Robinson + Cole

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Also admitted in Massachusetts

August 10, 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**
623 Pine Street, Bridgeport, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains fifteen (15) telecommunications antennas and six (6) remote radio heads ("RRHs") at the 110-foot level on the existing 250-foot tower at 623 Pine Street in Bridgeport (the "Property"). Cellco's equipment is located inside the building at the base of the tower. The tower and underlying property are owned Radio Communications Corp. Cellco's use of the tower was approved by the Council in 2000. Cellco now intends to replace six (6) existing RRHs with six (6) newer model RRHs and install three (3) new RRHs, for a total of nine (9) RRHs. Included in Attachment 1 are specifications for Cellco's new and replacement 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 notice is being sent to Joseph Ganim, Mayor of the City of Bridgeport; Dennis Buckley, Bridgeport's Zoning Administrator; and Andrew and Lillian Knapp (Radio Communications Corp), the owners of the tower and 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 RRHs will be installed at the 110-foot level on the existing 250-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 and new RRHs will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative 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.

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:
Joseph Ganim, Bridgeport Mayor
Dennis Buckley, Bridgeport Zoning Administrator
Andrew and Lillian Knapp (Radio Communications Corp)
Tim Parks

ATTACHMENT 1

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.

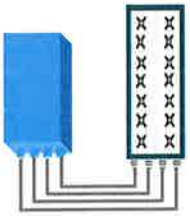
Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the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

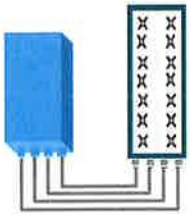
Its compactness and slim design makes the Alcatel-Lucent B25 RRH4x30 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the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

ALCATEL-LUCENT B66A RRH4X45

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

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

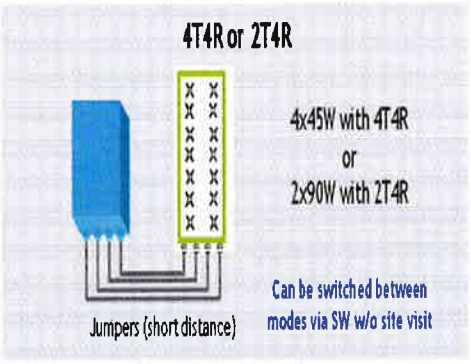
The Alcatel-Lucent B66a RRH4x45 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x90W or 4x45W RF output power. It also supports 4-way Rx diversity at the 70 MHz instantaneous bandwidth.

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

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

FEATURES

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



BENEFITS

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

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

ATTACHMENT 2

	General	Power	Density					
Site Name: Bridgeport SW								
Tower Height: 250Ft.								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*Sprint	12	100	85	851	0.0691	0.5673	1.22%	
*Clearwire	2	153	118	2496	0.0088	1.0000	0.09%	
*Clearwire	1	211	123	18 GHz	0.0055	1.0000	0.06%	
*Sprint	3	562	85	2657	0.0972	1.0000	0.97%	
*Microwave	2	1096	240	22500	0.0144	1.0000	0.14%	
*T-Mobile	2	2334	180	2100	0.0555	1.0000	0.55%	
*T-Mobile	2	2334	180	1900	0.0555	1.0000	0.55%	
*T-Mobile	2	1167	180	1900	0.0277	1.0000	0.28%	
*T-Mobile	2	1167	180	1900	0.0277	1.0000	0.28%	
*T-Mobile	2	1167	180	2100	0.0277	1.0000	0.28%	
*T-Mobile	1	865	180	700	0.0103	0.4667	0.22%	
*Unknown	1	500	272	162	0.0025	0.2000	0.13%	
*Unknown	3	3500	267	930	0.0554	0.6200	0.89%	
*Unknown	6	500	260	450	0.0167	0.3000	0.56%	
*MetroPCS	7	734	126	2310	0.1283	1.0000	1.28%	
Verizon PCS	**1**	**1119**	**110**	**0.0333**	**1970**	**1.0000**	**3.33%**	
Verizon Cellular	**9**	**325**	**110**	**0.0869**	**869**	**0.5793**	**15.00%**	
Verizon AWS	**1**	**1987**	**110**	**0.0590**	**2145**	**1.0000**	**5.90%**	
Verizon 700	**1**	**1057**	**110**	**0.0314**	**746**	**0.4973**	**6.32%**	
								38.05%
* Source: Siting Council								

ATTACHMENT 3

STRUCTURAL ANALYSIS REPORT

for

verizonwireless

SAI Communications
99 East River Drive, 9th Floor
East Hartford, CT 06108

Bridgeport SW, CT
KM No. 170518.00

250' Self-Support Tower
623 Pine Street
Bridgeport, CT 06605

Prepared By:

KM CONSULTING ENGINEERS, INC.
262 Upper Ferry Road Ewing, NJ 08628
Ph: (609) 538-0400 www.kmengr.com

June 20, 2017

Prepared to ANSI/TIA-222-G-4 December 2014
Structural Standards for Antenna Supporting
Structures and Antennas

SAI Communications
Bridgeport SW, CT

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7.0 APPENDIX	9

Load Case No. 1: Existing tower superstructure with existing inventory and proposed Verizon Wireless installation.

1.0 EXECUTIVE SUMMARY

Structure

Owner: Radio Communications Tower

Location: 623 Pine Street
Bridgeport, CT 06605

Manufacturer: Rohn
Eng. File No. 3767AE dated 3/25/99

Equipment

Existing tower inventory plus the proposed installation are detailed in Section 2.0 "Tower Inventory."

Synopsis

Load Case No. 1: The existing tower superstructure with the current inventory and proposed Verizon Wireless installation.

The existing tower superstructure and base foundation have sufficient capacity and therefore meet the current ANSI/TIA-222-G design standards. The tower superstructure is rated at 95.4% and the foundation is rated at 72.0%.

2.0 TOWER INVENTORY

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
yaggi in radom	256	Panel Antenna w/mount pipe (Clearwire)	118
Beacon	256	Panel Antenna w/mount pipe (Clearwire)	118
Omni antenna	256	(2) APL-866513-42T6 (Verizon)	110
Omni antenna	256	(2) APL-866513-42T9 (Verizon)	110
Omni antenna	256	Rohn 6'x15' Boom Gate (Verizon)	110
Omni antenna	256 - 239	(2) APL-866513-42T9 (Verizon)	110
Top Platform	256	2x60 AWS RRH (Verizon)	110
Omni antenna	248 - 238	2x60 AWS RRH (Verizon)	110
(2) Ericsson AIR21 Panel Antenna (T-Mobile)	180	2x60 AWS RRH (Verizon)	110
mounting frames w/stable bar (T-Mobile)	180	Distribution Box (Verizon)	110
mounting frames w/stable bar (T-Mobile)	180	2x60 700 RRH B13 (Verizon)	110
mounting frames w/stable bar (T-Mobile)	180	2x60 700 RRH B13 (Verizon)	110
(2) Ericsson AIR21 Panel Antenna (T-Mobile)	180	2x60 700 RRH B13 (Verizon)	110
(2) Ericsson AIR21 Panel Antenna (T-Mobile)	180	GPS antenna (Verizon)	110
APX16PV_PVL (T-Mobile)	180	(2) HBXX-6516DS-A2M (Verizon)	110
APX16PV_PVL (T-Mobile)	180	(2) HBXX-6516DS-A2M (Verizon)	110
APX16PV_PVL (T-Mobile)	180	(2) HBXX-6516DS-A2M (Verizon)	110
TMA (T-Mobile)	180	2x60 PCS RRH B25 (Verizon)	110
TMA (T-Mobile)	180	2x60 PCS RRH B25 (Verizon)	110
TMA (T-Mobile)	180	2x60 PCS RRH B25 (Verizon)	110
(2) MetroPCS Antenna (MetroPCS)	138	800 10734V01 (Verizon)	110
(2) MetroPCS Antenna (MetroPCS)	138	800 10734V01 (Verizon)	110
(2) MetroPCS Antenna (MetroPCS)	138	800 10734V01 (Verizon)	110
mounting frames w/stable bar (MetroPCS)	138	Distribution Box (Verizon)	110
mounting frames w/stable bar (MetroPCS)	138	Rohn 6'x15' Boom Gate (Verizon)	110
mounting frames w/stable bar (MetroPCS)	138	Rohn 6'x15' Boom Gate (Verizon)	110
VHLP1-23-2WH (Clearwire)	121	4' Side Arm	100
VHLP1-23-2WH (Clearwire)	121	TV 65 antenna	100
VHLP2.5-11-4WH (Clearwire)	121	TV 65 antenna	100
Panel Antenna w/mount pipe (Clearwire)	118		

Proposed Verizon Wireless Installation

*(3) 2x60 PCS RRHs B25 @ 110' AGL
*(3) 2x60 AWS RRHs @ 110' AGL
*(3) 2x60 700 RRHs B13 @ 110' AGL
*Removal of (9) RRHs @ 110' AGL

3.0 COMMENTARY

Our scope of work is to determine if the existing structure is capable of withstanding the additional stresses/forces imposed by the installation of the proposed Verizon Wireless equipment noted in the tower inventory. The tower is a 250' tall Rohn self-support tower with a triangular platform located at the top.

Tower member sizes, layout and foundation information was taken from previous structural analysis by KM Consulting Engineers, Inc. (KMCE) dated 2/6/15. Existing antenna inventory and coax cable layout was also taken from the above mentioned analysis. Proposed equipment was obtained from correspondence with client.

The following report will provide analytical calculations and commentary regarding the capacity of the proposed tower and subsequent recommendations.

4.0 ANALYSIS PROCEDURE

KM Consulting Engineers, Inc. carried out their structural analysis by correlating field inspection and tower member data into proprietary software designed specifically for communication tower analysis.

These programs run in conjunction with the guidelines set down in the ANSI/TIA-222-G Standard entitled "Structural Standards for Antenna Supporting Structures and Antennas."

The existing tower is analyzed by placing wind forces on the structure in 30° positional increments around the tower (i.e. wind pressure directly onto the tower corners, faces and parallel to the faces). This enables the user to "create" a three-dimensional representation, yielding results for worst case scenarios. In effect, the production of these results allows the user to study the structural integrity of the tower when influenced by wind forces from any direction.

The proceeding report includes analysis for the tower with the addition of antennas in the scenarios stated. For clarity, the analysis shall include worst case loadings and a typical elevation view with maximum foundation loads tabulated.

Should the client require to be furnished with a full copy of our analysis, we will gladly do so.

Codes and Standards

ACI - American Concrete Institute - Building Code Requirements for Structural Concrete (ACI 318-11), 2011

AISC - American Institute of Steel Construction - Manual of Steel Construction, Allowable Stress Design, 14th edition, 2011

TIA - Telecommunications Industry Association – ANSI/TIA-222-G-4 Structural Standards for Antenna Supporting Structures and Antennas, 2014

CSBC - Connecticut State Building Code 2016

5.0 TOWER ANALYSIS RESULTS

The tower was analyzed for the inventory detailed in Section 2.0 "Tower Inventory".

Structural wind speed is in accordance with ANSI/TIA-222-G listing applicable to Fairfield County, CT: 110 MPH, no ice and 50 MPH (3 SG), ¾" radial ice. Additional criteria include Structure Class II, Exposure Category B, and Topographic Category 1.

Load Case No. 1: Proposed inventory of (3) 2x60 PCS RRHs B25, (3) 2x60 AWS RRHs, (3) 2x60 700 RRHs B13, and removal of (9) RRHs.

The existing tower superstructure and base foundation have sufficient capacity and therefore meet the current ANSI/TIA-222-G design standards. The tower superstructure is rated at 95.4% and the foundation is rated at 72.0%.

Table 1. Base Foundation Rating

Force	Capacity (k-ft)	Actual (k-ft)	% Capacity
Overturning Moment	17,511	12,603	**72.0**

6.0 RECOMMENDATIONS

Further to our calculations, we conclude that the tower superstructure and base foundation have adequate capacity and therefore meet the current ANSI/TIA-222-G design standards. The tower is acceptable to support the proposed Verizon Wireless installation.

Please do not hesitate to contact our office with any questions or concerns regarding this report.

Sincerely,
KM CONSULTING ENGINEERS, INC.

Domenic Aversa, PE
Project Manager

Reviewed and Approved by:

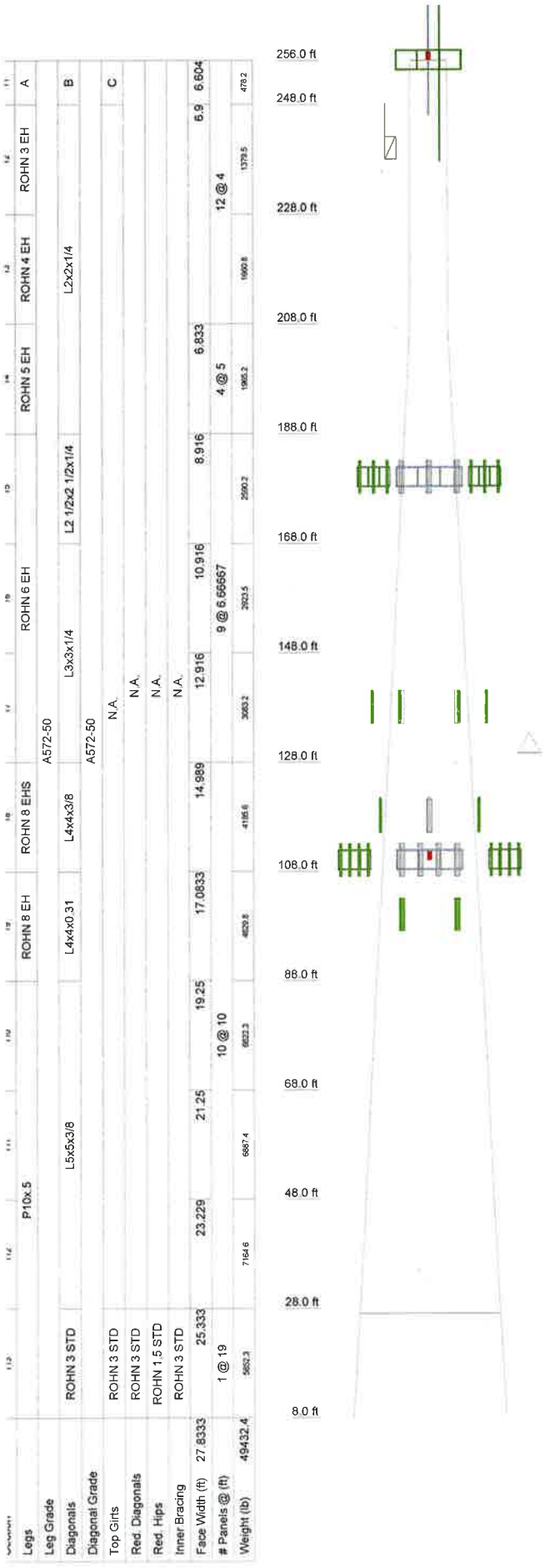
STATE OF CONNECTICUT
MICHAEL L BOHLINGER
20405
LICENSED
PROFESSIONAL ENGINEER

6/20/17

Michael L. Bohlinger, PE
Principal
CT License No. 20405

7.0 APPENDIX

LOAD CASE 1



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
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Beacon	256	VHLP2.5-11-4WH (Clearwire)	121
Omni antenna	256	Panel Antenna w/mount pipe (Clearwire)	118
Omni antenna	256		
Omni antenna	256	Panel Antenna w/mount pipe (Clearwire)	118
Omni antenna	256 - 239		
Top Platform	256	Panel Antenna w/mount pipe (Clearwire)	118
Omni antenna	248 - 238		
(2) Ericsson AIR21 Panel Antenna (T-Mobile)	180	(2) APL-866513-42T6 (Verizon)	110
		(2) APL-866513-42T9 (Verizon)	110
mounting frames w/stable bar (T-Mobile)	180	Rohn 6'x15' Boom Gate (Verizon)	110
		(2) APL-866513-42T9 (Verizon)	110
mounting frames w/stable bar (T-Mobile)	180	2x60 AWS RRH (Verizon)	110
		2x60 AWS RRH (Verizon)	110
mounting frames w/stable bar (T-Mobile)	180	2x60 AWS RRH (Verizon)	110
		Distribution Box (Verizon)	110
(2) Ericsson AIR21 Panel Antenna (T-Mobile)	180	2x60 700 RRH B13 (Verizon)	110
		2x60 700 RRH B13 (Verizon)	110
(2) Ericsson AIR21 Panel Antenna (T-Mobile)	180	2x60 700 RRH B13 (Verizon)	110
		GPS antenna (Verizon)	110
APX16PV_PVL (T-Mobile)	180	(2) HBXX-6516DS-A2M (Verizon)	110
APX16PV_PVL (T-Mobile)	180	(2) HBXX-6516DS-A2M (Verizon)	110
APX16PV_PVL (T-Mobile)	180	(2) HBXX-6516DS-A2M (Verizon)	110
TMA (T-Mobile)	180	2x60 PCS RRH B25 (Verizon)	110
TMA (T-Mobile)	180	2x60 PCS RRH B25 (Verizon)	110
TMA (T-Mobile)	180	2x60 PCS RRH B25 (Verizon)	110
(2) MetroPCS Antenna (MetroPCS)	138	800 10734V01 (Verizon)	110
(2) MetroPCS Antenna (MetroPCS)	138	800 10734V01 (Verizon)	110
(2) MetroPCS Antenna (MetroPCS)	138	800 10734V01 (Verizon)	110
mounting frames w/stable bar (MetroPCS)	138	Distribution Box (Verizon)	110
mounting frames w/stable bar (MetroPCS)	138	Rohn 6'x15' Boom Gate (Verizon)	110
		Rohn 6'x15' Boom Gate (Verizon)	110
mounting frames w/stable bar (MetroPCS)	138	4' Side Arm	100
		TV 65 antenna	100
VHLP1-23-2WH (Clearwire)	121	TV 65 antenna	100

SYMBOL LIST

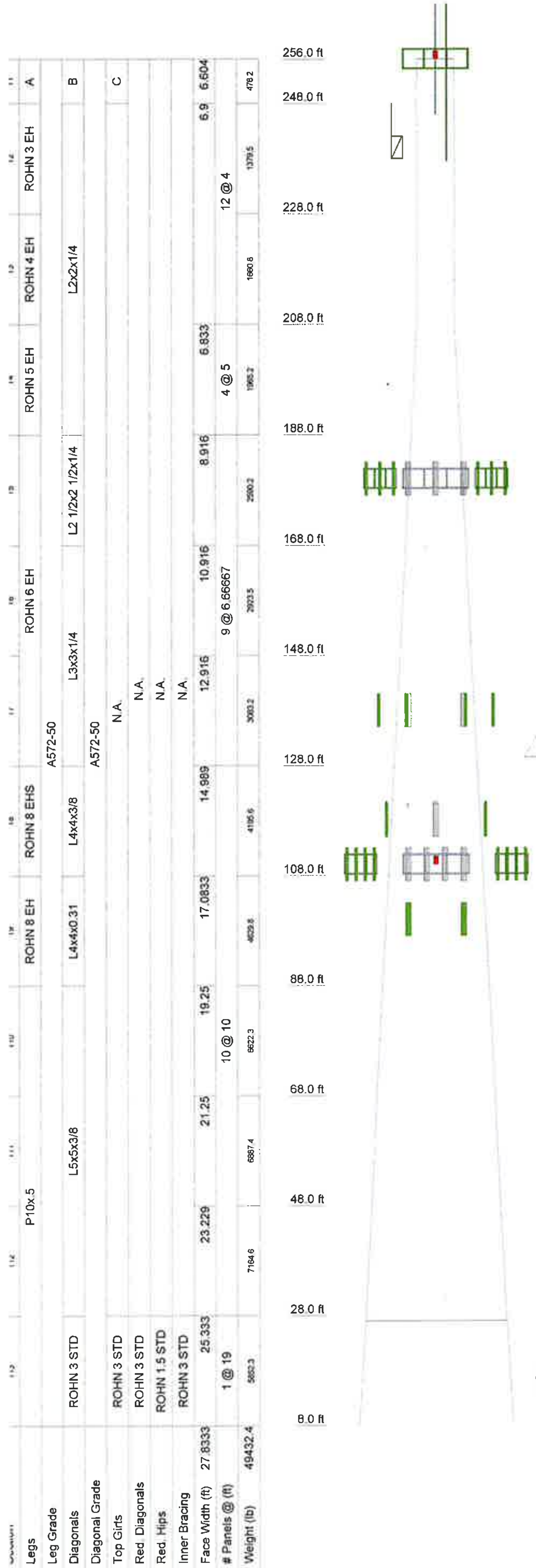
MARK	SIZE	MARK	SIZE
A	ROHN 3 STD	C	L3x3x1/4
B	L1 3/4x1 3/4x3/16		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi			

KM Consulting Engineers
262 Upper Ferry Road
Ewing, NJ 08628
Phone: (609) 538-0400
FAX:
Consulting Engineers

Job: Bridgeport LC1
Project: 250' Rohn Self Support Tower
Client: SAI Communications Drawn by: Domenic Aversa App'd:
Code: TIA-222-G Date: 06/20/17 Scale: N
Path: K:\SAI COMM\Bridgeport\Engineering\Bridgeport LC1.eri Dwg No.



SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	ROI IN 3 STD	C	L3x3x1/4
B	L1 3/4x1 3/4x3/16		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi			

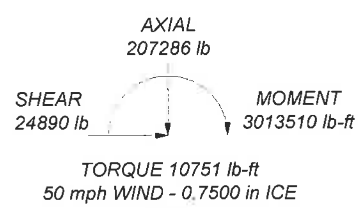
TOWER DESIGN NOTES

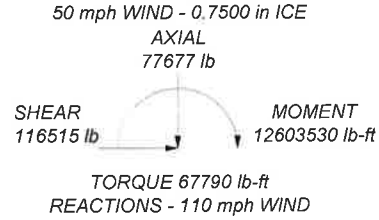
1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 110 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in 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: 95.4%

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 548425 lb
SHEAR: 68280 lb

UPLIFT: -480437 lb
SHEAR: 61583 lb



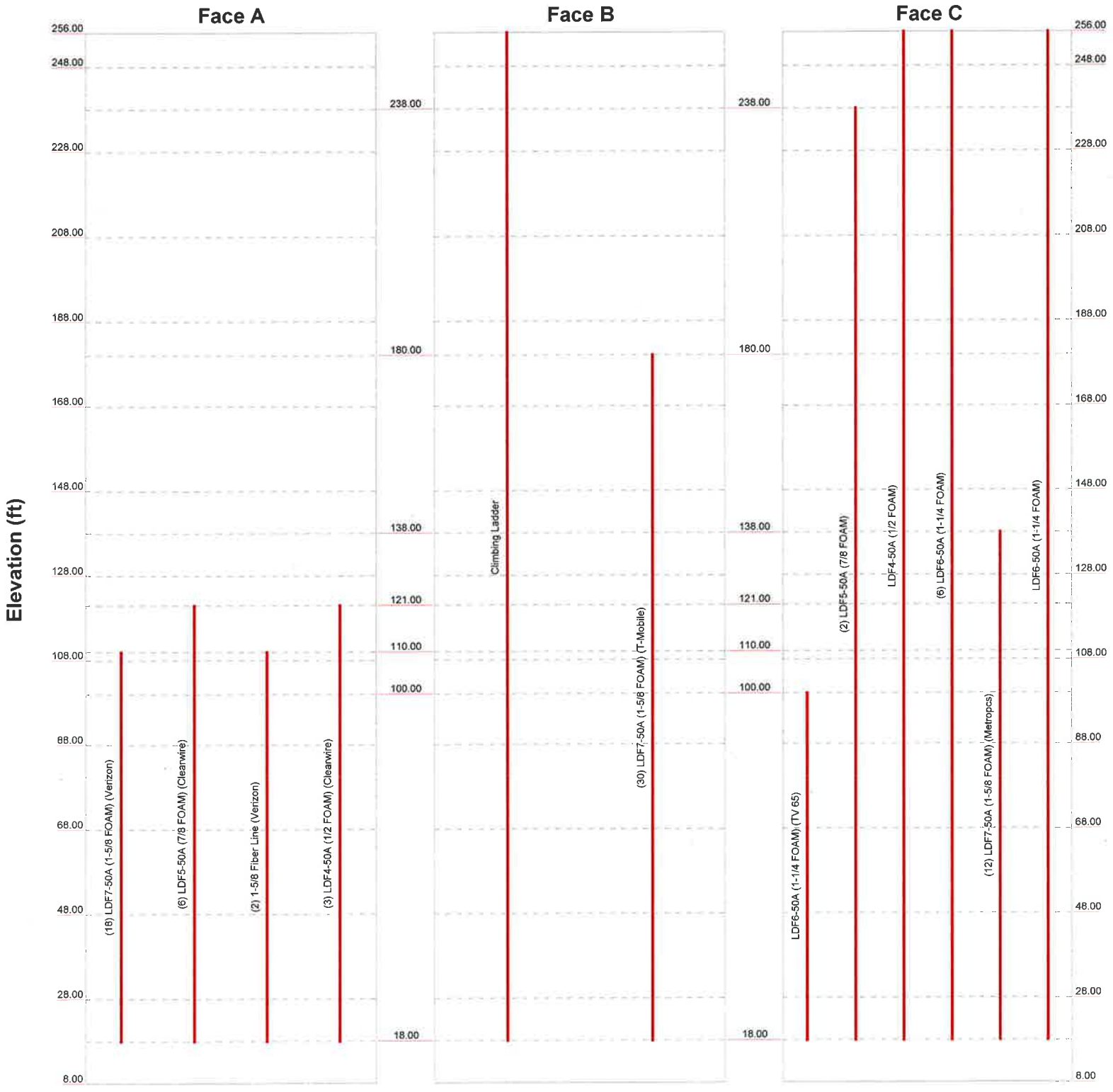


KM Consulting Engineers	Job: **Bridgeport LC1**
262 Upper Ferry Road	Project: **250' Rohn Self Support Tower**
Ewing, NJ 08628	Client: SAI Communications · Drawn by: Domenic Aversa · App'd:
Phone: (609) 538-0400	Code: TIA-222-G · Date: 06/20/17 · Scale: N
FAX:	Path: K:\SAI COMM\Bridgeport\Engineering\Bridgeport LC1.en · Dwg No.

Consulting Engineers

8' - 256'

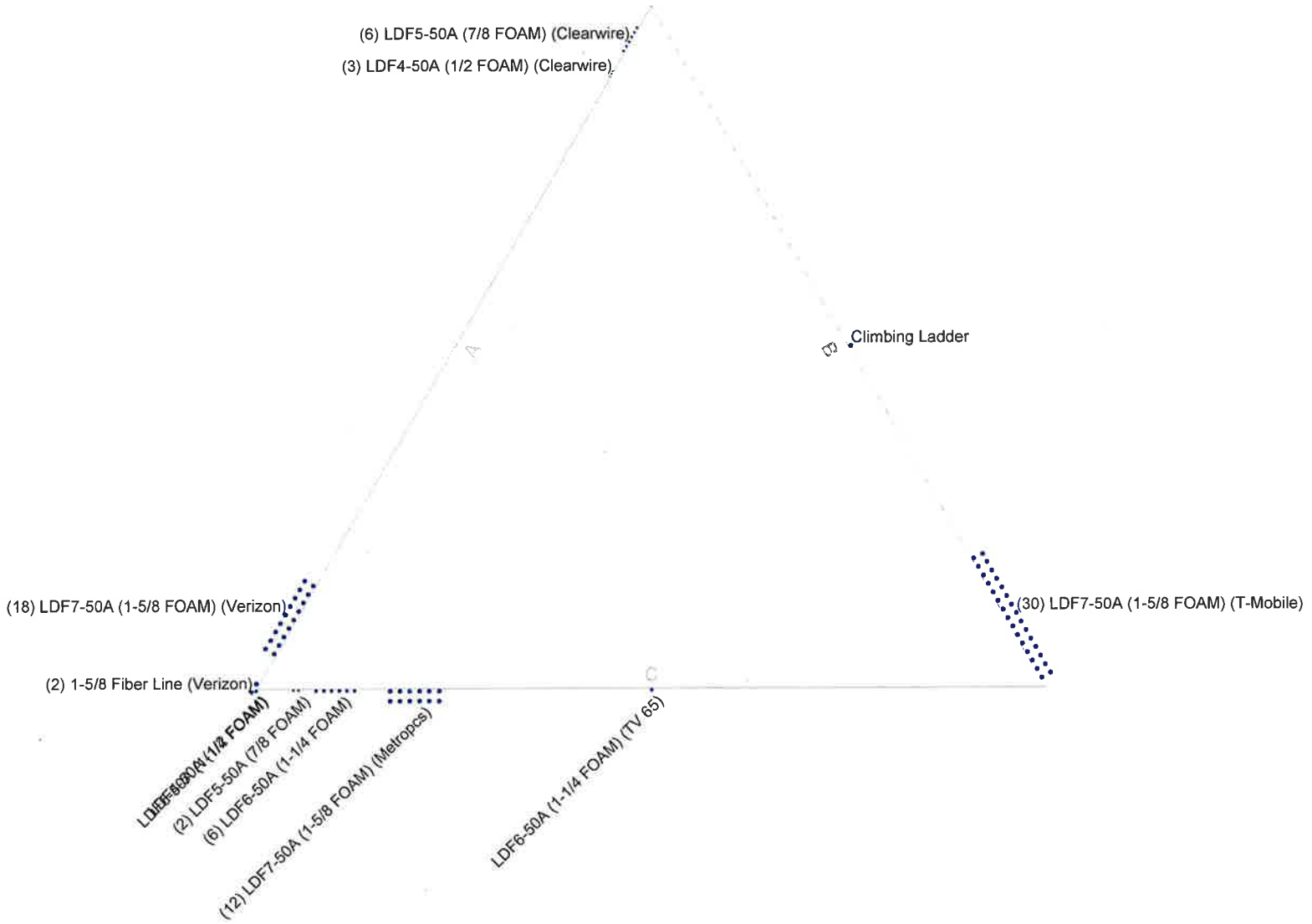
Round | Flat | App In Face | App Out Face | Truss Leg



KM Consulting Engineers
262 Upper Ferry Road
Ewing, NJ 08628
Phone: (609) 538-0400
FAX:
Consulting Engineers

Job:	Bridgeport LC1
Project:	250' Rohn Self Support Tower
Client:	SAI Communications
Drawn by:	Domenic Aversa
App'd:	
Code:	TIA-222-G
Date:	06/20/17
Scale:	N
Path:	K:\SAI COMM\Bridgeport\Engineering\Bridgeport LC1.en
Dwg No.	

Round _____ Flat _____ App In Face App Out Face



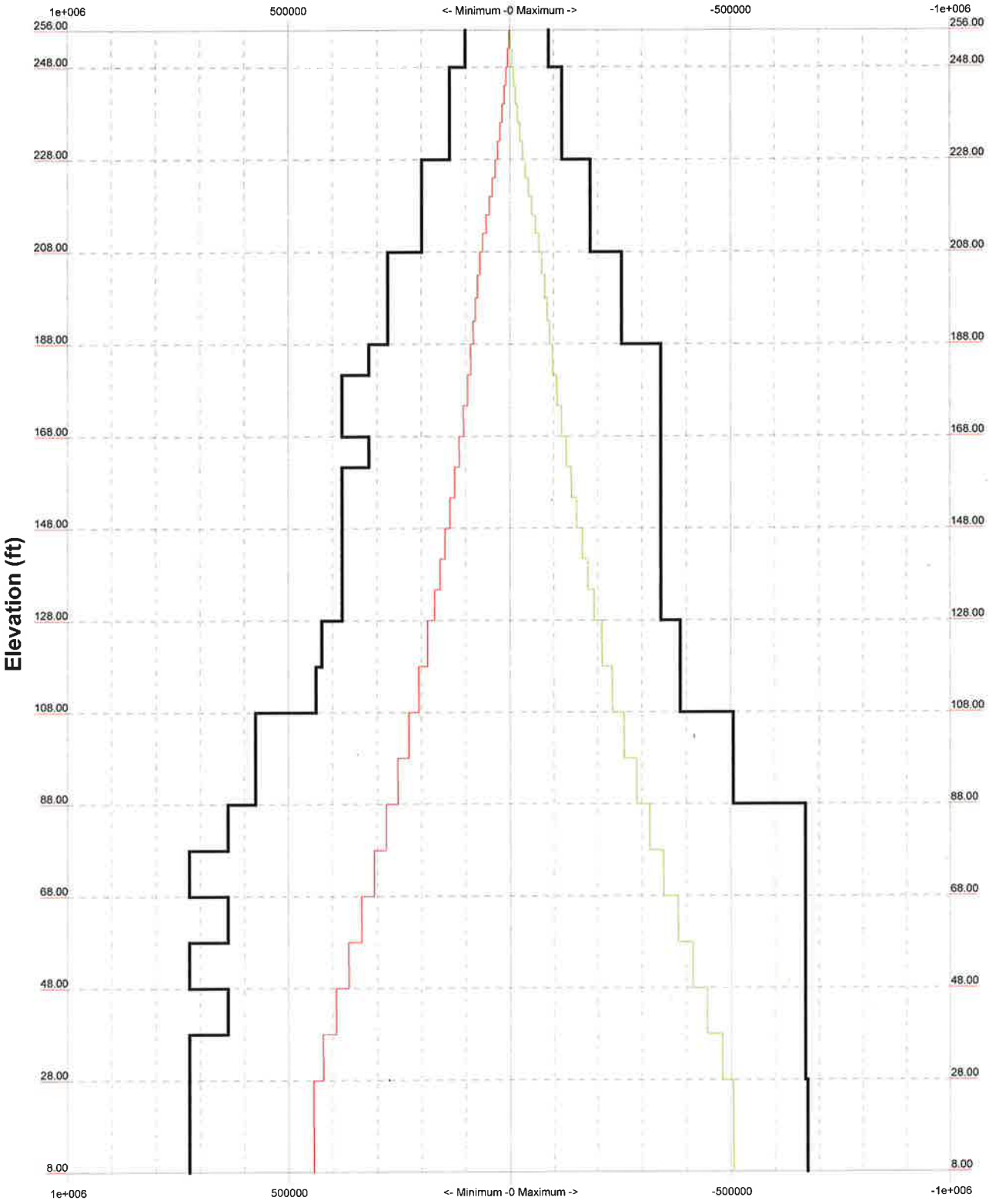
Consulting Engineers

KM Consulting Engineers
262 Upper Ferry Road
Ewing, NJ 08628
Phone: (609) 538-0400
FAX:

Job:	***Bridgeport LC1***		
Project:	***250' Rohn Self Support Tower***		
Client:	SAI Communications	Drawn by: Domenic Aversa	App'd:
Code:	TIA-222-G	Date: 06/20/17	Scale: N
Path:	K:\SAI COMM\Bridgeport\Engineering\Bridgeport LC1.en		Dwg No.

TIA-222-G - 110 mph/50 mph 0.7500 in Ice Exposure B

Leg Capacity ——— **Leg Compression (lb)**



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262 Upper Ferry Road
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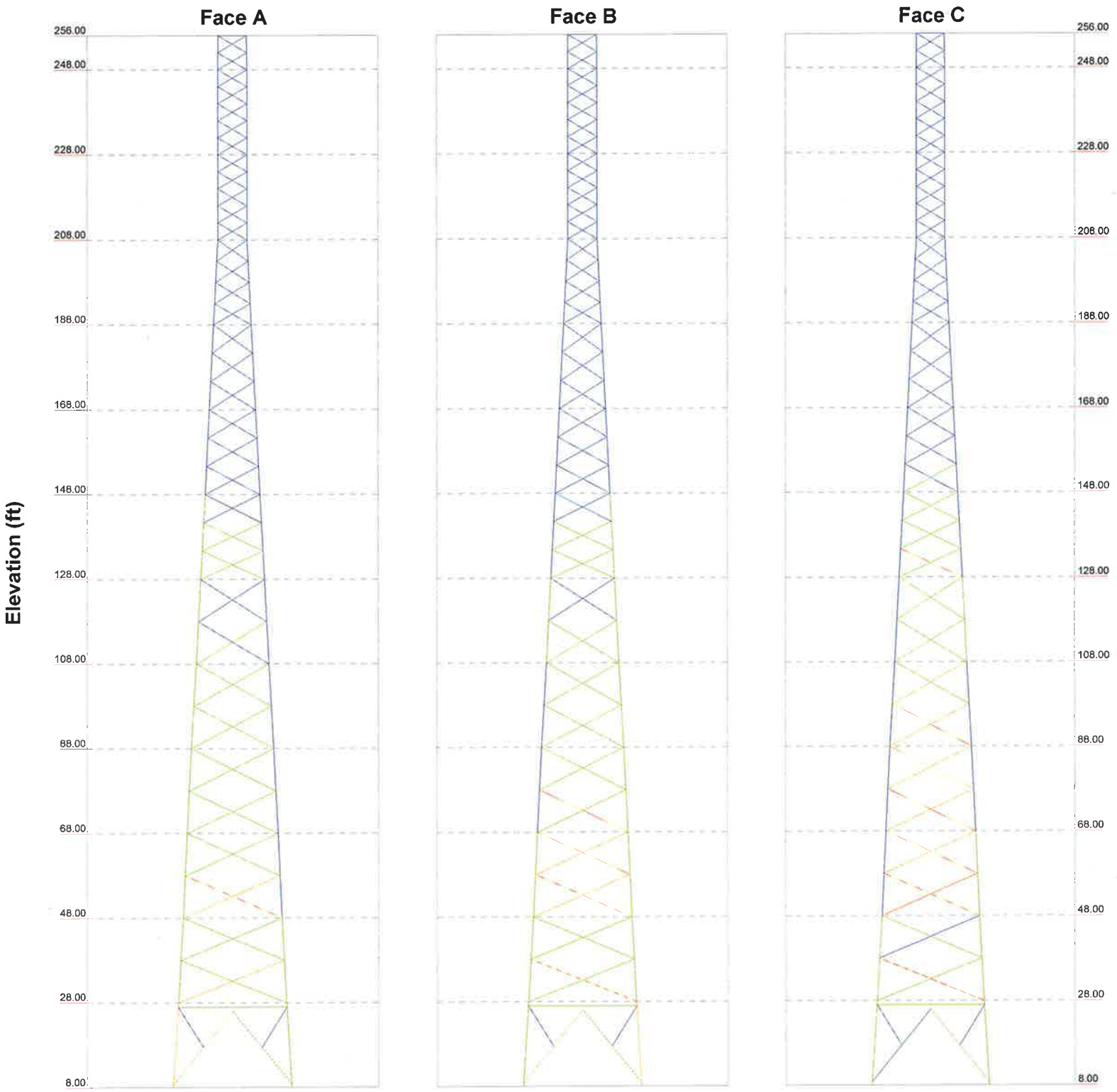
Phone: (609) 538-0400
FAX:

Job: Bridgeport LC1			
Project: 250' Rohn Self Support Tower			
Client: SAI Communications	Drawn by: Domenic Aversa	App'd:	
Code: TIA-222-G	Date: 06/20/17	Scale: N	
Path: K:\SAI COMM\Bridgeport\Engineering\Bridgeport LC1.eri		Dwg No.	

8' - 256'

> 100% 90%-100% 75%-90% 50%-75% < 50% Overstress



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Job: Bridgeport LC1			
Project: 250' Rohn Self Support Tower			
Client: SAI Communications	Drawn by: Domenic Aversa	App'd:	
Code: TIA-222-G	Date: 06/20/17	Scale: N	
Path: K:\SAI COMM\Bridgeport\Engineering\Bridgeport LC1.en		Dwg No.	

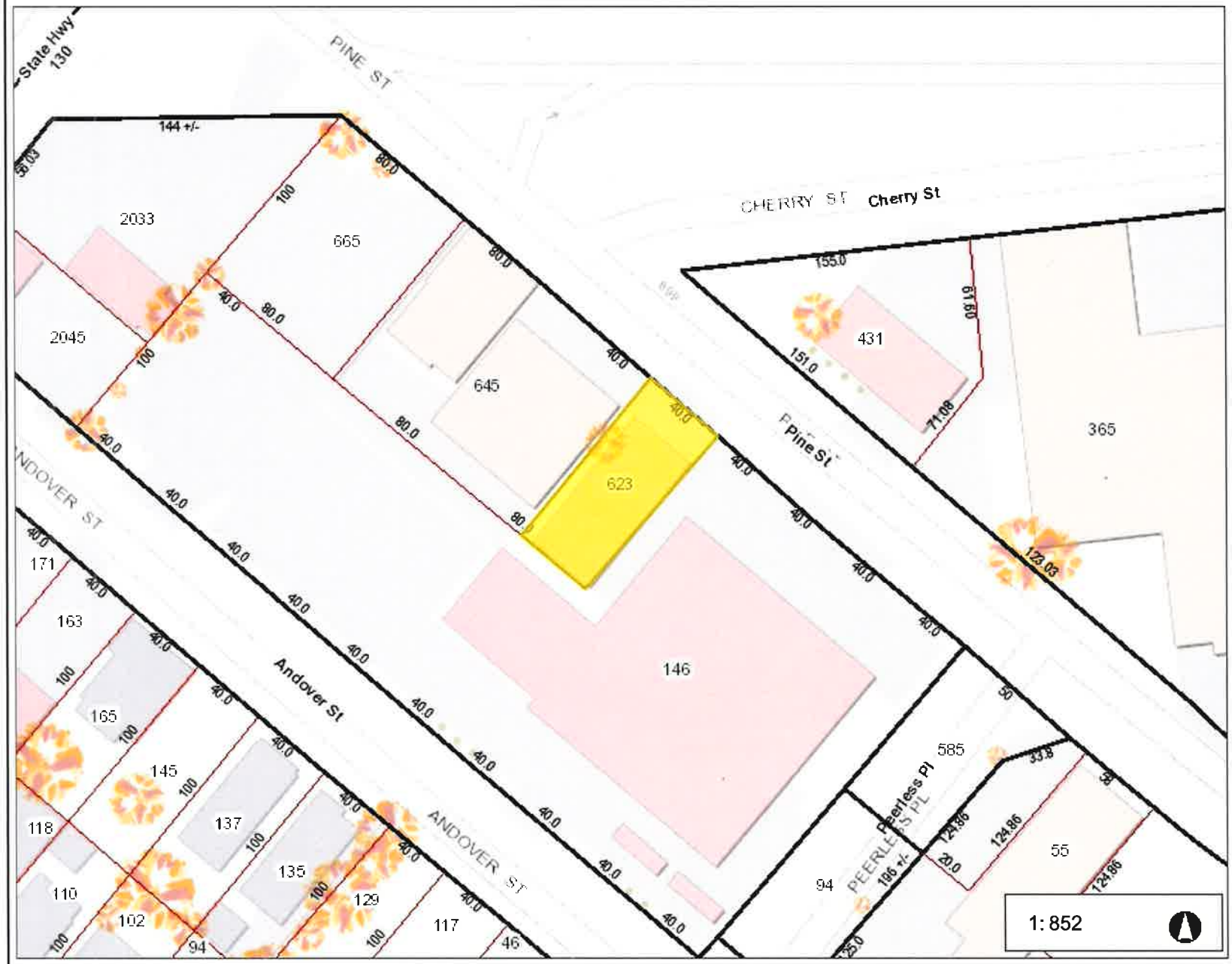
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	oP_{allow} lb	% Capacity	Pass Fail
T1	256 - 248	Leg	ROHN 3 STD	3	-5069.39	88543.60	5.7	Pass
		Diagonal	L1 3/4x1 3/4x3/16	8	-1954.83	7836.45	24.9	Pass
		Top Girt	L3x3x1/4	4	-727.38	19705.80	3.7	Pass
T2	248 - 228	Leg	ROHN 3 EH	21	-29454.90	119117.00	24.7	Pass
		Diagonal	L2x2x1/4	23	-3548.33	15423.50	23.0	Pass
							30.3 (b)	
T3	228 - 208	Leg	ROHN 4 EH	54	-66452.10	183589.00	36.2	Pass
		Diagonal	L2x2x1/4	59	-5004.03	16011.80	31.3	Pass
							41.8 (b)	
T4	208 - 188	Leg	ROHN 5 EH	87	-91396.40	254372.00	35.9	Pass
		Diagonal	L2x2x1/4	89	-3197.83	9442.17	33.9	Pass
T5	188 - 168	Leg	ROHN 6 EH	114	-118004.00	343100.00	34.4	Pass
		Diagonal	L2 1/2x2 1/2x1/4	116	-5782.44	11996.10	48.2	Pass
T6	168 - 148	Leg	ROHN 6 EH	135	-152688.00	343100.00	44.5	Pass
		Diagonal	L3x3x1/4	137	-7655.01	16173.10	47.3	Pass
							53.9 (b)	
T7	148 - 128	Leg	ROHN 6 EH	156	-192310.00	343092.00	56.1	Pass
		Diagonal	L3x3x1/4	158	-9687.97	12584.10	77.0	Pass
T8	128 - 108	Leg	ROHN 8 EHS	177	-234273.00	386381.00	60.6	Pass
		Diagonal	L4x4x3/8	179	-13592.30	30486.60	44.6	Pass
							63.6 (b)	
T9	108 - 88	Leg	ROHN 8 EH	192	-288284.00	505517.00	57.0	Pass
		Diagonal	L4x4x0.31	194	-17273.60	21205.70	81.5	Pass
							83.6 (b)	
T10	88 - 68	Leg	P10x.5	207	-349327.00	668659.00	52.2	Pass
		Diagonal	L5x5x3/8	209	-21023.50	43484.70	48.3	Pass
							86.3 (b)	
T11	68 - 48	Leg	P10x.5	222	-414883.00	668663.00	62.0	Pass
		Diagonal	L5x5x3/8	224	-23894.30	37294.00	64.1	Pass
							95.4 (b)	
T12	48 - 28	Leg	P10x.5	237	-481212.00	668640.00	72.0	Pass
		Diagonal	L5x5x3/8	239	-30415.90	31978.80	95.1	Pass
T13	28 - 8	Leg	P10x.5	252	-506579.00	673820.00	75.2	Pass
		Diagonal	ROHN 3 STD	258	-32884.20	38509.50	85.4	Pass
		Top Girt	ROHN 3 STD	253	-20194.40	31030.70	65.1	Pass
		Redund Diag 1 Bracing	ROHN 3 STD	263	-7680.47	44234.90	17.4	Pass
		Redund Hip 1 Bracing	ROHN 1.5 STD	272	-297.57	12002.20	2.5	Pass
		Redund Hip Diagonal 1 Bracing	ROHN 1.5 STD	265	-683.80	2211.89	30.9	Pass
		Inner Bracing	ROHN 3 STD	274	-359.45	29213.70	16.7	Pass
							Summary	
						Leg (T13)	75.2	Pass
						Diagonal (T11)	95.4	Pass
						Top Girt (T13)	65.1	Pass
						Redund Diag 1 Bracing (T13)	17.4	Pass
						Redund Hip 1 Bracing (T13)	2.5	Pass
						Redund Hip Diagonal 1 Bracing (T13)	30.9	Pass
						Inner Bracing (T13)	16.7	Pass
						Bolt Checks	95.4	Pass
						RATING =	**95.4**	**Pass**

ATTACHMENT 4

City of Bridgeport

My Map



Legend

- Parcels
- Streetname
- Roadways
  - Local
  - Collector
  - Minor Collector
  - Minor Arterial
  - Major Collector
  - PA Other
  - PA Other Expwy
  - PA Interstate

141.9 0 70.97 141.9 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Created by Connecticut Metropolitan Council of Governments

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION

METROCOG
Connecticut Metropolitan Council of Governments

623 PINE ST

Location	623 PINE ST	**Mblu**	19/ 307/ 25/ /
Acct#	RK-0259405	**Owner**	KNAPP ANDREW & LILLIAN &
Assessment	$224,850	**Appraisal**	$321,210
PID	2504	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$251,840	$69,370	$321,210
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$176,290	$48,560	$224,850

Owner of Record

Owner	KNAPP ANDREW & LILLIAN &
Co-Owner	ROBERT KNAPP (SURV OF THEM)
Address	24 ROCKDALE RD WEST HAVEN, CT 06516

Sale Price	$90,000
Certificate	
Book & Page	2838/ 116
Sale Date	09/24/1990

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
KNAPP ANDREW & LILLIAN &	$90,000		2838/ 116	09/24/1990

Building Information

Building 1 : Section 1

Year Built:	1964
Living Area:	2,625
Replacement Cost:	$237,462
Building Percent Good:	85
Replacement Cost Less Depreciation:	$201,840

Building Attributes	
Field	**Description**

STYLE	Telephone Bldg
MODEL	Ind/Comm
Grade:	Above Ave
Stories:	1
Occupancy:	1
Exterior Wall 1:	Concr/CinderBl
Exterior Wall 2:	
Roof Struct:	Flat
Roof Cover:	T+G/Rubber
Interior Wall 1:	Minim/Masonry
Interior Wall 2:	
Interior Floor 1:	Concr-Finished
Interior Floor 2:	
Heating Fuel:	Gas
Heating Type:	Forced Air
AC Type:	Central
Bldg Use:	Industrial Mdl 96
Ttl Rooms:	
Ttl Bedrms:	00
Ttl Baths:	0
Ttl Half Baths:	0
Ttl Xtra Fix:	0
1st Floor Use:	
Heat/AC:	Heat/Ac Pkgs
Frame Type:	Masonry
Baths/Plumbing:	Average
Ceiling/Wall:	Ceil & Walls
Rooms/Prtns:	Average
Wall Height:	14
% Comn Wall:	

Building Photo

(http://images.vgsi.com/photos/BridgeportCTPhotos//\00\08\9

Building Layout

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	2,625	2,625
		2,625	2,625

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 300

Land Line Valuation

Size (Acres) 0.09

Description	Industrial Mdl 96	**Frontage**	0
Zone	ILI	**Depth**	0
Neighborhood	IND	**Assessed Value**	$48,560
Alt Land Appr	No	**Appraised Value**	$69,370
Category			

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
TWR	Tower			250 LF	$50,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$251,840	$69,370	$321,210
2014	$256,590	$69,370	$325,960
2013	$256,590	$69,370	$325,960

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$176,290	$48,560	$224,850
2014	$179,610	$48,560	$228,170
2013	$179,610	$48,560	$228,170

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	3	3	neopost 08/10/2017 US POSTAGE $002.38 OLD STATE HOUSE STATION 06103 AUG 10 2017 ZIP 06103 041L1220038 USPS
	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.	Joseph Ganim, Mayor City of Bridgeport Margaret E. Morton Government Center 999 Broad Street Bridgeport, CT 06604				
2.	Dennis Buckley, Zoning Administrator City of Bridgeport 45 Lyon Terrace Bridgeport, CT 06604				
3.	Andrew and Lillian Knapp Radio Communications Corp. 24 Rockdale Road West Haven, CT 06516				
4.					
5.					
6.					

OLD STATE HOUSE STATION 06103 AUG 10 2017 USPS