AIROSMITH DEVELOPMENT
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July 3rd, 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 99 DR. NOTT ROAD, NORTH FRANKLIN, CONNECTICUT – CT73XC005 (lat. 41° 35' 52.8" N, long. - 72° 08' 41.90" W)

Dear Ms. Bachman:

Sprint Spectrum, LP ("Sprint") currently maintains wireless telecommunications antennas at the (180-foot level) on an existing (300-foot Guyed Tower) at the above-referenced address. The property is owned by HIDDEN BROOK FARMS LLC, 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, adding 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. The Structural Analysis prepared by American Tower Corporation contains "existing" noted contracted equipment which is not on the tower.

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 CHARLES GRANT, FIRST SELECTMAN, and ROLAND CHALECKI, ZONING ENFORCEMENT OFFICER of the Town of FRANKLIN. A copy of this letter is also being sent to JUSTINE PAUL the manager for AMERICAN TOWER CORPORATION who manages the tower and HIDDEN BROOK FARMS LLC who owns the land.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b).

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

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

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

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

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

For the foregoing reasons, Sprint respectfully submits that the proposed modifications to the above referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b).

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

Kind Regards,

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

Attachment

CC: CHARLES GRANT (First Selectman, FRANKLIN, CT)
JUSTINE PAUL (Manager, AMERICAN TOWER CORPORATION)
ROLAND CHALECKI (Zoning Enforcement Officer, HAMPTON CT)
HIDDEN BROOK FARMS LLC (Land Owner)

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Sent To: Chris Grant

Street and Apt. No., or PO Box No.: 7 Meeting House Hill Rd

City, State, ZIP+4®: Franklin CT 06254

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

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Sent To: Justine Paul

Street and Apt. No., or PO Box No.: 10 Presidential Way

City, State, ZIP+4®: Woburn MA 01801

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Sent To: Ronald Chaleski

Street and Apt. No., or PO Box No.: 7 Meeting House Hill Rd

City, State, ZIP+4®: Franklin CT 06254

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

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89 DR NOTT RD

Property

Address	89 DR NOTT RD
ID	53-36-8
Account	263

Ownership

Name 1	HIDDEN BROOK FARMS LLC
Address	248 ROUTE 32, FRANKLIN, CT 06254
Last Sale	$650,000 on 2013-08-29
Book / Page	91/719

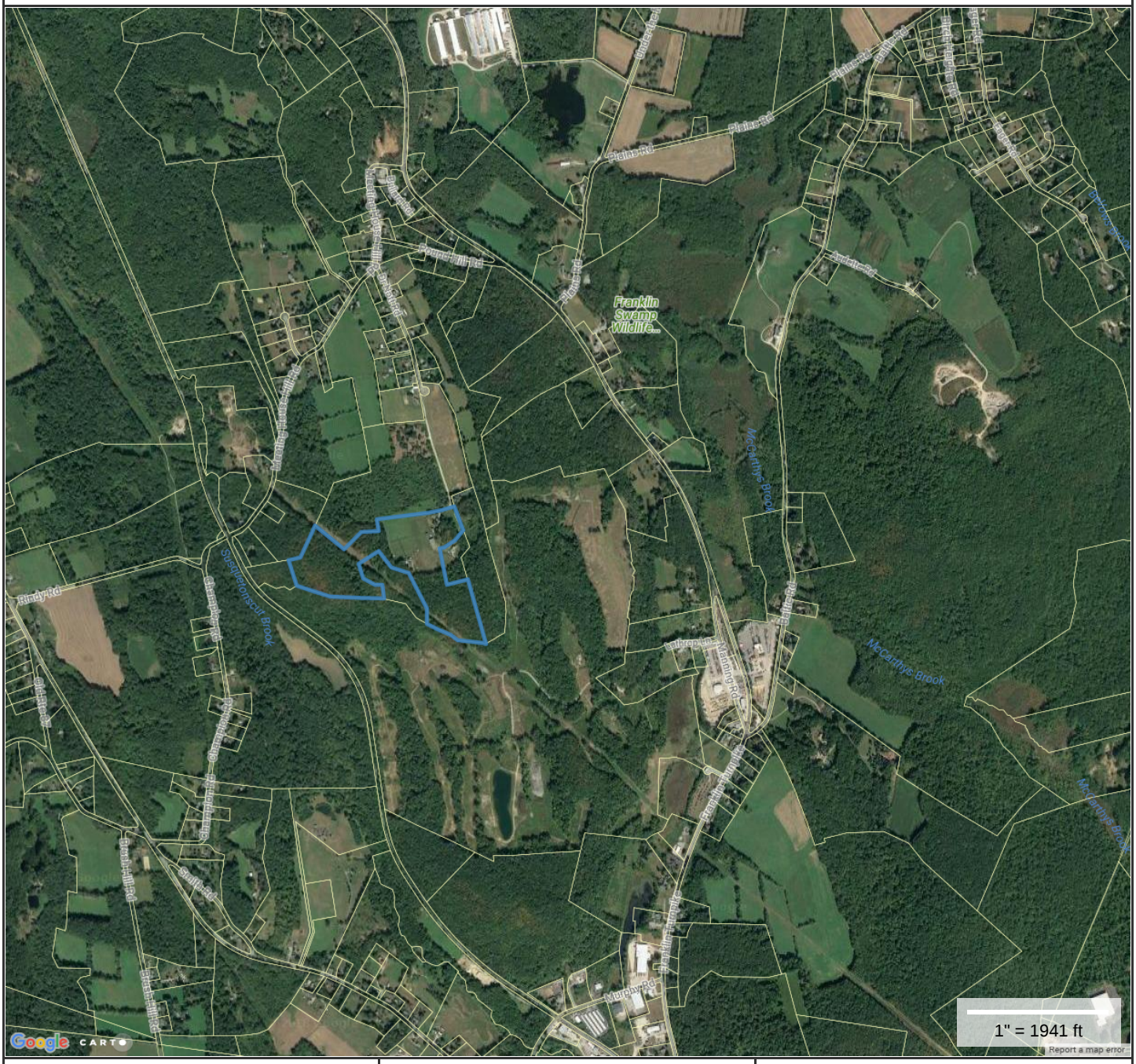
Valuation

Total	$445,550
Building	$130,210
Land	$155,990

Land

Area	46.00 ACRES
Zone	R080
Land Use Code	1010
Land Description	RES ACLNDV

CT73XC005



Property Information

Property ID	53-36-8
Location	89 DR NOTT RD
Owner	HIDDEN BROOK FARMS LLC

SCCOG

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

SCCOG makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Parcels updated 05/31/2017
Properties updated 10/1/2013

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: CT73XC005

Franklin-Dr. Nott Rd.
99 Dr. Nott Road
North Franklin, CT 06254

June 26, 2018

EBI Project Number: 6218004705

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	3.86 %

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

EBI Consulting
environmental | engineering | due diligence

June 26, 2018

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

Emissions Analysis for Site: **CT73XC005 – Franklin-Dr. Nott Rd.**

EBI Consulting was directed to analyze the proposed SPRINT facility located at **99 Dr. Nott Road, North Franklin, 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 **99 Dr. Nott Road, North Franklin, 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 **180 feet** above ground level (AGL) for **Sector A**, **180 feet** above ground level (AGL) for **Sector B** and **180 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):	**180 feet**	Height (AGL):	**180 feet**	Height (AGL):	**180 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%	**1.08 %**	Antenna B1 MPE%	**1.08 %**	Antenna C1 MPE%	**1.08 %**
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):	**180 feet**	Height (AGL):	**180 feet**	Height (AGL):	**180 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%	**0.74 %**	Antenna B2 MPE%	**0.74 %**	Antenna C2 MPE%	**0.74 %**

Site Composite MPE%	
Carrier	**MPE%**
SPRINT – Max per sector	**1.82 %**
Verizon Wireless	1.69 %
State Police	0.00 %
AT&T	0.35 %
Site Total MPE %:	**3.86 %**

SPRINT Sector A Total:	1.82 %
SPRINT Sector B Total:	1.82 %
SPRINT Sector C Total:	1.82 %
Site Total:	3.86 %

SPRINT _ Frequency Band / Technology Max Power Values (All Sectors)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
Sprint 850 MHz CDMA	1	376.73	180	0.45	850 MHz	567	0.09%
Sprint 850 MHz LTE	2	941.82	180	2.24	850 MHz	567	0.39%
Sprint 1900 MHz (PCS) CDMA	5	511.82	180	3.04	1900 MHz (PCS)	1000	0.30%
Sprint 1900 MHz (PCS) LTE	2	1,279.56	180	3.04	1900 MHz (PCS)	1000	0.30%
Sprint 2500 MHz (BRS) LTE	8	778.09	180	7.39	2500 MHz (BRS)	1000	0.74%
						Total:	**1.82%**

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:	1.82 %
Sector B:	1.82 %
Sector C:	1.82 %
SPRINT Maximum Total (per sector):	1.82 %
Site Total:	3.86 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **3.86 %** 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.

AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

TOWER ENGINEERING PROFESSIONALS

Structural Analysis Report

Structure	:	**300 ft Guyed Tower**
ATC Site Name	:	**Franklin CT, CT**
ATC Site Number	:	**6310**
Engineering Number	:	**OAA710395_C3_06**
Proposed Carrier	:	**Sprint Nextel**
Carrier Site Name	:	**Franklin CT**
Carrier Site Number	:	**CT73XC005**
Site Location	:	**89 Dr. Nott Road** **North Franklin, CT 06254-1316** **41.597700,-72.145000**
County	:	**New London**
Date	:	**April 30, 2018**
Max Usage	:	**87%**
Result	:	**Pass**

Prepared By:
Bobby L. McCarn
TEP

Reviewed By:

STATE OF CONNECTICUT
AARON THOMAS RICKER
32608
LICENSED
PROFESSIONAL ENGINEER
04/30/2018

COA: PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 300 ft guyed tower to reflect the change in loading by Sprint Nextel.

Supporting Documents

Tower Drawings	FWT Job #18504, dated January, 20, 1999
Foundation Drawing	FWT Job #18504, dated January, 20, 1999
Geotechnical Report	Tectonic Engineering Consultants P.C. dated October 26, 1998
Modifications	ATC Project #430070H1, dated March 5, 1999

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:	101 mph (3-Second Gust, V_{asd}) / 130 (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:	3
Crest Height:	340 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					
294.0	307.0	1	10' Omni	Side Arms	(3) 7/8" Coax (1) 1 1/4" Coax	-
	306.0	1	20' Dipole			
	303.0	1	13' Omni			
	302.0	1	6' Yagi			
	288.0	1	18' Dipole			
268.0	277.0	1	10' Dipole	Side Arms	(2) 7/8" Coax (1) 1 5/8" Coax	
	276.0	1	24" x 24" Junction Box			
		1	8' Omni			
	274.0	1	6' Omni			
	262.0	1	Andrew DB810K-XT			AT&T Mobility
233.0	241.0	1	13' Omni	Side Arms	(5) 1 5/8" Coax	-
	230.0	1	11' Omni			
	228.0	1	14' Omni			
	240.0	3	Sinclair SC479-HF1LDF(E5765)			AT&T Mobility
		1	Bird 432E-83I-01-T			
		2	Scala OGT9-840			
213.0	213.0	1	22' Dipole	Side Arms	(2) 1/2" Coax	-
		1	Andrew DB224			Prov & Worcester RR
180.0	180.0	3	Decibel DB844H90E-XY	-	(9) 1 5/8" Coax	Sprint Nextel
170.0	170.0	6	Commscope HBXX-6517DS-A2M	Sector Frames	(12) 1 5/8" Coax (1) 1 5/8" Fiber	Verizon
		3	Commscope LNX-8513DS-VTM (39.2 lb)			
		3	Antel BXA-70063-6CF-EDIN-X			
		1	RFS DB-T1-6Z-8AB-0Z			
		3	Alcatel-Lucent RRH 2X60-AWS			
		3	Alcatel-Lucent RRH 2X60-1900			
		6	RFS FD9R6004/2C-3L			
130.0	130.0	1	24" x 24" Junction Box	Side Arm	(1) 1 5/8" Coax	AT&T Mobility
		1	Scala AP7-850/065			
125.0	125.0	3	Antel WPA-70063-8CF-EDIN-0-25	Side Arms	(3) 1 5/8" Coax	
		1	Bird 432E-83I-01-T			
115.0	115.0	1	20' Dipole	Side Arm	(1) 1/2" Coax	New England Central Railroad
105.0	105.0	1	2' x 4' Rectangular Grid Dish	Side Arm	-	-
		1	5' Yagi			
84.0	84.0	1	6' Ice Shield	Leg	-	AT&T Mobility
80.0	80.0	1	RFS PA6-65AC w/ Radome	Leg	(1) EW65	

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
180.0	180.0	3	EMS RR90-17-02DPL2	Sector Frames	(6) 1 5/8" Coax	Sprint Nextel
		6	Decibel DB844H90E-XY			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
180.0	180.0	3	Commscope NNVV-65B-R4	Site Pro VFA12-HD w/ Stiff Arms	(4) 1 1/4" Hybriflex	Sprint Nextel
		3	RFS APXVTM14-ALU-I20			
		3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
		3	Alcatel-Lucent 1900MHz 4X45 RRH			
		6	Alcatel-Lucent RRH2x50-08			

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

Install proposed coax alongside existing Sprint Nextel coax.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	87%	Pass
Diagonals	80%	Pass
Horizontals	57%	Pass
Guys	87%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Base Axial (kips)	208.2	281.1	267.3	95%
Anchor 1 Uplift (kips)	73.5	99.2	69.2	70%
Anchor 1 Shear (kips)	85.9	116.0	88.6	76%

*** The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1**

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, 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) (°)
180.0	Alcatel-Lucent 1900 MHz 4X45 RRH	Sprint Nextel	0.170	0.052	0.091
	Alcatel-Lucent RRH2x50-08				
	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield				
	Commscope NNVV-65B-R4				
	RFS APXVTM14-ALU-I20				
105.0	2' x 4' Rectangular Grid Dish	-	0.146	0.049	0.041
80.0	RFS PA6-65AC w/ Radome	AT&T Mobility	0.121	0.048	0.099

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

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:

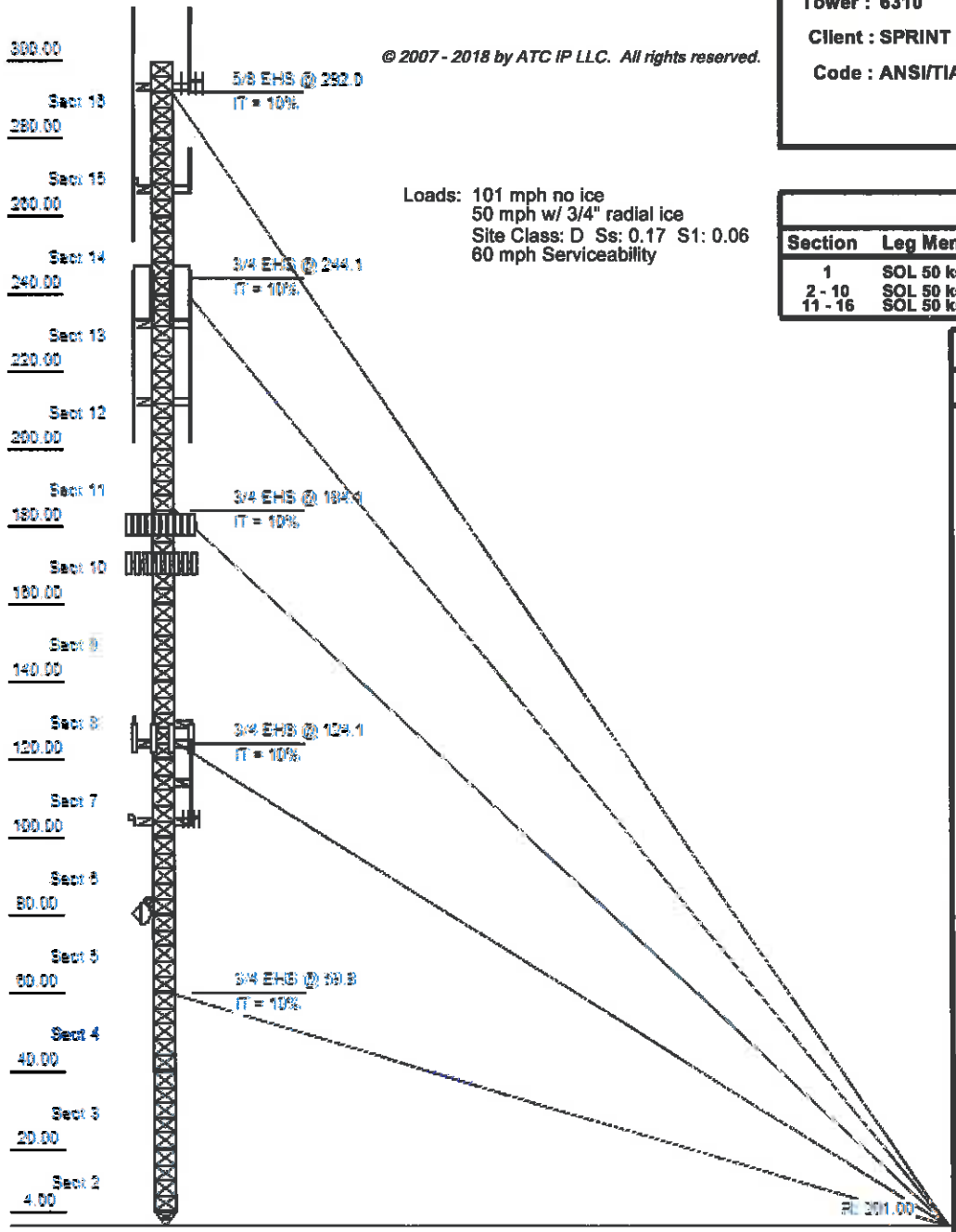
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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.



Loads: 101 mph no ice
50 mph w/ 3/4" radial ice
Site Class: D Ss: 0.17 S1: 0.06
60 mph Serviceability

Job Information

Tower : 6310	Location : FRANKLIN CT, CT	Base Width : 4.00 ft
Client : SPRINT NEXTEL		
Code : ANSI/TIA-222-G		Tower Ht : 300.00 ft
		Shape : Triangle

Sections Properties

Section	Leg Members		Diagonal Members	Horizontal Members
1	SOL 50 ksi	2 1/4" SOLID	PL 50 ksi PL 2 x 0.5"	SAE 36 ksi 3X3X0.3125
2 - 10	SOL 50 ksi	2 1/4" SOLID	SOL 50 ksi 5/8" SOLID	SAE 36 ksi 2X2X0.1875
11 - 16	SOL 50 ksi	2" SOLID	SOL 50 ksi 5/8" SOLID	SAE 36 ksi 2X2X0.1875

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
294.00	Whip	1	18' Dipole
294.00	Yagi	1	6' Yagi
294.00	Whip	1	13' Omni
294.00	Straight Arm	3	Round Side Arm
294.00	Whip	1	10' Omni
294.00	Whip	1	20' Dipole
268.00	Whip	1	6' Omni
268.00	Whip	1	Andrew DB810K-XT
268.00	Straight Arm	3	Round Side Arm
268.00	Panel	1	24" x 24" Junction Box
268.00	Whip	1	10' Dipole
268.00	Whip	1	8' Omni
233.00	Panel	3	Sinclair SC479-HF1LDF(E5765)
233.00	Whip	1	Bird 432E-83I-01-T
233.00	Whip	1	14' Omni
233.00	Whip	1	13' Omni
233.00	Straight Arm	3	Round Side Arm
233.00	Whip	1	11' Omni
233.00	Whip	2	Scala OGT9-840
213.00	Whip	1	22' Dipole
213.00	Straight Arm	2	Side Arm
213.00	Whip	1	Andrew DB224
180.00	Panel	3	Commscope NNVV-65B-R4
180.00	Panel	3	RFS APXVTM14-ALU-I20
180.00	Panel	3	Alcatel-Lucent TD-RRH8x20-25 w
180.00	Panel	3	Alcatel-Lucent 1900 MHz 4X45 R
180.00	Mounting Frame	3	Round Sector Frame
180.00	Panel	3	Decibel DB844H90E-XY
180.00	Panel	6	Alcatel-Lucent RRH2x50-08
170.00	Mounting Frame	3	Flat Light Sector Frame
170.00	Panel	6	Commscope HBXX-6517DS-A2M
170.00	Panel	3	Commscope LNX-8513DS-VTM
170.00	Panel	3	Amphenol Antel BXA-70063-6CF-E
170.00		1	RFS DB-T1-6Z-8AB-0Z
170.00	Panel	3	Alcatel-Lucent RRH 2X60-AWS
170.00	Panel	3	Alcatel-Lucent RRH 2X60-1900
170.00		6	RFS FD9R6004/2C-3L
130.00	Straight Arm	1	Round Side Arm
130.00	Panel	1	24" x 24" Junction Box
130.00	Panel	1	Scala AP7-850/065
125.00	Panel	3	Amphenol Antel WPA-70063-8CF-E
125.00	Panel	1	Bird 432E-83I-01-T
125.00	Straight Arm	3	Flat Side Arm
115.00	Straight Arm	1	Round Side Arm
115.00	Whip	1	20' Dipole
105.00	Dish	1	2' x 4' Rectangular Grid Dish
105.00	Straight Arm	1	Round Side Arm
105.00	Yagi	1	5' Yagi
84.00	Panel	1	6' Ice Shield
80.00	Dish	1	RFS PA6-65AC w/ Radome

Job Information

Tower : 6310 Location : FRANKLIN CT, CT Base Width : 4.00 ft

Client : SPRINT NEXTEL

Code : ANSI/TIA-222-G Tower Ht : 300.00 ft

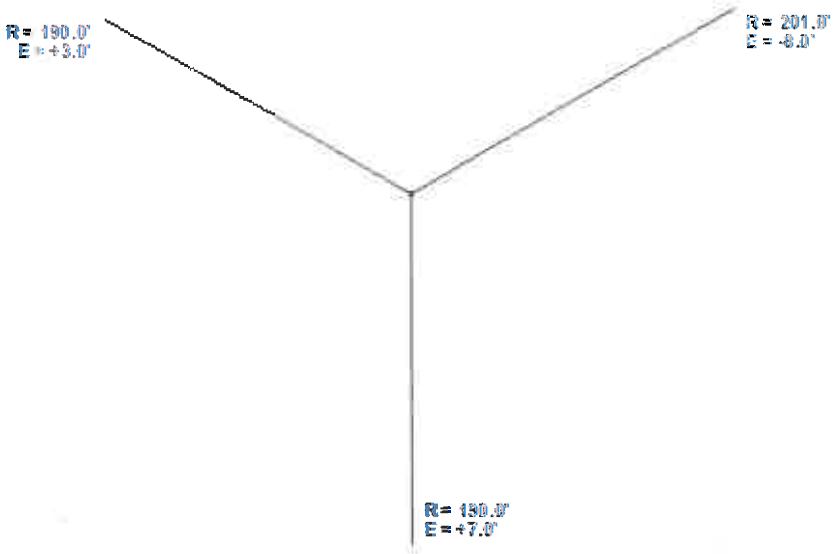
Shape : Triangle

Linear Appurtenance

Elev (ft) From	To	Qty	Description
5.00	294.00	1	7/8" Coax
5.00	294.00	1	7/8" Coax
5.00	294.00	1	7/8" Coax
5.00	294.00	1	1 1/4" Coax
5.00	268.00	2	7/8" Coax
5.00	268.00	1	1 5/8" Coax
5.00	233.00	4	1 5/8" Coax
5.00	233.00	1	1 5/8" Coax
5.00	213.00	1	1/2" Coax
5.00	213.00	1	1/2" Coax
5.00	180.00	9	1 5/8" Coax
5.00	180.00	4	1 1/4" Hybriflex Cab
5.00	170.00	1	1 5/8" Fiber
5.00	170.00	12	1 5/8" Coax
5.00	130.00	1	1 5/8" Coax
5.00	125.00	3	1 5/8" Coax
5.00	115.00	1	1/2" Coax
5.00	80.00	1	EW65

Job Information

Tower : 6310	Location : FRANKLIN CT, CT	Base Width : 4.00 ft
Client : SPRINT NEXTEL		
Code : ANSI/TIA-222-G		Tower Ht : 300.00 ft
		Shape : Triangle



Guy Anchor Design Loads

Radius (ft)	Drop (ft)	Azimuth (°)	Uplift (kip)	Shear (kip)
190.00	7.00	0	66.72	88.33
190.00	3.00	240	68.61	88.64
201.00	-8.00	120	69.17	88.15

Global Base Foundation Design Loads

Vertical (kip)	Horizontal (kip)
267.29	3.70

Site Number:	**6310**	**Code:**	**ANSI/TIA-222-G**	
Site Name:	**FRANKLIN CT, CT**	**Engineering Number:**	**OAA710395_C3_06**	4/30/2018 4:38:24 PM
Customer:	**SPRINT NEXTEL**			

Analysis Parameters

Location:	**NEW LONDON County, CT**	**Height (ft):**	**300**
Code:	**ANSI/TIA-222-G**	**Base Elevation (ft):**	**0.00**
Shape:	**Triangle**	**Bottom Face Width (ft):**	**4.00**
Tower Manufacturer:	**FWT Inc**	**Top Face Width (ft):**	**4.00**
Tower Type:	**Guyed**		
Kd:			
Ke:			

Ice & Wind Parameters

Structure Class:	**II**	**Design Windspeed Without Ice:**	**101 mph**
Exposure Category:	**B**	**Design Windspeed With Ice:**	**50 mph**
Topographic Category:	**3**	**Operational Windspeed:**	**60 mph**
Crest Height:	**340 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):	**0.74**				
T_L(sec):	**6**	**p:**	**1.3**	**C_s:**	**0.053**
S_s:	**0.171**	**S_1:**	**0.061**	**C_s, Max:**	**0.053**
F_a:	**1.600**	**F_v:**	**2.400**	**C_s, Min:**	**0.030**
S_{ds}:	**0.182**	**S_{d1}:**	**0.098**		

Load Cases

1.2D + 1.6W Normal	**101 mph Normal with No Ice**
1.2D + 1.6W 60 deg	**101 mph 60 degree with No Ice**
1.2D + 1.6W 90 deg	**101 mph 90 degree with No Ice**
1.2D + 1.6W 120 deg	**101 mph 120 degree with No Ice**
1.2D + 1.6W 180 deg	**101 mph 180 degree with No Ice**
1.2D + 1.6W 210 deg	**101 mph 210 degree with No Ice**
1.2D + 1.6W 240 deg	**101 mph 240 degree with No Ice**
1.2D + 1.6W 300 deg	**101 mph 300 degree with No Ice**
1.2D + 1.6W 330 deg	**101 mph 330 degree with No Ice**
1.2D + 1.0Di + 1.0Wi Normal	**50 mph Normal with 0.75 in Radial Ice**
1.2D + 1.0Di + 1.0Wi 60 deg	**50 mph 60 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**
1.2D + 1.0Di + 1.0Wi 120 deg	**50 mph 120 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 210 deg	**50 mph 210 deg with 0.75 in Radial Ice**
1.2D + 1.0Di + 1.0Wi 240 deg	**50 mph 240 deg with 0.75 in Radial Ice**
1.2D + 1.0Di + 1.0Wi 300 deg	**50 mph 300 deg with 0.75 in Radial Ice**
1.2D + 1.0Di + 1.0Wi 330 deg	**50 mph 330 deg with 0.75 in Radial Ice**
(1.2 + 0.2Sds) * DL + E Normal	**Seismic Normal**

Analysis Parameters

(1.2 + 0.2Sds) * DL + E 60 deg	Seismic 60 deg
(1.2 + 0.2Sds) * DL + E 90 deg	Seismic 90 deg
(1.2 + 0.2Sds) * DL + E 120 deg	Seismic 120 deg
(1.2 + 0.2Sds) * DL + E 180 deg	Seismic 180 deg
(1.2 + 0.2Sds) * DL + E 210 deg	Seismic 210 deg
(1.2 + 0.2Sds) * DL + E 240 deg	Seismic 240 deg
(1.2 + 0.2Sds) * DL + E 300 deg	Seismic 300 deg
(1.2 + 0.2Sds) * DL + E 330 deg	Seismic 330 deg
(0.9 - 0.2Sds) * DL + E Normal	Seismic (Reduced DL) Normal
(0.9 - 0.2Sds) * DL + E 60 deg	Seismic (Reduced DL) 60 deg
(0.9 - 0.2Sds) * DL + E 90 deg	Seismic (Reduced DL) 90 deg
(0.9 - 0.2Sds) * DL + E 120 deg	Seismic (Reduced DL) 120 deg
(0.9 - 0.2Sds) * DL + E 180 deg	Seismic (Reduced DL) 180 deg
(0.9 - 0.2Sds) * DL + E 210 deg	Seismic (Reduced DL) 210 deg
(0.9 - 0.2Sds) * DL + E 240 deg	Seismic (Reduced DL) 240 deg
(0.9 - 0.2Sds) * DL + E 300 deg	Seismic (Reduced DL) 300 deg
(0.9 - 0.2Sds) * DL + E 330 deg	Seismic (Reduced DL) 330 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60 mph Wind 60 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 deg
1.0D + 1.0W Service 120 deg	Serviceability - 60 mph Wind 120 deg
1.0D + 1.0W Service 180 deg	Serviceability - 60 mph Wind 180 deg
1.0D + 1.0W Service 210 deg	Serviceability - 60 mph Wind 210 deg
1.0D + 1.0W Service 240 deg	Serviceability - 60 mph Wind 240 deg
1.0D + 1.0W Service 300 deg	Serviceability - 60 mph Wind 300 deg
1.0D + 1.0W Service 330 deg	Serviceability - 60 mph Wind 330 deg

Site Number:	6310	**Code:**	ANSI/TIA-222-G		
Site Name:	FRANKLIN CT, CT	**Engineering Number:**	OAA710395_C3_06		4/30/2018 4:38:24 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)
294.0	10' Omni	1	25	3.0	10.0	3.0	3.0	1.00	1.00	13.0	1864.3	35.15	143	30
294.0	13' Omni	1	40	3.9	13.0	3.0	3.0	1.00	1.00	9.0	1677.3	35.14	186	48
294.0	18' Dipole	1	55	6.8	18.0	3.0	3.0	1.00	1.00	-6.0	1939.5	35.11	323	66
294.0	20' Dipole	1	60	7.5	20.0	3.0	3.0	1.00	1.00	12.0	4313.3	35.15	359	72
294.0	6' Yagi	1	25	8.9	6.0	60.0	3.0	1.00	1.00	8.0	3421.3	35.14	428	30
294.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	35.12	499	540
268.0	10' Dipole	1	30	3.8	10.0	3.0	3.0	0.80	1.00	9.0	1292.1	35.09	144	36
268.0	24" x 24" Junction	1	20	4.8	2.0	24.0	8.0	0.80	0.67	8.0	982.4	35.09	123	24
268.0	6' Omni	1	25	1.8	6.0	3.0	3.0	0.80	1.00	6.0	403.2	35.09	67	30
268.0	8' Omni	1	25	2.4	8.0	3.0	3.0	0.80	1.00	8.0	733.1	35.09	92	30
268.0	Andrew DB810K-XT	1	35	4.3	14.5	3.0	3.0	0.80	1.00	-6.0	996.4	35.09	166	42
268.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	35.09	499	540
233.0	11' Omni	1	40	3.3	11.0	3.0	3.0	0.80	1.00	-3.0	378.2	35.12	126	48
233.0	13' Omni	1	40	3.9	13.0	3.0	3.0	0.80	1.00	8.0	1191.5	35.10	149	48
233.0	14' Omni	1	40	4.2	14.0	3.0	3.0	0.80	1.00	-5.0	802.4	35.12	160	48
233.0	Bird 432E-83I-01-T	1	25	1.2	1.0	12.0	7.5	0.80	0.50	7.0	160.4	35.10	23	30
233.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	35.11	499	540
233.0	Scala OGT9-840	2	19	2.3	11.4	2.0	2.0	0.80	1.00	7.0	1213.7	35.10	173	44
233.0	Sinclair SC479-	3	34	5.0	14.4	3.5	3.5	0.80	1.00	7.0	4034.1	35.10	576	122
213.0	22' Dipole	1	66	8.3	22.0	3.0	3.0	0.90	1.00	0.0	0.0	35.15	356	79
213.0	Andrew DB224	1	38	6.1	23.0	3.0	3.0	0.90	1.00	0.0	0.0	35.15	260	46
213.0	Side Arm	2	150	6.3	0.0	0.0	0.0	0.90	0.90	0.0	0.0	35.15	488	360
180.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	0.80	0.67	0.0	0.0	35.25	179	216
180.0	Alcatel-Lucent	6	53	1.7	1.3	13.0	9.8	0.80	0.50	0.0	0.0	35.25	196	381
180.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.67	0.0	0.0	35.25	312	252
180.0	Commscope NNVV-	3	77	12.3	6.0	19.6	7.8	0.80	0.64	0.0	0.0	35.25	903	279
180.0	Decibel DB844H90E-	3	14	3.6	4.0	8.0	6.5	0.80	0.74	0.0	0.0	35.25	307	50
180.0	RFS APXVTM14-ALU-	3	56	6.3	4.7	12.6	6.3	0.80	0.66	0.0	0.0	35.25	481	202
180.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	35.25	1165	1080
170.0	Alcatel-Lucent RRH	3	43	1.9	1.7	11.2	7.2	0.80	0.50	0.0	0.0	35.27	108	155
170.0	Alcatel-Lucent RRH	3	44	1.9	1.7	11.2	7.6	0.80	0.50	0.0	0.0	35.27	108	158
170.0	Amphenol Antel BXA-	3	17	7.6	5.9	11.2	5.2	0.80	0.66	0.0	0.0	35.27	575	61
170.0	Commscope HBXX-	6	41	8.5	6.2	12.0	6.5	0.80	0.68	0.0	0.0	35.27	1336	294
170.0	Commscope LNX-	3	39	8.2	6.1	11.9	7.1	0.80	0.69	0.0	0.0	35.27	649	141
170.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	35.27	1449	1440
170.0	RFS DB-T1-6Z-8AB-	1	44	4.8	2.0	24.0	10.0	0.80	0.67	0.0	0.0	35.27	123	53
170.0	RFS FD9R6004/2C-3L	6	3	0.4	0.5	6.5	1.5	0.80	0.50	0.0	0.0	35.27	43	19
130.0	24" x 24" Junction	1	20	4.8	2.0	24.0	8.0	0.90	0.67	0.0	0.0	35.31	139	24
130.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	35.31	167	180
130.0	Scala AP7-850/065	1	3	1.1	1.1	10.0	4.0	0.90	0.62	0.0	0.0	35.31	29	4
125.0	Amphenol Antel	3	27	10.7	7.9	11.2	5.1	0.80	0.67	0.0	0.0	35.30	823	98
125.0	Bird 432E-83I-01-T	1	25	1.2	1.0	12.0	7.5	0.80	0.50	0.0	0.0	35.30	23	30
125.0	Flat Side Arm	3	150	6.3	0.0	0.0	0.0	1.00	0.67	0.0	0.0	35.30	608	540
115.0	20' Dipole	1	60	7.5	20.0	3.0	3.0	1.00	1.00	0.0	0.0	35.25	360	72
115.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	35.25	249	180
105.0	2' x 4' Rectangular	1	40	4.8	2.0	48.0	0.0	1.00	1.00	0.0	0.0	35.16	227	48
105.0	5' Yagi	1	20	7.3	5.0	60.0	3.0	1.00	1.00	0.0	0.0	35.16	349	24
105.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	35.16	249	180
84.00	6' Ice Shield	1	450	3.9	1.2	100.0	48.0	1.00	1.00	0.0	0.0	34.79	184	540
80.00	RFS PA6-65AC w/	1	308	24.4	6.0	72.0	0.0	1.00	1.00	0.0	0.0	34.67	1151	370
	Totals	101	8270	584.2									18334	9924

Site Number: 6310 | Code: ANSI/TIA-222-G |

Site Name: FRANKLIN CT, CT | Engineering Number: OAA710395_C3_06 | 4/30/2018 4:38:24 PM

Customer: SPRINT NEXTEL

Tower Loading

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)
294.0	10' Omni	1	184	6.2	10.0	3.0	3.0	1.00	1.00	13.0	592.7	8.61	46	189
294.0	13' Omni	1	245	8.9	13.0	3.0	3.0	1.00	1.00	9.0	587.9	8.61	65	253
294.0	18' Dipole	1	336	12.7	18.0	3.0	3.0	1.00	1.00	-6.0	559.1	8.60	93	347
294.0	20' Dipole	1	311	21.0	20.0	3.0	3.0	1.00	1.00	12.0	1842.8	8.61	154	323
294.0	6' Yagi	1	314	36.0	6.0	60.0	3.0	1.00	1.00	8.0	2108.6	8.61	264	319
294.0	Round Side Arm	3	233	8.3	0.0	0.0	0.0	1.00	0.67	0.0	0.0	8.61	122	789
268.0	10' Dipole	1	156	10.6	10.0	3.0	3.0	0.80	1.00	9.0	555.4	8.60	62	162
268.0	24" x 24" Junction	1	173	5.8	2.0	24.0	8.0	0.80	0.67	8.0	181.7	8.60	23	177
268.0	6' Omni	1	123	3.3	6.0	3.0	3.0	0.80	1.00	6.0	114.1	8.60	19	128
268.0	8' Omni	1	153	4.7	8.0	3.0	3.0	0.80	1.00	8.0	217.6	8.60	27	158
268.0	Andrew DB810K-XT	1	263	10.3	14.5	3.0	3.0	0.80	1.00	-6.0	361.6	8.60	60	270
268.0	Round Side Arm	3	233	8.3	0.0	0.0	0.0	1.00	0.67	0.0	0.0	8.60	122	789
233.0	11' Omni	1	214	7.1	11.0	3.0	3.0	0.80	1.00	-3.0	124.3	8.61	41	222
233.0	13' Omni	1	143	9.2	13.0	3.0	3.0	0.80	1.00	8.0	429.6	8.60	54	151
233.0	14' Omni	1	260	9.9	14.0	3.0	3.0	0.80	1.00	-5.0	290.1	8.61	58	268
233.0	Bird 432E-83I-01-T	1	84	1.2	1.0	12.0	7.5	0.80	0.50	7.0	25.3	8.60	4	89
233.0	Round Side Arm	3	233	8.3	0.0	0.0	0.0	1.00	0.67	0.0	0.0	8.60	122	789
233.0	Scala OGT9-840	2	162	6.8	11.4	2.0	2.0	0.80	1.00	7.0	555.1	8.60	79	331
233.0	Sinclair SC479-	3	283	14.0	14.4	3.5	3.5	0.80	1.00	7.0	1718.4	8.60	245	870
213.0	22' Dipole	1	342	23.1	22.0	3.0	3.0	0.90	1.00	0.0	0.0	8.61	152	355
213.0	Andrew DB224	1	396	16.2	23.0	3.0	3.0	0.90	1.00	0.0	0.0	8.61	107	404
213.0	Side Arm	2	233	9.1	0.0	0.0	0.0	0.90	0.90	0.0	0.0	8.61	108	526
180.0	Alcatel-Lucent 1900	3	155	3.5	2.1	11.1	10.7	0.80	0.67	0.0	0.0	8.64	42	501
180.0	Alcatel-Lucent	6	137	2.3	1.3	13.0	9.8	0.80	0.50	0.0	0.0	8.64	41	884
180.0	Alcatel-Lucent TD-	3	177	5.6	2.2	18.6	6.7	0.80	0.67	0.0	0.0	8.64	66	574
180.0	Commscope NNVV-	3	403	14.0	6.0	19.6	7.8	0.80	0.64	0.0	0.0	8.64	157	1254
180.0	Decibel DB844H90E-	3	144	4.6	4.0	8.0	6.5	0.80	0.74	0.0	0.0	8.64	61	439
180.0	RFS APXVTM14-ALU-	3	216	8.8	4.7	12.6	6.3	0.80	0.66	0.0	0.0	8.64	103	681
180.0	Round Sector Frame	3	718	33.2	0.0	0.0	0.0	0.75	0.75	0.0	0.0	8.64	411	2334
170.0	Alcatel-Lucent RRH	3	77	3.4	1.7	11.2	7.2	0.80	0.50	0.0	0.0	8.64	30	257
170.0	Alcatel-Lucent RRH	3	79	3.4	1.7	11.2	7.6	0.80	0.50	0.0	0.0	8.64	30	263
170.0	Amphenol Antel BXA-	3	30	13.6	5.9	11.2	5.2	0.80	0.66	0.0	0.0	8.64	158	102
170.0	Commscope HBXX-	6	241	11.3	6.2	12.0	6.5	0.80	0.68	0.0	0.0	8.64	270	1493
170.0	Commscope LNX-	3	70	14.6	6.1	11.9	7.1	0.80	0.69	0.0	0.0	8.64	178	234
170.0	Flat Light Sector	3	742	35.0	0.0	0.0	0.0	0.75	0.75	0.0	0.0	8.64	435	2466
170.0	RFS DB-T1-6Z-8AB-	1	79	8.6	2.0	24.0	10.0	0.80	0.67	0.0	0.0	8.64	34	88
170.0	RFS FD9R6004/2C-3L	6	5	0.7	0.5	6.5	1.5	0.80	0.50	0.0	0.0	8.64	12	31
130.0	24" x 24" Junction	1	174	5.8	2.0	24.0	8.0	0.90	0.67	0.0	0.0	8.65	26	178
130.0	Round Side Arm	1	233	8.3	0.0	0.0	0.0	1.00	0.67	0.0	0.0	8.65	41	263
130.0	Scala AP7-850/065	1	48	1.6	1.1	10.0	4.0	0.90	0.62	0.0	0.0	8.65	7	48
125.0	Amphenol Antel	3	291	12.5	7.9	11.2	5.1	0.80	0.67	0.0	0.0	8.65	148	889
125.0	Bird 432E-83I-01-T	1	85	1.7	1.0	12.0	7.5	0.80	0.50	0.0	0.0	8.65	5	90
125.0	Flat Side Arm	3	233	9.1	0.0	0.0	0.0	1.00	0.67	0.0	0.0	8.65	134	789
115.0	20' Dipole	1	311	21.0	20.0	3.0	3.0	1.00	1.00	0.0	0.0	8.64	154	323
115.0	Round Side Arm	1	233	8.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.64	61	263
105.0	2' x 4' Rectangular	1	211	41.4	2.0	48.0	0.0	1.00	1.00	0.0	0.0	8.62	303	219
105.0	5' Yagi	1	261	29.9	5.0	60.0	3.0	1.00	1.00	0.0	0.0	8.62	219	265
105.0	Round Side Arm	1	233	8.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.62	61	263
84.00	6' Ice Shield	1	805	7.0	1.2	100.0	48.0	1.00	1.00	0.0	0.0	8.53	50	895
80.00	RFS PA6-65AC w/	1	1290	27.1	6.0	72.0	0.0	1.00	1.00	0.0	0.0	8.50	196	1352
	Totals	101	23696	1072.7									5456	25350

Site Number: 6310
Site Name: FRANKLIN CT, CT
Customer: SPRINT NEXTEL

Code: ANSI/TIA-222-G
Engineering Number: OAA710395_C3_06

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Tower Loading

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)
294.0	10' Omni	1	25	3.0	10.0	3.0	3.0	1.00	1.00	13.0	411.2	12.40	32	25
294.0	13' Omni	1	40	3.9	13.0	3.0	3.0	1.00	1.00	9.0	370.0	12.40	41	40
294.0	18' Dipole	1	55	6.8	18.0	3.0	3.0	1.00	1.00	-6.0	427.8	12.39	71	55
294.0	20' Dipole	1	60	7.5	20.0	3.0	3.0	1.00	1.00	12.0	951.4	12.40	79	60
294.0	6' Yagi	1	25	8.9	6.0	60.0	3.0	1.00	1.00	8.0	754.6	12.40	94	25
294.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	12.39	110	450
268.0	10' Dipole	1	30	3.8	10.0	3.0	3.0	0.80	1.00	9.0	285.0	12.39	32	30
268.0	24" x 24" Junction	1	20	4.8	2.0	24.0	8.0	0.80	0.67	8.0	216.7	12.38	27	20
268.0	6' Omni	1	25	1.8	6.0	3.0	3.0	0.80	1.00	6.0	88.9	12.38	15	25
268.0	8' Omni	1	25	2.4	8.0	3.0	3.0	0.80	1.00	8.0	161.7	12.38	20	25
268.0	Andrew DB810K-XT	1	35	4.3	14.5	3.0	3.0	0.80	1.00	-6.0	219.8	12.38	37	35
268.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	12.38	110	450
233.0	11' Omni	1	40	3.3	11.0	3.0	3.0	0.80	1.00	-3.0	83.4	12.39	28	40
233.0	13' Omni	1	40	3.9	13.0	3.0	3.0	0.80	1.00	8.0	262.8	12.39	33	40
233.0	14' Omni	1	40	4.2	14.0	3.0	3.0	0.80	1.00	-5.0	177.0	12.39	35	40
233.0	Bird 432E-83I-01-T	1	25	1.2	1.0	12.0	7.5	0.80	0.50	7.0	35.4	12.39	5	25
233.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	12.39	110	450
233.0	Scala OGT9-840	2	19	2.3	11.4	2.0	2.0	0.80	1.00	7.0	267.7	12.39	38	37
233.0	Sinclair SC479-	3	34	5.0	14.4	3.5	3.5	0.80	1.00	7.0	889.8	12.39	127	102
213.0	22' Dipole	1	66	8.3	22.0	3.0	3.0	0.90	1.00	0.0	0.0	12.41	78	66
213.0	Andrew DB224	1	38	6.1	23.0	3.0	3.0	0.90	1.00	0.0	0.0	12.41	57	38
213.0	Side Arm	2	150	6.3	0.0	0.0	0.0	0.90	0.90	0.0	0.0	12.41	108	300
180.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	0.80	0.67	0.0	0.0	12.44	39	180
180.0	Alcatel-Lucent	6	53	1.7	1.3	13.0	9.8	0.80	0.50	0.0	0.0	12.44	43	317
180.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.67	0.0	0.0	12.44	69	210
180.0	Commscope NNVV-	3	77	12.3	6.0	19.6	7.8	0.80	0.64	0.0	0.0	12.44	199	232
180.0	Decibel DB844H90E-	3	14	3.6	4.0	8.0	6.5	0.80	0.74	0.0	0.0	12.44	68	42
180.0	RFS APXVTM14-ALU-	3	56	6.3	4.7	12.6	6.3	0.80	0.66	0.0	0.0	12.44	106	169
180.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	12.44	257	900
170.0	Alcatel-Lucent RRH	3	43	1.9	1.7	11.2	7.2	0.80	0.50	0.0	0.0	12.45	24	129
170.0	Alcatel-Lucent RRH	3	44	1.9	1.7	11.2	7.6	0.80	0.50	0.0	0.0	12.45	24	132
170.0	Amphenol Antel BXA-	3	17	7.6	5.9	11.2	5.2	0.80	0.66	0.0	0.0	12.45	127	51
170.0	Commscope HBXX-	6	41	8.5	6.2	12.0	6.5	0.80	0.68	0.0	0.0	12.45	295	245
170.0	Commscope LNX-	3	39	8.2	6.1	11.9	7.1	0.80	0.69	0.0	0.0	12.45	143	118
170.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	12.45	320	1200
170.0	RFS DB-T1-6Z-8AB-	1	44	4.8	2.0	24.0	10.0	0.80	0.67	0.0	0.0	12.45	27	44
170.0	RFS FD9R6004/2C-3L	6	3	0.4	0.5	6.5	1.5	0.80	0.50	0.0	0.0	12.45	9	16
130.0	24" x 24" Junction	1	20	4.8	2.0	24.0	8.0	0.90	0.67	0.0	0.0	12.46	31	20
130.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	12.46	37	150
130.0	Scala AP7-850/065	1	3	1.1	1.1	10.0	4.0	0.90	0.62	0.0	0.0	12.46	7	3
125.0	Amphenol Antel	3	27	10.7	7.9	11.2	5.1	0.80	0.67	0.0	0.0	12.46	181	82
125.0	Bird 432E-83I-01-T	1	25	1.2	1.0	12.0	7.5	0.80	0.50	0.0	0.0	12.46	5	25
125.0	Flat Side Arm	3	150	6.3	0.0	0.0	0.0	1.00	0.67	0.0	0.0	12.46	134	450
115.0	20' Dipole	1	60	7.5	20.0	3.0	3.0	1.00	1.00	0.0	0.0	12.44	80	60
115.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	12.44	55	150
105.0	2' x 4' Rectangular	1	40	4.8	2.0	48.0	0.0	1.00	1.00	0.0	0.0	12.41	50	40
105.0	5' Yagi	1	20	7.3	5.0	60.0	3.0	1.00	1.00	0.0	0.0	12.41	77	20
105.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	12.41	55	150
84.00	6' Ice Shield	1	450	3.9	1.2	100.0	48.0	1.00	1.00	0.0	0.0	12.28	41	450
80.00	RFS PA6-65AC w/	1	308	24.4	6.0	72.0	0.0	1.00	1.00	0.0	0.0	12.24	254	308
	Totals	101	8270	584.2									4044	8270

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
5.00	294.0	1 1/4" Coax	1	1.55	0.63	0	1	Individual	0.00	N	1.00	1.00	0.00
5.00	294.0	7/8" Coax	1	1.09	0.33	0	2	Individual	0.00	N	1.00	1.00	0.00
5.00	294.0	7/8" Coax	1	1.09	0.33	0	2	Individual	0.00	N	1.00	1.00	0.00
5.00	294.0	7/8" Coax	1	1.09	0.33	0	1	Individual	0.00	N	1.00	1.00	0.00
5.00	268.0	1 5/8" Coax	1	1.98	0.82	0	3	Individual	0.00	N	1.00	1.00	0.00
5.00	268.0	7/8" Coax	2	1.09	0.33	0	1	Individual	0.00	N	1.00	1.00	0.00
5.00	233.0	1 5/8" Coax	1	1.98	0.82	0	3	Individual	0.00	N	1.00	1.00	0.00
5.00	233.0	1 5/8" Coax	4	1.98	0.82	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
5.00	213.0	1/2" Coax	1	0.63	0.15	0	1	Individual	0.00	N	1.00	1.00	0.00
5.00	213.0	1/2" Coax	1	0.63	0.15	0	1	Individual	0.00	N	1.00	1.00	0.00
5.00	180.0	1 1/4" Hybriflex	4	1.54	1.00	0	2	Individual	0.00	N	1.00	1.00	0.00
5.00	180.0	1 5/8" Coax	9	1.98	0.82	0	2	Individual	0.00	N	0.50	1.00	0.00
5.00	170.0	1 5/8" Coax	12	1.98	0.82	33	3	Block	0.00	N	0.50	1.00	0.00
5.00	170.0	1 5/8" Fiber	1	1.63	1.61	0	3	Individual	0.00	N	1.00	1.00	0.00
5.00	130.0	1 5/8" Coax	1	1.98	0.82	0	3	Individual	0.00	N	1.00	1.00	0.00
5.00	125.0	1 5/8" Coax	3	1.98	0.82	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
5.00	115.0	1/2" Coax	1	0.63	0.15	0	3	Individual	0.00	N	1.00	1.00	0.00
5.00	80.00	EW65	1	2.01	0.57	0	3	Individual	0.00	N	1.00	1.00	0.00

Site Number: 6310 | Code: ANSI/TIA-222-G

Site Name: FRANKLIN CT, CT | Engineering Number: OAA710395_C3_06

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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):	2.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.18
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.05
Upper Limit C_s:	0.05
Lower Limit C_s:	0.03
Period based on Rayleigh Method (sec):	0.74
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.12
Total Unfactored Dead Load:	31.23 k
Seismic Base Shear (E):	2.13 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)
16	290.00	1,055	610,159	0.072	153	1,304
15	270.00	1,037	553,523	0.065	139	1,282
14	250.00	1,094	535,832	0.063	134	1,353
13	230.00	1,108	494,094	0.058	124	1,370
12	210.00	1,140	459,289	0.054	115	1,410
11	190.00	1,182	425,524	0.050	107	1,462
10	170.00	1,655	525,865	0.062	132	2,046
9	150.00	1,769	488,593	0.057	122	2,188
8	130.00	1,830	430,265	0.051	108	2,262
7	110.00	1,837	358,249	0.042	90	2,272
6	90.00	1,838	286,153	0.034	72	2,273
5	70.00	1,849	217,193	0.026	54	2,287
4	50.00	1,889	152,098	0.018	38	2,336
3	30.00	1,849	83,957	0.010	21	2,287
2	12.00	1,451	23,561	0.003	6	1,794
1	2.00	372	809	0.000	0	460
10' Omni	294.00	25	14,686	0.002	4	31
13' Omni	294.00	40	23,497	0.003	6	49
18' Dipole	294.00	55	32,309	0.004	8	68
20' Dipole	294.00	60	35,246	0.004	9	74
6' Yagi	294.00	25	14,686	0.002	4	31
Round Side Arm	294.00	450	264,346	0.031	66	556
10' Dipole	268.00	30	15,884	0.002	4	37
24" x 24" Junction Box	268.00	20	10,590	0.001	3	25

Equivalent Lateral Force Method

6' Omni	268.00	25	13,237	0.002	3	31
8' Omni	268.00	25	13,237	0.002	3	31
Andrew DB810K-XT	268.00	35	18,532	0.002	5	43
Round Side Arm	268.00	450	238,267	0.028	60	556
11' Omni	233.00	40	18,102	0.002	5	49
13' Omni	233.00	40	18,102	0.002	5	49
14' Omni	233.00	40	18,102	0.002	5	49
Bird 432E-83I-01-T	233.00	25	11,314	0.001	3	31
Round Side Arm	233.00	450	203,649	0.024	51	556
Scala OGT9-840	233.00	37	16,744	0.002	4	46
Sinclair SC479-HF1LDF(E5765)	233.00	102	46,160	0.005	12	126
22' Dipole	213.00	66	27,008	0.003	7	82
Andrew DB224	213.00	38	15,550	0.002	4	47
Side Arm	213.00	300	122,763	0.014	31	371
Alcatel-Lucent 1900 MHz 4X45 RRH	180.00	180	60,983	0.007	15	223
Alcatel-Lucent RRH2x50-08	180.00	317	107,533	0.013	27	392
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	180.00	210	71,147	0.008	18	260
Commscope NNVV-65B-R4	180.00	232	78,668	0.009	20	287
Decibel DB844H90E-XY	180.00	42	14,229	0.002	4	52
RFS APXVTM14-ALU-I20	180.00	169	57,121	0.007	14	208
Round Sector Frame	180.00	900	304,915	0.036	76	1,113
Alcatel-Lucent RRH 2X60-1900	170.00	129	40,990	0.005	10	160
Alcatel-Lucent RRH 2X60-AWS	170.00	132	41,943	0.005	11	163
Amphenol Antel BXA-70063-6CF-EDIN-X	170.00	51	16,205	0.002	4	63
Commscope HBXX-6517DS-A2M	170.00	245	77,786	0.009	20	303
Commscope LNX-8513DS-VTM (39.2 lb)	170.00	118	37,368	0.004	9	145
Flat Light Sector Frame	170.00	1,200	381,303	0.045	96	1,484
RFS DB-T1-6Z-8AB-0Z	170.00	44	13,981	0.002	4	54
RFS FD9R6004/2C-3L	170.00	16	4,957	0.001	1	19
24" x 24" Junction Box	130.00	20	4,704	0.001	1	25
Round Side Arm	130.00	150	35,277	0.004	9	185
Scala AP7-850/065	130.00	3	706	0.000	0	4
Amphenol Antel WPA-70063-8CF-EDIN-0-	125.00	82	18,432	0.002	5	101
Bird 432E-83I-01-T	125.00	25	5,626	0.001	1	31
Flat Side Arm	125.00	450	101,274	0.012	25	556
20' Dipole	115.00	60	12,297	0.001	3	74
Round Side Arm	115.00	150	30,744	0.004	8	185
2' x 4' Rectangular Grid Dish	105.00	40	7,403	0.001	2	49
5' Yagi	105.00	20	3,701	0.000	1	25
Round Side Arm	105.00	150	27,761	0.003	7	185
6' Ice Shield	84.00	450	64,840	0.008	16	556
RFS PA6-65AC w/ Radome	80.00	308	42,016	0.005	11	381
		31,226	8,501,086	1.000	2,131	38,610

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)
16	290.00	1,055	610,159	0.072	153	911
15	270.00	1,037	553,523	0.065	139	895
14	250.00	1,094	535,832	0.063	134	945
13	230.00	1,108	494,094	0.058	124	957
12	210.00	1,140	459,289	0.054	115	985
11	190.00	1,182	425,524	0.050	107	1,021

Equivalent Lateral Force Method

10	170.00	1,655	525,865	0.062	132	1,429
9	150.00	1,769	488,593	0.057	122	1,528
8	130.00	1,830	430,265	0.051	108	1,580
7	110.00	1,837	358,249	0.042	90	1,587
6	90.00	1,838	286,153	0.034	72	1,587
5	70.00	1,849	217,193	0.026	54	1,597
4	50.00	1,889	152,098	0.018	38	1,631
3	30.00	1,849	83,957	0.010	21	1,597
2	12.00	1,451	23,561	0.003	6	1,253
1	2.00	372	809	0.000	0	321
10' Omni	294.00	25	14,686	0.002	4	22
13' Omni	294.00	40	23,497	0.003	6	35
18' Dipole	294.00	55	32,309	0.004	8	47
20' Dipole	294.00	60	35,246	0.004	9	52
6' Yagi	294.00	25	14,686	0.002	4	22
Round Side Arm	294.00	450	264,346	0.031	66	389
10' Dipole	268.00	30	15,884	0.002	4	26
24" x 24" Junction Box	268.00	20	10,590	0.001	3	17
6' Omni	268.00	25	13,237	0.002	3	22
8' Omni	268.00	25	13,237	0.002	3	22
Andrew DB810K-XT	268.00	35	18,532	0.002	5	30
Round Side Arm	268.00	450	238,267	0.028	60	389
11' Omni	233.00	40	18,102	0.002	5	35
13' Omni	233.00	40	18,102	0.002	5	35
14' Omni	233.00	40	18,102	0.002	5	35
Bird 432E-83I-01-T	233.00	25	11,314	0.001	3	22
Round Side Arm	233.00	450	203,649	0.024	51	389
Scala OGT9-840	233.00	37	16,744	0.002	4	32
Sinclair SC479-HF1LDF(E5765)	233.00	102	46,160	0.005	12	88
22' Dipole	213.00	66	27,008	0.003	7	57
Andrew DB224	213.00	38	15,550	0.002	4	33
Side Arm	213.00	300	122,763	0.014	31	259
Alcatel-Lucent 1900 MHz 4X45 RRH	180.00	180	60,983	0.007	15	155
Alcatel-Lucent RRH2x50-08	180.00	317	107,533	0.013	27	274
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	180.00	210	71,147	0.008	18	181
Commscope NNVV-65B-R4	180.00	232	78,668	0.009	20	201
Decibel DB844H90E-XY	180.00	42	14,229	0.002	4	36
RFS APXVTM14-ALU-I20	180.00	169	57,121	0.007	14	146
Round Sector Frame	180.00	900	304,915	0.036	76	777
Alcatel-Lucent RRH 2X60-1900	170.00	129	40,990	0.005	10	111
Alcatel-Lucent RRH 2X60-AWS	170.00	132	41,943	0.005	11	114
Amphenol Antel BXA-70063-6CF-EDIN-X	170.00	51	16,205	0.002	4	44
Commscope HBXX-6517DS-A2M	170.00	245	77,786	0.009	20	211
Commscope LNX-8513DS-VTM (39.2 lb)	170.00	118	37,368	0.004	9	102
Flat Light Sector Frame	170.00	1,200	381,303	0.045	96	1,036
RFS DB-T1-6Z-8AB-0Z	170.00	44	13,981	0.002	4	38
RFS FD9R6004/2C-3L	170.00	16	4,957	0.001	1	13
24" x 24" Junction Box	130.00	20	4,704	0.001	1	17
Round Side Arm	130.00	150	35,277	0.004	9	130
Scala AP7-850/065	130.00	3	706	0.000	0	3
Amphenol Antel WPA-70063-8CF-EDIN-0-	125.00	82	18,432	0.002	5	71
Bird 432E-83I-01-T	125.00	25	5,626	0.001	1	22
Flat Side Arm	125.00	450	101,274	0.012	25	389
20' Dipole	115.00	60	12,297	0.001	3	52
Round Side Arm	115.00	150	30,744	0.004	8	130

Site Number:	**6310**	**Code:**	**ANSI/TIA-222-G**	
Site Name:	**FRANKLIN CT, CT**	**Engineering Number:**	**OAA710395_C3_06**	4/30/2018 4:38:24 PM
Customer:	**SPRINT NEXTEL**			

Equivalent Lateral Force Method

2' x 4' Rectangular Grid Dish	**105.00**	**40**	**7,403**	**0.001**	**2**	**35**
5' Yagi	**105.00**	**20**	**3,701**	**0.000**	**1**	**17**
Round Side Arm	**105.00**	**150**	**27,761**	**0.003**	**7**	**130**
6' Ice Shield	**84.00**	**450**	**64,840**	**0.008**	**16**	**389**
RFS PA6-65AC w/ Radome	**80.00**	**308**	**42,016**	**0.005**	**11**	**266**
		31,226	**8,501,086**	**1.000**	**2,131**	**26,964**

Site Number: 6310 | Code: ANSI/TIA-222-G |

Site Name: FRANKLIN CT, CT | Engineering Number: OAA710395_C3_06 | 4/30/2018 4:38:25 PM

Customer: SPRINT NEXTEL

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):	2.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.18
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	0.74
Redundancy Factor (p):	1.30

LoadCase (1.2 + 0.2Sds) * DL + E

Seismic

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S_{ax}	Horizontal Force (lb)	Vertical Force (lb)
16	290.00	1,055	1.766	1.389	0.920	0.350	192	1,304
15	270.00	1,037	1.531	0.580	0.580	0.239	129	1,282
14	250.00	1,094	1.312	0.138	0.347	0.160	91	1,353
13	230.00	1,108	1.111	-0.064	0.194	0.111	64	1,370
12	210.00	1,140	0.926	-0.121	0.098	0.083	49	1,410
11	190.00	1,182	0.758	-0.103	0.043	0.071	43	1,462
10	170.00	1,655	0.607	-0.055	0.015	0.065	56	2,046
9	150.00	1,769	0.472	-0.006	0.006	0.060	55	2,188
8	130.00	1,830	0.355	0.031	0.008	0.054	51	2,262
7	110.00	1,837	0.254	0.055	0.017	0.046	44	2,272
6	90.00	1,838	0.170	0.066	0.027	0.038	36	2,273
5	70.00	1,849	0.103	0.071	0.037	0.030	29	2,287
4	50.00	1,889	0.053	0.071	0.042	0.024	24	2,336
3	30.00	1,849	0.019	0.063	0.037	0.018	17	2,287
2	12.00	1,451	0.003	0.037	0.021	0.010	7	1,794
1	2.00	372	0.000	0.008	0.004	0.002	0	460
10' Omni	294.00	25	1.815	1.608	1.004	0.377	5	31
13' Omni	294.00	40	1.815	1.608	1.004	0.377	8	49
18' Dipole	294.00	55	1.815	1.608	1.004	0.377	11	68
20' Dipole	294.00	60	1.815	1.608	1.004	0.377	12	74
6' Yagi	294.00	25	1.815	1.608	1.004	0.377	5	31
Round Side Arm	294.00	450	1.815	1.608	1.004	0.377	88	556
10' Dipole	268.00	30	1.508	0.522	0.553	0.230	4	37
24" x 24" Junction Box	268.00	20	1.508	0.522	0.553	0.230	2	25
6' Omni	268.00	25	1.508	0.522	0.553	0.230	3	31
8' Omni	268.00	25	1.508	0.522	0.553	0.230	3	31
Andrew DB810K-XT	268.00	35	1.508	0.522	0.553	0.230	4	43
Round Side Arm	268.00	450	1.508	0.522	0.553	0.230	54	556
11' Omni	233.00	40	1.140	-0.045	0.213	0.116	2	49
13' Omni	233.00	40	1.140	-0.045	0.213	0.116	2	49
14' Omni	233.00	40	1.140	-0.045	0.213	0.116	2	49
Bird 432E-83I-01-T	233.00	25	1.140	-0.045	0.213	0.116	2	31
Round Side Arm	233.00	450	1.140	-0.045	0.213	0.116	27	556
Scala OGT9-840	233.00	37	1.140	-0.045	0.213	0.116	2	46
Sinclair SC479-HF1LDF(E5765)	233.00	102	1.140	-0.045	0.213	0.116	6	126
22' Dipole	213.00	66	0.953	-0.119	0.109	0.086	3	82
Andrew DB224	213.00	38	0.953	-0.119	0.109	0.086	2	47
Side Arm	213.00	300	0.953	-0.119	0.109	0.086	13	371
Alcatel-Lucent 1900 MHz 4X45	180.00	180	0.680	-0.081	0.026	0.067	6	223

Equivalent Modal Analysis Method

Alcatel-Lucent RRH2x50-08	180.00	317	0.680	-0.081	0.026	0.067	11	392
Alcatel-Lucent TD-RRH8x20-25	180.00	210	0.680	-0.081	0.026	0.067	7	260
Commscope NNVV-65B-R4	180.00	232	0.680	-0.081	0.026	0.067	8	287
Decibel DB844H90E-XY	180.00	42	0.680	-0.081	0.026	0.067	1	52
RFS APXVTM14-ALU-I20	180.00	169	0.680	-0.081	0.026	0.067	6	208
Round Sector Frame	180.00	900	0.680	-0.081	0.026	0.067	31	1,113
Alcatel-Lucent RRH 2X60-1900	170.00	129	0.607	-0.055	0.015	0.065	4	160
Alcatel-Lucent RRH 2X60-AWS	170.00	132	0.607	-0.055	0.015	0.065	4	163
Amphenol Antel BXA-70063-6CF-	170.00	51	0.607	-0.055	0.015	0.065	2	63
Commscope HBXX-6517DS-A2M	170.00	245	0.607	-0.055	0.015	0.065	8	303
Commscope LNX-8513DS-VTM	170.00	118	0.607	-0.055	0.015	0.065	4	145
Flat Light Sector Frame	170.00	1,200	0.607	-0.055	0.015	0.065	40	1,484
RFS DB-T1-6Z-8AB-0Z	170.00	44	0.607	-0.055	0.015	0.065	1	54
RFS FD9R6004/2C-3L	170.00	16	0.607	-0.055	0.015	0.065	1	19
24" x 24" Junction Box	130.00	20	0.355	0.031	0.008	0.054	1	25
Round Side Arm	130.00	150	0.355	0.031	0.008	0.054	4	185
Scala AP7-850/065	130.00	3	0.355	0.031	0.008	0.054	0	4
Amphenol Antel WPA-70063-	125.00	82	0.328	0.039	0.010	0.052	2	101
Bird 432E-83I-01-T	125.00	25	0.328	0.039	0.010	0.052	1	31
Flat Side Arm	125.00	450	0.328	0.039	0.010	0.052	12	556
20' Dipole	115.00	60	0.278	0.050	0.014	0.048	2	74
Round Side Arm	115.00	150	0.278	0.050	0.014	0.048	4	185
2' x 4' Rectangular Grid Dish	105.00	40	0.232	0.058	0.019	0.044	1	49
5' Yagi	105.00	20	0.232	0.058	0.019	0.044	0	25
Round Side Arm	105.00	150	0.232	0.058	0.019	0.044	3	185
6' Ice Shield	84.00	450	0.148	0.068	0.030	0.036	8	556
RFS PA6-65AC w/ Radome	80.00	308	0.134	0.069	0.032	0.034	5	381
		31,226	53.420	13.887	14.059	7.682	1,331	38,610

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)
16	290.00	1,055	1.766	1.389	0.920	0.350	192	911
15	270.00	1,037	1.531	0.580	0.580	0.239	129	895
14	250.00	1,094	1.312	0.138	0.347	0.160	91	945
13	230.00	1,108	1.111	-0.064	0.194	0.111	64	957
12	210.00	1,140	0.926	-0.121	0.098	0.083	49	985
11	190.00	1,182	0.758	-0.103	0.043	0.071	43	1,021
10	170.00	1,655	0.607	-0.055	0.015	0.065	56	1,429
9	150.00	1,769	0.472	-0.006	0.006	0.060	55	1,528
8	130.00	1,830	0.355	0.031	0.008	0.054	51	1,580
7	110.00	1,837	0.254	0.055	0.017	0.046	44	1,587
6	90.00	1,838	0.170	0.066	0.027	0.038	36	1,587
5	70.00	1,849	0.103	0.071	0.037	0.030	29	1,597
4	50.00	1,889	0.053	0.071	0.042	0.024	24	1,631
3	30.00	1,849	0.019	0.063	0.037	0.018	17	1,597
2	12.00	1,451	0.003	0.037	0.021	0.010	7	1,253
1	2.00	372	0.000	0.008	0.004	0.002	0	321
10' Omni	294.00	25	1.815	1.608	1.004	0.377	5	22
13' Omni	294.00	40	1.815	1.608	1.004	0.377	8	35
18' Dipole	294.00	55	1.815	1.608	1.004	0.377	11	47
20' Dipole	294.00	60	1.815	1.608	1.004	0.377	12	52
6' Yagi	294.00	25	1.815	1.608	1.004	0.377	5	22
Round Side Arm	294.00	450	1.815	1.608	1.004	0.377	88	389
10' Dipole	268.00	30	1.508	0.522	0.553	0.230	4	26
24" x 24" Junction Box	268.00	20	1.508	0.522	0.553	0.230	2	17
6' Omni	268.00	25	1.508	0.522	0.553	0.230	3	22
8' Omni	268.00	25	1.508	0.522	0.553	0.230	3	22
Andrew DB810K-XT	268.00	35	1.508	0.522	0.553	0.230	4	30
Round Side Arm	268.00	450	1.508	0.522	0.553	0.230	54	389
11' Omni	233.00	40	1.140	-0.045	0.213	0.116	2	35
13' Omni	233.00	40	1.140	-0.045	0.213	0.116	2	35

Site Number: 6310
Site Name: FRANKLIN CT, CT
Customer: SPRINT NEXTEL

Code: ANSI/TIA-222-G
Engineering Number: OAA710395_C3_06

4/30/2018 4:38:25 PM

Equivalent Modal Analysis Method

14' Omni	233.00	40	1.140	-0.045	0.213	0.116	2	35
Bird 432E-83I-01-T	233.00	25	1.140	-0.045	0.213	0.116	2	22
Round Side Arm	233.00	450	1.140	-0.045	0.213	0.116	27	389
Scala OGT9-840	233.00	37	1.140	-0.045	0.213	0.116	2	32
Sinclair SC479-HF1LDF(E5765)	233.00	102	1.140	-0.045	0.213	0.116	6	88
22' Dipole	213.00	66	0.953	-0.119	0.109	0.086	3	57
Andrew DB224	213.00	38	0.953	-0.119	0.109	0.086	2	33
Side Arm	213.00	300	0.953	-0.119	0.109	0.086	13	259
Alcatel-Lucent 1900 MHz 4X45	180.00	180	0.680	-0.081	0.026	0.067	6	155
Alcatel-Lucent RRH2x50-08	180.00	317	0.680	-0.081	0.026	0.067	11	274
Alcatel-Lucent TD-RRH8x20-25	180.00	210	0.680	-0.081	0.026	0.067	7	181
Commscope NNVV-65B-R4	180.00	232	0.680	-0.081	0.026	0.067	8	201
Decibel DB844H90E-XY	180.00	42	0.680	-0.081	0.026	0.067	1	36
RFS APXVTM14-ALU-I20	180.00	169	0.680	-0.081	0.026	0.067	6	146
Round Sector Frame	180.00	900	0.680	-0.081	0.026	0.067	31	777
Alcatel-Lucent RRH 2X60-1900	170.00	129	0.607	-0.055	0.015	0.065	4	111
Alcatel-Lucent RRH 2X60-AWS	170.00	132	0.607	-0.055	0.015	0.065	4	114
Amphenol Antel BXA-70063-6CF-	170.00	51	0.607	-0.055	0.015	0.065	2	44
Commscope HBXX-6517DS-A2M	170.00	245	0.607	-0.055	0.015	0.065	8	211
Commscope LNX-8513DS-VTM	170.00	118	0.607	-0.055	0.015	0.065	4	102
Flat Light Sector Frame	170.00	1,200	0.607	-0.055	0.015	0.065	40	1,036
RFS DB-T1-6Z-8AB-0Z	170.00	44	0.607	-0.055	0.015	0.065	1	38
RFS FD9R6004/2C-3L	170.00	16	0.607	-0.055	0.015	0.065	1	13
24" x 24" Junction Box	130.00	20	0.355	0.031	0.008	0.054	1	17
Round Side Arm	130.00	150	0.355	0.031	0.008	0.054	4	130
Scala AP7-850/065	130.00	3	0.355	0.031	0.008	0.054	0	3
Amphenol Antel WPA-70063-	125.00	82	0.328	0.039	0.010	0.052	2	71
Bird 432E-83I-01-T	125.00	25	0.328	0.039	0.010	0.052	1	22
Flat Side Arm	125.00	450	0.328	0.039	0.010	0.052	12	389
20' Dipole	115.00	60	0.278	0.050	0.014	0.048	2	52
Round Side Arm	115.00	150	0.278	0.050	0.014	0.048	4	130
2' x 4' Rectangular Grid Dish	105.00	40	0.232	0.058	0.019	0.044	1	35
5' Yagi	105.00	20	0.232	0.058	0.019	0.044	0	17
Round Side Arm	105.00	150	0.232	0.058	0.019	0.044	3	130
6' Ice Shield	84.00	450	0.148	0.068	0.030	0.036	8	389
RFS PA6-65AC w/ Radome	80.00	308	0.134	0.069	0.032	0.034	5	266
		31,226	53.420	13.887	14.059	7.682	1,331	26,964

Force/Stress Summary

Section: 1 Base — Bot Elev (ft): 0.00 — Height (ft): 4.000

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 SOL - 2 1/4" SOLID	-103.93	1.2D + 1.0Di +	2.31	100	100	100	49.3	50.0	149.83	0	0	0.00	0.00	69	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG PL - PL 2 x 0.5"	-2.88	1.2D + 1.6W	3.651	50	50	50	136.6	50.0	12.10	0	0	0.00	0.00		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	0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ SAE - 3X3X0.3125	26.33	1.2D + 1.0Di +	36	58	57.67	0	0	0.00	0.00	0.00	45	Member
DIAG	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	

Section: 2 16'-4 Bays — Bot Elev (ft): 4.00 — Height (ft): 16.000

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 SOL - 2 1/4" SOLID	-94.38	1.2D + 1.0Di +	3.90	100	100	100	83.2	50.0	107.86	0	0	0.00	0.00	87	Member X
HORIZ SAE - 2X2X0.1875	-2.77	1.2D + 1.6W	4.000	100	100	100	121.8	36.0	10.61	0	0	0.00	0.00	26	Member Z
DIAG SOL - 5/8" SOLID	-1.63	1.2D + 1.6W	5.587	50	50	50	193.4	50.0	1.85	0	0	0.00	0.00		Member X

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	0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ SAE - 2X2X0.1875	5.82	1.2D + 1.0Di +	36	58	23.17	0	0	0.00	0.00	0.00	25	Member
DIAG SOL - 5/8" SOLID	4.01	1.2D + 1.6W 210	50	65	13.81	0	0	0.00	0.00	0.00	29	Member

Section: 3 20'-5 Bays — Bot Elev (ft): 20.00 — Height (ft): 20.000

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 SOL - 2 1/4" SOLID	-93.40	1.2D + 1.0Di +	3.92	100	100	100	83.6	50.0	107.30	0	0	0.00	0.00	87	Member X
HORIZ SAE - 2X2X0.1875	-1.48	1.2D + 1.6W 90	4.000	100	100	100	121.8	36.0	10.61	0	0	0.00	0.00	13	Member Z
DIAG SOL - 5/8" SOLID	-1.48	1.2D + 1.6W	5.601	50	50	50	193.9	50.0	1.84	0	0	0.00	0.00		Member X

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	0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ SAE - 2X2X0.1875	2.19	1.2D + 1.6W 60	36	58	23.17	0	0	0.00	0.00	0.00	9	Member
DIAG SOL - 5/8" SOLID	2.54	1.2D + 1.6W 90	50	65	13.81	0	0	0.00	0.00	0.00	18	Member

Force/Stress Summary

Section: 4 20'-5 Bays Bot Elev (ft): 40.00 Height (ft): 20.000

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 SOL - 2 1/4" SOLID	-86.99	1.2D + 1.0Di +	3.92	100	100	100	83.6	50.0	107.30	0	0	0.00	0.00	81	Member X
HORIZ SAE - 2X2X0.1875	-4.36	1.2D + 1.6W 90	4.000	100	100	100	121.8	36.0	10.61	0	0	0.00	0.00	41	Member Z
DIAG SOL - 5/8" SOLID	-0.20	1.2D + 1.6W	5.601	50	50	50	193.9	50.0	1.84	0	0	0.00	0.00		Member X

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	0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ SAE - 2X2X0.1875	2.55	1.2D + 1.6W	36	58	23.17	0	0	0.00	0.00	0.00	10	Member
DIAG SOL - 5/8" SOLID	6.48	1.2D + 1.6W 90	50	65	13.81	0	0	0.00	0.00	0.00	46	Member

Section: 5 20'-5 Bays Bot Elev (ft): 60.00 Height (ft): 20.000

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 SOL - 2 1/4" SOLID	-80.44	1.2D + 1.0Di +	3.92	100	100	100	83.6	50.0	107.30	0	0	0.00	0.00	74	Member X
HORIZ SAE - 2X2X0.1875	-6.06	1.2D + 1.6W	4.000	100	100	100	121.8	36.0	10.61	0	0	0.00	0.00	57	Member Z
DIAG SOL - 5/8" SOLID	-1.40	1.2D + 1.6W	5.601	50	50	50	193.9	50.0	1.84	0	0	0.00	0.00		Member X

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	0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ SAE - 2X2X0.1875	2.59	1.2D + 1.6W 240	36	58	23.17	0	0	0.00	0.00	0.00	11	Member
DIAG SOL - 5/8" SOLID	8.89	1.2D + 1.6W 330	50	65	13.81	0	0	0.00	0.00	0.00	64	Member

Section: 6 20'-5 Bays Bot Elev (ft): 80.00 Height (ft): 20.000

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 SOL - 2 1/4" SOLID	-76.25	1.2D + 1.0Di +	3.92	100	100	100	83.6	50.0	107.30	0	0	0.00	0.00	71	Member X
HORIZ SAE - 2X2X0.1875	-1.70	1.2D + 1.6W	4.000	100	100	100	121.8	36.0	10.61	0	0	0.00	0.00	16	Member Z
DIAG SOL - 5/8" SOLID	-0.11	1.2D + 1.6W	5.601	50	50	50	193.9	50.0	1.84	0	0	0.00	0.00		Member X

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	0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ SAE - 2X2X0.1875	2.55	1.2D + 1.6W 210	36	58	23.17	0	0	0.00	0.00	0.00	11	Member
DIAG SOL - 5/8" SOLID	2.91	1.2D + 1.6W 90	50	65	13.81	0	0	0.00	0.00	0.00	21	Member

Force/Stress Summary

Section: 7 20'-5 Bays Bot Elev (ft): 100.0 Height (ft): 20.000

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 SOL - 2 1/4" SOLID	-73.21	1.2D + 1.0Di +	3.92	100	100	100	83.6	50.0	107.30	0	0	0.00	0.00	68	Member X
HORIZ SAE - 2X2X0.1875	-4.59	1.2D + 1.6W 90	4.000	100	100	100	121.8	36.0	10.61	0	0	0.00	0.00	43	Member Z
DIAG SOL - 5/8" SOLID	-0.05	1.2D + 1.6W	5.601	50	50	50	193.9	50.0	1.84	0	0	0.00	0.00		Member X

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	0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ SAE - 2X2X0.1875	2.55	1.2D + 1.6W 120	36	58	23.17	0	0	0.00	0.00	0.00	11	Member
DIAG SOL - 5/8" SOLID	7.38	1.2D + 1.6W 90	50	65	13.81	0	0	0.00	0.00	0.00	53	Member

Section: 8 20'-5 Bays Bot Elev (ft): 120.0 Height (ft): 20.000

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 SOL - 2 1/4" SOLID	-66.16	1.2D + 1.0Di +	3.92	100	100	100	83.6	50.0	107.30	0	0	0.00	0.00	61	Member X
HORIZ SAE - 2X2X0.1875	-6.06	1.2D + 1.6W 90	4.000	100	100	100	121.8	36.0	10.61	0	0	0.00	0.00	57	Member Z
DIAG SOL - 5/8" SOLID	-0.98	1.2D + 1.6W	5.601	50	50	50	193.9	50.0	1.84	0	0	0.00	0.00		Member X

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	0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ SAE - 2X2X0.1875	2.35	1.2D + 1.0Di +	36	58	23.17	0	0	0.00	0.00	0.00	10	Member
DIAG SOL - 5/8" SOLID	8.85	1.2D + 1.6W 210	50	65	13.81	0	0	0.00	0.00	0.00	64	Member

Section: 9 20'-5 Bays Bot Elev (ft): 140.0 Height (ft): 20.000

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 SOL - 2 1/4" SOLID	-64.86	1.2D + 1.6W	3.92	100	100	100	83.6	50.0	107.30	0	0	0.00	0.00	60	Member X
HORIZ SAE - 2X2X0.1875	-3.43	1.2D + 1.6W 90	4.000	100	100	100	121.8	36.0	10.61	0	0	0.00	0.00	32	Member Z
DIAG SOL - 5/8" SOLID	-1.54	1.2D + 1.6W	5.601	50	50	50	193.9	50.0	1.84	0	0	0.00	0.00		Member X

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 SOL - 2 1/4" SOLID	12.88	1.2D + 1.6W 240	50	65	178.92	0	0	0.00	0.00		7	Member
HORIZ SAE - 2X2X0.1875	2.37	1.2D + 1.6W	36	58	23.17	0	0	0.00	0.00	0.00	10	Member
DIAG SOL - 5/8" SOLID	5.33	1.2D + 1.6W 90	50	65	13.81	0	0	0.00	0.00	0.00	38	Member

Force/Stress Summary

Section: 10 20'-5 Bays Bot Elev (ft): 160.0 Height (ft): 20.000

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 SOL - 2 1/4" SOLID	-63.94	1.2D + 1.6W	3.92	100	100	100	83.6	50.0	107.30	0	0	0.00	0.00	59	Member X
HORIZ SAE - 2X2X0.1875	-4.41	1.2D + 1.6W	4.000	100	100	100	121.8	36.0	10.61	0	0	0.00	0.00	41	Member Z
DIAG SOL - 5/8" SOLID	-0.85	1.2D + 1.6W	5.601	50	50	50	193.9	50.0	1.84	0	0	0.00	0.00		Member X

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 SOL - 2 1/4" SOLID	14.36	1.2D + 1.6W 240	50	65	178.92	0	0	0.00	0.00		8	Member
HORIZ SAE - 2X2X0.1875	3.12	1.2D + 1.6W	36	58	23.17	0	0	0.00	0.00	0.00	13	Member
DIAG SOL - 5/8" SOLID	6.86	1.2D + 1.6W 210	50	65	13.81	0	0	0.00	0.00	0.00	49	Member

Section: 11 20'-5 Bays Bot Elev (ft): 180.0 Height (ft): 20.000

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 SOL - 2" SOLID	-45.94	1.2D + 1.0Di +	3.92	100	100	100	94.1	50.0	74.01	0	0	0.00	0.00	62	Member X
HORIZ SAE - 2X2X0.1875	-3.88	1.2D + 1.6W	4.000	100	100	100	121.8	36.0	10.61	0	0	0.00	0.00	36	Member Z
DIAG SOL - 5/8" SOLID	-1.34	1.2D + 1.6W	5.601	50	50	50	193.9	50.0	1.84	0	0	0.00	0.00		Member X

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	0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ SAE - 2X2X0.1875	2.16	1.2D + 1.6W	36	58	23.17	0	0	0.00	0.00	0.00	9	Member
DIAG SOL - 5/8" SOLID	11.11	1.2D + 1.6W 210	50	65	13.81	0	0	0.00	0.00	0.00	80	Member

Section: 12 20'-5 Bays Bot Elev (ft): 200.0 Height (ft): 20.000

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 SOL - 2" SOLID	-34.88	1.2D + 1.0Di +	3.92	100	100	100	94.1	50.0	74.01	0	0	0.00	0.00	47	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SOL - 5/8" SOLID	-1.31	1.2D + 1.6W	5.601	50	50	50	193.9	50.0	1.84	0	0	0.00	0.00		Member X

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 SOL - 2" SOLID	2.89	1.2D + 1.6W 240	50	65	141.37	0	0	0.00	0.00		2	Member
HORIZ SAE - 2X2X0.1875	1.71	1.2D + 1.6W	36	58	23.17	0	0	0.00	0.00	0.00	7	Member
DIAG SOL - 5/8" SOLID	0.29	1.2D + 1.6W 60	50	65	13.81	0	0	0.00	0.00	0.00	2	Member

Force/Stress Summary

Section: 13 20'-5 Bays Bot Elev (ft): 220.0 Height (ft): 20.000

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 SOL - 2" SOLID	-33.33	1.2D + 1.0Di +	3.92	100	100	100	94.1	50.0	74.01	0	0	0.00	0.00	45	Member X
HORIZ SAE - 2X2X0.1875	-3.08	1.2D + 1.6W 90	4.000	100	100	100	121.8	36.0	10.61	0	0	0.00	0.00	29	Member Z
DIAG SOL - 5/8" SOLID	-1.04	1.2D + 1.6W	5.601	50	50	50	193.9	50.0	1.84	0	0	0.00	0.00		Member X

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 SOL - 2" SOLID	0.27	1.2D + 1.6W 120	50	65	141.37	0	0	0.00	0.00		0	Member
HORIZ SAE - 2X2X0.1875	1.65	1.2D + 1.6W 120	36	58	23.17	0	0	0.00	0.00	0.00	7	Member
DIAG SOL - 5/8" SOLID	4.72	1.2D + 1.6W 210	50	65	13.81	0	0	0.00	0.00	0.00	34	Member

Section: 14 20'-5 Bays Bot Elev (ft): 240.0 Height (ft): 20.000

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 SOL - 2" SOLID	-26.75	1.2D + 1.0Di +	3.92	100	100	100	94.1	50.0	74.01	0	0	0.00	0.00	36	Member X
HORIZ SAE - 2X2X0.1875	-1.96	1.2D + 1.6W	4.000	100	100	100	121.8	36.0	10.61	0	0	0.00	0.00	18	Member Z
DIAG SOL - 5/8" SOLID	-0.49	1.2D + 1.6W	5.601	50	50	50	193.9	50.0	1.84	0	0	0.00	0.00		Member X

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 SOL - 2" SOLID	10.52	1.2D + 1.6W 180	50	65	141.37	0	0	0.00	0.00		7	Member
HORIZ SAE - 2X2X0.1875	0.95	1.2D + 1.6W	36	58	23.17	0	0	0.00	0.00	0.00	4	Member
DIAG SOL - 5/8" SOLID	5.23	1.2D + 1.6W 210	50	65	13.81	0	0	0.00	0.00	0.00	37	Member

Section: 15 20'-5 Bays Bot Elev (ft): 260.0 Height (ft): 20.000

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 SOL - 2" SOLID	-15.56	1.2D + 1.0Di +	3.92	100	100	100	94.1	50.0	74.01	0	0	0.00	0.00	21	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SOL - 5/8" SOLID	-1.08	1.2D + 1.6W	5.601	50	50	50	193.9	50.0	1.84	0	0	0.00	0.00		Member X

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	0.00		0	0	0.00	0	0	0.00	0.00		0	
HORIZ SAE - 2X2X0.1875	0.70	1.2D + 1.6W 90	36	58	23.17	0	0	0.00	0.00	0.00	3	Member
DIAG SOL - 5/8" SOLID	0.87	1.2D + 1.6W 90	50	65	13.81	0	0	0.00	0.00	0.00	6	Member

Force/Stress Summary

Section: 16 20'-5 Bays Bot Elev (ft): 280.0 Height (ft): 20.000

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 SOL - 2" SOLID	-13.58	1.2D + 1.0Dl +	3.92	100	100	100	94.1	50.0	74.01	0	0	0.00	0.00	18	Member X
HORIZSAE - 2X2X0.1875	-0.37	1.2D + 1.6W	4.000	100	100	100	121.8	36.0	10.61	0	0	0.00	0.00	3	Member Z
DIAG SOL - 5/8" SOLID	-0.34	1.2D + 1.6W	5.601	50	50	50	193.9	50.0	1.84	0	0	0.00	0.00		Member X

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 SOL - 2" SOLID	3.44	1.2D + 1.6W 180	50	65	141.37	0	0	0.00	0.00		2	Member
HORIZ SAE - 2X2X0.1875	0.52	1.2D + 1.6W 60	36	58	23.17	0	0	0.00	0.00	0.00	2	Member
DIAG SOL - 5/8" SOLID	1.74	1.2D + 1.6W 180	50	65	13.81	0	0	0.00	0.00	0.00	12	Member

Detailed Reactions

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal	0.00	00.00		1	0.01	164.57	-3.08	
	190.00	07.00	0	A1	0.00	-3.58	2.58	
	190.00	03.00	240	A1a	-64.86	-59.01	-39.77	
	201.00	-08.00	120	A1b	64.82	-59.77	-39.79	
1.2D + 1.6W 60 deg	0.00	00.00		1	-3.14	134.88	-1.88	
	190.00	07.00	0	A1	-1.60	-12.98	13.66	
	190.00	03.00	240	A1a	-74.20	-67.20	-42.82	
	201.00	-08.00	120	A1b	10.96	-13.40	-8.25	
1.2D + 1.6W 90 deg	0.00	00.00		1	-3.24	152.74	-0.37	
	190.00	07.00	0	A1	-2.19	-36.39	46.83	
	190.00	03.00	240	A1a	-77.31	-68.61	-43.36	
	201.00	-08.00	120	A1b	3.89	-6.06	-3.15	
1.2D + 1.6W 120 deg	0.00	00.00		1	-2.71	162.63	1.57	
	190.00	07.00	0	A1	-1.99	-57.57	76.20	
	190.00	03.00	240	A1a	-67.00	-59.06	-36.38	
	201.00	-08.00	120	A1b	2.41	-3.92	-1.39	
1.2D + 1.6W 180 deg	0.00	00.00		1	0.02	133.86	3.70	
	190.00	07.00	0	A1	-0.01	-65.67	85.74	
	190.00	03.00	240	A1a	-12.73	-13.44	-5.49	
	201.00	-08.00	120	A1b	12.76	-13.48	-5.44	
1.2D + 1.6W 210 deg	0.00	00.00		1	1.33	151.86	3.04	
	190.00	07.00	0	A1	1.10	-66.72	88.32	
	190.00	03.00	240	A1a	-4.44	-5.84	-1.69	
	201.00	-08.00	120	A1b	41.45	-37.58	-21.34	
1.2D + 1.6W 240 deg	0.00	00.00		1	2.67	163.21	1.60	
	190.00	07.00	0	A1	2.01	-57.49	76.09	
	190.00	03.00	240	A1a	-2.29	-3.80	-1.32	
	201.00	-08.00	120	A1b	66.96	-59.74	-36.31	
1.2D + 1.6W 300 deg	0.00	00.00		1	3.15	134.21	-1.86	
	190.00	07.00	0	A1	1.60	-12.49	12.99	
	190.00	03.00	240	A1a	-10.40	-12.86	-7.86	
	201.00	-08.00	120	A1b	73.58	-67.46	-42.48	
1.2D + 1.6W 330 deg	0.00	00.00		1	1.94	153.54	-2.62	
	190.00	07.00	0	A1	0.75	-5.48	4.50	
	190.00	03.00	240	A1a	-39.05	-37.07	-25.09	
	201.00	-08.00	120	A1b	75.77	-69.17	-45.05	
1.2D + 1.0Di + 1.0Wi Normal	0.00	00.00		1	0.01	267.06	-0.56	
	190.00	07.00	0	A1	0.00	-15.13	23.93	
	190.00	03.00	240	A1a	-43.22	-36.52	-26.78	
	201.00	-08.00	120	A1b	43.18	-36.66	-26.82	
1.2D + 1.0Di + 1.0Wi 60 deg	0.00	00.00		1	-0.54	266.88	-0.36	
	190.00	07.00	0	A1	-1.56	-22.25	32.64	
	190.00	03.00	240	A1a	-51.45	-43.75	-29.70	
	201.00	-08.00	120	A1b	27.42	-23.01	-17.70	
1.2D + 1.0Di + 1.0Wi 90 deg	0.00	00.00		1	-0.60	267.02	-0.06	
	190.00	07.00	0	A1	-1.94	-28.99	41.98	
	190.00	03.00	240	A1a	-50.13	-41.86	-28.04	
	201.00	-08.00	120	A1b	22.53	-17.93	-13.91	

1.2D + 1.0Di + 1.0Wi 120 deg	0.00	00.00		1	-0.43	267.29	0.27
	190.00	07.00	0	A1	-1.59	-35.80	51.36
	190.00	03.00	240	A1a	-45.30	-36.80	-24.32
	201.00	-08.00	120	A1b	21.20	-16.06	-12.24
1.2D + 1.0Di + 1.0Wi 180 deg	0.00	00.00		1	0.01	266.49	0.72
	190.00	07.00	0	A1	-0.01	-42.63	59.37
	190.00	03.00	240	A1a	-29.08	-22.97	-14.99
	201.00	-08.00	120	A1b	29.12	-23.05	-14.95
1.2D + 1.0Di + 1.0Wi 210 deg	0.00	00.00		1	0.34	266.48	0.54
	190.00	07.00	0	A1	0.76	-40.66	57.17
	190.00	03.00	240	A1a	-23.09	-17.74	-12.46
	201.00	-08.00	120	A1b	37.09	-29.80	-19.10
1.2D + 1.0Di + 1.0Wi 240 deg	0.00	00.00		1	0.50	266.60	0.32
	190.00	07.00	0	A1	1.57	-35.52	50.80
	190.00	03.00	240	A1a	-20.76	-15.71	-11.98
	201.00	-08.00	120	A1b	44.85	-36.65	-24.00
1.2D + 1.0Di + 1.0Wi 300 deg	0.00	00.00		1	0.59	265.92	-0.34
	190.00	07.00	0	A1	1.55	-21.90	32.11
	190.00	03.00	240	A1a	-27.01	-22.58	-17.39
	201.00	-08.00	120	A1b	50.92	-43.47	-29.40
1.2D + 1.0Di + 1.0Wi 330 deg	0.00	00.00		1	0.34	266.33	-0.50
	190.00	07.00	0	A1	0.74	-16.90	25.85
	190.00	03.00	240	A1a	-34.83	-29.44	-22.34
	201.00	-08.00	120	A1b	48.79	-41.62	-29.10
(1.2 + 0.2Sds) * DL + E Normal M1	0.00	00.00		1	0.01	86.38	0.02
	190.00	07.00	0	A1	0.00	-12.84	17.40
	190.00	03.00	240	A1a	-16.88	-15.26	-9.75
	201.00	-08.00	120	A1b	16.87	-15.41	-9.74
(1.2 + 0.2Sds) * DL + E Normal M2	0.00	00.00		1	0.01	86.36	-0.01
	190.00	07.00	0	A1	0.00	-13.29	17.97
	190.00	03.00	240	A1a	-16.64	-15.03	-9.61
	201.00	-08.00	120	A1b	16.63	-15.18	-9.60
(1.2 + 0.2Sds) * DL + E 60 deg M1	0.00	00.00		1	0.04	86.46	0.01
	190.00	07.00	0	A1	0.00	-13.55	18.15
	190.00	03.00	240	A1a	-17.50	-15.94	-10.10
	201.00	-08.00	120	A1b	15.71	-14.10	-9.07
(1.2 + 0.2Sds) * DL + E 60 deg M2	0.00	00.00		1	0.01	86.42	-0.01
	190.00	07.00	0	A1	0.00	-13.75	18.40
	190.00	03.00	240	A1a	-17.02	-15.51	-9.83
	201.00	-08.00	120	A1b	15.93	-14.30	-9.20
(1.2 + 0.2Sds) * DL + E 90 deg M1	0.00	00.00		1	0.04	86.50	-0.01
	190.00	07.00	0	A1	0.00	-14.23	18.85
	190.00	03.00	240	A1a	-17.37	-15.81	-10.03
	201.00	-08.00	120	A1b	15.28	-13.60	-8.82
(1.2 + 0.2Sds) * DL + E 90 deg M2	0.00	00.00		1	0.01	86.45	-0.01
	190.00	07.00	0	A1	0.00	-14.21	18.83
	190.00	03.00	240	A1a	-16.95	-15.41	-9.78
	201.00	-08.00	120	A1b	15.66	-13.96	-9.04
(1.2 + 0.2Sds) * DL + E 120 deg M1	0.00	00.00		1	0.04	86.52	-0.02
	190.00	07.00	0	A1	0.00	-14.91	19.56
	190.00	03.00	240	A1a	-16.94	-15.31	-9.78
	201.00	-08.00	120	A1b	15.13	-13.43	-8.73

(1.2 + 0.2Sds) * DL + E 120 deg M2	0.00	00.00		1	0.01	86.46	-0.01
	190.00	07.00	0	A1	0.00	-14.68	19.26
	190.00	03.00	240	A1a	-16.68	-15.07	-9.63
	201.00	-08.00	120	A1b	15.57	-13.84	-8.99
(1.2 + 0.2Sds) * DL + E 180 deg M1	0.00	00.00		1	0.01	86.46	-0.04
	190.00	07.00	0	A1	0.00	-15.55	20.23
	190.00	03.00	240	A1a	-15.72	-13.94	-9.07
	201.00	-08.00	120	A1b	15.73	-14.11	-9.08
(1.2 + 0.2Sds) * DL + E 180 deg M2	0.00	00.00		1	0.01	86.43	-0.01
	190.00	07.00	0	A1	0.00	-15.12	19.67
	190.00	03.00	240	A1a	-15.94	-14.14	-9.20
	201.00	-08.00	120	A1b	15.94	-14.31	-9.20
(1.2 + 0.2Sds) * DL + E 210 deg M1	0.00	00.00		1	-0.01	86.42	-0.03
	190.00	07.00	0	A1	0.00	-15.36	20.03
	190.00	03.00	240	A1a	-15.27	-13.44	-8.82
	201.00	-08.00	120	A1b	16.30	-14.76	-9.41
(1.2 + 0.2Sds) * DL + E 210 deg M2	0.00	00.00		1	0.01	86.40	-0.01
	190.00	07.00	0	A1	0.00	-14.99	19.55
	190.00	03.00	240	A1a	-15.67	-13.79	-9.04
	201.00	-08.00	120	A1b	16.29	-14.75	-9.40
(1.2 + 0.2Sds) * DL + E 240 deg M1	0.00	00.00		1	-0.02	86.38	-0.02
	190.00	07.00	0	A1	0.00	-14.86	19.50
	190.00	03.00	240	A1a	-15.10	-13.24	-8.72
	201.00	-08.00	120	A1b	16.88	-15.41	-9.74
(1.2 + 0.2Sds) * DL + E 240 deg M2	0.00	00.00		1	0.01	86.37	-0.01
	190.00	07.00	0	A1	0.00	-14.64	19.23
	190.00	03.00	240	A1a	-15.56	-13.66	-8.98
	201.00	-08.00	120	A1b	16.64	-15.19	-9.61
(1.2 + 0.2Sds) * DL + E 300 deg M1	0.00	00.00		1	-0.02	86.33	0.01
	190.00	07.00	0	A1	0.00	-13.52	18.10
	190.00	03.00	240	A1a	-15.67	-13.89	-9.05
	201.00	-08.00	120	A1b	17.45	-16.06	-10.07
(1.2 + 0.2Sds) * DL + E 300 deg M2	0.00	00.00		1	0.01	86.33	-0.01
	190.00	07.00	0	A1	0.00	-13.73	18.38
	190.00	03.00	240	A1a	-15.91	-14.10	-9.19
	201.00	-08.00	120	A1b	16.99	-15.63	-9.81
(1.2 + 0.2Sds) * DL + E 330 deg M1	0.00	00.00		1	-0.01	86.34	0.02
	190.00	07.00	0	A1	0.00	-13.04	17.60
	190.00	03.00	240	A1a	-16.26	-14.56	-9.39
	201.00	-08.00	120	A1b	17.29	-15.88	-9.98
(1.2 + 0.2Sds) * DL + E 330 deg M2	0.00	00.00		1	0.01	86.34	-0.01
	190.00	07.00	0	A1	0.00	-13.40	18.07
	190.00	03.00	240	A1a	-16.27	-14.56	-9.39
	201.00	-08.00	120	A1b	16.89	-15.51	-9.75
(0.9 - 0.2Sds) * DL + E Normal M1	0.00	00.00		1	0.01	75.32	0.02
	190.00	07.00	0	A1	0.00	-13.06	17.62
	190.00	03.00	240	A1a	-17.04	-15.43	-9.84
	201.00	-08.00	120	A1b	17.03	-15.59	-9.83
(0.9 - 0.2Sds) * DL + E Normal M2	0.00	00.00		1	0.01	75.31	-0.01
	190.00	07.00	0	A1	0.00	-13.47	18.16
	190.00	03.00	240	A1a	-16.81	-15.22	-9.70
	201.00	-08.00	120	A1b	16.80	-15.38	-9.70
(0.9 - 0.2Sds) * DL + E 60 deg M1	0.00	00.00		1	0.03	75.40	0.01

	190.00	07.00	0	A1	0.00	-13.74	18.34
	190.00	03.00	240	A1a	-17.66	-16.14	-10.20
	201.00	-08.00	120	A1b	15.88	-14.29	-9.17
(0.9 - 0.2Sds) * DL + E 60 deg M2	0.00	00.00		1	0.01	75.37	-0.01
	190.00	07.00	0	A1	0.00	-13.94	18.59
	190.00	03.00	240	A1a	-17.19	-15.70	-9.92
	201.00	-08.00	120	A1b	16.10	-14.49	-9.30
(0.9 - 0.2Sds) * DL + E 90 deg M1	0.00	00.00		1	0.04	75.45	-0.01
	190.00	07.00	0	A1	0.00	-14.42	19.05
	190.00	03.00	240	A1a	-17.54	-16.00	-10.13
	201.00	-08.00	120	A1b	15.44	-13.79	-8.92
(0.9 - 0.2Sds) * DL + E 90 deg M2	0.00	00.00		1	0.01	75.40	-0.01
	190.00	07.00	0	A1	0.00	-14.40	19.02
	190.00	03.00	240	A1a	-17.11	-15.61	-9.88
	201.00	-08.00	120	A1b	15.83	-14.15	-9.14
(0.9 - 0.2Sds) * DL + E 120 deg M1	0.00	00.00		1	0.04	75.46	-0.02
	190.00	07.00	0	A1	0.00	-15.10	19.76
	190.00	03.00	240	A1a	-17.11	-15.51	-9.87
	201.00	-08.00	120	A1b	15.29	-13.62	-8.83
(0.9 - 0.2Sds) * DL + E 120 deg M2	0.00	00.00		1	0.01	75.40	-0.01
	190.00	07.00	0	A1	0.00	-14.86	19.45
	190.00	03.00	240	A1a	-16.84	-15.25	-9.72
	201.00	-08.00	120	A1b	15.75	-14.06	-9.10
(0.9 - 0.2Sds) * DL + E 180 deg M1	0.00	00.00		1	0.01	75.41	-0.04
	190.00	07.00	0	A1	0.00	-15.74	20.42
	190.00	03.00	240	A1a	-15.89	-14.13	-9.17
	201.00	-08.00	120	A1b	15.89	-14.30	-9.17
(0.9 - 0.2Sds) * DL + E 180 deg M2	0.00	00.00		1	0.01	75.37	-0.01
	190.00	07.00	0	A1	0.00	-15.31	19.86
	190.00	03.00	240	A1a	-16.10	-14.33	-9.30
	201.00	-08.00	120	A1b	16.11	-14.50	-9.30
(0.9 - 0.2Sds) * DL + E 210 deg M1	0.00	00.00		1	-0.01	75.37	-0.03
	190.00	07.00	0	A1	0.00	-15.55	20.22
	190.00	03.00	240	A1a	-15.44	-13.63	-8.91
	201.00	-08.00	120	A1b	16.47	-14.95	-9.51
(0.9 - 0.2Sds) * DL + E 210 deg M2	0.00	00.00		1	0.01	75.34	-0.01
	190.00	07.00	0	A1	0.00	-15.18	19.74
	190.00	03.00	240	A1a	-15.83	-13.99	-9.14
	201.00	-08.00	120	A1b	16.46	-14.94	-9.50
(0.9 - 0.2Sds) * DL + E 240 deg M1	0.00	00.00		1	-0.02	75.32	-0.02
	190.00	07.00	0	A1	0.00	-15.05	19.69
	190.00	03.00	240	A1a	-15.27	-13.44	-8.81
	201.00	-08.00	120	A1b	17.04	-15.60	-9.84
(0.9 - 0.2Sds) * DL + E 240 deg M2	0.00	00.00		1	0.01	75.31	-0.01
	190.00	07.00	0	A1	0.00	-14.83	19.42
	190.00	03.00	240	A1a	-15.73	-13.86	-9.08
	201.00	-08.00	120	A1b	16.81	-15.39	-9.70
(0.9 - 0.2Sds) * DL + E 300 deg M1	0.00	00.00		1	-0.02	75.28	0.01
	190.00	07.00	0	A1	0.00	-13.70	18.29
	190.00	03.00	240	A1a	-15.84	-14.08	-9.14
	201.00	-08.00	120	A1b	17.62	-16.25	-10.17
(0.9 - 0.2Sds) * DL + E 300 deg M2	0.00	00.00		1	0.01	75.28	-0.01
	190.00	07.00	0	A1	0.00	-13.92	18.57

	190.00	03.00	240	A1a	-16.08	-14.30	-9.28
	201.00	-08.00	120	A1b	17.16	-15.83	-9.91
(0.9 - 0.2Sds) * DL + E 330 deg M1	0.00	00.00		1	-0.01	75.29	0.02
	190.00	07.00	0	A1	0.00	-13.23	17.79
	190.00	03.00	240	A1a	-16.43	-14.75	-9.49
	201.00	-08.00	120	A1b	17.46	-16.07	-10.08
(0.9 - 0.2Sds) * DL + E 330 deg M2	0.00	00.00		1	0.01	75.29	-0.01
	190.00	07.00	0	A1	0.00	-13.59	18.26
	190.00	03.00	240	A1a	-16.44	-14.75	-9.49
	201.00	-08.00	120	A1b	17.06	-15.70	-9.85
1.0D + 1.0W Service Normal	0.00	00.00		1	0.01	82.00	-0.96
	190.00	07.00	0	A1	0.00	-7.26	9.30
	190.00	03.00	240	A1a	-21.66	-19.46	-12.92
	201.00	-08.00	120	A1b	21.63	-19.68	-12.92
1.0D + 1.0W Service 60 deg	0.00	00.00		1	-0.79	82.11	-0.47
	190.00	07.00	0	A1	-0.35	-11.40	14.67
	190.00	03.00	240	A1a	-26.29	-23.48	-15.18
	201.00	-08.00	120	A1b	12.51	-11.84	-7.65
1.0D + 1.0W Service 90 deg	0.00	00.00		1	-0.92	82.10	-0.01
	190.00	07.00	0	A1	-0.44	-15.24	20.07
	190.00	03.00	240	A1a	-25.37	-22.51	-14.45
	201.00	-08.00	120	A1b	9.39	-8.87	-5.63
1.0D + 1.0W Service 120 deg	0.00	00.00		1	-0.82	82.16	0.47
	190.00	07.00	0	A1	-0.36	-19.16	25.58
	190.00	03.00	240	A1a	-22.33	-19.66	-12.48
	201.00	-08.00	120	A1b	8.37	-7.77	-4.83
1.0D + 1.0W Service 180 deg	0.00	00.00		1	0.01	82.00	0.92
	190.00	07.00	0	A1	0.00	-22.95	30.44
	190.00	03.00	240	A1a	-12.94	-11.77	-7.07
	201.00	-08.00	120	A1b	12.95	-11.89	-7.06
1.0D + 1.0W Service 210 deg	0.00	00.00		1	0.47	81.88	0.80
	190.00	07.00	0	A1	0.17	-21.89	29.07
	190.00	03.00	240	A1a	-9.46	-8.74	-5.26
	201.00	-08.00	120	A1b	17.49	-15.76	-9.58
1.0D + 1.0W Service 240 deg	0.00	00.00		1	0.83	81.87	0.47
	190.00	07.00	0	A1	0.36	-19.01	25.29
	190.00	03.00	240	A1a	-8.11	-7.54	-4.68
	201.00	-08.00	120	A1b	22.07	-19.73	-12.32
1.0D + 1.0W Service 300 deg	0.00	00.00		1	0.81	81.68	-0.48
	190.00	07.00	0	A1	0.35	-11.21	14.35
	190.00	03.00	240	A1a	-12.24	-11.52	-7.47
	201.00	-08.00	120	A1b	25.98	-23.53	-15.00
1.0D + 1.0W Service 330 deg	0.00	00.00		1	0.48	81.74	-0.82
	190.00	07.00	0	A1	0.17	-8.33	10.58
	190.00	03.00	240	A1a	-16.81	-15.42	-10.21
	201.00	-08.00	120	A1b	24.80	-22.48	-14.53

Maximum Reactions Summary

	Base	Anch1
Vertical (kip)	267.29	-69.17
Horizontal (kip)	3.70	88.64

Guy Anchor Design Loads

Radius (ft)	Drop (ft)	Azimuth (°)	Uplift (kip)	Shear (kip)
190.00	7.00	0	66.72	88.33
190.00	3.00	240	68.61	88.64
201.00	-8.00	120	69.17	88.15

Maximum Cable Forces Summary

Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use %
1.2D + 1.6W 330 deg	59.79	3/4 EHS	A1b	22a	34.98	23.42	67
1.2D + 1.6W 90 deg	124.12	3/4 EHS	A1a	46b	34.98	30.40	87
1.2D + 1.6W 90 deg	184.11	3/4 EHS	A1a	67b	34.98	27.95	80
1.2D + 1.6W 60 deg	244.11	3/4 EHS	A1a	88b	34.98	21.51	62
1.2D + 1.0Di + 1.0Wi 60 deg	291.95	5/8 EHS	A1a	104b	25.44	14.03	55

Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
101 mph Normal with No Ice	80.00	1.027	-0.0876	0.8270	0.8316
101 mph Normal with No Ice	84.12	1.076	-0.0686	0.6555	0.6592
101 mph Normal with No Ice	104.12	1.263	-0.0959	0.4055	0.4160
101 mph Normal with No Ice	115.88	1.329	-0.0316	0.3312	0.3327
101 mph Normal with No Ice	124.12	1.363	-0.0119	0.4329	0.4331
101 mph Normal with No Ice	128.04	1.401	-0.0117	0.5775	0.5779
101 mph Normal with No Ice	168.04	1.669	-0.0240	0.1126	0.1166
101 mph Normal with No Ice	180.00	1.668	-0.0255	0.3174	0.3184
101 mph Normal with No Ice	211.96	1.680	-0.0306	0.0510	0.0600
101 mph Normal with No Ice	231.96	1.645	-0.0326	0.1782	0.1820
101 mph Normal with No Ice	268.04	1.560	-0.0348	0.0704	0.0788
101 mph Normal with No Ice	295.88	1.510	-0.0357	0.5332	0.5346
101 mph 60 degree with No Ice	80.00	0.565	-0.0223	0.5019	0.5022
101 mph 60 degree with No Ice	84.12	0.594	-0.0218	0.3747	0.3753
101 mph 60 degree with No Ice	104.12	0.694	-0.0242	0.1728	0.1739
101 mph 60 degree with No Ice	115.88	0.720	-0.0283	0.1469	0.1483
101 mph 60 degree with No Ice	124.12	0.732	-0.0294	0.2721	0.2730
101 mph 60 degree with No Ice	128.04	0.758	-0.0314	0.4064	0.4070
101 mph 60 degree with No Ice	168.04	0.965	-0.0252	0.0779	0.0815
101 mph 60 degree with No Ice	180.00	0.960	-0.0323	0.2741	0.2754
101 mph 60 degree with No Ice	211.96	0.999	-0.0267	0.0399	0.0490
101 mph 60 degree with No Ice	231.96	0.999	-0.0292	0.3960	0.3971
101 mph 60 degree with No Ice	268.04	0.999	-0.0284	0.1775	0.1799
101 mph 60 degree with No Ice	295.88	1.012	-0.0278	0.6635	0.6641
101 mph 90 degree with No Ice	80.00	0.853	0.3214	0.7153	0.7842
101 mph 90 degree with No Ice	84.12	0.898	0.3434	0.5632	0.6586
101 mph 90 degree with No Ice	104.12	1.055	0.3103	0.3439	0.4627
101 mph 90 degree with No Ice	115.88	1.109	0.2345	0.2927	0.3720
101 mph 90 degree with No Ice	124.12	1.136	0.2068	0.3889	0.4404
101 mph 90 degree with No Ice	128.04	1.171	0.2071	0.5489	0.5855
101 mph 90 degree with No Ice	168.04	1.431	0.3012	0.1134	0.3185
101 mph 90 degree with No Ice	180.00	1.428	0.2394	0.2878	0.3744
101 mph 90 degree with No Ice	211.96	1.438	0.1539	0.0551	0.1633
101 mph 90 degree with No Ice	231.96	1.405	0.1922	0.5142	0.5465
101 mph 90 degree with No Ice	268.04	1.319	0.2454	0.2676	0.3631
101 mph 90 degree with No Ice	295.88	1.253	0.2490	0.7780	0.8163
101 mph 120 degree with No Ice	80.00	0.968	-0.0589	0.7965	0.7989
101 mph 120 degree with No Ice	84.12	1.015	-0.0384	0.6334	0.6347
101 mph 120 degree with No Ice	104.12	1.193	0.0043	0.3913	0.3913
101 mph 120 degree with No Ice	115.88	1.259	0.0368	0.3235	0.3247
101 mph 120 degree with No Ice	124.12	1.294	0.0338	0.4319	0.4327
101 mph 120 degree with No Ice	128.04	1.331	0.0337	0.5805	0.5807
101 mph 120 degree with No Ice	168.04	1.610	0.0206	0.1315	0.1324
101 mph 120 degree with No Ice	180.00	1.613	0.0199	0.2931	0.2933
101 mph 120 degree with No Ice	211.96	1.637	0.0035	0.0337	0.0337
101 mph 120 degree with No Ice	231.96	1.603	0.0355	0.4805	0.4818
101 mph 120 degree with No Ice	268.04	1.513	-0.0224	0.2507	0.2517
101 mph 120 degree with No Ice	295.88	1.443	-0.0234	0.7454	0.7457
101 mph 180 degree with No Ice	80.00	0.552	0.0297	0.4882	0.4888
101 mph 180 degree with No Ice	84.12	0.581	0.0289	0.3616	0.3627
101 mph 180 degree with No Ice	104.12	0.676	0.0313	0.1581	0.1604
101 mph 180 degree with No Ice	115.88	0.699	0.0351	0.1318	0.1346
101 mph 180 degree with No Ice	124.12	0.709	0.0357	0.2568	0.2584
101 mph 180 degree with No Ice	128.04	0.733	0.0375	0.3905	0.3915
101 mph 180 degree with No Ice	168.04	0.930	0.0309	0.0651	0.0715

101 mph 180 degree with No Ice	180.00	0.923	0.0354	0.2858	0.2874
101 mph 180 degree with No Ice	211.96	0.958	0.0326	0.0432	0.0542
101 mph 180 degree with No Ice	231.96	0.964	0.0341	0.3137	0.3156
101 mph 180 degree with No Ice	268.04	0.986	0.0344	0.2493	0.2516
101 mph 180 degree with No Ice	295.88	1.029	0.0348	0.7219	0.7227
101 mph 210 degree with No Ice	80.00	0.861	0.4025	0.7101	0.8163
101 mph 210 degree with No Ice	84.12	0.905	0.4255	0.5569	0.6997
101 mph 210 degree with No Ice	104.12	1.059	0.3930	0.3360	0.5163
101 mph 210 degree with No Ice	115.88	1.111	0.3173	0.2815	0.4211
101 mph 210 degree with No Ice	124.12	1.137	0.2907	0.3722	0.4722
101 mph 210 degree with No Ice	128.04	1.171	0.2921	0.5312	0.6046
101 mph 210 degree with No Ice	168.04	1.415	0.4104	0.0889	0.4180
101 mph 210 degree with No Ice	180.00	1.406	0.3514	0.3116	0.4697
101 mph 210 degree with No Ice	211.96	1.401	0.1883	0.0831	0.2053
101 mph 210 degree with No Ice	231.96	1.365	0.1998	0.4339	0.4765
101 mph 210 degree with No Ice	268.04	1.284	0.2189	0.3008	0.3717
101 mph 210 degree with No Ice	295.88	1.236	0.2243	0.7861	0.8168
101 mph 240 degree with No Ice	80.00	1.018	0.1682	0.8222	0.8384
101 mph 240 degree with No Ice	84.12	1.066	0.1386	0.6691	0.6828
101 mph 240 degree with No Ice	104.12	1.247	-0.0233	0.3940	0.3947
101 mph 240 degree with No Ice	115.88	1.315	-0.0246	0.3316	0.3320
101 mph 240 degree with No Ice	124.12	1.350	-0.0181	0.4353	0.4354
101 mph 240 degree with No Ice	128.04	1.387	-0.0164	0.5822	0.5822
101 mph 240 degree with No Ice	168.04	1.661	0.0243	0.1165	0.1190
101 mph 240 degree with No Ice	180.00	1.661	0.0309	0.3133	0.3141
101 mph 240 degree with No Ice	211.96	1.671	0.0404	0.0657	0.0768
101 mph 240 degree with No Ice	231.96	1.624	0.0163	0.5180	0.5181
101 mph 240 degree with No Ice	268.04	1.508	0.0074	0.2932	0.2932
101 mph 240 degree with No Ice	295.88	1.420	0.0100	0.7851	0.7852
101 mph 300 degree with No Ice	80.00	0.608	-0.0029	0.5264	0.5264
101 mph 300 degree with No Ice	84.12	0.639	-0.0035	0.3966	0.3967
101 mph 300 degree with No Ice	104.12	0.745	-0.0014	0.1868	0.1869
101 mph 300 degree with No Ice	115.88	0.774	0.0022	0.1557	0.1558
101 mph 300 degree with No Ice	124.12	0.787	0.0030	0.2769	0.2769
101 mph 300 degree with No Ice	128.04	0.813	0.0049	0.4093	0.4094
101 mph 300 degree with No Ice	168.04	1.015	-0.0027	0.0685	0.0686
101 mph 300 degree with No Ice	180.00	1.007	0.0039	0.2908	0.2908
101 mph 300 degree with No Ice	211.96	1.032	-0.0029	0.0191	0.0193
101 mph 300 degree with No Ice	231.96	1.023	-0.0011	0.4199	0.4199
101 mph 300 degree with No Ice	268.04	1.004	-0.0031	0.1900	0.1900
101 mph 300 degree with No Ice	295.88	1.002	-0.0041	0.6822	0.6822
101 mph 330 degree with No Ice	80.00	0.914	0.3342	0.7432	0.8149
101 mph 330 degree with No Ice	84.12	0.960	0.3572	0.5830	0.6822
101 mph 330 degree with No Ice	104.12	1.123	0.2930	0.3532	0.4581
101 mph 330 degree with No Ice	115.88	1.178	0.2178	0.2942	0.3628
101 mph 330 degree with No Ice	124.12	1.206	0.1905	0.3831	0.4279
101 mph 330 degree with No Ice	128.04	1.240	0.1910	0.5393	0.5709
101 mph 330 degree with No Ice	168.04	1.487	0.2916	0.0887	0.3022
101 mph 330 degree with No Ice	180.00	1.477	0.2311	0.3200	0.3947
101 mph 330 degree with No Ice	211.96	1.473	0.1519	0.0649	0.1650
101 mph 330 degree with No Ice	231.96	1.436	0.1613	0.2397	0.2889
101 mph 330 degree with No Ice	268.04	1.358	0.2330	0.0665	0.2413
101 mph 330 degree with No Ice	295.88	1.310	0.2364	0.5519	0.5989
50 mph Normal with 0.75 in Radial Ice	80.00	0.275	0.0247	0.2335	0.2348
50 mph Normal with 0.75 in Radial Ice	84.12	0.286	0.0662	0.1425	0.1567
50 mph Normal with 0.75 in Radial Ice	104.12	0.340	-0.1230	0.0973	0.1564
50 mph Normal with 0.75 in Radial Ice	115.88	0.342	-0.0374	0.0287	0.0479
50 mph Normal with 0.75 in Radial Ice	124.12	0.342	-0.0441	0.0916	0.1000
50 mph Normal with 0.75 in Radial Ice	128.04	0.352	-0.0341	0.1586	0.1635
50 mph Normal with 0.75 in Radial Ice	168.04	0.399	-0.0372	0.0393	0.0541
50 mph Normal with 0.75 in Radial Ice	180.00	0.380	-0.0372	0.1984	0.2018
50 mph Normal with 0.75 in Radial Ice	211.96	0.318	-0.0384	0.1568	0.1616

50 mph Normal with 0.75 in Radial Ice	231.96	0.253	-0.0393	0.0959	0.1037
50 mph Normal with 0.75 in Radial Ice	268.04	0.115	-0.0407	0.2116	0.2155
50 mph Normal with 0.75 in Radial Ice	295.88	0.079	-0.0414	0.0655	0.0779
50 mph 60 deg with 0.75 in Radial Ice	80.00	0.231	0.2426	0.1906	0.3085
50 mph 60 deg with 0.75 in Radial Ice	84.12	0.238	0.1944	0.1428	0.2406
50 mph 60 deg with 0.75 in Radial Ice	104.12	0.283	-0.2518	0.0952	0.2692
50 mph 60 deg with 0.75 in Radial Ice	115.88	0.285	-0.1587	0.0404	0.1626
50 mph 60 deg with 0.75 in Radial Ice	124.12	0.288	-0.1546	0.1206	0.1960
50 mph 60 deg with 0.75 in Radial Ice	128.04	0.299	-0.1407	0.1821	0.2268
50 mph 60 deg with 0.75 in Radial Ice	168.04	0.393	-0.1155	0.0439	0.1222
50 mph 60 deg with 0.75 in Radial Ice	180.00	0.393	-0.1109	0.0795	0.1344
50 mph 60 deg with 0.75 in Radial Ice	211.96	0.413	-0.1017	0.0293	0.1067
50 mph 60 deg with 0.75 in Radial Ice	231.96	0.415	-0.0992	0.1501	0.1799
50 mph 60 deg with 0.75 in Radial Ice	268.04	0.412	-0.0965	0.0459	0.1070
50 mph 60 deg with 0.75 in Radial Ice	295.88	0.404	-0.0962	0.3242	0.3382
50 mph 90 deg with 0.75 in Radial Ice	80.00	0.254	0.1279	0.2166	0.2515
50 mph 90 deg with 0.75 in Radial Ice	84.12	0.263	0.0947	0.1383	0.1676
50 mph 90 deg with 0.75 in Radial Ice	104.12	0.317	0.1630	0.1050	0.1932
50 mph 90 deg with 0.75 in Radial Ice	115.88	0.321	0.0652	0.0553	0.0836
50 mph 90 deg with 0.75 in Radial Ice	124.12	0.322	0.0360	0.1097	0.1149
50 mph 90 deg with 0.75 in Radial Ice	128.04	0.334	0.0387	0.2116	0.2149
50 mph 90 deg with 0.75 in Radial Ice	168.04	0.425	0.1987	0.0299	0.2002
50 mph 90 deg with 0.75 in Radial Ice	180.00	0.418	0.2071	0.1371	0.2484
50 mph 90 deg with 0.75 in Radial Ice	211.96	0.402	0.1841	0.0924	0.2059
50 mph 90 deg with 0.75 in Radial Ice	231.96	0.375	0.1858	0.2818	0.3375
50 mph 90 deg with 0.75 in Radial Ice	268.04	0.316	0.1886	0.2065	0.2797
50 mph 90 deg with 0.75 in Radial Ice	295.88	0.278	0.1910	0.4853	0.5210
50 mph 120 deg with 0.75 in Radial Ice	80.00	0.288	0.0584	0.2489	0.2556
50 mph 120 deg with 0.75 in Radial Ice	84.12	0.300	0.0837	0.1365	0.1601
50 mph 120 deg with 0.75 in Radial Ice	104.12	0.348	-0.0940	0.1145	0.1492
50 mph 120 deg with 0.75 in Radial Ice	115.88	0.354	0.0020	0.0703	0.0703
50 mph 120 deg with 0.75 in Radial Ice	124.12	0.358	0.0370	0.1052	0.1101
50 mph 120 deg with 0.75 in Radial Ice	128.04	0.369	0.0391	0.1796	0.1836
50 mph 120 deg with 0.75 in Radial Ice	168.04	0.434	0.0274	0.0101	0.0287
50 mph 120 deg with 0.75 in Radial Ice	180.00	0.420	0.0269	0.1715	0.1730
50 mph 120 deg with 0.75 in Radial Ice	211.96	0.370	0.0217	0.1362	0.1379
50 mph 120 deg with 0.75 in Radial Ice	231.96	0.308	0.0204	0.3230	0.3237
50 mph 120 deg with 0.75 in Radial Ice	268.04	0.161	0.0191	0.2811	0.2817
50 mph 120 deg with 0.75 in Radial Ice	295.88	0.029	0.0203	0.5263	0.5266
50 mph 180 deg with 0.75 in Radial Ice	80.00	0.210	-0.0107	0.1528	0.1531
50 mph 180 deg with 0.75 in Radial Ice	84.12	0.218	0.0205	0.1304	0.1320
50 mph 180 deg with 0.75 in Radial Ice	104.12	0.269	0.0627	0.0821	0.1031
50 mph 180 deg with 0.75 in Radial Ice	115.88	0.272	-0.0095	0.0317	0.0331
50 mph 180 deg with 0.75 in Radial Ice	124.12	0.273	0.0027	0.1081	0.1081
50 mph 180 deg with 0.75 in Radial Ice	128.04	0.284	-0.0111	0.1716	0.1720
50 mph 180 deg with 0.75 in Radial Ice	168.04	0.371	-0.0010	0.0355	0.0355
50 mph 180 deg with 0.75 in Radial Ice	180.00	0.369	0.0052	0.0883	0.0883
50 mph 180 deg with 0.75 in Radial Ice	211.96	0.387	0.0077	0.0312	0.0321
50 mph 180 deg with 0.75 in Radial Ice	231.96	0.392	0.0105	0.1448	0.1451
50 mph 180 deg with 0.75 in Radial Ice	268.04	0.400	0.0133	0.0694	0.0705
50 mph 180 deg with 0.75 in Radial Ice	295.88	0.409	0.0153	0.3228	0.3231
50 mph 210 deg with 0.75 in Radial Ice	80.00	0.241	0.2856	0.2055	0.3518
50 mph 210 deg with 0.75 in Radial Ice	84.12	0.249	0.2664	0.1155	0.2904
50 mph 210 deg with 0.75 in Radial Ice	104.12	0.285	0.1079	0.1019	0.1481
50 mph 210 deg with 0.75 in Radial Ice	115.88	0.286	0.0111	0.0439	0.0453
50 mph 210 deg with 0.75 in Radial Ice	124.12	0.287	-0.0104	0.0962	0.0968
50 mph 210 deg with 0.75 in Radial Ice	128.04	0.297	-0.0037	0.1972	0.1972
50 mph 210 deg with 0.75 in Radial Ice	168.04	0.377	0.1902	0.0546	0.1964
50 mph 210 deg with 0.75 in Radial Ice	180.00	0.367	0.2060	0.1637	0.2632
50 mph 210 deg with 0.75 in Radial Ice	211.96	0.351	0.1925	0.1254	0.2293
50 mph 210 deg with 0.75 in Radial Ice	231.96	0.333	0.1991	0.2638	0.3299
50 mph 210 deg with 0.75 in Radial Ice	268.04	0.318	0.2075	0.2198	0.3021

50 mph 210 deg with 0.75 in Radial Ice	295.88	0.340	0.2117	0.4461	0.4931
50 mph 240 deg with 0.75 in Radial Ice	80.00	0.269	-0.0198	0.2344	0.2352
50 mph 240 deg with 0.75 in Radial Ice	84.12	0.281	-0.0519	0.1524	0.1610
50 mph 240 deg with 0.75 in Radial Ice	104.12	0.331	-0.0885	0.0920	0.1264
50 mph 240 deg with 0.75 in Radial Ice	115.88	0.335	0.0158	0.0292	0.0323
50 mph 240 deg with 0.75 in Radial Ice	124.12	0.335	0.0122	0.0971	0.0979
50 mph 240 deg with 0.75 in Radial Ice	128.04	0.345	0.0249	0.1590	0.1596
50 mph 240 deg with 0.75 in Radial Ice	168.04	0.393	0.0323	0.0377	0.0486
50 mph 240 deg with 0.75 in Radial Ice	180.00	0.374	0.0348	0.1985	0.2010
50 mph 240 deg with 0.75 in Radial Ice	211.96	0.309	0.0331	0.1659	0.1692
50 mph 240 deg with 0.75 in Radial Ice	231.96	0.239	0.0336	0.3608	0.3622
50 mph 240 deg with 0.75 in Radial Ice	268.04	0.090	0.0347	0.3160	0.3178
50 mph 240 deg with 0.75 in Radial Ice	295.88	0.110	0.0358	0.5682	0.5694
50 mph 300 deg with 0.75 in Radial Ice	80.00	0.230	0.0656	0.2034	0.2137
50 mph 300 deg with 0.75 in Radial Ice	84.12	0.236	0.0307	0.1012	0.1055
50 mph 300 deg with 0.75 in Radial Ice	104.12	0.285	0.0669	0.1031	0.1229
50 mph 300 deg with 0.75 in Radial Ice	115.88	0.288	-0.0196	0.0286	0.0371
50 mph 300 deg with 0.75 in Radial Ice	124.12	0.289	-0.0014	0.0943	0.0944
50 mph 300 deg with 0.75 in Radial Ice	128.04	0.299	-0.0006	0.1754	0.1756
50 mph 300 deg with 0.75 in Radial Ice	168.04	0.379	0.0006	0.0163	0.0163
50 mph 300 deg with 0.75 in Radial Ice	180.00	0.373	0.0033	0.1075	0.1075
50 mph 300 deg with 0.75 in Radial Ice	211.96	0.373	0.0024	0.0147	0.0148
50 mph 300 deg with 0.75 in Radial Ice	231.96	0.360	0.0028	0.1928	0.1928
50 mph 300 deg with 0.75 in Radial Ice	268.04	0.326	0.0031	0.0955	0.0956
50 mph 300 deg with 0.75 in Radial Ice	295.88	0.294	0.0036	0.3702	0.3702
50 mph 330 deg with 0.75 in Radial Ice	80.00	0.253	0.2403	0.1552	0.2861
50 mph 330 deg with 0.75 in Radial Ice	84.12	0.260	0.2080	0.1663	0.2659
50 mph 330 deg with 0.75 in Radial Ice	104.12	0.307	0.1462	0.1147	0.1858
50 mph 330 deg with 0.75 in Radial Ice	115.88	0.309	0.0428	0.0396	0.0564
50 mph 330 deg with 0.75 in Radial Ice	124.12	0.308	0.0181	0.0911	0.0925
50 mph 330 deg with 0.75 in Radial Ice	128.04	0.318	0.0227	0.1925	0.1937
50 mph 330 deg with 0.75 in Radial Ice	168.04	0.392	0.1632	0.0298	0.1657
50 mph 330 deg with 0.75 in Radial Ice	180.00	0.379	0.1770	0.1634	0.2409
50 mph 330 deg with 0.75 in Radial Ice	211.96	0.347	0.1593	0.1029	0.1892
50 mph 330 deg with 0.75 in Radial Ice	231.96	0.311	0.1636	0.0958	0.1887
50 mph 330 deg with 0.75 in Radial Ice	268.04	0.238	0.1682	0.1321	0.2135
50 mph 330 deg with 0.75 in Radial Ice	295.88	0.193	0.1717	0.2016	0.2636
Seismic Normal M1	80.00	0.008	0.0000	0.0107	0.0107
Seismic Normal M1	84.12	0.009	-0.0001	0.0102	0.0102
Seismic Normal M1	104.12	0.013	-0.0001	0.0110	0.0110
Seismic Normal M1	115.88	0.015	-0.0001	0.0120	0.0120
Seismic Normal M1	124.12	0.017	-0.0001	0.0149	0.0149
Seismic Normal M1	128.04	0.018	-0.0001	0.0166	0.0166
Seismic Normal M1	168.04	0.028	-0.0001	0.0111	0.0111
Seismic Normal M1	180.00	0.030	-0.0001	0.0032	0.0032
Seismic Normal M1	211.96	0.035	-0.0001	0.0095	0.0095
Seismic Normal M1	231.96	0.038	-0.0001	0.0060	0.0060
Seismic Normal M1	268.04	0.043	-0.0001	0.0079	0.0079
Seismic Normal M1	295.88	0.045	-0.0001	0.0058	0.0058
Seismic Normal M2	80.00	0.005	0.0000	0.0043	0.0043
Seismic Normal M2	84.12	0.005	0.0000	0.0043	0.0043
Seismic Normal M2	104.12	0.006	0.0000	0.0044	0.0044
Seismic Normal M2	115.88	0.007	0.0000	0.0046	0.0046
Seismic Normal M2	124.12	0.008	0.0000	0.0059	0.0059
Seismic Normal M2	128.04	0.008	0.0000	0.0067	0.0067
Seismic Normal M2	168.04	0.012	0.0000	0.0066	0.0066
Seismic Normal M2	180.00	0.014	0.0000	0.0038	0.0038
Seismic Normal M2	211.96	0.020	0.0000	0.0135	0.0135
Seismic Normal M2	231.96	0.025	0.0000	0.0158	0.0158
Seismic Normal M2	268.04	0.038	0.0000	0.0227	0.0227
Seismic Normal M2	295.88	0.048	0.0000	0.0213	0.0213
Seismic 60 deg M1	80.00	0.007	-0.0001	0.0106	0.0106

Seismic 60 deg M1	84.12	0.008	-0.0001	0.0099	0.0099
Seismic 60 deg M1	104.12	0.011	-0.0001	0.0111	0.0111
Seismic 60 deg M1	115.88	0.013	-0.0001	0.0129	0.0129
Seismic 60 deg M1	124.12	0.015	-0.0001	0.0153	0.0153
Seismic 60 deg M1	128.04	0.016	-0.0001	0.0178	0.0178
Seismic 60 deg M1	168.04	0.027	0.0000	0.0124	0.0124
Seismic 60 deg M1	180.00	0.029	0.0000	0.0035	0.0035
Seismic 60 deg M1	211.96	0.036	0.0000	0.0111	0.0111
Seismic 60 deg M1	231.96	0.039	0.0000	0.0076	0.0076
Seismic 60 deg M1	268.04	0.045	0.0000	0.0099	0.0099
Seismic 60 deg M1	295.88	0.048	-0.0001	0.0078	0.0078
Seismic 60 deg M2	80.00	0.003	0.0000	0.0044	0.0044
Seismic 60 deg M2	84.12	0.004	0.0000	0.0042	0.0042
Seismic 60 deg M2	104.12	0.005	0.0000	0.0048	0.0048
Seismic 60 deg M2	115.88	0.006	0.0000	0.0058	0.0058
Seismic 60 deg M2	124.12	0.007	0.0000	0.0069	0.0069
Seismic 60 deg M2	128.04	0.007	-0.0001	0.0083	0.0083
Seismic 60 deg M2	168.04	0.012	0.0000	0.0084	0.0084
Seismic 60 deg M2	180.00	0.014	0.0000	0.0055	0.0055
Seismic 60 deg M2	211.96	0.021	-0.0001	0.0156	0.0156
Seismic 60 deg M2	231.96	0.027	-0.0001	0.0180	0.0180
Seismic 60 deg M2	268.04	0.041	0.0000	0.0250	0.0250
Seismic 60 deg M2	295.88	0.052	0.0000	0.0237	0.0237
Seismic 90 deg M1	80.00	0.006	-0.0001	0.0108	0.0108
Seismic 90 deg M1	84.12	0.007	-0.0001	0.0104	0.0104
Seismic 90 deg M1	104.12	0.011	-0.0001	0.0120	0.0120
Seismic 90 deg M1	115.88	0.013	-0.0001	0.0137	0.0137
Seismic 90 deg M1	124.12	0.015	-0.0001	0.0166	0.0166
Seismic 90 deg M1	128.04	0.016	-0.0001	0.0187	0.0187
Seismic 90 deg M1	168.04	0.028	0.0000	0.0137	0.0137
Seismic 90 deg M1	180.00	0.030	0.0000	0.0045	0.0045
Seismic 90 deg M1	211.96	0.038	0.0000	0.0125	0.0125
Seismic 90 deg M1	231.96	0.042	0.0000	0.0089	0.0089
Seismic 90 deg M1	268.04	0.048	0.0000	0.0111	0.0111
Seismic 90 deg M1	295.88	0.052	0.0000	0.0088	0.0088
Seismic 90 deg M2	80.00	0.003	0.0000	0.0043	0.0043
Seismic 90 deg M2	84.12	0.003	0.0000	0.0044	0.0044
Seismic 90 deg M2	104.12	0.004	0.0000	0.0052	0.0052
Seismic 90 deg M2	115.88	0.005	-0.0001	0.0061	0.0061
Seismic 90 deg M2	124.12	0.006	-0.0001	0.0077	0.0077
Seismic 90 deg M2	128.04	0.006	-0.0001	0.0088	0.0088
Seismic 90 deg M2	168.04	0.013	0.0000	0.0094	0.0094
Seismic 90 deg M2	180.00	0.014	-0.0001	0.0065	0.0065
Seismic 90 deg M2	211.96	0.022	-0.0001	0.0173	0.0173
Seismic 90 deg M2	231.96	0.029	-0.0001	0.0198	0.0198
Seismic 90 deg M2	268.04	0.044	0.0000	0.0269	0.0269
Seismic 90 deg M2	295.88	0.056	0.0000	0.0255	0.0255
Seismic 120 deg M1	80.00	0.006	0.0000	0.0106	0.0106
Seismic 120 deg M1	84.12	0.006	0.0000	0.0105	0.0105
Seismic 120 deg M1	104.12	0.010	0.0000	0.0122	0.0122
Seismic 120 deg M1	115.88	0.013	-0.0001	0.0137	0.0137
Seismic 120 deg M1	124.12	0.015	-0.0001	0.0170	0.0170
Seismic 120 deg M1	128.04	0.016	-0.0001	0.0187	0.0187
Seismic 120 deg M1	168.04	0.028	0.0000	0.0139	0.0139
Seismic 120 deg M1	180.00	0.030	0.0000	0.0044	0.0044
Seismic 120 deg M1	211.96	0.038	0.0000	0.0128	0.0128
Seismic 120 deg M1	231.96	0.042	0.0000	0.0091	0.0091
Seismic 120 deg M1	268.04	0.049	0.0000	0.0113	0.0113
Seismic 120 deg M1	295.88	0.053	0.0000	0.0088	0.0088
Seismic 120 deg M2	80.00	0.002	0.0000	0.0040	0.0040
Seismic 120 deg M2	84.12	0.002	0.0000	0.0043	0.0043
Seismic 120 deg M2	104.12	0.004	0.0000	0.0052	0.0052

Seismic 120 deg M2	115.88	0.005	0.0000	0.0060	0.0060
Seismic 120 deg M2	124.12	0.005	0.0000	0.0078	0.0078
Seismic 120 deg M2	128.04	0.006	0.0000	0.0086	0.0086
Seismic 120 deg M2	168.04	0.012	0.0000	0.0096	0.0096
Seismic 120 deg M2	180.00	0.014	0.0000	0.0064	0.0064
Seismic 120 deg M2	211.96	0.022	-0.0001	0.0177	0.0177
Seismic 120 deg M2	231.96	0.029	-0.0001	0.0202	0.0202
Seismic 120 deg M2	268.04	0.044	0.0000	0.0274	0.0274
Seismic 120 deg M2	295.88	0.057	0.0000	0.0258	0.0258
Seismic 180 deg M1	80.00	0.005	0.0000	0.0095	0.0095
Seismic 180 deg M1	84.12	0.006	0.0000	0.0090	0.0090
Seismic 180 deg M1	104.12	0.009	0.0000	0.0102	0.0102
Seismic 180 deg M1	115.88	0.011	0.0001	0.0121	0.0121
Seismic 180 deg M1	124.12	0.013	0.0001	0.0146	0.0146
Seismic 180 deg M1	128.04	0.014	0.0001	0.0170	0.0170
Seismic 180 deg M1	168.04	0.024	0.0001	0.0117	0.0117
Seismic 180 deg M1	180.00	0.026	0.0001	0.0031	0.0031
Seismic 180 deg M1	211.96	0.033	0.0001	0.0106	0.0106
Seismic 180 deg M1	231.96	0.036	0.0001	0.0072	0.0072
Seismic 180 deg M1	268.04	0.041	0.0001	0.0096	0.0096
Seismic 180 deg M1	295.88	0.045	0.0000	0.0078	0.0078
Seismic 180 deg M2	80.00	0.002	0.0000	0.0034	0.0034
Seismic 180 deg M2	84.12	0.002	0.0000	0.0034	0.0034
Seismic 180 deg M2	104.12	0.003	0.0000	0.0041	0.0041
Seismic 180 deg M2	115.88	0.004	0.0000	0.0051	0.0051
Seismic 180 deg M2	124.12	0.004	0.0000	0.0063	0.0063
Seismic 180 deg M2	128.04	0.005	0.0000	0.0077	0.0077
Seismic 180 deg M2	168.04	0.010	0.0000	0.0078	0.0078
Seismic 180 deg M2	180.00	0.011	0.0000	0.0050	0.0050
Seismic 180 deg M2	211.96	0.018	0.0000	0.0150	0.0150
Seismic 180 deg M2	231.96	0.024	0.0001	0.0174	0.0174
Seismic 180 deg M2	268.04	0.038	0.0000	0.0246	0.0246
Seismic 180 deg M2	295.88	0.049	0.0000	0.0235	0.0235
Seismic 210 deg M1	80.00	0.006	0.0000	0.0094	0.0094
Seismic 210 deg M1	84.12	0.007	0.0001	0.0090	0.0090
Seismic 210 deg M1	104.12	0.010	0.0001	0.0100	0.0100
Seismic 210 deg M1	115.88	0.012	0.0001	0.0115	0.0115
Seismic 210 deg M1	124.12	0.013	0.0001	0.0142	0.0142
Seismic 210 deg M1	128.04	0.014	0.0001	0.0163	0.0163
Seismic 210 deg M1	168.04	0.024	0.0001	0.0108	0.0108
Seismic 210 deg M1	180.00	0.026	0.0001	0.0026	0.0026
Seismic 210 deg M1	211.96	0.032	0.0001	0.0095	0.0095
Seismic 210 deg M1	231.96	0.034	0.0001	0.0062	0.0062
Seismic 210 deg M1	268.04	0.039	0.0001	0.0086	0.0086
Seismic 210 deg M1	295.88	0.042	0.0001	0.0068	0.0068
Seismic 210 deg M2	80.00	0.003	0.0000	0.0032	0.0032
Seismic 210 deg M2	84.12	0.003	0.0000	0.0033	0.0033
Seismic 210 deg M2	104.12	0.004	0.0000	0.0036	0.0036
Seismic 210 deg M2	115.88	0.004	0.0000	0.0045	0.0045
Seismic 210 deg M2	124.12	0.005	0.0000	0.0057	0.0057
Seismic 210 deg M2	128.04	0.005	0.0000	0.0069	0.0069
Seismic 210 deg M2	168.04	0.009	0.0000	0.0068	0.0068
Seismic 210 deg M2	180.00	0.011	0.0000	0.0042	0.0042
Seismic 210 deg M2	211.96	0.017	0.0000	0.0139	0.0139
Seismic 210 deg M2	231.96	0.022	0.0001	0.0164	0.0164
Seismic 210 deg M2	268.04	0.035	0.0001	0.0235	0.0235
Seismic 210 deg M2	295.88	0.046	0.0000	0.0224	0.0224
Seismic 240 deg M1	80.00	0.007	0.0000	0.0098	0.0098
Seismic 240 deg M1	84.12	0.008	0.0001	0.0094	0.0094
Seismic 240 deg M1	104.12	0.011	0.0001	0.0102	0.0102
Seismic 240 deg M1	115.88	0.013	0.0001	0.0112	0.0112
Seismic 240 deg M1	124.12	0.015	0.0001	0.0142	0.0142

Seismic 240 deg M1	128.04	0.016	0.0001	0.0158	0.0158
Seismic 240 deg M1	168.04	0.025	0.0001	0.0101	0.0101
Seismic 240 deg M1	180.00	0.027	0.0001	0.0026	0.0026
Seismic 240 deg M1	211.96	0.032	0.0001	0.0084	0.0084
Seismic 240 deg M1	231.96	0.034	0.0001	0.0051	0.0051
Seismic 240 deg M1	268.04	0.038	0.0001	0.0072	0.0072
Seismic 240 deg M1	295.88	0.041	0.0001	0.0054	0.0054
Seismic 240 deg M2	80.00	0.004	0.0000	0.0034	0.0034
Seismic 240 deg M2	84.12	0.004	0.0000	0.0035	0.0035
Seismic 240 deg M2	104.12	0.005	0.0000	0.0036	0.0036
Seismic 240 deg M2	115.88	0.005	0.0000	0.0039	0.0039
Seismic 240 deg M2	124.12	0.006	0.0000	0.0053	0.0053
Seismic 240 deg M2	128.04	0.006	0.0000	0.0061	0.0061
Seismic 240 deg M2	168.04	0.010	0.0000	0.0060	0.0060
Seismic 240 deg M2	180.00	0.011	0.0000	0.0032	0.0032
Seismic 240 deg M2	211.96	0.017	0.0001	0.0131	0.0131
Seismic 240 deg M2	231.96	0.022	0.0001	0.0155	0.0155
Seismic 240 deg M2	268.04	0.034	0.0001	0.0226	0.0226
Seismic 240 deg M2	295.88	0.045	0.0001	0.0214	0.0214
Seismic 300 deg M1	80.00	0.009	0.0000	0.0107	0.0107
Seismic 300 deg M1	84.12	0.009	0.0000	0.0097	0.0097
Seismic 300 deg M1	104.12	0.013	0.0000	0.0101	0.0101
Seismic 300 deg M1	115.88	0.015	0.0000	0.0115	0.0115
Seismic 300 deg M1	124.12	0.016	0.0000	0.0134	0.0134
Seismic 300 deg M1	128.04	0.017	0.0000	0.0158	0.0158
Seismic 300 deg M1	168.04	0.027	0.0001	0.0094	0.0094
Seismic 300 deg M1	180.00	0.028	0.0001	0.0026	0.0026
Seismic 300 deg M1	211.96	0.033	0.0000	0.0070	0.0070
Seismic 300 deg M1	231.96	0.035	0.0000	0.0033	0.0033
Seismic 300 deg M1	268.04	0.038	0.0000	0.0055	0.0055
Seismic 300 deg M1	295.88	0.039	0.0000	0.0036	0.0036
Seismic 300 deg M2	80.00	0.005	0.0000	0.0042	0.0042
Seismic 300 deg M2	84.12	0.005	0.0000	0.0038	0.0038
Seismic 300 deg M2	104.12	0.006	0.0000	0.0036	0.0036
Seismic 300 deg M2	115.88	0.007	0.0000	0.0040	0.0040
Seismic 300 deg M2	124.12	0.008	0.0000	0.0047	0.0047
Seismic 300 deg M2	128.04	0.008	0.0000	0.0061	0.0061
Seismic 300 deg M2	168.04	0.012	0.0000	0.0053	0.0053
Seismic 300 deg M2	180.00	0.013	0.0000	0.0020	0.0020
Seismic 300 deg M2	211.96	0.018	0.0000	0.0119	0.0119
Seismic 300 deg M2	231.96	0.022	0.0000	0.0141	0.0141
Seismic 300 deg M2	268.04	0.034	0.0000	0.0211	0.0211
Seismic 300 deg M2	295.88	0.043	0.0000	0.0201	0.0201
Seismic 330 deg M1	80.00	0.009	0.0000	0.0108	0.0108
Seismic 330 deg M1	84.12	0.010	0.0000	0.0100	0.0100
Seismic 330 deg M1	104.12	0.013	0.0000	0.0106	0.0106
Seismic 330 deg M1	115.88	0.015	0.0000	0.0116	0.0116
Seismic 330 deg M1	124.12	0.017	0.0000	0.0140	0.0140
Seismic 330 deg M1	128.04	0.018	0.0000	0.0160	0.0160
Seismic 330 deg M1	168.04	0.027	-0.0001	0.0098	0.0098
Seismic 330 deg M1	180.00	0.029	0.0000	0.0028	0.0028
Seismic 330 deg M1	211.96	0.034	0.0000	0.0077	0.0077
Seismic 330 deg M1	231.96	0.036	0.0000	0.0041	0.0041
Seismic 330 deg M1	268.04	0.039	0.0000	0.0061	0.0061
Seismic 330 deg M1	295.88	0.041	0.0000	0.0040	0.0040
Seismic 330 deg M2	80.00	0.005	0.0000	0.0043	0.0043
Seismic 330 deg M2	84.12	0.005	0.0000	0.0042	0.0042
Seismic 330 deg M2	104.12	0.007	0.0000	0.0040	0.0040
Seismic 330 deg M2	115.88	0.007	0.0000	0.0042	0.0042
Seismic 330 deg M2	124.12	0.008	0.0000	0.0053	0.0053
Seismic 330 deg M2	128.04	0.008	0.0000	0.0063	0.0063
Seismic 330 deg M2	168.04	0.012	0.0000	0.0057	0.0057

Seismic 330 deg M2	180.00	0.013	0.0000	0.0025	0.0025
Seismic 330 deg M2	211.96	0.019	0.0000	0.0124	0.0124
Seismic 330 deg M2	231.96	0.023	0.0000	0.0147	0.0147
Seismic 330 deg M2	268.04	0.036	0.0000	0.0216	0.0216
Seismic 330 deg M2	295.88	0.045	0.0000	0.0204	0.0204
Seismic (Reduced DL) Normal M1	80.00	0.008	0.0000	0.0106	0.0106
Seismic (Reduced DL) Normal M1	84.12	0.009	0.0000	0.0100	0.0100
Seismic (Reduced DL) Normal M1	104.12	0.013	0.0000	0.0108	0.0108
Seismic (Reduced DL) Normal M1	115.88	0.015	0.0000	0.0117	0.0117
Seismic (Reduced DL) Normal M1	124.12	0.016	0.0000	0.0145	0.0145
Seismic (Reduced DL) Normal M1	128.04	0.017	0.0000	0.0162	0.0162
Seismic (Reduced DL) Normal M1	168.04	0.027	-0.0001	0.0105	0.0105
Seismic (Reduced DL) Normal M1	180.00	0.029	-0.0001	0.0030	0.0030
Seismic (Reduced DL) Normal M1	211.96	0.034	-0.0001	0.0089	0.0089
Seismic (Reduced DL) Normal M1	231.96	0.037	-0.0001	0.0054	0.0054
Seismic (Reduced DL) Normal M1	268.04	0.041	-0.0001	0.0074	0.0074
Seismic (Reduced DL) Normal M1	295.88	0.043	-0.0001	0.0054	0.0054
Seismic (Reduced DL) Normal M2	80.00	0.005	0.0000	0.0043	0.0043
Seismic (Reduced DL) Normal M2	84.12	0.005	0.0000	0.0043	0.0043
Seismic (Reduced DL) Normal M2	104.12	0.006	0.0000	0.0043	0.0043
Seismic (Reduced DL) Normal M2	115.88	0.007	0.0000	0.0046	0.0046
Seismic (Reduced DL) Normal M2	124.12	0.008	0.0000	0.0059	0.0059
Seismic (Reduced DL) Normal M2	128.04	0.008	0.0000	0.0068	0.0068
Seismic (Reduced DL) Normal M2	168.04	0.012	0.0000	0.0065	0.0065
Seismic (Reduced DL) Normal M2	180.00	0.014	0.0000	0.0037	0.0037
Seismic (Reduced DL) Normal M2	211.96	0.020	0.0000	0.0134	0.0134
Seismic (Reduced DL) Normal M2	231.96	0.025	0.0000	0.0157	0.0157
Seismic (Reduced DL) Normal M2	268.04	0.037	0.0000	0.0226	0.0226
Seismic (Reduced DL) Normal M2	295.88	0.047	0.0000	0.0211	0.0211
Seismic (Reduced DL) 60 deg M1	80.00	0.007	-0.0001	0.0105	0.0105
Seismic (Reduced DL) 60 deg M1	84.12	0.007	-0.0001	0.0098	0.0098
Seismic (Reduced DL) 60 deg M1	104.12	0.011	-0.0001	0.0109	0.0109
Seismic (Reduced DL) 60 deg M1	115.88	0.013	-0.0001	0.0127	0.0127
Seismic (Reduced DL) 60 deg M1	124.12	0.015	-0.0001	0.0151	0.0151
Seismic (Reduced DL) 60 deg M1	128.04	0.016	-0.0001	0.0177	0.0177
Seismic (Reduced DL) 60 deg M1	168.04	0.027	0.0000	0.0122	0.0122
Seismic (Reduced DL) 60 deg M1	180.00	0.029	0.0000	0.0033	0.0033
Seismic (Reduced DL) 60 deg M1	211.96	0.035	0.0000	0.0110	0.0110
Seismic (Reduced DL) 60 deg M1	231.96	0.039	0.0000	0.0075	0.0075
Seismic (Reduced DL) 60 deg M1	268.04	0.044	0.0000	0.0098	0.0098
Seismic (Reduced DL) 60 deg M1	295.88	0.048	-0.0001	0.0078	0.0078
Seismic (Reduced DL) 60 deg M2	80.00	0.003	0.0000	0.0043	0.0043
Seismic (Reduced DL) 60 deg M2	84.12	0.004	0.0000	0.0041	0.0041
Seismic (Reduced DL) 60 deg M2	104.12	0.005	0.0000	0.0046	0.0046
Seismic (Reduced DL) 60 deg M2	115.88	0.006	0.0000	0.0056	0.0056
Seismic (Reduced DL) 60 deg M2	124.12	0.007	0.0000	0.0067	0.0067
Seismic (Reduced DL) 60 deg M2	128.04	0.007	-0.0001	0.0082	0.0082
Seismic (Reduced DL) 60 deg M2	168.04	0.012	0.0000	0.0082	0.0082
Seismic (Reduced DL) 60 deg M2	180.00	0.014	0.0000	0.0054	0.0054
Seismic (Reduced DL) 60 deg M2	211.96	0.021	-0.0001	0.0155	0.0155
Seismic (Reduced DL) 60 deg M2	231.96	0.027	-0.0001	0.0178	0.0178
Seismic (Reduced DL) 60 deg M2	268.04	0.041	0.0000	0.0248	0.0248
Seismic (Reduced DL) 60 deg M2	295.88	0.052	0.0000	0.0236	0.0236
Seismic (Reduced DL) 90 deg M1	80.00	0.006	-0.0001	0.0106	0.0106
Seismic (Reduced DL) 90 deg M1	84.12	0.007	-0.0001	0.0102	0.0102
Seismic (Reduced DL) 90 deg M1	104.12	0.011	-0.0001	0.0117	0.0117
Seismic (Reduced DL) 90 deg M1	115.88	0.013	-0.0001	0.0135	0.0135
Seismic (Reduced DL) 90 deg M1	124.12	0.015	-0.0001	0.0164	0.0164
Seismic (Reduced DL) 90 deg M1	128.04	0.016	-0.0001	0.0186	0.0186
Seismic (Reduced DL) 90 deg M1	168.04	0.028	0.0000	0.0134	0.0134
Seismic (Reduced DL) 90 deg M1	180.00	0.030	0.0000	0.0043	0.0043
Seismic (Reduced DL) 90 deg M1	211.96	0.037	0.0000	0.0124	0.0124

Seismic (Reduced DL) 90 deg M1	231.96	0.041	0.0000	0.0088	0.0088
Seismic (Reduced DL) 90 deg M1	268.04	0.048	0.0000	0.0110	0.0110
Seismic (Reduced DL) 90 deg M1	295.88	0.052	0.0000	0.0087	0.0087
Seismic (Reduced DL) 90 deg M2	80.00	0.003	0.0000	0.0042	0.0042
Seismic (Reduced DL) 90 deg M2	84.12	0.003	0.0000	0.0043	0.0043
Seismic (Reduced DL) 90 deg M2	104.12	0.004	0.0000	0.0050	0.0050
Seismic (Reduced DL) 90 deg M2	115.88	0.005	-0.0001	0.0060	0.0060
Seismic (Reduced DL) 90 deg M2	124.12	0.006	-0.0001	0.0075	0.0075
Seismic (Reduced DL) 90 deg M2	128.04	0.006	-0.0001	0.0087	0.0087
Seismic (Reduced DL) 90 deg M2	168.04	0.012	0.0000	0.0092	0.0092
Seismic (Reduced DL) 90 deg M2	180.00	0.014	-0.0001	0.0063	0.0063
Seismic (Reduced DL) 90 deg M2	211.96	0.022	-0.0001	0.0171	0.0171
Seismic (Reduced DL) 90 deg M2	231.96	0.028	-0.0001	0.0196	0.0196
Seismic (Reduced DL) 90 deg M2	268.04	0.044	0.0000	0.0267	0.0267
Seismic (Reduced DL) 90 deg M2	295.88	0.056	0.0000	0.0253	0.0253
Seismic (Reduced DL) 120 deg M1	80.00	0.006	0.0000	0.0105	0.0105
Seismic (Reduced DL) 120 deg M1	84.12	0.006	0.0000	0.0103	0.0103
Seismic (Reduced DL) 120 deg M1	104.12	0.010	0.0000	0.0119	0.0119
Seismic (Reduced DL) 120 deg M1	115.88	0.012	-0.0001	0.0134	0.0134
Seismic (Reduced DL) 120 deg M1	124.12	0.014	-0.0001	0.0167	0.0167
Seismic (Reduced DL) 120 deg M1	128.04	0.016	-0.0001	0.0185	0.0185
Seismic (Reduced DL) 120 deg M1	168.04	0.028	0.0000	0.0136	0.0136
Seismic (Reduced DL) 120 deg M1	180.00	0.030	0.0000	0.0042	0.0042
Seismic (Reduced DL) 120 deg M1	211.96	0.037	0.0000	0.0126	0.0126
Seismic (Reduced DL) 120 deg M1	231.96	0.041	0.0000	0.0090	0.0090
Seismic (Reduced DL) 120 deg M1	268.04	0.048	0.0000	0.0112	0.0112
Seismic (Reduced DL) 120 deg M1	295.88	0.052	0.0000	0.0088	0.0088
Seismic (Reduced DL) 120 deg M2	80.00	0.002	0.0000	0.0039	0.0039
Seismic (Reduced DL) 120 deg M2	84.12	0.002	0.0000	0.0041	0.0041
Seismic (Reduced DL) 120 deg M2	104.12	0.003	0.0000	0.0049	0.0049
Seismic (Reduced DL) 120 deg M2	115.88	0.004	0.0000	0.0057	0.0057
Seismic (Reduced DL) 120 deg M2	124.12	0.005	0.0000	0.0075	0.0075
Seismic (Reduced DL) 120 deg M2	128.04	0.006	0.0000	0.0083	0.0083
Seismic (Reduced DL) 120 deg M2	168.04	0.012	0.0000	0.0089	0.0089
Seismic (Reduced DL) 120 deg M2	180.00	0.013	0.0000	0.0058	0.0058
Seismic (Reduced DL) 120 deg M2	211.96	0.021	-0.0001	0.0168	0.0168
Seismic (Reduced DL) 120 deg M2	231.96	0.027	-0.0001	0.0193	0.0193
Seismic (Reduced DL) 120 deg M2	268.04	0.042	0.0000	0.0265	0.0265
Seismic (Reduced DL) 120 deg M2	295.88	0.054	0.0000	0.0250	0.0250
Seismic (Reduced DL) 180 deg M1	80.00	0.005	0.0000	0.0094	0.0094
Seismic (Reduced DL) 180 deg M1	84.12	0.006	0.0000	0.0088	0.0088
Seismic (Reduced DL) 180 deg M1	104.12	0.009	0.0000	0.0100	0.0100
Seismic (Reduced DL) 180 deg M1	115.88	0.011	0.0001	0.0119	0.0119
Seismic (Reduced DL) 180 deg M1	124.12	0.013	0.0001	0.0144	0.0144
Seismic (Reduced DL) 180 deg M1	128.04	0.014	0.0001	0.0169	0.0169
Seismic (Reduced DL) 180 deg M1	168.04	0.024	0.0001	0.0115	0.0115
Seismic (Reduced DL) 180 deg M1	180.00	0.026	0.0001	0.0030	0.0030
Seismic (Reduced DL) 180 deg M1	211.96	0.032	0.0001	0.0104	0.0104
Seismic (Reduced DL) 180 deg M1	231.96	0.035	0.0001	0.0071	0.0071
Seismic (Reduced DL) 180 deg M1	268.04	0.041	0.0001	0.0096	0.0096
Seismic (Reduced DL) 180 deg M1	295.88	0.044	0.0000	0.0077	0.0077
Seismic (Reduced DL) 180 deg M2	80.00	0.002	0.0000	0.0033	0.0033
Seismic (Reduced DL) 180 deg M2	84.12	0.002	0.0000	0.0033	0.0033
Seismic (Reduced DL) 180 deg M2	104.12	0.003	0.0000	0.0039	0.0039
Seismic (Reduced DL) 180 deg M2	115.88	0.004	0.0000	0.0049	0.0049
Seismic (Reduced DL) 180 deg M2	124.12	0.004	0.0000	0.0062	0.0062
Seismic (Reduced DL) 180 deg M2	128.04	0.005	0.0000	0.0076	0.0076
Seismic (Reduced DL) 180 deg M2	168.04	0.010	0.0000	0.0076	0.0076
Seismic (Reduced DL) 180 deg M2	180.00	0.011	0.0000	0.0048	0.0048
Seismic (Reduced DL) 180 deg M2	211.96	0.018	0.0000	0.0149	0.0149
Seismic (Reduced DL) 180 deg M2	231.96	0.023	0.0001	0.0173	0.0173
Seismic (Reduced DL) 180 deg M2	268.04	0.037	0.0000	0.0244	0.0244

Seismic (Reduced DL) 180 deg M2	295.88	0.048	0.0000	0.0233	0.0233
Seismic (Reduced DL) 210 deg M1	80.00	0.006	0.0000	0.0093	0.0093
Seismic (Reduced DL) 210 deg M1	84.12	0.007	0.0001	0.0088	0.0088
Seismic (Reduced DL) 210 deg M1	104.12	0.010	0.0001	0.0099	0.0099
Seismic (Reduced DL) 210 deg M1	115.88	0.012	0.0001	0.0114	0.0114
Seismic (Reduced DL) 210 deg M1	124.12	0.013	0.0001	0.0140	0.0140
Seismic (Reduced DL) 210 deg M1	128.04	0.014	0.0001	0.0162	0.0162
Seismic (Reduced DL) 210 deg M1	168.04	0.024	0.0001	0.0106	0.0106
Seismic (Reduced DL) 210 deg M1	180.00	0.026	0.0001	0.0025	0.0025
Seismic (Reduced DL) 210 deg M1	211.96	0.031	0.0001	0.0094	0.0094
Seismic (Reduced DL) 210 deg M1	231.96	0.034	0.0001	0.0061	0.0061
Seismic (Reduced DL) 210 deg M1	268.04	0.039	0.0001	0.0085	0.0085
Seismic (Reduced DL) 210 deg M1	295.88	0.042	0.0001	0.0067	0.0067
Seismic (Reduced DL) 210 deg M2	80.00	0.003	0.0000	0.0032	0.0032
Seismic (Reduced DL) 210 deg M2	84.12	0.003	0.0000	0.0033	0.0033
Seismic (Reduced DL) 210 deg M2	104.12	0.004	0.0000	0.0036	0.0036
Seismic (Reduced DL) 210 deg M2	115.88	0.004	0.0000	0.0044	0.0044
Seismic (Reduced DL) 210 deg M2	124.12	0.005	0.0000	0.0056	0.0056
Seismic (Reduced DL) 210 deg M2	128.04	0.005	0.0000	0.0069	0.0069
Seismic (Reduced DL) 210 deg M2	168.04	0.009	0.0000	0.0067	0.0067
Seismic (Reduced DL) 210 deg M2	180.00	0.011	0.0000	0.0041	0.0041
Seismic (Reduced DL) 210 deg M2	211.96	0.017	0.0000	0.0138	0.0138
Seismic (Reduced DL) 210 deg M2	231.96	0.022	0.0001	0.0162	0.0162
Seismic (Reduced DL) 210 deg M2	268.04	0.035	0.0001	0.0233	0.0233
Seismic (Reduced DL) 210 deg M2	295.88	0.046	0.0000	0.0222	0.0222
Seismic (Reduced DL) 240 deg M1	80.00	0.007	0.0000	0.0098	0.0098
Seismic (Reduced DL) 240 deg M1	84.12	0.008	0.0000	0.0093	0.0093
Seismic (Reduced DL) 240 deg M1	104.12	0.011	0.0001	0.0101	0.0101
Seismic (Reduced DL) 240 deg M1	115.88	0.013	0.0001	0.0111	0.0111
Seismic (Reduced DL) 240 deg M1	124.12	0.015	0.0001	0.0140	0.0140
Seismic (Reduced DL) 240 deg M1	128.04	0.015	0.0001	0.0157	0.0157
Seismic (Reduced DL) 240 deg M1	168.04	0.025	0.0001	0.0100	0.0100
Seismic (Reduced DL) 240 deg M1	180.00	0.027	0.0001	0.0025	0.0025
Seismic (Reduced DL) 240 deg M1	211.96	0.032	0.0001	0.0084	0.0084
Seismic (Reduced DL) 240 deg M1	231.96	0.034	0.0001	0.0050	0.0050
Seismic (Reduced DL) 240 deg M1	268.04	0.038	0.0001	0.0072	0.0072
Seismic (Reduced DL) 240 deg M1	295.88	0.040	0.0001	0.0054	0.0054
Seismic (Reduced DL) 240 deg M2	80.00	0.004	0.0000	0.0034	0.0034
Seismic (Reduced DL) 240 deg M2	84.12	0.004	0.0000	0.0034	0.0034
Seismic (Reduced DL) 240 deg M2	104.12	0.005	0.0000	0.0035	0.0035
Seismic (Reduced DL) 240 deg M2	115.88	0.005	0.0000	0.0038	0.0038
Seismic (Reduced DL) 240 deg M2	124.12	0.006	0.0000	0.0053	0.0053
Seismic (Reduced DL) 240 deg M2	128.04	0.006	0.0000	0.0061	0.0061
Seismic (Reduced DL) 240 deg M2	168.04	0.010	0.0000	0.0059	0.0059
Seismic (Reduced DL) 240 deg M2	180.00	0.011	0.0000	0.0031	0.0031
Seismic (Reduced DL) 240 deg M2	211.96	0.017	0.0001	0.0130	0.0130
Seismic (Reduced DL) 240 deg M2	231.96	0.022	0.0001	0.0154	0.0154
Seismic (Reduced DL) 240 deg M2	268.04	0.034	0.0001	0.0225	0.0225
Seismic (Reduced DL) 240 deg M2	295.88	0.044	0.0001	0.0212	0.0212
Seismic (Reduced DL) 300 deg M1	80.00	0.009	0.0000	0.0107	0.0107
Seismic (Reduced DL) 300 deg M1	84.12	0.009	0.0000	0.0097	0.0097
Seismic (Reduced DL) 300 deg M1	104.12	0.013	0.0000	0.0101	0.0101
Seismic (Reduced DL) 300 deg M1	115.88	0.015	0.0000	0.0114	0.0114
Seismic (Reduced DL) 300 deg M1	124.12	0.016	0.0000	0.0133	0.0133
Seismic (Reduced DL) 300 deg M1	128.04	0.017	0.0000	0.0158	0.0158
Seismic (Reduced DL) 300 deg M1	168.04	0.027	0.0001	0.0093	0.0093
Seismic (Reduced DL) 300 deg M1	180.00	0.028	0.0000	0.0025	0.0025
Seismic (Reduced DL) 300 deg M1	211.96	0.033	0.0000	0.0071	0.0071
Seismic (Reduced DL) 300 deg M1	231.96	0.035	0.0000	0.0033	0.0033
Seismic (Reduced DL) 300 deg M1	268.04	0.038	0.0000	0.0056	0.0056
Seismic (Reduced DL) 300 deg M1	295.88	0.039	0.0000	0.0037	0.0037
Seismic (Reduced DL) 300 deg M2	80.00	0.005	0.0000	0.0042	0.0042

Seismic (Reduced DL) 300 deg M2	84.12	0.005	0.0000	0.0038	0.0038
Seismic (Reduced DL) 300 deg M2	104.12	0.006	0.0000	0.0036	0.0036
Seismic (Reduced DL) 300 deg M2	115.88	0.007	0.0000	0.0040	0.0040
Seismic (Reduced DL) 300 deg M2	124.12	0.008	0.0000	0.0048	0.0048
Seismic (Reduced DL) 300 deg M2	128.04	0.008	0.0000	0.0062	0.0062
Seismic (Reduced DL) 300 deg M2	168.04	0.012	0.0000	0.0053	0.0053
Seismic (Reduced DL) 300 deg M2	180.00	0.013	0.0000	0.0020	0.0020
Seismic (Reduced DL) 300 deg M2	211.96	0.018	0.0000	0.0118	0.0118
Seismic (Reduced DL) 300 deg M2	231.96	0.022	0.0000	0.0140	0.0140
Seismic (Reduced DL) 300 deg M2	268.04	0.034	0.0000	0.0210	0.0210
Seismic (Reduced DL) 300 deg M2	295.88	0.043	0.0000	0.0200	0.0200
Seismic (Reduced DL) 330 deg M1	80.00	0.009	0.0000	0.0107	0.0107
Seismic (Reduced DL) 330 deg M1	84.12	0.010	0.0000	0.0099	0.0099
Seismic (Reduced DL) 330 deg M1	104.12	0.013	0.0000	0.0105	0.0105
Seismic (Reduced DL) 330 deg M1	115.88	0.015	0.0000	0.0116	0.0116
Seismic (Reduced DL) 330 deg M1	124.12	0.017	0.0000	0.0140	0.0140
Seismic (Reduced DL) 330 deg M1	128.04	0.018	0.0000	0.0160	0.0160
Seismic (Reduced DL) 330 deg M1	168.04	0.027	-0.0001	0.0098	0.0098
Seismic (Reduced DL) 330 deg M1	180.00	0.029	0.0000	0.0028	0.0028
Seismic (Reduced DL) 330 deg M1	211.96	0.034	0.0000	0.0077	0.0077
Seismic (Reduced DL) 330 deg M1	231.96	0.036	0.0000	0.0041	0.0041
Seismic (Reduced DL) 330 deg M1	268.04	0.039	0.0000	0.0062	0.0062
Seismic (Reduced DL) 330 deg M1	295.88	0.041	0.0000	0.0041	0.0041
Seismic (Reduced DL) 330 deg M2	80.00	0.005	0.0000	0.0043	0.0043
Seismic (Reduced DL) 330 deg M2	84.12	0.005	0.0000	0.0041	0.0041
Seismic (Reduced DL) 330 deg M2	104.12	0.007	0.0000	0.0040	0.0040
Seismic (Reduced DL) 330 deg M2	115.88	0.007	0.0000	0.0042	0.0042
Seismic (Reduced DL) 330 deg M2	124.12	0.008	0.0000	0.0053	0.0053
Seismic (Reduced DL) 330 deg M2	128.04	0.008	0.0000	0.0064	0.0064
Seismic (Reduced DL) 330 deg M2	168.04	0.012	0.0000	0.0057	0.0057
Seismic (Reduced DL) 330 deg M2	180.00	0.013	0.0000	0.0025	0.0025
Seismic (Reduced DL) 330 deg M2	211.96	0.019	0.0000	0.0124	0.0124
Seismic (Reduced DL) 330 deg M2	231.96	0.023	0.0000	0.0146	0.0146
Seismic (Reduced DL) 330 deg M2	268.04	0.035	0.0000	0.0215	0.0215
Seismic (Reduced DL) 330 deg M2	295.88	0.045	0.0000	0.0203	0.0203
Serviceability - 60 mph Wind Normal	80.00	0.121	-0.0047	0.0989	0.0990
Serviceability - 60 mph Wind Normal	84.12	0.126	-0.0048	0.0687	0.0688
Serviceability - 60 mph Wind Normal	104.12	0.146	-0.0050	0.0393	0.0396
Serviceability - 60 mph Wind Normal	115.88	0.152	-0.0051	0.0308	0.0312
Serviceability - 60 mph Wind Normal	124.12	0.154	-0.0051	0.0393	0.0397
Serviceability - 60 mph Wind Normal	128.04	0.157	-0.0052	0.0452	0.0455
Serviceability - 60 mph Wind Normal	168.04	0.172	-0.0056	0.0193	0.0201
Serviceability - 60 mph Wind Normal	180.00	0.165	-0.0058	0.0905	0.0907
Serviceability - 60 mph Wind Normal	211.96	0.144	-0.0061	0.0492	0.0496
Serviceability - 60 mph Wind Normal	231.96	0.123	-0.0063	0.0123	0.0139
Serviceability - 60 mph Wind Normal	268.04	0.087	-0.0066	0.0203	0.0213
Serviceability - 60 mph Wind Normal	295.88	0.062	-0.0068	0.0881	0.0884
Serviceability - 60 mph Wind 60 deg	80.00	0.102	-0.0053	0.0868	0.0870
Serviceability - 60 mph Wind 60 deg	84.12	0.107	-0.0053	0.0608	0.0610
Serviceability - 60 mph Wind 60 deg	104.12	0.124	-0.0055	0.0370	0.0375
Serviceability - 60 mph Wind 60 deg	115.88	0.130	-0.0059	0.0350	0.0355
Serviceability - 60 mph Wind 60 deg	124.12	0.134	-0.0061	0.0460	0.0464
Serviceability - 60 mph Wind 60 deg	128.04	0.137	-0.0062	0.0550	0.0554
Serviceability - 60 mph Wind 60 deg	168.04	0.165	-0.0062	0.0084	0.0108
Serviceability - 60 mph Wind 60 deg	180.00	0.164	-0.0067	0.0593	0.0598
Serviceability - 60 mph Wind 60 deg	211.96	0.161	-0.0071	0.0116	0.0138
Serviceability - 60 mph Wind 60 deg	231.96	0.154	-0.0075	0.0973	0.0976
Serviceability - 60 mph Wind 60 deg	268.04	0.140	-0.0080	0.0482	0.0489
Serviceability - 60 mph Wind 60 deg	295.88	0.129	-0.0083	0.1574	0.1577
Serviceability - 60 mph Wind 90 deg	80.00	0.112	0.0369	0.0920	0.0989
Serviceability - 60 mph Wind 90 deg	84.12	0.117	0.0370	0.0657	0.0754
Serviceability - 60 mph Wind 90 deg	104.12	0.136	0.0375	0.0398	0.0543

Serviceability - 60 mph Wind 90 deg	115.88	0.142	0.0378	0.0347	0.0511
Serviceability - 60 mph Wind 90 deg	124.12	0.146	0.0377	0.0450	0.0587
Serviceability - 60 mph Wind 90 deg	128.04	0.149	0.0380	0.0531	0.0653
Serviceability - 60 mph Wind 90 deg	168.04	0.173	0.0392	0.0099	0.0403
Serviceability - 60 mph Wind 90 deg	180.00	0.169	0.0392	0.0696	0.0796
Serviceability - 60 mph Wind 90 deg	211.96	0.159	0.0394	0.0325	0.0510
Serviceability - 60 mph Wind 90 deg	231.96	0.146	0.0397	0.1298	0.1357
Serviceability - 60 mph Wind 90 deg	268.04	0.121	0.0400	0.0764	0.0863
Serviceability - 60 mph Wind 90 deg	295.88	0.102	0.0403	0.1907	0.1949
Serviceability - 60 mph Wind 120 deg	80.00	0.120	0.0001	0.0993	0.0993
Serviceability - 60 mph Wind 120 deg	84.12	0.126	0.0001	0.0697	0.0697
Serviceability - 60 mph Wind 120 deg	104.12	0.146	0.0001	0.0413	0.0413
Serviceability - 60 mph Wind 120 deg	115.88	0.152	-0.0001	0.0335	0.0335
Serviceability - 60 mph Wind 120 deg	124.12	0.155	-0.0002	0.0428	0.0428
Serviceability - 60 mph Wind 120 deg	128.04	0.159	-0.0003	0.0489	0.0489
Serviceability - 60 mph Wind 120 deg	168.04	0.176	0.0003	0.0146	0.0146
Serviceability - 60 mph Wind 120 deg	180.00	0.170	0.0000	0.0857	0.0857
Serviceability - 60 mph Wind 120 deg	211.96	0.150	0.0000	0.0475	0.0475
Serviceability - 60 mph Wind 120 deg	231.96	0.130	-0.0001	0.1298	0.1298
Serviceability - 60 mph Wind 120 deg	268.04	0.090	-0.0003	0.0835	0.0835
Serviceability - 60 mph Wind 120 deg	295.88	0.059	-0.0004	0.1873	0.1873
Serviceability - 60 mph Wind 180 deg	80.00	0.099	0.0053	0.0843	0.0845
Serviceability - 60 mph Wind 180 deg	84.12	0.104	0.0054	0.0584	0.0586
Serviceability - 60 mph Wind 180 deg	104.12	0.120	0.0055	0.0344	0.0348
Serviceability - 60 mph Wind 180 deg	115.88	0.126	0.0055	0.0324	0.0328
Serviceability - 60 mph Wind 180 deg	124.12	0.129	0.0054	0.0433	0.0437
Serviceability - 60 mph Wind 180 deg	128.04	0.132	0.0056	0.0523	0.0526
Serviceability - 60 mph Wind 180 deg	168.04	0.158	0.0065	0.0058	0.0084
Serviceability - 60 mph Wind 180 deg	180.00	0.156	0.0064	0.0617	0.0620
Serviceability - 60 mph Wind 180 deg	211.96	0.153	0.0066	0.0113	0.0130
Serviceability - 60 mph Wind 180 deg	231.96	0.147	0.0068	0.0498	0.0502
Serviceability - 60 mph Wind 180 deg	268.04	0.137	0.0070	0.0266	0.0274
Serviceability - 60 mph Wind 180 deg	295.88	0.133	0.0073	0.1301	0.1303
Serviceability - 60 mph Wind 210 deg	80.00	0.107	0.0476	0.0875	0.0994
Serviceability - 60 mph Wind 210 deg	84.12	0.112	0.0479	0.0614	0.0779
Serviceability - 60 mph Wind 210 deg	104.12	0.129	0.0487	0.0354	0.0598
Serviceability - 60 mph Wind 210 deg	115.88	0.135	0.0492	0.0306	0.0577
Serviceability - 60 mph Wind 210 deg	124.12	0.138	0.0493	0.0409	0.0641
Serviceability - 60 mph Wind 210 deg	128.04	0.141	0.0497	0.0490	0.0698
Serviceability - 60 mph Wind 210 deg	168.04	0.162	0.0518	0.0126	0.0532
Serviceability - 60 mph Wind 210 deg	180.00	0.158	0.0521	0.0727	0.0891
Serviceability - 60 mph Wind 210 deg	211.96	0.147	0.0528	0.0335	0.0625
Serviceability - 60 mph Wind 210 deg	231.96	0.136	0.0536	0.0912	0.1056
Serviceability - 60 mph Wind 210 deg	268.04	0.117	0.0544	0.0592	0.0804
Serviceability - 60 mph Wind 210 deg	295.88	0.108	0.0552	0.1600	0.1691
Serviceability - 60 mph Wind 240 deg	80.00	0.119	0.0052	0.0980	0.0981
Serviceability - 60 mph Wind 240 deg	84.12	0.125	0.0053	0.0681	0.0683
Serviceability - 60 mph Wind 240 deg	104.12	0.144	0.0055	0.0392	0.0396
Serviceability - 60 mph Wind 240 deg	115.88	0.150	0.0055	0.0311	0.0316
Serviceability - 60 mph Wind 240 deg	124.12	0.153	0.0055	0.0400	0.0404
Serviceability - 60 mph Wind 240 deg	128.04	0.156	0.0055	0.0461	0.0464
Serviceability - 60 mph Wind 240 deg	168.04	0.172	0.0066	0.0177	0.0187
Serviceability - 60 mph Wind 240 deg	180.00	0.165	0.0065	0.0888	0.0890
Serviceability - 60 mph Wind 240 deg	211.96	0.144	0.0068	0.0495	0.0500
Serviceability - 60 mph Wind 240 deg	231.96	0.123	0.0069	0.1336	0.1338
Serviceability - 60 mph Wind 240 deg	268.04	0.083	0.0071	0.0863	0.0866
Serviceability - 60 mph Wind 240 deg	295.88	0.053	0.0073	0.1911	0.1913
Serviceability - 60 mph Wind 300 deg	80.00	0.109	0.0007	0.0897	0.0897
Serviceability - 60 mph Wind 300 deg	84.12	0.114	0.0008	0.0629	0.0629
Serviceability - 60 mph Wind 300 deg	104.12	0.132	0.0009	0.0374	0.0374
Serviceability - 60 mph Wind 300 deg	115.88	0.138	0.0008	0.0343	0.0343
Serviceability - 60 mph Wind 300 deg	124.12	0.141	0.0007	0.0444	0.0444

Serviceability - 60 mph Wind 300 deg	128.04	0.144	0.0008	0.0530	0.0530
Serviceability - 60 mph Wind 300 deg	168.04	0.170	0.0014	0.0032	0.0034
Serviceability - 60 mph Wind 300 deg	180.00	0.168	0.0012	0.0651	0.0652
Serviceability - 60 mph Wind 300 deg	211.96	0.161	0.0013	0.0194	0.0194
Serviceability - 60 mph Wind 300 deg	231.96	0.151	0.0014	0.1044	0.1044
Serviceability - 60 mph Wind 300 deg	268.04	0.132	0.0014	0.0558	0.0558
Serviceability - 60 mph Wind 300 deg	295.88	0.117	0.0015	0.1639	0.1639
Serviceability - 60 mph Wind 330 deg	80.00	0.115	0.0337	0.0924	0.0981
Serviceability - 60 mph Wind 330 deg	84.12	0.121	0.0339	0.0655	0.0737
Serviceability - 60 mph Wind 330 deg	104.12	0.139	0.0345	0.0379	0.0509
Serviceability - 60 mph Wind 330 deg	115.88	0.145	0.0348	0.0318	0.0469
Serviceability - 60 mph Wind 330 deg	124.12	0.148	0.0348	0.0410	0.0537
Serviceability - 60 mph Wind 330 deg	128.04	0.151	0.0350	0.0487	0.0600
Serviceability - 60 mph Wind 330 deg	168.04	0.171	0.0364	0.0122	0.0384
Serviceability - 60 mph Wind 330 deg	180.00	0.166	0.0365	0.0763	0.0843
Serviceability - 60 mph Wind 330 deg	211.96	0.153	0.0368	0.0356	0.0510
Serviceability - 60 mph Wind 330 deg	231.96	0.138	0.0372	0.0585	0.0691
Serviceability - 60 mph Wind 330 deg	268.04	0.112	0.0376	0.0298	0.0478
Serviceability - 60 mph Wind 330 deg	295.88	0.094	0.0382	0.1220	0.1277

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the solutions are endless

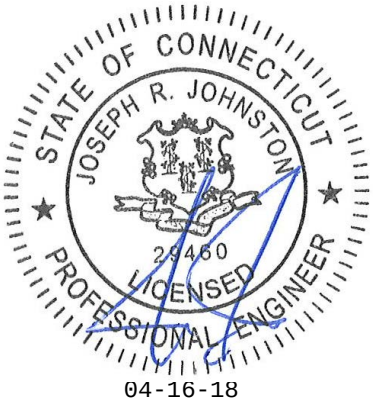
1033 WATERVLIET SHAKER RD, ALBANY, NY 12205

Mount Analysis Report

April 15, 2018

Sprint Site #	CT73XC005
Infinigy Job Number	526-104
Client	Airosmith
Proposed Carrier	Sprint
Site Location	89 Dr. Nott Road North Franklin, CT 06254 41.59770˚ N NAD83 72.14500˚ W NAD83
Mount Centerline EL.	180.0’
Mount Classification	Sector Frame
Failing Structural Usage	**155.0%**
Passing Structural Usage	**46.0%**
Overall Result	**Contingent Pass – See Modification Below**
Notes	**Replace existing mounts with SitePro1 VFA12-HD prior to installation of proposed appurtenances.**

Upon reviewing the results of this analysis, it is our opinion that the structure and anchorage meets the specified TIA code requirements. The mount is therefore deemed adequate to support the existing and proposed loading as listed in this report.



Nathaniel R. Ober, E.I.T.
Northeast Structural Region Lead

Sprint

PROJECT:	DO MACRO UPGRADE
SITE NAME:	FRANKLIN-DR. NOTT RD.
SITE CASCADE:	CT73XC005
SITE ADDRESS:	99 DR. NOTT ROAD NORTH FRANKLIN, CT 06254
SITE TYPE:	GUYED TOWER
MARKET:	NORTHERN CONNECTICUT

SITE INFORMATION

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

LATITUDE (NAD83):
41° 35' 52.8" N
41.598°

LONGITUDE (NAD83):
72° 8' 41.9" W
-72.145°

COUNTY:
NEW LONDON

ZONING JURISDICTION:
CONNECTICUT SITING COUNCIL

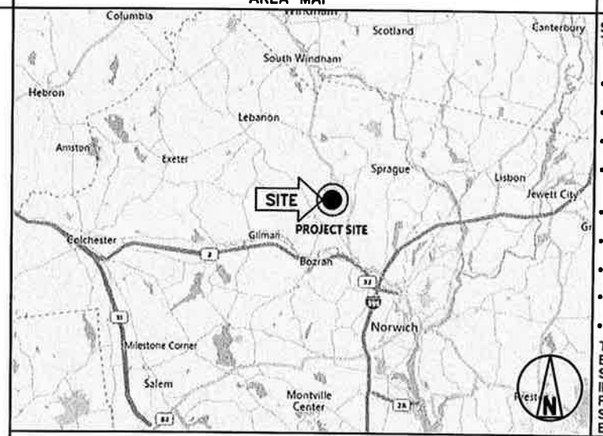
ZONING DISTRICT:
TBD

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

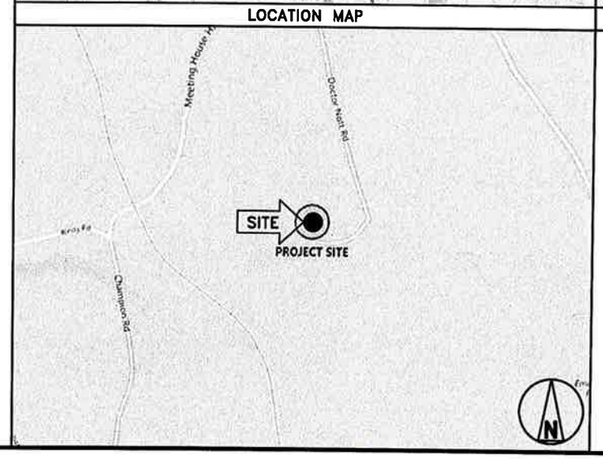
AAV PROVIDER:
FRONTIER COMMUNICATIONS
PHONE: (866) 502-7167

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.

- INSTALL (6) PANEL ANTENNAS
- REMOVE (3) PANEL ANTENNAS
- RELOCATE (3) 1900 MHz RRHS BEHIND ANTENNAS
- INSTALL (3) 2.5 GHZ RRH'S & (3) 800 MHz RRH'S BEHIND ANTENNAS
- INSTALL (3) 800 MHz RRH'S ON PROPOSED PIPE MOUNT
- INSTALL (48) JUMPER CABLES
- INSTALL (4) HYBRID CABLE
- INSTALL 2.5 EQUIPMENT INSIDE EXISTING N.V. MMBS CABINET
- INSTALL (4) NEW BATTERIES IN EXISTING BBU 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. NY 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	EQUIPMENT & MOUNTING DETAILS	0
A-6	CIVIL DETAILS	0
A-7	PLUMBING DIAGRAM	0
E-1	ELECTRICAL & GROUNDING PLAN	0
E-2	ELECTRICAL & GROUNDING DETAILS	0

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
THOMAS STEVENS
No. 24705
LICENSED PROFESSIONAL ENGINEER
MAY 30 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/28/18	ETC	0

SITE NAME:
FRANKLIN-DR. NOTT RD

SITE NUMBER:
CT73XC005

SITE ADDRESS:
99 DR. NOTT ROAD
NORTH FRANKLIN, CT 06254

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
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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) 308-3740

ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
LICENSED
PROFESSIONAL ENGINEER
MAY 30 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/28/18	ETC	0

SITE NAME:

FRANKLIN-DR. NOTT RD

SITE NUMBER:

CT73XC005

SITE ADDRESS:

99 DR. NOTT ROAD
NORTH FRANKLIN, CT 06254

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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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	05/28/18	ETC	0

SITE NAME:

FRANKLIN-DR. NOTT RD

SITE NUMBER:

CT73XC005

SITE ADDRESS:

99 DR. NOTT ROAD
NORTH FRANKLIN, CT 06254

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-2

CONTINUE FROM SP-2

7. VERIFICATION DOCUMENTED WITH THE ANTENNA CHECKLIST REPORT, BY A&E, SITE DEVELOPMENT REP, OR RF REP.

8. FINAL INSPECTION CHECKLIST AND HANDOFF WALK (HOC.). SIGNED FORM SHOWING ACCEPTANCE BY FIELD OPS IS TO BE UPLOADED INTO SMS.

9. COAX SWEEP AND FIBER TESTING DOCUMENTS SUBMITTED VIA SMS FOR RF APPROVAL.

10. SCAN-ABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT

11. ALL AVAILABLE JURISDICTIONAL INFORMATION

12. PDF SCAN OF REDLINES PRODUCED IN FIELD

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

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

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

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

1. CONCRETE MIX AND CYLINDER BREAK REPORTS.

2. STRUCTURAL BACKFILL COMPACTION REPORTS.

3. SITE RESISTANCE TO EARTH TEST.

4. ANTENNA AZIMUTH AND DOWN TILT VERIFICATION

5. TOWER ERECTION INSPECTIONS AND MEASUREMENTS DOCUMENTING TOWER INSTALLED PER SUPPLIER'S REQUIREMENTS AND THE APPLICABLE SECTIONS HEREIN.

6. COAX CABLE SWEEP TESTS PER COMPANY'S "ANTENNA LINE ACCEPTANCE STANDARDS".

B. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES THE FOLLOWING;

1. TEST WELLS AND TRENCHES: PHOTOGRAPHS OF ALL TEST WELLS; PHOTOGRAPHS SHOWING ALL OPEN EXCAVATIONS AND TRENCHING PRIOR TO BACKFILLING SHOWING A TAPE MEASURE VISIBLE IN THE EXCAVATIONS INDICATING DEPTH.

2. CONDUITS, CONDUCTORS AND GROUNDING: PHOTOGRAPHS SHOWING TYPICAL INSTALLATION OF CONDUCTORS AND CONNECTORS; PHOTOGRAPHS SHOWING TYPICAL BEND RADIUS OF INSTALLED GROUND WIRES AND GROUND ROD SPACING;

3. CONCRETE FORMS AND REINFORCING: CONCRETE FORMING AT TOWER AND EQUIPMENT/SHELTER PAD/FOUNDATIONS – PHOTOGRAPHS SHOWING ALL REINFORCING STEEL, UTILITY AND CONDUIT STUB OUTS; PHOTOGRAPHS SHOWING CONCRETE POUR OF SHELTER SLAB/FOUNDATION, TOWER FOUNDATION AND GUY ANCHORS WITH VIBRATOR IN USE; PHOTOGRAPHS SHOWING EACH ANCHOR ON GUYED TOWERS, BEFORE CONCRETE POUR.

4. TOWER, ANTENNAS AND MAINLINE: INSPECTION AND PHOTOGRAPHS OF SECTION STACKING; INSPECTION AND PHOTOGRAPHS OF PLATFORM COMPONENT ATTACHMENT POINTS; PHOTOGRAPHS OF TOWER TOP GROUNDING; PHOTOS OF TOWER COAX LINE COLOR CODING AT THE TOP AND AT GROUND LEVEL; INSPECTION AND PHOTOGRAPHS OF OPERATIONAL OF TOWER LIGHTING, AND PLACEMENT OF FAA REGISTRATION SIGN; PHOTOGRAPHS SHOWING ADDITIONAL GROUNDING POINTS FOR TOWERS GREATER THAN 200 FEET.; PHOTOS OF ANTENNA GROUND BAR, EQUIPMENT GROUND BAR, AND MASTER GROUND BAR; PHOTOS OF GPS ANTENNA(S); PHOTOS OF EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA; PHOTOS OF COAX WEATHERPROOFING – TOP AND BOTTOM; PHOTOS OF COAX GROUNDING--TOP AND BOTTOM; PHOTOS OF ANTENNA AND MAST GROUNDING; PHOTOS OF COAX CABLE ENTRY INTO SHELTER; PHOTOS OF PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.

5. ROOF TOPS: PRE-CONSTRUCTION AND POST-CONSTRUCTION VISUAL INSPECTION AND PHOTOGRAPHS OF THE ROOF AND INTERIOR TO DETERMINE AND DOCUMENT CONDITIONS; ROOF TOP CONSTRUCTION INSPECTIONS AS REQUIRED BY THE JURISDICTION; PHOTOGRAPHS OF CABLE TRAY AND/OR ICE BRIDGE; PHOTOGRAPHS OF DOGHOUSE/CABLE EXIT FROM ROOF;

6. SITE LAYOUT – PHOTOGRAPHS OF THE OVERALL COMPOUND, INCLUDING EQUIPMENT PLATFORM FROM ALL FOUR CORNERS.

7. FINISHED UTILITIES: CLOSE-UP PHOTOGRAPHS OF THE PPC BREAKER PANEL; CLOSE-UP PHOTOGRAPH OF THE INSIDE OF THE TELCO PANEL AND NIU; CLOSE-UP PHOTOGRAPH OF THE POWER METER AND DISCONNECT; PHOTOS OF POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE; PHOTOGRAPHS AT METER BOX AND/OR FACILITY DISTRIBUTION PANEL.

8. REQUIRED MATERIALS CERTIFICATIONS: CONCRETE MIX DESIGNS; MILL CERTIFICATION FOR ALL REINFORCING AND STRUCTURAL STEEL; AND ASPHALT PAVING MIX DESIGN.

9. ANY AND ALL SUBMITTALS BY THE JURISDICTION OR COMPANY.

SECTION 01 400 – SUBMITTALS & TESTS

PART 1 – GENERAL

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

1.2 RELATED DOCUMENTS:

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

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

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 WEEKLY REPORTS:

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

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

3.2 PROJECT CONFERENCE CALLS:

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

3.3 PROJECT TRACKING IN SMS:

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

3.4 ADDITIONAL REPORTING:

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

3.5 PROJECT PHOTOGRAPHS:

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

1. 1SHELTER AND TOWER OVERVIEW.

2. TOWER FOUNDATION(S) – FORMS AND STEEL BEFORE POUR (EACH ANCHOR ON GUYED TOWERS).

3. TOWER FOUNDATION(S) POUR WITH VIBRATOR IN USE (EACH ANCHOR ON GUYED TOWERS).

4. TOWER STEEL AS BEING INSTALLED INTO HOLE (SHOW ANCHOR STEEL ON GUYED TOWERS).

5. PHOTOS OF TOWER SECTION STACKING.

6. CONCRETE TESTING / SAMPLES.

7. PLACING OF ANCHOR BOLTS IN TOWER FOUNDATION.

8. BUILDING/WATER TANK FROM ROAD FOR TENANT IMPROVEMENTS OR COMMENTS.

9. SHELTER FOUNDATION---FORMS AND STEEL BEFORE POURING.

10. SHELTER FOUNDATION POUR WITH VIBRATOR IN USE.

11. COAX CABLE ENTRY INTO SHELTER.

12. PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.

13. ROOFTOP PRE AND POST CONSTRUCTION PHOTOS TO INCLUDE PENETRATIONS AND INTERIOR CEILING.

14. PHOTOS OF TOWER TOP COAX LINE COLOR CODING AND COLOR CODING AT GROUND LEVEL.

15. PHOTOS OF ALL APPROPRIATE COMPANY OR REGULATORY SIGNAGE.

16. PHOTOS OF EQUIPMENT BOLT DOWN INSIDE SHELTER.

17. POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE AND POWER AND TELCO SUPPLY LOCATIONS INCLUDING METER/DISCONNECT.

18. ELECTRICAL TRENCH(S) WITH ELECTRICAL / CONDUIT BEFORE BACKFILL.

19. ELECTRICAL TRENCH(S) WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.

20. TELCO TRENCH WITH TELEPHONE / CONDUIT BEFORE BACKFILL.

21. TELCO TRENCH WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.

22. SHELTER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).

23. TOWER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).

24. FENCE GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).

25. ALL BTS GROUND CONNECTIONS.

26. ALL GROUND TEST WELLS.

27. ANTENNA GROUND BAR AND EQUIPMENT GROUND BAR.

28. ADDITIONAL GROUNDING POINTS ON TOWERS ABOVE 200'.

29. HVAC UNITS INCLUDING CONDENSERS ON SPLIT SYSTEMS.

30. GPS ANTENNAS.

31. CABLE TRAY AND/OR WAVEGUIDE BRIDGE.

32. DOGHOUSE/CABLE EXIT FROM ROOF.

33. EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA.

34. MASTER BUS BAR.

35. TELCO BOARD AND NIU.

36. ELECTRICAL DISTRIBUTION WALL.

37. CABLE ENTRY WITH SURGE SUPPRESSION.

38. ENTRANCE TO EQUIPMENT ROOM.

39. COAX WEATHERPROOFING-TOP AND BOTTOM OF TOWER.

40. COAX GROUNDING -TOP AND BOTTOM OF TOWER.

41. ANTENNA AND MAST GROUNDING.

42. LANDSCAPING – WHERE APPLICABLE.

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

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www.infinigy.com
JOB NUMBER 526-104

PROJECT MANAGER:

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

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	05/28/18	ETC	0

SITE NAME:

FRANKLIN-DR. NOTT RD

SITE NUMBER:

CT73XC005

SITE ADDRESS:

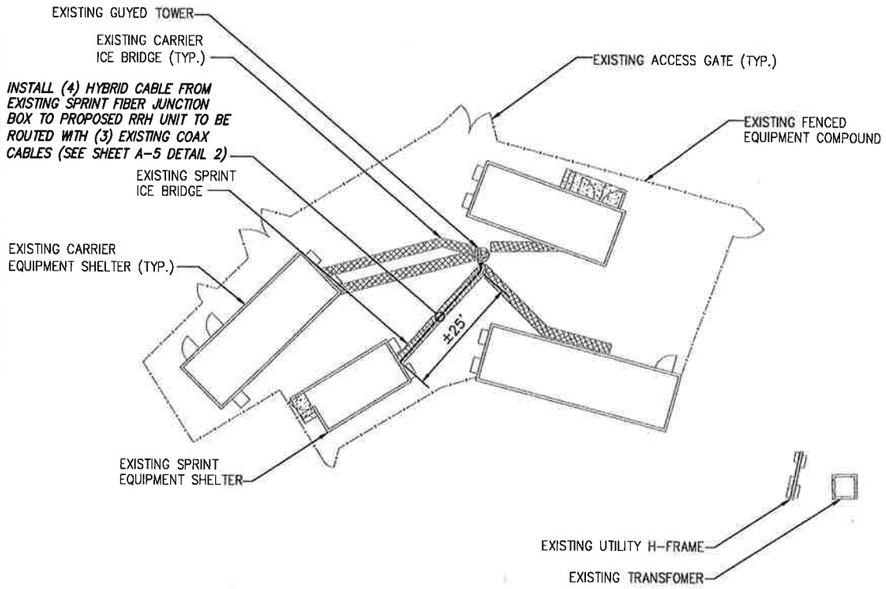
99 DR. NOTT ROAD
NORTH FRANKLIN, CT 06254

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

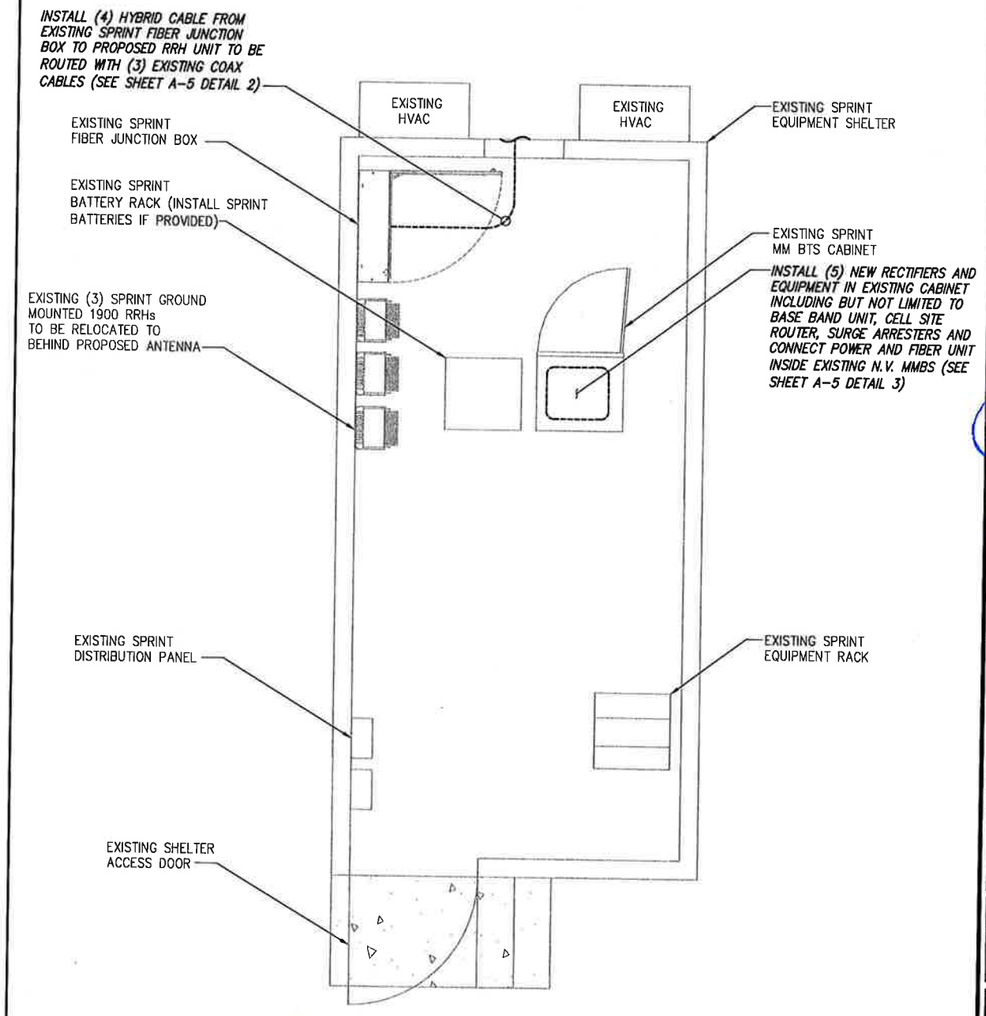
SP-3



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

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

OVERALL SITE PLAN | SCALE: AS NOTED | 1



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

SPRINT EQUIPMENT PLAN | SCALE: AS NOTED | 2

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

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
MAY 3 0 2018
No. 24705
LICENSED PROFESSIONAL ENGINEER

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/28/18	ETC	0

SITE NAME:
FRANKLIN-DR. NOTT RD

SITE NUMBER:
CT73XC005

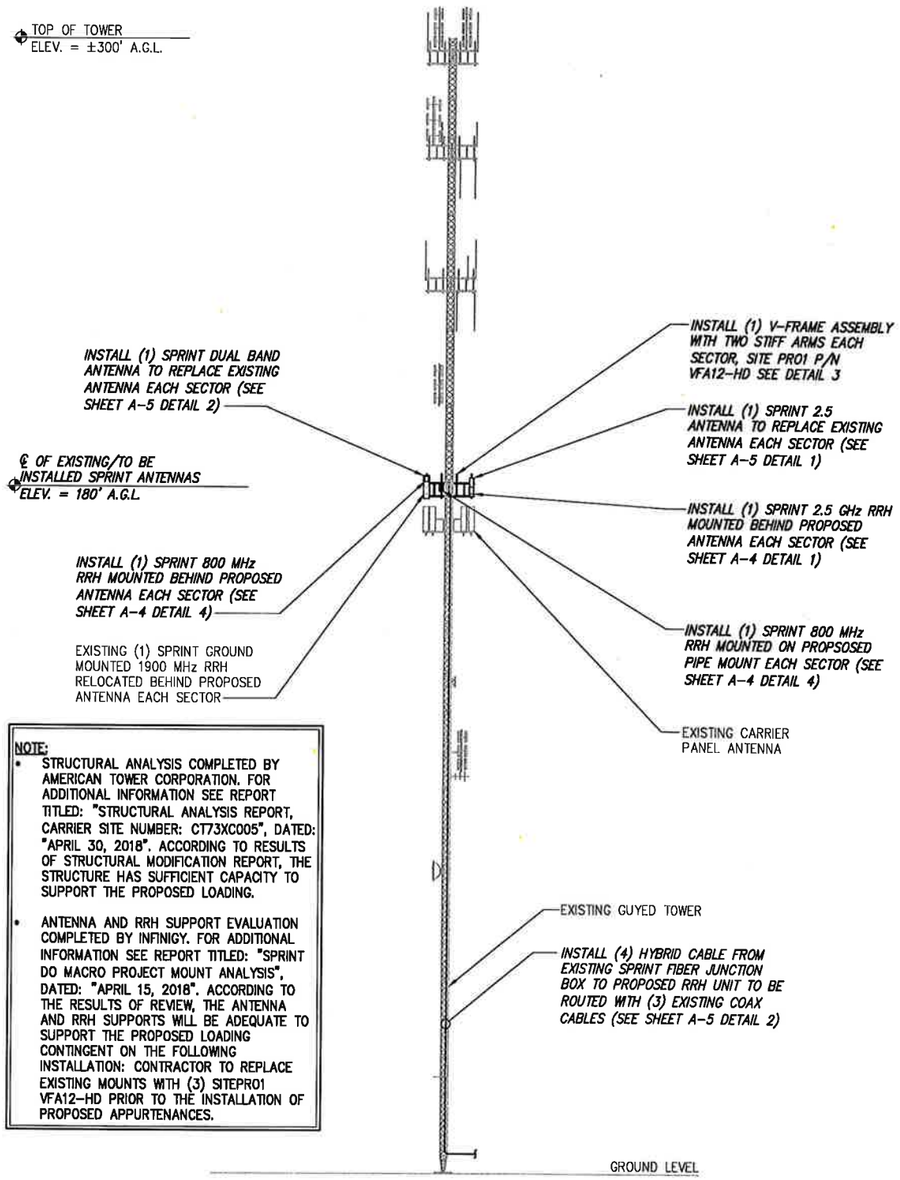
SITE ADDRESS:
99 DR. NOTT ROAD
NORTH FRANKLIN, CT 06254

SHEET DESCRIPTION:
SITE PLAN

SHEET NUMBER:
A-1

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

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



NOTE:

- STRUCTURAL ANALYSIS COMPLETED BY AMERICAN TOWER CORPORATION. FOR ADDITIONAL INFORMATION SEE REPORT TITLED: "STRUCTURAL ANALYSIS REPORT, CARRIER SITE NUMBER: CT73XC005", DATED: "APRIL 30, 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: "APRIL 15, 2018". ACCORDING TO THE RESULTS OF REVIEW, THE ANTENNA AND RRH SUPPORTS WILL BE ADEQUATE TO SUPPORT THE PROPOSED LOADING CONTINGENT ON THE FOLLOWING INSTALLATION: CONTRACTOR TO REPLACE EXISTING MOUNTS WITH (3) SITEPRO1 VFA12-HD PRIOR TO THE INSTALLATION OF PROPOSED APPURTENANCES.

TOWER ELEVATION | NO SCALE | 1

SITE LOADING CHART

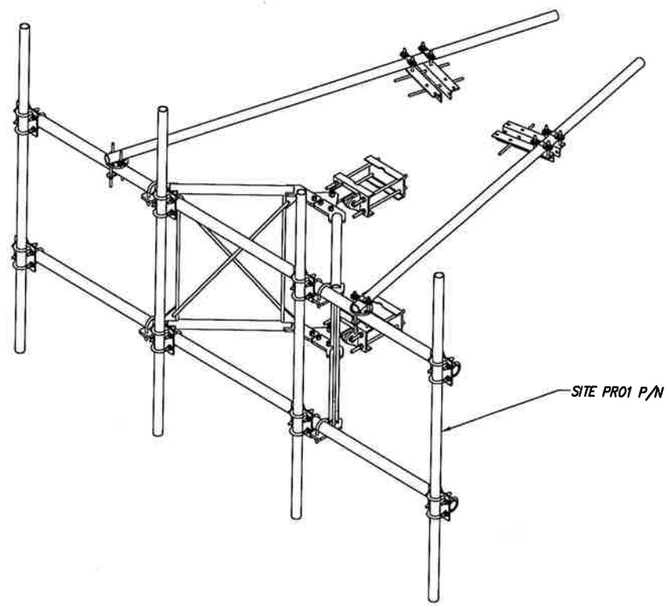
SECTOR	EXISTING/ PROPOSED	ANTENNA MODEL #	VENDOR	AZIMUTH	QTY.	REMAIN/ REMOVED	RRH (QTY/MODEL)	CABLE	CABLE LENGTH	RAD CENTER
ALPHA	PROPOSED	APXVTM14-ALU-120	RFS	60°	1	–	(2) 800 MHZ 2X50W RRH	SEE SHEET A-5 DETAIL 1	±231'*	±180' AGL
	PROPOSED	NNVV-65B-R4	COMMSCOPE	60°	1	–	(1) TD-RRHBX20-25 W/ SOLAR SHIELD	SEE SHEET A-5 DETAIL 1		
	EXISTING	DB844H90E-XY	DECIBEL	60°	1	REMOVE	(1) 1900 MHz 4X45 RRH	EXISTING COAX		
BETA	PROPOSED	APXVTM14-ALU-120	RFS	180°	1	–	(2) 800 MHZ 2X50W RRH	SEE SHEET A-5 DETAIL 1		±180' AGL
	PROPOSED	NNVV-65B-R4	COMMSCOPE	180°	1	–	(1) TD-RRHBX20-25 W/ SOLAR SHIELD	SEE SHEET A-5 DETAIL 1		
	EXISTING	DB844H90E-XY	DECIBEL	180°	1	REMOVE	(1) 1900 MHz 4X45 RRH	EXISTING COAX		
GAMMA	PROPOSED	APXVTM14-ALU-120	RFS	300°	1	–	(2) 800 MHZ 2X50W RRH	SEE SHEET A-5 DETAIL 1		±180' AGL
	PROPOSED	NNVV-65B-R4	COMMSCOPE	300°	1	–	(1) TD-RRHBX20-25 W/ SOLAR SHIELD	SEE SHEET A-5 DETAIL 1		
	EXISTING	DB844H90E-XY	DECIBEL	300°	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



V-FRAME ASSEMBLY WITH 2 STIFF ARMS | NO SCALE | 2

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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 3 2018 · No. 24103 · LICENSED PROFESSIONAL ENGINEER

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/28/18	ETC	0

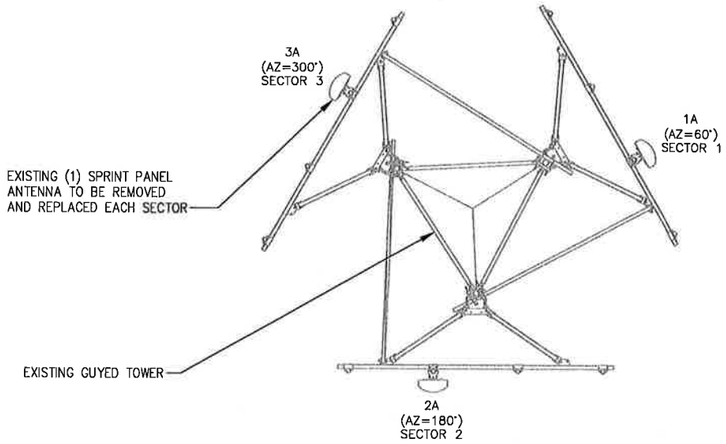
SITE NAME:
FRANKLIN-DR. NOTT RD

SITE NUMBER:
CT73XC005

SITE ADDRESS:
99 DR. NOTT ROAD
NORTH FRANKLIN, CT 06254

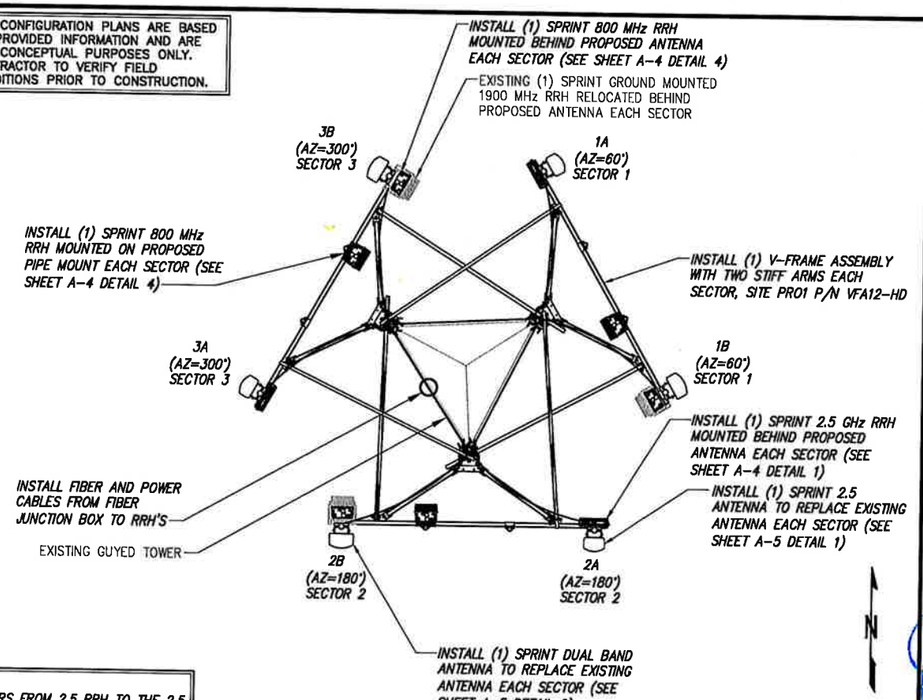
SHEET DESCRIPTION:
TOWER ELEVATION

SHEET NUMBER:
A-2



EXISTING ANTENNA & RRH 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.

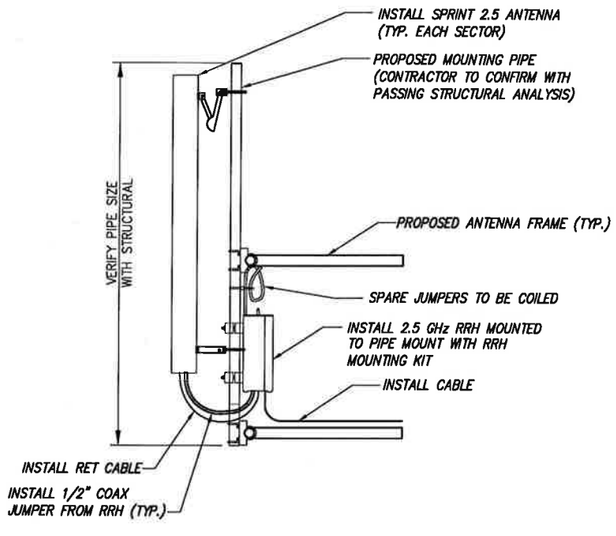


NOTE:
JUMPERS FROM 2.5 RRH TO THE 2.5 ANTENNA CANNOT EXCEED 15 FEET

FINAL ANTENNA 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.

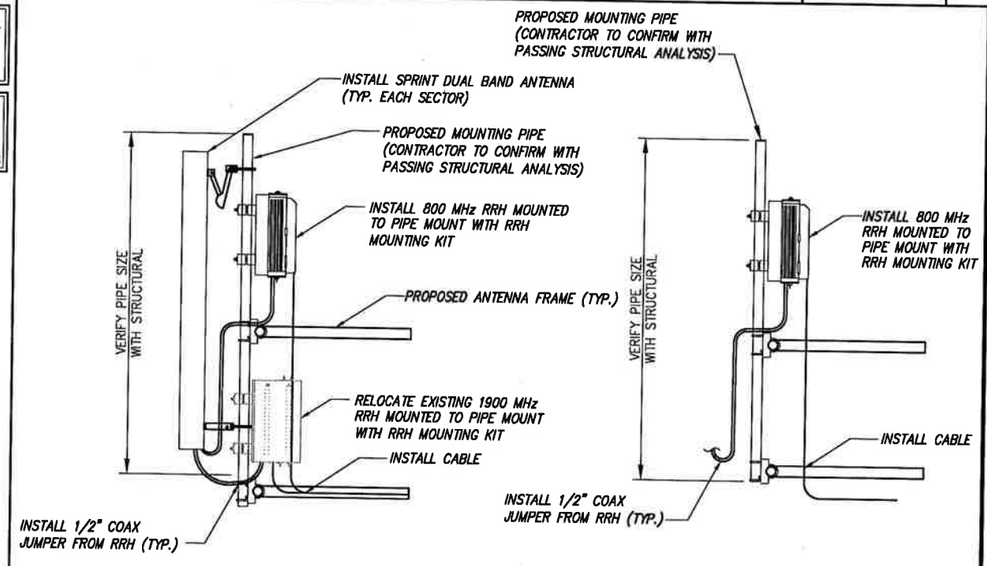
NOTE:
THE DIAGRAM IS FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO REFER TO PASSING STRUCTURAL ANALYSIS FOR ANTENNA AND RRH MOUNTING DETAILS



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



NOTE:
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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

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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	05/28/18	ETC	0

SITE NAME:
FRANKLIN-DR. NOTT RD

SITE NUMBER:
CT73XC005

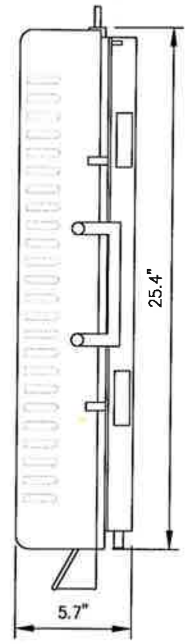
SITE ADDRESS:
99 DR. NOTT ROAD
NORTH FRANKLIN, CT 06254

SHEET DESCRIPTION:
ANTENNA LAYOUT & MOUNTING DETAILS

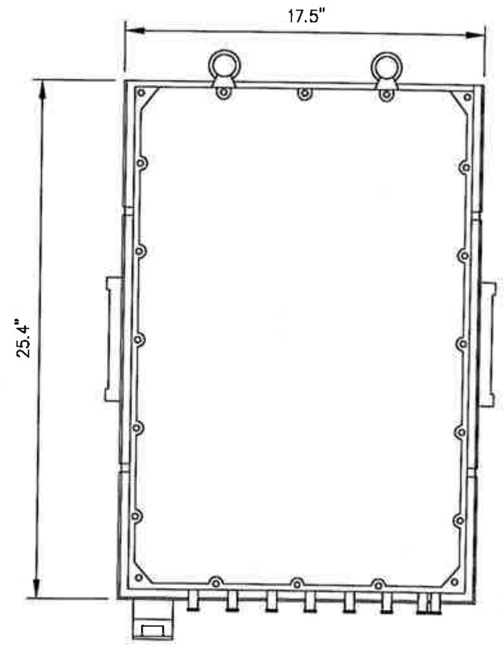
SHEET NUMBER:
A-3

RRH: ALCATEL LUCENT TD-RRH8X20

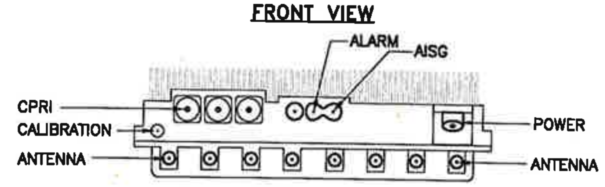
COLOR: LIGHT GREY
WEIGHT: 70 LBS.



SIDE VIEW



FRONT VIEW



PLAN VIEW

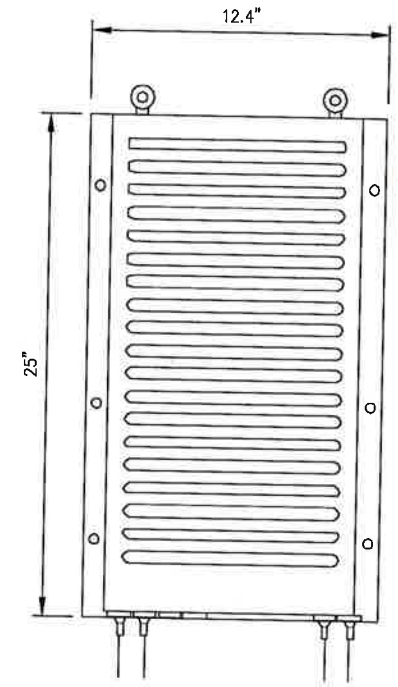
NOTES

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.

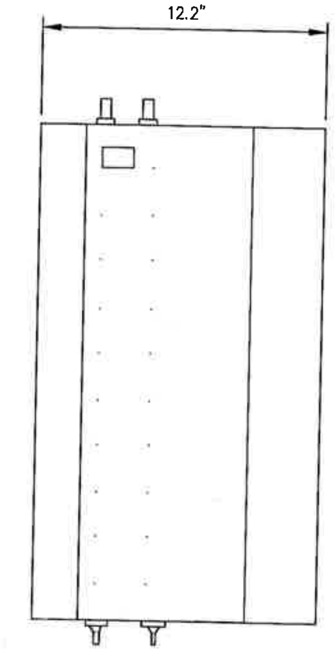
2.5 GHz RRH	NO SCALE	1

RRH: ALCATEL LUCENT 1900 MHz

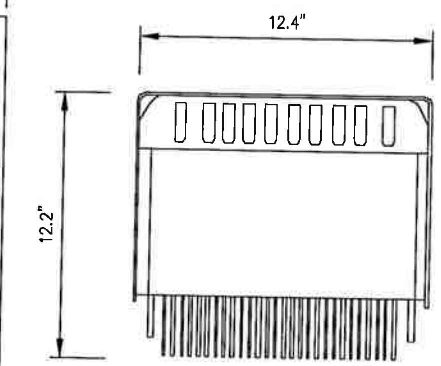
COLOR: LIGHT GREY
WEIGHT: 70 LBS.
(INCLUDING OPTIONAL SOLAR SHIELD)



FRONT VIEW



SIDE VIEW



TOP VIEW

EXISTING 1900 MHz RRH	NO SCALE	2

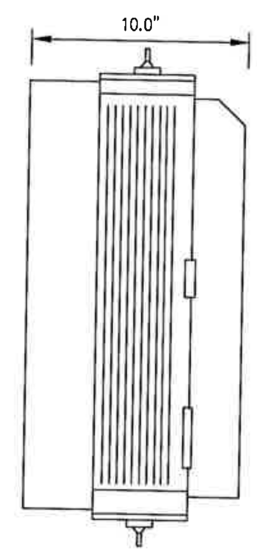
DETAIL NOT USED	NO SCALE	3

RRH: ALCATEL LUCENT RRH 800 MHz 2x50W

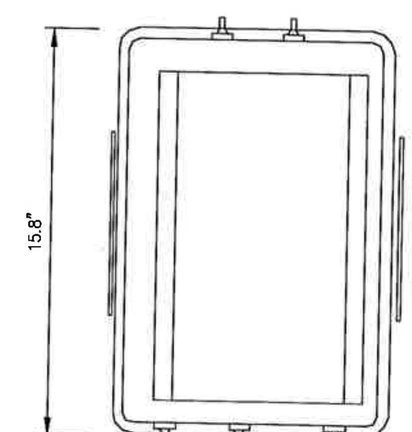
COLOR: LIGHT GREY
WEIGHT: 53 LBS.

NOTES

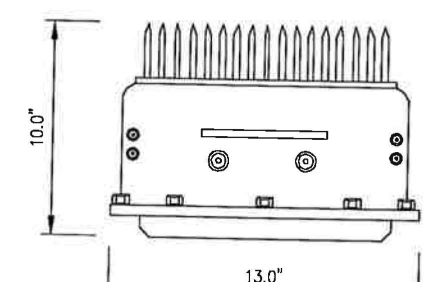
COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRH'S RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING. DO NOT OPEN RRH PACKAGES IN THE RAIN.



SIDE VIEW



FRONT VIEW



PLAN VIEW

800 MHz RRH	NO SCALE	4

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JOB NUMBER 526-104

PROJECT MANAGER:

AIROSMITH DEVELOPMENT

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

ENGINEERING LICENSE:

STATE OF CONNECTICUT · JOHN S. STEVENS · No. 29265 · LICENSED PROFESSIONAL ENGINEER

5-30-2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/28/18	ETC	0

SITE NAME:

FRANKLIN-DR. NOTT RD

SITE NUMBER:

CT73XC005

SITE ADDRESS:

99 DR. NOTT ROAD
NORTH FRANKLIN, CT 06254

SHEET DESCRIPTION:

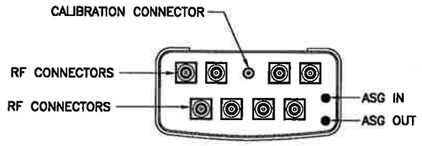
EQUIPMENT & MOUNTING DETAILS

SHEET NUMBER:

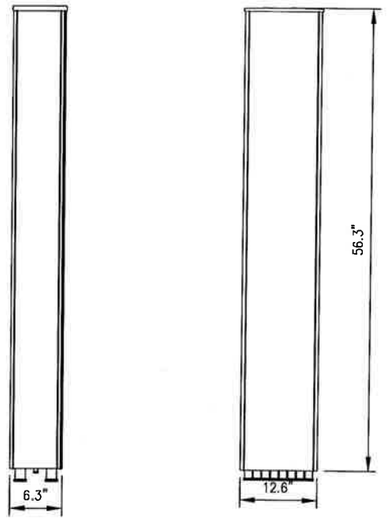
A-4

ANTENNA RFS APXVTM14-ALU-I20

RADOME MATERIAL:	ASA
RADOME COLOR:	LIGHT GREY
DIMENSIONS, HxWxD.in(mim):	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

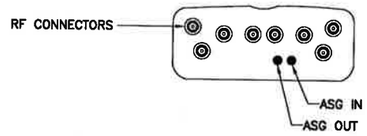


SIDE VIEW FRONT VIEW

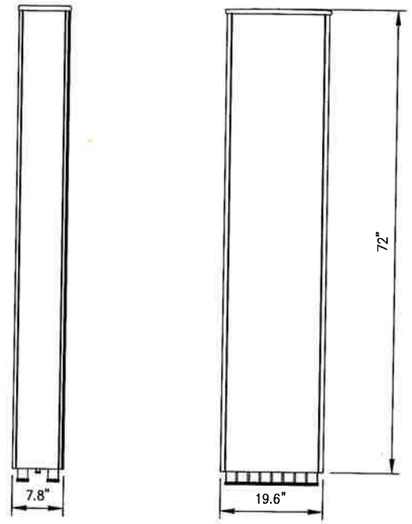
2.5 ANTENNA DETAIL | NO SCALE | 1

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 | 2

DETAIL NOT USED | NO SCALE | 3

DETAIL NOT USED | NO SCALE | 4

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

ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
LICENSED PROFESSIONAL ENGINEER
MAY 30 2018

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REVISIONS:

DESCRIPTION	DATE	BY	REV.
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SITE NAME:

FRANKLIN-DR. NOTT RD

SITE NUMBER:

CT73XC005

SITE ADDRESS:

99 DR. NOTT ROAD
NORTH FRANKLIN, CT 06254

SHEET DESCRIPTION:

EQUIPMENT & MOUNTING DETAILS

SHEET NUMBER:

A-5

RFS HYBRIFLEX RISER CABLE SCHEDULE

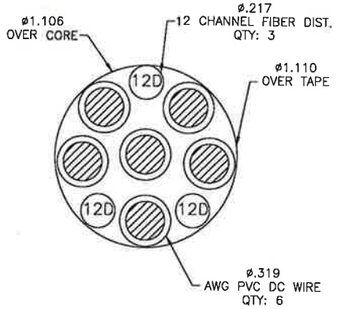
Fiber Only (Existing DC Power)	**Hybrid cable** MN: HB058-M12-050F 12x multi-mode fiber pairs, Top: Outdoor protected connectors, Bottom: LC Connectors, 5/8 cable, 50 ft	50 ft
	MN: HB058-M12-075F	75 ft
	MN: HB058-M12-100F	100 ft
	MN: HB058-M12-125F	125 ft
	MN: HB058-M12-150F	150 ft
	MN: HB058-M12-175F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

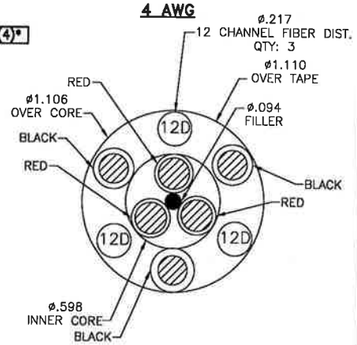
Fiber Only	**Hybrid Jumper cable** MN: HBF012-M3-5F1 5 ft, 3x multi-mode fiber pairs, Outdoor & LC connectors, 1/2 cable	5 ft
	MN: HBF012-M3-10F1	10 ft
	MN: HBF012-M3-15F1	15 ft
	MN: HBF012-M3-20F1	20 ft
	MN: HBF012-M3-25F1	25 ft
	MN: HBF012-M3-30F1	30 ft
8 AWG Power	**Hybrid Jumper cable** MN: HBF058-08U1M3-5F1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

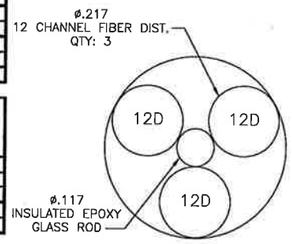
* PROPOSED CABLE LENGTH WAS DETERMINED USING THE SUM OF THE RAD CENTER OF ANTENNAS, AND DISTANCE FROM EXISTING EQUIPMENT AREA TO TOWER BASE WITH AN ADDITIONAL 20' BUFFER. LENGTH TO BE VERIFIED IN FIELD PRIOR TO ORDERING MATERIALS.



4 AWG

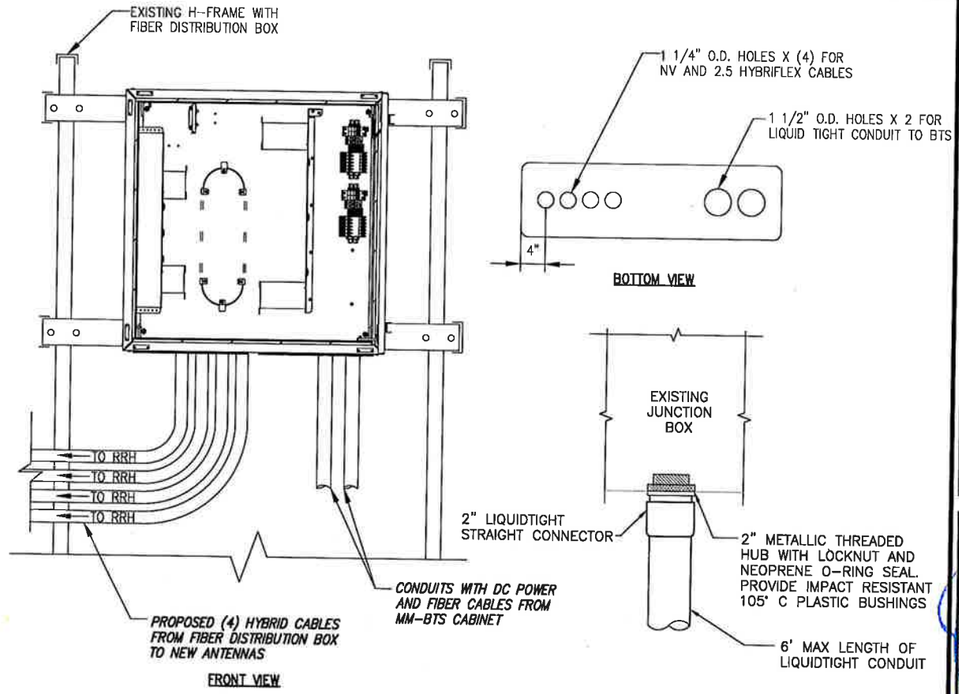


8 & 6 AWG



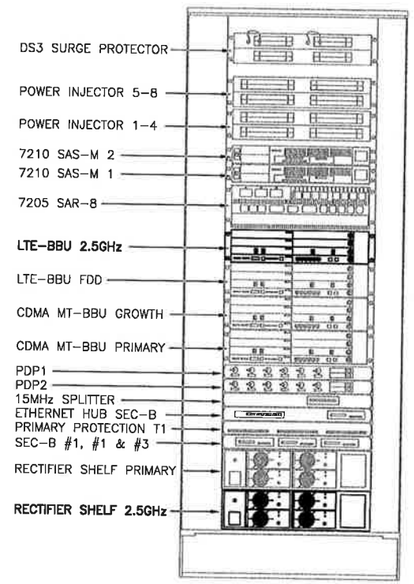
FIBER ONLY

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



FRONT VIEW

FIBER JUNCTION BOX & PENETRATION | NO SCALE | 2



FRONT VIEW

NEW EQUIPMENT IN EXISTING CABINET | NO SCALE | 3

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32 CLINTON ST.
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OFFICE#. (516) 306-3740

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
LICENSED PROFESSIONAL ENGINEER
MAY 3 1 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/28/18	ETC	0

SITE NAME:
FRANKLIN-DR. NOTT RD

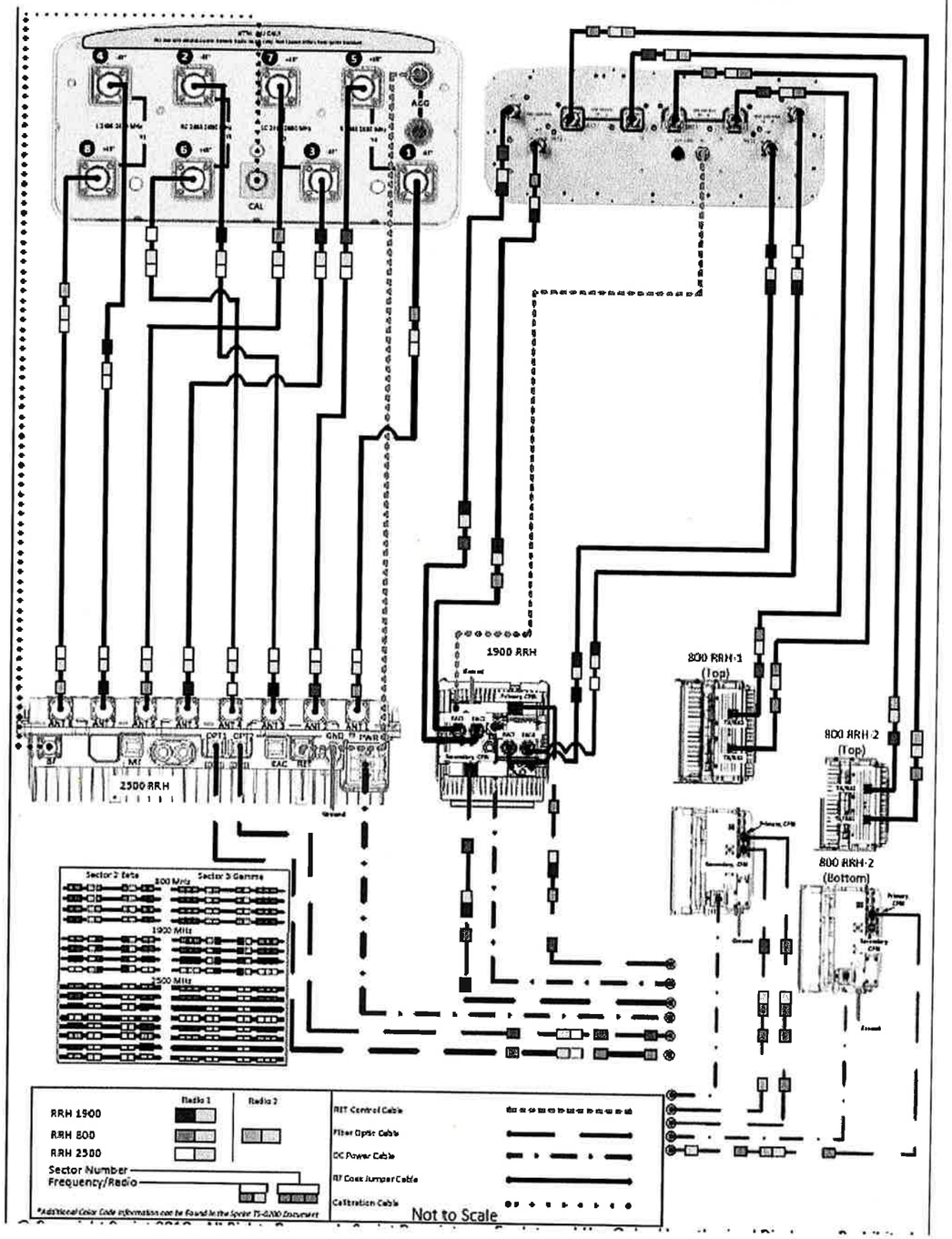
SITE NUMBER:
CT73XC005

SITE ADDRESS:
99 DR. NOTT ROAD
NORTH FRANKLIN, CT 06254

SHEET DESCRIPTION:
CIVIL DETAILS

SHEET NUMBER:
A-6

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



PLUMBING DIAGRAM | NO SCALE | 1

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
No. 24705
REGISTERED PROFESSIONAL ENGINEER
MAY 3, 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/28/18	ETC	0

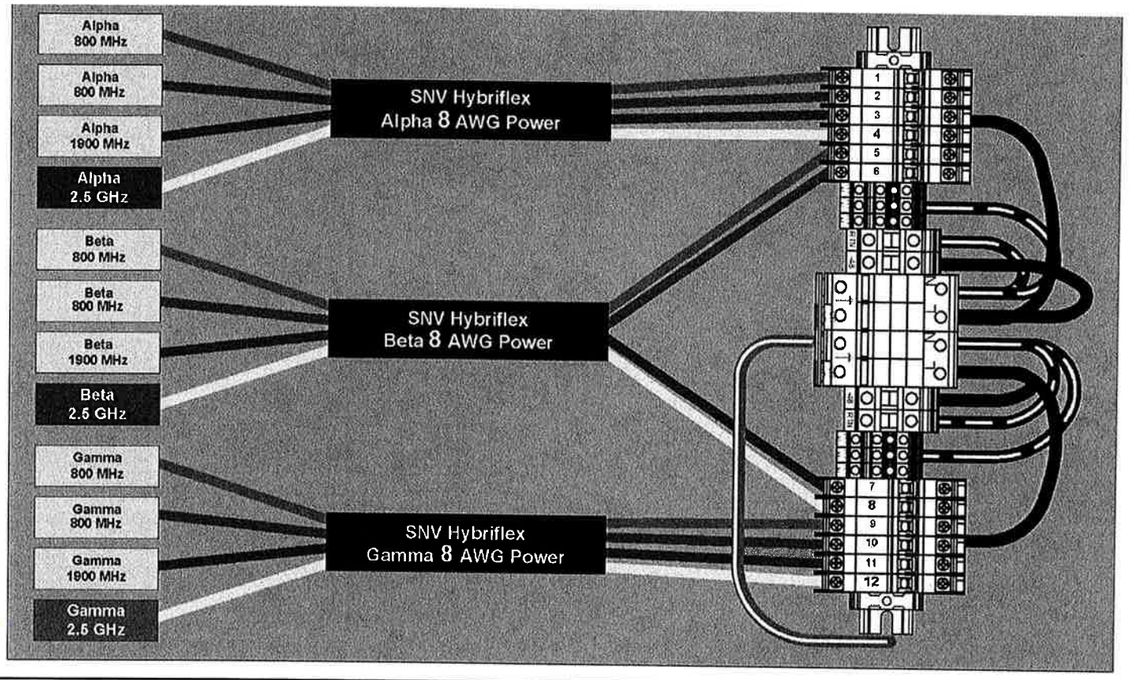
SITE NAME:
FRANKLIN-DR. NOTT RD

SITE NUMBER:
CT73XC005

SITE ADDRESS:
99 DR. NOTT ROAD
NORTH FRANKLIN, CT 06254

SHEET DESCRIPTION:
PLUMBING DIAGRAM

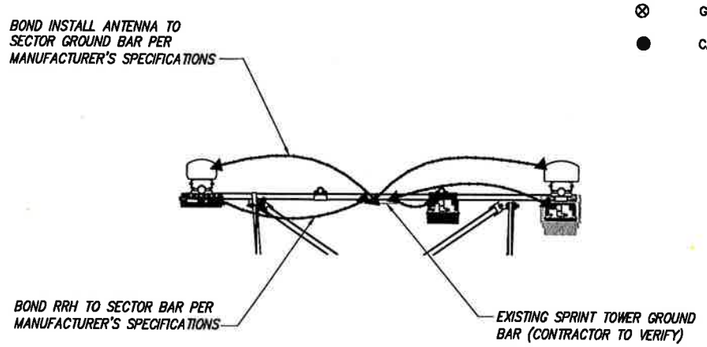
SHEET NUMBER:
A-7



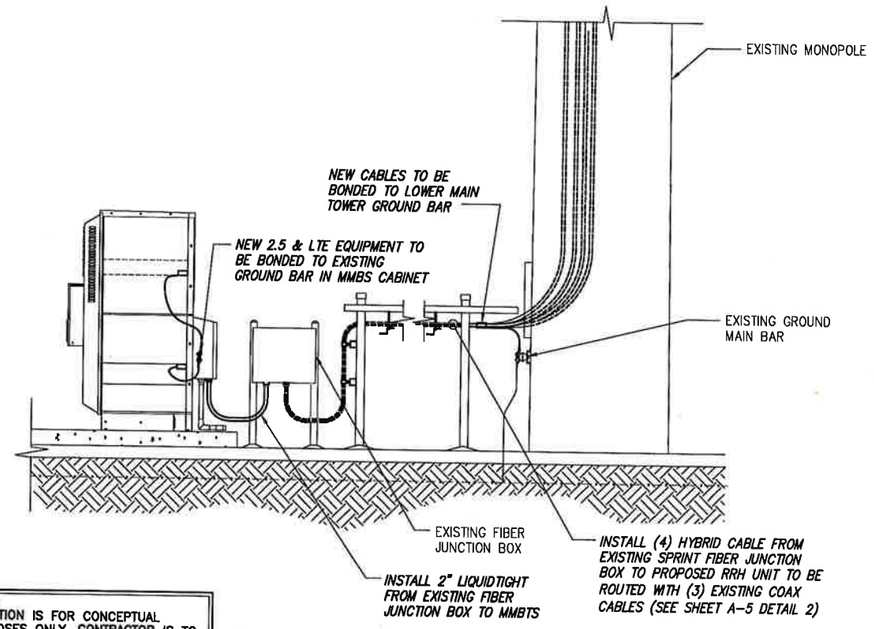
RRH TO DISTRIBUTION BOX POWER CONNECTIVITY | NO SCALE | 1

LEGEND:

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



TYPICAL ANTENNA GROUNDING PLAN | NO SCALE | 2



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

TYPICAL EQUIPMENT GROUNDING PLAN (ELEVATION) | NO SCALE | 3

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

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
No. 34[illegible]
LICENSED PROFESSIONAL ENGINEER
MAY 30 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR PERMIT	05/28/18	ETC	0

SITE NAME:
FRANKLIN-DR. NOTT RD

SITE NUMBER:
CT73XC005

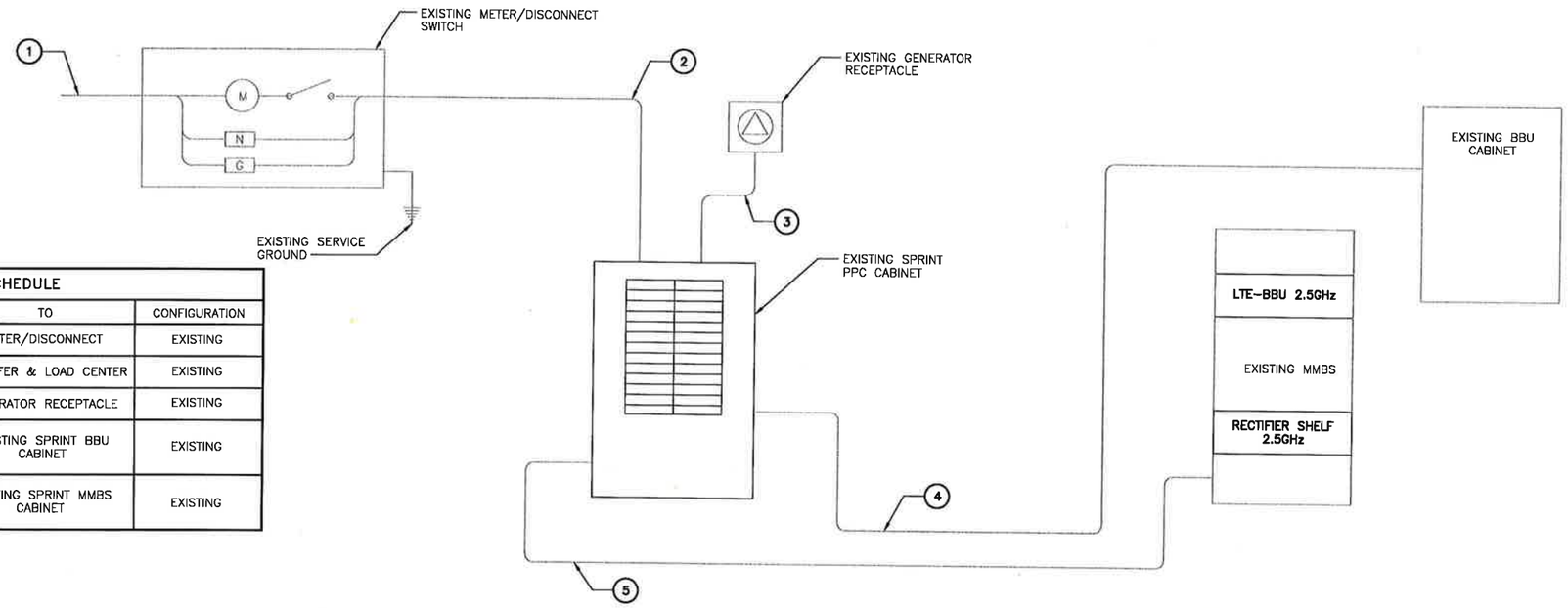
SITE ADDRESS:
99 DR. NOTT ROAD
NORTH FRANKLIN, CT 06254

SHEET DESCRIPTION:
ELECTRICAL & GROUNDING PLAN

SHEET NUMBER:
E-1

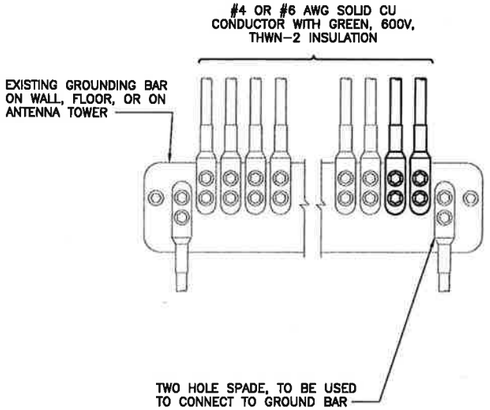
NOTES

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

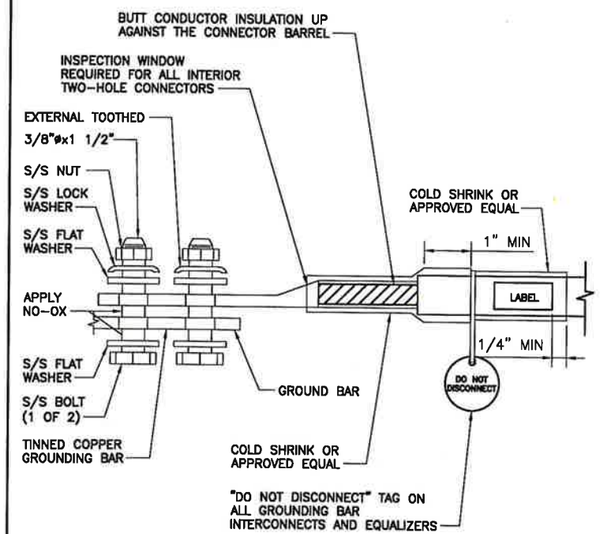
ELECTRICAL ONE–LINE DIAGRAM — NO SCALE — 1



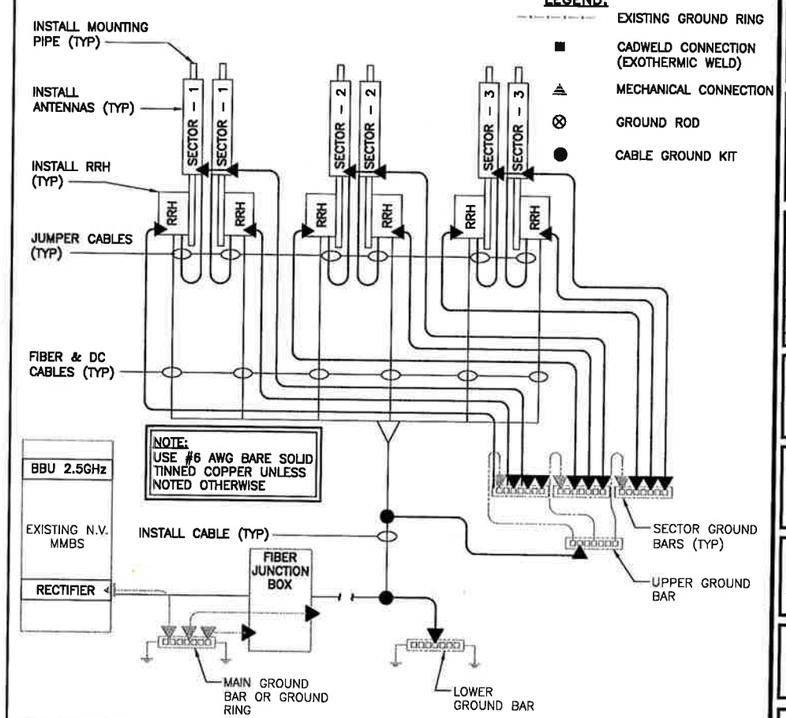
NOTES

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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PLANS PREPARED BY:

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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	05/28/18	ETC	0

SITE NAME: FRANKLIN-DR. NOTT RD

SITE NUMBER: CT73XC005

SITE ADDRESS: 99 DR. NOTT ROAD NORTH FRANKLIN, CT 06254

SHEET DESCRIPTION: ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER: E-2

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 16.0.2 structural analysis software.

Supporting Documentation

Structural Analysis	ATC Eng #OAA710395_C3_05, dated March 16, 2018

Analysis Code Requirements

Wind Speed	101 mph (3-Second Gust, V_{asd}) / 130 mph (3-Second Gust V_{ult})
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 3/4" ice
TIA Revision	ANSI/TIA222-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 structure meets the specified TIA code requirements. The mount for the proposed carrier is 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:

Nathaniel R Ober E.I.T.
Northeast Structural Region Lead | Infinigy
1033 Watervliet Shaker Road, Albany, NY 12205
(O) (518) 690-0790 | (M) (303) 704-0322
nober@infinigy.com | www.infinigy.com

Final Configuration Loading

Mount Centerline (ft)	RAD Height (ft)	Horizontal Offset (ft)*	Qty.	Appurtenance	Carrier
180.0	180.0	12.0	3	Commscope NNVV-65B-R4	Sprint
		0.0	3	RFS APXVTM14-ALU-I20	
		4.0	3	Alcatel-Lucent TD-RRH8x20-25	
		0.0,12.0	6	Alcatel-Lucent RRH2x50-08	
		8.0	3	Alcatel-Lucent 1900 MHz 4X45 RRH	

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

Structure Usages

Stand off	46.0	Pass
Face Horizontal	40.8	Pass
Mount Pipe	38.8	Pass
RATING =	**46.0**	**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.

Site Name:	CT73XC005
Client:	Airosmith
Carrier:	Sprint
Engineer:	NRO
Date:	4/15/2018

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INFINIGY WIND LOAD CALCULATOR 3.0.2

Site Information Inputs:

Adopted Building Code:	2015 IBC
Structure Load Standard:	TIA-222-G
Antenna Load Standard:	TIA-222-G
Structure Risk Category:	II
Structure Type:	Mount - Sector
Number of Sectors:	2
Structure Shape 1:	Round

Rooftop Inputs:

Rooftop Wind Speed-Up?:	No

Wind Loading Inputs:

Design Wind Velocity:	101	mph (nominal 3-second gust)
Wind Centerline 1 (z_1):	180.0	ft
Side Face Angle (θ):	60	degrees
Exposure Category:	B	
Topographic Category:	1	

Wind with No Ice		
q_z (psf)	Gh	F_{ST} (psf)
29.00	1.00	**34.80**

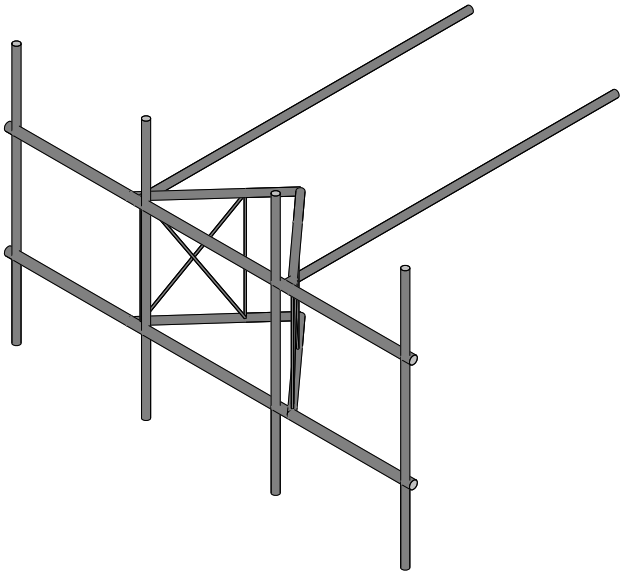
Wind with Ice		
q_z (psf)	Gh	F_{ST} (psf)
7.11	1.00	**26.10**

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)
RFS APXVTM14-ALU-I20	180.0	3	1.00	Flat	Flat	29.00	6.34	183.93	104.61	124.44	164.10
Commscope NNVV-65B-R4	180.0	3	1.00	Flat	Flat	29.00	12.27	355.86	166.75	214.03	308.59
Alcatel-Lucent 800 MHz 2x50W RRH	180.0	6	1.00	Flat	Flat	29.00	2.06	59.69	56.02	56.94	58.77
Alcatel-Lucent TD-RRH8x20-25	180.0	3	1.00	Flat	Flat	29.00	4.05	117.32	44.44	62.66	99.10
Alcatel-Lucent 1900 MHz 4x45 RRH	180.0	3	1.00	Flat	Flat	29.00	2.31	67.06	68.88	68.42	67.52



Envelope Only Solution

Infinigy Engineering PLLC	VFA12-HD	
NRO		Apr 15, 2018 at 11:47 AM
526-104		VFA12-HD.r3d

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N3	N4			2.5"pipe	Beam	None	A53 Gr.B	Typical
2	M2	N1	N2			2.5"pipe	Beam	None	A53 Gr.B	Typical
3	M3	N8	N6			2" pipe	Beam	None	A53 Gr.B	Typical
4	M4	N9	N6			2" pipe	Beam	None	A53 Gr.B	Typical
5	M5	N7	N5			2" pipe	Beam	None	A53 Gr.B	Typical
6	M6	N10	N5			2" pipe	Beam	None	A53 Gr.B	Typical
7	M7	N12	N14			0.625" S.R.	Beam	None	A36 Gr.36	Typical
8	M8	N14	N16			0.625" S.R.	Beam	None	A36 Gr.36	Typical
9	M9	N16	N18			0.625" S.R.	Beam	None	A36 Gr.36	Typical
10	M10	N18	N12			0.625" S.R.	Beam	None	A36 Gr.36	Typical
11	M11	N19	N13			0.625" S.R.	Beam	None	A36 Gr.36	Typical
12	M12	N13	N15			0.625" S.R.	Beam	None	A36 Gr.36	Typical
13	M13	N15	N17			0.625" S.R.	Beam	None	A36 Gr.36	Typical
14	M14	N17	N19			0.625" S.R.	Beam	None	A36 Gr.36	Typical
15	M15	N21	N23			2" pipe	Beam	None	A53 Gr.B	Typical
16	M16	N22	N24			2" pipe	Beam	None	A53 Gr.B	Typical
17	MP4	N37	N33			2" pipe	Beam	None	A53 Gr.B	Typical
18	MP3	N39	N35			2" pipe	Beam	None	A53 Gr.B	Typical
19	MP2	N40	N36			2" pipe	Beam	None	A53 Gr.B	Typical
20	MP1	N38	N34			2" pipe	Beam	None	A53 Gr.B	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	Hot Rolled Steel				
2	A36 Gr.36	0.625" S.R.	8	353.6	0
3	A53 Gr.B	PIPE_2.0	10	809	.2
4	A53 Gr.B	PIPE_2.5	2	300	.1
5	Total HR Steel		20	1462.6	.4

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut..	Area(M...	Surface...
1	Self Weight	DL		-1			8			
2	Wind Load AZI 000	WLZ					8		1	
3	Wind Load AZI 090	WLX					8		1	
4	Ice Weight	OL1					8	20		
5	Wind + Ice Load AZI 000	OL2					8		1	
6	Wind + Ice Load AZI 090	OL3					8		1	
7	Service Live 1	LL				2				
8	BLC 2 Transient Area Loads	None						16		
9	BLC 3 Transient Area Loads	None						16		
10	BLC 5 Transient Area Loads	None						16		
11	BLC 6 Transient Area Loads	None						16		

Load Combinations

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..
1	1.4D	Yes	Y		DL	1.4																		
2	1.2D + 1.6W AZI 000	Yes	Y		DL	1.2	W...	1.6																
3	1.2D + 1.6W AZI 030	Yes	Y		DL	1.2	W...	1.3...	W...	.8														
4	1.2D + 1.6W AZI 060	Yes	Y		DL	1.2	W...	.8	W...	1.3...														
5	1.2D + 1.6W AZI 090	Yes	Y		DL	1.2			W...	1.6														
6	1.2D + 1.6W AZI 120	Yes	Y		DL	1.2	W...	-.8	W...	1.3...														

Load Combinations (Continued)

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
7	1.2D + 1.6W AZI 150	Yes	Y		DL	1.2	W...	-1.3...	W...	.8																
8	1.2D + 1.6W AZI 180	Yes	Y		DL	1.2	W...	-1.6																		
9	1.2D + 1.6W AZI 210	Yes	Y		DL	1.2	W...	-1.3...	W...	-.8																
10	1.2D + 1.6W AZI 240	Yes	Y		DL	1.2	W...	-.8	W...	-1.3...																
11	1.2D + 1.6W AZI 270	Yes	Y		DL	1.2			W...	-1.6																
12	1.2D + 1.6W AZI 300	Yes	Y		DL	1.2	W...	.8	W...	-1.3...																
13	1.2D + 1.6W AZI 330	Yes	Y		DL	1.2	W...	1.3...	W...	-.8																
14	0.9D + 1.6W AZI 000	Yes	Y		DL	.9	W...	1.6																		
15	0.9D + 1.6W AZI 030	Yes	Y		DL	.9	W...	1.3...	W...	.8																
16	0.9D + 1.6W AZI 060	Yes	Y		DL	.9	W...	.8	W...	1.3...																
17	0.9D + 1.6W AZI 090	Yes	Y		DL	.9			W...	1.6																
18	0.9D + 1.6W AZI 120	Yes	Y		DL	.9	W...	-.8	W...	1.3...																
19	0.9D + 1.6W AZI 150	Yes	Y		DL	.9	W...	-1.3...	W...	.8																
20	0.9D + 1.6W AZI 180	Yes	Y		DL	.9	W...	-1.6																		
21	0.9D + 1.6W AZI 210	Yes	Y		DL	.9	W...	-1.3...	W...	-.8																
22	0.9D + 1.6W AZI 240	Yes	Y		DL	.9	W...	-.8	W...	-1.3...																
23	0.9D + 1.6W AZI 270	Yes	Y		DL	.9			W...	-1.6																
24	0.9D + 1.6W AZI 300	Yes	Y		DL	.9	W...	.8	W...	-1.3...																
25	0.9D + 1.6W AZI 330	Yes	Y		DL	.9	W...	1.3...	W...	-.8																
26	1.2D + 1.0Di	Yes	Y		DL	1.2	OL1	1																		
27	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		DL	1.2	OL1	1	OL2	1																
28	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		DL	1.2	OL1	1	OL2	.866	OL3	.5														
29	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		DL	1.2	OL1	1	OL2	.5	OL3	.866														
30	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		DL	1.2	OL1	1			OL3	1														
31	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		DL	1.2	OL1	1	OL2	-.5	OL3	.866														
32	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		DL	1.2	OL1	1	OL2	-.866	OL3	.5														
33	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		DL	1.2	OL1	1	OL2	-1																
34	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		DL	1.2	OL1	1	OL2	-.866	OL3	-.5														
35	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		DL	1.2	OL1	1	OL2	-.5	OL3	-.866														
36	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		DL	1.2	OL1	1			OL3	-1														
37	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		DL	1.2	OL1	1	OL2	.5	OL3	-.866														
38	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		DL	1.2	OL1	1	OL2	.866	OL3	-.5														
39	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	.111																
40	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	.096	W...	.056														
41	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	.056	W...	.096														
42	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5			W...	.111														
43	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	-.056	W...	.096														
44	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	-.096	W...	.056														
45	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	-.111																
46	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	-.096	W...	-.056														
47	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	-.056	W...	-.096														
48	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5			W...	-.111														
49	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	.056	W...	-.096														
50	1.2D + 1.5L + 1.0WL (...	Yes	Y		DL	1.2	LL	1.5	W...	.096	W...	-.056														

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N6	max	867.42	17	1546.46	33	2457.488	14	-172.019	14	81.091	15	174.881	6
2		min	-930.893	11	283.677	14	-3312.509	8	-886.71	33	-79.658	9	-160.49	12
3	N5	max	617.452	5	1369.963	27	2010.619	27	-156.236	20	463.046	6	149.298	18
4		min	-554.814	23	275.249	20	-696.916	20	-797.312	27	-441.272	24	-120.023	24
5	N23	max	40.537	5	54.222	37	1311.315	19	0	1	0	1	0	1
6		min	-40.536	23	9.909	19	-1360.894	13	0	1	0	1	0	1
7	N24	max	40.987	16	55.539	29	860.127	22	0	1	0	1	0	1
8		min	-40.89	10	10.392	22	-883.923	4	0	1	0	1	0	1

Envelope Joint Reactions (Continued)

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
9	Totals:	max	1557.168	17	2994.56	35	2207.51	14						
10		min	-1557.168	23	722.834	16	-2207.51	8						

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

	Member	Shape	Code Check	Lo...	...	Shear C...	Loc[in] ...		LC	phi*Pnc...	phi*Pnt ...	phi*...	phi*...	...	Eqn
1	M14	0.625" ...	.460	40	...	.010	40		6	2339.328	9946.8	96.768	96.768	...	H1-...
2	M9	0.625" ...	.438	40	...	.011	0		6	2017.074	9946.8	96.768	96.768	...	H1-...
3	M12	0.625" ...	.438	40	...	.011	0		12	2339.328	9946.8	96.768	96.768	...	H1-...
4	M7	0.625" ...	.422	40	...	.010	0		5	2017.074	9946.8	96.768	96.768	...	H1-...
5	M4	PIPE_2.0	.419	44...	...	.143	44.7...		30	29772....	32130	1871...	1871...	1	H1-...
6	M1	PIPE_2.5	.408	10...	...	.142	104....		14	41331....	50715	3596...	3596...	1	H1-...
7	MP1	PIPE_2.0	.388	68	2	.044	68		36	28122....	32130	1871...	1871...	1	H1-...
8	M6	PIPE_2.0	.375	44...	...	.135	2.798		32	29772....	32130	1871...	1871...	1	H1-...
9	M2	PIPE_2.5	.367	10...	8	.132	106....		8	41331....	50715	3596...	3596...	1	H1-...
10	M3	PIPE_2.0	.342	44...	...	.113	44.7...		36	29772....	32130	1871...	1871...	1	H1-...
11	M13	0.625" ...	.321	0	...	.021	0		13	675.067	9946.8	96.768	96.768	1	H1-...
12	M5	PIPE_2.0	.310	44...	...	.094	2.798		35	29772....	32130	1871...	1871...	1	H1-...
13	MP4	PIPE_2.0	.283	68	...	.036	68		31	28122....	32130	1871...	1871...	1	H1-...
14	M16	PIPE_2.0	.197	2.5...	8	.146	2.563		8	9362.615	32130	1871...	1871...	...	H1-...
15	MP3	PIPE_2.0	.192	68	...	.049	68		5	28122....	32130	1871...	1871...	1	H1-...
16	MP2	PIPE_2.0	.189	68	...	.058	68		12	28122....	32130	1871...	1871...	1	H1-...
17	M8	0.625" ...	.187	0	...	.013	0		3	675.067	9946.8	96.768	96.768	...	H1-...
18	M15	PIPE_2.0	.169	0	...	.091	2.563		9	9362.615	32130	1871...	1871...	...	H1-...
19	M10	0.625" ...	.000	0	1	.000	0		1	13.777	9946.8	96.768	96.768	1	H1-...
20	M11	0.625" ...	.000	0	1	.016	48.4		8	675.067	9946.8	96.768	96.768	...	H1-...