

	B	1	2	U
Frame		Yes		
Brick				
Metal				
Guard				

FRAMING

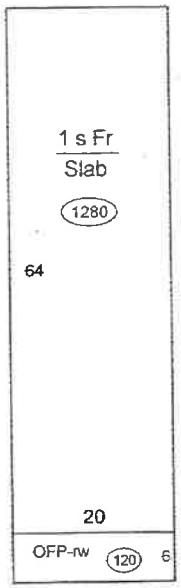
	B	1	2	U
Wd Jst	0	1280	0	0

FINISH

	UF	SF	FO	FD
1	0	0	0	1280
Total	0	0	0	1280

HEATING AND AIR CONDITIONING

	B	1	2	U
Heat	0	1280	0	0



Lion's Lodge

Bunk rms w/ Shwrs/Baths

01

(LCM: 150.00)

SPECIAL FEATURES

Description	Value

SUMMARY OF IMPROVEMENTS

ID	Use	Stry Hgt	Const Type	Grade	Year Const	Eff Year	Cond	Base Rate	Feat-ures	Adj Rate	Size or Area	Computed Value	Phys Depr	Obsol Depr	Market Adj	% Comp	Value
C	CLUBHSE	0.00		Avg	1960	1986	AV	0.00	N	0.00	1280	0	0	0	150	100	83400
01	UTLSHED	1.00	1	Avg	1965	1985	AV	44.50	N	66.75	12x 18	14420	13	0	100	100	12600

Data Collector/Date	Appraiser/Date	Neighborhood	Supplemental Cards
bd 10/25/2012	TOG 10/01/2015	Neigh 180100 AV	TOTAL IMPROVEMENT VALUE 96000

TRANSFER OF OWNERSHIP

Date

VALUATION RECORD

Assessment Year

Reason for Change

VALUATION

Site Description

LAND DATA AND CALCULATIONS

Land Type	Rating Soil ID -or- Actual Frontage	Measured Acreage -or- Effective Frontage	Table Effective Depth	Prod. Factor -or- Depth Factor -or- Square Feet	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Value

Supplemental Cards
TOTAL LAND VALUE

IMPROVEMENT DATA

PHYSICAL CHARACTERISTICS

ROOFING

Built-up

WALLS

	B	1	2	U
Frame		Yes	Yes	
Brick				
Metal				
Guard				

FRAMING

	B	1	2	U
Wd Jst	0	1196	598	0

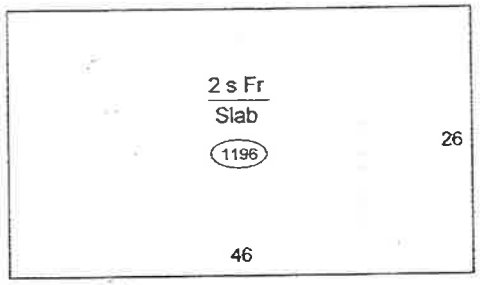
FINISH

	UF	SF	FO	FD
1	0	0	0	1196
2	0	0	0	598
Total	0	0	0	1794

HEATING AND AIR CONDITIONING

	B	1	2	U
Heat	0	1196	598	0

Anderson Maint Bldg



(LCM: 150.00)

SPECIAL FEATURES

Description	Value

SUMMARY OF IMPROVEMENTS

ID	Use	Stry Hgt	Const Type	Grade	Year Const	Eff Year	Cond	Base Rate	Feat-ures	Adj Rate	Size or Area	Computed Value	Phys Depr	Obsol Depr	Market Adj	% Comp	Value
C	STORGAR	0.00		Avg	2001	2002	VG	0.00	N	0.00	1196		0	0	0	150	100	245900

Data Collector/Date: bd 10/25/2012

Appraiser/Date: TOG 10/01/2015

Neighborhood: Neigh 180100 AV

Supplemental Cards

TOTAL IMPROVEMENT VALUE 245900

TRANSFER OF OWNERSHIP

Date

VALUATION RECORD

Assessment Year

Reason for Change

VALUATION

Site Description

LAND DATA AND CALCULATIONS

Land Type	Rating Soil ID -or- Actual Frontage	Measured Acreage -or- Effective Frontage	Table Effective Depth	Prod. Factor -or- Depth Factor -or- Square Feet	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Value

Supplemental Cards
TOTAL LAND VALUE

IMPROVEMENT DATA

PHYSICAL CHARACTERISTICS

ROOFING

Built-up

WALLS

	B	1	2	U
Frame		Yes		
Brick				
Metal				
Guard				

FRAMING

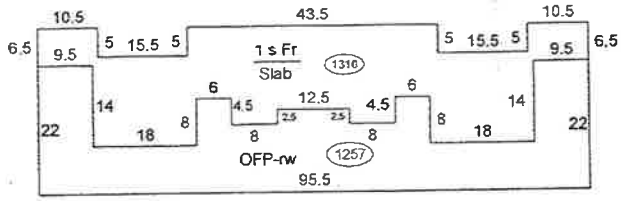
	B	1	2	U
Wd Jst	0	1310	0	0

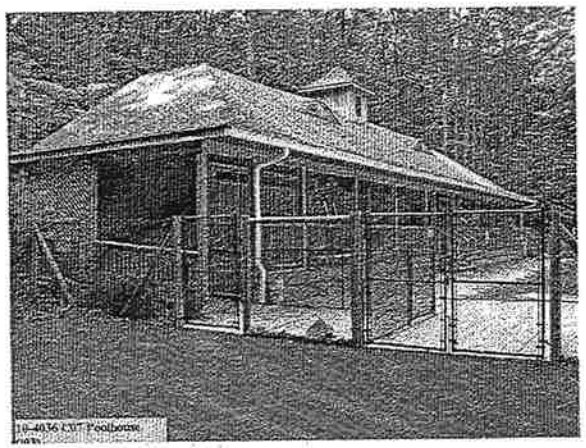
FINISH

	UF	SF	FO	FD
1	0	0	0	1310
Total	0	0	0	1310

HEATING AND AIR CONDITIONING

	B	1	2	U





01 | 02 | 03 | 04 | 05 | 06

IG Pool/Poolhouse/Showers Blt 2003

(LCM: 150.00)

SPECIAL FEATURES

Description	Value
01 : CA	
02 : SG	

SUMMARY OF IMPROVEMENTS

ID	Use	Stry Hgt	Const Type	Grade	Year Const	Eff Year	Cond	Base Rate	Feat-ures	Adj Rate	Size or Area	Computed Value	Phys Depr	Obsol Depr	Market Adj	% Comp	Value
C	SCHSHWR	0.00		Avg	2003	2004	VG	0.00	N	0.00	1310	0	0	0	150	100	409600
01	COMPOOL	4.00		Good	2003	2003	VG	75.69	Y	170.31	4739	867200	0	0	100	100	867200
02	FENCECL	6.00	51C	Avg	2003	2003	VG	18.50	Y	27.75	320	8880	0	0	100	100	8900
03	PAVING	0.00	6	Avg	2003	2003	GD	6.30	N	9.45	320	3020	0	0	100	100	3000
04	FENCEW	7.50	13	Avg+	2003	2003	VG	19.45	N	33.65	79	2650	0	0	100	100	2700
05	UTLSHED	7.00	1	Avg	2010	2010	AV	0.00	N	0.00	8x 12	1900	3	SV	100	100	1800
06	ClmbgTwr	0.00		Good	2009	2009	AV	0.00	N	0.00	0	48000	3	SV	100	100	46600

Data Collector/Date	Appraiser/Date	Neighborhood	Supplemental Cards TOTAL IMPROVEMENT VALUE	1339800
bd 10/25/2012	TOG 10/01/2015	Neigh 180100 AV		

ADMINISTRATIVE INFORMATION OWNERSHIP Tax ID 079/009 Printed 07/10/2017 Card No. 7 of 9

TRANSFER OF OWNERSHIP

Date

VALUATION RECORD

Assessment Year

Reason for Change

VALUATION

Site Description

LAND DATA AND CALCULATIONS

Land Type	Rating Soil ID -or- Actual Frontage	Measured Acreage -or- Effective Frontage	Table Effective Depth	Prod. Factor -or- Depth Factor -or- Square Feet	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Value

Supplemental Cards

TOTAL LAND VALUE

IMPROVEMENT DATA

PHYSICAL CHARACTERISTICS

ROOFING

Built-up

WALLS

	B	1	2	U
Frame				
Brick				
Metal				
Guard				

FRAMING

	B	1	2	U
Wd Jst	0	1566	207	0
R Conc	1466	0	0	0

FINISH

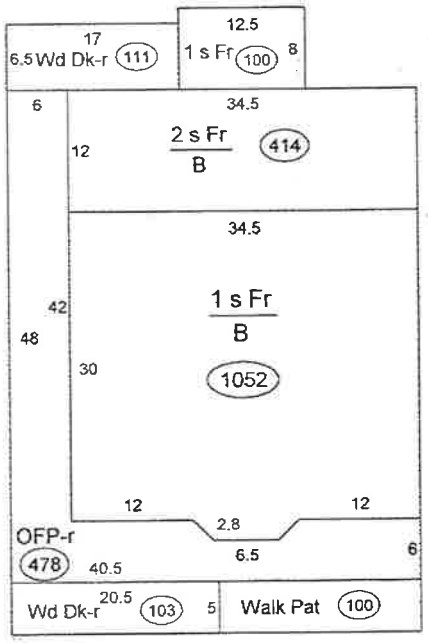
	UF	SF	FO	FD
B	1466	0	0	0
1	0	0	0	1566
2	0	0	0	207
Total	1466	0	0	1773

HEATING AND AIR CONDITIONING

	B	1	2	U
Heat	1466	1566	207	0

02

Nature Center / Lodge w/ Pavillion



(LCM: 150.00)

SPECIAL FEATURES

Description	Value

SUMMARY OF IMPROVEMENTS

ID	Use	Stry Hgt	Const Type	Grade	Year Const	Eff Year	Cond	Base Rate	Feat-ures	Adj Rate	Size or Area	Computed Value	Phys Depr	Obsol Depr	Market Adj	% Comp	Value
C	CLUBHSE	0.00		Good	2008	2008	AV	0.00	N	0.00	1566	0	0	0	150	100	790800
01	WALKPAT	0.00	6	Good	2008	2008	AV	5.75	N	12.94	5x 20	1290	3	0	100	100	1300
02	PAVILION	0.00		Good	2008	2008	AV	78.20	N	175.95	30x 50	263930	3	0	100	100	256000

Data Collector/Date: bd 10/25/2012

Appraiser/Date: TOG 10/01/2015

Neighborhood: Neigh 180100 AV

Supplemental Cards

TOTAL IMPROVEMENT VALUE 1048100

ADMINISTRATIVE INFORMATION OWNERSHIP Tax ID 079/009 Printed 07/10/2017 Card No. 8 of 9

TRANSFER OF OWNERSHIP

Date

VALUATION RECORD

Assessment Year

Reason for Change

VALUATION

Site Description

LAND DATA AND CALCULATIONS

Land Type	Rating Soil ID -or- Actual Frontage	Measured Acreage -or- Effective Frontage	Table Effective Depth	Prod. Factor -or- Depth Factor -or- Square Feet	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Value

Supplemental Cards
TOTAL LAND VALUE

IMPROVEMENT DATA

PHYSICAL CHARACTERISTICS

ROOFING

Built-up

WALLS

	B	1	2	U
Frame				
Brick				
Metal				
Guard				

FRAMING

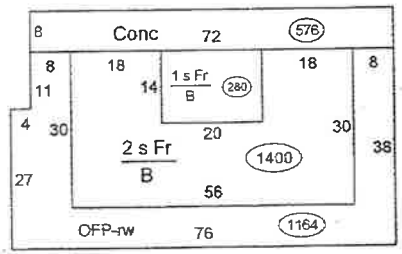
	B	1	2	U
Wd Jst	0	1680	1400	0

FINISH

	UF	SF	FO	FD
B	1680	0	0	0
1	0	0	0	1680
2	0	0	0	1400
Total	1680	0	0	3080

HEATING AND AIR CONDITIONING

	B	1	2	U
Heat	1680	1680	1400	0



01 17kw genrtr Imp 01

(LCM: 150.00)

SPECIAL FEATURES

Description	Value

SUMMARY OF IMPROVEMENTS

ID	Use	Stry Hgt	Const Type	Grade	Year Const	Eff Year	Cond	Base Rate	Feat-ures	Adj Rate	Size or Area	Computed Value	Phys Depr	Obsol Depr	Market Adj	% Comp	Value
C	GENCOMM	0.00		Avg+	2011	2011	AV	0.00	N	0.00	1680	0	0	0	150	100	730600
01	MISCFEAT	0.00		Good	2012	2010	AV	0.00	N	0.00	1@ 0	5000	3	SV	100	100	4900

Data Collector/Date
bd 10/25/2012

Appraiser/Date
TOG 10/01/2015

Neighborhood
Neigh 180100 AV

Supplemental Cards
TOTAL IMPROVEMENT VALUE 735500

ADMINISTRATIVE INFORMATION OWNERSHIP Tax ID 079/009 Printed 07/10/2017 Card No. 9 of 9

TRANSFER OF OWNERSHIP

Date

VALUATION RECORD

Assessment Year

Reason for Change

VALUATION

Site Description

LAND DATA AND CALCULATIONS

Land Type	Rating Soil ID -or- Actual Frontage	Measured Acreage -or- Effective Frontage	Table Effective Depth	Prod. Factor -or- Depth Factor -or- Square Feet	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Value

Supplemental Cards
TOTAL LAND VALUE

IMPROVEMENT DATA

PHYSICAL CHARACTERISTICS

Style: Raised Ranch
Occupancy: Single family

Story Height: 1.0
Finished Area: 2316
Attic: None
Basement: None

ROOFING
Material: Asphalt shingles
Type: Gable
Framing: Std for Class
Pitch: Not available

FLOORING
Slab L, 1.0
Base Allowance 1.0

EXTERIOR COVER
Wood Siding L, 1.0

INTERIOR FINISH
Normal for Class 1.0

ACCOMMODATIONS

Finished Rooms	8
Bedrooms	4
Fireplaces: 1	

HEATING AND AIR CONDITIONING
Primary Heat: Forced hot air-oil

	Lower /Bsmt	1	Full Upper	Part Upper
Air Cond	1000	1316	0	0

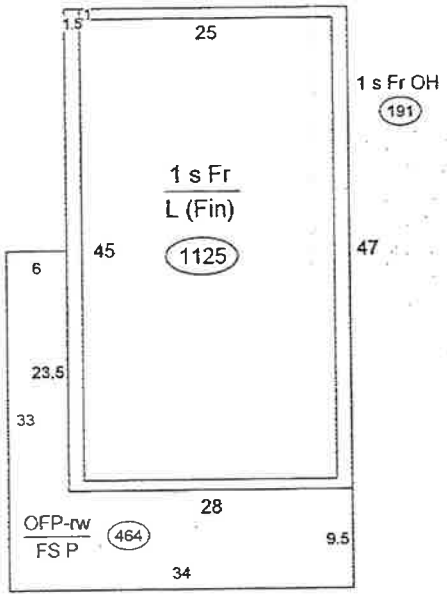
PLUMBING

	#	
3 Fixt. Baths	3	9
Kit Sink	1	1
Extra Fixt		1
TOTAL		12

REMODELING AND MODERNIZATION

	Amount	Date

01 Hawk House 2012



(LCM: 150.00)

SPECIAL FEATURES

Description	Value
D :STL-STK	3940

SUMMARY OF IMPROVEMENTS

ID	Use	Stry Hgt	Const Type	Grade	Year Const	Eff Year	Cond	Base Rate	Feat-ures	Adj Rate	Size or Area	Computed Value	Phys Depr	Obsol Depr	Market Adj	% Comp	Value
D	DWELL	0.00		Avg	2007	2007	AV	0.00	Y	0.00	2441	456090	4	0	95	100	416000
01	OUTBLDG	8.00	I	Avg	2012	2012	AV	17.25	N	25.88	12x 14	4350	2	0	100	100	4300

Data Collector/Date: bd 10/25/2012
Appraiser/Date: TOG 10/01/2015
Neighborhood: Neigh 180100 AV
Supplemental Cards
TOTAL IMPROVEMENT VALUE 420300

ATTACHMENT 5

UNITED STATES POSTAL SERVICE®

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here ***Postmark with Date of Receipt.***
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103			
	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Peter Tesei, First Selectman Town of Greenwich 101 Field Point Road Greenwich, CT 06830				
2.	Katie DeLuca, AICP Director of Planning and Zoning Town of Greenwich 101 Field Point Road Greenwich. CT 06830				
3.	The Greenwich Council, Boy Scouts of America Inc. 63 Mason Street Greenwich, CT 06830				
4.					
5.					
6.					

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West Greenwich

See Reverse for Instructions