AIROSMITH DEVELOPMENT
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August 1st, 2018

Melanie Bachman, Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification – Antenna Swap for wireless facility located at 2 Sunny Lane (Allen Raymond Ln) WESTPORT, CT 06880 – CT03XC382 (lat. 41° 09' 46.5" N, long. - 73° 22' 23.09" W)

Dear Ms. Bachman:

Sprint Spectrum, LP ("Sprint") currently maintains wireless telecommunications antennas at the (120-foot level) on an existing (130-foot monopole tower) at the above-referenced address. The property is owned by CELLCO PARTNERSHIP and the tower is owned by American Tower Corporation.

Sprint's proposed work involves antenna replacement and tower work. Sprint intends to replace six (6) antennas and add three (3) RRHs onto the tower. All the proposed work is contained within the existing fenced area. Please refer to the attached drawings for site plans prepared by Infinigy Engineering.

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). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to JAMES MARPE, FIRST SELECTMAN and CINDY TYMINSKI, PLANNER of the TOWN of WESTPORT. A copy of this letter is also being sent to AMERICAN TOWER CORPOATION the owner of the tower, and CELLCO PARTNERSHIP who owns 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).

1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The antennas work is a one-for-one replacement of facility components.

32 Clinton Street, Saratoga Springs, NY 12866
Office 518-306-1733 – Fax 518-306-1711
www.airosmithdevelopment.com

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3. The proposed modifications will include the addition of ground base equipment as depicted on the attached drawings; however, the proposed equipment will not require an extension of the site boundaries.

4. The proposed modifications will not increase noise levels at the facility by six decibels or more.

5. The additional ground based equipment will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard.

For the foregoing reasons, Sprint 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).

If you have any questions or require any additional information regarding this request, please do not hesitate to give me a call at (518) 350-4222 or email me to aperkowski@airosmithdevelopment.com

Kind Regards,

Arthur Perkowski
Airosmith Development Inc.
32 Clinton Street
Saratoga Springs, NY 12866
518-306-1711 desk & fax
518-871-3707 cell
aperkowski@airosmithdevelopment.com

Attachment

CC: JAMES MARPE (FIRST SELECTMAN, WESTPORT, CT)
CINDY TYMINSKI (Planner, WESTPORT, CT)
JUSTINE PAUL (Tower Owner - American Tower Corporation)
CELLCO PARTNERSHIP (Property Owner)

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WESTPORT CT 06880

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Total Postage and Fees $6.70

0867
17

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08/01/2018

Sent To: James Monroe CT03XC382
Street and Apt. No., or PO Box No.: 110 Myrtle Ave Room 310
City, State, ZIP+4®: Westport CT 06880

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Total Postage and Fees $6.70

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Street and Apt. No., or PO Box No.: 10 Presidential Way
City, State, ZIP+4®: Woburn MA 01801

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Total Postage and Fees $6.70

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Sent To: Cellco Partnership CT03XC382
Street and Apt. No., or PO Box No.: PO Box 2549
City, State, ZIP+4®: Addison TX 75001

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Total Postage and Fees $6.70

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Postmark Here
AUG 0 1 2018
08/01/2018

Sent To: Cindy Tymnski CT03XC382
Street and Apt. No., or PO Box No.: 110 Myrtle Ave Room 203
City, State, ZIP+4®: Westport CT 06880

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7018 0680 0002 1201 5326

2 ALLEN RAYMOND LN

Location	2 ALLEN RAYMOND LN	**Mblu**	B13/ / 026/000 /
Acct#	5298022	**Owner**	CELLCO PARTNERSHIP
Assessment	$1,378,920	**Appraisal**	$1,969,900
PID	4500	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$1,444,300	$525,600	$1,969,900
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$1,011,020	$367,900	$1,378,920

Owner of Record

Owner	CELLCO PARTNERSHIP	**Sale Price**	$415,000
Co-Owner	BELL ATLANTIC NYNEX MOBILE DBA	**Certificate**	1
Address	PO BOX 2549 ADDISON , TX 75001	**Book & Page**	1488/ 99
		Sale Date	12/10/1996
		Instrument	00

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
CELLCO PARTNERSHIP	$415,000	1	1488/ 99	00	12/10/1996

Building Information

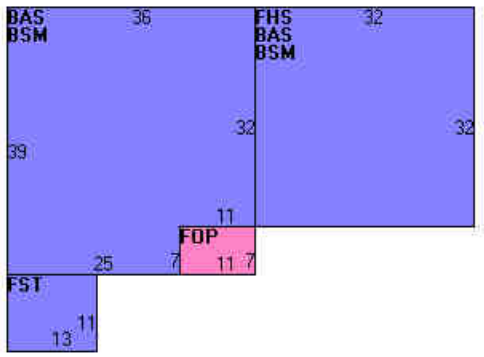
Building 1 : Section 1

Year Built:	1968
Living Area:	3,006
Replacement Cost:	$508,423
Building Percent Good:	80
Replacement Cost Less Depreciation:	$406,700

Building Attributes	
Field	**Description**

STYLE	Res Typ Comm
MODEL	Commercial
Grade	Average +20
Stories:	1
Occupancy	1
Exterior Wall 1	Board & Batten
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Asphalt/F Glas
Interior Wall 1	Drywall
Interior Wall 2	
Interior Floor 1	Vinyl/Asphalt
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air
AC Type	Central
Bldg Use	Cell Site
Income Adj	
1st Floor Use:	
Heat/AC	Heat/AC Pkgs
Frame Type	Wood Frame
Baths/Plumbing	Average
Ceiling/Walls	Ceil & Walls
Rooms/Prtns	Average
Wall Height	8
% Comn Wall	

Building Layout



(http://images.vgsi.com/photos2/WestportCTPhotos//Sketches/4

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	2,351	2,351
FHS	Half Story, Finished	1,024	512
FST	Utility Storage, Fin	143	143
BSM	Basement Area	2,351	0
FOP	Porch, Open	77	0
		5,946	3,006

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	434
Description	Cell Site
Zone	AAA
Neighborhood	C
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	1.63
Frontage	0
Depth	0
Assessed Value	$367,900
Appraised Value	$525,600

Outbuildings

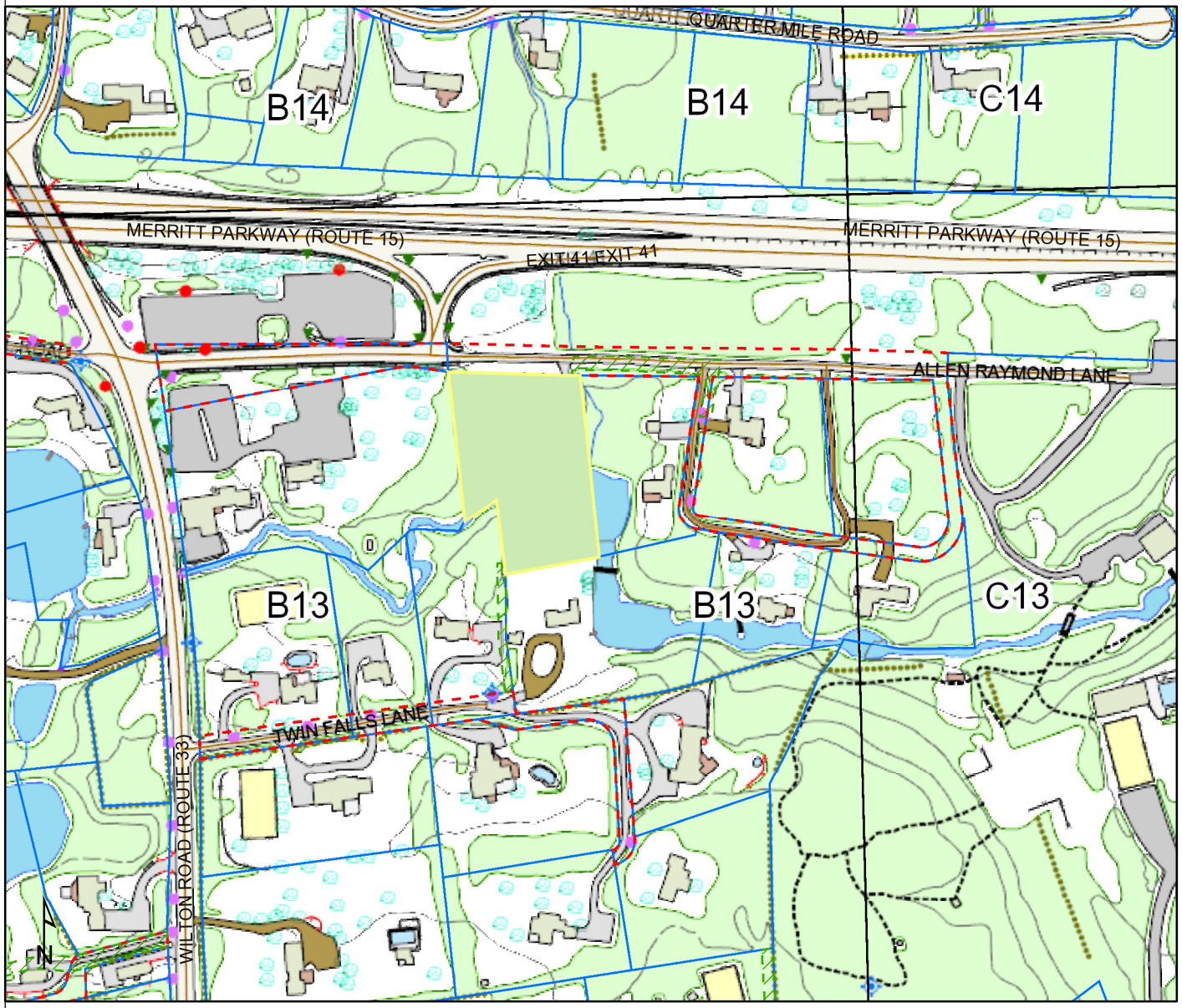
Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
CELL	Cell on TWR	TW		6 Sites	$1,037,600	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$1,444,300	$525,600	$1,969,900
2016	$1,444,300	$525,600	$1,969,900
2014	$1,333,500	$519,600	$1,853,100

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$1,011,020	$367,900	$1,378,920
2016	$1,011,020	$367,900	$1,378,920
2014	$933,400	$363,700	$1,297,100

CT03XC382



1 inch = 283 feet

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RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

SPRINT Existing Facility

Site ID: CT03XC382

Westport/Bam
2 Sunny Lane
Westport, CT 06880

July 30, 2018

EBI Project Number: 6218005219

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	13.06 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
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July 30, 2018

SPRINT
Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Emissions Analysis for Site: **CT03XC382 – Westport/Bam**

EBI Consulting was directed to analyze the proposed SPRINT facility located at **2 Sunny Lane, Westport, CT**, for the purpose of determining whether the emissions from the Proposed SPRINT Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

General population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 850 MHz Band is approximately 567 $\mu W/cm^2$. The general population exposure limit for the 1900 MHz (PCS), 2500 MHz (BRS) and 11 GHz microwave bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed SPRINT Wireless antenna facility located at **2 Sunny Lane, Westport, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since SPRINT is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 1 CDMA channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

2) 2 LTE channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 50 Watts per Channel.

3) 5 CDMA channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 16 Watts per Channel.

4) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

5) 8 LTE channels (2500 MHz (BRS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

6) 1 microwave channel (11 GHz) was considered for sector B of the proposed facility. This channel has a transmit power of 1 Watt.

7) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

8) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

9) The antennas used in this modeling are the **Commscope NNVV-65B-R4 and the Nokia AAHC** for transmission in the 850 MHz, 1900 MHz (PCS) and 2500 MHz (BRS) frequency bands and the **Andrew VHLP800-11** microwave dish for microwave backhaul transmissions in the 11 GHz band at sector B. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

10) The antenna mounting height centerlines of the proposed panel antennas and microwave dish are **120 feet** above ground level (AGL) for **Sector A**, **120 feet** above ground level (AGL) for **Sector B** and **120 feet** above ground level (AGL) for Sector C.

11) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculations were done with respect to uncontrolled / general population threshold limits.

SPRINT Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Commscope NNVV-65B-R4	Make / Model:	Commscope NNVV-65B-R4	Make / Model:	Commscope NNVV-65B-R4
Gain:	12.75 / 15.05 dBd	Gain:	12.75 / 15.05 dBd	Gain:	12.75 / 15.05 dBd
Height (AGL):	**120 feet**	Height (AGL):	**120 feet**	Height (AGL):	**120 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	10	Channel Count	10	Channel Count	10
Total TX Power(W):	280 Watts	Total TX Power(W):	280 Watts	Total TX Power(W):	280 Watts
ERP (W):	7,378.61	ERP (W):	7,378.61	ERP (W):	7,378.61
Antenna A1 MPE%	**2.51 %**	Antenna B1 MPE%	**2.51 %**	Antenna C1 MPE%	**2.51 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Nokia AAHC	Make / Model:	Nokia AAHC	Make / Model:	Nokia AAHC
Gain:	15.05 dBd	Gain:	15.05 dBd	Gain:	15.05 dBd
Height (AGL):	**120 feet**	Height (AGL):	**120 feet**	Height (AGL):	**120 feet**
Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts
ERP (W):	5,118.23	ERP (W):	5,118.23	ERP (W):	5,118.23
Antenna A2 MPE%	**1.42 %**	Antenna B2 MPE%	**1.42 %**	Antenna C2 MPE%	**1.42 %**

Microwave Backhaul Data

Antenna Type:	Gain (dBd)	Height (feet AGL):	Frequency Bands	Channel Count	Total TX Power(W)	ERP (W)	MPE %	Sector
Andrew VHLP800-11	35.25 dBd	120	11 GHz	1	1	3,349.65	**0.10**	B

Site Composite MPE%	
Carrier	**MPE%**
SPRINT – Sector B	**4.03 %**
T-Mobile	3.72 %
Clearwire	0.14 %
Nextel	0.40 %
Verizon Wireless	2.28 %
AT&T	2.49 %
Site Total MPE %:	**13.06 %**

SPRINT Sector A Total:	3.93 %
SPRINT Sector B Total:	4.03 %
SPRINT Sector C Total:	3.93 %
Site Total:	13.06 %

SPRINT _ Frequency Band / Technology (Sector B)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
Sprint 850 MHz CDMA	1	376.73	120	1.04	850 MHz	567	0.17%
Sprint 850 MHz LTE	2	941.82	120	5.21	850 MHz	567	0.92%
Sprint 1900 MHz (PCS) CDMA	5	511.82	120	7.08	1900 MHz (PCS)	1000	0.71%
Sprint 1900 MHz (PCS) LTE	2	1,279.56	120	7.08	1900 MHz (PCS)	1000	0.71%
Sprint 2500 MHz (BRS) LTE	8	639.78	120	14.16	2500 MHz (BRS)	1000	1.42%
Sprint 11 GHz Microwave	1	3,349.65	120	0.93	11 GHz	1000	0.10%
						Total:	**4.03%**

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the SPRINT facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

SPRINT Sector	Power Density Value (%)
Sector A:	3.93 %
Sector B:	4.03 %
Sector C:	3.93 %
SPRINT Maximum MPE % (Sector B):	4.03 %
Site Total:	13.06 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **13.06 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

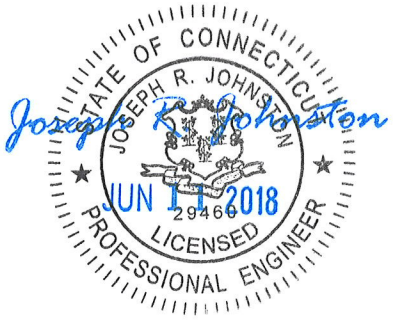
1033 WATERVLIET SHAKER RD, ALBANY, NY 12205

Mount Analysis Report

June 7, 2018

Site Number	CT03XC382
Site Name	Westport/Bam
Client	Airosmith
Carrier	Sprint
Infinigy Job Number	526-104
Site Location	2 Sunny Lane Westport, CT 06880 41° 09' 46.50" N NAD83 73° 22' 23.09" W NAD83
Mount Centerline EL.	120.0 ft
Mount Classification	Platform
Mount Usage	**73.2%**
Overall Result	**Pass**

Upon reviewing the results of this analysis, it is our opinion that the mount meets the specified TIA code requirements. The mounts for the proposed carrier are therefore deemed adequate to support the final loading configuration as listed in this report.



Jessica Kipp
Structural Engineer Intern

Contents

Introduction

Infinigy Engineering has been requested to perform a mount analysis on the existing Sprint mounts. All supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The mount was analyzed using RISA-3D Version 16.0.3 analysis software.

Supporting Documentation

Construction Drawings	Infinigy Engineering Job #526-104, dated March 21, 2018
COLO Application	ATC Asset #411189, dated August 18, 2017

Analysis Code Requirements

Wind Speed	93 mph (3-Second Gust, V_{ASD}) / 120 mph (3-Second Gust, V_{ULT})
Wind Speed w/ ice	50 mph (3-Second Gust, V_{ASD}) w/ 3/4" ice
TIA Revision	ANSI/TIA-222-G
Adopted IBC	2012 IBC/ 2016 Connecticut State Building Code
Structure Class	II
Exposure Category	B
Topographic Category	1
Calculated Crest Height	0 ft

Conclusion

Upon reviewing the results of this analysis, it is our opinion that the mount meets the specified TIA code requirements. The mounts for the proposed carrier are therefore deemed adequate to support the final loading configuration as listed in this report.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

Jessica Kipp
Structural Engineer Intern | Infinigy
1033 Watervliet Shaker Road, Albany, NY 12205
(O) (518) 690-0790
jkipp@infinigy.com | www.infinigy.com

Final Configuration Loading

Mount CL (ft)	Rad. HT (ft)	Horiz. O/S (ft)[1]	Qty	Appurtenance[1][2]	Carrier
120.0	120.0	0.0	3	Commscope DT465B-2XR	Sprint
		4.0	3	RFS APXVSPP18-C-A20	
		8.0/12.0	6	Alcatel Lucent 800 MHz 2x50W RRH	
		12.0	3	Alcatel Lucent TD-RRH8x20-25	
		8.0	3	Alcatel Lucent 1900 MHz 4x45 RRH	

(1) Horizontal Offset is defined as the distance from the left most edge of the mount face horizontal when viewed facing the tower
(2) Radios are mounted behind antennas at respective locations. See appended documents for vertical locations

Structure Usages

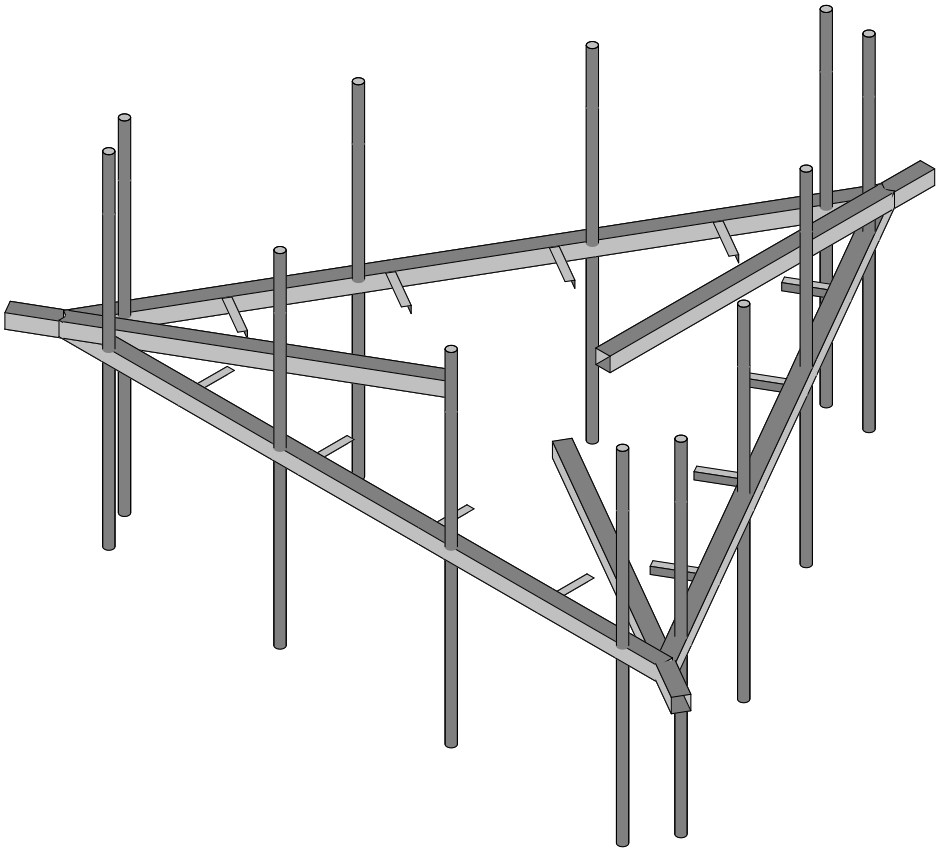
Mount Pipe	32.9%	Pass
Standoff	73.2%	Pass
Horizontal	30.7%	Pass
RATING =	**73.2%**	**Pass**

Assumptions and Limitations

Our structural calculations are completed assuming all information provided to Infinigy Engineering is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition of "like new" and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure's condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report Infinigy Engineering should be notified immediately to complete a revised evaluation.

Our evaluation is completed using standard TIA, AISC, ACI, and ASCE methods and procedures. Our structural results are proprietary and should not be used by others as their own. Infinigy Engineering is not responsible for decisions made by others that are or are not based on our supplied assumptions and conclusions.

This report is an evaluation of the proposed carriers mount structure only and does not reflect adequacy of the existing tower, other mounts, or coax mounting attachments. These elements are assumed to be adequate for the purposes of this analysis and are assumed to have been installed per their manufacturer requirements.



Infinigy Engineering, PLLC	CT03XC382	Existing Configuration
JNK		June 7, 2018 at 1:05 PM
526-104		Existing_CT03XC382.r3d

Site Name:	CT03XC382
Client:	Airosmith
Carrier:	Sprint
Engineer:	JNK
Date:	6/7/2018

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

INFINIGY WIND LOAD CALCULATOR 3.0.2

Site Information Inputs:

Adopted Building Code:	2012 IBC
Structure Load Standard:	TIA-222-G
Antenna Load Standard:	TIA-222-G
Structure Risk Category:	II
Structure Type:	Mount - Platform
Number of Sectors:	3
Structure Shape 1:	Flat

Rooftop Inputs:

Rooftop Wind Speed-Up?:	No

Wind Loading Inputs:

Design Wind Velocity:	93	mph (nominal 3-second gust)
Wind Centerline 1 (z_1):	120.0	ft
Side Face Angle (θ):	60	degrees
Exposure Category:	B	
Topographic Category:	1	

Wind with No Ice		
q_z (psf)	Gh	F_{ST} (psf)
21.90	1.00	**43.80**

Wind with Ice		
q_z (psf)	Gh	F_{ST} (psf)
6.33	1.00	**17.76**

Ice Loading Inputs:

Is Ice Loading Needed?:	Yes	
Ice Wind Velocity:	50	mph (nominal 3-second gust)
Base Ice Thickness:	0.75	in

Input Appurtenance Information and Load Placements:

Appurtenance Name	Elevation (ft)	Total Quantity	Ka	Front Shape	Side Shape	q_z (psf)	EPA (ft^2)	Fz (lbs)	Fx (lbs)	Fz(60) (lbs)	Fx(30) (lbs)
Commscope DT465B-2XR	120.0	3	1.00	Flat	Flat	21.90	9.10	199.24	130.81	147.92	182.13
RFS APXVSPP18-C-A20	120.0	3	1.00	Flat	Flat	21.90	8.02	175.72	115.70	130.70	160.72
Alcatel Lucent 800 MHz 2x50W RRH	120.0	3	1.00	Flat	Flat	21.90	1.71	37.48	28.83	31.00	35.32
Alcatel Lucent TD-RRH8x20-25	120.0	3	1.00	Flat	Flat	21.90	3.70	81.12	28.33	41.53	67.92
Alcatel Lucent 1900 MHz 4x45 RRH	120.0	3	1.00	Flat	Flat	21.90	2.58	56.57	55.66	55.89	56.34
Alcatel Lucent 800 MHz 2x50W RRH	120.0	3	1.00	Flat	Flat	21.90	1.71	37.48	28.83	31.00	35.32

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2			Main Horizontal	Beam	Tube	A500 Gr.46	Typical
2	M2	N3	N4			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
3	M3	N5	N6			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
4	M4	N7	N8			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
5	M5	N10	N9			Offset Tube	Beam	Tube	A500 Gr.46	Typical
6	M6	N11	N15		90	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
7	M7	N12	N16		90	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
8	M8	N13	N17		90	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
9	M9	N14	N18		90	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
10	M10	N2	N20			Main Horizontal	Beam	Tube	A500 Gr.46	Typical
11	M14	N28	N27			Offset Tube	Beam	Tube	A500 Gr.46	Typical
12	M15	N29	N33		90	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
13	M16	N30	N34		90	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
14	M17	N31	N35		90	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
15	M18	N32	N36		90	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
16	M19	N20	N1			Main Horizontal	Beam	Tube	A500 Gr.46	Typical
17	M23	N45	N44			Offset Tube	Beam	Tube	A500 Gr.46	Typical
18	M24	N46	N50		90	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
19	M25	N47	N51		90	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
20	M26	N48	N52		90	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
21	M27	N49	N53		90	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
22	M22	N44A	N45A			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
23	M24A	N89	N88			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
24	M25A	N55	N56			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
25	M26A	N57	N58			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
26	M27A	N62	N63			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
27	M29	N90	N71			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
28	M30	N72	N73			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
29	M31	N74	N75			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
30	M32	N79A	N80			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Self Weight	DL		-1			21		3	
2	Wind Load AZI 000	WLZ					21		1	
3	Wind Load AZI 090	WLX					21		1	
4	Ice Weight	OL1					21	30		
5	Wind + Ice Load AZI ...	OL2					21		1	
6	Wind + Ice Load AZI ...	OL3					21		1	
7	Service Live 1	LL				3				
8	Seismic Load AZI 000	ELZ								
9	Seismic Load AZI 090	ELX								
10	BLC 1 Transient Area...	None						60		
11	BLC 2 Transient Area...	None						25		
12	BLC 3 Transient Area...	None						29		
13	BLC 5 Transient Area...	None						25		
14	BLC 6 Transient Area...	None						29		

Load Combinations

	Description	Sol...	PD...	SR...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
1	1.4D	Yes	Y		DL	1.4																		
2	1.2D + 1.6...	Yes	Y		DL	1.2	WLZ	1.6																
3	1.2D + 1.6...	Yes	Y		DL	1.2	WLZ	1.386	W...	.8														

Load Combinations (Continued)

	Description	Sol..	PD..	SR..	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
4	1.2D + 1.6..	Yes	Y		DL	1.2	WLZ	.8	W...	1.386														
5	1.2D + 1.6..	Yes	Y		DL	1.2			W...	1.6														
6	1.2D + 1.6..	Yes	Y		DL	1.2	WLZ	-.8	W...	1.386														
7	1.2D + 1.6..	Yes	Y		DL	1.2	WLZ	-1.3...	W...	.8														
8	1.2D + 1.6..	Yes	Y		DL	1.2	WLZ	-1.6																
9	1.2D + 1.6..	Yes	Y		DL	1.2	WLZ	-1.3...	W...	-.8														
10	1.2D + 1.6..	Yes	Y		DL	1.2	WLZ	-.8	W...	-1.3...														
11	1.2D + 1.6..	Yes	Y		DL	1.2			W...	-1.6														
12	1.2D + 1.6..	Yes	Y		DL	1.2	WLZ	.8	W...	-1.3...														
13	1.2D + 1.6..	Yes	Y		DL	1.2	WLZ	1.386	W...	-.8														
14	0.9D + 1.6..	Yes	Y		DL	.9	WLZ	1.6																
15	0.9D + 1.6..	Yes	Y		DL	.9	WLZ	1.386	W...	.8														
16	0.9D + 1.6..	Yes	Y		DL	.9	WLZ	.8	W...	1.386														
17	0.9D + 1.6..	Yes	Y		DL	.9			W...	1.6														
18	0.9D + 1.6..	Yes	Y		DL	.9	WLZ	-.8	W...	1.386														
19	0.9D + 1.6..	Yes	Y		DL	.9	WLZ	-1.3...	W...	.8														
20	0.9D + 1.6..	Yes	Y		DL	.9	WLZ	-1.6																
21	0.9D + 1.6..	Yes	Y		DL	.9	WLZ	-1.3...	W...	-.8														
22	0.9D + 1.6..	Yes	Y		DL	.9	WLZ	-.8	W...	-1.3...														
23	0.9D + 1.6..	Yes	Y		DL	.9			W...	-1.6														
24	0.9D + 1.6..	Yes	Y		DL	.9	WLZ	.8	W...	-1.3...														
25	0.9D + 1.6..	Yes	Y		DL	.9	WLZ	1.386	W...	-.8														
26	1.2D + 1.0..	Yes	Y		DL	1.2	OL1	1																
27	1.2D + 1.0..	Yes	Y		DL	1.2	OL1	1	OL2	1														
28	1.2D + 1.0..	Yes	Y		DL	1.2	OL1	1	OL2	.866	OL3	.5												
29	1.2D + 1.0..	Yes	Y		DL	1.2	OL1	1	OL2	.5	OL3	.866												
30	1.2D + 1.0..	Yes	Y		DL	1.2	OL1	1			OL3	1												
31	1.2D + 1.0..	Yes	Y		DL	1.2	OL1	1	OL2	-.5	OL3	.866												
32	1.2D + 1.0..	Yes	Y		DL	1.2	OL1	1	OL2	-.866	OL3	.5												
33	1.2D + 1.0..	Yes	Y		DL	1.2	OL1	1	OL2	-1														
34	1.2D + 1.0..	Yes	Y		DL	1.2	OL1	1	OL2	-.866	OL3	-.5												
35	1.2D + 1.0..	Yes	Y		DL	1.2	OL1	1	OL2	-.5	OL3	-.866												
36	1.2D + 1.0..	Yes	Y		DL	1.2	OL1	1			OL3	-1												
37	1.2D + 1.0..	Yes	Y		DL	1.2	OL1	1	OL2	.5	OL3	-.866												
38	1.2D + 1.0..	Yes	Y		DL	1.2	OL1	1	OL2	.866	OL3	-.5												
39	1.2D + 1.5..	Yes	Y		DL	1.2	LL	1.5	WLZ	.104														
40	1.2D + 1.5..	Yes	Y		DL	1.2	LL	1.5	WLZ	.09	W...	.052												
41	1.2D + 1.5..	Yes	Y		DL	1.2	LL	1.5	WLZ	.052	W...	.09												
42	1.2D + 1.5..	Yes	Y		DL	1.2	LL	1.5			W...	.104												
43	1.2D + 1.5..	Yes	Y		DL	1.2	LL	1.5	WLZ	-.052	W...	.09												
44	1.2D + 1.5..	Yes	Y		DL	1.2	LL	1.5	WLZ	-.09	W...	.052												
45	1.2D + 1.5..	Yes	Y		DL	1.2	LL	1.5	WLZ	-.104														
46	1.2D + 1.5..	Yes	Y		DL	1.2	LL	1.5	WLZ	-.09	W...	-.052												
47	1.2D + 1.5..	Yes	Y		DL	1.2	LL	1.5	WLZ	-.052	W...	-.09												
48	1.2D + 1.5..	Yes	Y		DL	1.2	LL	1.5			W...	-.104												
49	1.2D + 1.5..	Yes	Y		DL	1.2	LL	1.5	WLZ	.052	W...	-.09												
50	1.2D + 1.5..	Yes	Y		DL	1.2	LL	1.5	WLZ	.09	W...	-.052												

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N9	max	2245.868	18	2341.283	37	1428.819	13	-.92	19	.823	2	-1.671	18
2		min	-2244.38	12	563.071	18	-1434.419	19	-4.511	38	-.831	8	-7.786	37
3	N27	max	2226.597	4	2341.275	29	1452.708	15	-.88	21	1.005	20	7.78	29
4		min	-2227.699	22	563.08	22	-1459.437	21	-4.512	28	-.998	2	1.718	22
5	N44	max	651.349	5	2341.276	33	2582.345	14	8.981	33	1.678	23	.271	5

Envelope Joint Reactions (Continued)

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
6		min	-651.346	23	563.002	14	-2578.424	20	1.983	14	-1.678	5	-.27	11
7	Totals:	max	4688.236	17	6930.205	30	4718.056	14						
8		min	-4688.236	11	2048.971	23	-4718.056	8						

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[i...	LC	Shear...	Loc[i..	Dir	LC	phi*Pnc...	phi*Pnt ..	phi*Mn ...	phi*Mn ...	Cb	Eqn
1	M1	HSS4x4x3	.307	0	38	.074	168	z	8	48535....	106812	12.662	12.662	3...	H1-1b
2	M2	PIPE_2.0	.164	48	8	.015	48		8	14916....	32130	1.872	1.872	1...	H1-1b
3	M3	PIPE_2.0	.329	48	8	.022	48		8	14916....	32130	1.872	1.872	1...	H1-1b
4	M4	PIPE_2.0	.280	48	8	.019	48		20	14916....	32130	1.872	1.872	1...	H1-1b
5	M5	HSS4x4x3	.726	91	38	.084	91	y	28	84744.5	106812	12.662	12.662	2...	H1-1b
6	M6	L2x2x3	.021	0	36	.003	0	z	33	22249....	23392.8	.558	1.239	2...	H2-1
7	M7	L2x2x3	.028	0	36	.004	0	z	32	22249....	23392.8	.558	1.239	2...	H2-1
8	M8	L2x2x3	.028	0	36	.004	0	z	38	22249....	23392.8	.558	1.239	2...	H2-1
9	M9	L2x2x3	.021	0	36	.003	0	z	31	22249....	23392.8	.558	1.239	2...	H2-1
10	M10	HSS4x4x3	.302	0	30	.062	167....	z	12	48535....	106812	12.662	12.662	3...	H1-1b
11	M14	HSS4x4x3	.728	91	28	.084	91	y	32	84744.5	106812	12.662	12.662	2...	H1-1b
12	M15	L2x2x3	.020	0	27	.003	0	z	31	22249....	23392.8	.558	1.239	2...	H2-1
13	M16	L2x2x3	.028	0	27	.004	0	z	31	22249....	23392.8	.558	1.239	2...	H2-1
14	M17	L2x2x3	.028	0	27	.004	0	z	31	22249....	23392.8	.558	1.239	2...	H2-1
15	M18	L2x2x3	.020	0	27	.003	0	z	31	22249....	23392.8	.558	1.239	2...	H2-1
16	M19	HSS4x4x3	.302	0	34	.062	168	z	4	48535....	106812	12.662	12.662	3...	H1-1b
17	M23	HSS4x4x3	.732	91	35	.084	91	y	36	84744.5	106812	12.662	12.662	2...	H1-1b
18	M24	L2x2x3	.020	0	33	.003	0	z	35	22249....	23392.8	.558	1.239	2...	H2-1
19	M25	L2x2x3	.028	0	33	.004	0	z	35	22249....	23392.8	.558	1.239	2...	H2-1
20	M26	L2x2x3	.028	0	33	.004	0	z	35	22249....	23392.8	.558	1.239	2...	H2-1
21	M27	L2x2x3	.020	0	33	.003	0	z	35	22249....	23392.8	.558	1.239	2...	H2-1
22	M22	PIPE_2.0	.161	48	8	.035	48		20	14916....	32130	1.872	1.872	1...	H1-1b
23	M24A	PIPE_2.0	.158	48	11	.015	48		11	14916....	32130	1.872	1.872	1...	H1-1b
24	M25A	PIPE_2.0	.306	48	11	.021	48		11	14916....	32130	1.872	1.872	1...	H1-1b
25	M26A	PIPE_2.0	.244	48	11	.017	48		23	14916....	32130	1.872	1.872	1...	H1-1b
26	M27A	PIPE_2.0	.152	48	11	.032	48		23	14916....	32130	1.872	1.872	1...	H1-1b
27	M29	PIPE_2.0	.158	48	5	.015	48		17	14916....	32130	1.872	1.872	1...	H1-1b
28	M30	PIPE_2.0	.306	48	5	.021	48		5	14916....	32130	1.872	1.872	1...	H1-1b
29	M31	PIPE_2.0	.244	48	5	.017	48		17	14916....	32130	1.872	1.872	1...	H1-1b
30	M32	PIPE_2.0	.152	48	5	.032	48		17	14916....	32130	1.872	1.872	1...	H1-1b

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**130 ft Monopole**
ATC Site Name	:	**Cranburysu CT, CT**
ATC Site Number	:	**411189**
Engineering Number	:	**OAA710389_C3_04**
Proposed Carrier	:	**Sprint Nextel**
Carrier Site Name	:	**Westport / Bam**
Carrier Site Number	:	**CT03XC382**
Site Location	:	**2 Sunny Lane** **Westport, CT 06880-1906** **41.162900,-73.373100**
County	:	**Fairfield**
Date	:	**May 22, 2018**
Max Usage	:	**41%**
Result	:	**Pass**

Prepared By:
Parvin NikpoorParizi
Structural Engineer I

Reviewed By:

COA: PEC.0001553

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Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 130 ft monopole to reflect the change in loading by Sprint Nextel.

Supporting Documents

Tower Drawings	EEI Job #10847, dated June 7, 2002
Foundation Drawing	EEI Project #4717, dated March 30, 1999
Geotechnical Report	ERL Project #05443-53, dated November 12, 1996

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	94 mph (3-Second Gust, V_{ASD}) / 121 mph (3-Second Gust, V_{ULT})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.23, S_1 = 0.07
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
130.0	134.0	3	Alcatel-Lucent RRH2X60-1900	Low Profile Platform	(12) 1 5/8" Coax (2) 1 5/8" Fiber	Verizon
		3	Alcatel-Lucent RRH2X60-AWS			
		3	Alcatel-Lucent RRH2x60 700			
		2	RFS DB-T1-6Z-8AB-0Z			
	133.0	3	Antel BXA-171085-8BF-EDIN-X			
		4	Decibel DB846F65ZAXY			
		2	Antel LPA-80080/6CF ___			
		6	Commscope SBNHH-1D85C			
120.0	120.0	1	Andrew VHLP800-11 (49 lbs)	Low Profile Platform	(1) 1/2" Coax (6) 1 5/8" Coax (3) 0.78" 8 AWG 6	Sprint Nextel
		3	Alcatel-Lucent 800MHz RRH			
		3	Alcatel-Lucent 1900MHz RRH			
116.0	116.0	3	EMS RR90-17-02DP	Low Profile Platform	(6) 7/8" Coax (12) 1 5/8" Coax (1) 7/8" Fiber	T-Mobile
		6	Ericsson AIR 21, 1.3 M, B2A B4P			
		3	Commscope LNX-6515DS-VTM			
	113.0	3	Ericsson KRY 112 71			
		3	Ericsson RRUS 11 B12			
104.0	104.0	12	Powerwave LGP21901	Low Profile Platform	(12) 1 5/8" Coax (2) 0.78" 8 AWG 6 (1) 0.39" Fiber Trunk (1) 3" conduit (1) 7/8" Coax	AT&T Mobility
		6	Powerwave 7020			
		1	GPS			
		12	Powerwave LGP21401			
		1	Raycap DC6-48-60-18-8F			
		3	Ericsson RRUS-11 (50 lbs.)			
		3	Ericsson RRUS			
		3	Ericsson RRUS 12 w/ RRUS A2			
		6	Powerwave 7770.00			
		3	Powerwave P65-16-XLH-RR			
		3	CCI HPA-65R-BUU-H6			
91.0	-	-	-	Empty Low Profile Platform	-	Other
80.0	80.0	1	GPS	Side Arm	(1) 1/2" Coax	T-Mobile
76.0	76.0	1	2" x 8" GPS	Stand-Off	(1) 0.63" LDF4-50A	Verizon
75.0	75.0	1	2" x 8" GPS	Flush	(1) 0.63" LDF4-50A	
68.0	68.0	1	GPS	Side Arm	(1) 1/2" Coax	AT&T Mobility

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
120.0	120.0	3	Kathrein 840 10054	-	(3) 1 1/4" Coax (3) 0.39" Fiber Trunk	Sprint Nextel
		6	RFS APXVSPP18-C-A20			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
120.0	120.0	3	Alcatel-Lucent RRH2x50-08	Low Profile Platform	(3) 1 1/4" Hybriflex (2) 2" Conduit (1) 1.7" Hybrid	Sprint Nextel
		3	Nokia 2.5G MAA - AAHC(64T64R)			
		1	24" x 24" Junction Box			
		3	Commscope NNVV-65B-R4			

[1]Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	33%	Pass
Shaft	34%	Pass
Base Plate	41%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	2,488.2	38%
Axial (Kips)	86.3	26%
Shear (Kips)	25.6	10%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
120.0	Andrew Microwaves VHLP800-11 (49 lbs)	Sprint Nextel	0.569	0.479
	Alcatel-Lucent RRH2x50-08		0.519	0.474
	Nokia 2.5G MAA - AAHC(64T64R)			
	24" x 24" Junction Box			
	Commscope NNVV-65B-R4			

***Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G**

AMERICAN TOWER®
CORPORATION

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

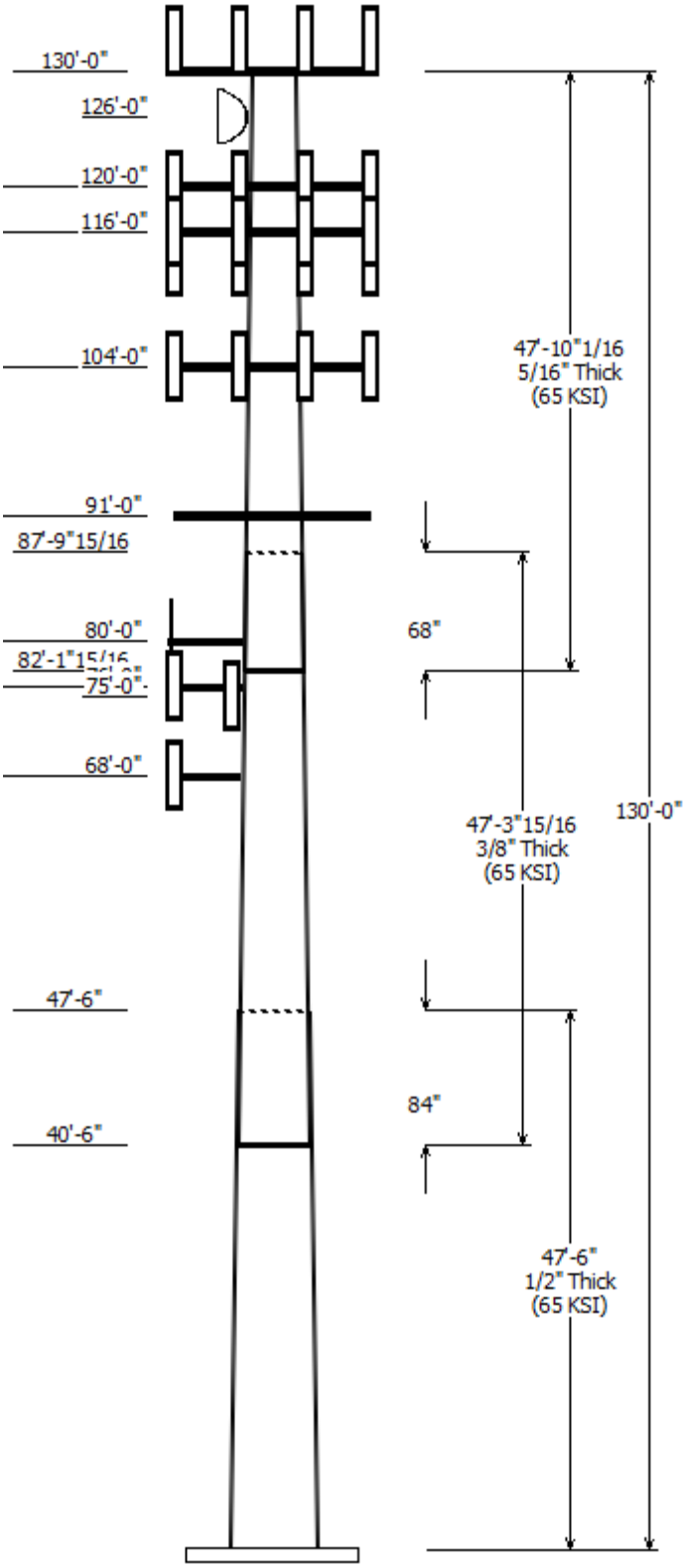
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



Job Information

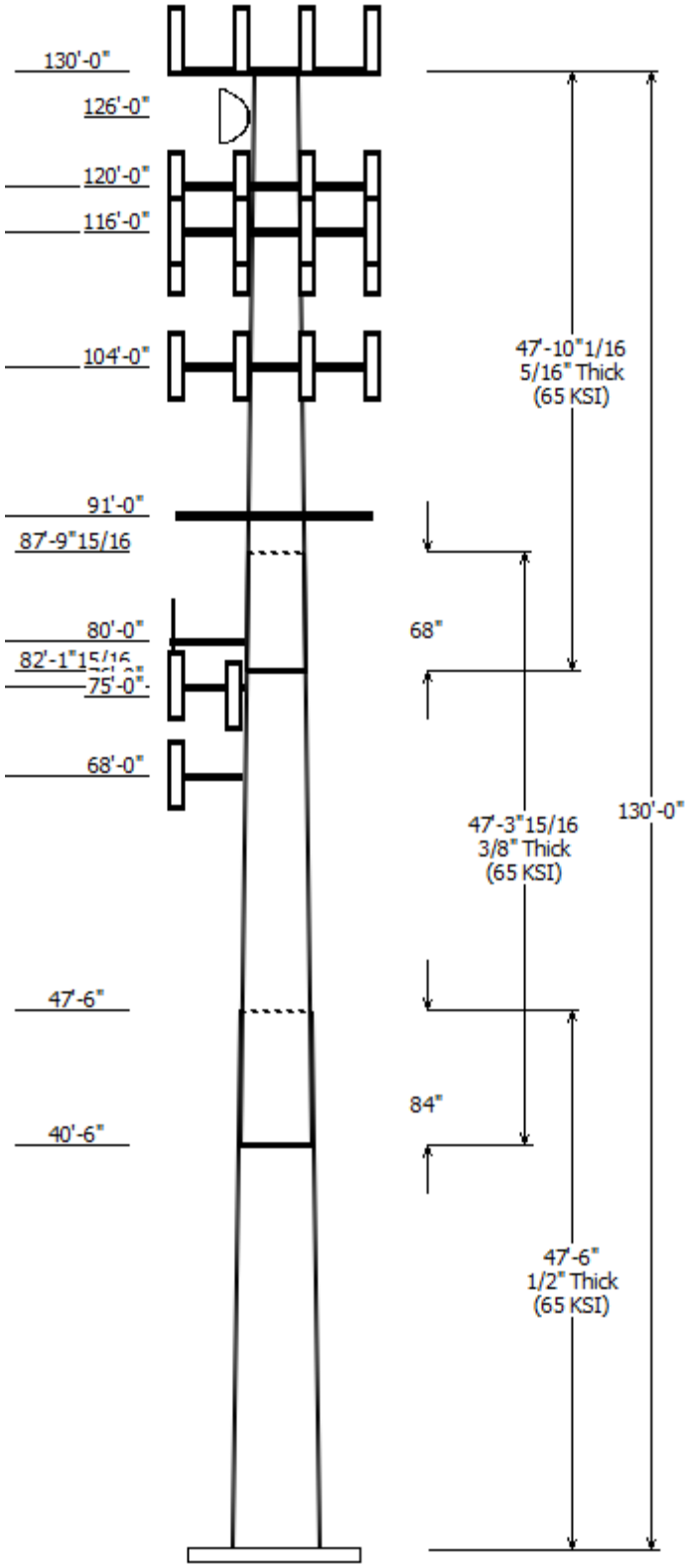
Pole :	411189	Code:	ANSI/TIA-222-G
Location :	CRANBURYSU CT, CT		
Description :	130 ft EEI Monopole		
Client :	SPRINT NEXTEL	Struct Class :	II
Shape :	18 Sides	Exposure :	B
Height :	130.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.270745 (in/ft)		

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	47.500	49.14	62.00	0.500		0.000	18 Sides	65
2	47.330	38.97	51.78	0.375	Slip Joint	84.000	18 Sides	65
3	47.837	28.17	41.13	0.313	Slip Joint	68.000	18 Sides	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
130.000	130.000	1	Flat Low Profile Platform
130.000	133.000	6	Commscope SBNHH-1D85C
130.000	133.000	2	Antel LPA-80080/6CF ___
130.000	133.000	4	Decibel DB846F65ZAXY
130.000	134.000	2	RFS DB-T1-6Z-8AB-0Z
130.000	133.000	3	Amphenol Antel BXA-171085-
130.000	134.000	3	Alcatel-Lucent RRH2x60 700
130.000	134.000	3	Alcatel-Lucent RRH2X60-1900
130.000	134.000	3	Alcatel-Lucent RRH2X60-AWS
126.000	126.000	1	Andrew Microwaves VHLP800-
120.000	120.000	3	Commscope NNVV-65B-R4
120.000	120.000	3	Nokia 2.5G MAA -
120.000	120.000	1	24" x 24" Junction Box
120.000	120.000	3	Alcatel-Lucent RRH2x50-08
120.000	120.000	1	Flat Low Profile Platform
120.000	120.000	3	Alcatel-Lucent 1900MHz RRH
120.000	120.000	3	Alcatel-Lucent 800MHz RRH
116.000	116.000	1	Flat Low Profile Platform
116.000	116.000	3	Commscope LNX-6515DS-VTM
116.000	116.000	6	Ericsson AIR 21, 1.3 M, B2A B4
116.000	116.000	3	EMS RR90-17-02DP
116.000	113.000	3	Ericsson RRUS 11 B12
116.000	113.000	3	Ericsson KRY 112 71
104.000	104.000	1	GPS
104.000	104.000	1	Flat Low Profile Platform
104.000	104.000	3	CCI HPA-65R-BUU-H6
104.000	104.000	3	Powerwave Allgon P65-16-
104.000	104.000	6	Powerwave Allgon 7770.00
104.000	104.000	3	Ericsson RRUS 12 w/ RRUS A2
104.000	104.000	3	Ericsson RRUS
104.000	104.000	3	Ericsson RRUS-11 (50 lbs.)
104.000	104.000	1	Raycap DC6-48-60-18-8F
104.000	104.000	12	Powerwave Allgon LGP21401
104.000	104.000	6	Powerwave Allgon 7020
104.000	104.000	12	Powerwave Allgon LGP21901
91.000	91.000	1	Empty Flat Low Profile Platfor
80.000	80.000	1	Flat Side Arm
80.000	80.000	1	GPS
76.000	76.000	1	Stand-Off
76.000	76.000	1	2" x 8" GPS
75.000	75.000	1	2" x 8" GPS
68.000	68.000	1	Side Arm
68.000	68.000	1	GPS



Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	68.000	1/2" Coax	No
0.000	75.000	0.63" (16mm)	No
0.000	76.000	0.63" (16mm)	No
0.000	80.000	1/2" Coax	No
0.000	104.0	0.39" Fiber Trunk	No
0.000	104.0	0.78" 8 AWG 6	No
0.000	104.0	1 5/8" Coax	No
0.000	104.0	3" conduit	No
0.000	104.0	7/8" Coax	No
0.000	116.0	1 5/8" Coax	No
0.000	116.0	7/8" Coax	No
0.000	116.0	7/8" Fiber	No
0.000	120.0	0.78" 8 AWG 6	No
0.000	120.0	1 1/4" Hybriflex	No
0.000	120.0	1 5/8" Coax	No
0.000	120.0	1.7" (43.2mm)	No
0.000	120.0	2" Conduit	No
0.000	126.0	1/2" Coax	No
0.000	130.0	1 5/8" Coax	Yes
0.000	130.0	1 5/8" Fiber	No

Load Cases

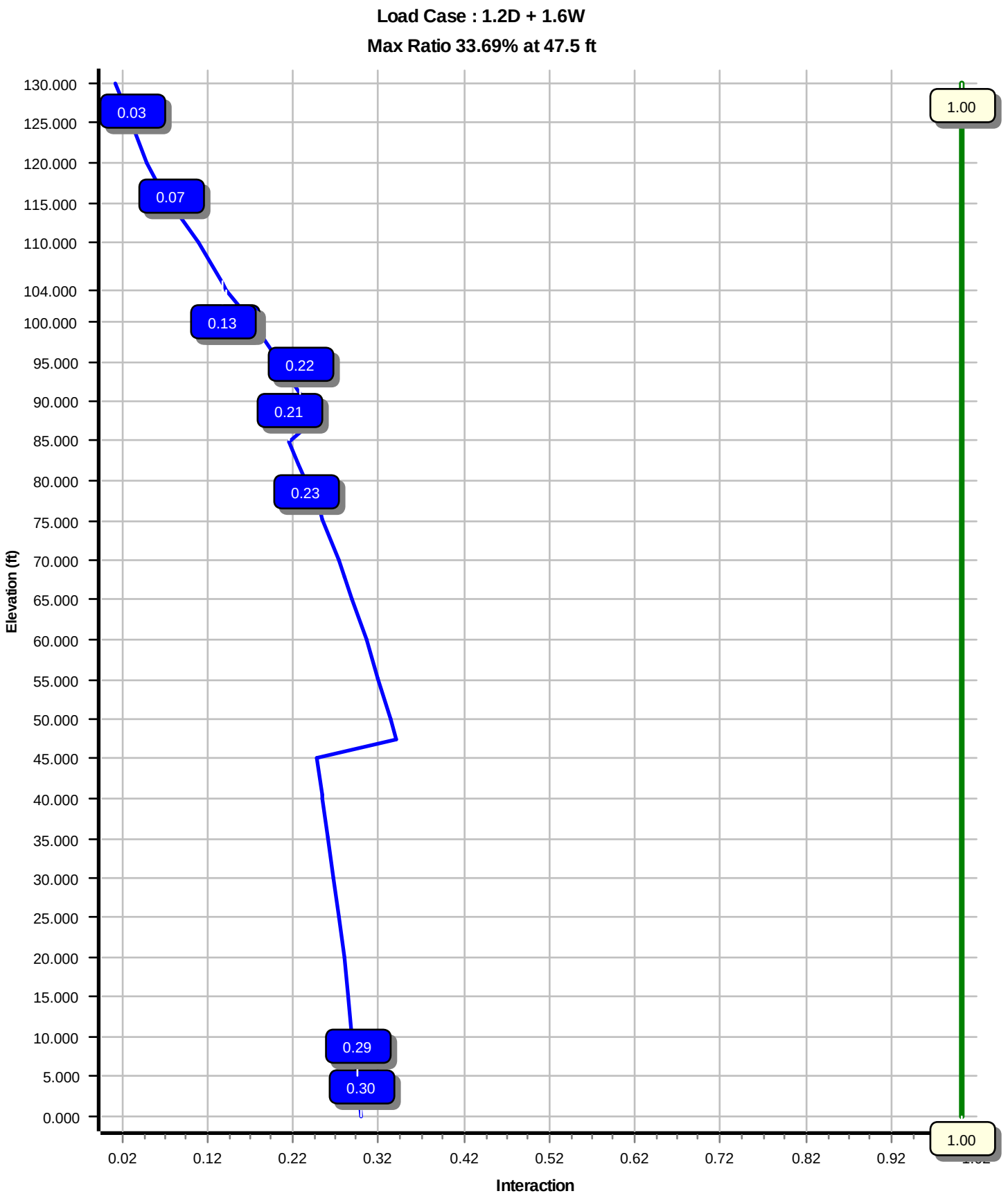
1.2D + 1.6W	94 mph with No Ice
0.9D + 1.6W	94 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	2488.23	25.60	57.38
0.9D + 1.6W	2458.39	25.45	43.03
1.2D + 1.0Di + 1.0Wi	684.24	7.31	86.28
(1.2 + 0.2Sds) * DL + E ELFM	298.33	3.02	57.27
(1.2 + 0.2Sds) * DL + E EMAM	367.08	3.61	57.27
(0.9 - 0.2Sds) * DL + E ELFM	296.40	3.02	39.06
(0.9 - 0.2Sds) * DL + E EMAM	364.51	3.61	39.06
1.0D + 1.0W	627.21	6.48	47.83

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	126.00	6.830	0.479


Load Case : 1.2D + 1.6W
Max Ratio 33.69% at 47.5 ft
130.000
125.000
120.000
115.000
110.000
104.000
100.000
95.000
90.000
85.000
80.000
75.000
70.000
65.000
60.000
55.000
50.000
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
Elevation (ft)
0.03
0.07
0.13
0.22
0.21
0.23
0.29
0.30
1.00
1.00
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
Interaction

Site Number:	411189	Code: ANSI/TIA-222-G	
Site Name:	CRANBURYSU CT, CT	Engineering Number:OAA710389_C3_04	5/22/2018 2:01:40 PM
Customer:	SPRINT NEXTEL		

Analysis Parameters

Location :	FAIRFIELD County, CT	Height (ft) :	130
Code :	ANSI/TIA-222-G	Base Diameter (in) :	62.00
Shape :	18 Sides	Top Diameter (in) :	28.18
Pole Type :	Taper	Taper (in/ft) :	0.271
Pole Manfacturer :	EEI	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	94 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	1.47				
T_L (sec):	6	p:	1.3	C_s:	0.049
S_s:	0.227	S_1:	0.067	C_s Max:	0.049
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.242	S_{d1}:	0.107		

Load Cases

1.2D + 1.6W	94 mph with No Ice
0.9D + 1.6W	94 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 411189 Code: ANSI/TIA-222-G

Site Name: CRANBURYSU CT, CT Engineering Number:OAA710389_C3_04 5/22/2018 2:01:40 PM

Customer: SPRINT NEXTEL

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	47.500	0.5000	65		0.00	14,125	62.00	0.00	97.60	46638.0	20.10	124.00	49.14	47.50	77.19	23072.0	15.57	98.28	0.270745
2-18	47.330	0.3750	65	Slip	84.00	8,626	51.78	40.50	61.19	20432.2	22.59	138.09	38.97	87.83	45.94	8645.4	16.56	103.92	0.270745
3-18	47.837	0.3125	65	Slip	68.00	5,544	41.13	82.16	40.48	8521.7	21.44	131.62	28.17	130.00	27.64	2711.5	14.14	90.17	0.270745
				Shaft Weight		28,296													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Distance From Face (ft)	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor
130.00	Alcatel-Lucent RRH2x60 700	3	0.000	4.000	56.70	2.150	0.67
130.00	Alcatel-Lucent RRH2X60-1900	3	0.000	4.000	43.00	1.880	0.50
130.00	Alcatel-Lucent RRH2X60-AWS	3	0.000	4.000	44.00	1.880	0.50
130.00	Amphenol Antel BXA-171085-	3	0.000	3.000	10.50	2.940	0.71
130.00	Antel LPA-80080/6CF ___	2	0.000	3.000	21.00	8.630	0.65
130.00	Commscope SBNHH-1D85C	6	0.000	3.000	44.10	11.390	0.70
130.00	Decibel DB846F65ZAXY	4	0.000	3.000	21.00	7.030	0.75
130.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
130.00	RFS DB-T1-6Z-8AB-0Z	2	0.000	4.000	44.00	4.800	0.67
126.00	Andrew Microwaves VHLP800-	1	0.000	0.000	49.00	7.760	1.00
120.00	24" x 24" Junction Box	1	0.000	0.000	20.00	4.800	0.67
120.00	Alcatel-Lucent 1900MHz RRH	3	0.000	0.000	44.00	3.260	0.67
120.00	Alcatel-Lucent 800MHz RRH	3	0.000	0.000	53.00	2.130	0.67
120.00	Alcatel-Lucent RRH2x50-08	3	0.000	0.000	52.90	1.700	0.50
120.00	Commscope NNVV-65B-R4	3	0.000	0.000	77.40	12.270	0.64
120.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
120.00	Nokia 2.5G MAA - AAHC(64T64R)	3	0.000	0.000	103.60	4.200	0.64
116.00	Commscope LNX-6515DS-VTM	3	0.000	0.000	50.30	11.450	0.70
116.00	EMS RR90-17-02DP	3	0.000	0.000	13.50	4.360	0.64
116.00	Ericsson AIR 21, 1.3 M, B2A B4	6	0.000	0.000	83.00	6.050	0.71
116.00	Ericsson KRY 112 71	3	0.000	-3.000	13.20	0.680	0.50
116.00	Ericsson RRUS 11 B12	3	0.000	-3.000	50.70	2.790	0.67
116.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
104.00	CCI HPA-65R-BUU-H6	3	0.000	0.000	51.00	9.660	0.69
104.00	Ericsson RRUS	3	0.000	0.000	44.10	3.130	0.67
104.00	Ericsson RRUS 12 w/ RRUS A2	3	0.000	0.000	71.40	3.150	0.67
104.00	Ericsson RRUS-11 (50 lbs.)	3	0.000	0.000	50.00	2.570	0.67
104.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
104.00	GPS	1	0.000	0.000	10.00	1.000	1.00
104.00	Powerwave Allgon 7020	6	0.000	0.000	2.20	0.400	0.50
104.00	Powerwave Allgon 7770.00	6	0.000	0.000	35.00	5.510	0.65
104.00	Powerwave Allgon LGP21401	12	0.000	0.000	14.10	1.100	0.50
104.00	Powerwave Allgon LGP21901	12	0.000	0.000	5.50	0.230	0.50
104.00	Powerwave Allgon P65-16-XLH-	3	0.000	0.000	53.00	8.130	0.67
104.00	Raycap DC6-48-60-18-8F	1	0.000	0.000	20.00	1.110	1.00
91.00	Empty Flat Low Profile Platfor	1	0.000	0.000	1500.00	26.100	1.00
80.00	Flat Side Arm	1	0.000	0.000	150.00	6.300	1.00
80.00	GPS	1	0.000	0.000	10.00	1.000	1.00
76.00	2" x 8" GPS	1	0.000	0.000	10.00	0.160	1.00
76.00	Stand-Off	1	0.000	0.000	100.00	3.000	1.00
75.00	2" x 8" GPS	1	0.000	0.000	10.00	0.160	1.00
68.00	GPS	1	0.000	0.000	10.00	1.000	1.00
68.00	Side Arm	1	0.000	0.000	126.00	5.000	1.00
Totals	Num Loadings:43	126			12096.90		

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
0.00	130.00	12	1 5/8" Coax	1.98	0.82	N	3.96	Y	Verizon
0.00	130.00	2	1 5/8" Fiber	1.63	1.61	N	0.00	N	Verizon
0.00	126.00	1	1/2" Coax	0.63	0.15	N	0.00	N	Sprint Nextel
0.00	120.00	3	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	Sprint Nextel
0.00	120.00	3	1 1/4" Hybriflex Cable	1.54	1.00	N	0.00	N	Sprint Nextel
0.00	120.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	Sprint Nextel
0.00	120.00	1	1.7" (43.2mm) Hybrid	1.70	1.78	N	0.00	N	Sprint Nextel
0.00	120.00	2	2" Conduit	2.38	3.65	N	0.00	N	Sprint Nextel
0.00	116.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	T-Mobile
0.00	116.00	6	7/8" Coax	1.09	0.33	N	0.00	N	T-Mobile
0.00	116.00	1	7/8" Fiber	0.88	0.70	N	0.00	N	T-Mobile
0.00	104.00	1	0.39" Fiber Trunk	0.39	0.06	N	0.00	N	AT&T Mobility
0.00	104.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	104.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
0.00	104.00	1	3" conduit	3.50	7.58	N	0.00	N	AT&T Mobility
0.00	104.00	1	7/8" Coax	1.09	0.33	N	0.00	N	AT&T Mobility
0.00	80.00	1	1/2" Coax	0.63	0.15	N	0.00	N	T-Mobile
0.00	76.00	1	0.63" (16mm) LDF4-	0.63	0.15	N	0.00	N	Verizon
0.00	75.00	1	0.63" (16mm) LDF4-	0.63	0.15	N	0.00	N	Verizon
0.00	68.00	1	1/2" Coax	0.63	0.15	N	0.00	N	AT&T Mobility

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.5000	62.000	97.597	46,638.0	20.10	124.00	77.8	1481.	0.0	0.0
5.00		0.5000	60.646	95.449	43,625.5	19.62	121.29	78.3	1416.	0.0	1,642.2
10.00		0.5000	59.293	93.300	40,745.7	19.15	118.59	78.9	1353.	0.0	1,605.7
15.00		0.5000	57.939	91.152	37,995.4	18.67	115.88	79.4	1291.	0.0	1,569.1
20.00		0.5000	56.585	89.004	35,371.8	18.19	113.17	80.0	1231.	0.0	1,532.6
25.00		0.5000	55.231	86.856	32,871.8	17.71	110.46	80.6	1172.	0.0	1,496.0
30.00		0.5000	53.878	84.707	30,492.5	17.24	107.76	81.1	1114.	0.0	1,459.5
35.00		0.5000	52.524	82.559	28,230.9	16.76	105.05	81.7	1058.	0.0	1,422.9
40.00		0.5000	51.170	80.411	26,083.9	16.28	102.34	82.2	1004.	0.0	1,386.4
40.50	Bot - Section 2	0.5000	51.035	80.196	25,875.4	16.23	102.07	82.3	998.6	0.0	136.6
45.00		0.5000	49.816	78.262	24,048.7	15.80	99.63	82.6	950.8	0.0	2,139.0
47.50	Top - Section 1	0.3750	49.890	58.933	18,254.8	21.70	133.04	75.9	720.7	0.0	1,166.0
50.00		0.3750	49.213	58.127	17,516.3	21.38	131.23	76.3	701.0	0.0	497.9
55.00		0.3750	47.859	56.516	16,099.7	20.74	127.62	77.0	662.6	0.0	975.3
60.00		0.3750	46.505	54.905	14,761.7	20.10	124.01	77.8	625.2	0.0	947.8
65.00		0.3750	45.152	53.293	13,499.9	19.47	120.40	78.5	588.9	0.0	920.4
68.00		0.3750	44.339	52.327	12,778.4	19.09	118.24	79.0	567.6	0.0	539.1
70.00		0.3750	43.798	51.682	12,312.1	18.83	116.79	79.3	553.7	0.0	353.9
75.00		0.3750	42.444	50.071	11,196.1	18.19	113.18	80.0	519.6	0.0	865.6
76.00		0.3750	42.173	49.749	10,981.3	18.07	112.46	80.2	512.9	0.0	169.8
80.00		0.3750	41.090	48.460	10,149.7	17.56	109.57	80.7	486.5	0.0	668.4
82.16	Bot - Section 3	0.3750	40.505	47.763	9,717.9	17.28	108.01	81.1	472.6	0.0	354.2
85.00		0.3750	39.737	46.849	9,170.6	16.92	105.96	81.5	454.6	0.0	843.7
87.83	Top - Section 2	0.3125	39.595	38.962	7,596.4	20.58	126.71	77.2	377.9	0.0	825.6
90.00		0.3125	39.008	38.380	7,260.6	20.25	124.83	77.6	366.6	0.0	285.5
91.00		0.3125	38.737	38.111	7,109.3	20.09	123.96	77.8	361.5	0.0	130.1
95.00		0.3125	37.654	37.037	6,525.0	19.48	120.49	78.5	341.3	0.0	511.4
100.0		0.3125	36.301	35.694	5,840.8	18.72	116.16	79.4	316.9	0.0	618.7
104.0		0.3125	35.218	34.620	5,329.2	18.11	112.70	80.1	298.0	0.0	478.5
105.0		0.3125	34.947	34.352	5,206.1	17.96	111.83	80.3	293.4	0.0	117.3
110.0		0.3125	33.593	33.009	4,619.2	17.19	107.50	81.2	270.8	0.0	573.0
115.0		0.3125	32.239	31.666	4,078.1	16.43	103.17	82.1	249.1	0.0	550.2
116.0		0.3125	31.969	31.398	3,975.3	16.27	102.30	82.3	244.9	0.0	107.3
120.0		0.3125	30.886	30.324	3,581.1	15.66	98.83	82.6	228.4	0.0	420.0
125.0		0.3125	29.532	28.981	3,126.1	14.90	94.50	82.6	208.5	0.0	504.5
126.0		0.3125	29.261	28.712	3,040.0	14.75	93.64	82.6	204.6	0.0	98.2
130.0		0.3125	28.178	27.638	2,711.5	14.14	90.17	82.6	189.5	0.0	383.5
											28,296.3

Site Number: 411189 Code: ANSI/TIA-222-G

Site Name: CRANBURYSU CT, CT Engineering Number:OAA710389_C3_04 5/22/2018 2:01:40 PM

Customer: SPRINT NEXTEL

Load Case: 1.2D + 1.6W 94 mph with No Ice 19 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		223.2	0.0					0.0	0.0	223.2	0.0	0.0	0.0
5.00		441.6	1,970.7					0.0	384.5	441.6	2,355.2	0.0	0.0
10.00		431.7	1,926.8					0.0	384.5	431.7	2,311.4	0.0	0.0
15.00		421.8	1,883.0					0.0	384.5	421.8	2,267.5	0.0	0.0
20.00		412.0	1,839.1					0.0	384.5	412.0	2,223.6	0.0	0.0
25.00		402.1	1,795.2					0.0	384.5	402.1	2,179.8	0.0	0.0
30.00		396.9	1,751.4					0.0	384.5	396.9	2,135.9	0.0	0.0
35.00		399.7	1,707.5					0.0	384.5	399.7	2,092.1	0.0	0.0
40.00		221.6	1,663.6					0.0	384.5	221.6	2,048.2	0.0	0.0
40.50	Bot - Section 2	205.9	164.0					0.0	38.5	205.9	202.4	0.0	0.0
45.00		289.2	2,566.8					0.0	346.1	289.2	2,912.9	0.0	0.0
47.50	Top - Section 1	207.3	1,399.2					0.0	192.3	207.3	1,591.4	0.0	0.0
50.00		311.2	597.5					0.0	192.3	311.2	789.8	0.0	0.0
55.00		414.5	1,170.3					0.0	384.5	414.5	1,554.9	0.0	0.0
60.00		413.0	1,137.4					0.0	384.5	413.0	1,522.0	0.0	0.0
65.00		328.7	1,104.5					0.0	384.5	328.7	1,489.1	0.0	0.0
68.00	Appurtenance(s)	204.3	646.9	200.9	0.0	0.0	163.2	0.0	230.7	405.1	1,040.8	0.0	0.0
70.00		283.6	424.7					0.0	153.5	283.6	578.2	0.0	0.0
75.00	Appurtenance(s)	242.3	1,038.7	5.5	0.0	0.0	12.0	0.0	383.6	247.8	1,434.4	0.0	0.0
76.00	Appurtenance(s)	199.6	203.8	109.2	0.0	0.0	132.0	0.0	76.5	308.8	412.3	0.0	0.0
80.00	Appurtenance(s)	244.9	802.0	256.0	0.0	0.0	192.0	0.0	305.5	500.9	1,299.5	0.0	0.0
82.16	Bot - Section 3	198.3	425.0					0.0	164.8	198.3	589.8	0.0	0.0
85.00		224.4	1,012.5					0.0	216.1	224.4	1,228.6	0.0	0.0
87.83	Top - Section 2	196.3	990.7					0.0	215.6	196.3	1,206.4	0.0	0.0
90.00		123.6	342.7					0.0	165.3	123.6	508.0	0.0	0.0
91.00	Appurtenance(s)	193.7	156.2	949.6	0.0	0.0	1,800.0	0.0	76.2	1,143.2	2,032.4	0.0	0.0
95.00		346.6	613.7					0.0	304.8	346.6	918.5	0.0	0.0
100.00		343.6	742.5					0.0	380.9	343.6	1,123.4	0.0	0.0
104.00	Appurtenance(s)	189.6	574.2	3,614.3	0.0	0.0	3,356.3	0.0	304.8	3,803.9	4,235.3	0.0	0.0
105.00		225.0	140.8					0.0	53.4	225.0	194.2	0.0	0.0
110.00		371.9	687.6					0.0	267.0	371.9	954.6	0.0	0.0
115.00		221.3	660.2					0.0	267.0	221.3	927.2	0.0	0.0
116.00	Appurtenance(s)	181.9	128.8	3,038.2	0.0	-615.7	2,857.3	0.0	53.4	3,220.1	3,039.5	0.0	0.0
120.00	Appurtenance(s)	324.1	504.1	2,546.6	0.0	0.0	3,015.2	0.0	153.5	2,870.8	3,672.8	0.0	0.0
125.00		214.3	605.4					0.0	79.3	214.3	684.7	0.0	0.0
126.00	Appurtenance(s)	175.7	117.8	309.8	0.0	0.0	58.8	0.0	15.9	485.6	192.4	0.0	0.0
130.00	Appurtenance(s)	140.3	460.2	4,387.4	0.0	10,540.8	2,929.4	0.0	62.7	4,527.7	3,452.3	0.0	0.0
								Totals:		25,783.3	57,401.2	0.00	0.00

Site Number: 411189 Code: ANSI/TIA-222-G

Site Name: CRANBURYSU CT, CT Engineering Number:OAA710389_C3_04 5/22/2018 2:01:47 PM

Customer: SPRINT NEXTEL

Load Case: 1.2D + 1.6W 94 mph with No Ice 19 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-57.38	-25.60	0.00	-2,488.23	0.00	2,488.23	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.296
5.00	-55.00	-25.23	0.00	-2,360.25	0.00	2,360.25	6,727.94	3,363.97	16,620.1	8,322.40	0.04	-0.07	0.292
10.00	-52.65	-24.86	0.00	-2,234.12	0.00	2,234.12	6,623.66	3,311.83	15,991.1	8,007.48	0.16	-0.15	0.287
15.00	-50.35	-24.50	0.00	-2,109.82	0.00	2,109.82	6,517.21	3,258.61	15,368.8	7,695.85	0.36	-0.22	0.282
20.00	-48.10	-24.14	0.00	-1,987.34	0.00	1,987.34	6,408.59	3,204.29	14,753.4	7,387.69	0.63	-0.30	0.277
25.00	-45.89	-23.79	0.00	-1,866.64	0.00	1,866.64	6,297.80	3,148.90	14,145.3	7,083.19	0.99	-0.38	0.271
30.00	-43.73	-23.43	0.00	-1,747.70	0.00	1,747.70	6,184.83	3,092.42	13,544.9	6,782.53	1.43	-0.46	0.265
35.00	-41.61	-23.07	0.00	-1,630.53	0.00	1,630.53	6,069.70	3,034.85	12,952.5	6,485.89	1.95	-0.54	0.258
40.00	-39.54	-22.86	0.00	-1,515.16	0.00	1,515.16	5,952.39	2,976.20	12,368.5	6,193.46	2.56	-0.62	0.251
40.50	-39.33	-22.68	0.00	-1,503.73	0.00	1,503.73	5,940.54	2,970.27	12,310.6	6,164.45	2.62	-0.62	0.251
45.00	-36.40	-22.39	0.00	-1,401.67	0.00	1,401.67	5,814.51	2,907.25	11,756.0	5,886.78	3.24	-0.70	0.244
47.50	-34.79	-22.19	0.00	-1,345.68	0.00	1,345.68	4,024.81	2,012.40	8,191.06	4,101.62	3.62	-0.74	0.337
50.00	-33.98	-21.91	0.00	-1,290.21	0.00	1,290.21	3,989.37	1,994.69	8,007.13	4,009.51	4.01	-0.78	0.330
55.00	-32.39	-21.53	0.00	-1,180.64	0.00	1,180.64	3,916.87	1,958.44	7,642.03	3,826.70	4.88	-0.88	0.317
60.00	-30.84	-21.15	0.00	-1,072.99	0.00	1,072.99	3,842.20	1,921.10	7,280.96	3,645.89	5.86	-0.98	0.302
65.00	-29.33	-20.83	0.00	-967.25	0.00	967.25	3,765.36	1,882.68	6,924.26	3,467.28	6.93	-1.07	0.287
68.00	-28.28	-20.43	0.00	-904.75	0.00	904.75	3,718.21	1,859.10	6,712.50	3,361.24	7.63	-1.13	0.277
70.00	-27.68	-20.17	0.00	-863.89	0.00	863.89	3,686.34	1,843.17	6,572.31	3,291.04	8.11	-1.17	0.270
75.00	-26.23	-19.92	0.00	-763.04	0.00	763.04	3,605.16	1,802.58	6,225.47	3,117.36	9.39	-1.27	0.252
76.00	-25.81	-19.62	0.00	-743.13	0.00	743.13	3,588.66	1,794.33	6,156.74	3,082.95	9.66	-1.29	0.248
80.00	-24.51	-19.11	0.00	-664.65	0.00	664.65	3,521.80	1,760.90	5,884.10	2,946.42	10.77	-1.36	0.233
82.16	-23.91	-18.92	0.00	-623.31	0.00	623.31	3,485.06	1,742.53	5,738.19	2,873.36	11.39	-1.40	0.224
85.00	-22.67	-18.68	0.00	-569.64	0.00	569.64	3,436.27	1,718.13	5,548.57	2,778.41	12.24	-1.45	0.212
87.83	-21.45	-18.47	0.00	-516.77	0.00	516.77	2,707.00	1,353.50	4,369.08	2,187.78	13.11	-1.50	0.244
90.00	-20.94	-18.34	0.00	-476.69	0.00	476.69	2,679.98	1,339.99	4,260.27	2,133.30	13.80	-1.53	0.231
91.00	-18.93	-17.16	0.00	-458.35	0.00	458.35	2,667.39	1,333.70	4,210.35	2,108.30	14.13	-1.55	0.225
95.00	-18.00	-16.81	0.00	-389.70	0.00	389.70	2,616.17	1,308.08	4,012.17	2,009.07	15.45	-1.62	0.201
100.00	-16.87	-16.45	0.00	-305.64	0.00	305.64	2,550.19	1,275.09	3,768.02	1,886.81	17.19	-1.69	0.169
104.00	-12.74	-12.53	0.00	-239.83	0.00	239.83	2,495.84	1,247.92	3,575.79	1,790.55	18.63	-1.75	0.139
105.00	-12.55	-12.31	0.00	-227.29	0.00	227.29	2,482.03	1,241.02	3,528.19	1,766.72	19.00	-1.76	0.134
110.00	-11.59	-11.92	0.00	-165.75	0.00	165.75	2,411.71	1,205.86	3,293.03	1,648.96	20.87	-1.81	0.105
115.00	-10.67	-11.67	0.00	-106.16	0.00	106.16	2,339.22	1,169.61	3,062.91	1,533.73	22.80	-1.85	0.074
116.00	-7.73	-8.36	0.00	-94.49	0.00	94.49	2,324.46	1,162.23	3,017.53	1,511.01	23.18	-1.86	0.066
120.00	-4.15	-5.37	0.00	-61.07	0.00	61.07	2,252.89	1,126.45	2,823.60	1,413.90	24.75	-1.88	0.045
125.00	-3.48	-5.13	0.00	-34.23	0.00	34.23	2,153.14	1,076.57	2,577.88	1,290.85	26.74	-1.90	0.028
126.00	-3.30	-4.64	0.00	-29.10	0.00	29.10	2,133.19	1,066.59	2,530.07	1,266.92	27.14	-1.91	0.025
130.00	0.00	-4.53	0.00	-10.54	0.00	10.54	2,053.39	1,026.69	2,343.34	1,173.41	28.74	-1.91	0.009

Site Number: 411189 Code: ANSI/TIA-222-G

Site Name: CRANBURYSU CT, CT Engineering Number:OAA710389_C3_04 5/22/2018 2:01:48 PM

Customer: SPRINT NEXTEL

Load Case: 0.9D + 1.6W — 94 mph with No Ice (Reduced DL) — 18 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		223.2	0.0					0.0	0.0	223.2	0.0	0.0	0.0
5.00		441.6	1,478.0					0.0	288.4	441.6	1,766.4	0.0	0.0
10.00		431.7	1,445.1					0.0	288.4	431.7	1,733.5	0.0	0.0
15.00		421.8	1,412.2					0.0	288.4	421.8	1,700.6	0.0	0.0
20.00		412.0	1,379.3					0.0	288.4	412.0	1,667.7	0.0	0.0
25.00		402.1	1,346.4					0.0	288.4	402.1	1,634.8	0.0	0.0
30.00		396.9	1,313.5					0.0	288.4	396.9	1,601.9	0.0	0.0
35.00		399.7	1,280.6					0.0	288.4	399.7	1,569.0	0.0	0.0
40.00		221.6	1,247.7					0.0	288.4	221.6	1,536.1	0.0	0.0
40.50	Bot - Section 2	205.9	123.0					0.0	28.8	205.9	151.8	0.0	0.0
45.00		289.2	1,925.1					0.0	259.6	289.2	2,184.7	0.0	0.0
47.50	Top - Section 1	207.3	1,049.4					0.0	144.2	207.3	1,193.6	0.0	0.0
50.00		311.2	448.1					0.0	144.2	311.2	592.3	0.0	0.0
55.00		414.5	877.7					0.0	288.4	414.5	1,166.1	0.0	0.0
60.00		413.0	853.1					0.0	288.4	413.0	1,141.5	0.0	0.0
65.00		328.7	828.4					0.0	288.4	328.7	1,116.8	0.0	0.0
68.00	Appurtenance(s)	204.3	485.2	200.9	0.0	0.0	122.4	0.0	173.0	405.1	780.6	0.0	0.0
70.00		283.6	318.5					0.0	115.1	283.6	433.6	0.0	0.0
75.00	Appurtenance(s)	242.3	779.0	5.5	0.0	0.0	9.0	0.0	287.7	247.8	1,075.8	0.0	0.0
76.00	Appurtenance(s)	199.6	152.8	109.2	0.0	0.0	99.0	0.0	57.4	308.8	309.3	0.0	0.0
80.00	Appurtenance(s)	244.9	601.5	256.0	0.0	0.0	144.0	0.0	229.1	500.9	974.6	0.0	0.0
82.16	Bot - Section 3	198.3	318.7					0.0	123.6	198.3	442.4	0.0	0.0
85.00		224.4	759.3					0.0	162.1	224.4	921.4	0.0	0.0
87.83	Top - Section 2	196.3	743.1					0.0	161.7	196.3	904.8	0.0	0.0
90.00		123.6	257.0					0.0	124.0	123.6	381.0	0.0	0.0
91.00	Appurtenance(s)	192.7	117.1	949.6	0.0	0.0	1,350.0	0.0	57.1	1,142.2	1,524.3	0.0	0.0
95.00		342.5	460.3					0.0	228.6	342.5	688.8	0.0	0.0
100.00		336.5	556.8					0.0	285.7	336.5	842.6	0.0	0.0
104.00	Appurtenance(s)	184.4	430.7	3,614.3	0.0	0.0	2,517.2	0.0	228.6	3,798.7	3,176.5	0.0	0.0
105.00		216.3	105.6					0.0	40.0	216.3	145.7	0.0	0.0
110.00		354.8	515.7					0.0	200.2	354.8	716.0	0.0	0.0
115.00		209.3	495.2					0.0	200.2	209.3	695.4	0.0	0.0
116.00	Appurtenance(s)	169.9	96.6	3,038.2	0.0	-615.7	2,143.0	0.0	40.0	3,208.1	2,279.6	0.0	0.0
120.00	Appurtenance(s)	300.0	378.0	2,546.6	0.0	0.0	2,261.4	0.0	115.1	2,846.6	2,754.6	0.0	0.0
125.00		196.8	454.1					0.0	59.4	196.8	513.5	0.0	0.0
126.00	Appurtenance(s)	159.0	88.3	309.8	0.0	0.0	44.1	0.0	11.9	468.8	144.3	0.0	0.0
130.00	Appurtenance(s)	126.7	345.1	4,387.4	0.0	10,540.8	2,197.1	0.0	47.0	4,514.1	2,589.2	0.0	0.0
								Totals:		25,644.0	43,050.9	0.00	0.00

Load Case: 0.9D + 1.6W 94 mph with No Ice (Reduced DL) 18 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :0.90
Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-43.03	-25.45	0.00	-2,458.39	0.00	2,458.39	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.291
5.00	-41.24	-25.06	0.00	-2,331.16	0.00	2,331.16	6,727.94	3,363.97	16,620.1	8,322.40	0.04	-0.07	0.286
10.00	-39.47	-24.67	0.00	-2,205.87	0.00	2,205.87	6,623.66	3,311.83	15,991.1	8,007.48	0.16	-0.15	0.281
15.00	-37.74	-24.30	0.00	-2,082.50	0.00	2,082.50	6,517.21	3,258.61	15,368.8	7,695.85	0.35	-0.22	0.276
20.00	-36.04	-23.92	0.00	-1,961.02	0.00	1,961.02	6,408.59	3,204.29	14,753.4	7,387.69	0.62	-0.30	0.271
25.00	-34.38	-23.56	0.00	-1,841.39	0.00	1,841.39	6,297.80	3,148.90	14,145.3	7,083.19	0.98	-0.37	0.265
30.00	-32.75	-23.20	0.00	-1,723.60	0.00	1,723.60	6,184.83	3,092.42	13,544.9	6,782.53	1.41	-0.45	0.259
35.00	-31.15	-22.82	0.00	-1,607.63	0.00	1,607.63	6,069.70	3,034.85	12,952.5	6,485.89	1.93	-0.53	0.253
40.00	-29.60	-22.61	0.00	-1,493.50	0.00	1,493.50	5,952.39	2,976.20	12,368.5	6,193.46	2.52	-0.61	0.246
40.50	-29.44	-22.42	0.00	-1,482.20	0.00	1,482.20	5,940.54	2,970.27	12,310.6	6,164.45	2.59	-0.62	0.245
45.00	-27.23	-22.13	0.00	-1,381.30	0.00	1,381.30	5,814.51	2,907.25	11,756.0	5,886.78	3.20	-0.69	0.239
47.50	-26.03	-21.93	0.00	-1,325.96	0.00	1,325.96	4,024.81	2,012.40	8,191.06	4,101.62	3.57	-0.73	0.330
50.00	-25.41	-21.64	0.00	-1,271.14	0.00	1,271.14	3,989.37	1,994.69	8,007.13	4,009.51	3.96	-0.77	0.324
55.00	-24.22	-21.25	0.00	-1,162.92	0.00	1,162.92	3,916.87	1,958.44	7,642.03	3,826.70	4.82	-0.86	0.310
60.00	-23.05	-20.86	0.00	-1,056.65	0.00	1,056.65	3,842.20	1,921.10	7,280.96	3,645.89	5.78	-0.96	0.296
65.00	-21.91	-20.54	0.00	-952.35	0.00	952.35	3,765.36	1,882.68	6,924.26	3,467.28	6.84	-1.06	0.281
68.00	-21.12	-20.14	0.00	-890.72	0.00	890.72	3,718.21	1,859.10	6,712.50	3,361.24	7.52	-1.12	0.271
70.00	-20.67	-19.87	0.00	-850.44	0.00	850.44	3,686.34	1,843.17	6,572.31	3,291.04	8.00	-1.16	0.264
75.00	-19.58	-19.62	0.00	-751.07	0.00	751.07	3,605.16	1,802.58	6,225.47	3,117.36	9.26	-1.25	0.246
76.00	-19.26	-19.32	0.00	-731.45	0.00	731.45	3,588.66	1,794.33	6,156.74	3,082.95	9.53	-1.27	0.243
80.00	-18.28	-18.82	0.00	-654.17	0.00	654.17	3,521.80	1,760.90	5,884.10	2,946.42	10.62	-1.34	0.227
82.16	-17.83	-18.62	0.00	-613.46	0.00	613.46	3,485.06	1,742.53	5,738.19	2,873.36	11.24	-1.38	0.219
85.00	-16.90	-18.39	0.00	-560.64	0.00	560.64	3,436.27	1,718.13	5,548.57	2,778.41	12.07	-1.43	0.207
87.83	-15.98	-18.18	0.00	-508.61	0.00	508.61	2,707.00	1,353.50	4,369.08	2,187.78	12.93	-1.47	0.239
90.00	-15.60	-18.05	0.00	-469.16	0.00	469.16	2,679.98	1,339.99	4,260.27	2,133.30	13.61	-1.51	0.226
91.00	-14.09	-16.88	0.00	-451.10	0.00	451.10	2,667.39	1,333.70	4,210.35	2,108.30	13.93	-1.53	0.219
95.00	-13.39	-16.54	0.00	-383.58	0.00	383.58	2,616.17	1,308.08	4,012.17	2,009.07	15.24	-1.59	0.196
100.00	-12.54	-16.19	0.00	-300.89	0.00	300.89	2,550.19	1,275.09	3,768.02	1,886.81	16.95	-1.67	0.165
104.00	-9.47	-12.31	0.00	-236.12	0.00	236.12	2,495.84	1,247.92	3,575.79	1,790.55	18.37	-1.72	0.136
105.00	-9.33	-12.09	0.00	-223.82	0.00	223.82	2,482.03	1,241.02	3,528.19	1,766.72	18.73	-1.73	0.131
110.00	-8.61	-11.72	0.00	-163.37	0.00	163.37	2,411.71	1,205.86	3,293.03	1,648.96	20.58	-1.79	0.103
115.00	-7.92	-11.49	0.00	-104.76	0.00	104.76	2,339.22	1,169.61	3,062.91	1,533.73	22.47	-1.83	0.072
116.00	-5.74	-8.22	0.00	-93.27	0.00	93.27	2,324.46	1,162.23	3,017.53	1,511.01	22.86	-1.83	0.064
120.00	-3.08	-5.28	0.00	-60.41	0.00	60.41	2,252.89	1,126.45	2,823.60	1,413.90	24.40	-1.86	0.044
125.00	-2.57	-5.07	0.00	-34.00	0.00	34.00	2,153.14	1,076.57	2,577.88	1,290.85	26.36	-1.87	0.028
126.00	-2.44	-4.60	0.00	-28.93	0.00	28.93	2,133.19	1,066.59	2,530.07	1,266.92	26.75	-1.88	0.024
130.00	0.00	-4.51	0.00	-10.54	0.00	10.54	2,053.39	1,026.69	2,343.34	1,173.41	28.33	-1.89	0.009

Site Number: 411189 Code: ANSI/TIA-222-G

Site Name: CRANBURYSU CT, CT Engineering Number:OAA710389_C3_04 5/22/2018 2:01:55 PM

Customer: SPRINT NEXTEL

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 0.75 in Radial Ice 18 Iterations

Gust Response Factor :1.10 Ice Dead Load Factor :1.00 Wind Importance Factor :1.00

Dead Load Factor :1.20 Ice Importance Factor :1.00

Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		75.6	0.0					0.0	0.0	75.6	0.0	0.0	0.0
5.00		149.9	2,419.4					0.0	519.5	149.9	2,938.8	0.0	0.0
10.00		147.1	2,417.7					0.0	533.9	147.1	2,951.6	0.0	0.0
15.00		144.2	2,388.6					0.0	541.3	144.2	2,929.9	0.0	0.0
20.00		141.2	2,350.5					0.0	546.4	141.2	2,896.9	0.0	0.0
25.00		138.1	2,307.8					0.0	550.3	138.1	2,858.1	0.0	0.0
30.00		136.6	2,262.1					0.0	553.5	136.6	2,815.6	0.0	0.0
35.00		137.9	2,214.3					0.0	556.3	137.9	2,770.6	0.0	0.0
40.00		76.5	2,165.1					0.0	558.7	76.5	2,723.7	0.0	0.0
40.50	Bot - Section 2	71.2	214.3					0.0	56.0	71.2	270.3	0.0	0.0
45.00		100.1	3,019.0					0.0	504.8	100.1	3,523.8	0.0	0.0
47.50	Top - Section 1	71.8	1,649.1					0.0	281.1	71.8	1,930.2	0.0	0.0
50.00		108.0	845.5					0.0	281.6	108.0	1,127.1	0.0	0.0
55.00		144.1	1,656.8					0.0	564.4	144.1	2,221.2	0.0	0.0
60.00		143.9	1,615.0					0.0	566.0	143.9	2,181.1	0.0	0.0
65.00		114.8	1,572.7					0.0	567.5	114.8	2,140.2	0.0	0.0
68.00	Appurtenance(s)	71.4	924.7	58.5	0.0	0.0	209.3	0.0	341.2	129.9	1,475.2	0.0	0.0
70.00		99.4	608.4					0.0	227.4	99.4	835.8	0.0	0.0
75.00	Appurtenance(s)	85.0	1,486.6	3.1	0.0	0.0	27.2	0.0	569.3	88.1	2,083.1	0.0	0.0
76.00	Appurtenance(s)	70.2	293.2	30.5	0.0	0.0	131.3	0.0	113.8	100.6	538.3	0.0	0.0
80.00	Appurtenance(s)	86.2	1,152.0	59.0	0.0	0.0	215.9	0.0	455.1	145.2	1,823.0	0.0	0.0
82.16	Bot - Section 3	69.9	612.4					0.0	246.0	69.9	858.5	0.0	0.0
85.00		79.2	1,258.2					0.0	322.9	79.2	1,581.1	0.0	0.0
87.83	Top - Section 2	69.3	1,232.2					0.0	322.5	69.3	1,554.7	0.0	0.0
90.00		43.7	525.7					0.0	247.5	43.7	773.3	0.0	0.0
91.00	Appurtenance(s)	68.3	240.1	284.9	0.0	0.0	2,217.2	0.0	114.1	353.2	2,571.5	0.0	0.0
95.00		121.6	941.4					0.0	457.0	121.6	1,398.4	0.0	0.0
100.00		119.8	1,140.0					0.0	572.1	119.8	1,712.1	0.0	0.0
104.00	Appurtenance(s)	65.8	884.6	900.5	0.0	0.0	6,675.1	0.0	458.4	966.3	8,018.1	0.0	0.0
105.00		77.4	218.0					0.0	91.9	77.4	309.9	0.0	0.0
110.00		127.3	1,060.6					0.0	460.0	127.3	1,520.6	0.0	0.0
115.00		75.3	1,020.6					0.0	460.9	75.3	1,481.4	0.0	0.0
116.00	Appurtenance(s)	61.3	200.4	776.0	0.0	-150.5	4,877.1	0.0	92.3	837.4	5,169.9	0.0	0.0
120.00	Appurtenance(s)	108.6	782.2	621.4	0.0	0.0	5,501.1	0.0	309.3	730.1	6,592.7	0.0	0.0
125.00		71.4	940.0					0.0	274.8	71.4	1,214.7	0.0	0.0
126.00	Appurtenance(s)	58.0	184.3	65.7	0.0	0.0	183.6	0.0	55.1	123.7	422.9	0.0	0.0
130.00	Appurtenance(s)	46.2	717.4	990.7	0.0	2,129.9	7,134.2	0.0	219.8	1,036.9	8,071.4	0.0	0.0
								Totals:		7,366.85	86,285.8	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 0.75 in Radial Ice — 18 Iterations

Gust Response Factor :1.10 Ice Dead Load Factor :1.00 Wind Importance Factor :1.00
Dead Load Factor :1.20 Ice Importance Factor :1.00
Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-86.28	-7.31	0.00	-684.24	0.00	684.24	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.092
5.00	-83.34	-7.19	0.00	-647.70	0.00	647.70	6,727.94	3,363.97	16,620.1	8,322.40	0.01	-0.02	0.090
10.00	-80.39	-7.07	0.00	-611.77	0.00	611.77	6,623.66	3,311.83	15,991.1	8,007.48	0.04	-0.04	0.089
15.00	-77.46	-6.95	0.00	-576.44	0.00	576.44	6,517.21	3,258.61	15,368.8	7,695.85	0.10	-0.06	0.087
20.00	-74.56	-6.83	0.00	-541.71	0.00	541.71	6,408.59	3,204.29	14,753.4	7,387.69	0.17	-0.08	0.085
25.00	-71.70	-6.71	0.00	-507.56	0.00	507.56	6,297.80	3,148.90	14,145.3	7,083.19	0.27	-0.10	0.083
30.00	-68.88	-6.60	0.00	-473.99	0.00	473.99	6,184.83	3,092.42	13,544.9	6,782.53	0.39	-0.12	0.081
35.00	-66.11	-6.48	0.00	-441.01	0.00	441.01	6,069.70	3,034.85	12,952.5	6,485.89	0.53	-0.15	0.079
40.00	-63.38	-6.41	0.00	-408.62	0.00	408.62	5,952.39	2,976.20	12,368.5	6,193.46	0.70	-0.17	0.077
40.50	-63.11	-6.35	0.00	-405.42	0.00	405.42	5,940.54	2,970.27	12,310.6	6,164.45	0.72	-0.17	0.076
45.00	-59.59	-6.25	0.00	-376.86	0.00	376.86	5,814.51	2,907.25	11,756.0	5,886.78	0.89	-0.19	0.074
47.50	-57.65	-6.18	0.00	-361.23	0.00	361.23	4,024.81	2,012.40	8,191.06	4,101.62	0.99	-0.20	0.102
50.00	-56.53	-6.09	0.00	-345.77	0.00	345.77	3,989.37	1,994.69	8,007.13	4,009.51	1.10	-0.21	0.100
55.00	-54.30	-5.96	0.00	-315.32	0.00	315.32	3,916.87	1,958.44	7,642.03	3,826.70	1.33	-0.24	0.096
60.00	-52.12	-5.83	0.00	-285.51	0.00	285.51	3,842.20	1,921.10	7,280.96	3,645.89	1.59	-0.26	0.092
65.00	-49.98	-5.73	0.00	-256.35	0.00	256.35	3,765.36	1,882.68	6,924.26	3,467.28	1.89	-0.29	0.087
68.00	-48.50	-5.60	0.00	-239.17	0.00	239.17	3,718.21	1,859.10	6,712.50	3,361.24	2.07	-0.31	0.084
70.00	-47.66	-5.51	0.00	-227.97	0.00	227.97	3,686.34	1,843.17	6,572.31	3,291.04	2.20	-0.32	0.082
75.00	-45.58	-5.42	0.00	-200.42	0.00	200.42	3,605.16	1,802.58	6,225.47	3,117.36	2.55	-0.34	0.077
76.00	-45.04	-5.33	0.00	-195.00	0.00	195.00	3,588.66	1,794.33	6,156.74	3,082.95	2.62	-0.35	0.076
80.00	-43.22	-5.18	0.00	-173.69	0.00	173.69	3,521.80	1,760.90	5,884.10	2,946.42	2.92	-0.37	0.071
82.16	-42.36	-5.12	0.00	-162.48	0.00	162.48	3,485.06	1,742.53	5,738.19	2,873.36	3.09	-0.38	0.069
85.00	-40.78	-5.03	0.00	-147.97	0.00	147.97	3,436.27	1,718.13	5,548.57	2,778.41	3.32	-0.39	0.065
87.83	-39.22	-4.96	0.00	-133.72	0.00	133.72	2,707.00	1,353.50	4,369.08	2,187.78	3.55	-0.40	0.076
90.00	-38.45	-4.92	0.00	-122.95	0.00	122.95	2,679.98	1,339.99	4,260.27	2,133.30	3.73	-0.41	0.072
91.00	-35.88	-4.55	0.00	-118.03	0.00	118.03	2,667.39	1,333.70	4,210.35	2,108.30	3.82	-0.41	0.069
95.00	-34.48	-4.43	0.00	-99.82	0.00	99.82	2,616.17	1,308.08	4,012.17	2,009.07	4.18	-0.43	0.063
100.00	-32.77	-4.31	0.00	-77.66	0.00	77.66	2,550.19	1,275.09	3,768.02	1,886.81	4.64	-0.45	0.054
104.00	-24.76	-3.28	0.00	-60.43	0.00	60.43	2,495.84	1,247.92	3,575.79	1,790.55	5.02	-0.46	0.044
105.00	-24.45	-3.20	0.00	-57.15	0.00	57.15	2,482.03	1,241.02	3,528.19	1,766.72	5.12	-0.47	0.042
110.00	-22.93	-3.07	0.00	-41.13	0.00	41.13	2,411.71	1,205.86	3,293.03	1,648.96	5.62	-0.48	0.034
115.00	-21.45	-2.98	0.00	-25.78	0.00	25.78	2,339.22	1,169.61	3,062.91	1,533.73	6.13	-0.49	0.026
116.00	-16.28	-2.10	0.00	-22.79	0.00	22.79	2,324.46	1,162.23	3,017.53	1,511.01	6.23	-0.49	0.022
120.00	-9.70	-1.32	0.00	-14.38	0.00	14.38	2,252.89	1,126.45	2,823.60	1,413.90	6.65	-0.50	0.014
125.00	-8.48	-1.24	0.00	-7.80	0.00	7.80	2,153.14	1,076.57	2,577.88	1,290.85	7.18	-0.50	0.010
126.00	-8.06	-1.11	0.00	-6.56	0.00	6.56	2,133.19	1,066.59	2,530.07	1,266.92	7.28	-0.50	0.009
130.00	0.00	-1.04	0.00	-2.13	0.00	2.13	2,053.39	1,026.69	2,343.34	1,173.41	7.70	-0.51	0.002

Load Case: 1.0D + 1.0W Serviceability 60 mph 18 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.00
Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		56.8	0.0					0.0	0.0	56.8	0.0	0.0	0.0
5.00		112.4	1,642.2					0.0	320.5	112.4	1,962.7	0.0	0.0
10.00		109.9	1,605.7					0.0	320.5	109.9	1,926.1	0.0	0.0
15.00		107.4	1,569.1					0.0	320.5	107.4	1,889.6	0.0	0.0
20.00		104.9	1,532.6					0.0	320.5	104.9	1,853.0	0.0	0.0
25.00		102.4	1,496.0					0.0	320.5	102.4	1,816.5	0.0	0.0
30.00		101.1	1,459.5					0.0	320.5	101.1	1,779.9	0.0	0.0
35.00		101.8	1,422.9					0.0	320.5	101.8	1,743.4	0.0	0.0
40.00		56.4	1,386.4					0.0	320.5	56.4	1,706.8	0.0	0.0
40.50	Bot - Section 2	52.4	136.6					0.0	32.0	52.4	168.7	0.0	0.0
45.00		73.6	2,139.0					0.0	288.4	73.6	2,427.4	0.0	0.0
47.50	Top - Section 1	52.8	1,166.0					0.0	160.2	52.8	1,326.2	0.0	0.0
50.00		79.2	497.9					0.0	160.2	79.2	658.1	0.0	0.0
55.00		105.6	975.3					0.0	320.5	105.6	1,295.7	0.0	0.0
60.00		105.2	947.8					0.0	320.5	105.2	1,268.3	0.0	0.0
65.00		83.7	920.4					0.0	320.5	83.7	1,240.9	0.0	0.0
68.00	Appurtenance(s)	52.0	539.1	51.1	0.0	0.0	136.0	0.0	192.3	103.2	867.4	0.0	0.0
70.00		72.2	353.9					0.0	127.9	72.2	481.8	0.0	0.0
75.00	Appurtenance(s)	61.7	865.6	1.4	0.0	0.0	10.0	0.0	319.7	63.1	1,195.3	0.0	0.0
76.00	Appurtenance(s)	50.8	169.8	27.8	0.0	0.0	110.0	0.0	63.8	78.6	343.6	0.0	0.0
80.00	Appurtenance(s)	62.4	668.4	65.2	0.0	0.0	160.0	0.0	254.6	127.5	1,082.9	0.0	0.0
82.16	Bot - Section 3	50.5	354.2					0.0	137.3	50.5	491.5	0.0	0.0
85.00		57.1	843.7					0.0	180.1	57.1	1,023.8	0.0	0.0
87.83	Top - Section 2	50.0	825.6					0.0	179.7	50.0	1,005.3	0.0	0.0
90.00		31.5	285.5					0.0	137.8	31.5	423.3	0.0	0.0
91.00	Appurtenance(s)	49.1	130.1	241.8	0.0	0.0	1,500.0	0.0	63.5	290.9	1,693.6	0.0	0.0
95.00		87.2	511.4					0.0	254.0	87.2	765.4	0.0	0.0
100.00		85.7	618.7					0.0	317.5	85.7	936.2	0.0	0.0
104.00	Appurtenance(s)	46.9	478.5	920.3	0.0	0.0	2,796.9	0.0	254.0	967.3	3,529.4	0.0	0.0
105.00		55.1	117.3					0.0	44.5	55.1	161.8	0.0	0.0
110.00		90.3	573.0					0.0	222.5	90.3	795.5	0.0	0.0
115.00		53.3	550.2					0.0	222.5	53.3	772.7	0.0	0.0
116.00	Appurtenance(s)	43.3	107.3	773.7	0.0	-156.8	2,381.1	0.0	44.5	816.9	2,532.9	0.0	0.0
120.00	Appurtenance(s)	76.4	420.0	648.5	0.0	0.0	2,512.7	0.0	127.9	724.9	3,060.7	0.0	0.0
125.00		50.1	504.5					0.0	66.1	50.1	570.6	0.0	0.0
126.00	Appurtenance(s)	40.5	98.2	78.9	0.0	0.0	49.0	0.0	13.2	119.4	160.4	0.0	0.0
130.00	Appurtenance(s)	32.3	383.5	1,117.2	0.0	2,684.1	2,441.2	0.0	52.2	1,149.5	2,876.9	0.0	0.0
								Totals:		6,530.01	47,834.4	0.00	0.00

Load Case: 1.0D + 1.0W Serviceability 60 mph 18 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.00
Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-47.83	-6.48	0.00	-627.21	0.00	627.21	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.080
5.00	-45.87	-6.38	0.00	-594.81	0.00	594.81	6,727.94	3,363.97	16,620.1	8,322.40	0.01	-0.02	0.078
10.00	-43.94	-6.29	0.00	-562.89	0.00	562.89	6,623.66	3,311.83	15,991.1	8,007.48	0.04	-0.04	0.077
15.00	-42.05	-6.19	0.00	-531.46	0.00	531.46	6,517.21	3,258.61	15,368.8	7,695.85	0.09	-0.06	0.076
20.00	-40.19	-6.10	0.00	-500.50	0.00	500.50	6,408.59	3,204.29	14,753.4	7,387.69	0.16	-0.08	0.074
25.00	-38.38	-6.01	0.00	-470.01	0.00	470.01	6,297.80	3,148.90	14,145.3	7,083.19	0.25	-0.10	0.072
30.00	-36.59	-5.91	0.00	-439.97	0.00	439.97	6,184.83	3,092.42	13,544.9	6,782.53	0.36	-0.12	0.071
35.00	-34.85	-5.82	0.00	-410.40	0.00	410.40	6,069.70	3,034.85	12,952.5	6,485.89	0.49	-0.13	0.069
40.00	-33.14	-5.77	0.00	-381.29	0.00	381.29	5,952.39	2,976.20	12,368.5	6,193.46	0.64	-0.15	0.067
40.50	-32.97	-5.72	0.00	-378.41	0.00	378.41	5,940.54	2,970.27	12,310.6	6,164.45	0.66	-0.16	0.067
45.00	-30.54	-5.65	0.00	-352.67	0.00	352.67	5,814.51	2,907.25	11,756.0	5,886.78	0.82	-0.18	0.065
47.50	-29.22	-5.59	0.00	-338.56	0.00	338.56	4,024.81	2,012.40	8,191.06	4,101.62	0.91	-0.19	0.090
50.00	-28.56	-5.52	0.00	-324.57	0.00	324.57	3,989.37	1,994.69	8,007.13	4,009.51	1.01	-0.20	0.088
55.00	-27.26	-5.42	0.00	-296.96	0.00	296.96	3,916.87	1,958.44	7,642.03	3,826.70	1.23	-0.22	0.085
60.00	-25.99	-5.33	0.00	-269.84	0.00	269.84	3,842.20	1,921.10	7,280.96	3,645.89	1.47	-0.25	0.081
65.00	-24.75	-5.24	0.00	-243.21	0.00	243.21	3,765.36	1,882.68	6,924.26	3,467.28	1.75	-0.27	0.077
68.00	-23.88	-5.14	0.00	-227.48	0.00	227.48	3,718.21	1,859.10	6,712.50	3,361.24	1.92	-0.29	0.074
70.00	-23.39	-5.07	0.00	-217.20	0.00	217.20	3,686.34	1,843.17	6,572.31	3,291.04	2.04	-0.30	0.072
75.00	-22.20	-5.01	0.00	-191.82	0.00	191.82	3,605.16	1,802.58	6,225.47	3,117.36	2.36	-0.32	0.068
76.00	-21.85	-4.93	0.00	-186.81	0.00	186.81	3,588.66	1,794.33	6,156.74	3,082.95	2.43	-0.32	0.067
80.00	-20.77	-4.81	0.00	-167.08	0.00	167.08	3,521.80	1,760.90	5,884.10	2,946.42	2.71	-0.34	0.063
82.16	-20.28	-4.76	0.00	-156.68	0.00	156.68	3,485.06	1,742.53	5,738.19	2,873.36	2.87	-0.35	0.060
85.00	-19.25	-4.70	0.00	-143.19	0.00	143.19	3,436.27	1,718.13	5,548.57	2,778.41	3.08	-0.36	0.057
87.83	-18.25	-4.64	0.00	-129.90	0.00	129.90	2,707.00	1,353.50	4,369.08	2,187.78	3.30	-0.38	0.066
90.00	-17.83	-4.61	0.00	-119.83	0.00	119.83	2,679.98	1,339.99	4,260.27	2,133.30	3.47	-0.39	0.063
91.00	-16.13	-4.31	0.00	-115.22	0.00	115.22	2,667.39	1,333.70	4,210.35	2,108.30	3.56	-0.39	0.061
95.00	-15.37	-4.22	0.00	-97.97	0.00	97.97	2,616.17	1,308.08	4,012.17	2,009.07	3.89	-0.41	0.055
100.00	-14.43	-4.14	0.00	-76.85	0.00	76.85	2,550.19	1,275.09	3,768.02	1,886.81	4.33	-0.43	0.046
104.00	-10.91	-3.14	0.00	-60.30	0.00	60.30	2,495.84	1,247.92	3,575.79	1,790.55	4.69	-0.44	0.038
105.00	-10.75	-3.09	0.00	-57.16	0.00	57.16	2,482.03	1,241.02	3,528.19	1,766.72	4.78	-0.44	0.037
110.00	-9.95	-2.99	0.00	-41.72	0.00	41.72	2,411.71	1,205.86	3,293.03	1,648.96	5.25	-0.46	0.029
115.00	-9.18	-2.94	0.00	-26.75	0.00	26.75	2,339.22	1,169.61	3,062.91	1,533.73	5.74	-0.47	0.021
116.00	-6.65	-2.10	0.00	-23.81	0.00	23.81	2,324.46	1,162.23	3,017.53	1,511.01	5.84	-0.47	0.019
120.00	-3.60	-1.35	0.00	-15.42	0.00	15.42	2,252.89	1,126.45	2,823.60	1,413.90	6.23	-0.47	0.013
125.00	-3.03	-1.29	0.00	-8.67	0.00	8.67	2,153.14	1,076.57	2,577.88	1,290.85	6.73	-0.48	0.008
126.00	-2.87	-1.17	0.00	-7.38	0.00	7.38	2,133.19	1,066.59	2,530.07	1,266.92	6.83	-0.48	0.007
130.00	0.00	-1.15	0.00	-2.68	0.00	2.68	2,053.39	1,026.69	2,343.34	1,173.41	7.23	-0.48	0.002

Equivalent Lateral Forces Method Analysis

(Based on ASCE7-10 Chapters 11, 12, 15)

Spectral Response Acceleration for Short Period (S_s):	0.23	
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.07	
Long-Period Transition Period (T_L):	6	
Importance Factor (I_E):	1.00	
Site Coefficient F_a:	1.60	
Site Coeffiecient F_v:	2.40	
Response Modification Coefficient (R):	1.50	
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.24	
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.11	
Seismic Response Coefficient (C_s):	0.05	
Upper Limit C_s	0.05	
Lower Limit C_s	0.03	
Period based on Rayleigh Method (sec):	1.47	
Redundancy Factor (p):	1.30	
Seismic Force Distribution Exponent (k):	1.49	
Total Unfactored Dead Load:	47.83	k
Seismic Base Shear (E):	3.02	k

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
36	128.00	436	590	0.021	62	544
35	125.50	111	146	0.005	15	139
34	122.50	571	724	0.025	77	712
33	118.00	548	658	0.023	70	684
32	115.50	152	176	0.006	19	190
31	112.50	773	864	0.030	91	965
30	107.50	796	831	0.029	88	993
29	104.50	162	162	0.006	17	202
28	102.00	732	708	0.025	75	914
27	97.50	936	846	0.030	89	1,169
26	93.00	765	645	0.023	68	956
25	90.50	194	157	0.005	17	242
24	88.92	423	334	0.012	35	528
23	86.42	1,005	759	0.027	80	1,255
22	83.58	1,024	736	0.026	78	1,278
21	81.08	492	338	0.012	36	614
20	78.00	923	599	0.021	63	1,152
19	75.50	234	144	0.005	15	292
18	72.50	1,185	690	0.024	73	1,480
17	69.00	482	260	0.009	28	601
16	66.50	731	374	0.013	40	913
15	62.50	1,241	579	0.020	61	1,549
14	57.50	1,268	523	0.018	55	1,583

13	52.50	1,296	467	0.016	49	1,618
12	48.75	658	212	0.007	22	822
11	46.25	1,326	396	0.014	42	1,656
10	42.75	2,427	644	0.023	68	3,030
9	40.25	169	41	0.001	4	211
8	37.50	1,707	373	0.013	39	2,131
7	32.50	1,743	308	0.011	33	2,176
6	27.50	1,780	245	0.009	26	2,222
5	22.50	1,816	186	0.007	20	2,268
4	17.50	1,853	130	0.005	14	2,313
3	12.50	1,890	81	0.003	9	2,359
2	7.50	1,926	38	0.001	4	2,405
1	2.50	1,963	8	0.000	1	2,450
Alcatel-Lucent RRH2X	130.00	132	183	0.006	19	165
Alcatel-Lucent RRH2X	130.00	129	179	0.006	19	161
Alcatel-Lucent RRH2x	130.00	170	236	0.008	25	212
Amphenol Antel BXA-1	130.00	32	44	0.002	5	39
RFS DB-T1-6Z-8AB-0Z	130.00	88	122	0.004	13	110
Decibel DB846F65ZAXY	130.00	84	116	0.004	12	105
Antel LPA-80080/6CF	130.00	42	58	0.002	6	52
Commscope SBNHH-1D85	130.00	265	367	0.013	39	330
Flat Low Profile Pla	130.00	1,500	2,079	0.073	220	1,873
Andrew Microwaves VH	126.00	49	65	0.002	7	61
Alcatel-Lucent RRH2x	120.00	159	195	0.007	21	198
Alcatel-Lucent 800MH	120.00	159	196	0.007	21	198
Alcatel-Lucent 1900M	120.00	132	162	0.006	17	165
Nokia 2.5G MAA - AAH	120.00	311	382	0.013	40	388
24" x 24" Junction B	120.00	20	25	0.001	3	25
Commscope NNVV-65B-R	120.00	232	286	0.010	30	290
Flat Low Profile Pla	120.00	1,500	1,846	0.065	195	1,873
Ericsson KRY 112 71	116.00	40	46	0.002	5	49
Ericsson RRUS 11 B12	116.00	152	178	0.006	19	190
EMS RR90-17-02DP	116.00	41	47	0.002	5	51
Ericsson AIR 21, 1.3	116.00	498	583	0.020	62	622
Commscope LNX-6515DS	116.00	151	177	0.006	19	188
Flat Low Profile Pla	116.00	1,500	1,755	0.061	185	1,873
Powerwave Allgon LGP	104.00	66	66	0.002	7	82
Powerwave Allgon 702	104.00	13	13	0.000	1	16
GPS	104.00	10	10	0.000	1	12
Powerwave Allgon LGP	104.00	169	168	0.006	18	211
Raycap DC6-48-60-18-	104.00	20	20	0.001	2	25
Ericsson RRUS-11 (50	104.00	150	149	0.005	16	187
Ericsson RRUS	104.00	132	132	0.005	14	165
Ericsson RRUS 12 w/	104.00	214	213	0.007	23	267
Powerwave Allgon 777	104.00	210	209	0.007	22	262
Powerwave Allgon P65	104.00	159	158	0.006	17	198
CCI HPA-65R-BUU-H6	104.00	153	152	0.005	16	191
Flat Low Profile Pla	104.00	1,500	1,492	0.052	158	1,873
Empty Flat Low Profi	91.00	1,500	1,223	0.043	129	1,873
GPS	80.00	10	7	0.000	1	12
Flat Side Arm	80.00	150	101	0.004	11	187
2" x 8" GPS	76.00	10	6	0.000	1	12
Stand-Off	76.00	100	62	0.002	7	125
2" x 8" GPS	75.00	10	6	0.000	1	12
GPS	68.00	10	5	0.000	1	12
Side Arm	68.00	126	67	0.002	7	157
		47,834	28,557	1.000	3,018	59,718

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
36	128.00	436	590	0.021	62	371
35	125.50	111	146	0.005	15	95
34	122.50	571	724	0.025	77	486
33	118.00	548	658	0.023	70	467
32	115.50	152	176	0.006	19	129
31	112.50	773	864	0.030	91	658
30	107.50	796	831	0.029	88	677
29	104.50	162	162	0.006	17	138
28	102.00	732	708	0.025	75	624
27	97.50	936	846	0.030	89	797
26	93.00	765	645	0.023	68	652
25	90.50	194	157	0.005	17	165
24	88.92	423	334	0.012	35	360
23	86.42	1,005	759	0.027	80	856
22	83.58	1,024	736	0.026	78	872
21	81.08	492	338	0.012	36	419
20	78.00	923	599	0.021	63	786
19	75.50	234	144	0.005	15	199
18	72.50	1,185	690	0.024	73	1,009
17	69.00	482	260	0.009	28	410
16	66.50	731	374	0.013	40	623
15	62.50	1,241	579	0.020	61	1,057
14	57.50	1,268	523	0.018	55	1,080
13	52.50	1,296	467	0.016	49	1,103
12	48.75	658	212	0.007	22	560
11	46.25	1,326	396	0.014	42	1,129
10	42.75	2,427	644	0.023	68	2,067
9	40.25	169	41	0.001	4	144
8	37.50	1,707	373	0.013	39	1,453
7	32.50	1,743	308	0.011	33	1,485
6	27.50	1,780	245	0.009	26	1,516
5	22.50	1,816	186	0.007	20	1,547
4	17.50	1,853	130	0.005	14	1,578
3	12.50	1,890	81	0.003	9	1,609
2	7.50	1,926	38	0.001	4	1,640
1	2.50	1,963	8	0.000	1	1,671
Alcatel-Lucent RRH2X	130.00	132	183	0.006	19	112
Alcatel-Lucent RRH2X	130.00	129	179	0.006	19	110
Alcatel-Lucent RRH2x	130.00	170	236	0.008	25	145
Amphenol Antel BXA-1	130.00	32	44	0.002	5	27
RFS DB-T1-6Z-8AB-0Z	130.00	88	122	0.004	13	75
Decibel DB846F65ZAXY	130.00	84	116	0.004	12	72
Antel LPA-80080/6CF	130.00	42	58	0.002	6	36
Commscope SBNHH-1D85	130.00	265	367	0.013	39	225
Flat Low Profile Pla	130.00	1,500	2,079	0.073	220	1,277
Andrew Microwaves VH	126.00	49	65	0.002	7	42
Alcatel-Lucent RRH2x	120.00	159	195	0.007	21	135
Alcatel-Lucent 800MH	120.00	159	196	0.007	21	135
Alcatel-Lucent 1900M	120.00	132	162	0.006	17	112
Nokia 2.5G MAA - AAH	120.00	311	382	0.013	40	265
24" x 24" Junction B	120.00	20	25	0.001	3	17
Commscope NNVV-65B-R	120.00	232	286	0.010	30	198
Flat Low Profile Pla	120.00	1,500	1,846	0.065	195	1,277
Ericsson KRY 112 71	116.00	40	46	0.002	5	34
Ericsson RRUS 11 B12	116.00	152	178	0.006	19	130
EMS RR90-17-02DP	116.00	41	47	0.002	5	34
Ericsson AIR 21, 1.3	116.00	498	583	0.020	62	424

Commscope LNX-6515DS	116.00	151	177	0.006	19	129
Flat Low Profile Pla	116.00	1,500	1,755	0.061	185	1,277
Powerwave Allgon LGP	104.00	66	66	0.002	7	56
Powerwave Allgon 702	104.00	13	13	0.000	1	11
GPS	104.00	10	10	0.000	1	9
Powerwave Allgon LGP	104.00	169	168	0.006	18	144
Raycap DC6-48-60-18-	104.00	20	20	0.001	2	17
Ericsson RRUS-11 (50	104.00	150	149	0.005	16	128
Ericsson RRUS	104.00	132	132	0.005	14	113
Ericsson RRUS 12 w/	104.00	214	213	0.007	23	182
Powerwave Allgon 777	104.00	210	209	0.007	22	179
Powerwave Allgon P65	104.00	159	158	0.006	17	135
CCI HPA-65R-BUU-H6	104.00	153	152	0.005	16	130
Flat Low Profile Pla	104.00	1,500	1,492	0.052	158	1,277
Empty Flat Low Profi	91.00	1,500	1,223	0.043	129	1,277
GPS	80.00	10	7	0.000	1	9
Flat Side Arm	80.00	150	101	0.004	11	128
2" x 8" GPS	76.00	10	6	0.000	1	9
Stand-Off	76.00	100	62	0.002	7	85
2" x 8" GPS	75.00	10	6	0.000	1	9
GPS	68.00	10	5	0.000	1	9
Side Arm	68.00	126	67	0.002	7	107
		47,834	28,557	1.000	3,018	40,734

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-57.27	-3.02	0.00	-298.33	0.00	298.33	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.043
5.00	-54.86	-3.03	0.00	-283.23	0.00	283.23	6,727.94	3,363.97	16,620.1	8,322.40	0.00	-0.01	0.042
10.00	-52.50	-3.02	0.00	-268.10	0.00	268.10	6,623.66	3,311.83	15,991.1	8,007.48	0.02	-0.02	0.041
15.00	-50.19	-3.02	0.00	-252.98	0.00	252.98	6,517.21	3,258.61	15,368.8	7,695.85	0.04	-0.03	0.041
20.00	-47.92	-3.01	0.00	-237.88	0.00	237.88	6,408.59	3,204.29	14,753.4	7,387.69	0.08	-0.04	0.040
25.00	-45.70	-2.98	0.00	-222.86	0.00	222.86	6,297.80	3,148.90	14,145.3	7,083.19	0.12	-0.05	0.039
30.00	-43.52	-2.96	0.00	-207.94	0.00	207.94	6,184.83	3,092.42	13,544.9	6,782.53	0.17	-0.05	0.038
35.00	-41.39	-2.92	0.00	-193.15	0.00	193.15	6,069.70	3,034.85	12,952.5	6,485.89	0.23	-0.06	0.037
40.00	-41.18	-2.92	0.00	-178.53	0.00	178.53	5,952.39	2,976.20	12,368.5	6,193.46	0.31	-0.07	0.036
40.50	-38.15	-2.85	0.00	-177.07	0.00	177.07	5,940.54	2,970.27	12,310.6	6,164.45	0.31	-0.07	0.035
45.00	-36.49	-2.81	0.00	-164.23	0.00	164.23	5,814.51	2,907.25	11,756.0	5,886.78	0.39	-0.08	0.034
47.50	-35.67	-2.79	0.00	-157.20	0.00	157.20	4,024.81	2,012.40	8,191.06	4,101.62	0.43	-0.09	0.047
50.00	-34.05	-2.75	0.00	-150.22	0.00	150.22	3,989.37	1,994.69	8,007.13	4,009.51	0.48	-0.09	0.046
55.00	-32.47	-2.69	0.00	-136.49	0.00	136.49	3,916.87	1,958.44	7,642.03	3,826.70	0.58	-0.10	0.044
60.00	-30.92	-2.64	0.00	-123.02	0.00	123.02	3,842.20	1,921.10	7,280.96	3,645.89	0.70	-0.12	0.042
65.00	-30.01	-2.60	0.00	-109.84	0.00	109.84	3,765.36	1,882.68	6,924.26	3,467.28	0.83	-0.13	0.040
68.00	-29.23	-2.57	0.00	-102.05	0.00	102.05	3,718.21	1,859.10	6,712.50	3,361.24	0.91	-0.13	0.038
70.00	-27.75	-2.49	0.00	-96.92	0.00	96.92	3,686.34	1,843.17	6,572.31	3,291.04	0.96	-0.14	0.037
75.00	-27.45	-2.48	0.00	-84.46	0.00	84.46	3,605.16	1,802.58	6,225.47	3,117.36	1.11	-0.15	0.035
76.00	-26.16	-2.41	0.00	-81.98	0.00	81.98	3,588.66	1,794.33	6,156.74	3,082.95	1.15	-0.15	0.034
80.00	-25.35	-2.36	0.00	-72.35	0.00	72.35	3,521.80	1,760.90	5,884.10	2,946.42	1.28	-0.16	0.032
82.16	-24.07	-2.28	0.00	-67.24	0.00	67.24	3,485.06	1,742.53	5,738.19	2,873.36	1.35	-0.16	0.030
85.00	-22.81	-2.20	0.00	-60.77	0.00	60.77	3,436.27	1,718.13	5,548.57	2,778.41	1.45	-0.17	0.029
87.83	-22.29	-2.16	0.00	-54.55	0.00	54.55	2,707.00	1,353.50	4,369.08	2,187.78	1.55	-0.17	0.033
90.00	-22.04	-2.15	0.00	-49.85	0.00	49.85	2,679.98	1,339.99	4,260.27	2,133.30	1.63	-0.18	0.032
91.00	-19.22	-1.94	0.00	-47.70	0.00	47.70	2,667.39	1,333.70	4,210.35	2,108.30	1.66	-0.18	0.030
95.00	-18.05	-1.85	0.00	-39.93	0.00	39.93	2,616.17	1,308.08	4,012.17	2,009.07	1.82	-0.19	0.027
100.00	-17.13	-1.78	0.00	-30.66	0.00	30.66	2,550.19	1,275.09	3,768.02	1,886.81	2.02	-0.19	0.023
104.00	-13.44	-1.45	0.00	-23.56	0.00	23.56	2,495.84	1,247.92	3,575.79	1,790.55	2.18	-0.20	0.019
105.00	-12.45	-1.36	0.00	-22.10	0.00	22.10	2,482.03	1,241.02	3,528.19	1,766.72	2.22	-0.20	0.018
110.00	-11.48	-1.27	0.00	-15.29	0.00	15.29	2,411.71	1,205.86	3,293.03	1,648.96	2.43	-0.20	0.014
115.00	-11.29	-1.25	0.00	-8.94	0.00	8.94	2,339.22	1,169.61	3,062.91	1,533.73	2.65	-0.21	0.011
116.00	-7.64	-0.87	0.00	-7.69	0.00	7.69	2,324.46	1,162.23	3,017.53	1,511.01	2.70	-0.21	0.008
120.00	-3.79	-0.46	0.00	-4.20	0.00	4.20	2,252.89	1,126.45	2,823.60	1,413.90	2.87	-0.21	0.005
125.00	-3.65	-0.44	0.00	-1.92	0.00	1.92	2,153.14	1,076.57	2,577.88	1,290.85	3.09	-0.21	0.003
126.00	-3.05	-0.37	0.00	-1.48	0.00	1.48	2,133.19	1,066.59	2,530.07	1,266.92	3.14	-0.21	0.003
130.00	0.00	-0.36	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	3.32	-0.21	0.000

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-39.06	-3.02	0.00	-296.40	0.00	296.40	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.040
5.00	-37.42	-3.02	0.00	-281.30	0.00	281.30	6,727.94	3,363.97	16,620.1	8,322.40	0.00	-0.01	0.039
10.00	-35.81	-3.02	0.00	-266.19	0.00	266.19	6,623.66	3,311.83	15,991.1	8,007.48	0.02	-0.02	0.039
15.00	-34.23	-3.01	0.00	-251.10	0.00	251.10	6,517.21	3,258.61	15,368.8	7,695.85	0.04	-0.03	0.038
20.00	-32.69	-2.99	0.00	-236.06	0.00	236.06	6,408.59	3,204.29	14,753.4	7,387.69	0.08	-0.04	0.037
25.00	-31.17	-2.97	0.00	-221.09	0.00	221.09	6,297.80	3,148.90	14,145.3	7,083.19	0.12	-0.05	0.036
30.00	-29.69	-2.94	0.00	-206.23	0.00	206.23	6,184.83	3,092.42	13,544.9	6,782.53	0.17	-0.05	0.035
35.00	-28.23	-2.91	0.00	-191.51	0.00	191.51	6,069.70	3,034.85	12,952.5	6,485.89	0.23	-0.06	0.034
40.00	-28.09	-2.90	0.00	-176.98	0.00	176.98	5,952.39	2,976.20	12,368.5	6,193.46	0.30	-0.07	0.033
40.50	-26.02	-2.84	0.00	-175.53	0.00	175.53	5,940.54	2,970.27	12,310.6	6,164.45	0.31	-0.07	0.033
45.00	-24.89	-2.80	0.00	-162.76	0.00	162.76	5,814.51	2,907.25	11,756.0	5,886.78	0.39	-0.08	0.032
47.50	-24.33	-2.77	0.00	-155.78	0.00	155.78	4,024.81	2,012.40	8,191.06	4,101.62	0.43	-0.09	0.044
50.00	-23.23	-2.73	0.00	-148.84	0.00	148.84	3,989.37	1,994.69	8,007.13	4,009.51	0.48	-0.09	0.043
55.00	-22.15	-2.67	0.00	-135.21	0.00	135.21	3,916.87	1,958.44	7,642.03	3,826.70	0.58	-0.10	0.041
60.00	-21.09	-2.61	0.00	-121.84	0.00	121.84	3,842.20	1,921.10	7,280.96	3,645.89	0.69	-0.11	0.039
65.00	-20.47	-2.58	0.00	-108.76	0.00	108.76	3,765.36	1,882.68	6,924.26	3,467.28	0.82	-0.13	0.037
68.00	-19.94	-2.54	0.00	-101.03	0.00	101.03	3,718.21	1,859.10	6,712.50	3,361.24	0.90	-0.13	0.035
70.00	-18.93	-2.47	0.00	-95.95	0.00	95.95	3,686.34	1,843.17	6,572.31	3,291.04	0.96	-0.14	0.034
75.00	-18.72	-2.46	0.00	-83.60	0.00	83.60	3,605.16	1,802.58	6,225.47	3,117.36	1.11	-0.15	0.032
76.00	-17.84	-2.38	0.00	-81.14	0.00	81.14	3,588.66	1,794.33	6,156.74	3,082.95	1.14	-0.15	0.031
80.00	-17.29	-2.34	0.00	-71.61	0.00	71.61	3,521.80	1,760.90	5,884.10	2,946.42	1.26	-0.16	0.029
82.16	-16.42	-2.26	0.00	-66.55	0.00	66.55	3,485.06	1,742.53	5,738.19	2,873.36	1.34	-0.16	0.028
85.00	-15.56	-2.18	0.00	-60.14	0.00	60.14	3,436.27	1,718.13	5,548.57	2,778.41	1.43	-0.17	0.026
87.83	-15.20	-2.14	0.00	-53.98	0.00	53.98	2,707.00	1,353.50	4,369.08	2,187.78	1.53	-0.17	0.030
90.00	-15.03	-2.13	0.00	-49.33	0.00	49.33	2,679.98	1,339.99	4,260.27	2,133.30	1.61	-0.18	0.029
91.00	-13.11	-1.92	0.00	-47.20	0.00	47.20	2,667.39	1,333.70	4,210.35	2,108.30	1.65	-0.18	0.027
95.00	-12.31	-1.83	0.00	-39.51	0.00	39.51	2,616.17	1,308.08	4,012.17	2,009.07	1.80	-0.18	0.024
100.00	-11.68	-1.76	0.00	-30.34	0.00	30.34	2,550.19	1,275.09	3,768.02	1,886.81	2.00	-0.19	0.021
104.00	-9.17	-1.44	0.00	-23.31	0.00	23.31	2,495.84	1,247.92	3,575.79	1,790.55	2.16	-0.20	0.017
105.00	-8.49	-1.35	0.00	-21.87	0.00	21.87	2,482.03	1,241.02	3,528.19	1,766.72	2.20	-0.20	0.016
110.00	-7.83	-1.26	0.00	-15.13	0.00	15.13	2,411.71	1,205.86	3,293.03	1,648.96	2.41	-0.20	0.012
115.00	-7.70	-1.24	0.00	-8.85	0.00	8.85	2,339.22	1,169.61	3,062.91	1,533.73	2.63	-0.21	0.009
116.00	-5.21	-0.86	0.00	-7.61	0.00	7.61	2,324.46	1,162.23	3,017.53	1,511.01	2.67	-0.21	0.007
120.00	-2.58	-0.45	0.00	-4.15	0.00	4.15	2,252.89	1,126.45	2,823.60	1,413.90	2.85	-0.21	0.004
125.00	-2.49	-0.44	0.00	-1.90	0.00	1.90	2,153.14	1,076.57	2,577.88	1,290.85	3.07	-0.21	0.003
126.00	-2.08	-0.37	0.00	-1.46	0.00	1.46	2,133.19	1,066.59	2,530.07	1,266.92	3.11	-0.21	0.002
130.00	0.00	-0.36	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	3.29	-0.21	0.000

Equivalent Modal Forces Analysis

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.23
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.07
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.24
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.11
Period Based on Rayleigh Method (sec):	1.47
Redundancy Factor (p):	1.30

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
36	128.00	436	1.832	1.689	1.034	0.424	160	544
35	125.50	111	1.761	1.369	0.912	0.370	36	139
34	122.50	571	1.678	1.041	0.782	0.309	153	712
33	118.00	548	1.557	0.652	0.613	0.229	109	684
32	115.50	152	1.492	0.481	0.533	0.189	25	190
31	112.50	773	1.415	0.314	0.448	0.146	98	965
30	107.50	796	1.292	0.110	0.329	0.085	58	993
29	104.50	162	1.221	0.026	0.271	0.055	8	202
28	102.00	732	1.164	-0.027	0.229	0.034	21	914
27	97.50	936	1.063	-0.088	0.165	0.004	3	1,169
26	93.00	765	0.967	-0.117	0.116	-0.016	-10	956
25	90.50	194	0.916	-0.121	0.094	-0.022	-4	242
24	88.92	423	0.884	-0.121	0.081	-0.024	-9	528
23	86.42	1,005	0.835	-0.117	0.064	-0.026	-22	1,255
22	83.58	1,024	0.781	-0.108	0.049	-0.024	-22	1,278
21	81.08	492	0.735	-0.097	0.037	-0.021	-9	614
20	78.00	923	0.680	-0.081	0.026	-0.014	-11	1,152
19	75.50	234	0.637	-0.066	0.019	-0.006	-1	292
18	72.50	1,185	0.588	-0.049	0.013	0.003	4	1,480
17	69.00	482	0.532	-0.028	0.009	0.015	6	601
16	66.50	731	0.495	-0.014	0.007	0.024	15	913
15	62.50	1,241	0.437	0.006	0.006	0.036	38	1,549
14	57.50	1,268	0.370	0.027	0.008	0.047	52	1,583
13	52.50	1,296	0.308	0.043	0.012	0.054	61	1,618
12	48.75	658	0.266	0.052	0.015	0.057	32	822
11	46.25	1,326	0.239	0.057	0.018	0.058	66	1,656
10	42.75	2,427	0.204	0.062	0.023	0.058	122	3,030
9	40.25	169	0.181	0.065	0.026	0.058	8	211
8	37.50	1,707	0.157	0.067	0.029	0.057	84	2,131
7	32.50	1,743	0.118	0.070	0.035	0.055	84	2,176
6	27.50	1,780	0.085	0.071	0.039	0.053	82	2,222
5	22.50	1,816	0.057	0.071	0.042	0.051	80	2,268
4	17.50	1,853	0.034	0.069	0.041	0.048	77	2,313
3	12.50	1,890	0.017	0.062	0.037	0.043	71	2,359

2	7.50	1,926	0.006	0.048	0.027	0.034	57	2,405
1	2.50	1,963	0.001	0.021	0.011	0.016	27	2,450
Alcatel-Lucent RRH2X	130.00	132	1.890	1.980	1.140	0.470	54	165
Alcatel-Lucent RRH2X	130.00	129	1.890	1.980	1.140	0.470	52	161
Alcatel-Lucent RRH2x	130.00	170	1.890	1.980	1.140	0.470	69	212
Amphenol Antel BXA-1	130.00	32	1.890	1.980	1.140	0.470	13	39
RFS DB-T1-6Z-8AB-0Z	130.00	88	1.890	1.980	1.140	0.470	36	110
Decibel DB846F65ZAXY	130.00	84	1.890	1.980	1.140	0.470	34	105
Antel LPA-80080/6CF	130.00	42	1.890	1.980	1.140	0.470	17	52
Commscope SBNHH-	130.00	265	1.890	1.980	1.140	0.470	108	330
Flat Low Profile Pla	130.00	1,500	1.890	1.980	1.140	0.470	610	1,873
Andrew Microwaves	126.00	49	1.775	1.429	0.936	0.380	16	61
Alcatel-Lucent RRH2x	120.00	159	1.610	0.811	0.684	0.263	36	198
Alcatel-Lucent 800MH	120.00	159	1.610	0.811	0.684	0.263	36	198
Alcatel-Lucent 1900M	120.00	132	1.610	0.811	0.684	0.263	30	165
Nokia 2.5G MAA - AAH	120.00	311	1.610	0.811	0.684	0.263	71	388
24" x 24" Junction B	120.00	20	1.610	0.811	0.684	0.263	5	25
Commscope NNVV-	120.00	232	1.610	0.811	0.684	0.263	53	290
Flat Low Profile Pla	120.00	1,500	1.610	0.811	0.684	0.263	342	1,873
Ericsson KRY 112 71	116.00	40	1.505	0.513	0.549	0.197	7	49
Ericsson RRUS 11 B12	116.00	152	1.505	0.513	0.549	0.197	26	190
EMS RR90-17-02DP	116.00	41	1.505	0.513	0.549	0.197	7	51
Ericsson AIR 21, 1.3	116.00	498	1.505	0.513	0.549	0.197	85	622
Commscope LNX-	116.00	151	1.505	0.513	0.549	0.197	26	188
Flat Low Profile Pla	116.00	1,500	1.505	0.513	0.549	0.197	256	1,873
Powerwave Allgon LGP	104.00	66	1.210	0.014	0.262	0.050	3	82
Powerwave Allgon 702	104.00	13	1.210	0.014	0.262	0.050	1	16
GPS	104.00	10	1.210	0.014	0.262	0.050	0	12
Powerwave Allgon LGP	104.00	169	1.210	0.014	0.262	0.050	7	211
Raycap DC6-48-60-18-	104.00	20	1.210	0.014	0.262	0.050	1	25
Ericsson RRUS-11 (50	104.00	150	1.210	0.014	0.262	0.050	7	187
Ericsson RRUS	104.00	132	1.210	0.014	0.262	0.050	6	165
Ericsson RRUS 12 w/	104.00	214	1.210	0.014	0.262	0.050	9	267
Powerwave Allgon 777	104.00	210	1.210	0.014	0.262	0.050	9	262
Powerwave Allgon P65	104.00	159	1.210	0.014	0.262	0.050	7	198
CCI HPA-65R-BUU-H6	104.00	153	1.210	0.014	0.262	0.050	7	191
Flat Low Profile Pla	104.00	1,500	1.210	0.014	0.262	0.050	65	1,873
Empty Flat Low Profi	91.00	1,500	0.926	-0.121	0.098	-0.021	-27	1,873
GPS	80.00	10	0.716	-0.092	0.033	-0.019	0	12
Flat Side Arm	80.00	150	0.716	-0.092	0.033	-0.019	-2	187
2" x 8" GPS	76.00	10	0.646	-0.069	0.021	-0.008	0	12
Stand-Off	76.00	100	0.646	-0.069	0.021	-0.008	-1	125
2" x 8" GPS	75.00	10	0.629	-0.063	0.018	-0.005	0	12
GPS	68.00	10	0.517	-0.022	0.008	0.019	0	12
Side Arm	68.00	126	0.517	-0.022	0.008	0.019	2	157
		47,834	83.925	33.063	28.859	10.649	3,633	59,718

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
36	128.00	436	1.832	1.689	1.034	0.424	160	371
35	125.50	111	1.761	1.369	0.912	0.370	36	95
34	122.50	571	1.678	1.041	0.782	0.309	153	486
33	118.00	548	1.557	0.652	0.613	0.229	109	467
32	115.50	152	1.492	0.481	0.533	0.189	25	129
31	112.50	773	1.415	0.314	0.448	0.146	98	658
30	107.50	796	1.292	0.110	0.329	0.085	58	677
29	104.50	162	1.221	0.026	0.271	0.055	8	138

28	102.00	732	1.164	-0.027	0.229	0.034	21	624
27	97.50	936	1.063	-0.088	0.165	0.004	3	797
26	93.00	765	0.967	-0.117	0.116	-0.016	-10	652
25	90.50	194	0.916	-0.121	0.094	-0.022	-4	165
24	88.92	423	0.884	-0.121	0.081	-0.024	-9	360
23	86.42	1,005	0.835	-0.117	0.064	-0.026	-22	856
22	83.58	1,024	0.781	-0.108	0.049	-0.024	-22	872
21	81.08	492	0.735	-0.097	0.037	-0.021	-9	419
20	78.00	923	0.680	-0.081	0.026	-0.014	-11	786
19	75.50	234	0.637	-0.066	0.019	-0.006	-1	199
18	72.50	1,185	0.588	-0.049	0.013	0.003	4	1,009
17	69.00	482	0.532	-0.028	0.009	0.015	6	410
16	66.50	731	0.495	-0.014	0.007	0.024	15	623
15	62.50	1,241	0.437	0.006	0.006	0.036	38	1,057
14	57.50	1,268	0.370	0.027	0.008	0.047	52	1,080
13	52.50	1,296	0.308	0.043	0.012	0.054	61	1,103
12	48.75	658	0.266	0.052	0.015	0.057	32	560
11	46.25	1,326	0.239	0.057	0.018	0.058	66	1,129
10	42.75	2,427	0.204	0.062	0.023	0.058	122	2,067
9	40.25	169	0.181	0.065	0.026	0.058	8	144
8	37.50	1,707	0.157	0.067	0.029	0.057	84	1,453
7	32.50	1,743	0.118	0.070	0.035	0.055	84	1,485
6	27.50	1,780	0.085	0.071	0.039	0.053	82	1,516
5	22.50	1,816	0.057	0.071	0.042	0.051	80	1,547
4	17.50	1,853	0.034	0.069	0.041	0.048	77	1,578
3	12.50	1,890	0.017	0.062	0.037	0.043	71	1,609
2	7.50	1,926	0.006	0.048	0.027	0.034	57	1,640
1	2.50	1,963	0.001	0.021	0.011	0.016	27	1,671
Alcatel-Lucent RRH2X	130.00	132	1.890	1.980	1.140	0.470	54	112
Alcatel-Lucent RRH2X	130.00	129	1.890	1.980	1.140	0.470	52	110
Alcatel-Lucent RRH2x	130.00	170	1.890	1.980	1.140	0.470	69	145
Amphenol Antel BXA-1	130.00	32	1.890	1.980	1.140	0.470	13	27
RFS DB-T1-6Z-8AB-0Z	130.00	88	1.890	1.980	1.140	0.470	36	75
Decibel DB846F65ZAXY	130.00	84	1.890	1.980	1.140	0.470	34	72
Antel LPA-80080/6CF	130.00	42	1.890	1.980	1.140	0.470	17	36
Commscope SBNHH-	130.00	265	1.890	1.980	1.140	0.470	108	225
Flat Low Profile Pla	130.00	1,500	1.890	1.980	1.140	0.470	610	1,277
Andrew Microwaves	126.00	49	1.775	1.429	0.936	0.380	16	42
Alcatel-Lucent RRH2x	120.00	159	1.610	0.811	0.684	0.263	36	135
Alcatel-Lucent 800MH	120.00	159	1.610	0.811	0.684	0.263	36	135
Alcatel-Lucent 1900M	120.00	132	1.610	0.811	0.684	0.263	30	112
Nokia 2.5G MAA - AAH	120.00	311	1.610	0.811	0.684	0.263	71	265
24" x 24" Junction B	120.00	20	1.610	0.811	0.684	0.263	5	17
Commscope NNVV-	120.00	232	1.610	0.811	0.684	0.263	53	198
Flat Low Profile Pla	120.00	1,500	1.610	0.811	0.684	0.263	342	1,277
Ericsson KRY 112 71	116.00	40	1.505	0.513	0.549	0.197	7	34
Ericsson RRUS 11 B12	116.00	152	1.505	0.513	0.549	0.197	26	130
EMS RR90-17-02DP	116.00	41	1.505	0.513	0.549	0.197	7	34
Ericsson AIR 21, 1.3	116.00	498	1.505	0.513	0.549	0.197	85	424
Commscope LNX-	116.00	151	1.505	0.513	0.549	0.197	26	129
Flat Low Profile Pla	116.00	1,500	1.505	0.513	0.549	0.197	256	1,277
Powerwave Allgon LGP	104.00	66	1.210	0.014	0.262	0.050	3	56
Powerwave Allgon 702	104.00	13	1.210	0.014	0.262	0.050	1	11
GPS	104.00	10	1.210	0.014	0.262	0.050	0	9
Powerwave Allgon LGP	104.00	169	1.210	0.014	0.262	0.050	7	144
Raycap DC6-48-60-18-	104.00	20	1.210	0.014	0.262	0.050	1	17
Ericsson RRUS-11 (50	104.00	150	1.210	0.014	0.262	0.050	7	128
Ericsson RRUS	104.00	132	1.210	0.014	0.262	0.050	6	113
Ericsson RRUS 12 w/	104.00	214	1.210	0.014	0.262	0.050	9	182
Powerwave Allgon 777	104.00	210	1.210	0.014	0.262	0.050	9	179
Powerwave Allgon P65	104.00	159	1.210	0.014	0.262	0.050	7	135
CCI HPA-65R-BUU-H6	104.00	153	1.210	0.014	0.262	0.050	7	130
Flat Low Profile Pla	104.00	1,500	1.210	0.014	0.262	0.050	65	1,277
Empty Flat Low Profi	91.00	1,500	0.926	-0.121	0.098	-0.021	-27	1,277

GPS	80.00	10	0.716	-0.092	0.033	-0.019	0	9
Flat Side Arm	80.00	150	0.716	-0.092	0.033	-0.019	-2	128
2" x 8" GPS	76.00	10	0.646	-0.069	0.021	-0.008	0	9
Stand-Off	76.00	100	0.646	-0.069	0.021	-0.008	-1	85
2" x 8" GPS	75.00	10	0.629	-0.063	0.018	-0.005	0	9
GPS	68.00	10	0.517	-0.022	0.008	0.019	0	9
Side Arm	68.00	126	0.517	-0.022	0.008	0.019	2	107
		47,834	83.925	33.063	28.859	10.649	3,633	40,734

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-57.27	-3.61	0.00	-367.08	0.00	367.08	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.051
5.00	-54.86	-3.56	0.00	-349.03	0.00	349.03	6,727.94	3,363.97	16,620.1	8,322.40	0.01	-0.01	0.050
10.00	-52.50	-3.50	0.00	-331.22	0.00	331.22	6,623.66	3,311.83	15,991.1	8,007.48	0.02	-0.02	0.049
15.00	-50.19	-3.43	0.00	-313.71	0.00	313.71	6,517.21	3,258.61	15,368.8	7,695.85	0.05	-0.03	0.048
20.00	-47.92	-3.36	0.00	-296.54	0.00	296.54	6,408.59	3,204.29	14,753.4	7,387.69	0.09	-0.04	0.048
25.00	-45.70	-3.29	0.00	-279.73	0.00	279.73	6,297.80	3,148.90	14,145.3	7,083.19	0.15	-0.06	0.047
30.00	-43.52	-3.21	0.00	-263.30	0.00	263.30	6,184.83	3,092.42	13,544.9	6,782.53	0.21	-0.07	0.046
35.00	-41.39	-3.13	0.00	-247.26	0.00	247.26	6,069.70	3,034.85	12,952.5	6,485.89	0.29	-0.08	0.045
40.00	-41.18	-3.13	0.00	-231.60	0.00	231.60	5,952.39	2,976.20	12,368.5	6,193.46	0.38	-0.09	0.044
40.50	-38.15	-3.00	0.00	-230.04	0.00	230.04	5,940.54	2,970.27	12,310.6	6,164.45	0.39	-0.09	0.044
45.00	-36.49	-2.94	0.00	-216.52	0.00	216.52	5,814.51	2,907.25	11,756.0	5,886.78	0.48	-0.10	0.043
47.50	-35.67	-2.91	0.00	-209.17	0.00	209.17	4,024.81	2,012.40	8,191.06	4,101.62	0.54	-0.11	0.060
50.00	-34.05	-2.85	0.00	-201.90	0.00	201.90	3,989.37	1,994.69	8,007.13	4,009.51	0.60	-0.12	0.059
55.00	-32.47	-2.81	0.00	-187.64	0.00	187.64	3,916.87	1,958.44	7,642.03	3,826.70	0.73	-0.13	0.057
60.00	-30.92	-2.77	0.00	-173.60	0.00	173.60	3,842.20	1,921.10	7,280.96	3,645.89	0.88	-0.15	0.056
65.00	-30.00	-2.76	0.00	-159.74	0.00	159.74	3,765.36	1,882.68	6,924.26	3,467.28	1.04	-0.16	0.054
68.00	-29.23	-2.76	0.00	-151.45	0.00	151.45	3,718.21	1,859.10	6,712.50	3,361.24	1.15	-0.17	0.053
70.00	-27.75	-2.75	0.00	-145.94	0.00	145.94	3,686.34	1,843.17	6,572.31	3,291.04	1.22	-0.18	0.052
75.00	-27.45	-2.76	0.00	-132.17	0.00	132.17	3,605.16	1,802.58	6,225.47	3,117.36	1.42	-0.20	0.050
76.00	-26.16	-2.77	0.00	-129.42	0.00	129.42	3,588.66	1,794.33	6,156.74	3,082.95	1.46	-0.20	0.049
80.00	-25.34	-2.78	0.00	-118.34	0.00	118.34	3,521.80	1,760.90	5,884.10	2,946.42	1.64	-0.21	0.047
82.16	-24.06	-2.80	0.00	-112.32	0.00	112.32	3,485.06	1,742.53	5,738.19	2,873.36	1.74	-0.22	0.046
85.00	-22.81	-2.82	0.00	-104.37	0.00	104.37	3,436.27	1,718.13	5,548.57	2,778.41	1.87	-0.23	0.044
87.83	-22.28	-2.83	0.00	-96.38	0.00	96.38	2,707.00	1,353.50	4,369.08	2,187.78	2.01	-0.24	0.052
90.00	-22.04	-2.84	0.00	-90.24	0.00	90.24	2,679.98	1,339.99	4,260.27	2,133.30	2.12	-0.24	0.051
91.00	-19.21	-2.87	0.00	-87.40	0.00	87.40	2,667.39	1,333.70	4,210.35	2,108.30	2.17	-0.25	0.049
95.00	-18.04	-2.86	0.00	-75.94	0.00	75.94	2,616.17	1,308.08	4,012.17	2,009.07	2.38	-0.26	0.045
100.00	-17.13	-2.84	0.00	-61.63	0.00	61.63	2,550.19	1,275.09	3,768.02	1,886.81	2.67	-0.28	0.039
104.00	-13.43	-2.69	0.00	-50.27	0.00	50.27	2,495.84	1,247.92	3,575.79	1,790.55	2.90	-0.29	0.033
105.00	-12.44	-2.63	0.00	-47.58	0.00	47.58	2,482.03	1,241.02	3,528.19	1,766.72	2.96	-0.29	0.032
110.00	-11.47	-2.53	0.00	-34.42	0.00	34.42	2,411.71	1,205.86	3,293.03	1,648.96	3.27	-0.30	0.026
115.00	-11.28	-2.51	0.00	-21.76	0.00	21.76	2,339.22	1,169.61	3,062.91	1,533.73	3.59	-0.31	0.019
116.00	-7.63	-1.97	0.00	-19.25	0.00	19.25	2,324.46	1,162.23	3,017.53	1,511.01	3.66	-0.31	0.016
120.00	-3.79	-1.23	0.00	-11.36	0.00	11.36	2,252.89	1,126.45	2,823.60	1,413.90	3.92	-0.32	0.010
125.00	-3.65	-1.19	0.00	-5.23	0.00	5.23	2,153.14	1,076.57	2,577.88	1,290.85	4.26	-0.32	0.006
126.00	-3.04	-1.01	0.00	-4.04	0.00	4.04	2,133.19	1,066.59	2,530.07	1,266.92	4.32	-0.32	0.005
130.00	0.00	-0.99	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	4.59	-0.32	0.000

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-39.06	-3.61	0.00	-364.51	0.00	364.51	6,830.05	3,415.02	17,255.2	8,640.43	0.00	0.00	0.048
5.00	-37.42	-3.56	0.00	-346.46	0.00	346.46	6,727.94	3,363.97	16,620.1	8,322.40	0.01	-0.01	0.047
10.00	-35.81	-3.49	0.00	-328.67	0.00	328.67	6,623.66	3,311.83	15,991.1	8,007.48	0.02	-0.02	0.046
15.00	-34.23	-3.42	0.00	-311.20	0.00	311.20	6,517.21	3,258.61	15,368.8	7,695.85	0.05	-0.03	0.046
20.00	-32.69	-3.35	0.00	-294.09	0.00	294.09	6,408.59	3,204.29	14,753.4	7,387.69	0.09	-0.04	0.045
25.00	-31.17	-3.27	0.00	-277.36	0.00	277.36	6,297.80	3,148.90	14,145.3	7,083.19	0.15	-0.06	0.044
30.00	-29.68	-3.19	0.00	-261.01	0.00	261.01	6,184.83	3,092.42	13,544.9	6,782.53	0.21	-0.07	0.043
35.00	-28.23	-3.11	0.00	-245.05	0.00	245.05	6,069.70	3,034.85	12,952.5	6,485.89	0.29	-0.08	0.042
40.00	-28.09	-3.11	0.00	-229.50	0.00	229.50	5,952.39	2,976.20	12,368.5	6,193.46	0.38	-0.09	0.042
40.50	-26.02	-2.98	0.00	-227.94	0.00	227.94	5,940.54	2,970.27	12,310.6	6,164.45	0.39	-0.09	0.041
45.00	-24.89	-2.92	0.00	-214.52	0.00	214.52	5,814.51	2,907.25	11,756.0	5,886.78	0.48	-0.10	0.041
47.50	-24.33	-2.89	0.00	-207.23	0.00	207.23	4,024.81	2,012.40	8,191.06	4,101.62	0.53	-0.11	0.057
50.00	-23.23	-2.83	0.00	-200.01	0.00	200.01	3,989.37	1,994.69	8,007.13	4,009.51	0.59	-0.12	0.056
55.00	-22.14	-2.78	0.00	-185.87	0.00	185.87	3,916.87	1,958.44	7,642.03	3,826.70	0.72	-0.13	0.054
60.00	-21.09	-2.75	0.00	-171.96	0.00	171.96	3,842.20	1,921.10	7,280.96	3,645.89	0.87	-0.15	0.053
65.00	-20.46	-2.73	0.00	-158.24	0.00	158.24	3,765.36	1,882.68	6,924.26	3,467.28	1.03	-0.16	0.051
68.00	-19.94	-2.73	0.00	-150.03	0.00	150.03	3,718.21	1,859.10	6,712.50	3,361.24	1.14	-0.17	0.050
70.00	-18.93	-2.72	0.00	-144.58	0.00	144.58	3,686.34	1,843.17	6,572.31	3,291.04	1.21	-0.18	0.049
75.00	-18.72	-2.73	0.00	-130.96	0.00	130.96	3,605.16	1,802.58	6,225.47	3,117.36	1.41	-0.20	0.047
76.00	-17.84	-2.74	0.00	-128.24	0.00	128.24	3,588.66	1,794.33	6,156.74	3,082.95	1.45	-0.20	0.047
80.00	-17.28	-2.75	0.00	-117.28	0.00	117.28	3,521.80	1,760.90	5,884.10	2,946.42	1.62	-0.21	0.045
82.16	-16.41	-2.77	0.00	-111.33	0.00	111.33	3,485.06	1,742.53	5,738.19	2,873.36	1.72	-0.22	0.043
85.00	-15.56	-2.79	0.00	-103.47	0.00	103.47	3,436.27	1,718.13	5,548.57	2,778.41	1.85	-0.23	0.042
87.83	-15.19	-2.80	0.00	-95.57	0.00	95.57	2,707.00	1,353.50	4,369.08	2,187.78	1.99	-0.24	0.049
90.00	-15.03	-2.81	0.00	-89.49	0.00	89.49	2,679.98	1,339.99	4,260.27	2,133.30	2.10	-0.24	0.048
91.00	-13.10	-2.84	0.00	-86.68	0.00	86.68	2,667.39	1,333.70	4,210.35	2,108.30	2.15	-0.25	0.046
95.00	-12.30	-2.83	0.00	-75.33	0.00	75.33	2,616.17	1,308.08	4,012.17	2,009.07	2.36	-0.26	0.042
100.00	-11.68	-2.81	0.00	-61.16	0.00	61.16	2,550.19	1,275.09	3,768.02	1,886.81	2.64	-0.27	0.037
104.00	-9.16	-2.67	0.00	-49.91	0.00	49.91	2,495.84	1,247.92	3,575.79	1,790.55	2.88	-0.28	0.032
105.00	-8.48	-2.61	0.00	-47.24	0.00	47.24	2,482.03	1,241.02	3,528.19	1,766.72	2.94	-0.29	0.030
110.00	-7.82	-2.51	0.00	-34.18	0.00	34.18	2,411.71	1,205.86	3,293.03	1,648.96	3.25	-0.30	0.024
115.00	-7.69	-2.49	0.00	-21.62	0.00	21.62	2,339.22	1,169.61	3,062.91	1,533.73	3.56	-0.31	0.017
116.00	-5.20	-1.96	0.00	-19.13	0.00	19.13	2,324.46	1,162.23	3,017.53	1,511.01	3.63	-0.31	0.015
120.00	-2.58	-1.22	0.00	-11.30	0.00	11.30	2,252.89	1,126.45	2,823.60	1,413.90	3.89	-0.31	0.009
125.00	-2.49	-1.18	0.00	-5.20	0.00	5.20	2,153.14	1,076.57	2,577.88	1,290.85	4.22	-0.32	0.005
126.00	-2.07	-1.00	0.00	-4.02	0.00	4.02	2,133.19	1,066.59	2,530.07	1,266.92	4.28	-0.32	0.004
130.00	0.00	-0.99	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	4.55	-0.32	0.000

Analysis Summary

Load Case	Reactions Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Max Usage Elev (ft)	Interaction Ratio
1.2D + 1.6W	25.60	0.00	57.38	0.00	0.00	2488.23	47.50	0.34
0.9D + 1.6W	25.45	0.00	43.03	0.00	0.00	2458.39	47.50	0.33
1.2D + 1.0Di + 1.0Wi	7.31	0.00	86.28	0.00	0.00	684.24	47.50	0.10
(1.2 + 0.2Sds) * DL + E ELFM	3.02	0.00	57.27	0.00	0.00	298.33	47.50	0.05
(1.2 + 0.2Sds) * DL + E EMAM	3.61	0.00	57.27	0.00	0.00	367.08	47.50	0.06
(0.9 - 0.2Sds) * DL + E ELFM	3.02	0.00	39.06	0.00	0.00	296.40	47.50	0.04
(0.9 - 0.2Sds) * DL + E EMAM	3.61	0.00	39.06	0.00	0.00	364.51	47.50	0.06
1.0D + 1.0W	6.48	0.00	47.83	0.00	0.00	627.21	47.50	0.09

Base Plate & Anchor Rod Analysis

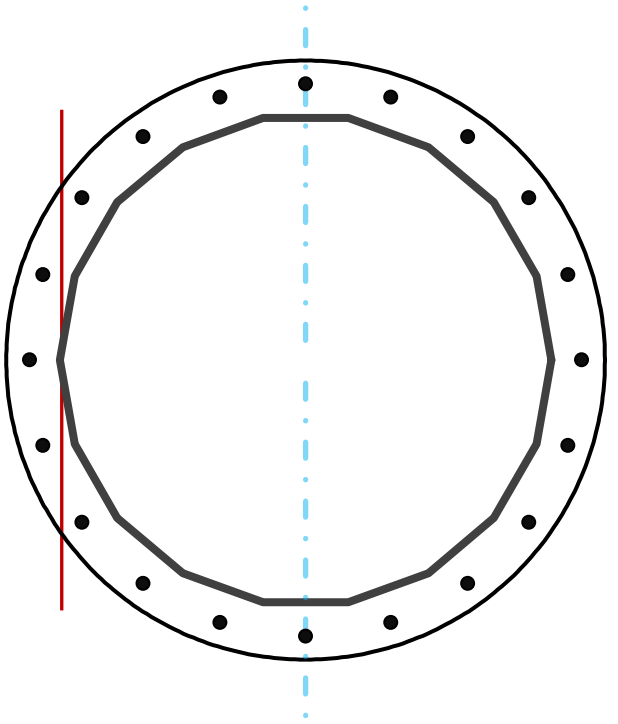
Pole Dimensions		
Number of Sides	18	-
Diameter	62	in
Thickness	0.5	in
Orientation Offset		°

Base Reactions		
Moment, Mu	2488.2	k-ft
Axial, Pu	57.3	k
Shear, Vu	25.6	k
Neutral Axis	90	°

Report Capacities		
Component	Capacity	Result
Base Plate	41%	Pass
Anchor Rods	33%	Pass
Dwyidag	-	-

Base Plate		
Shape	Round	-
Diameter, ø	77	in
Thickness	2	in
Grade	A572-60	-
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	N/A	in
Orientation Offset		°
Anchor Rod Detail	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	817.3	k
Bending Stress, ϕMn	1981.0	k

Original Anchor Rods		
Arrangement	Radial	-
Quantity	20	-
Diameter, ø	2 1/4	in
Bolt Circle	71	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	11.2	in
Orientation Offset		°
Applied Force, Pu	86.9	k
Anchor Rods, ϕPn	259.8	k



Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	25.6	2488.2	1.00
Anchor Rod Forces	25.6	2488.2	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in^2	in^2	in^4	#	in^4
Pole	96.1143	5.3397	0.4468		45449.07
Bolt	3.9761	3.2477	0.8393	4.5	40945.79
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate

Shape	Round	-
Diameter, D	77	in
Thickness, t	2	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	45.662	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

External Base Plate

Chord Length AA	39.079	in
Additional AA	4.000	in
Section Modulus, Z	43.079	in^3
Applied Moment, Mu	817.3	k-ft
Bending Capacity, ϕMn	2326.3	k-ft
Capacity, Mu/ϕMn	0.351	OK
Chord Length AB	37.506	in
Additional AB	4.000	in
Section Modulus, Z	41.506	in^3
Applied Moment, Mu	696.0	k-ft
Bending Capacity, ϕMn	2241.3	k-ft
Capacity, Mu/ϕMn	0.311	OK
Bend Line Length	36.686	in
Additional Bend Line	0.000	in
Section Modulus, Z	36.686	in^3
Applied Moment, Mu	817.3	k-ft
Bending Capacity, ϕMn	1981.0	k-ft
Capacity, Mu/ϕMn	0.413	OK

Internal Base Plate

Arc Length	0.000	in
Section Modulus, Z	0.000	in^3
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

Anchor Rods

Anchor Rod Quantity, N	20	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	71	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	86.9	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	259.8	k
Tensile Capacity, ϕRnt	0.335	OK
Interaction Capacity	0.335	OK

Additional Bolt Group 1

Bolt Quantity, N	0	-
Bolt Diameter, d	0	in
Bolt Circle, BC	0	in
Yield Strength, Fy	0	ksi
Tensile Strength, Fu	0	ksi
Applied Axial, Pu	0.0	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	0.0	k
Compressive Capacity, ϕPn		
Interaction Capacity		

Additional Bolt Group 2

Bolt Quantity, N	0	-
Bolt Diameter, d	0	in
Bolt Circle, BC	0	in
Yield Strength, Fy	0	ksi
Tensile Strength, Fu	0	ksi
Applied Axial, Pu	0.0	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	0.0	k
Compressive Capacity, ϕPn		
Interaction Capacity		

Dywidag Reinforcement

Dywidag Quantity, N	0	-
Dywidag Diameter, d	2.5	in
Bolt Circle, BC	68.88	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	0.0	k
Compressive Capacity, ϕPn	0.0	k
Capacity, Pu/ϕPn		

Base Plate Stiffeners

Applied Axial Force, Pu	0.0	k
Applied Horizontal Force, Vu	0.00	k

Vertical Weld

Vert.-to-Stiffener a=e_x/l	#DIV/0!	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Compressive Capacity, ϕPn	#DIV/0!	k
Vert.-to-Plate a=e_x/l	#DIV/0!	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Shear Capacity, ϕVn	#DIV/0!	k
$P_u/\phi_P P_n + V_u/\phi_V V_n$		

Horizontal Weld

Horz.-to-Stiffener a=e_x/l	0.000	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Effective Fillet	0.000	in
Compressive Capacity, ϕPn	#DIV/0!	k
Horz.-to-Pole a=e_x/l	#DIV/0!	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Shear Capacity, ϕVn	#DIV/0!	k
$P_u/\phi_P P_n + V_u/\phi_V V_n$		

Plate Tension

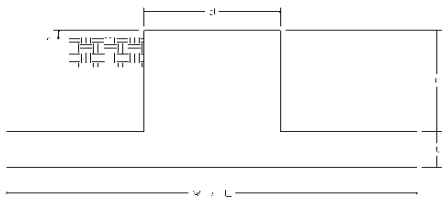
Gross Cross Section	0.000	in^2
Net Cross Section	0.000	in^2
Tensile Capacity, ϕTn	0.0	k
Capacity, Tu/ϕTn		

Plate Compression

Radius of Gyration	#DIV/0!	in^3
kl/r	#DIV/0!	-
4.71 √(E/Fy)	0.00	-
Buckling Stress(Fe)	0.0	-
Crit. Buckling Stress(Fcr)	0.0	ksi
Compressive Capacity, ϕPn	0.0	k
Capacity, Pu/ϕPn		

Site Name:	CRANBURYSU CT, CT
Site Number:	411189
Engineering Number:	OAA710389
Engineer:	Parvin.NikpoorParizi
Date:	05/22/18
Tower Type:	MP

Program Last Updated: *5/13/2014*



Design Loads (Factored) - Analysis per TIA-222-G Standards

Design / Analysis / Mapping:	Analysis				
Compression/Leg:	57.4	k	Concrete Strength (f'_c):	4000	psi
Uplift/Leg:	0.0	k	Pad Tension Steel Depth:	32.00	in
Total Shear:	25.6	k	ϕ_{Shear}:	0.75	
Moment:	2488.2	k-ft	$\phi_{Flexure\ /\ Tension}$:	0.90	
Tower + Appurtenance Weight:	57.4	k	$\phi_{Compression:}$	0.65	
Depth to Base of Foundation (l + t - h):	4.50	ft	β:	0.85	
Diameter of Pier (d):	8.00	ft	Bottom Pad Rebar Size #:	8	
Height of Pier above Ground (h):	1.00		# of Bottom Pad Rebar:	44	
Width of Pad (W):	29.50	ft	Pad Bottom Steel Area:	34.76	in^2
Length of Pad (L):	29.50	ft	Pad Steel F_y:	60000	psi
Thickness of Pad (t):	3.00	ft	Top Pad Rebar Size #:	8	
Tower Leg Center to Center:	0.00	ft	# of Top Pad Rebar:	28	
Number of Tower Legs:	1.0	(1 if MP or GT)	Pad Top Steel Area:	22.12	in^2
Tower Center from Mat Center:	0.00	ft	Pier Rebar Size #:	8	
Depth Below Ground Surface to Water Table:	6.00	ft	Pier Steel Area (Single Bar):	0.79	in^2
Unit Weight of Concrete:	150.0	pcf	# of Pier Rebar:	44	
Unit Weight of Soil Above Water Table:	100.0	pcf	Pier Steel F_y:	60000	psi
Unit Weight of Water:	62.4	pcf	Pier Cage Diameter:	88.0	in
Unit Weight of Soil Below Water Table:	37.6	pcf	Rebar Strain Limit:	0.008	
Friction Angle of Uplift:	15.0	Degrees	Steel Elastic Modulus:	29000	ksi
Ultimate Coefficient of Shear Friction:	0.60		Tie Rebar Size #:	4	
Ultimate Compressive Bearing Pressure:	6000.0	psf	Tie Steel Area (Single Bar):	0.20	in^2
Ultimate Passive Pressure on Pad Face:	0.0	psf	Tie Spacing:	8	in
$\phi_{Soil\ and\ Concrete\ Weight}$:	0.9		Tie Steel F_y:	60000	psi
ϕ_{Soil}:	0.75				

Overturning Moment Usage

Design OTM:	2629.0	k-ft
OTM Resistance:	7932.0	k-ft
Design OTM / OTM Resistance:	0.33	Result: OK

Soil Bearing Pressure Usage

Net Bearing Pressure:	1182	psf
Factored Nominal Bearing Pressure:	4500	psf
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.26	Result: OK
Load Direction Controling Design Bearing Pressure:	Diagonal to Pad Edge	

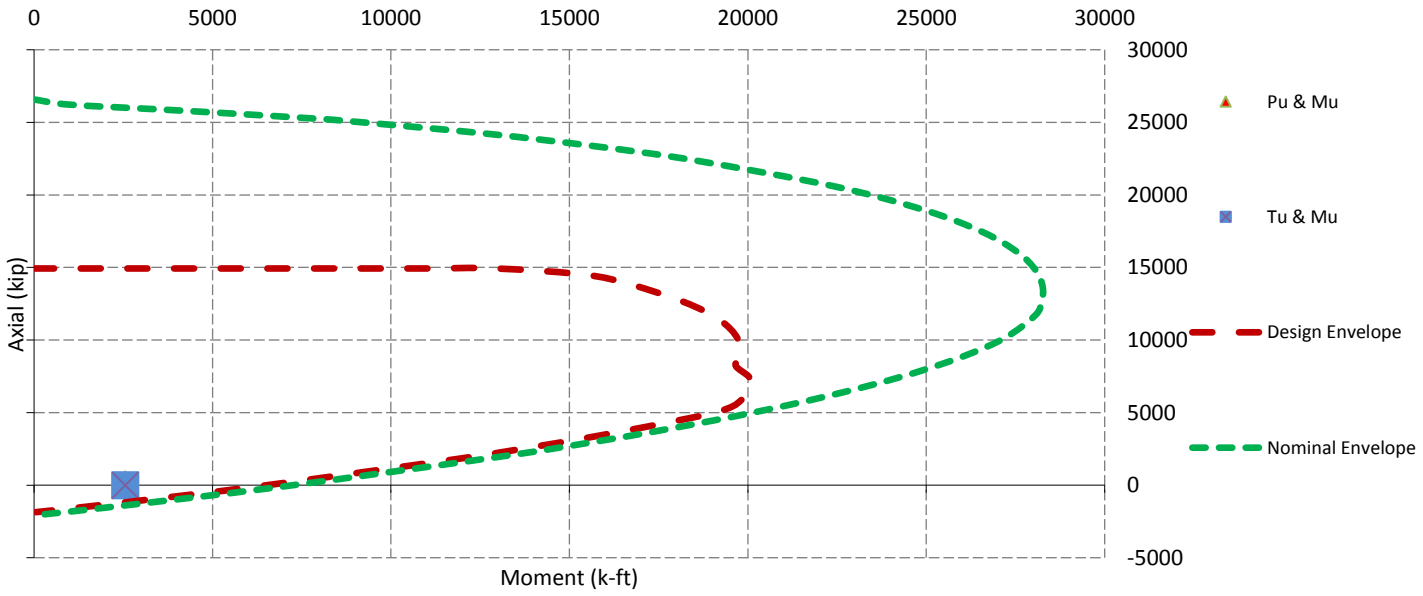
Sliding Factor of Safety

Total Factored Sliding Resistance:	261.6	k
Sliding Design / Sliding Resistance:	0.10	Result: OK

One Way Shear, Flexual Capacity, and Punching Shear

Factored One Way Shear (V_u):	188.6	k
One Way Shear Capacity (ϕV_c):	1074.7	k - ACI11.3.1.1
$V_u / \phi V_c$:	0.18	Result: OK
Load Direction Controling Shear Capacity:	Parallel to Pad Edge	
Lower Steel Pad Factored Moment (M_u):	1380.6	k-ft
Lower Steel Pad Moment Capacity (ϕM_n):	4890.2	k-ft - ACI10.3
$M_u / \phi M_n$:	0.28	Result: OK
Load Direction Controling Flexural Capacity:	Parallel to Pad Edge	
Upper Steel Pad Factored Moment (M_u):	600.8	k-ft
Upper Steel Pad Moment Capacity (ϕM_n):	3138.6	k-ft
$M_u / \phi M_n$:	0.19	Result: OK
Lower Pad Flexural Reinforcement Ratio:	0.0031	OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0020	OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Lower Pad Reinforcement Spacing:	8	in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Upper Pad Reinforcement Spacing:	13	in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Factored Punching Shear (V_u):	1.6	k
Nominal Punching Shear Capacity ($\phi_c V_n$):	2441.5	k - ACI11.12.2.1
$V_u / \phi V_c$:	0.00	Result: OK
Factored Moment in Pier (M_u):	2552.2	k-ft
Pier Moment Capacity (ϕM_n):	6730.8	k-ft
$M_u / \phi M_n$:	0.38	Result: OK
Factored Shear in Pier (V_u):	25.6	k
Pier Shear Capacity (ϕV_n):	689.4	k
$V_u / \phi V_c$:	0.04	Result: OK
Pier Shear Reinforcement Ratio:	0.0003	No Ties Necessary for Shear - ACI11.5.6.1
Factored Tension in Pier (T_u):	0.0	k
Pier Tension Capacity (ϕT_n):	1877.0	k
$T_u / \phi T_n$:	0.00	Result: OK
Factored Compression in Pier (P_u):	57.4	k
Pier Compression Capacity (ϕP_n):	12735.7	k - ACI10.3.6.2
$P_u / \phi P_n$:	0.00	Result: OK
$M_u/\phi_B M_n + T_u/\phi_T T_n$:	0.38	Result: OK

Nominal and Design Moment Capacity and Factored Design Loads



Sprint

PROJECT:	DO MACRO UPGRADE
SITE NAME:	WESTPORT/BAM
SITE CASCADE:	CT03XC382
SITE ADDRESS:	2 SUNNY LANE WESTPORT, CT 06880
SITE TYPE:	MONOPOLE
MARKET:	NORTHERN CONNECTICUT

SITE INFORMATION

TOWER OWNER:
AMERICAN TOWER CORPORATION
10 PRESIDENTIAL WAY
WOBURN, MA 01801

LATITUDE (NAD83):
41° 9' 46.5" N
41.16291666°

LONGITUDE (NAD83):
73° 22' 23.09" W
-73.37308055°

COUNTY:
FAIRFIELD

ZONING JURISDICTION:
CONNECTICUT SITING COUNCIL

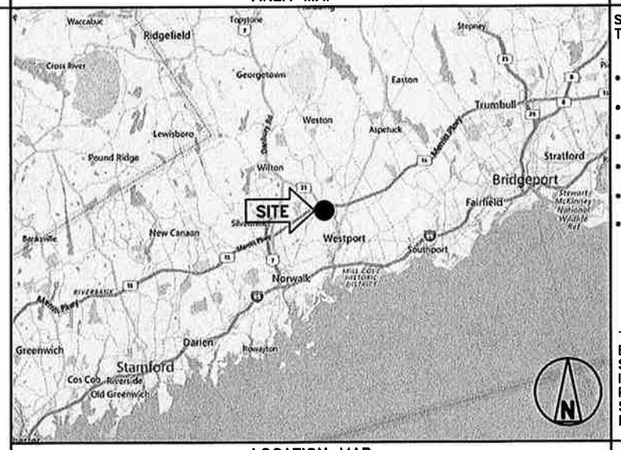
ZONING DISTRICT:
TBD

POWER COMPANY:
CL&P
PHONE: (800) 286-2000

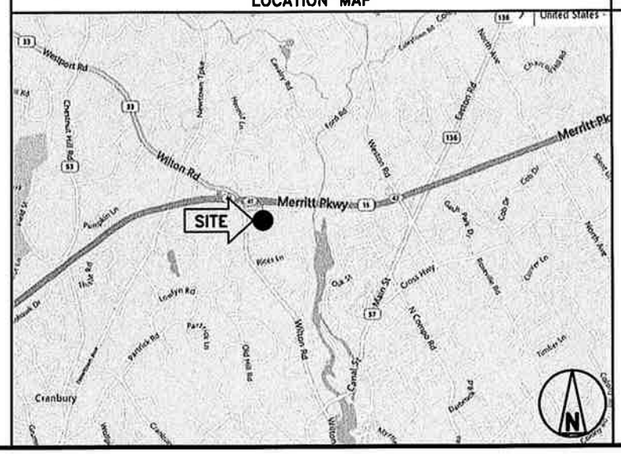
AAV PROVIDER:
AT&T
PHONE: (800) 288-2020

PROJECT MANAGER:
AIROSMITH DEVELOPMENT
TERRI BURKHOLDER
(315) 719-2928
TBURKHOLDER@AIROSMITHDEVELOPMENT.COM

AREA MAP



LOCATION MAP



PROJECT DESCRIPTION

SPRINT PROPOSES TO MODIFY AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY.

- REMOVE (6) PANEL ANTENNAS
- INSTALL (6) PANEL ANTENNAS
- INSTALL (3) 800 MHz RRH'S BEHIND PROPOSED ANTENNAS
- INSTALL (24) JUMPER CABLES
- INSTALL (2) HYBRID CABLE
- INSTALL 2.5 EQUIPMENT INSIDE EXISTING N.V. MMBS CABINET

THESE PLANS HAVE BEEN DEVELOPED FOR THE MODIFICATION OF AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY OWNED OR LEASED BY SPRINT IN ACCORDANCE WITH THE SCOPE OF WORK PROVIDED BY SPRINT. INFINIGY HAS INCORPORATED THIS SCOPE OF WORK IN THE PLANS. THESE PLANS ARE NOT FOR CONSTRUCTION UNLESS ACCOMPANIED BY A PASSING STRUCTURAL STABILITY ANALYSIS PREPARED BY A LICENSED STRUCTURAL ENGINEER. STRUCTURAL ANALYSIS MUST INCLUDE BOTH TOWER AND MOUNT.

APPLICABLE CODES

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALL IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. INTERNATIONAL BUILDING CODE (2015 IBC)
2. TIA-222-G OR LATEST EDITION
3. NFPA 780 – LIGHTNING PROTECTION CODE
4. 2011 NATIONAL ELECTRIC CODE OR LATEST EDITION
5. ANY OTHER NATIONAL OR LOCAL APPLICABLE CODES, MOST RECENT EDITIONS
6. CT BUILDING CODE
7. LOCAL BUILDING CODE
8. CITY/COUNTY ORDINANCES

811 Know what's below. Call before you dig. www.call811.com

DRAWING INDEX

SHEET NO.	SHEET TITLE	REV.
T-1	TITLE SHEET & PROJECT DATA	0
SP-1	SPRINT SPECIFICATIONS	0
SP-2	SPRINT SPECIFICATIONS	0
SP-3	SPRINT SPECIFICATIONS	0
A-1	SITE PLAN	0
A-2	TOWER ELEVATION	0
A-3	ANTENNA LAYOUT & MOUNTING DETAILS	0
A-4	EQUIPMENT & MOUNTING DETAILS	0
A-5	CIVIL DETAILS	0
A-6	PLUMBING DIAGRAM	0
E-1	ELECTRICAL & GROUNDING PLAN	0
E-2	ELECTRICAL & GROUNDING DETAILS	0

PLANS PREPARED FOR:
Sprint

PLANS PREPARED BY:

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 526-104

PROJECT MANAGER:

AIROSMITH DEVELOPMENT
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE#. (518) 308-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT · JOHN P. STEVENS · No. 24705 · LICENSED PROFESSIONAL ENGINEER
JUL 18 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	07/09/18	MAP	0

SITE NAME:
WESTPORT/BAM

SITE NUMBER:
CT03XC382

SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

SHEET DESCRIPTION:
TITLE SHEET
& PROJECT DATA

SHEET NUMBER:
T-1

THESE OUTLINE SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS, INCLUDING CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

SECTION 01 100 – SCOPE OF WORK

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT CONSTRUCTION STANDARDS FOR WIRELESS SITES, CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 PRECEDENCE: SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES INCLUDING THE STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE. NOTIFY SPRINT CONSTRUCTION MANAGER IF THIS OCCURS.

1.4 NATIONALLY RECOGNIZED CODES AND STANDARDS:

A. THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL AND LOCAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:

1. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
5. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
3. GR-1089 CORE, ELECTROMAGNETIC COMPATIBILITY AND ELECTRICAL SAFETY –GENERIC CRITERIA FOR NETWORK TELECOMMUNICATIONS EQUIPMENT.
4. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC") AND NFPA 101 (LIFE SAFETY CODE).
5. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM)
6. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE)
7. AMERICAN CONCRETE INSTITUTE (ACI)
8. AMERICAN WIRE PRODUCERS ASSOCIATION (AWPA)
9. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
10. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
11. PORTLAND CEMENT ASSOCIATION (PCA)
12. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)
13. BRICK INDUSTRY ASSOCIATION (BIA)
14. AMERICAN WELDING SOCIETY (AWS)
15. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)
16. SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)
17. DOOR AND HARDWARE INSTITUTE (DHI)
18. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
19. APPLICABLE BUILDING CODES INCLUDING UNIFORM BUILDING CODE, SOUTHERN BUILDING CODE, BOCA, AND THE INTERNATIONAL BUILDING CODE.

1.5 DEFINITIONS:

A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.

B. COMPANY: SPRINT CORPORATION

C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.

D. CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.

E. THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.

F. OFCI: OWNER FURNISHED, CONTRACTOR INSTALLED EQUIPMENT.

G. CONSTRUCTION MANAGER – ALL PROJECTS RELATED COMMUNICATION TO FLOW THROUGH SPRINT REPRESENTATIVE IN CHARGE OF PROJECT...

1.6 SITE FAMILIARITY: CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SPRINT CONSTRUCTION MANAGER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OR FIELD CONDITIONS.

1.7 POINT OF CONTACT: COMMUNICATION BETWEEN SPRINT AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE SPRINT CONSTRUCTION MANAGER APPOINTED TO MANAGE THE PROJECT FOR SPRINT.

1.8 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

1.9 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.

A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN RED PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.

B. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK. CONTRACTOR SHALL NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY VARIATIONS PRIOR TO PROCEEDING WITH THE WORK.

C. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. SPACING BETWEEN EQUIPMENT IS THE REQUIRED CLEARANCE. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE SPRINT CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE WORK.

1.10 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.

1.11 UTILITIES SERVICES: WHERE NECESSARY TO CUT EXISTING PIPES, ELECTRICAL WIRES, CONDUITS, CABLES, ETC., OF UTILITY SERVICES, OR OF FIRE PROTECTION OR COMMUNICATIONS SYSTEMS, THEY SHALL BE CUT AND CAPPED AT SUITABLE PLACES OR WHERE SHOWN. ALL SUCH ACTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANY INVOLVED:

1.12 PERMITS / FEES: WHEN REQUIRED THAT A PERMIT OR CONNECTION FEE BE PAID TO A PUBLIC UTILITY PROVIDER FOR NEW SERVICE TO THE CONSTRUCTION PROJECT, PAYMENT OF SUCH FEE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

1.13 CONTRACTOR SHALL TAKE ALL MEASURES AND PROVIDE ALL MATERIAL NECESSARY FOR PROTECTING EXISTING EQUIPMENT AND PROPERTY.

1.14 METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION: CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN THE FOLLOWING INSTALLATION AND COMMISSIONING MOPS.

NOTE: IN SHORT-FORM SPECIFICATIONS ON THE DRAWINGS, A/E TO INSERT LIST OF APPLICABLE MOPS INCLUDING EN-2012-001, EN-2013-002, EL-0568, AND TS-0193

1.15 USE OF ELECTRONIC PROJECT MANAGEMENT SYSTEMS:

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.

3.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.

3.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HEREWITH, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

3.4 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

3.5 EXISTING CONDITIONS: NOTIFY THE SPRINT CONSTRUCTION MANAGER OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

SECTION 01 200 – COMPANY FURNISHED MATERIAL AND EQUIPMENT

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 RECEIPT OF MATERIAL AND EQUIPMENT:

A. A COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DOCUMENTS.

B. THE CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:

1 ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.

2. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.

3. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.

4. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.

5. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.

6. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

3.2 DELIVERABLES:

A. COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.

B. IF APPLICABLE, COMPLETE LOST/STOLEN/DAMAGED DOCUMENTATION REPORT AS NECESSARY IN ACCORDANCE WITH COMPANY PRACTICE, AND AS DIRECTED BY COMPANY.

C. UPLOAD DOCUMENTATION INTO SPRINT SITE MANAGEMENT SYSTEM (SMS) AND/OR PROVIDE HARD COPY DOCUMENTATION AS REQUESTED.

SECTION 01 300 – CELL SITE CONSTRUCTION CO.

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 NOTICE TO PROCEED

A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF THE WORK ORDER.

B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 FUNCTIONAL REQUIREMENTS:

A. THE ACTIVITIES DESCRIBED IN THIS PARAGRAPH REPRESENT MINIMUM ACTIONS AND PROCESSES REQUIRED TO SUCCESSFULLY COMPLETE THE WORK. THE ACTIVITIES DESCRIBED ARE NOT EXHAUSTIVE, AND CONTRACTOR SHALL TAKE ANY AND ALL ACTIONS AS NECESSARY TO SUCCESSFULLY COMPLETE THE CONSTRUCTION OF A FULLY FUNCTIONING WIRELESS FACILITY AT THE SITE IN ACCORDANCE WITH COMPANY PROCESSES.

B. SUBMIT SPECIFIC DOCUMENTATION AS INDICATED HEREIN, AND OBTAIN REQUIRED APPROVALS WHILE THE WORK IS BEING PERFORMED.

C. MANAGE AND CONDUCT ALL FIELD CONSTRUCTION SERVICE RELATED ACTIVITIES

D. PROVIDE CONSTRUCTION ACTIVITIES TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

PLANS PREPARED FOR:

Sprint

PLANS PREPARED BY:

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 526-104

PROJECT MANAGER:

AIROSMITH DEVELOPMENT
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE#. (518) 306-3740

ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
PROFESSIONAL ENGINEER
LICENSE
OCT 18 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	07/09/18	MAP	0

SITE NAME:

WESTPORT/BAM

SITE NUMBER:

CT03XC382

SITE ADDRESS:

2 SUNNY LANE
WESTPORT, CT 06880

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-1

CONTINUE FROM SP-1

1. PERFORM ANY REQUIRED SITE ENVIRONMENTAL MITIGATION.
2. PREPARE GROUND SITES; PROVIDE DE-GRUBBING; AND ROUGH AND FINAL GRADING, AND COMPOUND SURFACE TREATMENTS.
3. MANAGE AND CONDUCT ALL ACTIVITIES FOR INSTALLATION OF UTILITIES INCLUDING ELECTRICAL AND TELCO BACKHAUL.
4. INSTALL UNDERGROUND FACILITIES INCLUDING UNDERGROUND POWER AND COMMUNICATIONS CONDUITS, AND UNDERGROUND GROUNDING SYSTEM.
5. INSTALL ABOVE GROUND GROUNDING SYSTEMS.
6. PROVIDE NEW HVAC INSTALLATIONS AND MODIFICATIONS.
7. INSTALL "H-FRAMES", CABINETS AND SHELTERS AS INDICATED.
8. INSTALL ROADS, ACCESS WAYS, CURBS AND DRAINS AS INDICATED.
9. ACCOMPLISH REQUIRED MODIFICATION OF EXISTING FACILITIES.
10. PROVIDE ANTENNA SUPPORT STRUCTURE FOUNDATIONS.
11. PROVIDE SLABS AND EQUIPMENT PLATFORMS.
12. INSTALL COMPOUND FENCING, SIGHT SHIELDING, LANDSCAPING AND ACCESS BARRIERS.
13. PERFORM INSPECTION AND MATERIAL TESTING AS REQUIRED HEREINAFTER.
14. CONDUCT SITE RESISTANCE TO EARTH TESTING AS REQUIRED HEREINAFTER
15. INSTALL FIXED GENERATOR SETS AND OTHER STANDBY POWER SOLUTIONS.
16. INSTALL TOWERS, ANTENNA SUPPORT STRUCTURES AND PLATFORMS ON EXISTING TOWERS AS REQUIRED.
17. INSTALL CELL SITE RADIOS, MICROWAVE, GPS, COAXIAL MAINLINE, ANTENNAS, CROSS BAND COUPLERS, TOWER TOP AMPLIFIERS, LOW NOISE AMPLIFIERS AND RELATED EQUIPMENT.
18. PERFORM, DOCUMENT, AND CLOSE OUT ANY CONSTRUCTION CONTROL DOCUMENTS THAT MAY BE REQUIRED BY GOVERNMENT AGENCIES AND LANDLORDS.
19. PERFORM ANTENNAL AND COAX SWEEP TESTING AND MAKE ANY AND ALL NECESSARY CORRECTIONS.
20. REMAIN ON SITE MOBILIZED THROUGHOUT HAND-OFF AND INTEGRATION TO ASSIST AS NEEDED UNTIL SITE IS DEEMED SUBSTANTIALLY COMPLETE AND PLACED "ON AIR."

3.2 GENERAL REQUIREMENTS FOR CIVIL CONSTRUCTION:

A. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.

B. EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.

C. CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.

1. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
2. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.

D. CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION

E. CONDUCT TESTING AS REQUIRED HEREIN.

3.3 DELIVERABLES:

A. CONTRACTOR SHALL REVIEW, APPROVE, AND SUBMIT TO SPRINT SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND SIMILAR SUBMITTALS AS REQUIRED HEREINAFTER

B. PROVIDE DOCUMENTATION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING. DOCUMENTATION SHALL BE FORWARDED IN ORIGINAL FORMAT AND/OR UPLOADED INTO SMS.

1. ALL CORRESPONDENCE AND PRELIMINARY CONSTRUCTION REPORTS.
2. PROJECT PROGRESS REPORTS.
3. CIVIL CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
4. ELECTRICAL SERVICE COMPLETION DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
5. LINES AND ANTENNA INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
6. POWER INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
7. TELCO READY DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
8. PPC (OR SHELTER) INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
9. TOWER CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
10. TOWER CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
11. BTS AND RADIO EQUIPMENT DELIVERED AT SITE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
12. NETWORK OPERATIONS HANDOFF CHECKLIST (HOC WALK) COMPLETE (UPLOAD FORM IN SMS)
13. CIVIL CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
14. SITE CONSTRUCTION PROGRESS PHOTOS UNLOADED INTO SMS.

SECTION 01 400 – SUBMITTALS & TESTS

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 SUBMITTALS:

A. THE WORK IN ALL ASPECTS SHALL COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.

B. SUBMIT THE FOLLOWING TO COMPANY REPRESENTATIVE FOR APPROVAL.

1. CONCRETE MIX-DESIGNS FOR TOWER FOUNDATIONS, ANCHORS PIERS, AND CONCRETE PAVING.
2. CONCRETE BREAK TESTS AS SPECIFIED HEREIN.
3. SPECIAL FINISHES FOR INTERIOR SPACES, IF ANY.
4. ALL EQUIPMENT AND MATERIALS SO IDENTIFIED ON THE CONSTRUCTION DRAWINGS.
5. CHEMICAL GROUNDING DESIGN

D. ALTERNATES: AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINT'S CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO BEING SHIPPED TO SITE. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED. SUBMITTAL FOR APPROVAL SHALL INCLUDE A STATEMENT OF COST REDUCTION PROPOSED FOR USE OF ALTERNATE PRODUCT.

1.4 TESTS AND INSPECTIONS:

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.

B. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. COAX SWEEPS AND FIBER TESTS PER TS-0200 REV 4 ANTENNA LINE ACCEPTANCE STANDARDS.
2. AGL, AZIMUTH AND DOWNTILT USING ELECTRONIC COMMERCIAL MADE-FOR-THE-PURPOSE ANTENNA ALIGNMENT TOOL.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.

C. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING;

1. AZIMUTH, DOWNTILT, AGL – UPLOAD REPORT FROM ANTENNA ALIGNMENT TOOL TO SITERRA TASK 465. INSTALLED AZIMUTH, DOWNTILT, AND AGL MUST CONFORM TO THE RF DATA SHEETS. SWEEP AND FIBER TESTS
2. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
3. ALL AVAILABLE JURISDICTIONAL INFORMATION
4. PDF SCAN OF REDLINES PRODUCED IN FIELD
5. ELECTRONIC AS-BUILT DRAWINGS IN AUTOCAD AND PDF FORMATS. ANY FIELD CHANGE MUST BE REFLECTED BY MODIFYING THE PLANS, ELEVATIONS, AND DETAILS IN THE DRAWING SETS. GENERAL NOTES INDICATING MODIFICATIONS WILL NOT BE ACCEPTED. CHANGES SHALL BE HIGHLIGHTED AS "CLOUDS" IDENTIFIED AS THE "AS-BUILT" CONDITION.
6. LIEN WAIVERS
7. FINAL PAYMENT APPLICATION
8. REQUIRED FINAL CONSTRUCTION PHOTOS
9. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
10. ALL POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SITERRA (SPRINTS DOCUMENT REPOSITORY OF RECORD).

1.5 COMMISSIONING: PERFORM ALL COMMISSIONING AS REQUIRED BY APPLICABLE MOPs

1.6 INTEGRATION: PERFORM ALL INTEGRATION ACTIVITIES AS REQUIRED BY APPLICABLE MOPs

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 REQUIREMENTS FOR TESTING:

A. THIRD PARTY TESTING AGENCY:

1. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
2. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
3. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, AND OTHER METHODS IS NEEDED.
4. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, AND OTHER METHODS IS NEEDED.

3.2 REQUIRED TESTS:

A. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. CONCRETE CYLINDER BREAK TESTS FOR THE TOWER AND ANCHOR FOUNDATIONS AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
2. ASPHALT ROADWAY COMPACTED THICKNESS, SURFACE SMOOTHNESS, AND COMPACTED DENSITY TESTING AS SPECIFIED IN SECTION: HOT MIX ASPHALT PAVING.
3. FIELD QUALITY CONTROL TESTING AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
4. TESTING REQUIRED UNDER SECTION: AGGREGATE BASE FOR ACCESS ROADS, PADS AND ANCHOR LOCATIONS
5. STRUCTURAL BACKFILL COMPACTION TESTS FOR THE TOWER FOUNDATION.
6. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
7. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
8. GROUNDING AT ANTENNA MASTS FOR GPS AND ANTENNAS
9. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

3.3 REQUIRED INSPECTIONS

A. SCHEDULE INSPECTIONS WITH COMPANY REPRESENTATIVE.

B. CONDUCT INSPECTIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. GROUNDING SYSTEM INSTALLATION PRIOR TO EARTH CONCEALMENT DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
2. FORMING FOR CONCRETE AND REBAR PLACEMENT PRIOR TO POUR DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
3. COMPACTION OF BACKFILL MATERIALS; AGGREGATE BASE FOR ROADS, PADS, AND ANCHORS; ASPHALT PAVING; AND SHAFT BACKFILL FOR CONCRETE AND WOOD POLES, BY INDEPENDENT THIRD PARTY AGENCY.
4. PRE- AND POST-CONSTRUCTION ROOFTOP AND STRUCTURAL INSPECTIONS ON EXISTING FACILITIES.
5. TOWER ERECTION SECTION STACKING AND PLATFORM ATTACHMENT DOCUMENTED BY DIGITAL PHOTOGRAPHS BY THIRD PARTY AGENCY.
6. ANTENNA AZIMUTH , DOWN TILT AND PER SUNLIGHT TOOL SUNSIGHT INSTRUMENTS – ANTENNALIGN ALIGNMENT TOOL (AAT)

PLANS PREPARED FOR:

Sprint

PLANS PREPARED BY:
INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 526-104

PROJECT MANAGER:
AIROSMITH DEVELOPMENT
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE#. (518) 306-3740

ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
PROFESSIONAL ENGINEER
LICENSED
JUL 18 2018

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	07/09/18	MAP	0

SITE NAME:
WESTPORT/BAM

SITE NUMBER:
CT03XC382

SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

SHEET DESCRIPTION:
SPRINT SPECIFICATIONS

SHEET NUMBER:
SP-2

CONTINUE FROM SP-2

7. VERIFICATION DOCUMENTED WITH THE ANTENNA CHECKLIST REPORT, BY A&E, SITE DEVELOPMENT REP, OR RF REP.
8. FINAL INSPECTION CHECKLIST AND HANDOFF WALK (HOC.). SIGNED FORM SHOWING ACCEPTANCE BY FIELD OPS IS TO BE UPLOADED INTO SMS.
9. COAX SWEEP AND FIBER TESTING DOCUMENTS SUBMITTED VIA SMS FOR RF APPROVAL.
10. SCAN-ABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
11. ALL AVAILABLE JURISDICTIONAL INFORMATION
12. PDF SCAN OF REDLINES PRODUCED IN FIELD

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.

D. CONSTRUCTION INSPECTIONS AND CORRECTIVE MEASURES SHALL BE DOCUMENTED BY THE CONTRACTOR WITH WRITTEN REPORTS AND PHOTOGRAPHS. PHOTOGRAPHS MUST BE DIGITAL AND OF SUFFICIENT QUALITY TO CLEARLY SHOW THE SITE CONSTRUCTION. PHOTOGRAPHS MUST CLEARLY IDENTIFY THE PHOTOGRAPHED ITEM AND BE LABELED WITH THE SITE CASCADE NUMBER, SITE NAME, DESCRIPTION, AND DATE.

3.4 DELIVERABLES: TEST AND INSPECTION REPORTS AND CLOSEOUT DOCUMENTATION SHALL BE UPLOADED TO THE SMS AND/OR FORWARDED TO SPRINT FOR INCLUSION INTO THE PERMANENT SITE FILES.

A. THE FOLLOWING TEST AND INSPECTION REPORTS SHALL BE PROVIDED AS APPLICABLE.

1. CONCRETE MIX AND CYLINDER BREAK REPORTS.
2. STRUCTURAL BACKFILL COMPACTION REPORTS.
3. SITE RESISTANCE TO EARTH TEST.
4. ANTENNA AZIMUTH AND DOWN TILT VERIFICATION
5. TOWER ERECTION INSPECTIONS AND MEASUREMENTS DOCUMENTING TOWER INSTALLED PER SUPPLIER'S REQUIREMENTS AND THE APPLICABLE SECTIONS HEREIN.
6. COAX CABLE SWEEP TESTS PER COMPANY'S "ANTENNA LINE ACCEPTANCE STANDARDS".

B. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES THE FOLLOWING;

1. TEST WELLS AND TRENCHES: PHOTOGRAPHS OF ALL TEST WELLS; PHOTOGRAPHS SHOWING ALL OPEN EXCAVATIONS AND TRENCHING PRIOR TO BACKFILLING SHOWING A TAPE MEASURE VISIBLE IN THE EXCAVATIONS INDICATING DEPTH.
2. CONDUITS, CONDUCTORS AND GROUNDING: PHOTOGRAPHS SHOWING TYPICAL INSTALLATION OF CONDUCTORS AND CONNECTORS; PHOTOGRAPHS SHOWING TYPICAL BEND RADIUS OF INSTALLED GROUND WIRES AND GROUND ROD SPACING;
3. CONCRETE FORMS AND REINFORCING: CONCRETE FORMING AT TOWER AND EQUIPMENT/SHELTER PAD/FOUNDATIONS – PHOTOGRAPHS SHOWING ALL REINFORCING STEEL, UTILITY AND CONDUIT STUB OUTS; PHOTOGRAPHS SHOWING CONCRETE POUR OF SHELTER SLAB/FOUNDATION, TOWER FOUNDATION AND GUY ANCHORS WITH VIBRATOR IN USE; PHOTOGRAPHS SHOWING EACH ANCHOR ON GUYED TOWERS, BEFORE CONCRETE POUR.
4. TOWER, ANTENNAS AND MAINLINE: INSPECTION AND PHOTOGRAPHS OF SECTION STACKING; INSPECTION AND PHOTOGRAPHS OF PLATFORM COMPONENT ATTACHMENT POINTS; PHOTOGRAPHS OF TOWER TOP GROUNDING; PHOTOS OF TOWER COAX LINE COLOR CODING AT THE TOP AND AT GROUND LEVEL; INSPECTION AND PHOTOGRAPHS OF OPERATIONAL OF TOWER LIGHTING, AND PLACEMENT OF FAA REGISTRATION SIGN; PHOTOGRAPHS SHOWING ADDITIONAL GROUNDING POINTS FOR TOWERS GREATER THAN 200 FEET.; PHOTOS OF ANTENNA GROUND BAR, EQUIPMENT GROUND BAR, AND MASTER GROUND BAR; PHOTOS OF GPS ANTENNA(S); PHOTOS OF EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA; PHOTOS OF COAX WEATHERPROOFING – TOP AND BOTTOM; PHOTOS OF COAX GROUNDING––TOP AND BOTTOM; PHOTOS OF ANTENNA AND MAST GROUNDING; PHOTOS OF COAX CABLE ENTRY INTO SHELTER; PHOTOS OF PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
5. ROOF TOPS: PRE-CONSTRUCTION AND POST-CONSTRUCTION VISUAL INSPECTION AND PHOTOGRAPHS OF THE ROOF AND INTERIOR TO DETERMINE AND DOCUMENT CONDITIONS; ROOF TOP CONSTRUCTION INSPECTIONS AS REQUIRED BY THE JURISDICTION; PHOTOGRAPHS OF CABLE TRAY AND/OR ICE BRIDGE; PHOTOGRAPHS OF DOGHOUSE/CABLE EXIT FROM ROOF;
6. SITE LAYOUT – PHOTOGRAPHS OF THE OVERALL COMPOUND, INCLUDING EQUIPMENT PLATFORM FROM ALL FOUR CORNERS.
7. FINISHED UTILITIES: CLOSE-UP PHOTOGRAPHS OF THE PPC BREAKER PANEL; CLOSE-UP PHOTOGRAPH OF THE INSIDE OF THE TELCO PANEL AND NIU; CLOSE-UP PHOTOGRAPH OF THE POWER METER AND DISCONNECT; PHOTOS OF POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE; PHOTOGRAPHS AT METER BOX AND/OR FACILITY DISTRIBUTION PANEL.
8. REQUIRED MATERIALS CERTIFICATIONS: CONCRETE MIX DESIGNS; MILL CERTIFICATION FOR ALL REINFORCING AND STRUCTURAL STEEL; AND ASPHALT PAVING MIX DESIGN.
9. ANY AND ALL SUBMITTALS BY THE JURISDICTION OR COMPANY.

SECTION 01 400 – SUBMITTALS & TESTS

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 WEEKLY REPORTS:

A. CONTRACTOR SHALL PROVIDE SPRINT WITH WEEKLY REPORTS SHOWING PROJECT STATUS. THIS STATUS REPORT FORMAT WILL BE PROVIDED TO THE CONTRACTOR BY SPRINT. THE REPORT WILL CONTAIN SITE ID NUMBER, THE MILESTONES FOR EACH SITE, INCLUDING THE BASELINE DATE, ESTIMATED COMPLETION DATE AND ACTUAL COMPLETION DATE.

B. REPORT INFORMATION WILL BE TRANSMITTED TO SPRINT VIA ELECTRONIC MEANS AS REQUIRED. THIS INFORMATION WILL PROVIDE A BASIS FOR PROGRESS MONITORING AND PAYMENT.

3.2 PROJECT CONFERENCE CALLS:

A. SPRINT MAY HOLD WEEKLY PROJECT CONFERENCE CALLS. CONTRACTOR WILL BE REQUIRED TO COMMUNICATE SITE STATUS, MILESTONE COMPLETIONS AND UPCOMING MILESTONE PROJECTIONS, AND ANSWER ANY OTHER SITE STATUS QUESTIONS AS NECESSARY.

3.3 PROJECT TRACKING IN SMS:

A. CONTRACTOR SHALL PROVIDE SCHEDULE UPDATES AND PROJECTIONS IN THE SMS SYSTEM ON A WEEKLY BASIS.

3.4 ADDITIONAL REPORTING:

A. ADDITIONAL OR ALTERNATE REPORTING REQUIREMENTS MAY BE ADDED TO THE REPORT AS DETERMINED TO BE REASONABLY NECESSARY BY COMPANY.

3.5 PROJECT PHOTOGRAPHS:

A. FILE DIGITAL PHOTOGRAPHS OF COMPLETED SITE IN JPEG FORMAT IN THE SMS PHOTO LIBRARY FOR THE RESPECTIVE SITE. PHOTOGRAPHS SHALL BE CLEARLY LABELED WITH SITE NUMBER, NAME AND DESCRIPTION, AND SHALL INCLUDE AT A MINIMUM THE FOLLOWING AS APPLICABLE:

1. 1SHELTER AND TOWER OVERVIEW.
2. TOWER FOUNDATION(S) – FORMS AND STEEL BEFORE POUR (EACH ANCHOR ON GUYED TOWERS).
3. TOWER FOUNDATION(S) POUR WITH VIBRATOR IN USE (EACH ANCHOR ON GUYED TOWERS).
4. TOWER STEEL AS BEING INSTALLED INTO HOLE (SHOW ANCHOR STEEL ON GUYED TOWERS).
5. PHOTOS OF TOWER SECTION STACKING.
6. CONCRETE TESTING / SAMPLES.
7. PLACING OF ANCHOR BOLTS IN TOWER FOUNDATION.
8. BUILDING/WATER TANK FROM ROAD FOR TENANT IMPROVEMENTS OR COMMENTS.
9. SHELTER FOUNDATION-–FORMS AND STEEL BEFORE POURING.
10. SHELTER FOUNDATION POUR WITH VIBRATOR IN USE.
11. COAX CABLE ENTRY INTO SHELTER.
12. PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
13. ROOFTOP PRE AND POST CONSTRUCTION PHOTOS TO INCLUDE PENETRATIONS AND INTERIOR CEILING.
14. PHOTOS OF TOWER TOP COAX LINE COLOR CODING AND COLOR CODING AT GROUND LEVEL.
15. PHOTOS OF ALL APPROPRIATE COMPANY OR REGULATORY SIGNAGE.
16. PHOTOS OF EQUIPMENT BOLT DOWN INSIDE SHELTER.
17. POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE AND POWER AND TELCO SUPPLY LOCATIONS INCLUDING METER/DISCONNECT.
18. ELECTRICAL TRENCH(S) WITH ELECTRICAL / CONDUIT BEFORE BACKFILL.
19. ELECTRICAL TRENCH(S) WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
20. TELCO TRENCH WITH TELEPHONE / CONDUIT BEFORE BACKFILL.
21. TELCO TRENCH WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
22. SHELTER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
23. TOWER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
24. FENCE GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
25. ALL BTS GROUND CONNECTIONS.
26. ALL GROUND TEST WELLS.
27. ANTENNA GROUND BAR AND EQUIPMENT GROUND BAR.
28. ADDITIONAL GROUNDING POINTS ON TOWERS ABOVE 200'.
29. HVAC UNITS INCLUDING CONDENSERS ON SPLIT SYSTEMS.
30. GPS ANTENNAS.
31. CABLE TRAY AND/OR WAVEGUIDE BRIDGE.
32. DOGHOUSE/CABLE EXIT FROM ROOF.
33. EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA.
34. MASTER BUS BAR.
35. TELCO BOARD AND NIU.
36. ELECTRICAL DISTRIBUTION WALL.
37. CABLE ENTRY WITH SURGE SUPPRESSION.
38. ENTRANCE TO EQUIPMENT ROOM.
39. COAX WEATHERPROOFING-TOP AND BOTTOM OF TOWER.
40. COAX GROUNDING –TOP AND BOTTOM OF TOWER.
41. ANTENNA AND MAST GROUNDING.
42. LANDSCAPING – WHERE APPLICABLE.

3.6 FINAL PROJECT ACCEPTANCE: COMPLETE ALL REQUIRED REPORTING TASKS PER CONTRACT, CONTRACT DOCUMENTS OR THE SPRINT INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES AND UPLOAD INTO SITERRA.

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www.infinigy.com
JOB NUMBER 526-104

PROJECT MANAGER:
AIROSMITH DEVELOPMENT
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE#. (518) 306-3740

ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24802
LICENSED PROFESSIONAL ENGINEER
JUN 28 2018

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	07/09/18	MAP	0

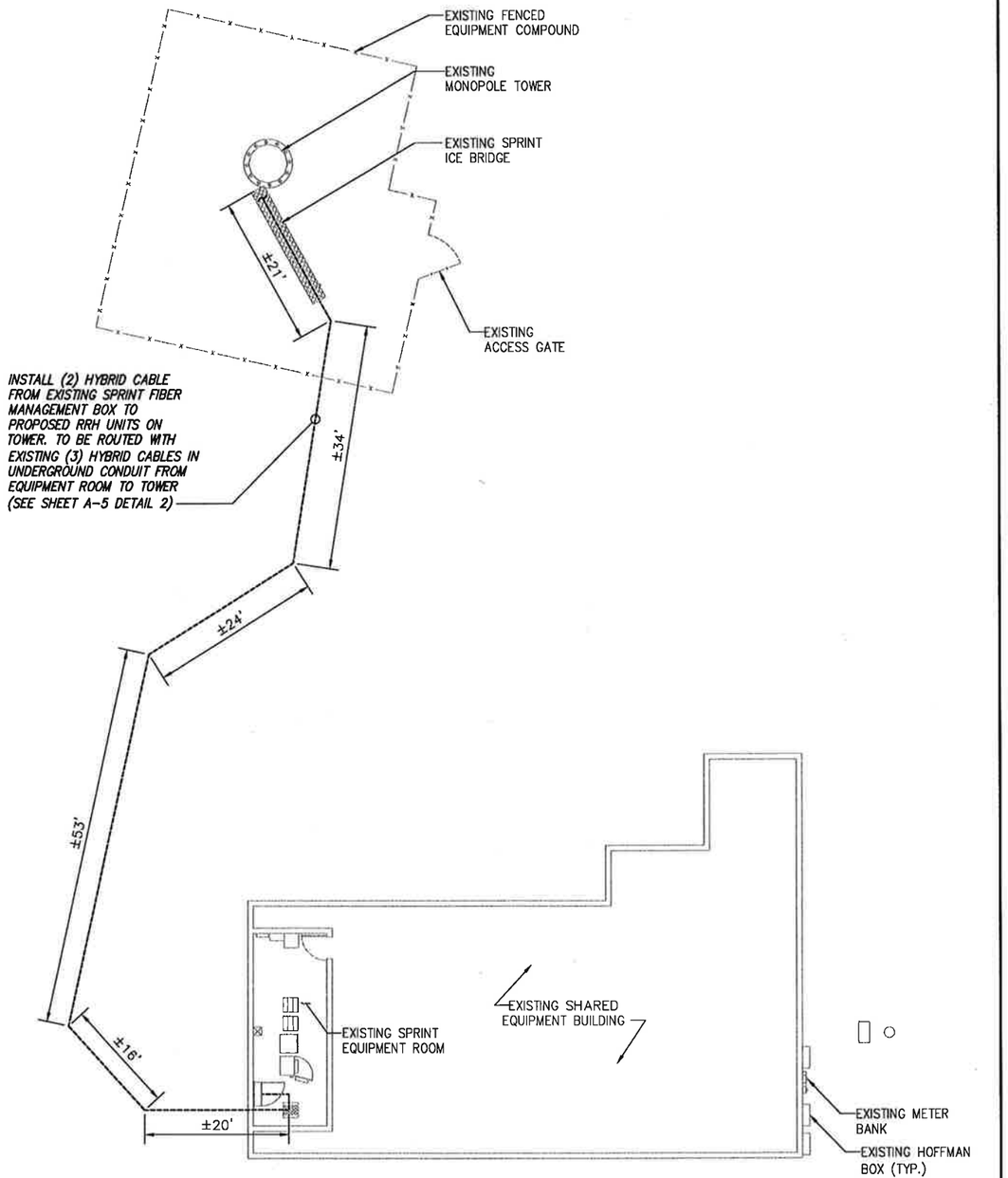
SITE NAME:
WESTPORT/BAM

SITE NUMBER:
CT03XC382

SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

SHEET DESCRIPTION:
SPRINT SPECIFICATIONS

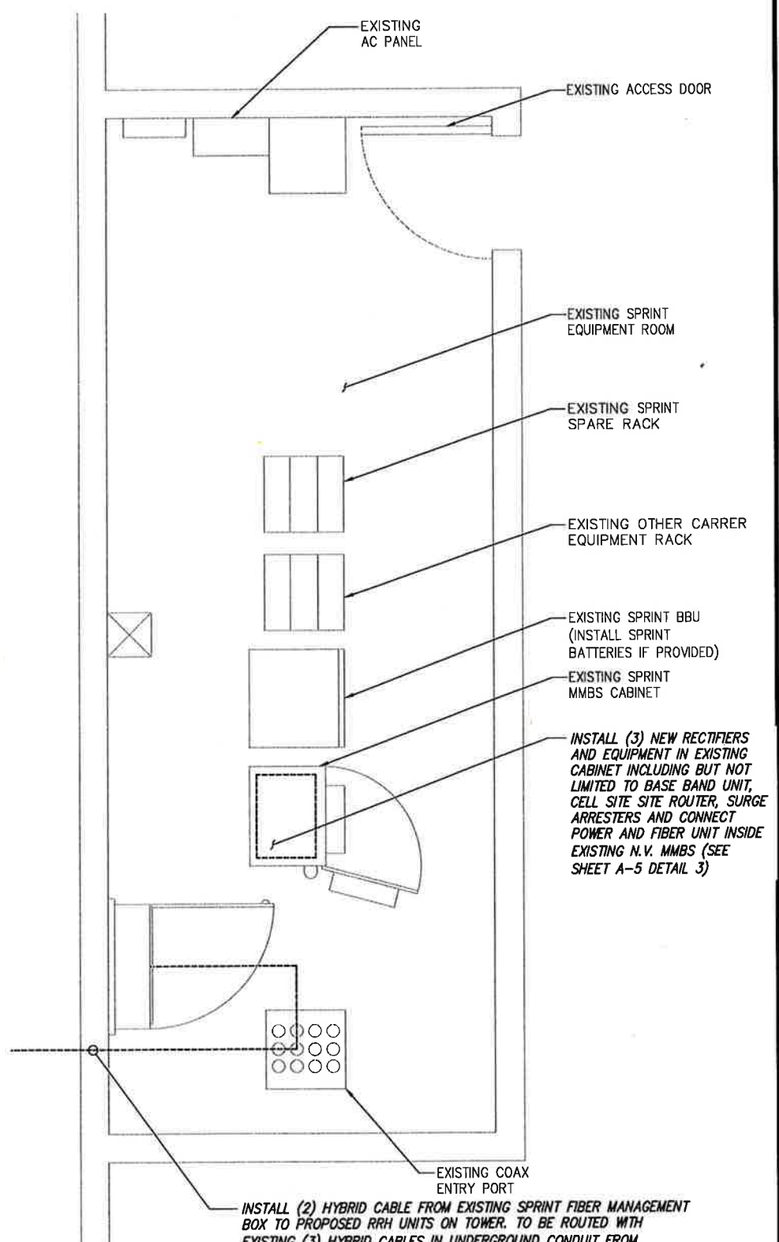
SHEET NUMBER:
SP-3



INFORMATION CONTAINED WITHIN DRAWINGS ARE BASED ON PROVIDED INFORMATION AND ARE NOT THE RESULT OF A FIELD SURVEY.

GRAPHIC SCALE:
20' 10' 0 10' 20'
SCALE (11x17): 1" = 20'-0"
SCALE (22x34): 1" = 10'-0"

OVERALL SITE PLAN | SCALE: AS NOTED | 1



GRAPHIC SCALE:
4' 2' 0 2' 4'
SCALE (11x17): 1" = 4'-0"
SCALE (22x34): 1" = 2'-0"

SPRINT EQUIPMENT PLAN | SCALE: AS NOTED | 2

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JOB NUMBER 526-104

PROJECT MANAGER:
AIROSMITH DEVELOPMENT
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE#. (518) 306-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24795
LICENSED PROFESSIONAL ENGINEER
JUL 18 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	07/09/18	MAP	0

SITE NAME:
WESTPORT/BAM

SITE NUMBER:
CT03XC382

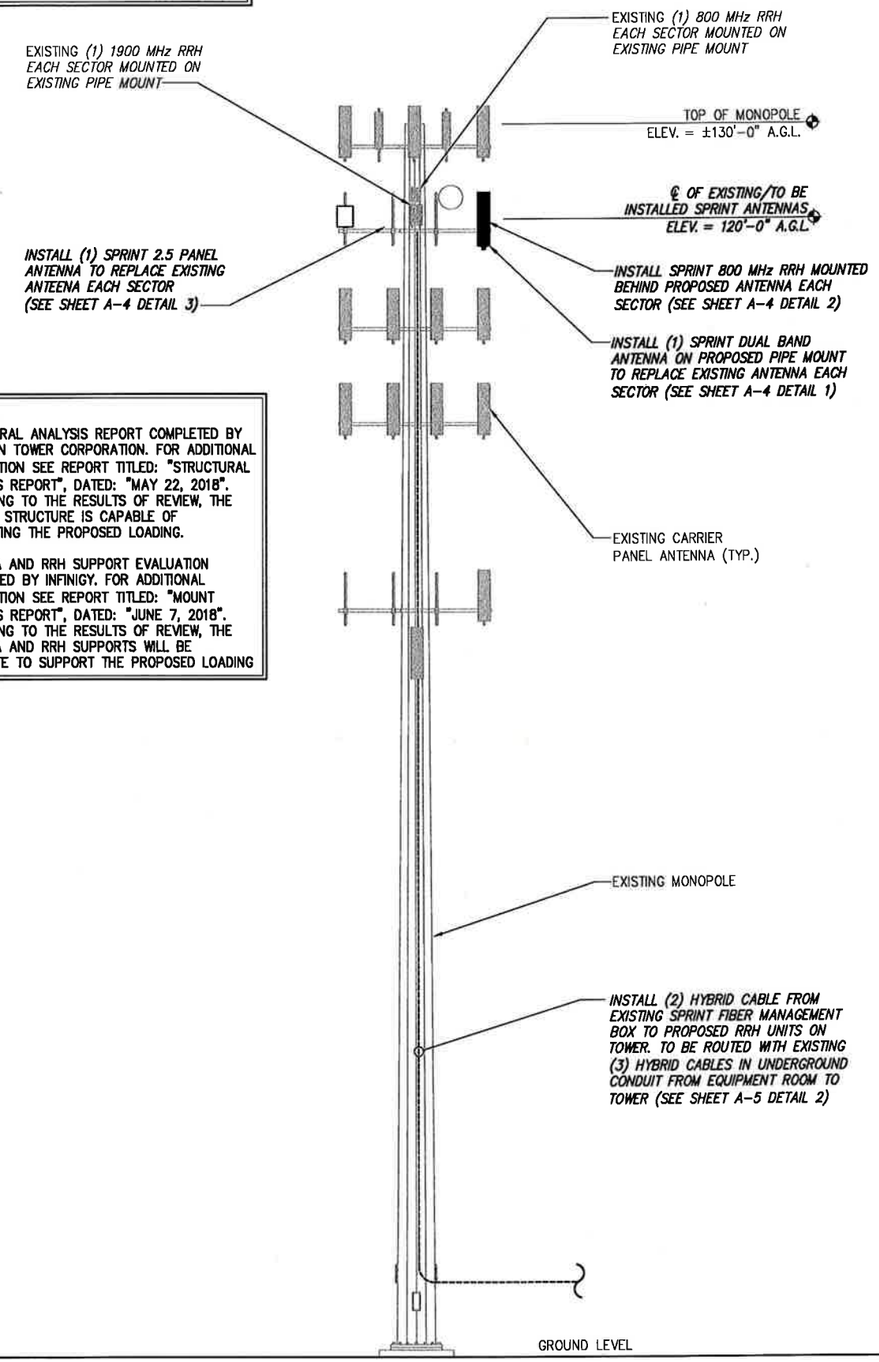
SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

SHEET DESCRIPTION:
SITE PLAN

SHEET NUMBER:
A-1

NOTE:
INFINIGY ENGINEERING HAS NOT EVALUATED THE EXISTING STRUCTURE FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY. REFER TO STRUCTURAL ANALYSIS BY OTHERS PRIOR TO ANY CONSTRUCTION.

NOTE:
SEE DETAIL 2 ON A-3 FOR ANTENNA LAYOUT



NOTE:
STRUCTURAL ANALYSIS REPORT COMPLETED BY AMERICAN TOWER CORPORATION. FOR ADDITIONAL INFORMATION SEE REPORT TITLED: "STRUCTURAL ANALYSIS REPORT", DATED: "MAY 22, 2018". ACCORDING TO THE RESULTS OF REVIEW, THE EXISTING STRUCTURE IS CAPABLE OF SUPPORTING THE PROPOSED LOADING.

ANTENNA AND RRH SUPPORT EVALUATION COMPLETED BY INFINIGY. FOR ADDITIONAL INFORMATION SEE REPORT TITLED: "MOUNT ANALYSIS REPORT", DATED: "JUNE 7, 2018". ACCORDING TO THE RESULTS OF REVIEW, THE ANTENNA AND RRH SUPPORTS WILL BE ADEQUATE TO SUPPORT THE PROPOSED LOADING

TOWER ELEVATION | NO SCALE | 1

SITE LOADING CHART

SECTOR	EXISTING/ PROPOSED	ANTENNA MODEL #	VENDOR	AZIMUTH	QTY.	REMAIN/ REMOVED	RRH (QTY/MODEL)	CABLE	CABLE LENGTH	RAD CENTER
ALPHA	*PROPOSED*	*2.5G MAA-AAHC (64T64R)*	*NOKIA*	*30°*	1	–	*(2) 800 MHZ 2X50W RRH W/ FILTER*	*SEE SHEET A-5 DETAIL 1*	*±311'**	*±120' AGL*
	PROPOSED	*NNVV-65B-R4*	*COMMSCOPE*	*30°*	1	–		*SEE SHEET A-5 DETAIL 1*		
	EXISTING	*840 10054*	*KATHREIN*	*30°*	1	*REMOVE*	*(1) 1900 MHz 4X45 RRH*	*EXISTING COAX*		
	EXISTING	*APXVSPP18-C-A20*	*RFS*	*30°*	1	*REMOVE*		*EXISTING HYBRID*		
BETA	*PROPOSED*	*2.5G MAA-AAHC (64T64R)*	*NOKIA*	*130°*	1	–	*(2) 800 MHZ 2X50W RRH W/ FILTER*	*SEE SHEET A-5 DETAIL 1*	*±311'**	*±120' AGL*
	PROPOSED	*NNVV-65B-R4*	*COMMSCOPE*	*130°*	1	–		*SEE SHEET A-5 DETAIL 1*		
	EXISTING	*840 10054*	*KATHREIN*	*130°*	1	*REMOVE*	*(1) 1900 MHz 4X45 RRH*	*EXISTING COAX*		
	EXISTING	*APXVSPP18-C-A20*	*RFS*	*130°*	1	*REMOVE*		*EXISTING HYBRID*		
GAMMA	*PROPOSED*	*2.5G MAA-AAHC (64T64R)*	*NOKIA*	*250°*	1	–	*(2) 800 MHZ 2X50W RRH W/ FILTER*	*SEE SHEET A-5 DETAIL 1*	*±311'**	*±120' AGL*
	PROPOSED	*NNVV-65B-R4*	*COMMSCOPE*	*250°*	1	–		*SEE SHEET A-5 DETAIL 1*		
	EXISTING	*840 10054*	*KATHREIN*	*250°*	1	*REMOVE*	*(1) 1900 MHz 4X45 RRH*	*EXISTING COAX*		
	EXISTING	*APXVSPP18-C-A20*	*RFS*	*250°*	1	*REMOVE*		*EXISTING HYBRID*		

PROJECT SCOPE:

INSTALL: (6) PANEL ANTENNAS AND (3) RRH'S, REMOVE: (6) PANEL ANTENNAS

* PROPOSED CABLE LENGTH WAS DETERMINED USING THE SUM OF THE RAD CENTER OF ANTENNAS, AND DISTANCE FROM EXISTING EQUIPMENT AREA TO TOWER BASE WITH AN ADDITIONAL 20' BUFFER. LENGTH TO BE VERIFIED IN FIELD PRIOR TO ORDERING MATERIALS.

SITE LOADING CHART | NO SCALE | 2

DETAIL NOT USED | NO SCALE | 3

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JOB NUMBER 526-104

PROJECT MANAGER:

AIROSMITH DEVELOPMENT
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE#: (518) 306-3740

ENGINEERING LICENSE:


DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	07/09/18	MAP	0

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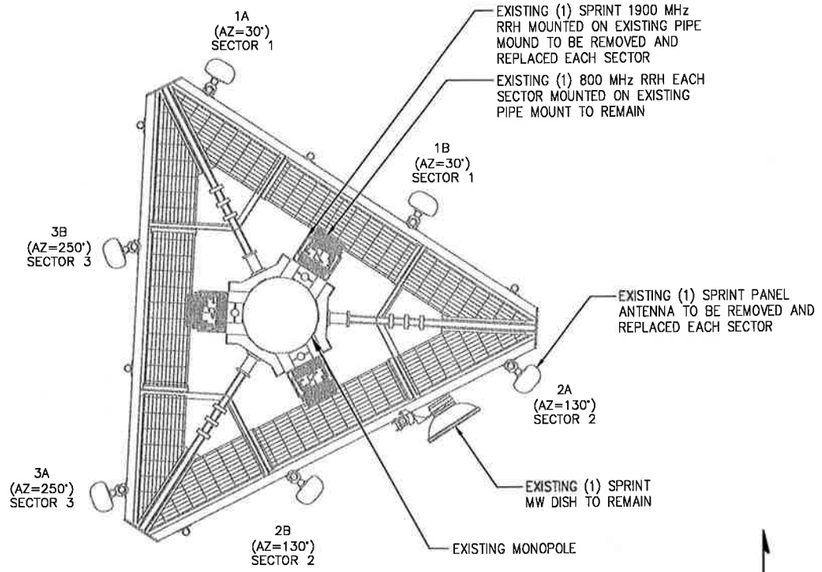
WESTPORT/BAM

SITE NUMBER:
CT03XC382

SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

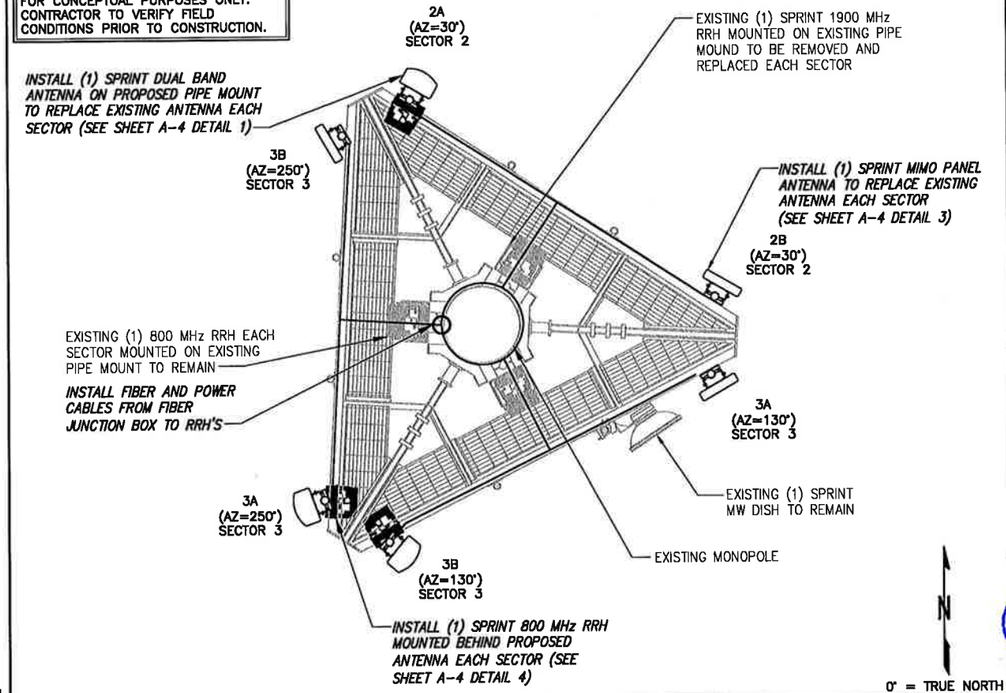
SHEET DESCRIPTION:
TOWER ELEVATION

SHEET NUMBER:
A-2

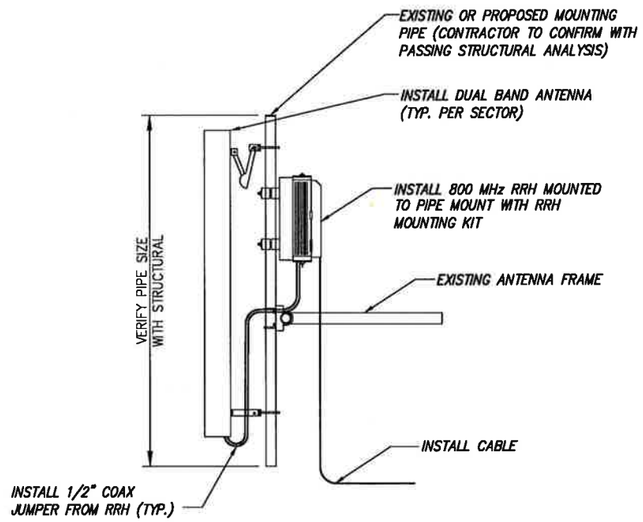


EXISTING ANTENNA LAYOUT | NO SCALE | 1

THE CONFIGURATION PLANS ARE BASED ON PROVIDED INFORMATION AND ARE FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR TO VERIFY FIELD CONDITIONS PRIOR TO CONSTRUCTION.



FINAL ANTENNA & RRH LAYOUT | NO SCALE | 2



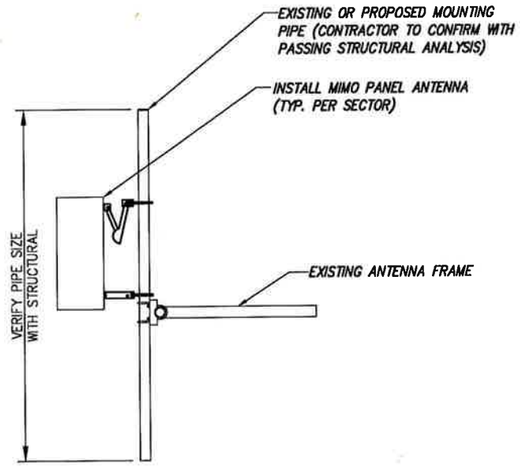
NOTE:
CONTRACTOR TO POSITION RRH ON MOUNT BEHIND ANTENNA SUCH THAT THE RRH DOES NOT INTERFERE WITH THE EXISTING PLATFORM/T-ARM MOUNTING HARDWARE.

NOTE:
THE DIAGRAM IS FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO REFER TO PASSING STRUCTURAL ANALYSIS FOR ANTENNA AND RRH MOUNTING DETAILS

NOTES:

1. CUT DC CONDUCTORS TO LENGTH.
2. COIL FIBER CABLE AND SECURE AT SIDE OF RRH.
3. DO NO EXCEED BEND RADIUS.

TYPICAL DUALBAND ANTENNA & RRH MOUNTING DETAILS | NO SCALE | 3



NOTE:
CONTRACTOR TO POSITION RRH ON MOUNT BEHIND ANTENNA SUCH THAT THE RRH DOES NOT INTERFERE WITH THE EXISTING PLATFORM/T-ARM MOUNTING HARDWARE.

NOTE:
THE DIAGRAM IS FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO REFER TO PASSING STRUCTURAL ANALYSIS FOR ANTENNA AND RRH MOUNTING DETAILS

NOTES:

1. CUT DC CONDUCTORS TO LENGTH.
2. COIL FIBER CABLE AND SECURE AT SIDE OF RRH.
3. DO NO EXCEED BEND RADIUS.

TYPICAL 2.5 ANTENNA MOUNTING DETAIL | NO SCALE | 4

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JUL 18 2018

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WESTPORT/BAM

SITE NUMBER:

CT03XC382

SITE ADDRESS:

2 SUNNY LANE
WESTPORT, CT 06880

SHEET DESCRIPTION:

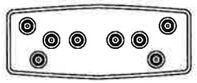
ANTENNA LAYOUT & MOUNTING DETAILS

SHEET NUMBER:

A-3

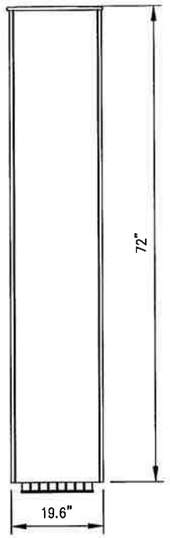
ANTENNA COMMSCOPE NNVV-65B-R4

RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GREY
DIMENSIONS, HxWxD.In(mim):	72"x19.6"x7.8" (1828x498x198mm)
WEIGHT:	77.4 lbs
CONNECTORS:	8 PIN DIN FEMALE 8 PIN DIN MALE



PLAN VIEW

SIDE VIEW

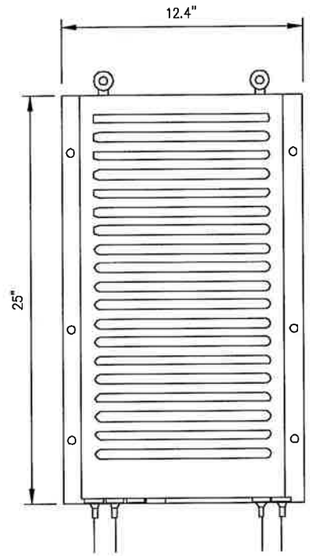


FRONT VIEW

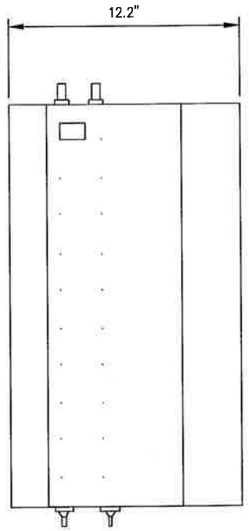
DUAL BAND ANTENNA | NO SCALE | 1

RRH: ALCATEL LUCENT 1900 MHz

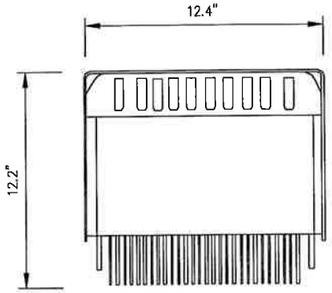
COLOR: LIGHT GREY
WEIGHT: 70 LBS.
(INCLUDING OPTIONAL SOLAR SHIELD)



FRONT VIEW



SIDE VIEW

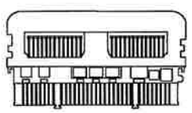


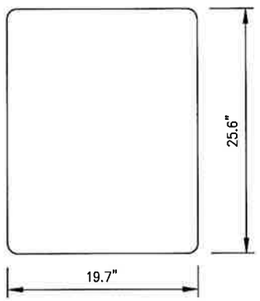
TOP VIEW

EXISTING 1900 MHz RRH | NO SCALE | 2

ANTENNA NOPIKA AAHC

RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GREY
DIMENSIONS, HxWxD.In(mim):	25.6"x19.7"x9.9" (651x501x245mm)
WEIGHT:	99.2 lbs
CONNECTORS:	(2) 7/16" DIN FEMALE (8) 4.1/9.5 DIN FEMALE





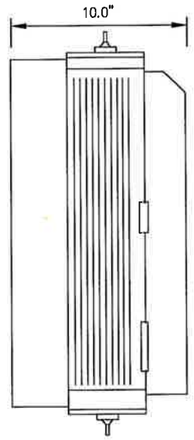
2.5 ANTENNA DETAIL | NO SCALE | 3

RRH: ALCATEL LUCENT RRH 800 MHz 2x50W

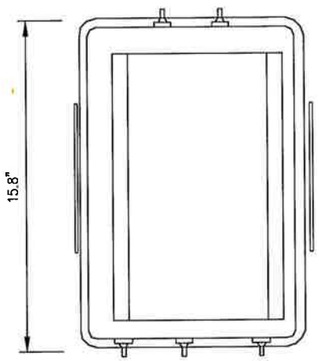
COLOR: LIGHT GREY
WEIGHT: 53 LBS.

NOTES

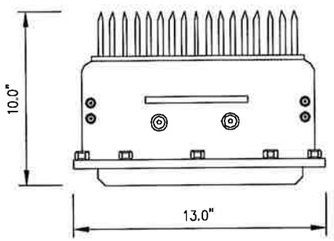
COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRH'S RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING. DO NOT OPEN RRH PACKAGES IN THE RAIN.



SIDE VIEW



FRONT VIEW



PLAN VIEW

800 MHz RRH | NO SCALE | 4

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PROJECT MANAGER:
AIROSMITH DEVELOPMENT
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE#. (518) 306-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
No. 27078
LICENSED PROFESSIONAL ENGINEER
JUL 18 2018

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	07/09/18	MAP	0

SITE NAME:
WESTPORT/BAM

SITE NUMBER:
CT03XC382

SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

SHEET DESCRIPTION:
EQUIPMENT & MOUNTING DETAILS

SHEET NUMBER:
A-4

RFS HYBRIFLEX RISER CABLE SCHEDULE

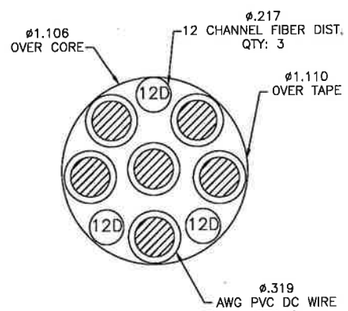
Fiber Only (Existing DC Power)	Hybrid cable MN: HB058-M12-050F 12x multi-mode fiber pairs, Top: Outdoor protected connectors, Bottom: LC Connectors, 5/8 cable, 50 ft	50 ft
	MN: HB058-M12-075F	75 ft
	MN: HB058-M12-100F	100 ft
	MN: HB058-M12-125F	125 ft
	MN: HB058-M12-150F	150 ft
	MN: HB058-M12-175F	175 ft
	MN: HB058-M12-200F	200 ft
8 AWG Power	Hybrid cable MN: HB114-08U3M12-050F 3x 8 AWG power pairs, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 50 ft	50 ft
	MN: HB114-08U3M12-075F	75 ft
	MN: HB114-08U3M12-100F	100 ft
	MN: HB114-08U3M12-125F	125 ft
	MN: HB114-08U3M12-150F	150 ft
	MN: HB114-08U3M12-175F	175 ft
	MN: HB114-08U3M12-200F	200 ft
6 AWG Power	Hybrid cable MN: HB114-13U3M12-225F 3x 6 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 225 ft	225 ft
	MN: HB114-13U3M12-250F	250 ft
	MN: HB114-13U3M12-275F	275 ft
	MN: HB114-13U3M12-300F	300 ft
4 AWG Power	Hybrid cable MN: HB114-21U3M12-325F 3x 4 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 325 ft	325 ft (1)*
	MN: HB114-21U3M12-350F	350 ft
	MN: HB114-21U3M12-375F	375 ft

RFS HYBRIFLEX JUMPER CABLE SCHEDULE

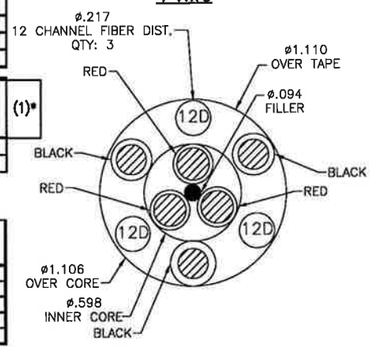
Fiber Only	Hybrid Jumper cable MN: HBF012-M3-5F1 5 ft, 3x multi-mode fiber pairs, Outdoor & LC connectors, 1/2 cable	5 ft
	MN: HBF012-M3-10F1	10 ft
	MN: HBF012-M3-15F1	15 ft
	MN: HBF012-M3-20F1	20 ft
	MN: HBF012-M3-25F1	25 ft
	MN: HBF012-M3-30F1	30 ft
8 AWG Power	Hybrid Jumper cable MN: HBF058-08U1M3-5F1 5 ft, 1x 8 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-08U1M3-10F1	10 ft
	MN: HBF058-08U1M3-15F1	15 ft
	MN: HBF058-08U1M3-20F1	20 ft
	MN: HBF058-08U1M3-25F1	25 ft
	MN: HBF058-08U1M3-30F1	30 ft
6 AWG Power	Hybrid Jumper cable MN: HBF058-13U1M3-5F1 5 ft, 1x 6 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-13U1M3-10F1	10 ft
	MN: HBF058-13U1M3-15F1	15 ft
	MN: HBF058-13U1M3-20F1	20 ft
	MN: HBF058-13U1M3-25F1	25 ft
	MN: HBF058-13U1M3-30F1	30 ft
4 AWG Power	Hybrid Jumper cable MN: HBF078-21U1M3-5F1 5 ft, 1x 4 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 7/8 cable	5 ft
	MN: HBF078-21U1M3-10F1	10 ft
	MN: HBF078-21U1M3-15F1	15 ft
	MN: HBF078-21U1M3-20F1	20 ft
	MN: HBF078-21U1M3-25F1	25 ft
	MN: HBF078-21U1M3-30F1	30 ft

NOTE:
SPRINT CM TO CONFIRM HYBRID OR FIBER RISER CABLE AND HYBRID OR FIBER JUMPER CABLE MODEL NUMBERS IF HYBRID CABLES ARE REQUIRED BEFORE PREPARING BOM.

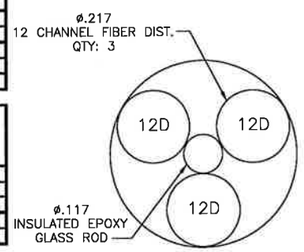
* PROPOSED CABLE LENGTH WAS DETERMINED USING THE SUM OF THE RAD CENTER OF ANTENNAS, AND DISTANCE FROM EXISTING EQUIPMENT AREA TO TOWER BASE WITH AN ADDITIONAL 20' BUFFER. LENGTH TO BE VERIFIED IN FIELD PRIOR TO ORDERING MATERIALS.



4 AWG

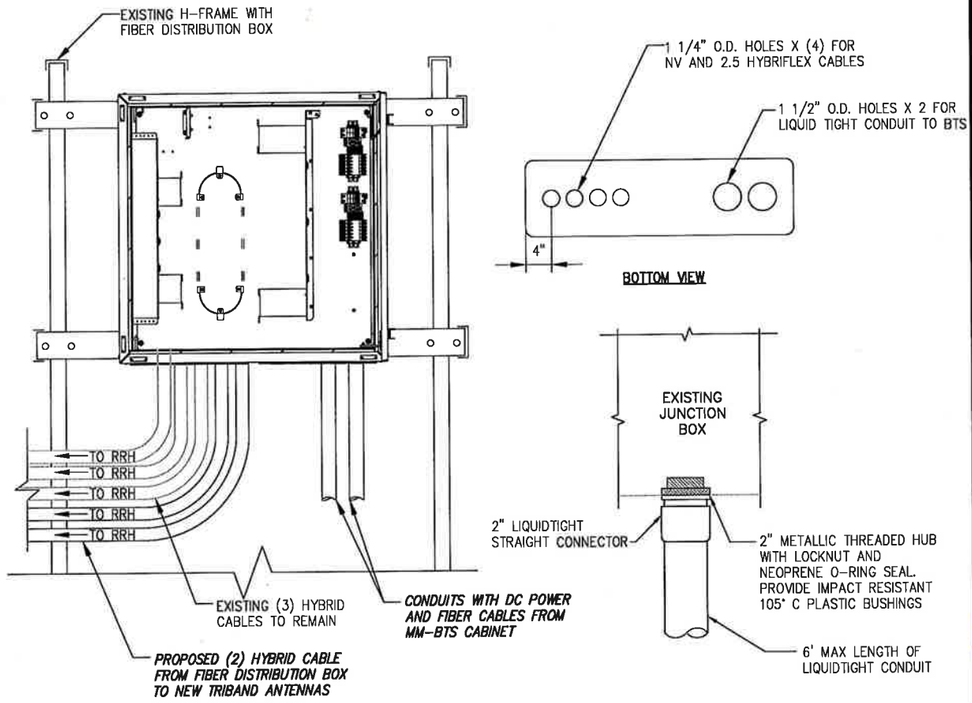


8 & 6 AWG



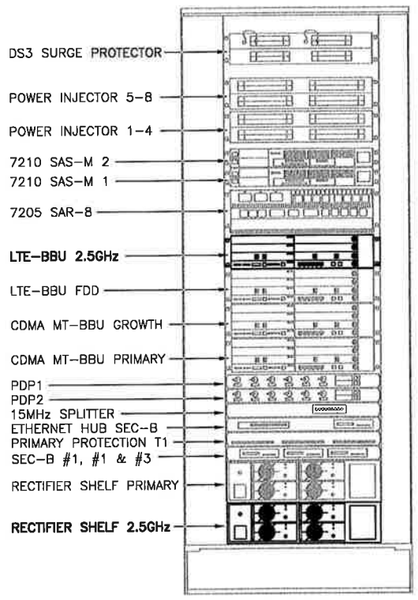
FIBER ONLY

800/1900/2500 CABLE CROSS SECTION DATA | NO SCALE | 1



FRONT VIEW

FIBER JUNCTION BOX & PENETRATION | NO SCALE | 2



FRONT VIEW

NEW EQUIPMENT IN EXISTING CABINET | NO SCALE | 3

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www.infinigy.com
JOB NUMBER 526-104

PROJECT MANAGER:
AIROSMITH DEVELOPMENT
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE#. (518) 306-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24728
LICENSED PROFESSIONAL ENGINEER
JUL 18 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	07/09/18	MAP	0

SITE NAME:
WESTPORT/BAM

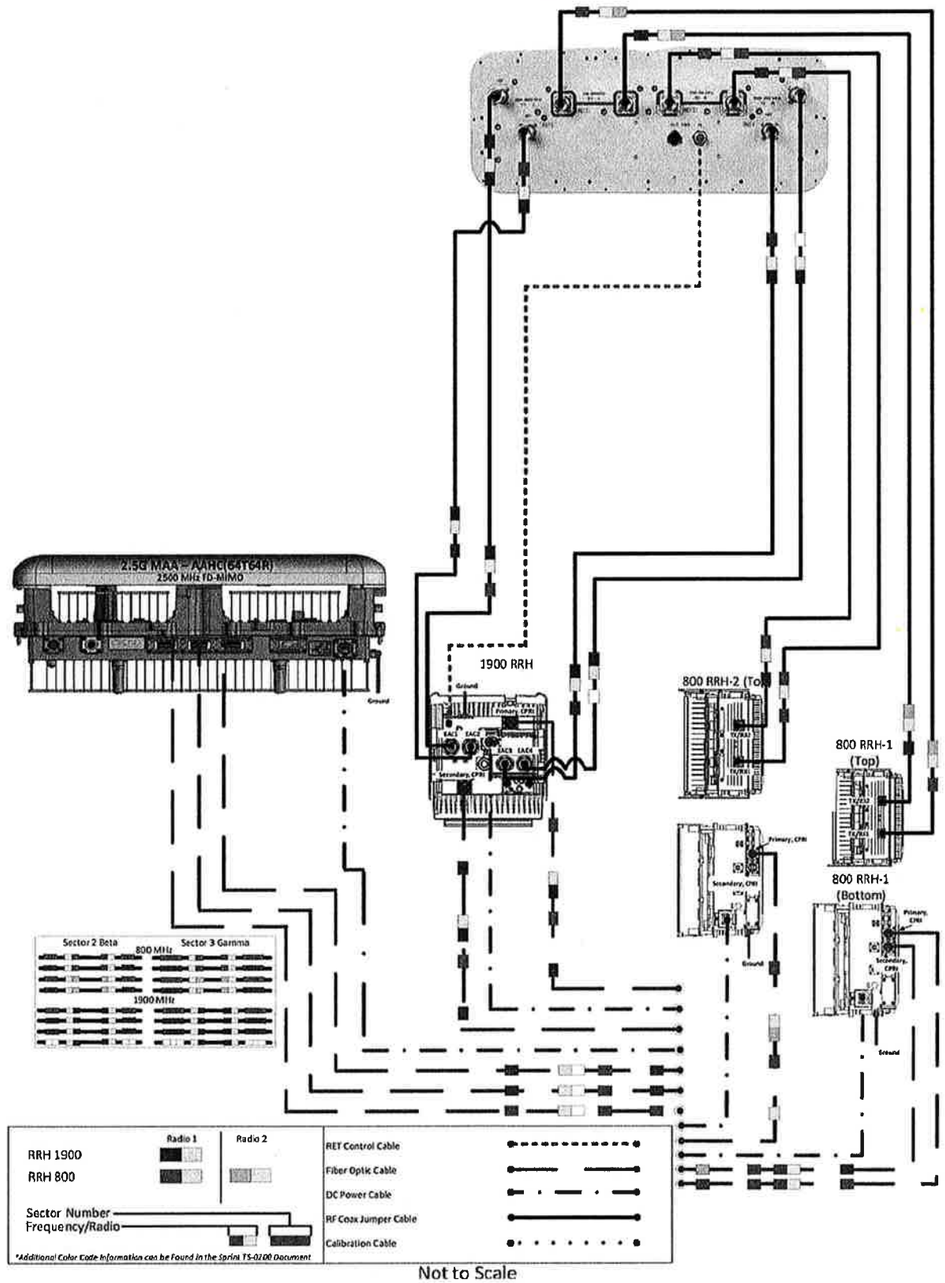
SITE NUMBER:
CT03XC382

SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

SHEET DESCRIPTION:
CIVIL DETAILS

SHEET NUMBER:
A-5

ALU 21-MIMO NNVV-65B-R4 wo Filters



Not to Scale

PLUMBING DIAGRAM | NO SCALE | 1

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OFFICE#, (518) 306-3740

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LICENSED
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WESTPORT/BAM

SITE NUMBER:

CT03XC382

SITE ADDRESS:

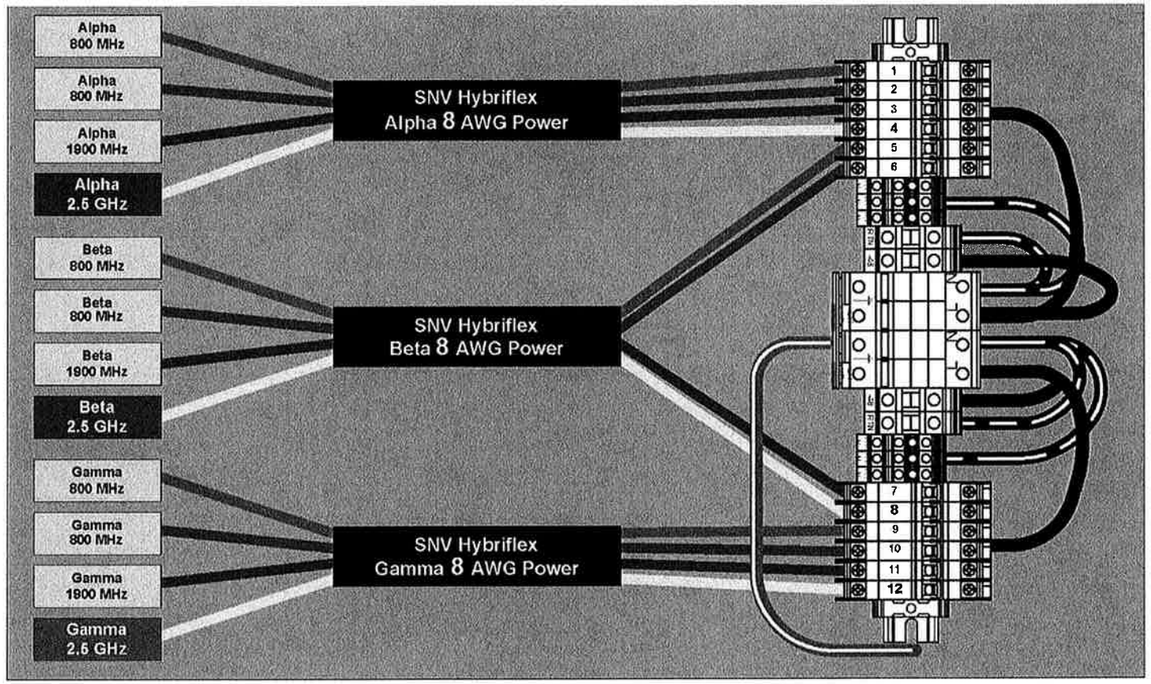
2 SUNNY LANE
WESTPORT, CT 06880

SHEET DESCRIPTION:

PLUMBING DIAGRAM

SHEET NUMBER:

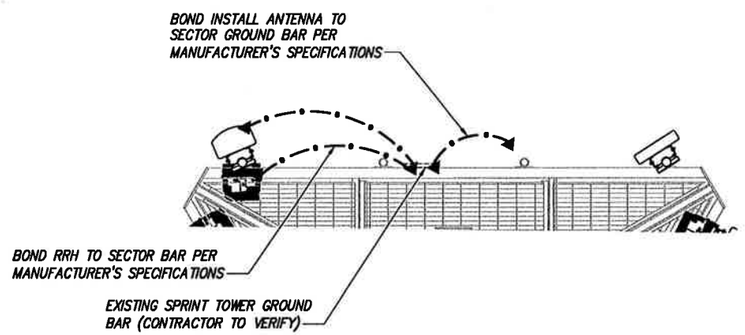
A-6



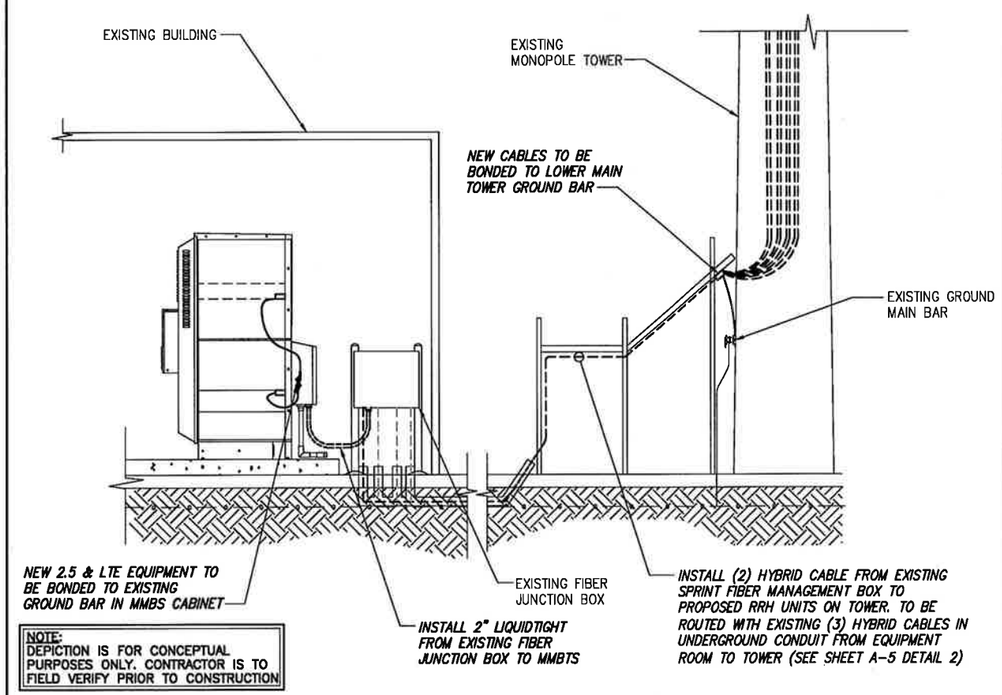
RRH TO DISTRIBUTION BOX POWER CONNECTIVITY | NO SCALE | 1

LEGEND:

- EXISTING GROUND RING
- CADWELD CONNECTION (EXOTHERMIC WELD)
- MECHANICAL CONNECTION
- GROUND ROD
- CABLE GROUND KIT



TYPICAL ANTENNA GROUNDING PLAN | NO SCALE | 2



NOTE:
DEPICTION IS FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO FIELD VERIFY PRIOR TO CONSTRUCTION

TYPICAL EQUIPMENT GROUNDING PLAN AND CABLE RUN (ELEVATION) | NO SCALE | 3

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SARATOGA SPRINGS, NY 12866
OFFICE#. (518) 306-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN B. STEFURA
JUL 18 2018
No. 24705
LICENSED PROFESSIONAL ENGINEER

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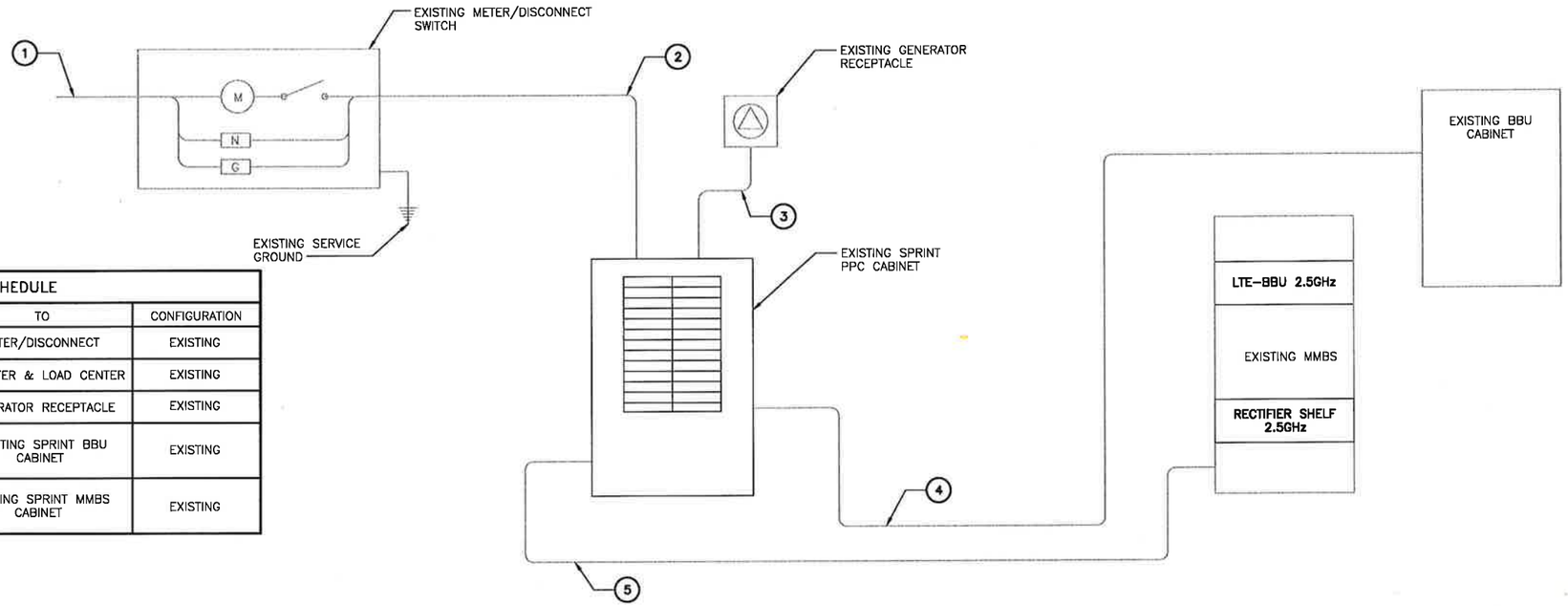
2 SUNNY LANE
WESTPORT, CT 06880

SHEET DESCRIPTION:
ELECTRICAL & GROUNDING PLAN

SHEET NUMBER:
E-1

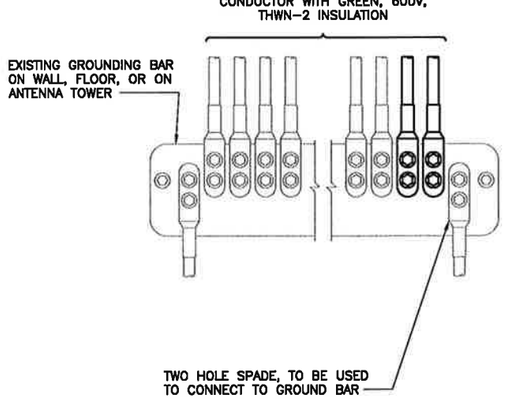
NOTES

CG SHALL REFERENCE ALL SPECS FOR "CONNECTING THE POWER SUPPLY" OF THE NEW INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.



CIRCUIT SCHEDULE			
NO	FROM	TO	CONFIGURATION
1	UTILITY SOURCE	METER/DISCONNECT	EXISTING
2	METER/DISCONNECT	TRANSFER & LOAD CENTER	EXISTING
3	TRANSFER & LOAD CENTER	GENERATOR RECEPTACLE	EXISTING
4	TRANSFER & LOAD CENTER	EXISTING SPRINT BBU CABINET	EXISTING
5	TRANSFER & LOAD CENTER	EXISTING SPRINT MMBS CABINET	EXISTING

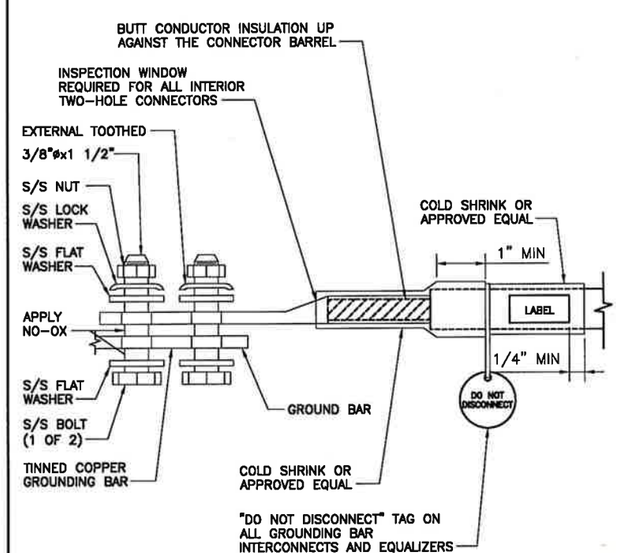
ELECTRICAL ONE–LINE DIAGRAM — NO SCALE — 1



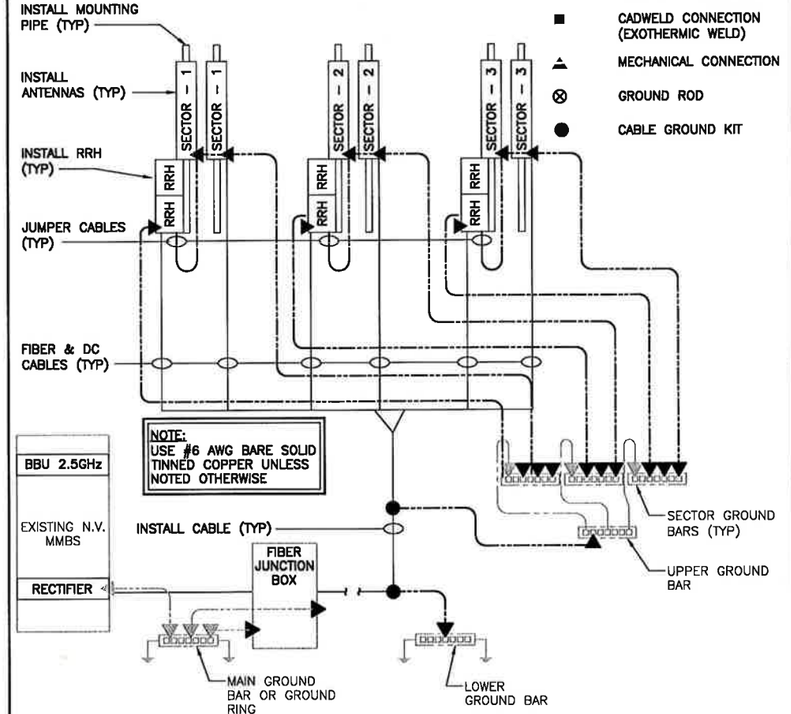
NOTES

1. APPLY NO–OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.

INSTALLATION OF GROUNDING CONDUCTOR TO GROUNDING BAR — NO SCALE — 2



TWO HOLE LUG — NO SCALE — 3



GROUNDING RISER DIAGRAM — NO SCALE — 4

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WESTPORT, CT 06880

SHEET DESCRIPTION:

ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER:

E-2