STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:	:	
	:	
A PETITION OF PHOENIX TOWERS II	:	SUB-PETITION NO. 1133
FOR A DECLARATORY RULING FOR	:	158 EDISON ROAD
APPROVAL OF AN ELIGIBLE FACILITY	:	TRUMBULL, CONNECTICUT
REQUEST FOR MODIFICATIONS TO AN	:	
EXISTING TELECOMMUNICATIONS TOWER	:	
AT 158 EDISON ROAD, TRUMBULL	:	
CONNECTICUT	:	JUNE 30, 2016

I. Introduction

Pursuant to Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012, codified at 47 U.S.C. §1455(a) ("Section 6409(a)") and the October 21, 2014 Report and Order (FCC-14-533) issued by the Federal Communications Commission ("FCC") (the "FCC Order"), Phoenix Towers II ("Phoenix") hereby petitions the Connecticut Siting Council ("Council") for a declaratory ruling that the proposed modifications to the existing tower at 158 Edison Road Trumbull Connecticut ("Property") constitutes an Eligible Facilities Request ("EFR") under the FCC Order.

II. Background

The tower is a 130 foot monopole ("Facility") located on the westerly portion of a 2.296 acre parcel of property on which the Trumbull Police Department is located. An Aerial Map is attached hereto as Exhibit A. The Facility was approved by the Council in Docket 421 and a Certificate issued to T-Mobile Northeast, LLC, the applicant. The Certificate was subsequently transferred to Phoenix Partnership on May 29, 2014 and then transferred to the current Certificate holder, Phoenix, on February 4, 2016. The Decision and Order provides that the tower should be capable of supporting the equipment constructed as a monopole, sufficient to

accommodate the equipment of T-Mobile , and other entities, public and private, but should not exceed 130 feet. The Decision and Order also provides that the tower shall be constructed to be extendable. T-Mobile and the Town are the two entities that are currently approved to co-locate on the tower.

III. Proposed Facility Modifications

Phoenix proposes to extend the tower by 13 feet, which would allow the Town's emergency services antennas to move up to a height of 143 feet. No modifications are proposed to the equipment compound layout approved in the Development and Management Plan. Plans depicting the Facility Modification are attached hereto as Exhibit B. A Structural Analysis Report dated June 27, 2016 confirming the Facility's integrity at 143 feet is attached hereto as Exhibit C.

IV. Eligible Facilities Request

A. The Proposed Modifications Will Not Cause a Substantial Change to the Physical Dimensions of the Existing Tower or Base Station

Section 6409(a) provides, in relevant part, that "a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." In accordance with the FCC Order, the proposed modification does not substantially change the physical dimensions of the tower or base station if the following criteria are satisfied:

1. *The proposed modified facility will not increase the height of the tower by more than (ten) percent or by the height of one additional array with separation from the nearest existing antenna not to exceed twenty (20) feet, whichever is greater.*

   The existing tower is a 130 foot monopole with antenna arrays approved for location at the 120 (T-Mobile) and 130 foot (Town) levels. Phoenix proposes to extend the tower by 13 feet. The antenna arrays would then be located at the 120 foot and 143 foot levels.

2. *The proposed facility will not protrude from the edge of the structure more than six (6) feet.* The tower extension is only proposed to increase vertically, not horizontally.

3. *The proposed facility does not involve the installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets.*

   No additional cabinets are proposed.

4. *The proposed facility does not entail any excavation or deployment outside the current site of the base station.*

   No excavation or deployment outside the current site is proposed.

5. *The proposed facility does not defeat the existing concealment elements of the base station.*

   The monopole extension will match the existing monopole design, which does not implicate any concealment elements.

6. *The proposed facility complies with the conditions associated with the prior approvals of construction or modification of the base station.*

   Phoenix is not aware of any restriction or condition placed on the Facility that would limit or prohibit the proposed Facility Modifications. In fact, this extension is consistent with the Council's mandate that this Facility be constructed to be extendable.

B. FCC Compliance

The Facility Modification proposed by Phoenix will not increase the total radio frequency (RF) power density, measured at the base of the tower, to a level at or above the applicable standard. According to a Radio Frequency Emissions Analysis Report prepared by CSquared Systems dated June 10, 2016, the calculated "worst case" power density for the planned combined operation at the site including all of the proposed antennas would be 14.62% of the FCC Standard as calculated for a mixed frequency site as evidenced by the engineering exhibit attached hereto as Exhibit D.

C. Notice

On June 30, 2016 a copy of this Sub-Petition was sent to the Trumbull's First Selectman Timothy Herbst. A copy of that letter is attached hereto as Exhibit E. The Town is also the property owner.

A copy of this Sub-Petition was also sent to each owner of land that abuts the Property on June 28, 2016. A list of the abutting property owners and a sample notice letter are attached hereto as Exhibit F.

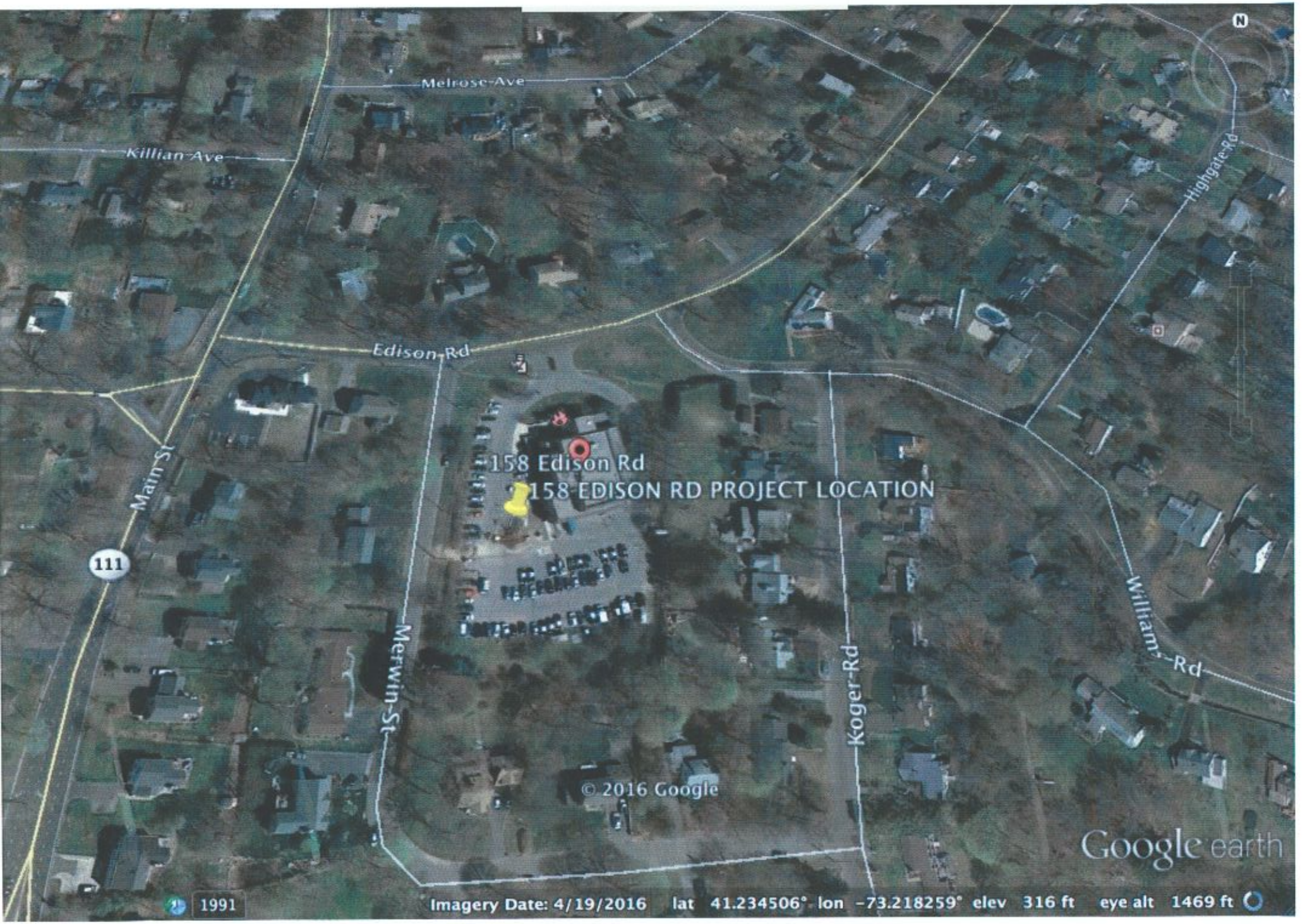
V. Conclusion

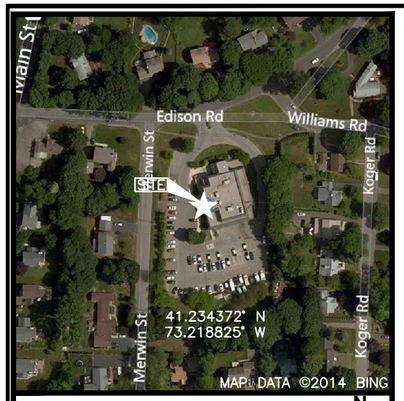
Phoenix respectfully submits, that based upon the information provided above and the materials attached, the proposed Facility Modification constitutes an "eligible facilities request" under Section 6409(a) and the FCC Order.

Respectfully Submitted,

Keith Coppins

EXHIBIT A


Melrose Ave
Killian Ave
Highgate Rd
Edison Rd
Main St
158 Edison Rd
158 EDISON RD PROJECT LOCATION
111
Merwin St
Koger Rd
William Rd
© 2016 Google
Google earth
1991
Imagery Date: 4/19/2016 lat 41.234506° lon -73.218259° elev 316 ft eye alt 1469 ft



VICINITY MAP

SCALE: N.T.S.

LEGEND:

- EXISTING SIGN POST
- EXISTING TREE
- BOW — BOTTOM OF WALL
- TOW — TOP OF WALL
- 320 — PROPOSED CONTOUR

PROPOSED 20' WIDE ACCESS EASEMENT

PROPOSED POWER AND TELCO SERVICE ROUTED UNDERGROUND FROM EXISTING UTILITY POLE

PROPOSED 10' WIDE UTILITY EASEMENT FROM PROPOSED UTILITY POLE TO PROPOSED LEASE AREA

PROPOSED COMMUNITY METER BANK ON H-FRAME

PROPOSED BOLLARD (TYP.)

PROPOSED TRANSFORMER

PROPOSED TRANS

PROPOSED 12' GATE

PROPOSED MONOPOLE

PROPOSED CURB STONE (TYP.)

PROPOSED ICE BRIDGE (TYP.)

PROPOSED FUTURE CARRIER LEASE AREA (6'x15')

PROPOSED FUTURE 11'-5"x16' CARRIER SHELTER

PROPOSED FUTURE 12'-0"X26'-0" CARRIER SHELTER

PROPOSED RETAINING WALL

PROPOSED CATCH BASIN TO BE REMOVED

PROPOSED 6" THICK CRUSHED STONE OVER MARFI FIBRIC

PROPOSED CURB STONE (TYP.)

INSTALL DEEP SUMP CATCH BASIN RIM ELEV. 318.0 MAINTAIN EXISTING INVERT LINES

RECESSED CURB

EXISTING SIDE WALK

8'±

10'±H

PROPOSED MUNICIPAL EQUIPMENT SHELTER (SUPPLIED BY PHOENIX PARTNERSHIP) (NOT INSTALLED)

PROPOSED SIGN TO BE REMOVED AS NEEDED (TYP)

PORTION OF WHEELCHAIR RAMP AND CURB STONE TO BE RAZED

PROPOSED T-MOBILE EQUIPMENT CABINETS ON CONCRETE PAD

PROPOSED CHAIN LINK FENCE

WALK WAY

EXISTING TRANSFORMER (POLICE STATION)

3'±

3'±

16'±

4'-3"±

3'-7"±

32'±

14'±

PROPOSED UNDERGROUND POWER SERVICE (FOR POLICE STATION TRANSFORMER)

+ 320.00

320.00 +

320

319

318

317

316

13°33'

MAGNETIC NORTH

TRUE NORTH

1 C-3 **COMPOUND PLAN**

SCALE: 1/4" = 1'-0"

0 2' 0" 4' 0" 8' 0" 12' 0"

Phoenix Partnership

PHOENIX PARTNERSHIP
110 WASHINGTON AVENUE
NORTH HAVEN, CT 06473

Hudson Design Group LLC

1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845

TEL: (978) 557-5553
FAX: (978) 336-5586

06/14/2016

LICENSED ENGINEER — DATE

REVISIONS

REV. #	DATE	DESCRIPTION
1	6/14/2016	REVISED PER COMMENTS
0	5/27/2016	ISSUED FOR REVIEW

PROJECT NO.		SCALE:
CT5051	DESIGNED BY: DJR DRAWN BY: KMS CHECKED BY: DPH	AS SHOWN

SITE NAME:

CT5051
POLICE STATION
EDISON ROAD

SITE ADDRESS:

158 EDISON ROAD
TRUMBULL, CT 06611

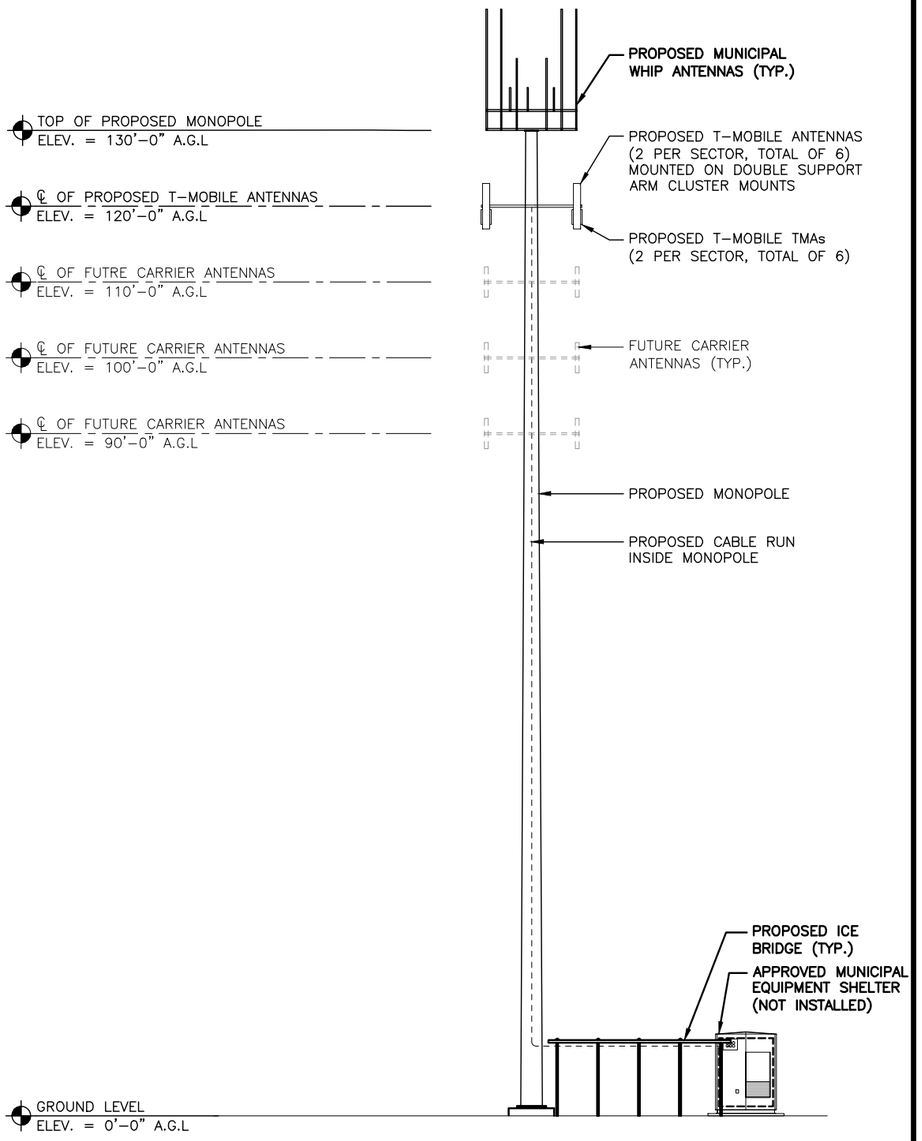
SHEET TITLE:

COMPOUND PLAN

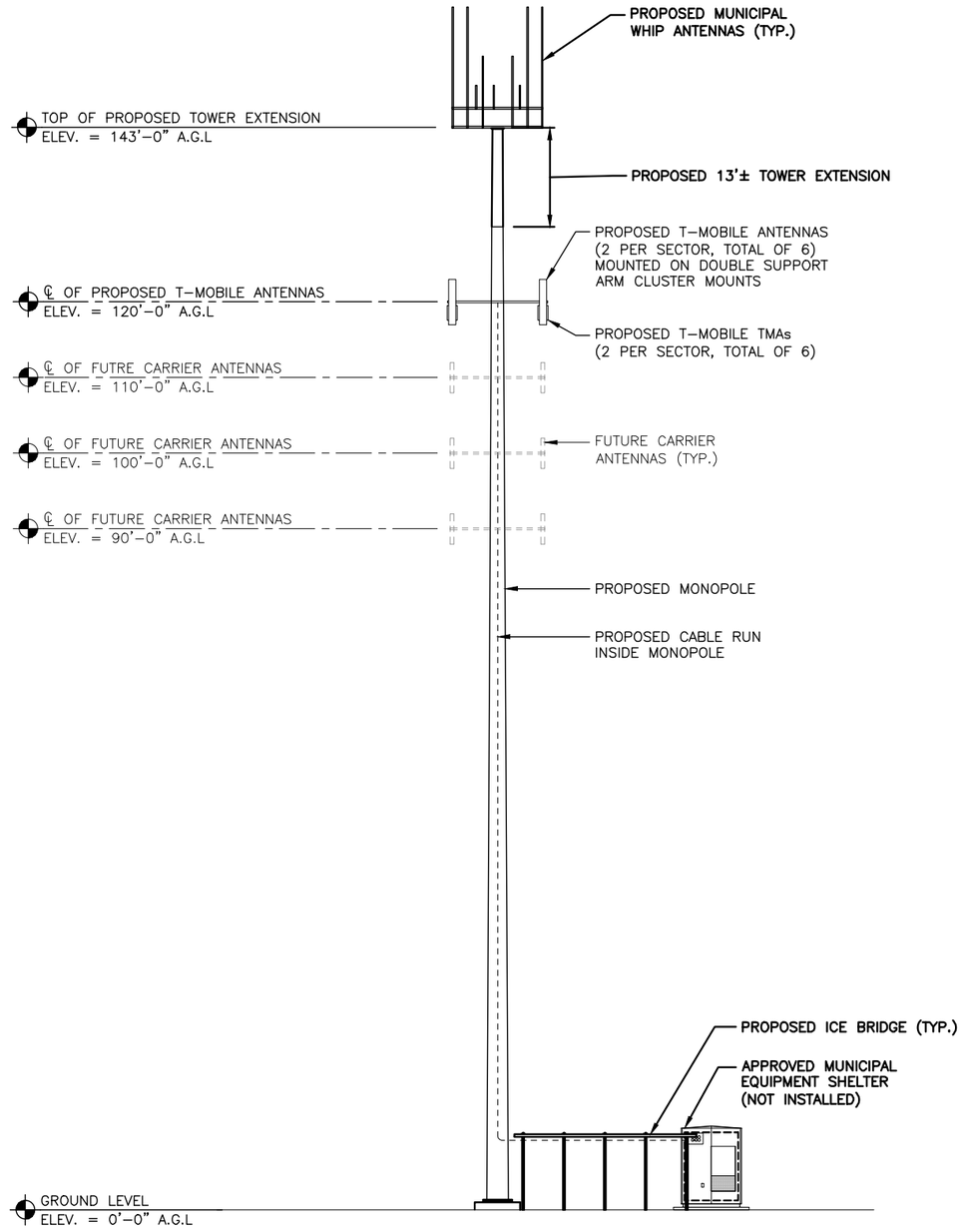
SHEET NO:

A-1

NOTE:
THE TOWER TO BE DESIGNED IN ACCORDANCE WITH THE 2005 CONNECTICUT STATE BUILDING CODE AND THE ELECTRONIC INDUSTRIES ASSOCIATION STANDARD EIA/TIA-222-F " STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORT STRUCTURES" FOR FAIRFIELD COUNTY



SOUTH ELEVATION (BEFORE)
SCALE: 1" = 10'-0"
0 5 10 20 30



SOUTH ELEVATION (AFTER)
SCALE: 1" = 10'-0"
0 5 10 20 30

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CT5051	DESIGNED BY: DJR DRAWN BY: KMS CHECKED BY: DPH	AS SHOWN

SITE NAME:
CT5051
POLICE STATION
EDISON ROAD

SITE ADDRESS:
158 EDISON ROAD
TRUMBULL, CT 06611

SHEET TITLE:
ELEVATIONS

SHEET NO:
A-2

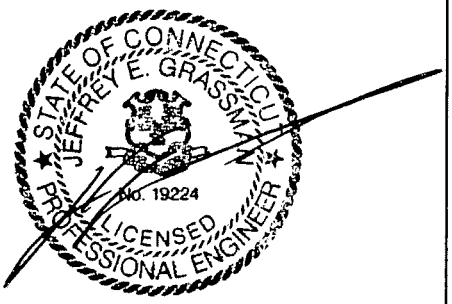
valmont

STRUCTURES

VALMONT MICROFLECT
3575 25th St. SE
Salem, OR 97302
PHONE: 1-800-547-2151
ENGINEER: Nathan Ross
Reviewed by: NR

COMMUNICATION POLE DESIGN CALCULATIONS

JUN 2 9 2016



PHOENIX PARTNERSHIP
VALMONT ORDER# 291087
SITE NAME: TRUMBULL - EDISON ROAD, CT
POLE HEIGHT: 142FT (130 FT EXT TO 143 FT AGL)

valmont STRUCTURES

6/29/16

ENGINEERING DATA

for

PHOENIX PARTNERSHIP
TRUMBULL - EDISON ROAD, CT
VALMONT QUOTATION 291087

1) STRUCTURE DESIGN CONFORMS TO EIA/TIA-222-G INCLUDING:
   100.0 MPH WIND (3 SECOND GUST, 50 YR. RETURN PERIOD)
   50.0 MPH ICE WIND (50 YR. RETURN PERIOD)
   DESIGN ICE THICKNESS = 0.75 INCHES
   EXPOSURE CATEGORY C
   STRUCTURE CLASSIFICATION III
   TOPOGRAPHIC CATEGORY 1
   60.0 MPH BASIC WIND SPEED WITH NO ICE FOR TWIST AND SWAY
2) FEEDLINES ARE ASSUMED TO BE PLACED INTERIOR TO THE POLE.
3) ALL MICROWAVE ASSUMED TO BE 6 GHz UNLESS OTHERWISE NOTED.
4) TOTAL POLE HEIGHT IS 130 FT AGL
5) 13 FT EXTENSION TO 143 FT AGL
6) ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE (APPROX 1 FT AGL)
7) LOADING AS FOLLOWS:
   - 142.0' POLE
   - 12 - 2-3/8" X 12'-6" MOUNTING PIPES @ 142.0
   - 3 - WORK PLATFORM @ 142.0
   - 1 - EXTENSION CARRIER 2 @ 139.0
   - 1 - 4ft lightning rod @ 142.0
   - 2 - DB809KE-XT @ 142.0
   - 3 - 1142-2AN @ 142.0
   - 1 - 1142-2AN @ 142.0
   - 2 - 872F-70TM @ 142.0
   - 1 - ANT790F2 @ 142.0
   - 1 - DS1F06F36U-D @ 142.0
   - 1 - 2' HIGH PERFORMANCE (5 GHz) @ 142.0
   - 3 - T-arm SP1 3' S/O 12' C/A @ 142.0
   - 6 - LNX-6515DS-VTM (w/PM) @ 129.0
   - 3 - T-arm SP1 3' S/O 12' C/A @ 129.0
   - 12 - LNX-6515DS-VTM (w/PM) @ 119.0
   - 3 - T-arm SP1 3' S/O 12' C/A @ 119.0
   - 15 - LNX-6515DS-VTM (w/PM) @ 109.0
   - 3 - T-arm SP1 3' S/O 14' C/A @ 109.0
   - 12 - LNX-6515DS-VTM (w/PM) @ 89.0
   - 3 - T-arm SP1 3' S/O 12' C/A @ 89.0

STRUCTURE ANCHORAGE INFORMATION

POLE HEIGHT(FT):	142	NUMBER OF A.B.'s:	20
BOLT CIRCLE(IN):	66.92	DIA. OF A.B.'s(IN):	2.25
BASE VERTICAL(K):	47.38	LENGTH OF A.B.'s(IN):	72.00
BASE SHEAR(K):	57.67	PROJECTION LENGTH(IN):	12.25
BASE MOMENT(FT-K):	6114	TEMPLATE OD(IN):	70.42

valmont STRUCTURES

BY_____ DATE _____
CHKD. BY _____ DATE _____

SHEET NO. _____

6/29/16

ENGINEERING DATA

for

PHOENIX PARTNERSHIP
TRUMBULL - EDISON ROAD, CT
VALMONT QUOTATION 291087

EIA/TIA-222-G

BASIC WIND:	100.0 MPH	DESIGN ICE THICKNESS:	0.75 IN.
WIND & ICE:	50.0 MPH	EXPOSURE CATEGORY:	C
TWIST & SWAY:	60.0 MPH	STRUCTURE CLASS.:	III
S_S:	N/A	TOPOGRAPHIC CATEGORY:	1
S_1:	N/A		

QTY	DESCRIPTION	HEIGHT	DATA W.O. ICE EPA	DATA W.O. ICE WT	DATA W/ ICE EPA	DATA W/ ICE WT
12	2-3/8" X 12'-6" MOUNTING PIPES	@ 142.0 '	15.00	576	30.00	1152
3	WORK PLATFORM	@ 142.0 '	22.50	300	45.00	600
1	EXTENSION CARRIER 2	@ 139.0 '	109.89	1567	146.76	7392
1	4ft lightning rod	@ 142.0 '	0.25	10	1.99	59
2	DB809KE-XT	@ 142.0 '	7.36	54	16.36	404
3	1142-2AN	@ 142.0 '	7.98	30	28.92	537
1	1142-2AN	@ 142.0 '	2.66	10	9.64	179
2	872F-70TM	@ 142.0 '	5.22	42	19.62	170
1	ANT790F2	@ 142.0 '	0.69	8	1.43	54
1	DS1F06F36U-D	@ 142.0 '	6.25	61	15.36	356
1	2' HIGH PERFORMANCE	@ 142.0 '	3.96	40	5.53	104
3	T-arm SP1 3' S/O 12' C/A	@ 142.0 '	11.07	618	19.14	1497
6	LNX-6515DS-VTM (w/PM)	@ 129.0 '	50.52	474	65.88	2982
3	T-arm SP1 3' S/O 12' C/A	@ 129.0 '	8.85	618	15.27	1485
12	LNX-6515DS-VTM (w/PM)	@ 119.0 '	101.04	948	131.52	5916
3	T-arm SP1 3' S/O 12' C/A	@ 119.0 '	8.85	618	15.24	1476
15	LNX-6515DS-VTM (w/PM)	@ 109.0 '	126.30	1185	164.10	7335
3	T-arm SP1 3' S/O 14' C/A	@ 109.0 '	18.18	666	33.06	1605
12	LNX-6515DS-VTM (w/PM)	@ 89.0 '	101.04	948	130.68	5736
3	T-arm SP1 3' S/O 12' C/A	@ 89.0 '	8.85	618	15.09	1434

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

*** SUMMARY ***

Design Code: TIA-222-G Addendum 2

---------- DESIGN SUMMARY ----------

Height Above Base Plate (ft)	142.00	Ground Line Diameter (in)	59.500	Pole Shaft Weight (lbs)	26662
		Top Diameter (in)	25.733		
		Pole Taper (in/ft)	0.24748	Shape:	18 Sides

Connections Between Sections	/First/	/Second/	/Third/
Height Above Ground (ft)	45.00	85.00	129.00
Type	Slip Joint	Slip Joint	Flange Joint
Overlap Length (in)	83	70	0
Maximum Axial Force (lbs)	74868	60471	16994

Section Characteristics	/First/	/Second/	/Third/	/Fourth/
Base Diameter (in)	59.500	50.825	41.283	28.950
Top Diameter (in)	48.363	39.214	28.950	25.733
Thickness (in)	0.43750	0.37500	0.31250	0.25000
Length (ft)	45.000	46.917	49.833	13.000
Weight (lbs)	11374	8483	5854	951
Yield Strength (ksi)	65.00	65.00	65.00	65.00

---------- ANALYSIS SUMMARY ----------

	Pt. of Fixity	Governing Level Sec.1	Governing Level Sec.2	Governing Level Sec.3	Governing Level Sec.4	Pole Top
Governing Load Case	WIND	WIND	WIND	WIND	WIND	WIND
Height (ft)	0.00	0.00	45.00	85.00	129.00	142.00
Resultant Moment (in-kips)	73372	73372	43477	19374	2103	191
Shear Force (lbs)	57707	57707	52766	47594	14685	5796
Axial Force (lbs)	44307	44307	26768	15310	3645	1449
Effective Yield Strength (ksi)	75.27	75.27	76.31	77.04	79.46	82.13
Combined Interaction Value	0.92	0.92	0.92	0.74	0.19	0.02
Total Deflection (in)	0.00	0.00	10.66	39.74	91.75	109.35

Note: Diameters are outside, measured across the flats
Forces and moments are reported in the local element coordinate system

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

SUMMARY OF SECTION DIMENSIONS AS DETAILED

Height Above Base Plate (ft) 142.00 Ground Line Diameter (in) 59.500 Pole Shaft Weight (lbs) 26662

Top Diameter (in) 25.733

Pole Taper (in/ft) 0.24748 Shape: 18 Sides

Connections Between Sections	/First/	/Second/	/Third/
Height Above Ground (ft)	45.00	85.00	129.00
Type	Slip Joint	Slip Joint	Flange Joint
Flange Thickness (in)			2.000
Weld Root Gap (in)			0.250

Theoretical Design Section Dimension	/First/	/Second/	/Third/	/Fourth/
Base Diameter (in)	59.500	50.825	41.283	28.950
Top Diameter (in)	48.363	39.214	28.950	25.733
Thickness (in)	0.43750	0.37500	0.31250	0.25000
Length (ft)	45.000	46.917	49.833	13.000

As Detailed Section Characteristic	/First/	/Second/	/Third/	/Fourth/
Base Diameter (in)	59.500	50.825	41.283	28.904
Top Diameter (in)	48.363	39.214	28.997	25.733
Thickness (in)	0.43750	0.37500	0.31250	0.25000
Length (ft)	45.000	46.917	49.646	12.813

Note: Diameter are outside, measured across the flats

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

*** POLE SHAFT POINT OF FIXITY REACTIONS ***

Loading Case Identifier	Moments About X-Axis (in-kips)	Moments About Y-Axis (in-kips)	Moments Resultant (X & Y) (in-kips)	Moments Torsional (in-kips)	Vertical Force (lbs)	Shear In X-Direction (lbs)	Shear In Y-Direction (lbs)	Shear Resultant (X & Y) (lbs)	Notes
WIND	56206	-47162	73372	0	44355	37069	44177	57669	
ICE + WIND	13099	-10991	17099	0	96209	8335	9933	12966	
T+S	9826	-8245	12827	0	36086	6499	7745	10111	

Note: Positive vertical force is downward.
Reactions are considered in the global coordinate system.

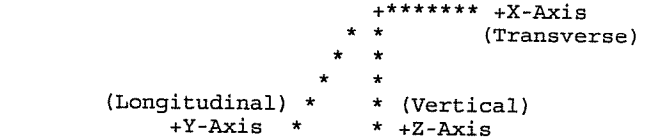
BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

*** INPUT LOADS ***

Design Code TIA-222-G Addendum 2
Loading Case WIND

Basic Wind Velocity is 100.00 mph Ice Thickness 0.00
Wind Orientation is 50.0 Degrees Clockwise From +X Axis
Structure Weight Overload Factor is 1.200
Exposure C, Gust Factor 1.10
Structure Category 3, Topographic Category 1, Crest Height 0.00 ft
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.00 Degrees
Elevation of structure base above surrounding terrain = 1.00 ft

Orientation of System



Load Number	Mounting Height (ft)	Load Height (ft)	Load Eccentricity (ft)	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	EPA (ft^2)	
1	142.00	142.00	0.00	50.00	648	772	691	15.00	12-2-3/8" X 12
2	142.00	142.00	0.00	50.00	971	1158	360	22.50	3-WORK PLATFO
3	139.00	139.00	0.00	50.00	4724	5629	1880	109.89	1-EXTENSION C
4	142.00	144.00	0.00	50.00	11	13	12	0.25	1-4ft lightni
5	142.00	148.25	0.00	50.00	321	382	65	7.36	2-DB809KE-XT
6	142.00	150.00	0.00	50.00	348	415	36	7.98	3-1142-2AN
7	142.00	150.00	0.00	50.00	116	138	12	2.66	1-1142-2AN
8	142.00	148.00	0.00	50.00	227	271	50	5.22	2-872F-70TM
9	142.00	144.00	0.00	50.00	30	36	10	0.69	1-ANT790F2
10	142.00	153.00	0.00	50.00	274	327	73	6.25	1-DS1F06F36U-
11	142.00	142.00	0.00	50.00	171	204	48	3.96	1-2' HIGH PER
12	142.00	142.00	0.00	50.00	478	570	742	11.07	3-T-arm SP1 3
13	129.00	129.00	0.00	50.00	2138	2548	569	50.52	6-LNX-6515DS-
14	129.00	129.00	0.00	50.00	375	446	742	8.85	3-T-arm SP1 3
15	119.00	119.00	0.00	50.00	4204	5011	1138	101.04	12-LNX-6515DS-
16	119.00	119.00	0.00	50.00	368	439	742	8.85	3-T-arm SP1 3
17	109.00	109.00	0.00	50.00	5160	6150	1422	126.30	15-LNX-6515DS-

*** INPUT LOADS ***

Loading Case WIND - Continued

Load Number	Mounting Height (ft)	Load Height (ft)	Load Eccentricity (ft)	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	Orientation of System EPA (ft^2)	15-LNX-6515DS- 15-LNX-6515DS- 15-LNX-6515DS-
18	109.00	109.00	0.00	50.00	743	885	799	18.18	3-T-arm SP1 3
19	89.00	89.00	0.00	50.00	3957	4716	1138	101.04	12-LNX-6515DS-
20	89.00	89.00	0.00	50.00	347	413	742	8.85	3-T-arm SP1 3

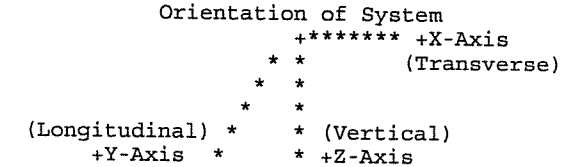
BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

*** INPUT LOADS ***

Design Code TIA-222-G Addendum 2
Loading Case ICE + WIND

Basic Wind Velocity is 50.00 mph Ice Thickness 0.75
Wind Orientation is 50.0 Degrees Clockwise From +X Axis
Structure Weight Overload Factor is 1.200
Exposure C, Gust Factor 1.10
Structure Category 3, Topographic Category 1, Crest Height 0.00 ft
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.00 Degrees
Elevation of structure base above surrounding terrain = 1.00 ft

Orientation of System



Load Number	Mounting Height (ft)	Load Height (ft)	Load Eccentricity (ft)	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	EPA (ft^2)	
1	142.00	142.00	0.00	50.00	176	210	1382	30.00	12-2-3/8" X 12
2	142.00	142.00	0.00	50.00	264	315	720	45.00	3-WORK PLATFO
3	139.00	139.00	0.00	50.00	857	1021	8870	146.76	1-EXTENSION C
4	142.00	144.00	0.00	50.00	12	14	71	1.99	1-4ft lightni
5	142.00	148.25	0.00	50.00	97	115	485	16.36	2-DB809KE-XT
6	142.00	150.00	0.00	50.00	172	205	644	28.92	3-1142-2AN
7	142.00	150.00	0.00	50.00	57	68	215	9.64	1-1142-2AN
8	142.00	148.00	0.00	50.00	116	138	204	19.62	2-872F-70TM
9	142.00	144.00	0.00	50.00	8	10	65	1.43	1-ANT790F2
10	142.00	153.00	0.00	50.00	92	109	427	15.36	1-DS1F06F36U-
11	142.00	142.00	0.00	50.00	32	39	125	5.53	1-2' HIGH PER
12	142.00	142.00	0.00	50.00	112	134	1796	19.14	3-T-arm SP1 3
13	129.00	129.00	0.00	50.00	379	451	3578	65.88	6-LNX-6515DS-
14	129.00	129.00	0.00	50.00	88	105	1782	15.27	3-T-arm SP1 3
15	119.00	119.00	0.00	50.00	744	886	7099	131.52	12-LNX-6515DS-
16	119.00	119.00	0.00	50.00	86	103	1771	15.24	3-T-arm SP1 3
17	109.00	109.00	0.00	50.00	911	1086	8802	164.10	15-LNX-6515DS-

*** INPUT LOADS ***

Loading Case ICE + WIND - Continued

Load Number	Mounting Height (ft)	Load Height (ft)	Load Eccentricity (ft)	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	Orientation of System EPA (ft^2)	Orientation of System
									15-LNX-6515DS-
									15-LNX-6515DS-
									15-LNX-6515DS-
18	109.00	109.00	0.00	50.00	184	219	1926	33.06	3-T-arm SP1 3
19	89.00	89.00	0.00	50.00	695	829	6883	130.68	12-LNX-6515DS-
20	89.00	89.00	0.00	50.00	80	96	1732	15.09	3-T-arm SP1 3

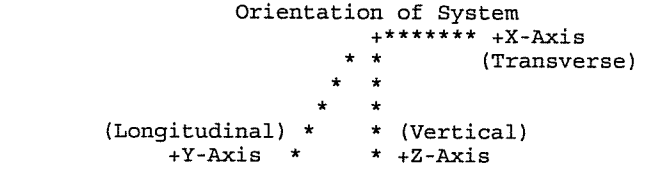
BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

*** INPUT LOADS ***

Design Code TIA-222-G Addendum 2
Loading Case T+S

Basic Wind Velocity is 60.00 mph Ice Thickness 0.00
Wind Orientation is 50.0 Degrees Clockwise From +X Axis
Structure Weight Overload Factor is 1.000
Exposure C, Gust Factor 1.10
Structure Category 3, Topographic Category 1, Crest Height 0.00 ft
Orientations are Measured Clockwise From +X Axis
Positive Y Axis is 90 Degrees Clockwise From +X Axis
Foundation Rotation of 0.00 Degrees
Elevation of structure base above surrounding terrain = 1.00 ft

Orientation of System



Load Number	Mounting Height (ft)	Load Height (ft)	Load Eccentricity (ft)	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	EPA (ft^2)	
1	142.00	142.00	0.00	50.00	113	135	576	15.00	12-2-3/8" X 12
2	142.00	142.00	0.00	50.00	170	203	300	22.50	3-WORK PLATFO
3	139.00	139.00	0.00	50.00	827	985	1567	109.89	1-EXTENSION C
4	142.00	144.00	0.00	50.00	2	2	10	0.25	1-4ft lightni
5	142.00	148.25	0.00	50.00	56	67	54	7.36	2-DB809KE-XT
6	142.00	150.00	0.00	50.00	61	73	30	7.98	3-1142-2AN
7	142.00	150.00	0.00	50.00	20	24	10	2.66	1-1142-2AN
8	142.00	148.00	0.00	50.00	40	47	42	5.22	2-872F-70TM
9	142.00	144.00	0.00	50.00	5	6	8	0.69	1-ANT790F2
10	142.00	153.00	0.00	50.00	48	57	61	6.25	1-DS1F06F36U-
11	142.00	142.00	0.00	50.00	30	36	40	3.96	1-2' HIGH PER
12	142.00	142.00	0.00	50.00	84	100	618	11.07	3-T-arm SP1 3
13	129.00	129.00	0.00	50.00	374	446	474	50.52	6-LNX-6515DS-
14	129.00	129.00	0.00	50.00	66	78	618	8.85	3-T-arm SP1 3
15	119.00	119.00	0.00	50.00	736	877	948	101.04	12-LNX-6515DS-
16	119.00	119.00	0.00	50.00	64	77	618	8.85	3-T-arm SP1 3
17	109.00	109.00	0.00	50.00	903	1077	1185	126.30	15-LNX-6515DS-

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

*** INPUT LOADS ***

Loading Case T+S - Continued

Load Number	Mounting Height (ft)	Load Height (ft)	Load Eccentricity (ft)	Orientation in XY Plane (Degrees)	Force-X (lbs)	Force-Y (lbs)	Force-Z (lbs)	Orientation of System EPA (ft^2)	15-LNX-6515DS- 15-LNX-6515DS- 15-LNX-6515DS-
18	109.00	109.00	0.00	50.00	130	155	666	18.18	3-T-arm SP1 3
19	89.00	89.00	0.00	50.00	693	826	948	101.04	12-LNX-6515DS-
20	89.00	89.00	0.00	50.00	61	72	618	8.85	3-T-arm SP1 3

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

*** Properties ***

Connection Locations	Distance From Base (ft)	Diameter Across Flats (in)	Wall Thickness (in)	D/t Across Flats	w/t Across Flats	Moments of Inertia (in^4)	Area (in^2)
Top of Sect 4	142.00	25.733	0.2500	102.93	16.39	1658	20.22
EPA 3	139.00	26.475	0.2500	105.90	16.91	1808	20.81
	137.00	26.970	0.2500	107.88	17.26	1912	21.20
	132.00	28.208	0.2500	112.83	18.13	2190	22.18
	129.00	28.950	0.2500	115.80	18.66	2369	22.77
Top of Sect 3	129.00	28.950	0.3125	92.64	14.57	2942	28.40
	127.00	29.445	0.3125	94.22	14.85	3097	28.89
	122.00	30.683	0.3125	98.18	15.55	3509	30.12
EPA 15	119.00	31.425	0.3125	100.56	15.97	3773	30.86
	117.00	31.920	0.3125	102.14	16.25	3956	31.35
	112.00	33.157	0.3125	106.10	16.95	4439	32.58
EPA 17	109.00	33.900	0.3125	108.48	17.36	4746	33.31
	107.00	34.395	0.3125	110.06	17.64	4959	33.80
	102.00	35.632	0.3125	114.02	18.34	5519	35.03
	97.00	36.870	0.3125	117.98	19.04	6120	36.26
	92.00	38.107	0.3125	121.94	19.74	6763	37.49
EPA 19	89.00	38.849	0.3125	124.32	20.16	7169	38.22
	87.00	39.344	0.3125	125.90	20.44	7449	38.71
	85.00	39.839	0.3125	127.49	20.72	7736	39.20
Top of Sect 2	85.00	39.214	0.3750	104.57	16.68	8807	46.23
	82.00	39.957	0.3750	106.55	17.02	9322	47.11
Base of Sect 3	79.17	40.658	0.3750	108.42	17.35	9826	47.95
	77.00	41.194	0.3750	109.85	17.61	10224	48.58
	72.00	42.432	0.3750	113.15	18.19	11182	50.06
	67.00	43.669	0.3750	116.45	18.77	12198	51.53
	62.00	44.906	0.3750	119.75	19.35	13274	53.00
	57.00	46.144	0.3750	123.05	19.93	14412	54.47
	52.00	47.381	0.3750	126.35	20.52	15613	55.95
	47.00	48.618	0.3750	129.65	21.10	16879	57.42
	45.00	49.113	0.3750	130.97	21.33	17403	58.01
Top of Sect 1	45.00	48.363	0.4375	110.55	17.73	19306	66.55
	42.00	49.106	0.4375	112.24	18.03	20217	67.58
Base of Sect 2	38.08	50.075	0.4375	114.46	18.42	21449	68.93
	37.00	50.343	0.4375	115.07	18.53	21798	69.30
	32.00	51.581	0.4375	117.90	19.03	23460	71.02
	27.00	52.818	0.4375	120.73	19.52	25204	72.73
	22.00	54.055	0.4375	123.56	20.02	27033	74.45

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

*** Properties ***

Connection Locations	Distance From Base (ft)	Diameter Across Flats (in)	Wall Thickness (in)	D/t Across Flats	w/t Across Flats	Moments of Inertia (in^4)	Area (in^2)
	17.00	55.293	0.4375	126.38	20.52	28948	76.17
	12.00	56.530	0.4375	129.21	21.02	30952	77.89
	7.00	57.768	0.4375	132.04	21.52	33046	79.61
	2.00	59.005	0.4375	134.87	22.02	35232	81.33
Pt of Fixity	0.00	59.500	0.4375	136.00	22.22	36133	82.01

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
142.00	147	-123	191	0	3725	4440	5796	1449
139.00	311	-261	406	0	3922	4674	6102	1699
139.00	311	-261	406	0	8752	10430	13616	2735
137.00	563	-472	735	0	8884	10588	13822	2916
132.00	1211	-1016	1580	0	9226	10996	14354	3371
129.00	1611	-1352	2103	0	9440	11250	14685	3645
129.00	1611	-1352	2103	0	12028	14334	18712	4526
127.00	1957	-1642	2555	0	12172	14506	18936	4783
122.00	2841	-2384	3709	0	12545	14951	19516	5415
119.00	3384	-2840	4418	0	12778	15229	19880	5786
119.00	3384	-2840	4418	0	17449	20795	27146	6919
117.00	3886	-3260	5072	0	17598	20973	27378	7226
112.00	5158	-4328	6734	0	17990	21439	27987	7943
109.00	5936	-4981	7748	0	18238	21735	28373	8344
109.00	5936	-4981	7748	0	24245	28894	37719	9678
107.00	6631	-5564	8657	0	24396	29074	37953	10050
102.00	8391	-7041	10954	0	24793	29547	38571	10907
97.00	10179	-8542	13288	0	25195	30026	39197	11808
92.00	11997	-10067	15661	0	25609	30519	39840	12708
89.00	13101	-10993	17103	0	25879	30841	40261	13170
89.00	13101	-10993	17103	0	30248	36048	47057	14584
87.00	13969	-11722	18235	0	30410	36241	47310	14993
85.00	14842	-12454	19374	0	30593	36459	47594	15310
85.00	14842	-12454	19374	0	30569	36431	47557	15425
82.00	16160	-13560	21095	0	30845	36760	47987	16609
79.17	17415	-14613	22734	0	31108	37073	48396	17738
77.00	18382	-15425	23997	0	31270	37266	48647	18334
72.00	20635	-17315	26937	0	31680	37754	49285	19584
67.00	22918	-19230	29917	0	32088	38241	49921	20872
62.00	25229	-21170	32934	0	32496	38727	50554	22197
57.00	27570	-23134	35990	0	32900	39209	51184	23557
52.00	29940	-25123	39084	0	33301	39687	51808	24951
47.00	32338	-27135	42215	0	33724	40191	52465	26297
45.00	33306	-27947	43477	0	33917	40421	52766	26768
45.00	33306	-27947	43477	0	33875	40371	52701	26896
42.00	34766	-29172	45383	0	34126	40670	53091	28603
38.08	36688	-30785	47893	0	34481	41093	53643	30769
37.00	37223	-31234	48592	0	34528	41149	53717	31225
32.00	39709	-33320	51837	0	34904	41597	54302	32905
27.00	42222	-35428	55117	0	35269	42032	54869	34620

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
22.00	44760	-37558	58430	0	35620	42451	55415	36371
17.00	47323	-39708	61775	0	35954	42848	55934	38155
12.00	49909	-41878	65151	0	36264	43218	56417	39974
7.00	52517	-44067	68556	0	36574	43587	56899	41826
2.00	55148	-46274	71990	0	36920	44000	57437	43640
0.00	56206	-47162	73372	0	37093	44206	57707	44307

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

Deflections and Stresses for Pole

Loading Case WIND

*** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction	Effective Yield Strength (ksi)
142.00	70.3	83.8	109.4	4.7	6.53	0.00	0.02	0.02	0.00	0.02	82.13
139.00	67.7	80.6	105.3	4.4	6.52	0.00	0.04	0.02	0.00	0.04	81.51
139.00	67.7	80.6	105.3	4.4	6.52	0.00	0.04	0.04	0.00	0.05	81.51
137.00	65.9	78.5	102.5	4.3	6.51	0.00	0.07	0.04	0.00	0.08	81.10
132.00	61.6	73.4	95.8	3.9	6.44	0.00	0.14	0.04	0.00	0.15	80.07
129.00	59.0	70.3	91.7	3.7	6.38	0.00	0.18	0.04	0.00	0.19	79.46
129.00	59.0	70.3	91.7	3.7	6.38	0.00	0.14	0.05	0.00	0.15	82.55
127.00	57.3	68.2	89.1	3.5	6.34	0.00	0.17	0.05	0.00	0.17	82.55
122.00	53.0	63.2	82.5	3.2	6.23	0.00	0.22	0.04	0.00	0.23	82.55
119.00	50.5	60.2	78.6	2.9	6.15	0.00	0.25	0.04	0.00	0.26	82.55
119.00	50.5	60.2	78.6	2.9	6.15	0.00	0.25	0.06	0.00	0.26	82.55
117.00	48.9	58.3	76.1	2.8	6.09	0.00	0.28	0.06	0.00	0.29	82.29
112.00	44.9	53.5	69.8	2.5	5.93	0.00	0.35	0.06	0.00	0.36	81.47
109.00	42.5	50.6	66.1	2.3	5.82	0.00	0.39	0.06	0.00	0.39	80.98
109.00	42.5	50.6	66.1	2.3	5.82	0.00	0.39	0.08	0.00	0.40	80.98
107.00	40.9	48.8	63.7	2.2	5.74	0.00	0.42	0.08	0.00	0.43	80.65
102.00	37.1	44.3	57.8	1.9	5.51	0.00	0.50	0.08	0.00	0.51	79.83
97.00	33.5	40.0	52.2	1.6	5.27	0.00	0.57	0.07	0.00	0.58	79.01
92.00	30.1	35.8	46.8	1.4	5.00	0.01	0.64	0.07	0.00	0.65	78.18
89.00	28.1	33.5	43.7	1.2	4.83	0.01	0.67	0.07	0.00	0.68	77.69
89.00	28.1	33.5	43.7	1.2	4.83	0.01	0.67	0.08	0.00	0.69	77.69
87.00	26.8	31.9	41.7	1.2	4.72	0.01	0.70	0.08	0.00	0.72	77.36
85.00	25.5	30.4	39.7	1.1	4.60	0.01	0.73	0.08	0.00	0.74	77.04
85.00	25.5	30.4	39.7	1.1	4.60	0.00	0.60	0.07	0.00	0.60	81.79
82.00	23.7	28.3	36.9	1.0	4.44	0.01	0.63	0.07	0.00	0.64	81.38
79.17	22.1	26.3	34.3	0.9	4.29	0.01	0.66	0.07	0.00	0.67	80.99
77.00	20.8	24.8	32.4	0.8	4.17	0.01	0.68	0.07	0.00	0.69	80.69
72.00	18.1	21.6	28.2	0.6	3.89	0.01	0.72	0.07	0.00	0.73	80.01
67.00	15.6	18.6	24.3	0.5	3.60	0.01	0.76	0.07	0.00	0.77	79.32
62.00	13.3	15.8	20.6	0.4	3.31	0.01	0.80	0.07	0.00	0.81	78.64
57.00	11.1	13.3	17.3	0.3	3.01	0.01	0.83	0.06	0.00	0.84	77.95
52.00	9.2	11.0	14.3	0.2	2.72	0.01	0.87	0.06	0.00	0.88	77.27
47.00	7.5	8.9	11.6	0.2	2.42	0.01	0.90	0.06	0.00	0.91	76.59
45.00	6.9	8.2	10.7	0.2	2.30	0.01	0.91	0.06	0.00	0.92	76.31
45.00	6.9	8.2	10.7	0.2	2.30	0.01	0.76	0.05	0.00	0.77	80.55
42.00	6.0	7.1	9.3	0.1	2.14	0.01	0.78	0.05	0.00	0.78	80.20
38.08	4.9	5.8	7.6	0.1	1.93	0.01	0.79	0.05	0.00	0.80	79.74
37.00	4.6	5.5	7.2	0.1	1.88	0.01	0.80	0.05	0.00	0.80	79.61
32.00	3.4	4.1	5.3	0.1	1.61	0.01	0.81	0.05	0.00	0.82	79.02

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016

Deflections and Stresses for Pole Fuse 1.13.0.0

Loading Case WIND

*** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction	Effective Yield Strength (ksi)
27.00	2.4	2.9	3.8	0.0	1.35	0.01	0.83	0.05	0.00	0.84	78.44
22.00	1.6	1.9	2.5	0.0	1.09	0.01	0.85	0.05	0.00	0.86	77.85
17.00	1.0	1.1	1.5	0.0	0.84	0.01	0.86	0.05	0.00	0.87	77.26
12.00	0.5	0.6	0.7	0.0	0.59	0.01	0.88	0.05	0.00	0.89	76.68
7.00	0.2	0.2	0.3	0.0	0.34	0.01	0.89	0.05	0.00	0.90	76.09
2.00	0.0	0.0	0.0	0.0	0.10	0.01	0.90	0.05	0.00	0.91	75.50
0.00	0.0	0.0	0.0	0.0	0.00	0.01	0.91	0.05	0.00	0.92	75.27

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case ICE + WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
142.00	64	-54	83	0	1248	1487	1941	6083
139.00	119	-100	155	0	1309	1560	2037	6541
139.00	119	-100	155	0	2324	2770	3616	15371
137.00	186	-156	243	0	2364	2817	3677	15685
132.00	359	-301	468	0	2467	2940	3838	16493
129.00	466	-391	608	0	2533	3018	3940	16994
129.00	466	-391	608	0	3090	3682	4807	22334
127.00	555	-466	724	0	3129	3730	4869	22722
122.00	783	-657	1022	0	3237	3858	5037	23720
119.00	923	-775	1205	0	3308	3942	5146	24336
119.00	923	-775	1205	0	4280	5100	6658	33172
117.00	1046	-878	1366	0	4316	5143	6714	33594
112.00	1359	-1141	1774	0	4422	5270	6880	34673
109.00	1551	-1301	2024	0	4496	5358	6994	35337
109.00	1551	-1301	2024	0	5747	6849	8941	46023
107.00	1716	-1440	2240	0	5776	6884	8987	46480
102.00	2133	-1790	2785	0	5870	6996	9132	47642
97.00	2557	-2146	3338	0	5962	7105	9275	48844
92.00	2988	-2508	3901	0	6061	7223	9429	50084
89.00	3250	-2727	4243	0	6139	7316	9551	50841
89.00	3250	-2727	4243	0	7005	8348	10897	59435
87.00	3451	-2896	4505	0	7038	8387	10949	59953
85.00	3653	-3065	4769	0	7090	8450	11031	60471
85.00	3653	-3065	4769	0	7067	8422	10995	60478
82.00	3958	-3321	5167	0	7130	8497	11092	62093
79.17	4249	-3565	5547	0	7190	8569	11186	63645
77.00	4473	-3753	5839	0	7213	8596	11222	64303
72.00	4993	-4190	6518	0	7296	8695	11351	65843
67.00	5520	-4632	7205	0	7378	8793	11478	67426
62.00	6052	-5078	7900	0	7458	8888	11603	69051
57.00	6590	-5530	8603	0	7537	8982	11726	70717
52.00	7134	-5986	9313	0	7614	9074	11846	72423
47.00	7683	-6447	10030	0	7707	9185	11990	74164
45.00	7904	-6633	10318	0	7761	9249	12073	74868
45.00	7904	-6633	10318	0	7733	9216	12030	74874
42.00	8238	-6913	10754	0	7781	9273	12106	77066
38.08	8677	-7281	11327	0	7864	9372	12235	79966
37.00	8799	-7383	11486	0	7859	9365	12226	80406
32.00	9366	-7859	12226	0	7930	9451	12337	82439
27.00	9937	-8338	12972	0	7999	9533	12444	84512

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case ICE + WIND

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
22.00	10514	-8822	13724	0	8064	9610	12545	86623
17.00	11094	-9309	14483	0	8124	9681	12638	88769
12.00	11679	-9800	15246	0	8177	9745	12721	90946
7.00	12268	-10294	16015	0	8230	9809	12804	93146
2.00	12861	-10791	16788	0	8301	9893	12915	95347
0.00	13099	-10991	17099	0	8347	9947	12985	96206

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016

Deflections and Stresses for Pole Fuse 1.13.0.0

Loading Case ICE + WIND

*** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction	Effective Yield Strength (ksi)
142.00	16.9	20.1	26.2	0.3	1.60	0.00	0.01	0.01	0.00	0.01	82.13
139.00	16.2	19.3	25.2	0.3	1.60	0.00	0.02	0.01	0.00	0.02	81.51
139.00	16.2	19.3	25.2	0.3	1.60	0.01	0.02	0.01	0.00	0.03	81.51
137.00	15.8	18.8	24.6	0.3	1.59	0.01	0.02	0.01	0.00	0.03	81.10
132.00	14.7	17.5	22.9	0.3	1.57	0.01	0.04	0.01	0.00	0.05	80.07
129.00	14.1	16.8	21.9	0.3	1.55	0.01	0.05	0.01	0.00	0.06	79.46
129.00	14.1	16.8	21.9	0.3	1.55	0.01	0.04	0.01	0.00	0.05	82.55
127.00	13.7	16.3	21.3	0.3	1.54	0.01	0.05	0.01	0.00	0.06	82.55
122.00	12.6	15.1	19.7	0.2	1.51	0.01	0.06	0.01	0.00	0.07	82.55
119.00	12.0	14.3	18.7	0.2	1.49	0.01	0.07	0.01	0.00	0.08	82.55
119.00	12.0	14.3	18.7	0.2	1.49	0.02	0.07	0.01	0.00	0.08	82.55
117.00	11.6	13.9	18.1	0.2	1.47	0.02	0.08	0.01	0.00	0.09	82.29
112.00	10.7	12.7	16.6	0.2	1.43	0.02	0.09	0.01	0.00	0.11	81.47
109.00	10.1	12.0	15.7	0.2	1.40	0.02	0.10	0.01	0.00	0.12	80.98
109.00	10.1	12.0	15.7	0.2	1.40	0.02	0.10	0.02	0.00	0.12	80.98
107.00	9.7	11.6	15.1	0.2	1.38	0.02	0.11	0.02	0.00	0.13	80.65
102.00	8.8	10.5	13.7	0.2	1.32	0.02	0.13	0.02	0.00	0.15	79.83
97.00	7.9	9.5	12.3	0.1	1.26	0.02	0.14	0.02	0.00	0.16	79.01
92.00	7.1	8.5	11.1	0.1	1.19	0.02	0.16	0.02	0.00	0.18	78.18
89.00	6.6	7.9	10.3	0.1	1.15	0.02	0.17	0.02	0.00	0.19	77.69
89.00	6.6	7.9	10.3	0.1	1.15	0.02	0.17	0.02	0.00	0.19	77.69
87.00	6.3	7.5	9.8	0.1	1.12	0.02	0.17	0.02	0.00	0.20	77.36
85.00	6.0	7.2	9.4	0.1	1.09	0.02	0.18	0.02	0.00	0.20	77.04
85.00	6.0	7.2	9.4	0.1	1.09	0.02	0.15	0.02	0.00	0.17	81.79
82.00	5.6	6.7	8.7	0.1	1.06	0.02	0.15	0.02	0.00	0.17	81.38
79.17	5.2	6.2	8.1	0.1	1.02	0.02	0.16	0.02	0.00	0.18	80.99
77.00	4.9	5.8	7.6	0.1	0.99	0.02	0.16	0.02	0.00	0.18	80.69
72.00	4.3	5.1	6.6	0.1	0.92	0.02	0.17	0.02	0.00	0.19	80.01
67.00	3.7	4.4	5.7	0.1	0.85	0.02	0.18	0.02	0.00	0.20	79.32
62.00	3.1	3.7	4.9	0.1	0.78	0.02	0.19	0.02	0.00	0.21	78.64
57.00	2.6	3.1	4.1	0.0	0.71	0.02	0.20	0.01	0.00	0.22	77.95
52.00	2.2	2.6	3.4	0.0	0.64	0.02	0.21	0.01	0.00	0.23	77.27
47.00	1.8	2.1	2.7	0.0	0.57	0.02	0.21	0.01	0.00	0.23	76.59
45.00	1.6	1.9	2.5	0.0	0.54	0.02	0.22	0.01	0.00	0.24	76.31
45.00	1.6	1.9	2.5	0.0	0.54	0.02	0.18	0.01	0.00	0.20	80.55
42.00	1.4	1.7	2.2	0.0	0.50	0.02	0.18	0.01	0.00	0.20	80.20
38.08	1.1	1.4	1.8	0.0	0.45	0.02	0.19	0.01	0.00	0.20	79.74
37.00	1.1	1.3	1.7	0.0	0.44	0.02	0.19	0.01	0.00	0.21	79.61
32.00	0.8	1.0	1.2	0.0	0.38	0.02	0.19	0.01	0.00	0.21	79.02

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

Deflections and Stresses for Pole

Loading Case ICE + WIND

*** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction	Effective Yield Strength (ksi)
27.00	0.6	0.7	0.9	0.0	0.32	0.02	0.20	0.01	0.00	0.21	78.44
22.00	0.4	0.4	0.6	0.0	0.26	0.02	0.20	0.01	0.00	0.22	77.85
17.00	0.2	0.3	0.3	0.0	0.20	0.02	0.20	0.01	0.00	0.22	77.26
12.00	0.1	0.1	0.2	0.0	0.14	0.02	0.20	0.01	0.00	0.22	76.68
7.00	0.0	0.0	0.1	0.0	0.08	0.02	0.21	0.01	0.00	0.23	76.09
2.00	0.0	0.0	0.0	0.0	0.02	0.02	0.21	0.01	0.00	0.23	75.50
0.00	0.0	0.0	0.0	0.0	0.00	0.02	0.21	0.01	0.00	0.23	75.27

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case T+S

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
142.00	26	-22	34	0	652	777	1014	1729
139.00	54	-46	71	0	686	817	1067	1939
139.00	54	-46	71	0	1532	1826	2384	3480
137.00	99	-83	129	0	1555	1854	2420	3623
132.00	212	-178	277	0	1615	1924	2512	3992
129.00	282	-237	368	0	1651	1968	2569	4222
129.00	282	-237	368	0	2104	2508	3274	5301
127.00	343	-287	447	0	2129	2537	3312	5496
122.00	497	-417	649	0	2194	2614	3413	5999
119.00	592	-497	773	0	2234	2662	3475	6311
119.00	592	-497	773	0	3052	3637	4748	7854
117.00	680	-570	887	0	3078	3668	4788	8067
112.00	902	-757	1178	0	3145	3748	4893	8613
109.00	1038	-871	1355	0	3188	3799	4959	8949
109.00	1038	-871	1355	0	4240	5053	6597	10773
107.00	1160	-973	1514	0	4266	5084	6637	11004
102.00	1468	-1231	1916	0	4334	5165	6743	11595
97.00	1780	-1494	2324	0	4403	5248	6850	12206
92.00	2098	-1760	2739	0	4475	5333	6961	12838
89.00	2291	-1922	2990	0	4521	5388	7034	13225
89.00	2291	-1922	2990	0	5286	6299	8223	14776
87.00	2442	-2049	3188	0	5314	6333	8267	15041
85.00	2595	-2177	3387	0	5345	6370	8316	15306
85.00	2595	-2177	3387	0	5341	6365	8310	15310
82.00	2825	-2371	3688	0	5388	6422	8383	16194
79.17	3045	-2555	3974	0	5433	6475	8453	17044
77.00	3213	-2696	4195	0	5461	6509	8496	17405
72.00	3607	-3026	4708	0	5533	6593	8607	18252
67.00	4005	-3361	5229	0	5604	6679	8718	19124
62.00	4409	-3700	5756	0	5675	6764	8829	20021
57.00	4818	-4043	6289	0	5747	6849	8940	20943
52.00	5232	-4390	6830	0	5818	6933	9051	21891
47.00	5651	-4742	7377	0	5892	7022	9166	22861
45.00	5820	-4883	7597	0	5926	7062	9219	23253
45.00	5820	-4883	7597	0	5919	7054	9209	23257
42.00	6075	-5097	7930	0	5963	7107	9278	24544
38.08	6411	-5379	8369	0	6026	7181	9374	26250
37.00	6504	-5458	8491	0	6035	7192	9389	26509
32.00	6939	-5822	9058	0	6103	7273	9494	27710
27.00	7378	-6191	9631	0	6169	7352	9597	28941

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

Forces and Moments for Pole in the Local Element Coordinate System

Loading Case T+S

Dist. From Base (ft)	Mx (in-kips)	My (in-kips)	Resultant Mx & My (in-kips)	Torsion (in-kips)	Shear X-Dir. (lbs)	Shear Y-Dir. (lbs)	Resultant Shear (lbs)	Axial (lbs)
22.00	7822	-6563	10211	0	6233	7428	9696	30201
17.00	8270	-6940	10796	0	6294	7501	9791	31489
12.00	8723	-7319	11387	0	6351	7569	9881	32808
7.00	9180	-7703	11983	0	6409	7638	9971	34155
2.00	9641	-8090	12585	0	6472	7713	10069	35529
0.00	9826	-8245	12827	0	6502	7749	10116	36085

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

Deflections and Stresses for Pole

Loading Case T+S

*** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction	Effective Yield Strength (ksi)
142.00	12.3	14.7	19.1	0.2	1.14	0.00	0.00	0.00	0.00	0.01	82.13
139.00	11.8	14.1	18.4	0.2	1.14	0.00	0.01	0.00	0.00	0.01	81.51
139.00	11.8	14.1	18.4	0.2	1.14	0.00	0.01	0.01	0.00	0.01	81.51
137.00	11.5	13.7	17.9	0.1	1.14	0.00	0.01	0.01	0.00	0.02	81.10
132.00	10.8	12.8	16.8	0.1	1.13	0.00	0.03	0.01	0.00	0.03	80.07
129.00	10.3	12.3	16.1	0.1	1.12	0.00	0.03	0.01	0.00	0.03	79.46
129.00	10.3	12.3	16.1	0.1	1.12	0.00	0.02	0.01	0.00	0.03	82.55
127.00	10.0	11.9	15.6	0.1	1.11	0.00	0.03	0.01	0.00	0.03	82.55
122.00	9.3	11.1	14.4	0.1	1.09	0.00	0.04	0.01	0.00	0.04	82.55
119.00	8.8	10.5	13.8	0.1	1.08	0.00	0.04	0.01	0.00	0.05	82.55
119.00	8.8	10.5	13.8	0.1	1.08	0.00	0.04	0.01	0.00	0.05	82.55
117.00	8.6	10.2	13.3	0.1	1.07	0.00	0.05	0.01	0.00	0.05	82.29
112.00	7.8	9.4	12.2	0.1	1.04	0.00	0.06	0.01	0.00	0.06	81.47
109.00	7.4	8.9	11.6	0.1	1.02	0.00	0.07	0.01	0.00	0.07	80.98
109.00	7.4	8.9	11.6	0.1	1.02	0.00	0.07	0.01	0.00	0.07	80.98
107.00	7.2	8.5	11.1	0.1	1.00	0.00	0.07	0.01	0.00	0.08	80.65
102.00	6.5	7.7	10.1	0.1	0.96	0.00	0.09	0.01	0.00	0.09	79.83
97.00	5.9	7.0	9.1	0.1	0.92	0.01	0.10	0.01	0.00	0.11	79.01
92.00	5.3	6.3	8.2	0.1	0.87	0.01	0.11	0.01	0.00	0.12	78.18
89.00	4.9	5.9	7.6	0.1	0.84	0.01	0.12	0.01	0.00	0.12	77.69
89.00	4.9	5.9	7.6	0.1	0.84	0.01	0.12	0.01	0.00	0.12	77.69
87.00	4.7	5.6	7.3	0.0	0.82	0.01	0.12	0.01	0.00	0.13	77.36
85.00	4.5	5.3	6.9	0.0	0.80	0.01	0.13	0.01	0.00	0.13	77.04
85.00	4.5	5.3	6.9	0.0	0.80	0.00	0.10	0.01	0.00	0.11	81.79
82.00	4.1	4.9	6.5	0.0	0.78	0.00	0.11	0.01	0.00	0.11	81.38
79.17	3.9	4.6	6.0	0.0	0.75	0.01	0.11	0.01	0.00	0.12	80.99
77.00	3.6	4.3	5.7	0.0	0.73	0.01	0.12	0.01	0.00	0.12	80.69
72.00	3.2	3.8	4.9	0.0	0.68	0.01	0.13	0.01	0.00	0.13	80.01
67.00	2.7	3.2	4.2	0.0	0.63	0.01	0.13	0.01	0.00	0.14	79.32
62.00	2.3	2.8	3.6	0.0	0.58	0.01	0.14	0.01	0.00	0.15	78.64
57.00	1.9	2.3	3.0	0.0	0.53	0.01	0.15	0.01	0.00	0.15	77.95
52.00	1.6	1.9	2.5	0.0	0.47	0.01	0.15	0.01	0.00	0.16	77.27
47.00	1.3	1.6	2.0	0.0	0.42	0.01	0.16	0.01	0.00	0.16	76.59
45.00	1.2	1.4	1.9	0.0	0.40	0.01	0.16	0.01	0.00	0.16	76.31
45.00	1.2	1.4	1.9	0.0	0.40	0.01	0.13	0.01	0.00	0.14	80.55
42.00	1.0	1.2	1.6	0.0	0.37	0.01	0.14	0.01	0.00	0.14	80.20
38.08	0.9	1.0	1.3	0.0	0.34	0.01	0.14	0.01	0.00	0.14	79.74
37.00	0.8	1.0	1.3	0.0	0.33	0.01	0.14	0.01	0.00	0.14	79.61
32.00	0.6	0.7	0.9	0.0	0.28	0.01	0.14	0.01	0.00	0.15	79.02

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016

Fuse 1.13.0.0

Deflections and Stresses for Pole

Loading Case T+S

*** Deflections and Stresses ***

Distance From Base (ft)	Defl. X-Dir (in)	Defl. Y-Dir (in)	Defl. Resultant X & Y (in)	Defl. Z-Dir (in)	Rotation (deg.)	Axial Interaction Term	Flexural Interaction Term	Shear Interaction Term	Torsion Interaction Term	Combined Stress Interaction	Effective Yield Strength (ksi)
27.00	0.4	0.5	0.7	0.0	0.24	0.01	0.15	0.01	0.00	0.15	78.44
22.00	0.3	0.3	0.4	0.0	0.19	0.01	0.15	0.01	0.00	0.15	77.85
17.00	0.2	0.2	0.3	0.0	0.15	0.01	0.15	0.01	0.00	0.16	77.26
12.00	0.1	0.1	0.1	0.0	0.10	0.01	0.15	0.01	0.00	0.16	76.68
7.00	0.0	0.0	0.0	0.0	0.06	0.01	0.16	0.01	0.00	0.16	76.09
2.00	0.0	0.0	0.0	0.0	0.02	0.01	0.16	0.01	0.00	0.16	75.50
0.00	0.0	0.0	0.0	0.0	0.00	0.01	0.16	0.01	0.00	0.17	75.27

MINIMUM DEFLECTION RATIO // DEFLECTION LIMIT / DEFLECTION // IS

F L A N G E A N A L Y S I S Version IMPAX-16.5.2016

FLANGE FOR THE C - D JOINT : SIZED FOR SHAFT MOMENT CAPACITY

Input Data

Applied Reactions

Resultant Moment	=	13,005	in-kips
Torsion	=	0	in-kips
Resultant Shear	=	0	lbs
Axial	=	0	lbs

Bolts

Number of Bolts	=	14	
Bolt Diameter	=	1.50	in
Bolt Material	=	A325	
Bolt Circle	=	33.77	in

Flange

Outside Diameter	=	37.52	in
Thickness	=	2.000	in
Yield Strength	=	50	ksi
Tensile Strength	=	65	ksi
Valmont Material Spec.	=	S-56	

Tube

No. of sides	=	18	
Design Diameter	=	28.950	in
Detailed "C" Sect. Dia	=	28.997	in
Detailed "D" Sect. Dia	=	28.904	in
Thickness	=	0.3125	in
Thickness for M. Cap.	=	0.2500	in
Yield	=	65	ksi

Results

Bolts

Maximum Bolt Axial Force	=	110,022	lbs
Maximum Bolt Shear	=	1,049	lbs
Tensile Strength	=	105	ksi
Combined Stress Ratio	=	0.98	

Flange

Weight	=	435	lbs
Controlling Stress	=	Shear	
Maximum Stress Ratio	=	0.41	
Bending Stress Ratio	=	0.40	
Shear Stress Ratio	=	0.41	
Bearing Stress Ratio	=	0.01	

*** BOLT COORDINATES ***

BOLT NO.	X-COORD	Y-COORD		BOLT NO.	X-COORD	Y-COORD
1	16.89	0.00	*	2	15.21	7.33
3	10.53	13.20	*	4	3.76	16.46

BY VALMONT INDUSTRIES FOR: PHOENIX PARTNERSHIP 130' EXT TO 143' POLE, SITE: TRUMBULL - EDISON ROA DATE 06/29/2016
Fuse 1.13.0.0

*** ANCHOR BOLT CHARACTERISTICS GOVERNED BY LOADING CASE WIND ***

NUMBER OF BOLTS	DIAMETER (IN.)	LENGTH (IN.)	WEIGHT (LB.)	SHIPPED AS	PROJECTION LENGTH (IN.)	GALVANIZED LENGTH (IN.)	THREAD SIZE
20	2.250	72	2418	BOLTS, TEMPLATES	12.25	72.00	4.5-UNC-2A

STEEL SPECIF.	MAXIMUM BOLT FORCE (LB.)	MAXIMUM BOLT SHEAR FORCE (LB.)	FACTORED NOMINAL TENS. STRENGTH (LB.)	STRESS AREA (SQ. IN.)	INTERACTION VALUE	CONFIGURATION OF BOTTOM END
A615	221511	2883	260004	3.250	0.87	THREADED WITH HEAVY HEX HEAD NUT

NOTE: BOLT INTERACTION VALUE WAS CALCULATED BY DIVIDING SHEAR FORCE BY FACTOR RELATED TO DETAIL TYPE d] IN EIA-G SPECS.

*** BOLT COORDINATES AND FORCES ***

BOLT NO.	X-COORD	Y-COORD	MAX TENSION-LB	MAX FORCE-LB	*	BOLT NO.	X-COORD	Y-COORD	MAX TENSION-LB	MAX FORCE-LB
1	33.459	0.00	- 2218	2218	*	2	31.821	10.339	65546	69982
3	27.069	19.667	126681	131117	*	4	19.667	27.069	175195	179630
5	10.339	31.821	206342	210778	*	6	0.00	33.459	217075	221511

MAX. BOLT CIRCLE = 66.92 IN. TEMPLATE DIAMETER = 72.92 IN.

*** BASE PLATE CHARACTERISTICS GOVERNED BY LOADING CASE WIND ***

DRAWING NUMBER	OVERALL LENGTH (IN.)	OVERALL WIDTH (IN.)	THICKNESS (IN.)	ACTUAL WEIGHT (LB.)	RAW MATERIAL WEIGHT (LB.)	SIDE LENGTH (IN.)
SD18-98	72.92	74.04	3.2500	3029	4971	12.86

TOP WIDTH (IN.)	POLE DIAM. (MAJOR DIAM.) (IN.)	CRITICAL FAILURE MODE	TOTAL LENGTH OF FAIL MODE LINE (IN.)	EFFECTIVE LENGTH (IN.)	TOTAL MOMENT ALONG FAIL LINE (IN.-LB.)
12.86	59.50	1	74.00	60.17	3966065

STEEL SPECIF. VALMONT	STEEL SPECIF. OTHER	BENDING STRESS (PSI)	EFFECTIVE YIELD STRESS (PSI)	MAX. VERTICAL SHEAR STRESS (PSI)
S56	A572	37446	50000	11002

** LOADS AT POLE BASE IN THE GLOBAL COORDINATE SYSTEM ********** LOADING CASES **********

LOADING CASE IDENTIFICATION	WIND	ICE	T+S
MOMENT ABT. X-AXIS (IN-KIP)	56206	13099	9826
MOMENT ABT. Y-AXIS (IN-KIP)	- 47163	- 10991	- 8245
SHEAR FORCE (LB.)	57669	12966	10111
VERTICAL FORCE (LB.)	44355	96209	36086

]MAX CRITERION-	LOAD CASE
]MOMENT ABT. X	WIND
]MOMENT ABT. Y	WIND
]RES. MOMENT	WIND
]SHEAR FORCE	WIND
]BOLT FORCE	WIND
]BOLT TENSION	WIND

Daniel L. Goulet
C Squared Systems, LLC
65 Dartmouth Drive
Auburn, NH 03032
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Dan.Goulet@csquaredsystems.com

C Squared Systems, LLC

June 10, 2016

Connecticut Siting Council

Subject: CT5051 Police Station – 158 Edison Road, Trumbull, CT

Dear Connecticut Siting Council:

C Squared Systems has been retained by Phoenix Partnership to investigate RF Power Density levels for the T-Mobile, Verizon Wireless and Trumbull Police Department antenna arrays to be installed on the proposed monopole tower to be located at 158 Edison Road in Trumbull, CT. The Trumbull Police Department will be relocating their antennas from the existing 100' lattice tower to the top of the proposed 143' monopole.

Calculations were done in accordance with FCC OET Bulletin 65. These worst-case calculations assume that all transmitters are simultaneously operating at full power and that there is 0 dB of cable loss. The calculation point is 6 feet above ground level to model the RF power density at the head of a person standing at the base of the tower.

Due to the directional nature of the proposed antennas, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to the Attachments for the vertical patterns of the proposed T-Mobile and Verizon antennas. The calculated results for T-Mobile and Verizon Wireless shown below include a nominal 10 dB off-beam pattern loss to account for the lower relative gain directly below the panel antennas.[1]

Location	Carrier	Vertical Distance to Antenna (Ft.)	Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Power Density (mw/cm^2)	Limit	%MPE
Ground Level	Trumbull PD	154	850	11	35	0.0063	0.5667	1.12%
	Trumbull PD	151.7	857.2625	1	280	0.0047	0.5715	0.83%
	Trumbull PD (EMS)	151.5	155.805	1	70	0.0012	0.2000	0.59%
	Trumbull PD (PWD)	151.5	154.055	1	50	0.0008	0.2000	0.42%
	Trumbull PD	148	154.1	1	25	0.0004	0.2000	0.22%
	Trumbull PD (HD)	148	45.84	1	50	0.0009	0.2000	0.45%
	TrumbullPD (FD)	148	33.56	1	110	0.0020	0.2000	0.98%
	Trumbull PD (FD 2)	148	33.76	1	110	0.0020	0.2000	0.98%
	Trumbull PD (FD 3)	148	33.86	1	110	0.0020	0.2000	0.98%
	Trumbull PD (CSP HL)	148	39.46	1	100	0.0018	0.2000	0.89%
	T-Mobile	120	1930	1	502	0.0014	1.0000	0.14%
	T-Mobile	120	2100	1	631	0.0017	1.0000	0.17%
	Verizon	110	1970	1	1191	0.0396	1.0000	3.96%
	Verizon	110	869	9	352	0.0105	0.5793	1.82%
	Verizon	110	2145	1	1750	0.0058	1.0000	0.58%
	Verizon	110	746	1	705	0.0023	0.4973	0.47%
							Total	**14.62%**

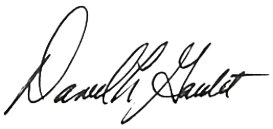
Table 1: Carrier Information[2]

[1] No pattern adjustment has been taken for the Trumbull PD omnidirectional or dipole antennas.

[2] Please note that %MPE values listed are rounded to two decimal points. The total %MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

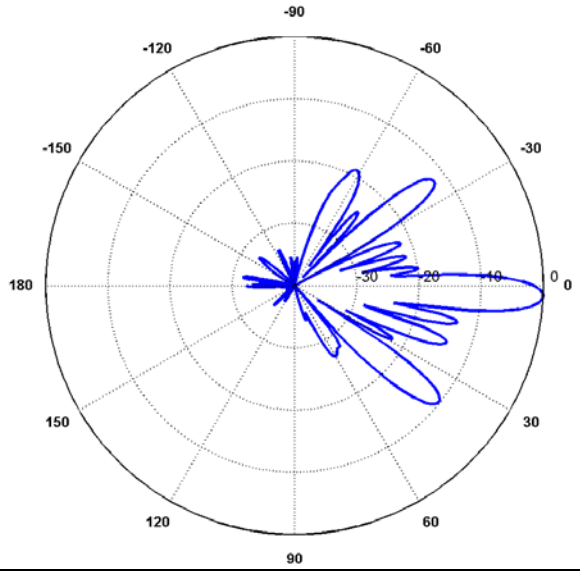
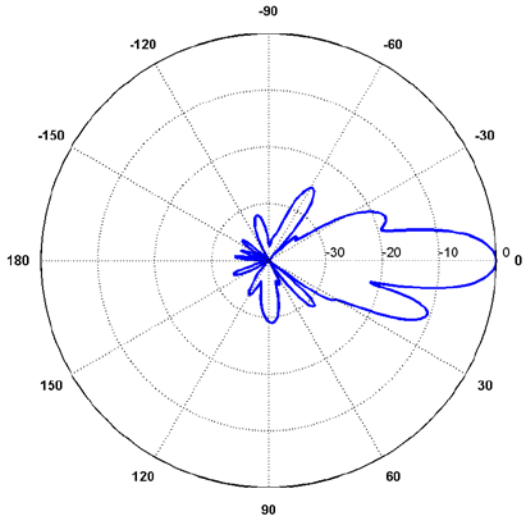
Summary: Under worst-case assumptions, RF Power Density levels for the proposed antenna arrays will not exceed **14.62%** of the FCC MPE limit for General Public/Uncontrolled Environments.

Sincerely,

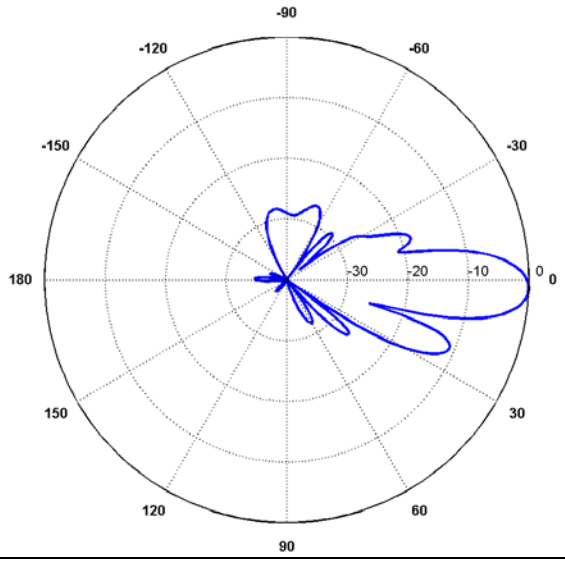
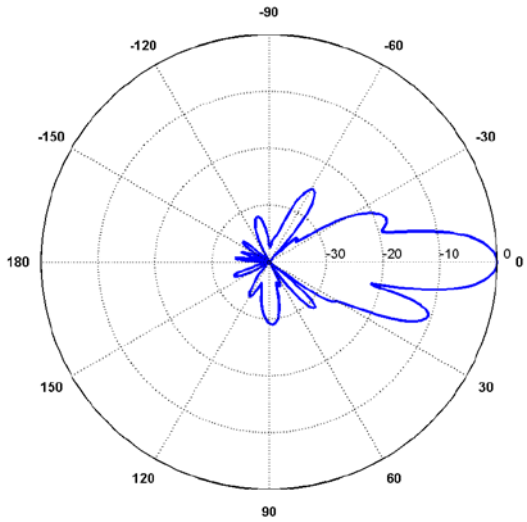
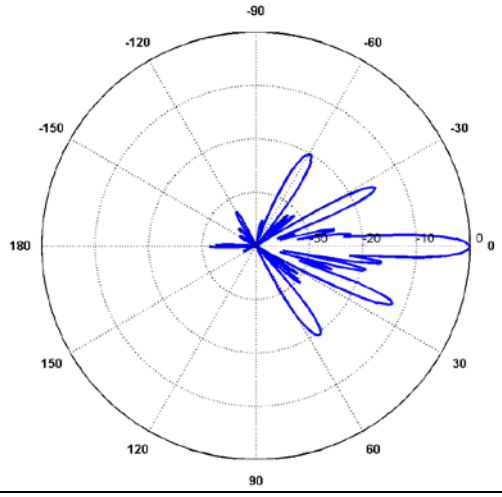


Daniel L. Goulet
C Squared Systems, LLC

Attachment I: T-Mobile's Antenna Data Sheets and Electrical Patterns

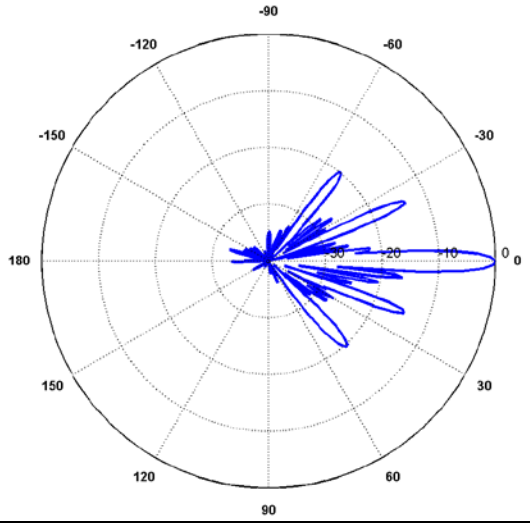
1900 MHz Manufacturer: Ericsson Model #: AIR21-B4A-B2P Frequency Band: 1930-1990 MHz Gain: 15.4 dBd Vertical Beamwidth: 7.0° Horizontal Beamwidth: 65° Polarization: Dual Pol ± 45° Size L x W x D: 4.7" x 12.0" x 7.8"	
2100 MHz Manufacturer: Ericsson Model #: AIR21-B2A-B4P Frequency Band: 2110-2155 MHz Gain: 15.4 dBd Vertical Beamwidth: 7.0° Horizontal Beamwidth: 65° Polarization: Dual Pol ± 45° Size L x W x D: 92.4" x 14.8" x 7.4"	

Attachment II: Verizon's Antenna Data Sheets and Electrical Patterns

750 MHz Manufacturer: Commscope Model #: LNX-6514DS-A1M Frequency Band: 698-806 MHz Gain: 13.6 dBd Vertical Beamwidth: 12.5° Horizontal Beamwidth: 65° Polarization: Dual Pol ± 45° Size L x W x D: 72.7" x 11.9" x 7.1"	
850 MHz Manufacturer: CommScope Model #: LNX-6514DS-A1M Frequency Band: 806-896 MHz Gain: 14.2 dBd Vertical Beamwidth: 11.2° Horizontal Beamwidth: 65° Polarization: Dual Pol ± 45° Size L x W x D: 72.7" x 11.9" x 7.1"	
1900 MHz Manufacturer: Commscope Model #: HBXX-6517DS-A1M Frequency Band: 1850-1990 MHz Gain: 16.3 dBd Vertical Beamwidth: 4.7° Horizontal Beamwidth: 66° Polarization: Dual Pol ± 45° Size L x W x D: 74.9" x 12.0" x 6.5"	

2300 MHz

Manufacturer:	Commscope
Model #:	HBXX-6517DS-A1M
Frequency Band:	1920-2180 MHz
Gain:	16.6 dBd
Vertical Beamwidth:	4.4°
Horizontal Beamwidth:	65°
Polarization:	Dual Pol ± 45°
Size L x W x D:	74.9” x 12.0” x 6.5”



Phoenix Partnership

June 28, 2016

VIA CERTIFIED MAIL

Re: Sub-Petition for Declaratory Ruling Filed with the Connecticut Siting Council for Modifications to a Telecommunications Facility at 158 Edison Road, Trumbull, Connecticut

Dear First Selectman Herbst:

Phoenix Partnership, LLC (“Phoenix”) intends to file a Sub-Petition for Declaratory Ruling ("Sub-Petition") with the Connecticut Siting Council ("Council") seeking approval to modify the existing wireless telecommunications facility at 158 Edison Road in Trumbull (the "Property"). This notice is being sent to you because you are listed as an owner of land that abuts the Property.

Phoenix proposes to extend the tower by 13 feet, which would allow the Town’s emergency services antennas to be located at a height of 143 feet. (These modifications are referred to as “Facility Modifications”).

The Facility Modifications constitute an eligible facility request pursuant to Section 6409(a) of the Federal Middle Class Tax Relief and Job Creation Act of 2012 (47 U.S.C. § 1455(a)) and the October 21, 2014 Order of the Federal Communications Commission (FCC-14¬533). A copy of the full Sub-Petition is attached for your review.

Pursuant to its decision in Petition No. 1133, comments or concerns regarding this proposal should be submitted to the Council within thirty (30) days of the date of the Sub-Petition.

If you have any questions regarding the Sub-Petition or the Council's process for reviewing the Sub-Petition don’t hesitate to contact me at 203-623-3287. You may also contact the Council directly at 860-827-2935.

Very truly yours,

Keith Coppins

110 Washington Avenue North Haven, Connecticut 06473
Phone - 203-623-3287 Fax 203-234-6398

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Alfredo and Carmen Serrano
35 Merwin St
Trumbull, CT 06611

Michael K and Aliss Obeid
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Trumbull, CT 06611

Town of Trumbull
First Selectman Tim Herbst
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Trumbull, CT 06611

Herbert and Doretha Bendolph
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Trumbull, CT 06611

Sahav Hila
183 Edison Rd
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Joe E and Rosa M Bean
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Robert J, Elizabeth M and Jason J Crainich
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