AIROSMITH DEVELOPMENT
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June 21st, 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 131 GRASSY HILL ROAD, LYME CONNECTICUT – CT72XC041 (lat. 41° 24' 30.12" N, long. -72° 17' 9.996" W)

Dear Ms. Bachman:

Sprint Spectrum, LP ("Sprint") currently maintains wireless telecommunications antennas at the (115-foot level) on an existing (105-foot self-support tower) at the above-referenced address. The property and the tower are owned by American Tower Corporation.

Sprint's proposed work involves antenna replacement and tower work. Sprint intends to replace three (3) antennas, add three (3) new antennas, relocate three (3) RRHs from ground level to the tower and add nine (9) new 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 STEVEN MATTSON, FIRST SELECTMAN and BERNIE GIGLIOTTI, ZONING ENFORCEMENT OFFICER of the Town of LYME. A copy of this letter is also being sent to JUSTINE PAUL the manager for AMERICAN TOWER CORPORATION who manages the site.

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.
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

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

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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: STEVEN MATTSON (FIRST SELECTMAN / LYME, CT)
JUSTINE PAUL (Manager, AMERICAN TOWER CORPORATION)
BERNIE GIGLIOTTI (ZONING ENFORCEMENT OFFICER / LYME, CT)

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06/21/2018

Sent To: Steven Mattson CT72xc411
Street and Apt. No., or PO Box No.: 1460 Hanson Rd
City, State, ZIP+4®: Lym CT

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

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06/21/2018

Sent To: Renee Gigliotti CT72xc411
Street and Apt. No., or PO Box No.: 1460 Hanson Rd
City, State, ZIP+4®: Lyme CT

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

Property Location: 333 GRASSY HILL RD | MAP ID: 50/ 12/ / / | Bldg Name: | State Use: 4310

Vision ID: 1559 | Account # 125700 | Bldg #: 1 of 1 | Sec #: 1 of 1 | Card 1 of 1 | Print Date: 06/21/2018 10:25

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
AMERICAN TOWERS INC C/O AMERICAN TOWER CORP P.O. BOX 723597 ATLANTA, GA 31139 Additional Owners:	4 Rolling		1 Paved	3 Rural

SUPPLEMENTAL DATA

Other ID: 31/ 33/ / /

PID2 00155900

SIDE

GIS ID: 50/12

Dev Map #

Dev Lot #

Flood Plain

Census Tract 1559

ASSOC PID#

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
UTL LAND	4-1	224,500	157,200
UTL BLDG	4-2	74,300	52,000
UTL OUTBL	4-3	92,200	64,500
	Total	391,000	273,700

6075
LYME, CT

VISION

RECORD OF OWNERSHIP

	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
AMERICAN TOWERS INC	111/ 706	02/23/2000	Q	I	146,070	
AMERICAN TEL + TEL CO	61/ 598	07/29/1966	U		0	

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2017	4-1	157,200	2016	4-1	157,200	2015	4-1	157,200
2017	4-2	52,000	2016	4-2	52,000	2015	4-2	52,000
2017	4-3	64,500	2016	4-3	64,500	2015	4-3	64,500
	Total:	273,700		Total:	273,700		Total:	273,700

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
0060/A				

NOTES

RELAY STATION & TOWER
ECO=USE+LOC
SELF SUPPORTING TOWER
HT=130 FT,30 FT BASE SIDE
MICROWAVE
15X16 PRE FAB
GATED LOCKED 11/2008

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	74,300
Appraised XF (B) Value (Bldg)	0
Appraised OB (L) Value (Bldg)	92,200
Appraised Land Value (Bldg)	224,500
Special Land Value	0
Total Appraised Parcel Value	391,000
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	391,000

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
	06/25/2008	NC	New Construct	55,000	09/30/2008	0		EQUIPMENT BLDG/AI

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
11/03/2008			KC	54	Field Review
09/30/2008			DK	26	Building Permit
09/30/2008			DK	04	Measur/Vac/Boarded up
02/10/1999			BD	04	Measur/Vac/Boarded up

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units		Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing		S Adj Fact	Adj. Unit Price	Land Value
1	4310	TEL REL TW MDL-96	RU80				80,150	SF	1.24	1.0000	5	1.0000	1.75	0060	1.25	USE			1.00		217,400
1	4310	TEL REL TW MDL-96	RU80				0.99	AC	5,700.00	1.0000	0	1.0000	1.00	0060	1.25				1.00		7,100

Total Card Land Units: 2.83 AC | Parcel Total Land Area: 2.83 AC | Total Land Value: 224,500

Property Location: 333 GRASSY HILL RD | **MAP ID:** 50/ 12/ / / | **Bldg Name:** | **State Use:** 4310

Vision ID: 1559 | **Account #** 125700 | **Bldg #:** 1 of 1 | **Sec #:** 1 of 1 | **Card** 1 of 1 | **Print Date:** 06/21/2018 10:25

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	40		Light Indust
Model	96		Commercial
Grade	03		Average
Stories	1		
Occupancy			
Exterior Wall 1	15		Concr/Cinder
Exterior Wall 2			
Roof Structure	01		Flat
Roof Cover	04		T & G/Rubber
Interior Wall 1	01		Minim/Masonry
Interior Wall 2			
Interior Floor 1	03		Concr-Finished
Interior Floor 2			
Heating Fuel	02		Oil
Heating Type	04		Forced Air-Duc
AC Type	03		Central
Bldg Use	4310		TEL REL TW MDL-96
Total Rooms			
Total Bedrms	00		
Total Baths	0		
Heat/AC	01		Heat AC Pkg
Frame Type	03		Masonry
Baths/Plumbing	00		None
Ceiling/Wall	00		None
Rooms/Prtns	02		Average
Wall Height	12		
% Comn Wall	0		

CONSTRUCTION DETAIL (CONTINUED)

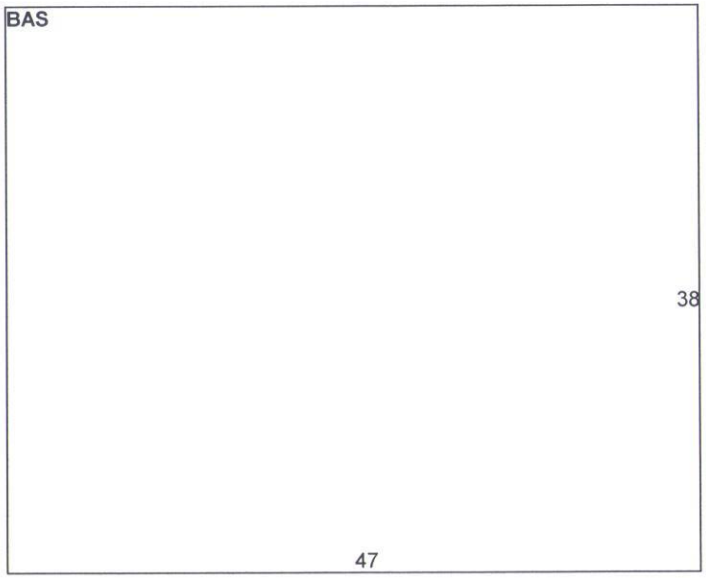
Element	Cd.	Ch.	Description

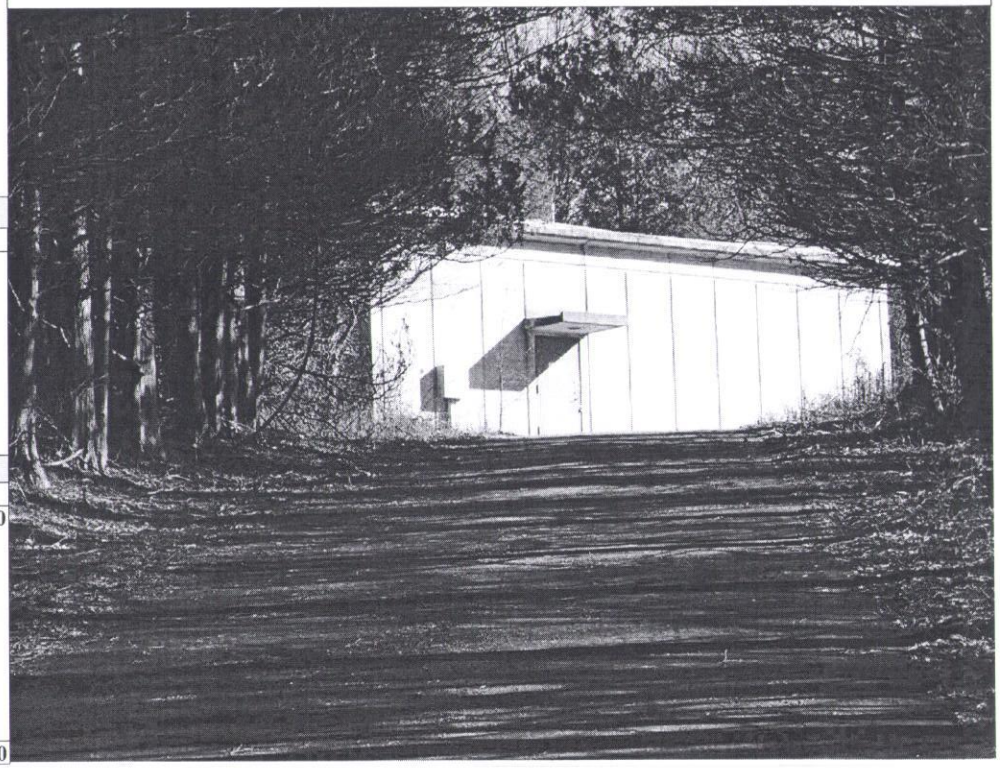
MIXED USE

Code	Description	Percentage
4310	TEL REL TW MDL-96	100

COST/MARKET VALUATION

Adj. Base Rate:	65.00
Replace Cost	116,090
AYB	1966
Dep Code	A
Remodel Rating	
Year Remodeled	
Dep %	36
Functional Obslnc	0
External Obslnc	0
Cost Trend Factor	
Status	
% Complete	
Overall % Cond	64
Apprais Val	74,300
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	





OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
PAV1	PAVING-ASPI			L	3,500	0.90	1999		0		50	1,600
FN3	FENCE-6' CH/			L	144	9.00	1999		0		50	600
	TOWER			L	1	100,000.00	1966		0		90	90,000

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	1,786	1,786	1,786	65.00	116,090
	Ttl. Gross Liv/Lease Area:	1,786	1,786	1,786		116,090

EBI Consulting
environmental | engineering | due diligence

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

SPRINT Existing Facility

Site ID: CT72XC041

CT0953-Ring to Exist-(R2E) PH
131 Grassy Hill Road
Lyme, CT 06371

June 13, 2018

EBI Project Number: 6218004335

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	13.32 %

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

EBI Consulting
environmental | engineering | due diligence

June 13, 2018

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

Emissions Analysis for Site: **CT72XC041 – CT0953-Ring to Exist-(R2E) PH**

EBI Consulting was directed to analyze the proposed SPRINT facility located at **131 Grassy Hill Road, Lyme, 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) and 2500 MHz (BRS) 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 **131 Grassy Hill Road, Lyme, 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, 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) 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.

7) 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 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.

8) The antennas used in this modeling are the **Commscope NNVV-65B-R4 and the RFS APXVTM14-ALU-I20** for transmission in the 850 MHz, 1900 MHz (PCS) and 2500 MHz (BRS) frequency bands. 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, 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.

9) The antenna mounting height centerlines of the proposed antennas are **118 feet** above ground level (AGL) for **Sector A**, **118 feet** above ground level (AGL) for **Sector B** and **118 feet** above ground level (AGL) for Sector C.

10) 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):	**118 feet**	Height (AGL):	**118 feet**	Height (AGL):	**118 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%	**2.61 %**	Antenna B1 MPE%	**2.61 %**	Antenna C1 MPE%	**2.61 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVTM14-ALU-I20	Make / Model:	RFS APXVTM14-ALU-I20	Make / Model:	RFS APXVTM14-ALU-I20
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	**118 feet**	Height (AGL):	**118 feet**	Height (AGL):	**118 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):	6,224.72	ERP (W):	6,224.72	ERP (W):	6,224.72
Antenna A2 MPE%	**1.78 %**	Antenna B2 MPE%	**1.78 %**	Antenna C2 MPE%	**1.78 %**

Site Composite MPE%	
Carrier	**MPE%**
SPRINT – Max per sector	**4.39 %**
Verizon Wireless	6.33 %
Valley Communications	0.40 %
Cingular	2.20 %
Site Total MPE %:	**13.32 %**

SPRINT Sector A Total:	4.39 %
SPRINT Sector B Total:	4.39 %
SPRINT Sector C Total:	4.39 %
Site Total:	13.32 %

SPRINT _ Frequency Band / Technology Max Power Values (Per Sector)	**# Channels**	**Watts ERP (Per Channel)**	**Height (feet)**	**Total Power Density (μW/cm²)**	**Frequency (MHz)**	**Allowable MPE (μW/cm²)**	**Calculated % MPE**
Sprint 850 MHz CDMA	1	376.73	118	1.08	850 MHz	567	0.19%
Sprint 850 MHz LTE	2	941.82	118	5.40	850 MHz	567	0.96%
Sprint 1900 MHz (PCS) CDMA	5	511.82	118	7.33	1900 MHz (PCS)	1000	0.73%
Sprint 1900 MHz (PCS) LTE	2	1,279.56	118	7.33	1900 MHz (PCS)	1000	0.73%
Sprint 2500 MHz (BRS) LTE	8	778.09	118	17.84	2500 MHz (BRS)	1000	1.78%
						Total:	**4.39%**

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:	4.39 %
Sector B:	4.39 %
Sector C:	4.39 %
SPRINT Maximum Total (per sector):	4.39 %
Site Total:	13.32 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **13.32 %** 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

May 24, 2018

Site Number	CT72XC041
Site Name	CT0953- Ring to Exist- (R2E) PH 1A
Client	Airosmith
Carrier	Sprint
Infinigy Job Number	526-104
Site Location	131 Grassy Hill Road Lyme, CT 06371 41° 23' 30.12" N NAD83 73° 17' 09.99" W NAD83
Mount Centerline EL.	115.0'
Mount Classification	Mount Pipe
Mount Usage	**75.9%**
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.

STATE OF CONNECTICUT
JOSEPH R. JOHNSTON
Joseph R. Johnston
MAY 24 2018
29460
LICENSED
PROFESSIONAL ENGINEER

Brenden Archer
Structural Engineer I

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 April 25, 2018
Previous Analysis	Infinigy Engineering Job #526-104, dated January 22, 2018
RFDS	Sprint RFDS ID #45903, dated November 10, 2017

Analysis Code Requirements

Wind Speed	105 mph (3-Second Gust, V_{ASD}) / 135 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:

Brenden Archer
Structural Engineer I | Infinigy
1033 Watervliet Shaker Road, Albany, NY 12205
(O) (518) 690-0790
barcher@infinigy.com | www.infinigy.com

Final Configuration Loading

Mount CL (ft)	Rad. HT (ft)	Horiz. O/S (ft)*	Qty	Appurtenance	Carrier
115.0	115.0	0.0	3	Commscope NNVV-65B-R4	Sprint
		0.0	3	RFS APXVTM14-ALU-120	
		0.0	3	Alcatel-Lucent RRH 1900 MHz	
		0.0	3	Alcatel-Lucent TD-RRH8x20	
		0.0	6	Alcatel-Lucent RRH 800 MHz 2x50W	

***Horizontal Offset is defined as the distance from the left most edge of the mount face horizontal when viewed facing the tower**

Structure Usages

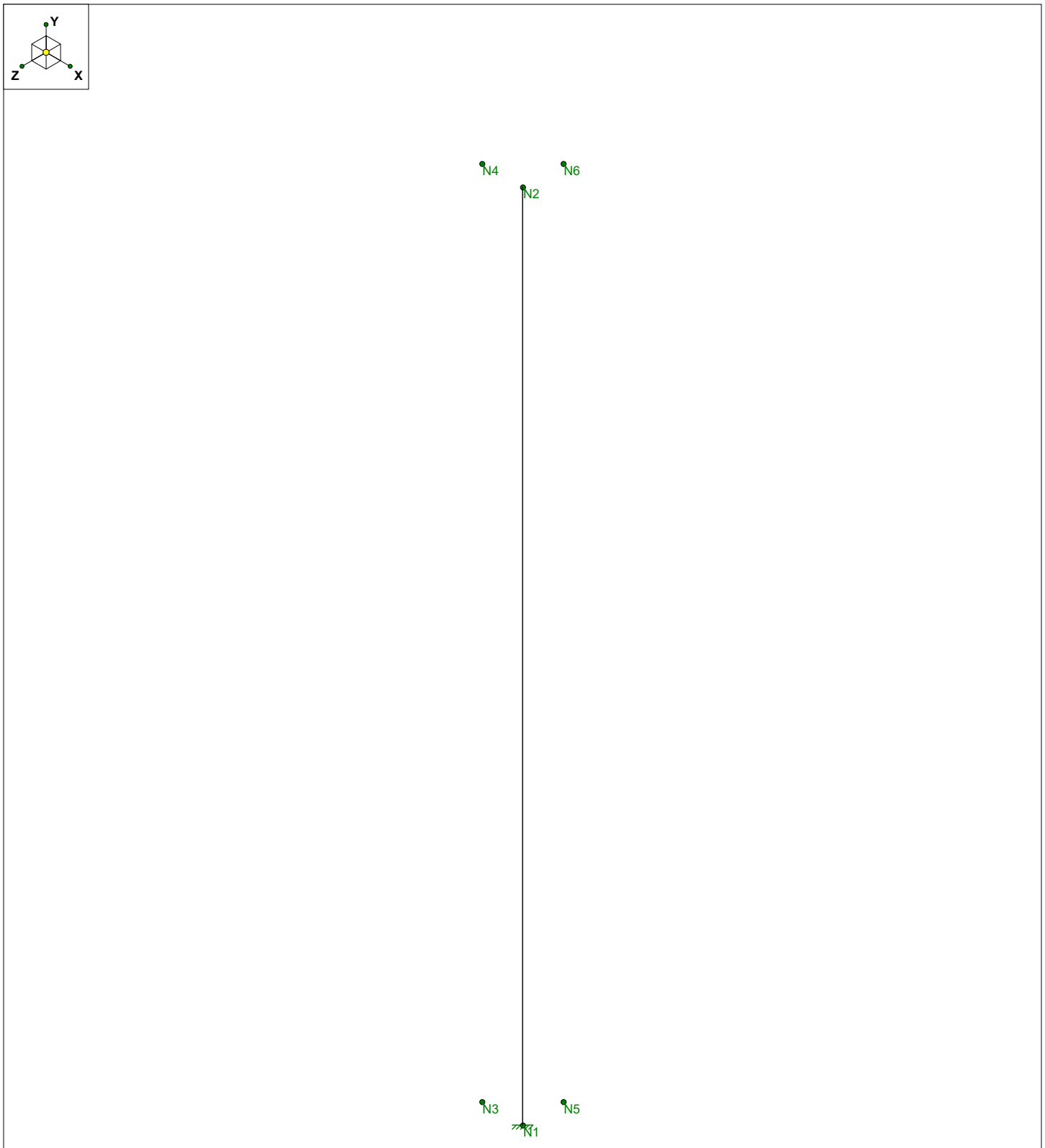
Mount Pipe	75.9%	Pass
RATING =	**75.9%**	**Pass**

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.



Envelope Only Solution

Infinigy Engineering, PLLC	CT72XC041	Existing Configuration
BDA		May 21, 2018 at 9:49 PM
526-104		Proposed_CT72XC041.r3d

Site Name:	CT72XC041
Client:	Airosmith
Carrier:	Sprint
Engineer:	BDA
Date:	5/21/2018

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 - Pipe
Number of Sectors:	3
Structure Shape 1:	Round

Rooftop Inputs:

Rooftop Wind Speed-Up?:	No

Wind Loading Inputs:

Design Wind Velocity:	105	mph (nominal 3-second gust)
Wind Centerline 1 (z_1):	115.0	ft
Side Face Angle (θ):	60	degrees
Exposure Category:	B	
Topographic Category:	1	

Wind with No Ice		
q_z (psf)	Gh	F_{ST} (psf)
27.58	1.00	**33.09**

Wind with Ice		
q_z (psf)	Gh	F_{ST} (psf)
6.25	1.00	**13.88**

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 NNVV-65B-R4	115.0	3	1.00	Flat	Flat	27.58	12.27	338.40	158.57	203.52	293.44
Alcatel Lucent TD-RRH8x20	115.0	3	1.00	Flat	Flat	27.58	3.70	102.15	35.68	52.30	85.53
Alcatel Lucent 1900 MHz	115.0	3	1.00	Flat	Flat	27.58	2.58	71.24	70.09	70.38	70.95
Alcatel Lucent RRH 800 MHz 2x50W	115.0	3	1.00	Flat	Flat	27.58	2.06	56.76	53.27	54.14	55.89
Alcatel Lucent RRH 800 MHz 2x50W	115.0	3	1.00	Flat	Flat	27.58	2.06	56.76	53.27	54.14	55.89
RFS APXVTM14-ALU-120	115.0	3	1.00	Flat	Flat	27.58	6.34	174.90	99.48	118.34	156.05

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
1	M1	N1	N2			STD 3.5 Pipe	Beam	None	A53 Gr.B	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	Hot Rolled Steel				
2	A53 Gr.B	PIPE_3.5	1	120	0
3	Total HR Steel		1	120	0

Basic Load Cases

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

Load Combinations

	Description	S...	P...	S...	B...	Fa...	BLC	Fac...	BLC	Fa...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...
1	1.4D	Y...	Y		DL	1.4																				
2	1.2D + 1.6W AZI 000	Y...	Y		DL	1.2	WLZ	1.6																		
3	1.2D + 1.6W AZI 030	Y...	Y		DL	1.2	WLZ	1.3...	W...	.8																
4	1.2D + 1.6W AZI 060	Y...	Y		DL	1.2	WLZ	.8	W...	1.3...																
5	1.2D + 1.6W AZI 090	Y...	Y		DL	1.2			W...	1.6																
6	1.2D + 1.6W AZI 120	Y...	Y		DL	1.2	WLZ	-.8	W...	1.3...																
7	1.2D + 1.6W AZI 150	Y...	Y		DL	1.2	WLZ	-1.3...	W...	.8																
8	1.2D + 1.6W AZI 180	Y...	Y		DL	1.2	WLZ	-1.6																		
9	1.2D + 1.6W AZI 210	Y...	Y		DL	1.2	WLZ	-1.3...	W...	-.8																
10	1.2D + 1.6W AZI 240	Y...	Y		DL	1.2	WLZ	-.8	W...	-1....																
11	1.2D + 1.6W AZI 270	Y...	Y		DL	1.2			W...	-1.6																
12	1.2D + 1.6W AZI 300	Y...	Y		DL	1.2	WLZ	.8	W...	-1....																
13	1.2D + 1.6W AZI 330	Y...	Y		DL	1.2	WLZ	1.3...	W...	-.8																
14	0.9D + 1.6W AZI 000	Y...	Y		DL	.9	WLZ	1.6																		
15	0.9D + 1.6W AZI 030	Y...	Y		DL	.9	WLZ	1.3...	W...	.8																
16	0.9D + 1.6W AZI 060	Y...	Y		DL	.9	WLZ	.8	W...	1.3...																
17	0.9D + 1.6W AZI 090	Y...	Y		DL	.9			W...	1.6																
18	0.9D + 1.6W AZI 120	Y...	Y		DL	.9	WLZ	-.8	W...	1.3...																
19	0.9D + 1.6W AZI 150	Y...	Y		DL	.9	WLZ	-1.3...	W...	.8																
20	0.9D + 1.6W AZI 180	Y...	Y		DL	.9	WLZ	-1.6																		
21	0.9D + 1.6W AZI 210	Y...	Y		DL	.9	WLZ	-1.3...	W...	-.8																
22	0.9D + 1.6W AZI 240	Y...	Y		DL	.9	WLZ	-.8	W...	-1....																
23	0.9D + 1.6W AZI 270	Y...	Y		DL	.9			W...	-1.6																
24	0.9D + 1.6W AZI 300	Y...	Y		DL	.9	WLZ	.8	W...	-1....																
25	0.9D + 1.6W AZI 330	Y...	Y		DL	.9	WLZ	1.3...	W...	-.8																

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fa...	BLC	Fac...	BLC	Fa...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...
26	1.2D + 1.0Di	Y...	Y		DL	1.2	OL1	1																		
27	1.2D + 1.0Di + 1.0Wi AZI 000	Y...	Y		DL	1.2	OL1	1	OL2	1																
28	1.2D + 1.0Di + 1.0Wi AZI 030	Y...	Y		DL	1.2	OL1	1	OL2	.866	...	.5														
29	1.2D + 1.0Di + 1.0Wi AZI 060	Y...	Y		DL	1.2	OL1	1	OL2	.5	...	.8...														
30	1.2D + 1.0Di + 1.0Wi AZI 090	Y...	Y		DL	1.2	OL1	1			...	1														
31	1.2D + 1.0Di + 1.0Wi AZI 120	Y...	Y		DL	1.2	OL1	1	OL2	-.5	...	.8...														
32	1.2D + 1.0Di + 1.0Wi AZI 150	Y...	Y		DL	1.2	OL1	1	OL2	-.866	...	.5														
33	1.2D + 1.0Di + 1.0Wi AZI 180	Y...	Y		DL	1.2	OL1	1	OL2	-1																
34	1.2D + 1.0Di + 1.0Wi AZI 210	Y...	Y		DL	1.2	OL1	1	OL2	-.866	...	-.5														
35	1.2D + 1.0Di + 1.0Wi AZI 240	Y...	Y		DL	1.2	OL1	1	OL2	-.5	...	-....														
36	1.2D + 1.0Di + 1.0Wi AZI 270	Y...	Y		DL	1.2	OL1	1			...	-1														
37	1.2D + 1.0Di + 1.0Wi AZI 300	Y...	Y		DL	1.2	OL1	1	OL2	.5	...	-....														
38	1.2D + 1.0Di + 1.0Wi AZI 330	Y...	Y		DL	1.2	OL1	1	OL2	.866	...	-.5														
39	1.2D + 1.5L + 1.0WL (30 mph) AZI 000	Y...	Y		DL	1.2	LL	1.5	WLZ	.085																
40	1.2D + 1.5L + 1.0WL (30 mph) AZI 030	Y...	Y		DL	1.2	LL	1.5	WLZ	.073	...	.0...														
41	1.2D + 1.5L + 1.0WL (30 mph) AZI 060	Y...	Y		DL	1.2	LL	1.5	WLZ	.042	...	.0...														
42	1.2D + 1.5L + 1.0WL (30 mph) AZI 090	Y...	Y		DL	1.2	LL	1.5			...	.0...														
43	1.2D + 1.5L + 1.0WL (30 mph) AZI 120	Y...	Y		DL	1.2	LL	1.5	WLZ	-.042	...	.0...														
44	1.2D + 1.5L + 1.0WL (30 mph) AZI 150	Y...	Y		DL	1.2	LL	1.5	WLZ	-.073	...	.0...														
45	1.2D + 1.5L + 1.0WL (30 mph) AZI 180	Y...	Y		DL	1.2	LL	1.5	WLZ	-.085																
46	1.2D + 1.5L + 1.0WL (30 mph) AZI 210	Y...	Y		DL	1.2	LL	1.5	WLZ	-.073	...	-....														
47	1.2D + 1.5L + 1.0WL (30 mph) AZI 240	Y...	Y		DL	1.2	LL	1.5	WLZ	-.042	...	-....														
48	1.2D + 1.5L + 1.0WL (30 mph) AZI 270	Y...	Y		DL	1.2	LL	1.5			...	-....														
49	1.2D + 1.5L + 1.0WL (30 mph) AZI 300	Y...	Y		DL	1.2	LL	1.5	WLZ	.042	...	-....														
50	1.2D + 1.5L + 1.0WL (30 mph) AZI 330	Y...	Y		DL	1.2	LL	1.5	WLZ	.073	...	-....														

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	N1	max	769.872	5	1288.961	26	1176.976	2	6.001	2	0	1	3.652	11
2		min	-769.872	11	383.949	14	-1176.976	8	-6.001	8	0	1	-3.652	5
3	Totals:	max	769.872	5	1288.961	26	1176.976	2						
4		min	-769.872	11	383.949	14	-1176.976	8						

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Ch...	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pn...	phi*M...	phi*M...	...	Eqn
1	M1	PIPE_3.5	.759	0	2	.050	0		2	52385.683	78750	7.954	7.954	1	H1-1b

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Structural Analysis Report

Structure	:	**100 ft Self Supported Tower**
ATC Site Name	:	**Old Lyme, CT**
ATC Site Number	:	**88016**
Engineering Number	:	**OAA710388_C3_03**
Proposed Carrier	:	**Sprint Nextel**
Carrier Site Name	:	**Old Lyme**
Carrier Site Number	:	**CT72XC041**
Site Location	:	**Grassy Hill Road** **Old Lyme, CT 06371-3300** **41.391800,-72.285900**
County	:	**New London**
Date	:	**March 15, 2018**
Max Usage	:	**84%**
Result	:	**Pass**

Prepared By:
Aaron Black
Structural Engineer II

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 100 ft self supported tower to reflect the change in loading by Sprint Nextel.

Supporting Documents

Tower Drawings	Analysis by CSEI Site Old Lyme, CT
Foundation Drawing	Geotel Engineering Report #E08-247-F, dated May 14, 2008
Geotechnical Report	Geotel Engineering Report #E08-247-G, dated May 14, 2008

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:	105 mph (3-Second Gust, V_{ASD}) / 135 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 = 0.17, S_1 = 0.06
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					
100.0	115.0	4	12' Horn	Platform w/ Handrails	(2) 7/8" Coax	Other
	120.0	1	Decibel DB638			Valley Shore Emergency Communications
		1	Decibel DB205			
	-	-	-		(6) 1 5/8" Coax	Sprint Nextel
88.0	88.0	1	Scala PR-900	Leg	(2) 7/8" Coax	Valley Shore Emergency Communications
82.8	82.8	-	-	Access Platform	-	-
78.0	78.0	3	Antel BXA-70063-6CF-EDIN-X	Sector Frames	(12) 1 5/8" Coax	Verizon Wireless
		6	Antel LPA-80080-4CF-EDIN-0			
		3	Antel BXA-171085-8BF-EDIN-X			
		6	RFS FD9R6004/2C-3L (3.1 lbs)			

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
118.0	118.0	3	EMS RR45-19-02DPL4	-	(3) 1 5/8" Coax	Sprint Nextel
		3	Decibel ASP-950			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
118.0	118.0	3	RFS APXVTM14-ALU-I20	Platform w/ Handrails	(4) 1 1/4" Hybriflex	Sprint Nextel
		3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
		6	Alcatel-Lucent RRH2x50-08			
		3	Commscope NNVV-65B-R4			
		3	Alcatel-Lucent 1900MHz 4X45 RRH			

[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).

Double stack proposed coax in the place of the removing Sprint Nextel coax.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	49%	Pass
Diagonals	84%	Pass
Horizontals	65%	Pass
Anchor Bolts	25%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Uplift (Kips)	111.8	30%
Axial (Kips)	133.3	2%

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, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
118.0	Alcatel-Lucent RRH2x50-08	Sprint Nextel	0.038	0.014	1.757
	Alcatel-Lucent 1900 MHz 4X45 RRH				
	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield				
	RFS APXVTM14-ALU-I20				
	Commscope NNVV-65B-R4				
100.0	12' Horn	Other			
88.0	Scala PR-900	Valley Shore Emergency Communications	0.031	0.154	0.456

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

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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.

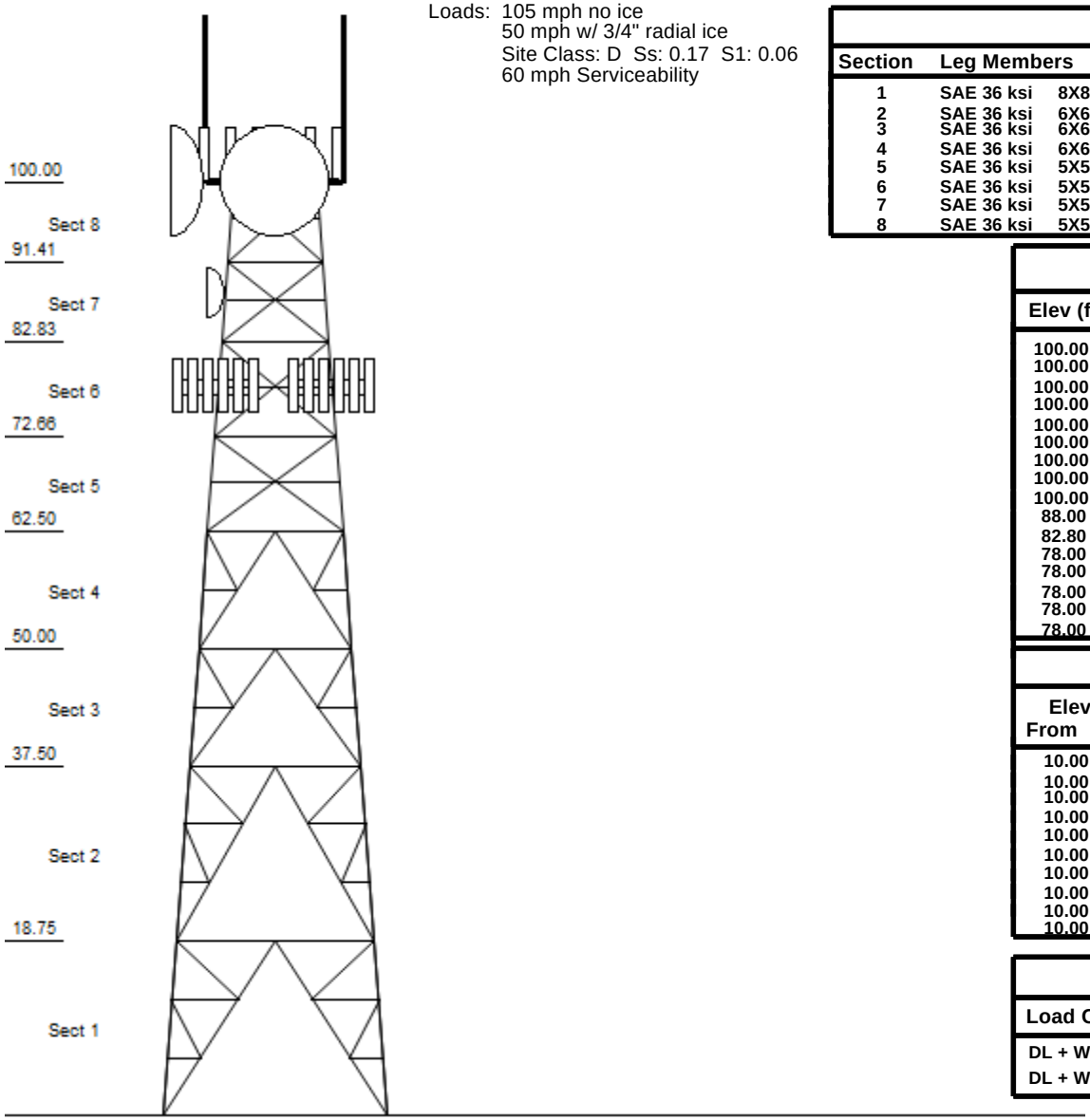
Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

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

Tower : 88016	Location : Old Lyme, CT	Base Width : 24.25 ft
Client : SPRINT NEXTEL		Top Width : 9.00 ft
Code : ANSI/TIA-222-G		Tower Ht : 100.00 ft
		Shape : Square

Loads: 105 mph no ice
50 mph w/ 3/4" radial ice
Site Class: D Ss: 0.17 S1: 0.06
60 mph Serviceability



Sections Properties

Section	Leg Members		Diagonal Members	Horizontal Members
1	SAE 36 ksi	8X8X0.625	DAS 36 ksi 3X2.5X0.25	DAE 36 ksi 2.5X2.5X0.25
2	SAE 36 ksi	6X6X0.625	DAE 36 ksi 2.5X2.5X0.25	DAE 36 ksi 2.5X2.5X0.25
3	SAE 36 ksi	6X6X0.5625	DAL 36 ksi 2.5X2X0.25	DAE 36 ksi 2.5X2.5X0.25
4	SAE 36 ksi	6X6X0.4375	DAL 36 ksi 2.5X2X0.25	DAE 36 ksi 2.5X2.5X0.25
5	SAE 36 ksi	5X5X0.4375	SAE 36 ksi 3.5X3.5X0.25	SAU 36 ksi 3X2.5X0.25
6	SAE 36 ksi	5X5X0.4375	SAE 36 ksi 3.5X3.5X0.25	DAL 36 ksi 3X2.5X0.25
7	SAE 36 ksi	5X5X0.3125	SAE 36 ksi 3X3X0.25	SAU 36 ksi 3X2.5X0.25
8	SAE 36 ksi	5X5X0.3125	SAE 36 ksi 3X3X0.25	CHN 36 ksi C8 x 11.5

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
100.00	Panel	3	RFS APXVTM14-ALU-I20
100.00	Whip	1	Decibel DB638
100.00	Panel	3	Alcatel-Lucent TD-RRH8x20-25 w
100.00	Whip	1	Decibel DB205
100.00	Panel	6	Alcatel-Lucent RRH2x50-08
100.00	Platform	1	20' Platform w/ Handrails
100.00	Dish	4	12' Horn
100.00	Panel	3	Commscope NNVV-65B-R4
100.00	Panel	3	Alcatel-Lucent 1900 MHz 4X45 R
88.00	Dish	1	Scala PR-900
82.80	Platform	1	Access Platform
78.00	Mounting Frame	3	Flat Light Sector Frame
78.00	Panel	3	Antel BXA-70063-6CF-EDIN-X
78.00	Panel	6	Antel LPA-80080-4CF-EDIN-0
78.00	Panel	3	Antel BXA-171085-8BF-EDIN-X
78.00	Panel	6	RFS FD9R6004/2C-3L (3.1 lbs)

Linear Appurtenance

Elev (ft) From	To	Qty	Description
10.00	100.00	1	Waveguide
10.00	100.00	1	Climbing Ladder
10.00	100.00	2	7/8" Coax
10.00	100.00	6	1 5/8" Coax
10.00	100.00	4	1 1/4" Hybriflex Cab
10.00	92.00	1	Wave Guide
10.00	88.00	2	7/8" Coax
10.00	82.00	1	Wave Guide
10.00	78.00	12	1 5/8" Coax
10.00	30.00	4	Coax Cage

Global Base Foundation Design Loads

Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	4,287.04	68.02	53.33
DL + WL + IL	1,006.74	134.44	12.14

Job Information

Tower : 88016	**Location :** Old Lyme, CT	**Base Width :** 24.25 ft
Client : SPRINT NEXTEL		**Top Width :** 9.00 ft
Code : ANSI/TIA-222-G		**Tower Ht :** 100.00 ft
		Shape : Square

Individual Base Foundation Design Loads

Vertical (kip)	Uplift (kip)	Horizontal (kip)
133.29	111.83	21.98

Site Number:	88016	Code:	ANSI/TIA-222-G	
Site Name:	Old Lyme, CT	Engineering Number:	OAA710388_C3_03	3/15/2018 4:27:14 PM
Customer:	SPRINT NEXTEL			

Analysis Parameters

Location:	NEW LONDON County, CT	Height (ft):	100
Code:	ANSI/TIA-222-G	Base Elevation (ft):	0.00
Shape:	Square	Bottom Face Width (ft):	24.25
Tower Manufacturer:	AT&T TAG	Top Face Width (ft):	9.00
Tower Type:	Self Support		
Kd:			
Ke:			

Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	105 mph
Exposure Category:	B	Design Windspeed With Ice:	50 mph
Topographic Category:	1	Operational Windspeed:	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):	0.40				
T_L (sec):	6	p:	1.3	C_S:	0.059
S_S:	0.166	S_1:	0.059	C_S, Max:	0.079
F_a:	1.600	F_V:	2.400	C_S, Min:	0.030
S_{ds}:	0.177	S_{d1}:	0.094		

Load Cases

1.2D + 1.6W Normal	105 mph Normal to Face with No Ice
1.2D + 1.6W 45 deg	105 mph 45 degree with No Ice
1.2D + 1.6W 90 deg	105 mph 90 degree with No Ice
1.2D + 1.6W 135 deg	105 mph 135 degree with No Ice
1.2D + 1.6W 180 deg	105 mph 180 degree with No Ice
1.2D + 1.6W 225 deg	105 mph 225 degree with No Ice
1.2D + 1.6W 270 deg	105 mph 270 degree with No Ice
1.2D + 1.6W 315 deg	105 mph 315 degree with No Ice
0.9D + 1.6W Normal	105 mph Normal to Face with No Ice (Reduced DL)
0.9D + 1.6W 45 deg	105 mph 45 deg with No Ice (Reduced DL)
0.9D + 1.6W 90 deg	105 mph 90 deg with No Ice (Reduced DL)
0.9D + 1.6W 135 deg	105 mph 135 deg with No Ice (Reduced DL)
0.9D + 1.6W 180 deg	105 mph 180 deg with No Ice (Reduced DL)
0.9D + 1.6W 225 deg	105 mph 225 deg with No Ice (Reduced DL)
0.9D + 1.6W 270 deg	105 mph 270 deg with No Ice (Reduced DL)
0.9D + 1.6W 315 deg	105 mph 315 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	50 mph Normal with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 45 deg	50 mph 45 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	50 mph 90 deg with 0.75 in Radial Ice

Analysis Parameters

1.2D + 1.0Di + 1.0Wi 135 deg	50 mph 135 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 180 deg	50 mph 180 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 225 deg	50 mph 225 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 270 deg	50 mph 270 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 315 deg	50 mph 315 deg with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E Normal	Seismic Normal
(1.2 + 0.2Sds) * DL + E 45 deg	Seismic 45 deg
(1.2 + 0.2Sds) * DL + E 90 deg	Seismic 90 deg
(1.2 + 0.2Sds) * DL + E 135 deg	Seismic 135 deg
(1.2 + 0.2Sds) * DL + E 180 deg	Seismic 180 deg
(1.2 + 0.2Sds) * DL + E 225 deg	Seismic 225 deg
(1.2 + 0.2Sds) * DL + E 270 deg	Seismic 270 deg
(1.2 + 0.2Sds) * DL + E 315 deg	Seismic 315 deg
(0.9 - 0.2Sds) * DL + E Normal	Seismic (Reduced DL) Normal
(0.9 - 0.2Sds) * DL + E 45 deg	Seismic (Reduced DL) 45 deg
(0.9 - 0.2Sds) * DL + E 90 deg	Seismic (Reduced DL) 90 deg
(0.9 - 0.2Sds) * DL + E 135 deg	Seismic (Reduced DL) 135 deg
(0.9 - 0.2Sds) * DL + E 180 deg	Seismic (Reduced DL) 180 deg
(0.9 - 0.2Sds) * DL + E 225 deg	Seismic (Reduced DL) 225 deg
(0.9 - 0.2Sds) * DL + E 270 deg	Seismic (Reduced DL) 270 deg
(0.9 - 0.2Sds) * DL + E 315 deg	Seismic (Reduced DL) 315 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 45 deg	Serviceability - 60 mph Wind 45 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 deg
1.0D + 1.0W Service 135 deg	Serviceability - 60 mph Wind 135 deg
1.0D + 1.0W Service 180 deg	Serviceability - 60 mph Wind 180 deg
1.0D + 1.0W Service 225 deg	Serviceability - 60 mph Wind 225 deg
1.0D + 1.0W Service 270 deg	Serviceability - 60 mph Wind 270 deg
1.0D + 1.0W Service 315 deg	Serviceability - 60 mph Wind 315 deg

Site Number: 88016 Code: ANSI/TIA-222-G

Site Name: Old Lyme, CT Engineering Number: OAA710388_C3_03 3/15/2018 4:27:14 PM

Customer: SPRINT NEXTEL

Tower Loading

Discrete Appurtenance Properties 1.2D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
100.0	Alcatel-Lucent	6	53	1.7	1.3	13.0	9.8	1.00	0.50	18.0	3103.2	24.86	172	381
100.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	1.00	0.67	18.0	2837.5	24.86	158	216
100.0	Decibel DB205	1	38	3.9	18.0	3.0	3.0	1.00	1.00	20.0	2629.1	24.98	131	46
100.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	1.00	0.67	18.0	4953.3	24.86	275	252
100.0	Decibel DB638	1	40	4.8	16.1	3.0	3.0	1.00	1.00	20.0	3281.2	24.98	164	48
100.0	RFS APXVTM14-ALU-	3	56	6.3	4.7	12.6	6.3	1.00	0.66	18.0	7638.4	24.86	424	202
100.0	Commscope NNVV-	3	77	12.3	6.0	19.6	7.8	1.00	0.64	18.0	14334.8	24.86	796	279
100.0	20' Platform w/	1	9000	80.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	23.71	2579	10800
100.0	12' Horn	4	2500	165.7	12.0	12.0	1.0	1.00	0.75	15.0	250169.	24.67	16678	12000
88.00	Scala PR-900	1	38	10.1	5.7	36.0	6.0	1.00	1.00	0.0	0.0	22.86	314	46
82.80	Access Platform	1	5000	45.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	22.46	1375	6000
78.00	RFS FD9R6004/2C-3L	6	3	0.4	0.5	6.5	1.5	0.80	0.50	0.0	0.0	22.08	26	22
78.00	Antel BXA-171085-	3	11	2.9	4.0	6.1	4.1	0.80	0.71	0.0	0.0	22.08	150	38
78.00	Antel LPA-80080-	6	12	5.4	3.9	5.5	13.2	0.80	0.64	0.0	0.0	22.08	498	86
78.00	Antel BXA-70063-	3	17	7.6	5.9	11.2	5.2	0.80	0.66	0.0	0.0	22.08	360	61
78.00	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	22.08	810	1440
	Totals	48	26597	1011.4									24912	31917

Discrete Appurtenance Properties 0.9D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
100.0	Alcatel-Lucent	6	53	1.7	1.3	13.0	9.8	1.00	0.50	18.0	3103.2	24.86	172	286
100.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	1.00	0.67	18.0	2837.5	24.86	158	162
100.0	Decibel DB205	1	38	3.9	18.0	3.0	3.0	1.00	1.00	20.0	2629.1	24.98	131	34
100.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	1.00	0.67	18.0	4953.3	24.86	275	189
100.0	Decibel DB638	1	40	4.8	16.1	3.0	3.0	1.00	1.00	20.0	3281.2	24.98	164	36
100.0	RFS APXVTM14-ALU-	3	56	6.3	4.7	12.6	6.3	1.00	0.66	18.0	7638.4	24.86	424	152
100.0	Commscope NNVV-	3	77	12.3	6.0	19.6	7.8	1.00	0.64	18.0	14334.8	24.86	796	209
100.0	20' Platform w/	1	9000	80.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	23.71	2579	8100
100.0	12' Horn	4	2500	165.7	12.0	12.0	1.0	1.00	0.75	15.0	250169.	24.67	16678	9000
88.00	Scala PR-900	1	38	10.1	5.7	36.0	6.0	1.00	1.00	0.0	0.0	22.86	314	34
82.80	Access Platform	1	5000	45.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	22.46	1375	4500
78.00	RFS FD9R6004/2C-3L	6	3	0.4	0.5	6.5	1.5	0.80	0.50	0.0	0.0	22.08	26	17
78.00	Antel BXA-171085-	3	11	2.9	4.0	6.1	4.1	0.80	0.71	0.0	0.0	22.08	150	28
78.00	Antel LPA-80080-	6	12	5.4	3.9	5.5	13.2	0.80	0.64	0.0	0.0	22.08	498	65
78.00	Antel BXA-70063-	3	17	7.6	5.9	11.2	5.2	0.80	0.66	0.0	0.0	22.08	360	46
78.00	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	22.08	810	1080
	Totals	48	26597	1011.4									24912	23938

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
100.0	Alcatel-Lucent	6	121	2.2	1.3	13.0	9.8	1.00	0.50	18.0	575.1	5.64	32	787
100.0	Alcatel-Lucent 1900	3	150	3.0	2.1	11.1	10.7	1.00	0.67	18.0	513.2	5.64	29	486
100.0	Decibel DB205	1	63	6.5	18.0	3.0	3.0	1.00	1.00	20.0	621.3	5.66	31	71
100.0	Alcatel-Lucent TD-	3	378	30.0	2.2	18.6	6.7	1.00	0.67	18.0	5201.2	5.64	289	1176
100.0	Decibel DB638	1	67	8.1	16.1	3.0	3.0	1.00	1.00	20.0	775.4	5.66	39	75
100.0	RFS APXVTM14-ALU-	3	208	7.4	4.7	12.6	6.3	1.00	0.66	18.0	1263.3	5.64	70	658

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Customer: SPRINT NEXTEL

Tower Loading

100.0	Commscope NNVV-	3	344	13.7	6.0	19.6	7.8	1.00	0.64	18.0	2265.0	5.64	126	1080
100.0	20' Platform w/	1	15007	133.4	0.0	0.0	0.0	1.00	1.00	0.0	0.0	5.38	610	16807
100.0	12' Horn	4	4169	276.2	12.0	12.0	1.0	1.00	0.75	15.0	59117.7	5.59	3941	18674
88.00	Scala PR-900	1	63	16.8	5.7	36.0	6.0	1.00	1.00	0.0	0.0	5.18	74	71
82.80	Access Platform	1	8268	74.4	0.0	0.0	0.0	1.00	1.00	0.0	0.0	5.09	322	9268
78.00	RFS FD9R6004/2C-3L	6	15	0.6	0.5	6.5	1.5	0.80	0.50	0.0	0.0	5.01	6	93
78.00	Antel BXA-171085-	3	87	3.7	4.0	6.1	4.1	0.80	0.71	0.0	0.0	5.01	27	267
78.00	Antel LPA-80080-	6	137	3.4	3.9	5.5	13.2	0.80	0.64	0.0	0.0	5.01	44	837
78.00	Antel BXA-70063-	3	178	8.7	5.9	11.2	5.2	0.80	0.66	0.0	0.0	5.01	59	544
78.00	Flat Light Sector	3	682	32.1	0.0	0.0	0.0	0.75	0.67	0.0	0.0	5.01	206	2287
	Totals	48	47861	1676.9									5904	53180

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
100.0	Alcatel-Lucent	6	53	1.7	1.3	13.0	9.8	1.00	0.50	18.0	633.3	8.12	35	317
100.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	1.00	0.67	18.0	579.1	8.12	32	180
100.0	Decibel DB205	1	38	3.9	18.0	3.0	3.0	1.00	1.00	20.0	536.5	8.16	27	38
100.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	1.00	0.67	18.0	1010.9	8.12	56	210
100.0	Decibel DB638	1	40	4.8	16.1	3.0	3.0	1.00	1.00	20.0	669.6	8.16	33	40
100.0	RFS APXVTM14-ALU-	3	56	6.3	4.7	12.6	6.3	1.00	0.66	18.0	1558.8	8.12	87	169
100.0	Commscope NNVV-	3	77	12.3	6.0	19.6	7.8	1.00	0.64	18.0	2925.5	8.12	163	232
100.0	20' Platform w/	1	9000	80.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.74	526	9000
100.0	12' Horn	4	2500	165.7	12.0	12.0	1.0	1.00	0.75	15.0	51054.9	8.06	3404	10000
88.00	Scala PR-900	1	38	10.1	5.7	36.0	6.0	1.00	1.00	0.0	0.0	7.46	64	38
82.80	Access Platform	1	5000	45.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.33	281	5000
78.00	RFS FD9R6004/2C-3L	6	3	0.4	0.5	6.5	1.5	0.80	0.50	0.0	0.0	7.21	5	19
78.00	Antel BXA-171085-	3	11	2.9	4.0	6.1	4.1	0.80	0.71	0.0	0.0	7.21	31	32
78.00	Antel LPA-80080-	6	12	5.4	3.9	5.5	13.2	0.80	0.64	0.0	0.0	7.21	102	72
78.00	Antel BXA-70063-	3	17	7.6	5.9	11.2	5.2	0.80	0.66	0.0	0.0	7.21	73	51
78.00	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.21	165	1200
	Totals	48	26597	1011.4									5084	26597

Tower Loading

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
10.00	100.0	1 1/4" Hybriflex	4	1.54	1.00	50	Lin App	Block	0.00	N	1.00	1.00	0.00
10.00	100.0	1 5/8" Coax	6	1.98	0.82	50	Lin App	Block	0.00	N	1.00	1.00	0.00
10.00	100.0	7/8" Coax	2	1.09	0.33	0	1	Individual	0.00	N	1.00	1.00	0.00
10.00	100.0	Climbing Ladder	1	2.00	6.90	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
10.00	100.0	Waveguide	1	2.00	6.00	0	1	Individual	0.00	N	1.00	1.00	0.00
10.00	92.00	Wave Guide	1	2.00	6.00	0	2	Individual	0.00	N	1.00	1.00	0.00
10.00	88.00	7/8" Coax	2	1.09	0.33	0	1	Individual	0.00	N	1.00	1.00	0.00
10.00	82.00	Wave Guide	1	3.00	6.00	0	1	Individual	0.00	N	1.00	1.00	0.00
10.00	78.00	1 5/8" Coax	12	1.98	0.82	50	1	Block	0.00	N	1.00	1.00	0.00
10.00	30.00	Coax Cage	4	12.0	25.0	0	1,3	Individual	0.00	N	1.00	1.00	0.00

Site Number: 88016 Code: ANSI/TIA-222-G

Site Name: Old Lyme, CT Engineering Number: OAA710388_C3_03 3/15/2018 4:27:14 PM

Customer: SPRINT NEXTEL

Equivalent Lateral Force Method

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

Spectral Response Acceleration for Short Period (S_s):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L - Seconds):	6
Importance Factor (I_e):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v:	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.18
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.06
Upper Limit C_s:	0.08
Lower Limit C_s:	0.03
Period based on Rayleigh Method (sec):	0.40
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.00
Total Unfactored Dead Load:	56.68 k
Seismic Base Shear (E):	4.35 k

LoadCase (1.2 + 0.2Sds) * DL + E Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
8	95.70	1,596	152,725	0.040	174	1,971
7	87.12	1,475	128,493	0.034	147	1,822
6	77.75	2,310	179,582	0.047	205	2,854
5	67.58	2,258	152,587	0.040	174	2,789
4	56.25	3,633	204,335	0.054	233	4,488
3	43.75	4,057	177,472	0.047	203	5,011
2	28.13	7,180	201,950	0.053	230	8,871
1	9.38	7,579	71,056	0.019	81	9,364
Alcatel-Lucent RRH2x50-08	100.00	317	31,740	0.008	36	392
Alcatel-Lucent 1900 MHz 4X45 RRH	100.00	180	18,000	0.005	21	222
Decibel DB205	100.00	38	3,800	0.001	4	47
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	100.00	210	21,000	0.006	24	259
Decibel DB638	100.00	40	4,000	0.001	5	49
RFS APXVTM14-ALU-I20	100.00	169	16,860	0.004	19	208
Commscope NNVV-65B-R4	100.00	232	23,220	0.006	26	287
20' Platform w/ Handrails	100.00	9,000	900,000	0.236	1,027	11,119
12' Horn	100.00	10,000	1,000,00	0.262	1,141	12,354
Scala PR-900	88.00	38	3,344	0.001	4	47
Access Platform	82.80	5,000	413,999	0.109	472	6,177
RFS FD9R6004/2C-3L (3.1 lbs)	78.00	19	1,451	0.000	2	23
Antel BXA-171085-8BF-EDIN-X	78.00	32	2,457	0.001	3	39
Antel LPA-80080-4CF-EDIN-0	78.00	72	5,616	0.001	6	89
Antel BXA-70063-6CF-EDIN-X	78.00	51	3,978	0.001	5	63

Equivalent Lateral Force Method

Flat Light Sector Frame	78.00	1,200	93,600	0.025	107	1,482
		56,685	3,811,266	1.000	4,349	70,029

LoadCase (0.9 - 0.2Sds) * DL + E — Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
8	95.70	1,596	152,725	0.040	174	1,380
7	87.12	1,475	128,493	0.034	147	1,275
6	77.75	2,310	179,583	0.047	205	1,997
5	67.58	2,258	152,587	0.040	174	1,952
4	56.25	3,633	204,335	0.054	233	3,141
3	43.75	4,057	177,472	0.047	203	3,507
2	28.13	7,180	201,950	0.053	230	6,208
1	9.38	7,579	71,056	0.019	81	6,553
Alcatel-Lucent RRH2x50-08	100.00	317	31,740	0.008	36	274
Alcatel-Lucent 1900 MHz 4X45 RRH	100.00	180	18,000	0.005	21	156
Decibel DB205	100.00	38	3,800	0.001	4	33
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	100.00	210	21,000	0.006	24	182
Decibel DB638	100.00	40	4,000	0.001	5	35
RFS APXVTM14-ALU-I20	100.00	169	16,860	0.004	19	146
Commscope NNVV-65B-R4	100.00	232	23,220	0.006	26	201
20' Platform w/ Handrails	100.00	9,000	900,000	0.236	1,027	7,781
12' Horn	100.00	10,000	1,000,00	0.262	1,141	8,646
Scala PR-900	88.00	38	3,344	0.001	4	33
Access Platform	82.80	5,000	413,999	0.109	472	4,323
RFS FD9R6004/2C-3L (3.1 lbs)	78.00	19	1,451	0.000	2	16
Antel BXA-171085-8BF-EDIN-X	78.00	32	2,457	0.001	3	27
Antel LPA-80080-4CF-EDIN-0	78.00	72	5,616	0.001	6	62
Antel BXA-70063-6CF-EDIN-X	78.00	51	3,978	0.001	5	44
Flat Light Sector Frame	78.00	1,200	93,600	0.025	107	1,038
		56,685	3,811,266	1.000	4,349	49,009

Equivalent Modal Analysis Method

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

Spectral Response Acceleration for Short Period (S_s):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_e):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v:	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.18
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Period Based on Rayleigh Method (sec):	0.40
Redundancy Factor (p):	1.30

LoadCase (1.2 + 0.2Sds) * DL + E — Seismic

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S_{az}	Horizontal Force (lb)	Vertical Force (lb)
8	95.70	1,596	1.731	1.244	0.863	0.386	267	1,971
7	87.12	1,475	1.435	0.352	0.468	0.261	167	1,822
6	77.75	2,310	1.142	-0.043	0.214	0.177	177	2,854
5	67.58	2,258	0.863	-0.120	0.074	0.127	124	2,789
4	56.25	3,633	0.598	-0.052	0.014	0.096	151	4,488
3	43.75	4,057	0.362	0.030	0.008	0.069	121	5,011
2	28.13	7,180	0.150	0.068	0.030	0.038	118	8,871
1	9.38	7,579	0.017	0.062	0.036	0.014	45	9,364
Alcatel-Lucent RRH2x50-08	100.00	317	1.890	1.980	1.140	0.468	64	392
Alcatel-Lucent 1900 MHz 4X45	100.00	180	1.890	1.980	1.140	0.468	37	222
Decibel DB205	100.00	38	1.890	1.980	1.140	0.468	8	47
Alcatel-Lucent TD-RRH8x20-25	100.00	210	1.890	1.980	1.140	0.468	43	259
Decibel DB638	100.00	40	1.890	1.980	1.140	0.468	8	49
RFS APXVTM14-ALU-I20	100.00	169	1.890	1.980	1.140	0.468	34	208
Commscope NNVV-65B-R4	100.00	232	1.890	1.980	1.140	0.468	47	287
20' Platform w/ Handrails	100.00	9,000	1.890	1.980	1.140	0.468	1,827	11,119
12' Horn	100.00	10,000	1.890	1.980	1.140	0.468	2,030	12,354
Scala PR-900	88.00	38	1.464	0.415	0.501	0.272	4	47
Access Platform	82.80	5,000	1.296	0.115	0.332	0.216	469	6,177
RFS FD9R6004/2C-3L (3.1 lbs)	78.00	19	1.150	-0.037	0.219	0.178	1	23
Antel BXA-171085-8BF-EDIN-X	78.00	32	1.150	-0.037	0.219	0.178	2	39
Antel LPA-80080-4CF-EDIN-0	78.00	72	1.150	-0.037	0.219	0.178	6	89
Antel BXA-70063-6CF-EDIN-X	78.00	51	1.150	-0.037	0.219	0.178	4	63
Flat Light Sector Frame	78.00	1,200	1.150	-0.037	0.219	0.178	93	1,482
		56,685	31.816	19.703	13.897	6.763	5,847	70,029

LoadCase (0.9 - 0.2Sds) * DL + E — Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S_{az}	Horizontal Force (lb)	Vertical Force (lb)
8	95.70	1,596	1.731	1.244	0.863	0.386	267	1,380
7	87.12	1,475	1.435	0.352	0.468	0.261	167	1,275
6	77.75	2,310	1.142	-0.043	0.214	0.177	177	1,997
5	67.58	2,258	0.863	-0.120	0.074	0.127	124	1,952
4	56.25	3,633	0.598	-0.052	0.014	0.096	151	3,141
3	43.75	4,057	0.362	0.030	0.008	0.069	121	3,507

Equivalent Modal Analysis Method

2	28.13	7,180	0.150	0.068	0.030	0.038	118	6,208
1	9.38	7,579	0.017	0.062	0.036	0.014	45	6,553
Alcatel-Lucent RRH2x50-08	100.00	317	1.890	1.980	1.140	0.468	64	274
Alcatel-Lucent 1900 MHz 4X45	100.00	180	1.890	1.980	1.140	0.468	37	156
Decibel DB205	100.00	38	1.890	1.980	1.140	0.468	8	33
Alcatel-Lucent TD-RRH8x20-25	100.00	210	1.890	1.980	1.140	0.468	43	182
Decibel DB638	100.00	40	1.890	1.980	1.140	0.468	8	35
RFS APXVTM14-ALU-I20	100.00	169	1.890	1.980	1.140	0.468	34	146
Commscope NNVV-65B-R4	100.00	232	1.890	1.980	1.140	0.468	47	201
20' Platform w/ Handrails	100.00	9,000	1.890	1.980	1.140	0.468	1,827	7,781
12' Horn	100.00	10,000	1.890	1.980	1.140	0.468	2,030	8,646
Scala PR-900	88.00	38	1.464	0.415	0.501	0.272	4	33
Access Platform	82.80	5,000	1.296	0.115	0.332	0.216	469	4,323
RFS FD9R6004/2C-3L (3.1 lbs)	78.00	19	1.150	-0.037	0.219	0.178	1	16
Antel BXA-171085-8BF-EDIN-X	78.00	32	1.150	-0.037	0.219	0.178	2	27
Antel LPA-80080-4CF-EDIN-0	78.00	72	1.150	-0.037	0.219	0.178	6	62
Antel BXA-70063-6CF-EDIN-X	78.00	51	1.150	-0.037	0.219	0.178	4	44
Flat Light Sector Frame	78.00	1,200	1.150	-0.037	0.219	0.178	93	1,038
		56,685	31.816	19.703	13.897	6.763	5,847	49,009

Force/Stress Summary

Section: 1 Section 1 (Base) Bot Elev (ft): 0.00 Height (ft): 18.750

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG SAE - 8X8X0.625	-115.07	1.2D + 1.6W 45	18.86	33	33	33	47.3	36.0	276.82	0	0	0.00	0.00	41	Member Z
HORIZ DAE - 2.5X2.5X0.25	-7.32	1.2D + 1.6W 90	10.69	100	100	25	148.8	36.0	24.27	0	0	0.00	0.00	30	Member X
DIAG DAS - 3X2.5X0.25	-15.19	1.2D + 1.6W 90	22.37	32	64	16	143.7	36.0	28.75	0	0	0.00	0.00	52	Member Y

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG SAE - 8X8X0.625	96.65	0.9D + 1.6W 45	36	58	311.36	0	0	0.00	0.00		31	Member
HORIZ DAE - 2.5X2.5X0.25	7.71	1.2D + 1.6W 90	36	58	77.11	0	0	0.00	0.00	0.00	10	Member
DIAG DAS - 3X2.5X0.25	14.22	1.2D + 1.6W 90	36	58	85.21	0	0	0.00	0.00	0.00	16	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	96.02	0.9D + 1.6W 135	0.00	0	0	
Top Compression	114.36	1.2D + 1.6W 135	0.00	0		
Bot Tension	113.76	0.9D + 1.6W 135	463.68	25	4	2" A36
Bot Compression	134.07	1.2D + 1.6W 135	0.00	0		

Section: 2 Section 2 Bot Elev (ft): 18.75 Height (ft): 18.750

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG SAE - 6X6X0.625	-91.94	1.2D + 1.6W 45	18.86	33	33	33	63.3	36.0	186.57	0	0	0.00	0.00	49	Member Z
HORIZ DAE - 2.5X2.5X0.25	-7.37	1.2D + 1.6W 90	9.265	100	100	25	135.1	36.0	29.45	0	0	0.00	0.00	25	Member X
DIAG DAE - 2.5X2.5X0.25	-17.22	1.2D + 1.6W 90	21.63	32	34	16	112.5	36.0	39.60	0	0	0.00	0.00	43	Member Y

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG SAE - 6X6X0.625	79.88	0.9D + 1.6W 45	36	58	230.36	0	0	0.00	0.00		34	Member
HORIZ DAE - 2.5X2.5X0.25	7.59	1.2D + 1.6W 90	36	58	77.11	0	0	0.00	0.00	0.00	9	Member
DIAG DAE - 2.5X2.5X0.25	15.90	1.2D + 1.6W 90	36	58	77.11	0	0	0.00	0.00	0.00	20	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	79.38	0.9D + 1.6W 135	0.00	0	0	
Top Compression	91.16	1.2D + 1.6W 135	0.00	0		
Bot Tension	96.02	0.9D + 1.6W 135	0.00	0		
Bot Compression	114.36	1.2D + 1.6W 135	0.00	0		

Force/Stress Summary

Section: 3 Section 3 Bot Elev (ft): 37.50 Height (ft): 12.500

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG SAE - 6X6X0.5625	-72.91	1.2D + 1.6W 45	12.57	50	50	50	63.9	36.0	168.00	0	0	0.00	0.00	43	Member Z
HORIZ DAE - 2.5X2.5X0.25	-7.04	1.2D + 1.6W 90	8.312	100	100	25	126.0	36.0	33.44	0	0	0.00	0.00	21	Member X
DIAG DAL - 2.5X2X0.25	-13.09	1.2D + 1.6W 90	15.58	48	96	12	172.6	36.0	16.15	0	0	0.00	0.00	81	Member Y

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG SAE - 6X6X0.5625	71.06	0.9D + 1.6W 45	36	58	208.33	0	0	0.00	0.00		34	Member
HORIZ DAE - 2.5X2.5X0.25	7.06	1.2D + 1.6W 45	36	58	77.11	0	0	0.00	0.00	0.00	9	Member
DIAG DAL - 2.5X2X0.25	12.43	0.9D + 1.6W 90	36	58	69.01	0	0	0.00	0.00	0.00	18	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	70.69	0.9D + 1.6W 135	0.00	0	0	
Top Compression	72.12	1.2D + 1.6W 135	0.00	0		
Bot Tension	79.38	0.9D + 1.6W 135	0.00	0		
Bot Compression	91.16	1.2D + 1.6W 135	0.00	0		

Section: 4 Section 4 Bot Elev (ft): 50.00 Height (ft): 12.500

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG SAE - 6X6X0.4375	-58.97	1.2D + 1.6W	12.57	50	50	50	63.4	36.0	132.69	0	0	0.00	0.00	44	Member Z
HORIZ DAE - 2.5X2.5X0.25	-7.44	1.2D + 1.6W 45	7.359	100	100	25	114.8	36.0	38.51	0	0	0.00	0.00	19	Member X
DIAG DAL - 2.5X2X0.25	-14.00	1.2D + 1.6W 90	15.04	48	97	13	170.6	36.0	16.54	0	0	0.00	0.00	84	Member Y

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG SAE - 6X6X0.4375	62.76	0.9D + 1.6W 45	36	58	163.94	0	0	0.00	0.00		38	Member
HORIZ DAE - 2.5X2.5X0.25	7.68	1.2D + 1.6W 90	36	58	77.11	0	0	0.00	0.00	0.00	9	Member
DIAG DAL - 2.5X2X0.25	13.17	1.2D + 1.6W 45	36	58	69.01	0	0	0.00	0.00	0.00	19	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	61.83	0.9D + 1.6W 135	0.00	0	0	
Top Compression	58.43	1.2D + 1.6W 180	0.00	0		
Bot Tension	70.69	0.9D + 1.6W 135	0.00	0		
Bot Compression	72.12	1.2D + 1.6W 135	0.00	0		

Force/Stress Summary

Section: 5 Section 5 Bot Elev (ft): 62.50 Height (ft): 10.165

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG SAE - 5X5X0.4375	-51.64	1.2D + 1.6W	10.22	50	50	50	62.2	36.0	110.47	0	0	0.00	0.00	46	Member Z
HORIZ SAU - 3X2.5X0.25	-4.16	0.9D + 1.6W	13.16	92	92	92	215.5	36.0	6.37	0	0	0.00	0.00	65	Member Z
DIAG SAE - 3.5X3.5X0.25	-9.79	1.2D + 1.6W 90	17.27	49	49	49	147.6	36.0	17.52	0	0	0.00	0.00	55	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG SAE - 5X5X0.4375	53.38	0.9D + 1.6W 45	36	58	135.43	0	0	0.00	0.00		39	Member
HORIZ SAU - 3X2.5X0.25	6.17	1.2D + 1.6W	36	58	42.44	0	0	0.00	0.00	0.00	14	Member
DIAG SAE - 3.5X3.5X0.25	9.41	1.2D + 1.6W 45	36	58	54.76	0	0	0.00	0.00	0.00	17	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	46.03	0.9D + 1.6W 135	0.00	0	0	
Top Compression	49.93	1.2D + 1.6W 180	0.00	0		
Bot Tension	61.83	0.9D + 1.6W 135	0.00	0		
Bot Compression	58.43	1.2D + 1.6W 180	0.00	0		

Section: 6 Section 6 Bot Elev (ft): 72.66 Height (ft): 10.165

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG SAE - 5X5X0.4375	-42.05	1.2D + 1.6W	10.22	50	50	50	62.2	36.0	110.47	0	0	0.00	0.00	38	Member Z
HORIZ DAL - 3X2.5X0.25	-2.83	0.9D + 1.6W	11.61	93	93	47	169.0	36.0	20.80	0	0	0.00	0.00	13	Member Y
DIAG SAE - 3.5X3.5X0.25	-9.56	1.2D + 1.6W 90	16.04	48	48	48	134.3	36.0	21.15	0	0	0.00	0.00	45	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG SAE - 5X5X0.4375	36.91	0.9D + 1.6W 45	36	58	135.43	0	0	0.00	0.00		27	Member
HORIZ DAL - 3X2.5X0.25	4.44	1.2D + 1.6W	36	58	85.21	0	0	0.00	0.00	0.00	5	Member
DIAG SAE - 3.5X3.5X0.25	9.02	1.2D + 1.6W 45	36	58	54.76	0	0	0.00	0.00	0.00	16	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	27.97	0.9D + 1.6W 135	0.00	0	0	
Top Compression	39.60	1.2D + 1.6W 180	0.00	0		
Bot Tension	46.03	0.9D + 1.6W 135	0.00	0		
Bot Compression	49.93	1.2D + 1.6W 180	0.00	0		

Force/Stress Summary

Section: 7 Section 7 Bot Elev (ft): 82.83 Height (ft): 8.583

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG SAE - 5X5X0.3125	-33.25	1.2D + 1.6W	8.63	50	50	50	52.1	35.9	84.87	0	0	0.00	0.00	39	Member Z
HORIZ SAU - 3X2.5X0.25	-4.86	0.9D + 1.6W	10.30	96	96	96	184.5	36.0	8.69	0	0	0.00	0.00	55	Member Z
DIAG SAE - 3X3X0.25	-11.43	1.2D + 1.6W 90	13.93	49	49	49	138.4	36.0	16.97	0	0	0.00	0.00	67	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG SAE - 5X5X0.3125	22.35	0.9D + 1.6W	36	58	98.17	0	0	0.00	0.00		22	Member
HORIZ SAU - 3X2.5X0.25	6.69	1.2D + 1.6W	36	58	42.44	0	0	0.00	0.00	0.00	15	Member
DIAG SAE - 3X3X0.25	10.45	1.2D + 1.6W 45	36	58	46.66	0	0	0.00	0.00	0.00	22	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	21.08	0.9D + 1.6W	0.00	0	0	
Top Compression	35.25	1.2D + 1.6W 135	0.00	0		
Bot Tension	27.97	0.9D + 1.6W 135	0.00	0		
Bot Compression	39.60	1.2D + 1.6W 180	0.00	0		

Section: 8 Section 8 Bot Elev (ft): 91.41 Height (ft): 8.583

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG SAE - 5X5X0.3125	-21.72	1.2D + 1.6W 45	8.63	50	50	50	52.1	35.9	84.87	0	0	0.00	0.00	25	Member Z
HORIZ CHN - C8 x 11.5	-2.56	0.9D + 1.6W 90	9.000	100	100	100	172.8	36.0	25.57	0	0	0.00	0.00	10	Member Y
DIAG SAE - 3X3X0.25	-16.91	1.2D + 1.6W	12.93	50	50	50	131.1	36.0	18.88	0	0	0.00	0.00		Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG SAE - 5X5X0.3125	10.27	0.9D + 1.6W	36	58	98.17	0	0	0.00	0.00		10	Member
HORIZ CHN - C8 x 11.5	2.78	1.2D + 1.6W 90	36	58	109.51	0	0	0.00	0.00	0.00	2	Member
DIAG SAE - 3X3X0.25	15.50	0.9D + 1.6W	36	58	46.66	0	0	0.00	0.00	0.00	33	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	1.84	0.9D + 1.6W 135	0.00	0	0	
Top Compression	12.90	1.2D + 1.6W 315	0.00	0		
Bot Tension	21.08	0.9D + 1.6W	0.00	0		
Bot Compression	35.25	1.2D + 1.6W 135	0.00	0		

Detailed Reactions

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal	**17.15**	**00.00**	**45**	**1**	**-8.16**	**105.36**	**-14.77**	
	17.15	**00.00**	**135**	**1a**	**5.25**	**-71.24**	**-11.92**	
	17.15	**00.00**	**225**	**1b**	**-5.28**	**-71.31**	**-11.90**	
	17.15	**00.00**	**315**	**1c**	**8.19**	**105.20**	**-14.73**	
1.2D + 1.6W 45 deg	**17.15**	**00.00**	**45**	**1**	**-15.84**	**133.15**	**-15.23**	
	17.15	**00.00**	**135**	**1a**	**-6.63**	**12.88**	**-3.83**	
	17.15	**00.00**	**225**	**1b**	**-13.55**	**-107.56**	**-12.89**	
	17.15	**00.00**	**315**	**1c**	**-3.16**	**29.56**	**-7.24**	
1.2D + 1.6W 90 deg	**17.15**	**00.00**	**45**	**1**	**-14.73**	**93.37**	**-7.29**	
	17.15	**00.00**	**135**	**1a**	**-14.77**	**93.51**	**7.26**	
	17.15	**00.00**	**225**	**1b**	**-11.92**	**-59.39**	**-4.34**	
	17.15	**00.00**	**315**	**1c**	**-11.90**	**-59.47**	**4.38**	
1.2D + 1.6W 135 deg	**17.15**	**00.00**	**45**	**1**	**-6.60**	**12.74**	**3.81**	
	17.15	**00.00**	**135**	**1a**	**-15.87**	**133.29**	**15.21**	
	17.15	**00.00**	**225**	**1b**	**-3.18**	**29.65**	**7.26**	
	17.15	**00.00**	**315**	**1c**	**-13.54**	**-107.66**	**12.91**	
1.2D + 1.6W 180 deg	**17.15**	**00.00**	**45**	**1**	**5.26**	**-71.35**	**11.92**	
	17.15	**00.00**	**135**	**1a**	**-8.17**	**105.47**	**14.77**	
	17.15	**00.00**	**225**	**1b**	**8.20**	**105.32**	**14.73**	
	17.15	**00.00**	**315**	**1c**	**-5.29**	**-71.43**	**11.90**	
1.2D + 1.6W 225 deg	**17.15**	**00.00**	**45**	**1**	**13.52**	**-107.56**	**12.92**	
	17.15	**00.00**	**135**	**1a**	**3.20**	**29.79**	**7.29**	
	17.15	**00.00**	**225**	**1b**	**15.89**	**133.15**	**15.17**	
	17.15	**00.00**	**315**	**1c**	**6.57**	**12.64**	**3.79**	
1.2D + 1.6W 270 deg	**17.15**	**00.00**	**45**	**1**	**11.90**	**-59.35**	**4.37**	
	17.15	**00.00**	**135**	**1a**	**11.92**	**-59.28**	**-4.34**	
	17.15	**00.00**	**225**	**1b**	**14.77**	**93.41**	**7.25**	
	17.15	**00.00**	**315**	**1c**	**14.73**	**93.24**	**-7.28**	
1.2D + 1.6W 315 deg	**17.15**	**00.00**	**45**	**1**	**3.18**	**29.71**	**-7.27**	
	17.15	**00.00**	**135**	**1a**	**13.53**	**-107.48**	**-12.90**	
	17.15	**00.00**	**225**	**1b**	**6.61**	**12.79**	**-3.81**	
	17.15	**00.00**	**315**	**1c**	**15.86**	**133.00**	**-15.19**	
0.9D + 1.6W Normal	**17.15**	**00.00**	**45**	**1**	**-7.80**	**101.07**	**-14.41**	
	17.15	**00.00**	**135**	**1a**	**5.61**	**-75.48**	**-12.29**	
	17.15	**00.00**	**225**	**1b**	**-5.64**	**-75.52**	**-12.26**	
	17.15	**00.00**	**315**	**1c**	**7.83**	**100.94**	**-14.37**	
0.9D + 1.6W 45 deg	**17.15**	**00.00**	**45**	**1**	**-15.47**	**128.86**	**-14.86**	
	17.15	**00.00**	**135**	**1a**	**-6.27**	**8.60**	**-4.19**	
	17.15	**00.00**	**225**	**1b**	**-13.92**	**-111.77**	**-13.25**	
	17.15	**00.00**	**315**	**1c**	**-3.52**	**25.33**	**-6.88**	
0.9D + 1.6W 90 deg	**17.15**	**00.00**	**45**	**1**	**-14.37**	**89.09**	**-6.92**	
	17.15	**00.00**	**135**	**1a**	**-14.41**	**89.21**	**6.89**	
	17.15	**00.00**	**225**	**1b**	**-12.29**	**-63.61**	**-4.71**	
	17.15	**00.00**	**315**	**1c**	**-12.26**	**-63.66**	**4.74**	
0.9D + 1.6W 135 deg	**17.15**	**00.00**	**45**	**1**	**-6.23**	**8.49**	**4.17**	
	17.15	**00.00**	**135**	**1a**	**-15.50**	**128.96**	**14.84**	
	17.15	**00.00**	**225**	**1b**	**-3.54**	**25.39**	**6.90**	
	17.15	**00.00**	**315**	**1c**	**-13.90**	**-111.83**	**13.27**	

0.9D + 1.6W 180 deg	**17.15**	**00.00**	**45**	**1**	**5.62**	**-75.56**	**12.29**
	17.15	**00.00**	**135**	**1a**	**-7.80**	**101.16**	**14.41**
	17.15	**00.00**	**225**	**1b**	**7.83**	**101.03**	**14.37**
	17.15	**00.00**	**315**	**1c**	**-5.65**	**-75.61**	**12.26**
0.9D + 1.6W 225 deg	**17.15**	**00.00**	**45**	**1**	**13.88**	**-111.77**	**13.29**
	17.15	**00.00**	**135**	**1a**	**3.56**	**25.50**	**6.93**
	17.15	**00.00**	**225**	**1b**	**15.52**	**128.86**	**14.81**
	17.15	**00.00**	**315**	**1c**	**6.21**	**8.43**	**4.15**
0.9D + 1.6W 270 deg	**17.15**	**00.00**	**45**	**1**	**12.26**	**-63.57**	**4.73**
	17.15	**00.00**	**135**	**1a**	**12.29**	**-63.53**	**-4.70**
	17.15	**00.00**	**225**	**1b**	**14.41**	**89.13**	**6.88**
	17.15	**00.00**	**315**	**1c**	**14.37**	**88.99**	**-6.91**
0.9D + 1.6W 315 deg	**17.15**	**00.00**	**45**	**1**	**3.55**	**25.45**	**-6.91**
	17.15	**00.00**	**135**	**1a**	**13.90**	**-111.71**	**-13.27**
	17.15	**00.00**	**225**	**1b**	**6.24**	**8.55**	**-4.18**
	17.15	**00.00**	**315**	**1c**	**15.49**	**128.74**	**-14.83**
1.2D + 1.0Di + 1.0Wi Normal	**17.15**	**00.00**	**45**	**1**	**-4.43**	**54.29**	**-5.90**
	17.15	**00.00**	**135**	**1a**	**-1.29**	**13.12**	**-0.17**
	17.15	**00.00**	**225**	**1b**	**1.29**	**12.95**	**-0.18**
	17.15	**00.00**	**315**	**1c**	**4.43**	**54.08**	**-5.88**
1.2D + 1.0Di + 1.0Wi 45 deg	**17.15**	**00.00**	**45**	**1**	**-6.25**	**61.70**	**-6.12**
	17.15	**00.00**	**135**	**1a**	**-3.99**	**31.99**	**1.62**
	17.15	**00.00**	**225**	**1b**	**-0.58**	**5.01**	**-0.42**
	17.15	**00.00**	**315**	**1c**	**1.77**	**35.75**	**-4.12**
1.2D + 1.0Di + 1.0Wi 90 deg	**17.15**	**00.00**	**45**	**1**	**-5.88**	**51.36**	**-4.22**
	17.15	**00.00**	**135**	**1a**	**-5.90**	**51.54**	**4.22**
	17.15	**00.00**	**225**	**1b**	**-0.17**	**15.86**	**1.50**
	17.15	**00.00**	**315**	**1c**	**-0.18**	**15.68**	**-1.50**
1.2D + 1.0Di + 1.0Wi 135 deg	**17.15**	**00.00**	**45**	**1**	**-3.97**	**31.80**	**-1.63**
	17.15	**00.00**	**135**	**1a**	**-6.27**	**61.88**	**6.11**
	17.15	**00.00**	**225**	**1b**	**1.78**	**35.93**	**4.13**
	17.15	**00.00**	**315**	**1c**	**-0.58**	**4.82**	**0.43**
1.2D + 1.0Di + 1.0Wi 180 deg	**17.15**	**00.00**	**45**	**1**	**-1.28**	**12.94**	**0.17**
	17.15	**00.00**	**135**	**1a**	**-4.44**	**54.46**	**5.90**
	17.15	**00.00**	**225**	**1b**	**4.45**	**54.28**	**5.88**
	17.15	**00.00**	**315**	**1c**	**1.27**	**12.76**	**0.18**
1.2D + 1.0Di + 1.0Wi 225 deg	**17.15**	**00.00**	**45**	**1**	**0.58**	**5.01**	**0.42**
	17.15	**00.00**	**135**	**1a**	**-1.78**	**36.11**	**4.15**
	17.15	**00.00**	**225**	**1b**	**6.27**	**61.70**	**6.09**
	17.15	**00.00**	**315**	**1c**	**3.96**	**31.62**	**-1.62**
1.2D + 1.0Di + 1.0Wi 270 deg	**17.15**	**00.00**	**45**	**1**	**0.18**	**15.87**	**-1.51**
	17.15	**00.00**	**135**	**1a**	**0.17**	**16.04**	**1.52**
	17.15	**00.00**	**225**	**1b**	**5.90**	**51.37**	**4.20**
	17.15	**00.00**	**315**	**1c**	**5.88**	**51.17**	**-4.21**
1.2D + 1.0Di + 1.0Wi 315 deg	**17.15**	**00.00**	**45**	**1**	**-1.77**	**35.94**	**-4.14**
	17.15	**00.00**	**135**	**1a**	**0.57**	**5.18**	**-0.41**
	17.15	**00.00**	**225**	**1b**	**3.98**	**31.82**	**1.61**
	17.15	**00.00**	**315**	**1c**	**6.25**	**61.50**	**-6.09**
(1.2 + 0.2Sds) * DL + E Normal M1	**17.15**	**00.00**	**45**	**1**	**-1.25**	**13.46**	**-1.53**
	17.15	**00.00**	**135**	**1a**	**-0.80**	**7.52**	**0.52**
	17.15	**00.00**	**225**	**1b**	**0.80**	**7.52**	**0.52**
	17.15	**00.00**	**315**	**1c**	**1.25**	**13.46**	**-1.53**

(1.2 + 0.2Sds) * DL + E Normal M2	**17.15**	**00.00**	**45**	**1**	**-1.23**	**13.25**	**-1.45**
	17.15	**00.00**	**135**	**1a**	**-0.81**	**7.73**	**0.59**
	17.15	**00.00**	**225**	**1b**	**0.81**	**7.73**	**0.59**
	17.15	**00.00**	**315**	**1c**	**1.23**	**13.25**	**-1.45**
(1.2 + 0.2Sds) * DL + E 45 deg M1	**17.15**	**00.00**	**45**	**1**	**-1.53**	**14.65**	**-1.53**
	17.15	**00.00**	**135**	**1a**	**-1.22**	**10.49**	**0.83**
	17.15	**00.00**	**225**	**1b**	**0.51**	**6.33**	**0.51**
	17.15	**00.00**	**315**	**1c**	**0.83**	**10.49**	**-1.22**
(1.2 + 0.2Sds) * DL + E 45 deg M2	**17.15**	**00.00**	**45**	**1**	**-1.47**	**14.35**	**-1.47**
	17.15	**00.00**	**135**	**1a**	**-1.18**	**10.49**	**0.87**
	17.15	**00.00**	**225**	**1b**	**0.57**	**6.63**	**0.57**
	17.15	**00.00**	**315**	**1c**	**0.87**	**10.49**	**-1.18**
(1.2 + 0.2Sds) * DL + E 90 deg M1	**17.15**	**00.00**	**45**	**1**	**-1.53**	**13.46**	**-1.25**
	17.15	**00.00**	**135**	**1a**	**-1.53**	**13.46**	**1.25**
	17.15	**00.00**	**225**	**1b**	**0.52**	**7.52**	**0.80**
	17.15	**00.00**	**315**	**1c**	**0.52**	**7.52**	**-0.80**
(1.2 + 0.2Sds) * DL + E 90 deg M2	**17.15**	**00.00**	**45**	**1**	**-1.45**	**13.25**	**-1.23**
	17.15	**00.00**	**135**	**1a**	**-1.45**	**13.25**	**1.23**
	17.15	**00.00**	**225**	**1b**	**0.59**	**7.73**	**0.81**
	17.15	**00.00**	**315**	**1c**	**0.59**	**7.73**	**-0.81**
(1.2 + 0.2Sds) * DL + E 135 deg M1	**17.15**	**00.00**	**45**	**1**	**-1.22**	**10.49**	**-0.83**
	17.15	**00.00**	**135**	**1a**	**-1.53**	**14.65**	**1.53**
	17.15	**00.00**	**225**	**1b**	**0.83**	**10.49**	**1.22**
	17.15	**00.00**	**315**	**1c**	**0.51**	**6.33**	**-0.51**
(1.2 + 0.2Sds) * DL + E 135 deg M2	**17.15**	**00.00**	**45**	**1**	**-1.18**	**10.49**	**-0.87**
	17.15	**00.00**	**135**	**1a**	**-1.47**	**14.35**	**1.47**
	17.15	**00.00**	**225**	**1b**	**0.87**	**10.49**	**1.18**
	17.15	**00.00**	**315**	**1c**	**0.57**	**6.63**	**-0.57**
(1.2 + 0.2Sds) * DL + E 180 deg M1	**17.15**	**00.00**	**45**	**1**	**-0.80**	**7.52**	**-0.52**
	17.15	**00.00**	**135**	**1a**	**-1.25**	**13.46**	**1.53**
	17.15	**00.00**	**225**	**1b**	**1.25**	**13.46**	**1.53**
	17.15	**00.00**	**315**	**1c**	**0.80**	**7.52**	**-0.52**
(1.2 + 0.2Sds) * DL + E 180 deg M2	**17.15**	**00.00**	**45**	**1**	**-0.81**	**7.73**	**-0.59**
	17.15	**00.00**	**135**	**1a**	**-1.23**	**13.25**	**1.45**
	17.15	**00.00**	**225**	**1b**	**1.23**	**13.25**	**1.45**
	17.15	**00.00**	**315**	**1c**	**0.81**	**7.73**	**-0.59**
(1.2 + 0.2Sds) * DL + E 225 deg M1	**17.15**	**00.00**	**45**	**1**	**-0.51**	**6.33**	**-0.51**
	17.15	**00.00**	**135**	**1a**	**-0.83**	**10.49**	**1.22**
	17.15	**00.00**	**225**	**1b**	**1.53**	**14.65**	**1.53**
	17.15	**00.00**	**315**	**1c**	**1.22**	**10.49**	**-0.83**
(1.2 + 0.2Sds) * DL + E 225 deg M2	**17.15**	**00.00**	**45**	**1**	**-0.57**	**6.63**	**-0.57**
	17.15	**00.00**	**135**	**1a**	**-0.87**	**10.49**	**1.18**
	17.15	**00.00**	**225**	**1b**	**1.47**	**14.35**	**1.47**
	17.15	**00.00**	**315**	**1c**	**1.18**	**10.49**	**-0.87**
(1.2 + 0.2Sds) * DL + E 270 deg M1	**17.15**	**00.00**	**45**	**1**	**-0.52**	**7.52**	**-0.80**
	17.15	**00.00**	**135**	**1a**	**-0.52**	**7.52**	**0.80**
	17.15	**00.00**	**225**	**1b**	**1.53**	**13.46**	**1.25**
	17.15	**00.00**	**315**	**1c**	**1.53**	**13.46**	**-1.25**
(1.2 + 0.2Sds) * DL + E 270 deg M2	**17.15**	**00.00**	**45**	**1**	**-0.59**	**7.73**	**-0.81**
	17.15	**00.00**	**135**	**1a**	**-0.59**	**7.73**	**0.81**
	17.15	**00.00**	**225**	**1b**	**1.45**	**13.25**	**1.23**
	17.15	**00.00**	**315**	**1c**	**1.45**	**13.25**	**-1.23**
(1.2 + 0.2Sds) * DL + E 315 deg M1	**17.15**	**00.00**	**45**	**1**	**-0.83**	**10.49**	**-1.22**

	17.15	00.00	135	1a	-0.51	6.33	0.51
	17.15	00.00	225	1b	1.22	10.49	0.83
	17.15	00.00	315	1c	1.53	14.65	-1.53
(1.2 + 0.2Sds) * DL + E 315 deg M2	17.15	00.00	45	1	-0.87	10.49	-1.18
	17.15	00.00	135	1a	-0.57	6.63	0.57
	17.15	00.00	225	1b	1.18	10.49	0.87
	17.15	00.00	315	1c	1.47	14.35	-1.47
(0.9 - 0.2Sds) * DL + E Normal M1	17.15	00.00	45	1	-0.94	10.31	-1.22
	17.15	00.00	135	1a	-0.49	4.37	0.21
	17.15	00.00	225	1b	0.49	4.37	0.21
	17.15	00.00	315	1c	0.94	10.31	-1.22
(0.9 - 0.2Sds) * DL + E Normal M2	17.15	00.00	45	1	-0.93	10.10	-1.15
	17.15	00.00	135	1a	-0.51	4.59	0.28
	17.15	00.00	225	1b	0.51	4.59	0.28
	17.15	00.00	315	1c	0.93	10.10	-1.15
(0.9 - 0.2Sds) * DL + E 45 deg M1	17.15	00.00	45	1	-1.23	11.50	-1.23
	17.15	00.00	135	1a	-0.91	7.34	0.52
	17.15	00.00	225	1b	0.20	3.19	0.20
	17.15	00.00	315	1c	0.52	7.34	-0.91
(0.9 - 0.2Sds) * DL + E 45 deg M2	17.15	00.00	45	1	-1.16	11.20	-1.16
	17.15	00.00	135	1a	-0.87	7.34	0.56
	17.15	00.00	225	1b	0.27	3.48	0.27
	17.15	00.00	315	1c	0.56	7.34	-0.87
(0.9 - 0.2Sds) * DL + E 90 deg M1	17.15	00.00	45	1	-1.22	10.31	-0.94
	17.15	00.00	135	1a	-1.22	10.31	0.94
	17.15	00.00	225	1b	0.21	4.37	0.49
	17.15	00.00	315	1c	0.21	4.37	-0.49
(0.9 - 0.2Sds) * DL + E 90 deg M2	17.15	00.00	45	1	-1.15	10.10	-0.93
	17.15	00.00	135	1a	-1.15	10.10	0.93
	17.15	00.00	225	1b	0.28	4.59	0.51
	17.15	00.00	315	1c	0.28	4.59	-0.51
(0.9 - 0.2Sds) * DL + E 135 deg M1	17.15	00.00	45	1	-0.91	7.34	-0.52
	17.15	00.00	135	1a	-1.23	11.50	1.23
	17.15	00.00	225	1b	0.52	7.34	0.91
	17.15	00.00	315	1c	0.20	3.19	-0.20
(0.9 - 0.2Sds) * DL + E 135 deg M2	17.15	00.00	45	1	-0.87	7.34	-0.56
	17.15	00.00	135	1a	-1.16	11.20	1.16
	17.15	00.00	225	1b	0.56	7.34	0.87
	17.15	00.00	315	1c	0.27	3.48	-0.27
(0.9 - 0.2Sds) * DL + E 180 deg M1	17.15	00.00	45	1	-0.49	4.37	-0.21
	17.15	00.00	135	1a	-0.94	10.31	1.22
	17.15	00.00	225	1b	0.94	10.31	1.22
	17.15	00.00	315	1c	0.49	4.37	-0.21
(0.9 - 0.2Sds) * DL + E 180 deg M2	17.15	00.00	45	1	-0.51	4.59	-0.28
	17.15	00.00	135	1a	-0.93	10.10	1.15
	17.15	00.00	225	1b	0.93	10.10	1.15
	17.15	00.00	315	1c	0.51	4.59	-0.28
(0.9 - 0.2Sds) * DL + E 225 deg M1	17.15	00.00	45	1	-0.20	3.19	-0.20
	17.15	00.00	135	1a	-0.52	7.34	0.91
	17.15	00.00	225	1b	1.23	11.50	1.23
	17.15	00.00	315	1c	0.91	7.34	-0.52
(0.9 - 0.2Sds) * DL + E 225 deg M2	17.15	00.00	45	1	-0.27	3.48	-0.27
	17.15	00.00	135	1a	-0.56	7.34	0.87

	17.15	00.00	225	1b	1.16	11.20	1.16
	17.15	00.00	315	1c	0.87	7.34	-0.56
(0.9 - 0.2Sds) * DL + E 270 deg M1	17.15	00.00	45	1	-0.21	4.37	-0.49
	17.15	00.00	135	1a	-0.21	4.37	0.49
	17.15	00.00	225	1b	1.22	10.31	0.94
	17.15	00.00	315	1c	1.22	10.31	-0.94
(0.9 - 0.2Sds) * DL + E 270 deg M2	17.15	00.00	45	1	-0.28	4.59	-0.51
	17.15	00.00	135	1a	-0.28	4.59	0.51
	17.15	00.00	225	1b	1.15	10.10	0.93
	17.15	00.00	315	1c	1.15	10.10	-0.93
(0.9 - 0.2Sds) * DL + E 315 deg M1	17.15	00.00	45	1	-0.52	7.34	-0.91
	17.15	00.00	135	1a	-0.20	3.19	0.20
	17.15	00.00	225	1b	0.91	7.34	0.52
	17.15	00.00	315	1c	1.23	11.50	-1.23
(0.9 - 0.2Sds) * DL + E 315 deg M2	17.15	00.00	45	1	-0.56	7.34	-0.87
	17.15	00.00	135	1a	-0.27	3.48	0.27
	17.15	00.00	225	1b	0.87	7.34	0.56
	17.15	00.00	315	1c	1.16	11.20	-1.16
1.0D + 1.0W Service Normal	17.15	00.00	45	1	-2.58	32.20	-3.94
	17.15	00.00	135	1a	0.15	-3.76	-1.51
	17.15	00.00	225	1b	-0.16	-3.84	-1.51
	17.15	00.00	315	1c	2.58	32.09	-3.92
1.0D + 1.0W Service 45 deg	17.15	00.00	45	1	-4.19	38.55	-4.08
	17.15	00.00	135	1a	-2.23	12.72	0.09
	17.15	00.00	225	1b	-1.80	-10.57	-1.67
	17.15	00.00	315	1c	0.23	15.98	-2.35
1.0D + 1.0W Service 90 deg	17.15	00.00	45	1	-3.92	29.75	-2.41
	17.15	00.00	135	1a	-3.94	29.85	2.40
	17.15	00.00	225	1b	-1.51	-1.41	0.03
	17.15	00.00	315	1c	-1.51	-1.51	-0.02
1.0D + 1.0W Service 135 deg	17.15	00.00	45	1	-2.22	12.63	-0.10
	17.15	00.00	135	1a	-4.20	38.64	4.07
	17.15	00.00	225	1b	0.23	16.08	2.35
	17.15	00.00	315	1c	-1.80	-10.66	1.67
1.0D + 1.0W Service 180 deg	17.15	00.00	45	1	0.16	-3.85	1.51
	17.15	00.00	135	1a	-2.59	32.29	3.94
	17.15	00.00	225	1b	2.59	32.19	3.92
	17.15	00.00	315	1c	-0.17	-3.94	1.51
1.0D + 1.0W Service 225 deg	17.15	00.00	45	1	1.80	-10.57	1.67
	17.15	00.00	135	1a	-0.22	16.17	2.36
	17.15	00.00	225	1b	4.21	38.55	4.06
	17.15	00.00	315	1c	2.21	12.53	-0.09
1.0D + 1.0W Service 270 deg	17.15	00.00	45	1	1.51	-1.41	-0.03
	17.15	00.00	135	1a	1.51	-1.32	0.03
	17.15	00.00	225	1b	3.94	29.76	2.39
	17.15	00.00	315	1c	3.92	29.65	-2.40
1.0D + 1.0W Service 315 deg	17.15	00.00	45	1	-0.22	16.09	-2.36
	17.15	00.00	135	1a	1.80	-10.48	-1.67
	17.15	00.00	225	1b	2.23	12.64	0.09
	17.15	00.00	315	1c	4.20	38.44	-4.06

Site Number:	88016	Code:	ANSI/TIA-222-G		
Site Name:	Old Lyme, CT	Engineering Number:	OAA710388_C3_03		3/15/2018 4:27:15 PM
Customer:	SPRINT NEXTEL				

Max Uplift:	111.83 (kip)	Moment Ice:	1,006.74 (kip-ft)	Moment:	4,287.04 (kip-ft)	1.2D + 1.6W 180 deg
Max Down:	133.29 (kip)	Total Down Ice:	134.44 (kip)	Total Down:	68.02 (kip)	
Max Shear:	21.98 (kip)	Total Shear Ice:	12.14 (kip)	Total Shear:	53.33 (kip)	

Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
105 mph Normal to Face with No Ice	82.83	0.122	0.3020	0.6939	0.7572
105 mph Normal to Face with No Ice	91.41	0.150	0.5482	1.7794	1.8623
105 mph Normal to Face with No Ice	100.00	0.185	0.0460	7.8934	7.8935
105 mph 45 degree with No Ice	82.83	0.133	0.4257	0.6481	0.6686
105 mph 45 degree with No Ice	91.41	0.166	0.7727	2.2558	2.2558
105 mph 45 degree with No Ice	100.00	0.203	-0.0743	8.4100	8.4100
105 mph 90 degree with No Ice	82.83	0.100	0.3086	0.4038	0.5089
105 mph 90 degree with No Ice	91.41	0.118	0.5518	2.0869	2.1590
105 mph 90 degree with No Ice	100.00	0.130	-0.0545	7.4842	7.4843
105 mph 135 degree with No Ice	82.83	0.133	0.4143	0.6485	0.6696
105 mph 135 degree with No Ice	91.41	0.166	0.7409	2.2555	2.2555
105 mph 135 degree with No Ice	100.00	0.204	0.0730	8.4103	8.4103
105 mph 180 degree with No Ice	82.83	0.122	0.3032	0.6944	0.7577
105 mph 180 degree with No Ice	91.41	0.150	0.5498	1.7791	1.8621
105 mph 180 degree with No Ice	100.00	0.186	0.0479	7.8947	7.8948
105 mph 225 degree with No Ice	82.83	0.133	0.4273	0.6489	0.6704
105 mph 225 degree with No Ice	91.41	0.166	0.7748	2.2549	2.2549
105 mph 225 degree with No Ice	100.00	0.203	0.0493	8.4116	8.4116
105 mph 270 degree with No Ice	82.83	0.100	0.3097	0.4045	0.5094
105 mph 270 degree with No Ice	91.41	0.118	0.5531	2.0857	2.1578
105 mph 270 degree with No Ice	100.00	0.130	0.0545	7.4841	7.4843
105 mph 315 degree with No Ice	82.83	0.133	0.4144	0.6489	0.6696
105 mph 315 degree with No Ice	91.41	0.166	0.7411	2.2560	2.2560
105 mph 315 degree with No Ice	100.00	0.203	0.0730	8.4125	8.4125
105 mph Normal to Face with No Ice (Reduced DL)	82.83	0.122	0.3022	0.6937	0.7571
105 mph Normal to Face with No Ice (Reduced DL)	91.41	0.150	0.5484	1.7796	1.8624
105 mph Normal to Face with No Ice (Reduced DL)	100.00	0.185	0.0463	7.8930	7.8931
105 mph 45 deg with No Ice (Reduced DL)	82.83	0.133	0.4259	0.6483	0.6687
105 mph 45 deg with No Ice (Reduced DL)	91.41	0.166	0.7729	2.2558	2.2559
105 mph 45 deg with No Ice (Reduced DL)	100.00	0.203	-0.0748	8.4099	8.4099
105 mph 90 deg with No Ice (Reduced DL)	82.83	0.100	0.3088	0.4041	0.5092
105 mph 90 deg with No Ice (Reduced DL)	91.41	0.118	0.5520	2.0866	2.1587
105 mph 90 deg with No Ice (Reduced DL)	100.00	0.130	-0.0549	7.4845	7.4846
105 mph 135 deg with No Ice (Reduced DL)	82.83	0.133	0.4144	0.6486	0.6696
105 mph 135 deg with No Ice (Reduced DL)	91.41	0.166	0.7411	2.2556	2.2556
105 mph 135 deg with No Ice (Reduced DL)	100.00	0.203	0.0735	8.4098	8.4098
105 mph 180 deg with No Ice (Reduced DL)	82.83	0.122	0.3034	0.6941	0.7575
105 mph 180 deg with No Ice (Reduced DL)	91.41	0.150	0.5499	1.7793	1.8623
105 mph 180 deg with No Ice (Reduced DL)	100.00	0.186	0.0482	7.8940	7.8941
105 mph 225 deg with No Ice (Reduced DL)	82.83	0.133	0.4275	0.6489	0.6704
105 mph 225 deg with No Ice (Reduced DL)	91.41	0.166	0.7750	2.2552	2.2552
105 mph 225 deg with No Ice (Reduced DL)	100.00	0.203	0.0498	8.4111	8.4111
105 mph 270 deg with No Ice (Reduced DL)	82.83	0.100	0.3098	0.4046	0.5096
105 mph 270 deg with No Ice (Reduced DL)	91.41	0.118	0.5533	2.0857	2.1578
105 mph 270 deg with No Ice (Reduced DL)	100.00	0.130	0.0548	7.4845	7.4846
105 mph 315 deg with No Ice (Reduced DL)	82.83	0.133	0.4146	0.6490	0.6696
105 mph 315 deg with No Ice (Reduced DL)	91.41	0.166	0.7414	2.2561	2.2561
105 mph 315 deg with No Ice (Reduced DL)	100.00	0.203	0.0734	8.4121	8.4121
50 mph Normal with 0.75 in Radial Ice	82.83	0.030	0.0684	0.1660	0.1796
50 mph Normal with 0.75 in Radial Ice	91.41	0.036	0.1285	0.4247	0.4437
50 mph Normal with 0.75 in Radial Ice	100.00	0.044	0.0101	1.8780	1.8780
50 mph 45 deg with 0.75 in Radial Ice	82.83	0.030	0.0976	0.1494	0.1554
50 mph 45 deg with 0.75 in Radial Ice	91.41	0.035	0.1823	0.5448	0.5448
50 mph 45 deg with 0.75 in Radial Ice	100.00	0.042	-0.0151	2.0939	2.0939
50 mph 90 deg with 0.75 in Radial Ice	82.83	0.024	-0.0699	0.0964	0.1191

50 mph 90 deg with 0.75 in Radial Ice	91.41	0.028	0.1293	0.4998	0.5164
50 mph 90 deg with 0.75 in Radial Ice	100.00	0.032	-0.0106	1.7938	1.7938
50 mph 135 deg with 0.75 in Radial Ice	82.83	0.030	0.0971	0.1504	0.1562
50 mph 135 deg with 0.75 in Radial Ice	91.41	0.036	0.1806	0.5446	0.5446
50 mph 135 deg with 0.75 in Radial Ice	100.00	0.043	0.0148	2.0949	2.0949
50 mph 180 deg with 0.75 in Radial Ice	82.83	0.030	0.0686	0.1670	0.1804
50 mph 180 deg with 0.75 in Radial Ice	91.41	0.036	0.1289	0.4240	0.4431
50 mph 180 deg with 0.75 in Radial Ice	100.00	0.045	0.0106	1.8794	1.8794
50 mph 225 deg with 0.75 in Radial Ice	82.83	0.030	0.0979	0.1507	0.1567
50 mph 225 deg with 0.75 in Radial Ice	91.41	0.036	0.1828	0.5433	0.5433
50 mph 225 deg with 0.75 in Radial Ice	100.00	0.043	0.0137	2.0957	2.0957
50 mph 270 deg with 0.75 in Radial Ice	82.83	0.024	0.0701	0.0976	0.1200
50 mph 270 deg with 0.75 in Radial Ice	91.41	0.028	0.1296	0.4984	0.5149
50 mph 270 deg with 0.75 in Radial Ice	100.00	0.031	0.0106	1.7943	1.7944
50 mph 315 deg with 0.75 in Radial Ice	82.83	0.029	0.0971	0.1502	0.1559
50 mph 315 deg with 0.75 in Radial Ice	91.41	0.035	0.1807	0.5445	0.5445
50 mph 315 deg with 0.75 in Radial Ice	100.00	0.042	0.0148	2.0950	2.0950
Seismic Normal M1	82.83	0.004	0.0002	0.0042	0.0042
Seismic Normal M1	91.41	0.004	0.0001	0.0035	0.0035
Seismic Normal M1	100.00	0.005	0.0000	0.0036	0.0036
Seismic Normal M2	82.83	0.004	0.0002	0.0045	0.0045
Seismic Normal M2	91.41	0.004	0.0001	0.0039	0.0039
Seismic Normal M2	100.00	0.005	0.0000	0.0040	0.0040
Seismic 45 deg M1	82.83	0.004	0.0003	0.0043	0.0043
Seismic 45 deg M1	91.41	0.004	0.0001	0.0035	0.0035
Seismic 45 deg M1	100.00	0.005	0.0000	0.0036	0.0036
Seismic 45 deg M2	82.83	0.004	0.0003	0.0046	0.0046
Seismic 45 deg M2	91.41	0.004	0.0002	0.0039	0.0039
Seismic 45 deg M2	100.00	0.005	0.0000	0.0040	0.0040
Seismic 90 deg M1	82.83	0.004	0.0002	0.0042	0.0042
Seismic 90 deg M1	91.41	0.004	0.0001	0.0035	0.0035
Seismic 90 deg M1	100.00	0.005	0.0000	0.0036	0.0036
Seismic 90 deg M2	82.83	0.004	0.0002	0.0045	0.0045
Seismic 90 deg M2	91.41	0.004	0.0001	0.0039	0.0039
Seismic 90 deg M2	100.00	0.005	0.0000	0.0040	0.0040
Seismic 135 deg M1	82.83	0.004	0.0003	0.0043	0.0043
Seismic 135 deg M1	91.41	0.004	-0.0001	0.0035	0.0035
Seismic 135 deg M1	100.00	0.005	0.0000	0.0036	0.0036
Seismic 135 deg M2	82.83	0.004	-0.0003	0.0046	0.0046
Seismic 135 deg M2	91.41	0.004	0.0002	0.0039	0.0039
Seismic 135 deg M2	100.00	0.005	0.0000	0.0040	0.0040
Seismic 180 deg M1	82.83	0.004	0.0002	0.0042	0.0042
Seismic 180 deg M1	91.41	0.004	-0.0001	0.0035	0.0035
Seismic 180 deg M1	100.00	0.005	0.0000	0.0036	0.0036
Seismic 180 deg M2	82.83	0.004	0.0002	0.0045	0.0045
Seismic 180 deg M2	91.41	0.004	0.0001	0.0039	0.0039
Seismic 180 deg M2	100.00	0.005	0.0000	0.0040	0.0040
Seismic 225 deg M1	82.83	0.004	0.0003	0.0043	0.0043
Seismic 225 deg M1	91.41	0.004	0.0001	0.0035	0.0035
Seismic 225 deg M1	100.00	0.005	0.0000	0.0036	0.0036
Seismic 225 deg M2	82.83	0.004	0.0003	0.0046	0.0046
Seismic 225 deg M2	91.41	0.004	0.0002	0.0039	0.0039
Seismic 225 deg M2	100.00	0.005	0.0000	0.0040	0.0040
Seismic 270 deg M1	82.83	0.004	0.0002	0.0042	0.0042
Seismic 270 deg M1	91.41	0.004	0.0001	0.0035	0.0035
Seismic 270 deg M1	100.00	0.005	0.0000	0.0036	0.0036
Seismic 270 deg M2	82.83	0.004	0.0002	0.0045	0.0045
Seismic 270 deg M2	91.41	0.004	0.0001	0.0039	0.0039
Seismic 270 deg M2	100.00	0.005	0.0000	0.0040	0.0040
Seismic 315 deg M1	82.83	0.004	0.0003	0.0043	0.0043
Seismic 315 deg M1	91.41	0.004	0.0001	0.0035	0.0035
Seismic 315 deg M1	100.00	0.005	0.0000	0.0036	0.0036

Seismic 315 deg M2	82.83	0.004	0.0003	0.0046	0.0046
Seismic 315 deg M2	91.41	0.004	0.0002	0.0039	0.0039
Seismic 315 deg M2	100.00	0.005	0.0000	0.0040	0.0040
Seismic (Reduced DL) Normal M1	82.83	0.004	0.0002	0.0041	0.0041
Seismic (Reduced DL) Normal M1	91.41	0.004	0.0001	0.0035	0.0035
Seismic (Reduced DL) Normal M1	100.00	0.005	0.0000	0.0036	0.0036
Seismic (Reduced DL) Normal M2	82.83	0.004	0.0002	0.0044	0.0044
Seismic (Reduced DL) Normal M2	91.41	0.004	0.0001	0.0039	0.0039
Seismic (Reduced DL) Normal M2	100.00	0.005	0.0000	0.0040	0.0040
Seismic (Reduced DL) 45 deg M1	82.83	0.004	0.0003	0.0041	0.0041
Seismic (Reduced DL) 45 deg M1	91.41	0.004	0.0001	0.0035	0.0035
Seismic (Reduced DL) 45 deg M1	100.00	0.005	0.0000	0.0036	0.0036
Seismic (Reduced DL) 45 deg M2	82.83	0.004	0.0003	0.0044	0.0044
Seismic (Reduced DL) 45 deg M2	91.41	0.004	0.0002	0.0039	0.0039
Seismic (Reduced DL) 45 deg M2	100.00	0.005	0.0000	0.0039	0.0039
Seismic (Reduced DL) 90 deg M1	82.83	0.004	0.0002	0.0041	0.0041
Seismic (Reduced DL) 90 deg M1	91.41	0.004	0.0001	0.0035	0.0035
Seismic (Reduced DL) 90 deg M1	100.00	0.005	0.0000	0.0036	0.0036
Seismic (Reduced DL) 90 deg M2	82.83	0.004	0.0002	0.0044	0.0044
Seismic (Reduced DL) 90 deg M2	91.41	0.004	0.0001	0.0039	0.0039
Seismic (Reduced DL) 90 deg M2	100.00	0.005	0.0000	0.0040	0.0040
Seismic (Reduced DL) 135 deg M1	82.83	0.004	0.0003	0.0041	0.0041
Seismic (Reduced DL) 135 deg M1	91.41	0.004	-0.0001	0.0035	0.0035
Seismic (Reduced DL) 135 deg M1	100.00	0.005	0.0000	0.0036	0.0036
Seismic (Reduced DL) 135 deg M2	82.83	0.004	-0.0003	0.0044	0.0044
Seismic (Reduced DL) 135 deg M2	91.41	0.004	0.0002	0.0039	0.0039
Seismic (Reduced DL) 135 deg M2	100.00	0.005	0.0000	0.0039	0.0039
Seismic (Reduced DL) 180 deg M1	82.83	0.004	-0.0002	0.0041	0.0041
Seismic (Reduced DL) 180 deg M1	91.41	0.004	-0.0001	0.0035	0.0035
Seismic (Reduced DL) 180 deg M1	100.00	0.005	0.0000	0.0036	0.0036
Seismic (Reduced DL) 180 deg M2	82.83	0.004	0.0002	0.0044	0.0044
Seismic (Reduced DL) 180 deg M2	91.41	0.004	0.0001	0.0039	0.0039
Seismic (Reduced DL) 180 deg M2	100.00	0.005	0.0000	0.0040	0.0040
Seismic (Reduced DL) 225 deg M1	82.83	0.004	0.0003	0.0041	0.0041
Seismic (Reduced DL) 225 deg M1	91.41	0.004	0.0001	0.0035	0.0035
Seismic (Reduced DL) 225 deg M1	100.00	0.005	0.0000	0.0036	0.0036
Seismic (Reduced DL) 225 deg M2	82.83	0.004	0.0003	0.0044	0.0044
Seismic (Reduced DL) 225 deg M2	91.41	0.004	0.0002	0.0039	0.0039
Seismic (Reduced DL) 225 deg M2	100.00	0.005	0.0000	0.0039	0.0039
Seismic (Reduced DL) 270 deg M1	82.83	0.004	0.0002	0.0041	0.0041
Seismic (Reduced DL) 270 deg M1	91.41	0.004	0.0001	0.0035	0.0035
Seismic (Reduced DL) 270 deg M1	100.00	0.005	0.0000	0.0036	0.0036
Seismic (Reduced DL) 270 deg M2	82.83	0.004	0.0002	0.0044	0.0044
Seismic (Reduced DL) 270 deg M2	91.41	0.004	0.0001	0.0039	0.0039
Seismic (Reduced DL) 270 deg M2	100.00	0.005	0.0000	0.0040	0.0040
Seismic (Reduced DL) 315 deg M1	82.83	0.004	0.0003	0.0041	0.0041
Seismic (Reduced DL) 315 deg M1	91.41	0.004	0.0001	0.0035	0.0035
Seismic (Reduced DL) 315 deg M1	100.00	0.005	0.0000	0.0036	0.0036
Seismic (Reduced DL) 315 deg M2	82.83	0.004	0.0003	0.0044	0.0044
Seismic (Reduced DL) 315 deg M2	91.41	0.004	0.0002	0.0039	0.0039
Seismic (Reduced DL) 315 deg M2	100.00	0.005	0.0000	0.0039	0.0039
Serviceability - 60 mph Wind Normal	82.83	0.025	0.0545	0.1393	0.1496
Serviceability - 60 mph Wind Normal	91.41	0.031	0.1065	0.3551	0.3707
Serviceability - 60 mph Wind Normal	100.00	0.038	0.0094	1.5727	1.5728
Serviceability - 60 mph Wind 45 deg	82.83	0.024	0.0826	0.1258	0.1309
Serviceability - 60 mph Wind 45 deg	91.41	0.029	0.1539	0.4564	0.4564
Serviceability - 60 mph Wind 45 deg	100.00	0.035	-0.0141	1.7556	1.7556
Serviceability - 60 mph Wind 90 deg	82.83	0.020	-0.0561	0.0797	0.0974
Serviceability - 60 mph Wind 90 deg	91.41	0.024	0.1073	0.4191	0.4327
Serviceability - 60 mph Wind 90 deg	100.00	0.027	-0.0099	1.5031	1.5032
Serviceability - 60 mph Wind 135 deg	82.83	0.024	0.0823	0.1264	0.1314
Serviceability - 60 mph Wind 135 deg	91.41	0.029	0.1527	0.4563	0.4563

Serviceability - 60 mph Wind 135 deg	100.00	0.035	0.0138	1.7561	1.7561
Serviceability - 60 mph Wind 180 deg	82.83	0.025	0.0547	0.1398	0.1500
Serviceability - 60 mph Wind 180 deg	91.41	0.031	0.1068	0.3547	0.3704
Serviceability - 60 mph Wind 180 deg	100.00	0.038	0.0098	1.5734	1.5735
Serviceability - 60 mph Wind 225 deg	82.83	0.024	0.0829	0.1265	0.1316
Serviceability - 60 mph Wind 225 deg	91.41	0.029	0.1543	0.4557	0.4557
Serviceability - 60 mph Wind 225 deg	100.00	0.035	0.0130	1.7565	1.7565
Serviceability - 60 mph Wind 270 deg	82.83	0.020	0.0562	0.0803	0.0979
Serviceability - 60 mph Wind 270 deg	91.41	0.024	0.1076	0.4183	0.4319
Serviceability - 60 mph Wind 270 deg	100.00	0.026	0.0099	1.5034	1.5035
Serviceability - 60 mph Wind 315 deg	82.83	0.024	0.0823	0.1263	0.1312
Serviceability - 60 mph Wind 315 deg	91.41	0.029	0.1527	0.4563	0.4563
Serviceability - 60 mph Wind 315 deg	100.00	0.035	0.0138	1.7562	1.7562

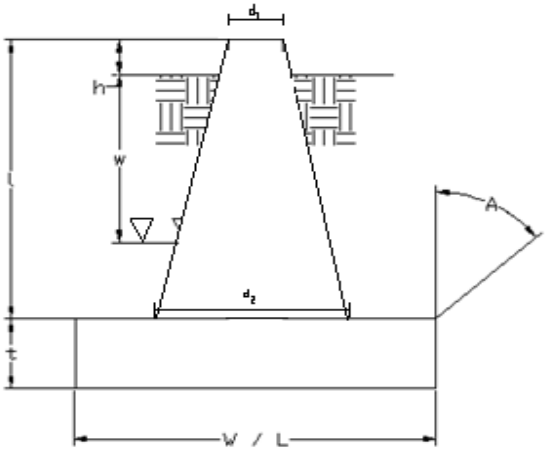
Foundation

Site No.:	88016
Engineer:	A. Black
Date:	03/15/18
Carrier:	Sprint Nextel

Design Loads (Factored)

Compression/Leg:	133.29	k
Uplift/Leg:	111.83	k
Shear/Leg:	21.98	k

Face Width @ Top of Pier (d_1):	3.00	ft
Face Width @ Bottom of Pier (d_2):	5.50	ft
Total Length of Pier (l):	5.50	ft
Height of Pedestal Above Ground (h):	0.33	ft
Width of Pad (W):	15.00	ft
Length of Pad (L):	15.00	ft
Thickness of Pad (t):	3.00	ft
Water Table Depth (w):	99.00	ft
Unit Weight of Concrete:	150.0	pcf
Unit Weight of Soil (Above Water Table):	140.0	pcf
Unit Weight of Soil (Below Water Table):	77.6	pcf
Friction Angle of Uplift (A):	34	°
Ultimate Compressive Bearing Pressure:	36000	psf
Ultimate Skin Friction:	1400	psf



Volume Pier (Total):	102.21	ft³
Volume Pad (Total):	675.00	ft³
Volume Soil (Total):	1669.33	ft³
Volume Pier (Buoyant):	0.00	ft³
Volume Pad (Buoyant):	0.00	ft³
Volume Soil (Buoyant):	0.00	ft³
Weight Pier:	15.33	k
Weight Pad:	101.25	k
Weight Soil:	233.71	k

Ultimate Skin Friction:	252.00	k
Difference in Soil Volume 1:	809.41	ft³
Difference in Soil Volume 2:	193.79	ft³
Diff. in Bouyant Soil Vol. 1:	0.00	ft³
Diff. in Bouyant Soil Vol. 2:	0.00	ft³
Difference in Soil Weight:	140.45	k
Diff. in Bouyant Soil Wt:	0.00	k

Uplift Check

ϕs Uplift Resistance (k)	Ratio	Result
368.05	0.30	**OK**

Axial Check

ϕs Axial Resistance (k)	Ratio	Result
6075.00	0.02	**OK**

Anchor Bolt Check

Bolt Diameter (in)	2
# of Bolts	4
Steel Grade	A36
Steel Fy	36
Steel Fu	58
Detail Type	C

Usage Ratio	Result
0.33	**OK**

Sprint

PROJECT:	DO MACRO UPGRADE
SITE NAME:	CT0953-RING TO EXIST-(R2E) PH 1A
SITE CASCADE:	CT72XC041
SITE ADDRESS:	131 GRASSY HILL ROAD LYME, CT 06371
SITE TYPE:	SELF-SUPPORT TOWER
MARKET:	NORTHERN CONNECTICUT

SITE INFORMATION

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

LATITUDE (NAD83):
41° 23' 30.12"
N 41.39167°

LONGITUDE (NAD83):
72° 17' 9.996" W
-72.28611°

COUNTY:
NEW LONDON COUNTY

ZONING JURISDICTION:
TOWN OF OTSEGO
CONNECTICUT SITING COUNCIL

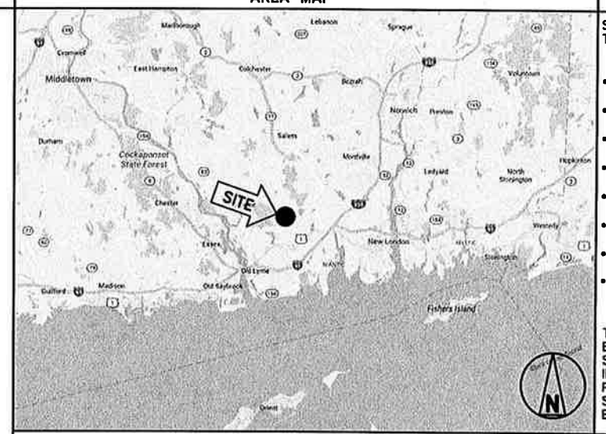
ZONING DISTRICT:
TBD

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

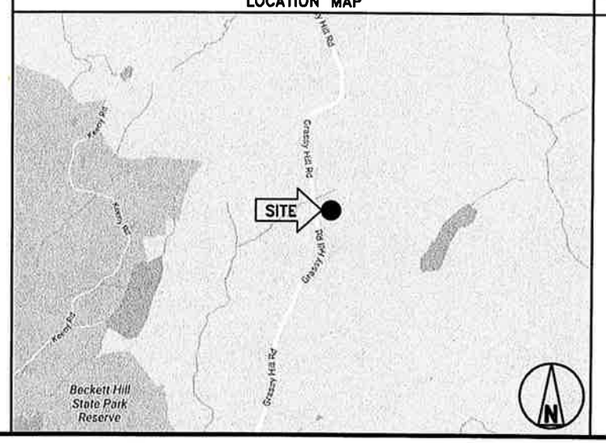
AAV PROVIDER:
AT&T
PHONE: (800) 288-2020

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 (3) EXISTING PANEL ANTENNAS
- INSTALL (6) PANEL ANTENNAS
- RELOCATE (3) 1900 MHz RRH'S BEHIND ANTENNAS
- INSTALL (6) 800 MHz RRH'S BEHIND ANTENNAS
- INSTALL (3) 2.5 GHz RRH'S BEHIND ANTENNAS
- INSTALL (48) JUMPER CABLES
- INSTALL (4) 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) 306-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
24703
LICENSED PROFESSIONAL ENGINEER
MAY 30 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/30/18	ETC	0

SITE NAME:
CT0953-RING TO EXIST-(R2E) PH 1A

SITE NUMBER:
CT72XC041

SITE ADDRESS:
131 GRASSY HILL RD
LYME, CT 06371

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
MAR 30 2018
NO. 24705
LICENSED PROFESSIONAL ENGINEER

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/30/18	ETC	0

SITE NAME:
CT0953-RING TO EXIST-(R2E) PH 1A

SITE NUMBER:
CT72XC041

SITE ADDRESS:
131 GRASSY HILL RD
LYME, CT 06371

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)

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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:

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/30/18	ETC	0

SITE NAME:

CT0953-RING TO EXIST-(R2E) PH 1A

SITE NUMBER:

CT72XC041

SITE ADDRESS:

131 GRASSY HILL RD
LYME, CT 06371

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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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	05/30/18	ETC	0

SITE NAME:

CT0953-RING TO EXIST-(R2E) PH 1A

SITE NUMBER:

CT72XC041

SITE ADDRESS:

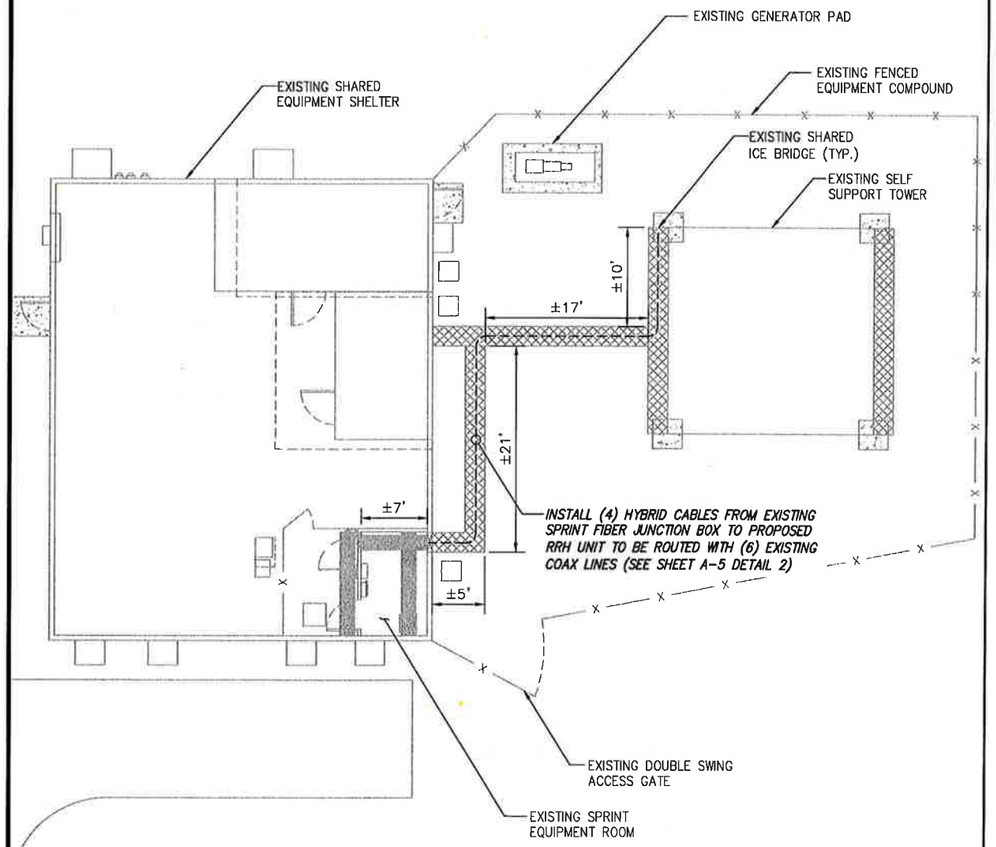
131 GRASSY HILL RD
LYME, CT 06371

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-3

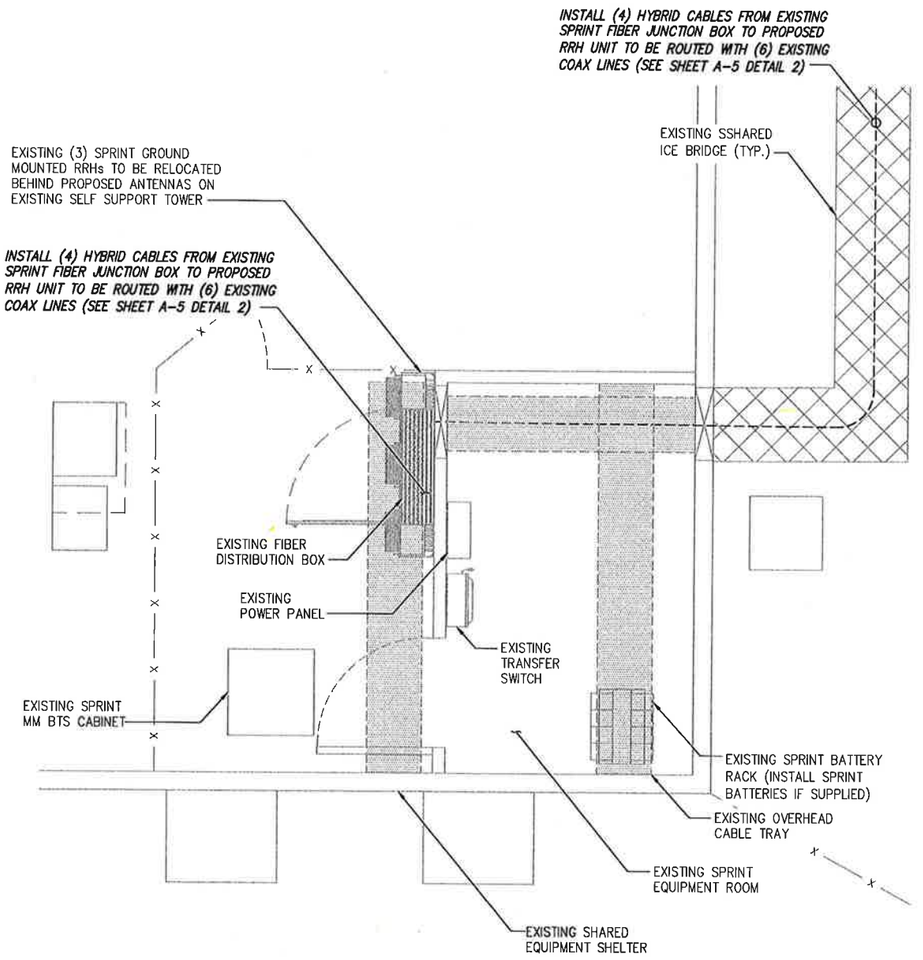


INFORMATION CONTAINED WITHIN DRAWINGS ARE BASED ON PROVIDED INFORMATION AND ARE NOT THE RESULT OF A FIELD SURVEY.

GRAPHIC SCALE:
15' 7.5' 0 7.5' 15'
SCALE (11x17): 1" = 15'-0"
SCALE (22x34): 1" = 7'-6"

OVERALL SITE PLAN | SCALE: AS NOTED | 1

NOTE:
CABLE LENGTH IS THE ESTIMATED DISTANCE FROM EXISTING EQUIPMENT AREA TO PROPOSED TOWER MOUNTED APPURTENANCES WITH AN ADDITIONAL 15%.



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

SPRINT EQUIPMENT PLAN | SCALE: AS NOTED | 2

PLANS PREPARED FOR:
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JOB NUMBER 526-104

PROJECT MANAGER:
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SARATOGA SPRINGS, NY 12866
OFFICE#: (518) 306-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
LICENSED PROFESSIONAL ENGINEER
MAY 30 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/30/18	ETC	0

SITE NAME:
CT0953-RING TO EXIST-(R2E) PH 1A

SITE NUMBER:
CT72XC041

SITE ADDRESS:
131 GRASSY HILL RD
LYME, CT 06371

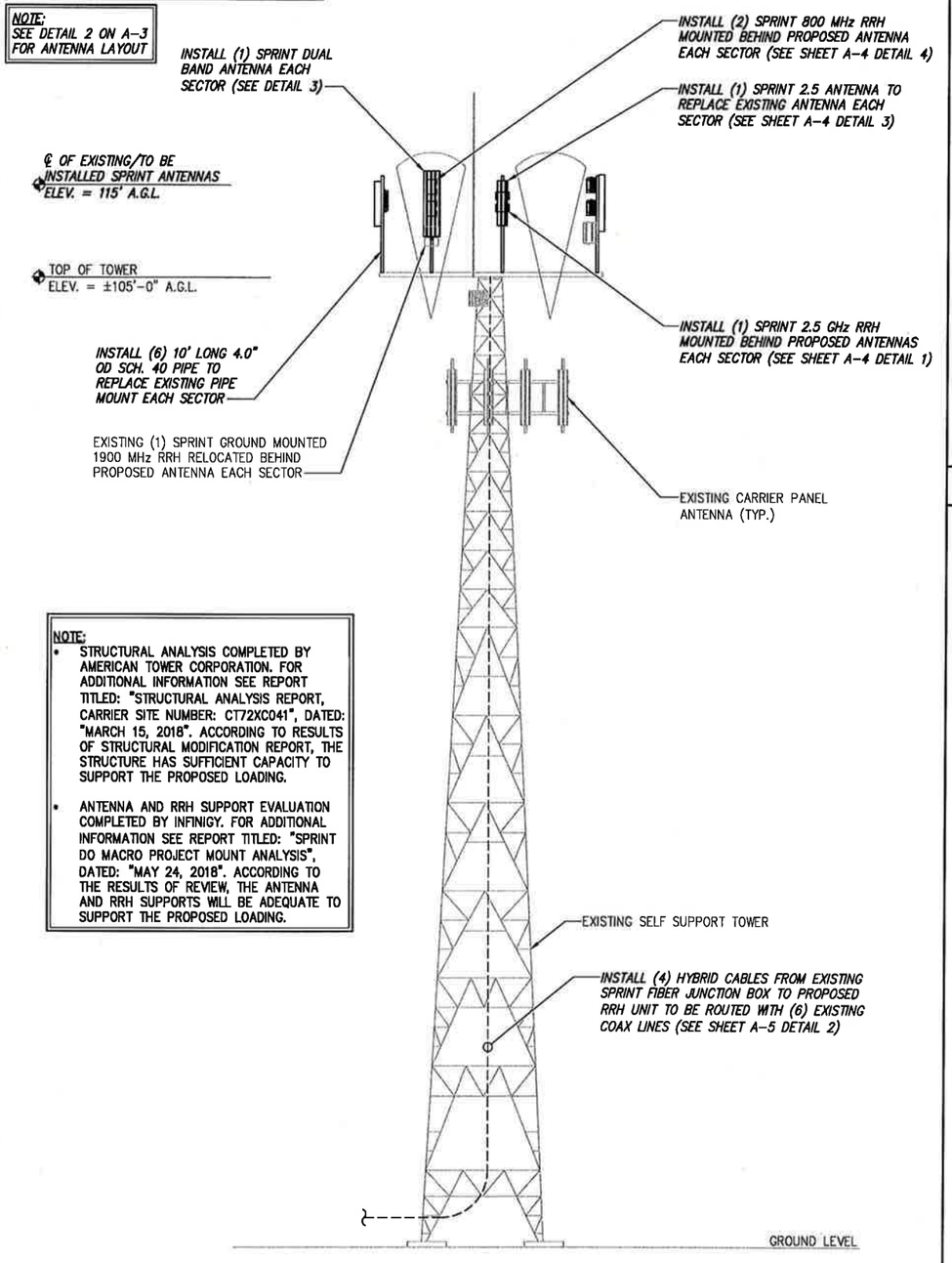
SHEET DESCRIPTION:
SITE PLAN

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:
CABLE LENGTH IS THE ESTIMATED DISTANCE FROM EXISTING EQUIPMENT AREA TO PROPOSED TOWER MOUNTED APPURTENANCES WITH AN ADDITIONAL 15%.

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



NOTE:
- STRUCTURAL ANALYSIS COMPLETED BY AMERICAN TOWER CORPORATION. FOR ADDITIONAL INFORMATION SEE REPORT TITLED: "STRUCTURAL ANALYSIS REPORT, CARRIER SITE NUMBER: CT72XC041", DATED: "MARCH 15, 2018". ACCORDING TO RESULTS OF STRUCTURAL MODIFICATION REPORT, THE STRUCTURE HAS SUFFICIENT CAPACITY TO SUPPORT THE PROPOSED LOADING.
- ANTENNA AND RRH SUPPORT EVALUATION COMPLETED BY INFINIGY. FOR ADDITIONAL INFORMATION SEE REPORT TITLED: "SPRINT DO MACRO PROJECT MOUNT ANALYSIS", DATED: "MAY 24, 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	APXVTM14-ALU-120	RFS	340°	1	–	(2) 800 MHZ 2X50W RRH W/ FILTER	SEE SHEET A-5 DETAIL 1	±185'*	±115' AGL
	PROPOSED	NNVV-65B-R4	COMMSCOPE	340°	1	–	(1) TD-RRH8X20-25 W/ SOLAR SHIELD	SEE SHEET A-5 DETAIL 1		
	EXISTING	RR45-19-02DPL4	EMS	340°	1	REMOVE	(1) 1900 MHz 4X45 RRH	EXISTING COAX		
BETA	PROPOSED	APXVTM14-ALU-120	RFS	200°	1	–	(2) 800 MHZ 2X50W RRH W/ FILTER	SEE SHEET A-5 DETAIL 1		±115' AGL
	PROPOSED	NNVV-65B-R4	COMMSCOPE	200°	1	–	(1) TD-RRH8X20-25 W/ SOLAR SHIELD	SEE SHEET A-5 DETAIL 1		
	EXISTING	RR45-19-02DPL4	EMS	200°	1	REMOVE	(1) 1900 MHz 4X45 RRH	EXISTING COAX		
GAMMA	PROPOSED	APXVTM14-ALU-120	RFS	270°	1	–	(2) 800 MHZ 2X50W RRH W/ FILTER	SEE SHEET A-5 DETAIL 1		±115' AGL
	PROPOSED	NNVV-65B-R4	COMMSCOPE	270°	1	–	(1) TD-RRH8X20-25 W/ SOLAR SHIELD	SEE SHEET A-5 DETAIL 1		
	EXISTING	RR45-19-02DPL4	EMS	270°	1	REMOVE	(1) 1900 MHz 4X45 RRH	EXISTING COAX		

PROJECT SCOPE:

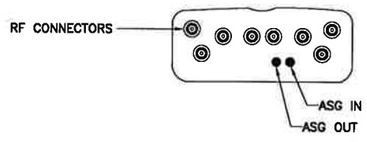
REMOVE: (3) PANEL ANTENNAS INSTALL: (6) PANEL ANTENNAS AND (9) RRH'S RELOCATE: (3) EXISTING RRH'S

* 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

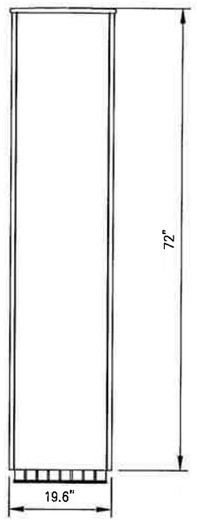
ANTENNA COMMSCOPE NNVV-65B-R4

RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GREY
DIMENSIONS, HxWxD.In(mim):	72"x19.6"x7.8" (1829x498x198mm)
WEIGHT:	77.4 lbs
CONNECTORS:	(8) PIN DIN FEMALE
	(8) 8 PIN DIN MALE



PLAN VIEW

SIDE VIEW



FRONT VIEW

DUAL BAND ANTENNA DETAIL | NO SCALE | 3

PLANS PREPARED FOR:
Sprint

PLANS PREPARED BY:
INFINIGY
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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
MAY 30 2018
No. 24705
LICENSED PROFESSIONAL ENGINEER

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/30/18	ETC	0

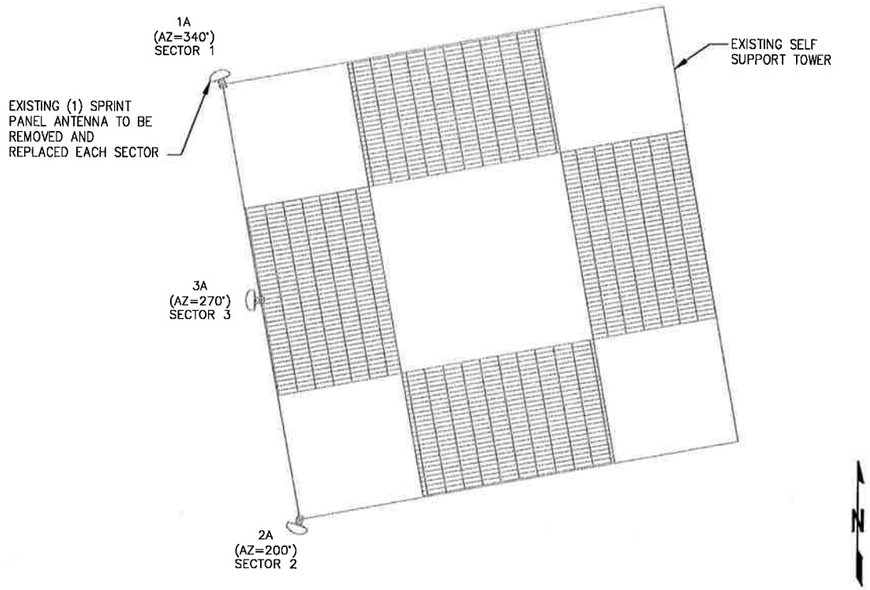
SITE NAME:
CT0953-RING TO EXIST-(R2E) PH 1A

SITE NUMBER:
CT72XC041

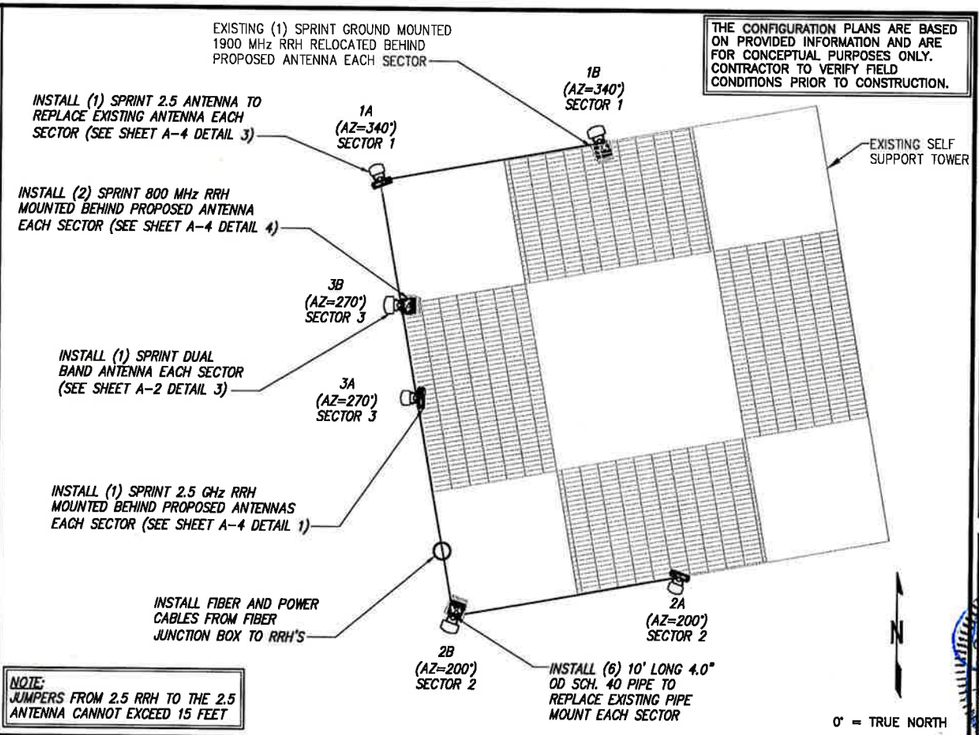
SITE ADDRESS:
131 GRASSY HILL RD
LYME, CT 06371

SHEET DESCRIPTION:
TOWER ELEVATION

SHEET NUMBER:
A-2

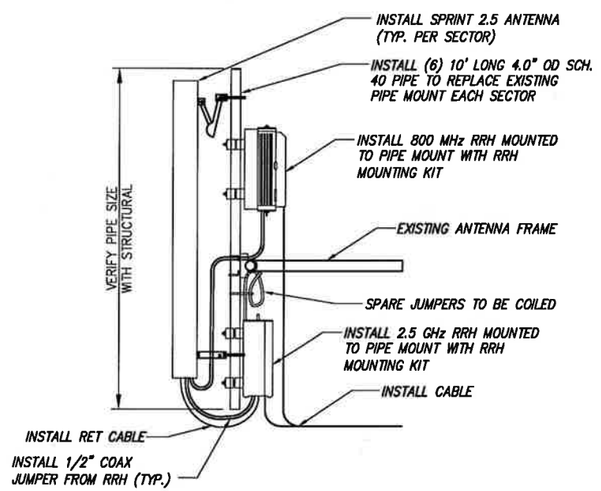


EXISTING ANTENNA LAYOUT | NO SCALE | 1



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



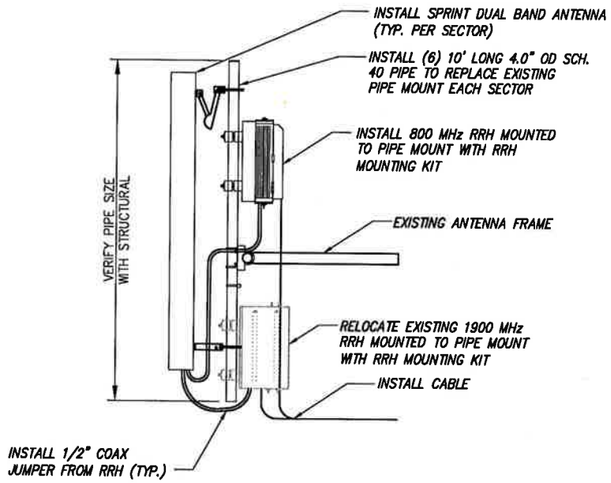
NOTE:
CONTRACTOR TO POSITION RRH ON MOUNT BEHIND ANTENNA SUCH THAT THE RRH DOES NOT INTERFERE WITH THE EXISTING PLATFORM/T-ARM MOUNTING HARDWARE.

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 2.5 ANTENNA & RRH MOUNTING DETAILS | NO SCALE | 3



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NOTES:

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

TYPICAL DUAL BAND ANTENNA & RRH MOUNTING DETAILS | NO SCALE | 4

PLANS PREPARED FOR:
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OFFICE#. (518) 306-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24795
LICENSED PROFESSIONAL ENGINEER
MAY 30 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/30/18	ETC	0

SITE NAME:
CT0953-RING TO EXIST-(R2E) PH 1A

SITE NUMBER:
CT72XC041

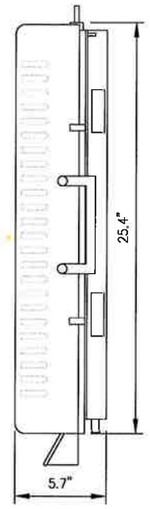
SITE ADDRESS:
131 GRASSY HILL RD
LYME, CT 06371

SHEET DESCRIPTION:
ANTENNA LAYOUT & MOUNTING DETAILS

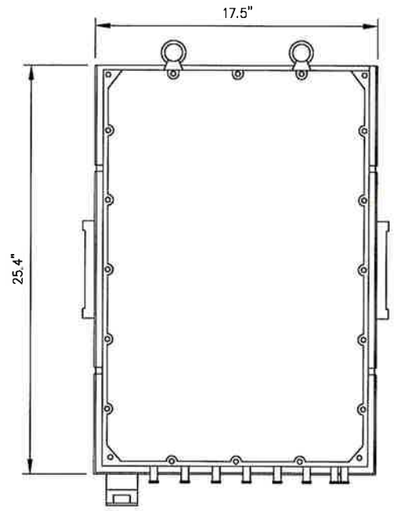
SHEET NUMBER:
A-3

RRH: ALCATEL LUCENT TD-RRH8X20

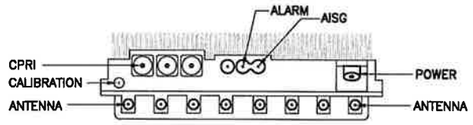
COLOR: LIGHT GREY
WEIGHT: 70 LBS.



SIDE VIEW



FRONT VIEW



PLAN VIEW

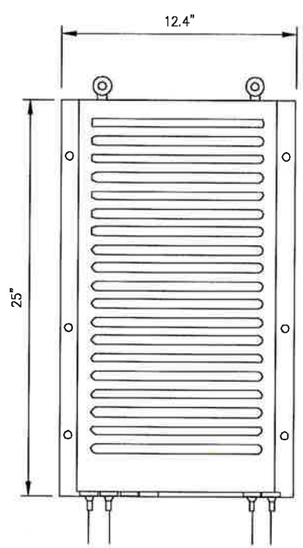
NOTES

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.

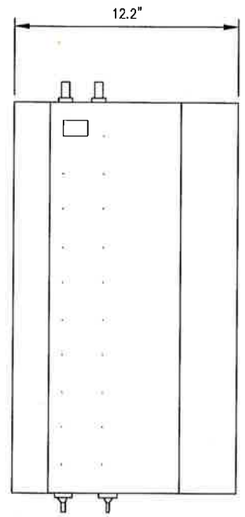
2.5 GHz RRH | NO SCALE | 1

RRH: ALCATEL LUCENT 1900 MHz

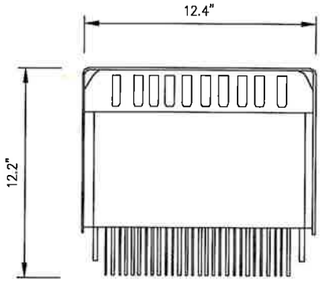
COLOR: LIGHT GREY
WEIGHT: 70 LBS.
(INCLUDING OPTIONAL SOLAR SHIELD)



FRONT VIEW



SIDE VIEW

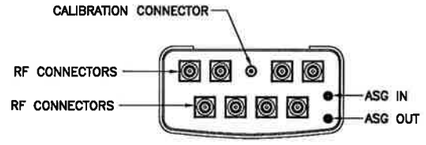


TOP VIEW

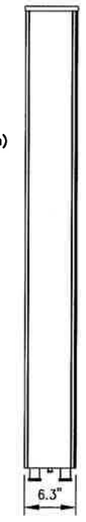
1900 MHz RRH | NO SCALE | 2

ANTENNA RFS APXVTM14-ALU-I20

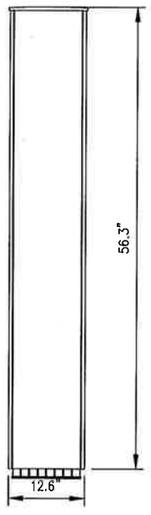
RADOME MATERIAL:	ASA
RADOME COLOR:	LIGHT GREY
DIMENSIONS, HxWxD.In(mlm):	56.3"x12.6"x6.3" (1549x439x300mm)
WEIGHT:	56.2 lbs
CONNECTORS:	(8) 4.1/9.5 DIN FEMALE (1) NF – CALIBRATION CONNECTOR



PLAN VIEW



SIDE VIEW

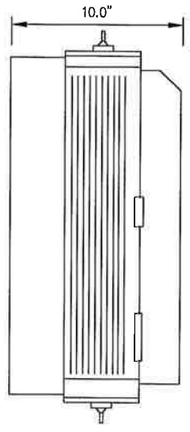


FRONT VIEW

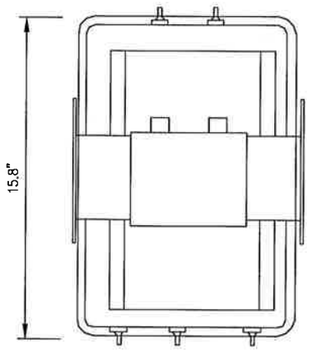
2.5 ANTENNA DETAIL | NO SCALE | 3

RRH: ALCATEL LUCENT RRH 800 MHz 2x50W

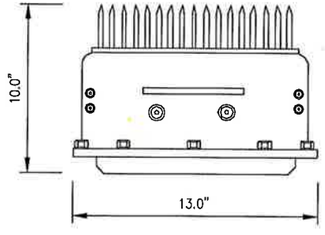
COLOR: LIGHT GREY
WEIGHT: 53 LBS.



SIDE VIEW



FRONT VIEW



PLAN VIEW

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.

800 MHz RRH | NO SCALE | 4

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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
MAY 30 2018
No. 24705
LICENSED PROFESSIONAL ENGINEER

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/30/18	ETC	0

SITE NAME:
CT0953-RING TO EXIST-(R2E) PH 1A

SITE NUMBER:
CT72XC041

SITE ADDRESS:
131 GRASSY HILL RD
LYME, CT 06371

SHEET DESCRIPTION:
EQUIPMENT & MOUNTING DETAILS

SHEET NUMBER:
A-4

RFS HYBRIFLEX RISER CABLE SCHEDULE

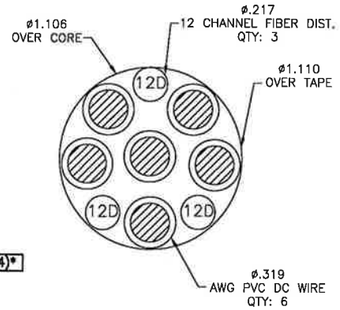
Fiber Only (Existing DC Power)	**Hybrid cable** MN: HB058-M12-050F 12x multi-mode fiber pairs, Top: Outdoor protected connectors, Bottom: LC Connectors, 5/8 cable, 50 ft	50 ft
	MN: HB058-M12-075F	75 ft
	MN: HB058-M12-100F	100 ft
	MN: HB058-M12-125F	125 ft
	MN: HB058-M12-150F	150 ft
	MN: HB058-M12-175F	175 ft
	MN: HB058-M12-200F	200 ft
8 AWG Power	**Hybrid cable** MN: HB114-08U3M12-050F 3x8 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 (4)*
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
	MN: HB114-21U3M12-350F	350 ft
	MN: HB114-21U3M12-375F	375 ft

RFS HYBRIFLEX JUMPER CABLE SCHEDULE

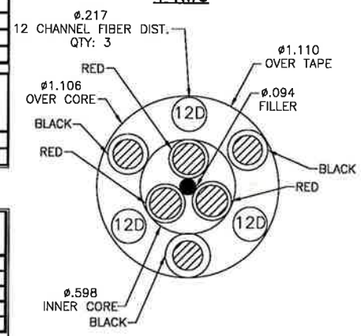
Fiber Only	**Hybrid Jumper cable** MN: HBF012-M3-5F1 5 ft, 3x multi-mode fiber pairs, Outdoor & LC connectors, 1/2 cable	5 ft
	MN: HBF012-M3-10F1	10 ft
	MN: HBF012-M3-15F1	15 ft
	MN: HBF012-M3-20F1	20 ft
	MN: HBF012-M3-25F1	25 ft
	MN: HBF012-M3-30F1	30 ft
8 AWG Power	**Hybrid Jumper cable** MN: HBF058-08U1M3-5F1 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.

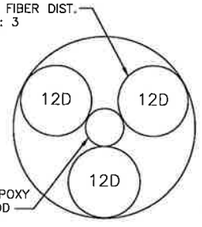
* PROPOSED CABLE LENGTH WAS DETERMINED USING THE SUM OF THE RAD CENTER OF ANTENNAS, AND DISTANCE FROM EXISTING EQUIPMENT AREA TO TOWER BASE WITH AN ADDITIONAL 20' BUFFER. LENGTH TO BE VERIFIED IN FIELD PRIOR TO ORDERING MATERIALS.



4 AWG



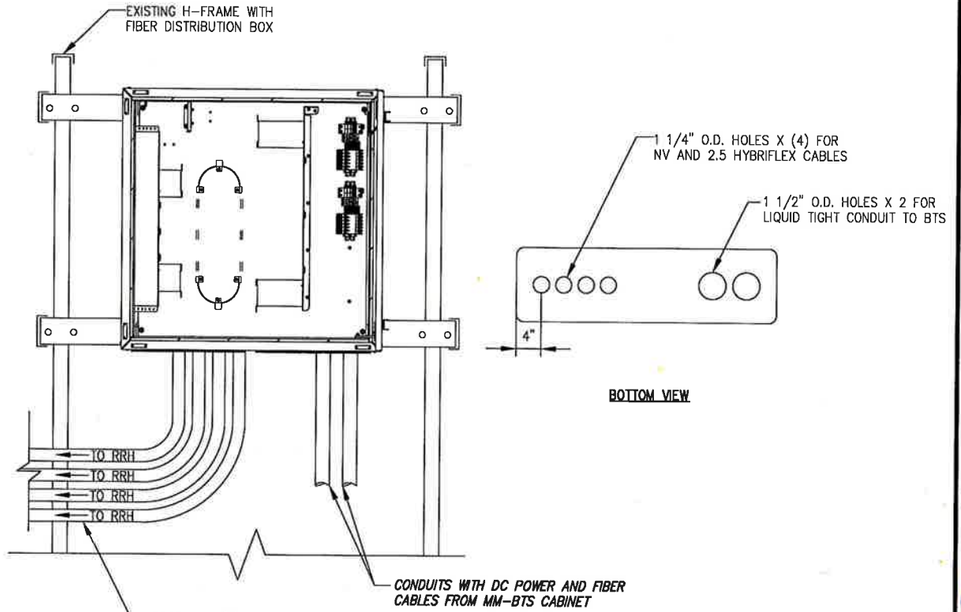
8 & 6 AWG



FIBER ONLY

2.5 CABLE CROSS SECTION DATA

NO SCALE | 1

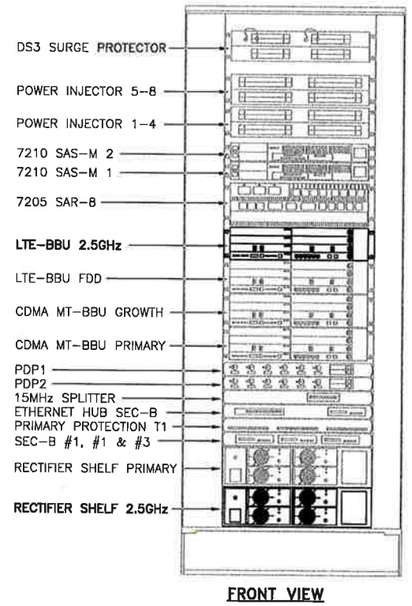


FRONT VIEW

BOTTOM VIEW

FIBER JUNCTION BOX PENETRATION

NO SCALE | 2



FRONT VIEW

NEW EQUIPMENT IN EXISTING CABINET

NO SCALE | 3

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Sprint

PLANS PREPARED BY:
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SITE ADDRESS:
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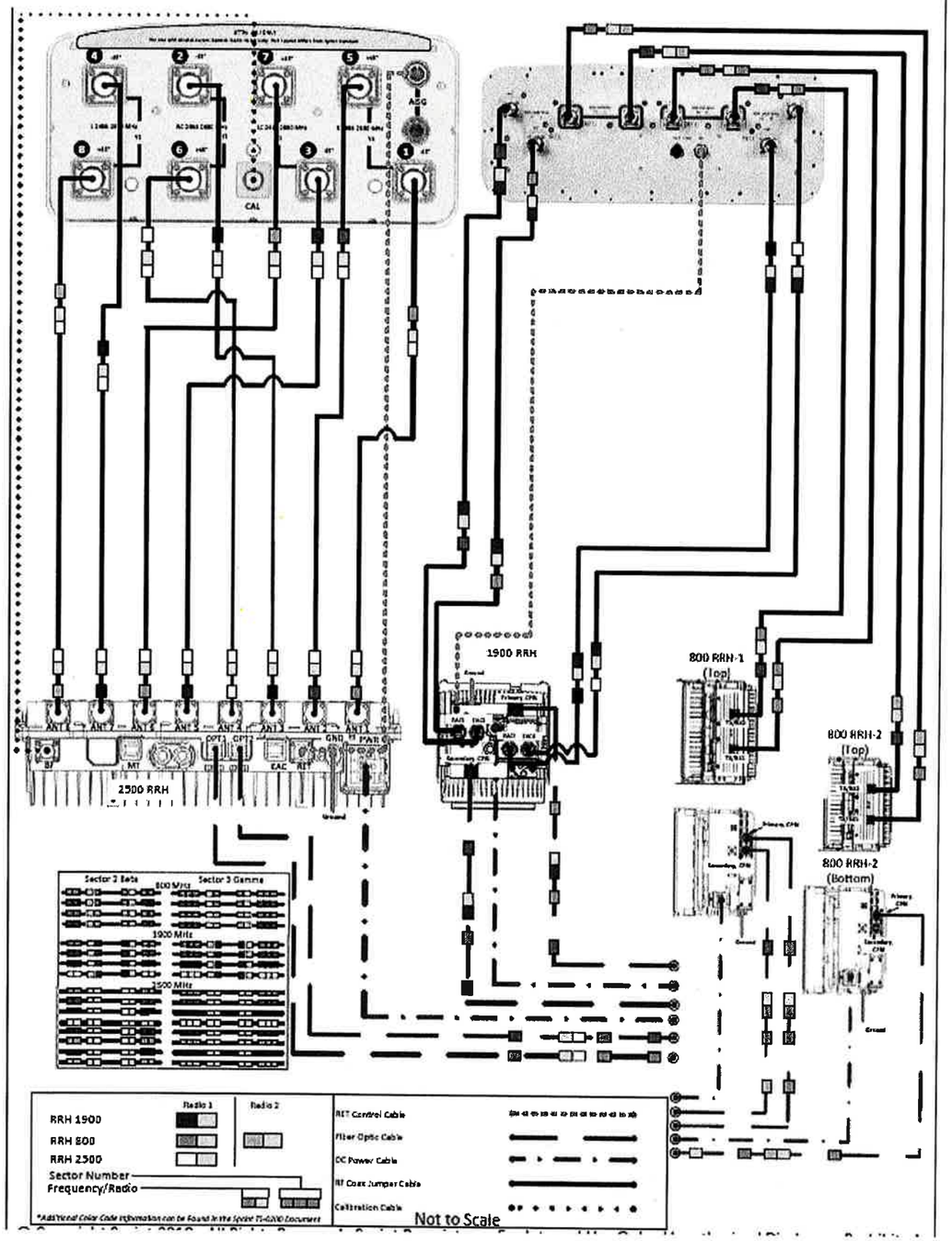
LYME, CT 06371

SHEET DESCRIPTION:
CIVIL DETAILS

SHEET NUMBER:
A-5

ALU-NSN 211 APXVTM14-ALU-I20 & NNVV-65B-R4 wo Filters



PLUMBING DIAGRAM | NO SCALE | 1

PLANS PREPARED FOR:

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PLANS PREPARED BY:

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1033 Watervliet Shaker Rd | Albany, NY 12205
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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
MAY 30 2018
No. 24705
LICENSED PROFESSIONAL ENGINEER

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/30/18	ETC	0

SITE NAME:

CT0953-RING TO EXIST-(R2E) PH 1A

SITE NUMBER:

CT72XC041

SITE ADDRESS:

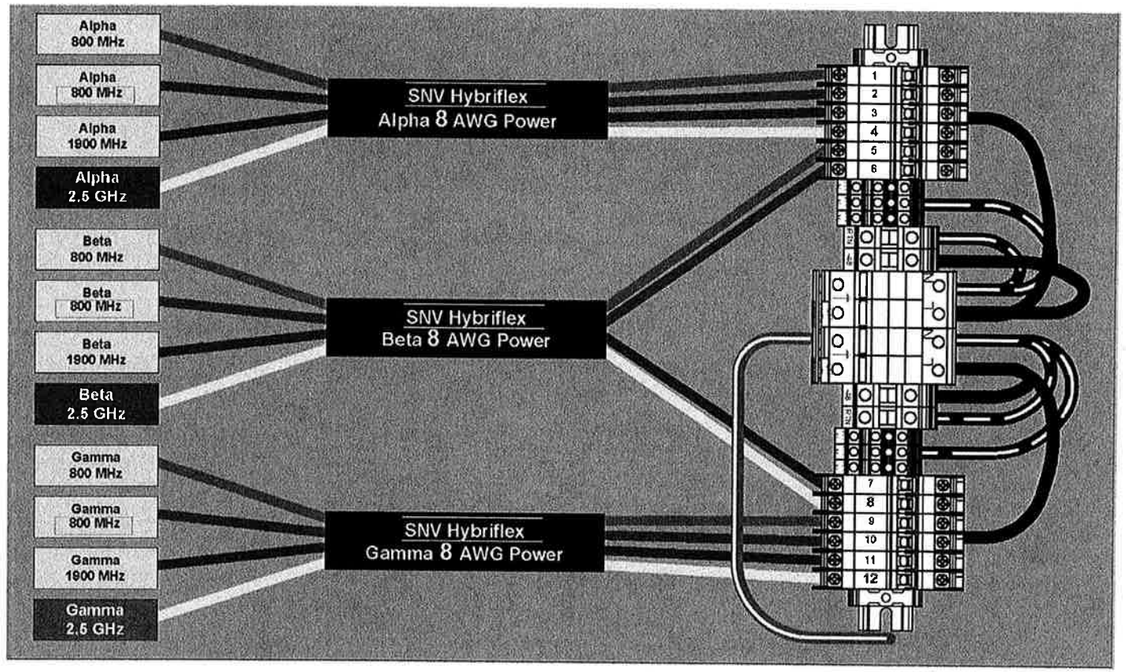
131 GRASSY HILL RD
LYME, CT 06371

SHEET DESCRIPTION:

PLUMBING DIAGRAM

SHEET NUMBER:

A-6

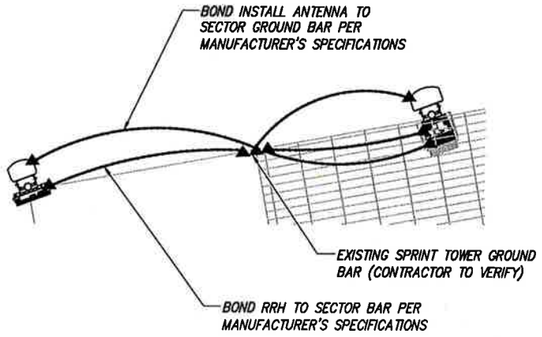


RRH TO DISTRIBUTION BOX POWER CONNECTIVITY

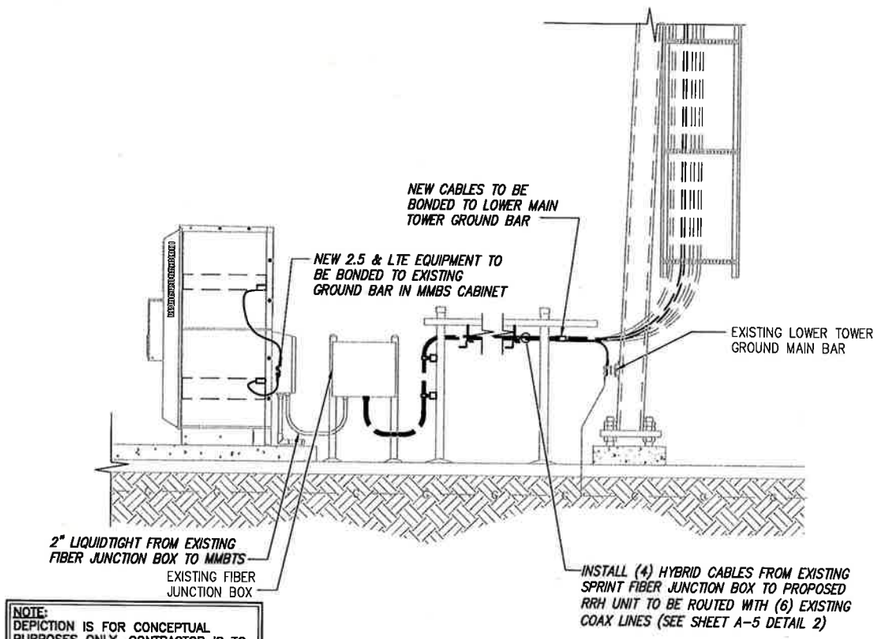
NO SCALE | 1

LEGEND:

- G — 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 (ELEVATION) | NO SCALE | 3

PLANS PREPARED FOR:
Sprint

PLANS PREPARED BY:
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SITE NUMBER:
CT72XC041

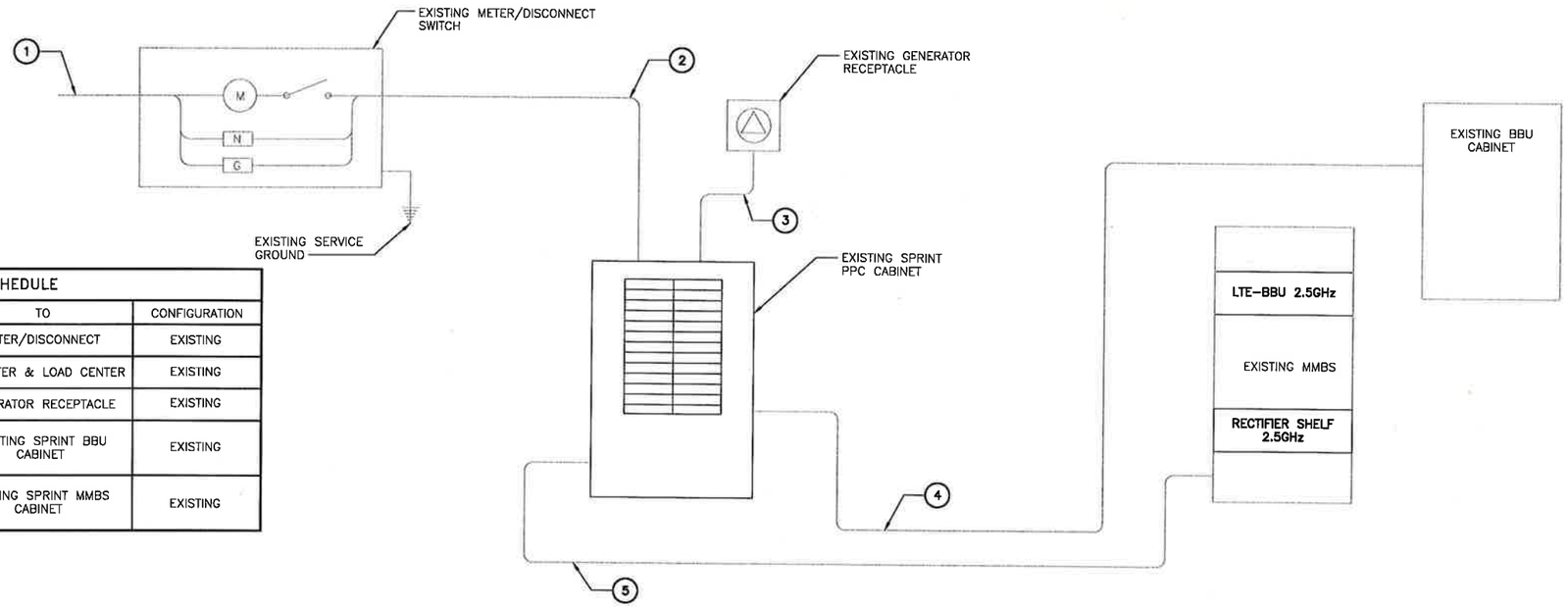
SITE ADDRESS:
131 GRASSY HILL RD
LYME, CT 06371

SHEET DESCRIPTION:
ELECTRICAL & GROUNDING PLAN

SHEET NUMBER:
E-1

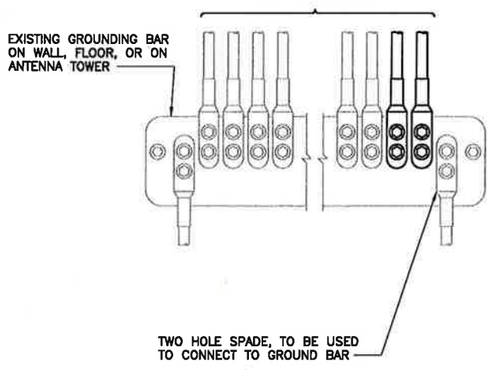
NOTES

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

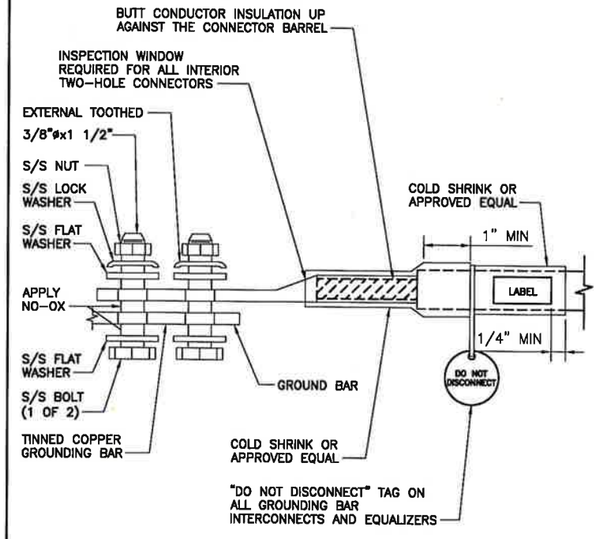
ELECTRICAL ONE–LINE DIAGRAM — NO SCALE — 1



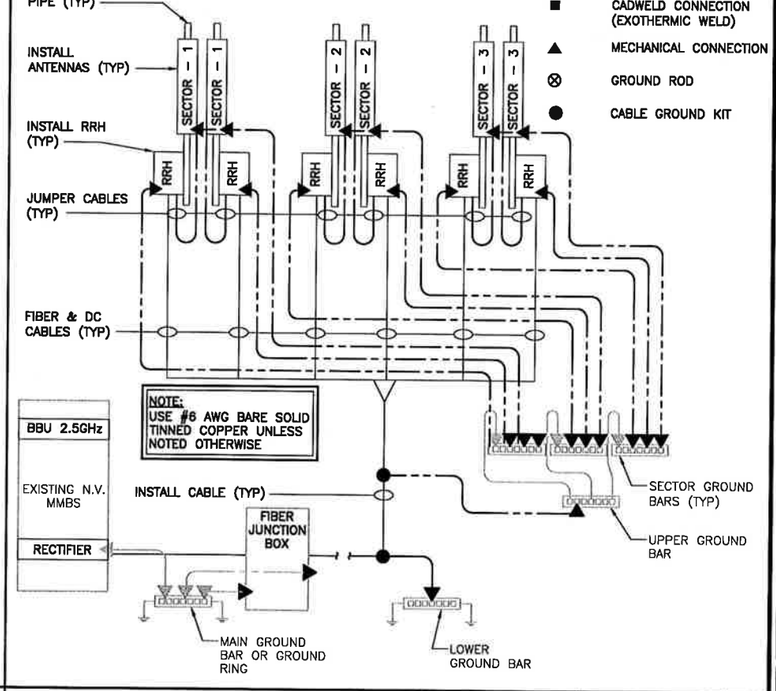
NOTES

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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ENGINEERING LICENSE:

STATE OF CONNECTICUT · JOHN S. STEVENS · 31 · PROFESSIONAL ENGINEER · LICENSED

MAY 04 2018

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CT72XC041

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LYME, CT 06371

SHEET DESCRIPTION:

ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER:

E-2