Filed by:
Kri Pelletier, Property Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3804 - kpelletier@sbasite.com

June 14, 2018

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Notice of Exempt Modification
62 Babbitt Hill Road, Pomfret, CT
41 52 12.93 N
-71 59 17.67 W
Sprint #: CT33XC256_DOMU

Dear Ms. Bachman:

Sprint currently maintains antennas at the 157-foot of the existing 168-foot Monopole Tower at 62 Babbitt Hill Road, Pomfret, CT. The tower is owned by SBA Towers, LLC. The property is owned by the Joseph & Cecile Stoddard. Sprint now intends to replace (6) existing cell antenna with (6) newer technology cell antenna at the 157-foot level of the tower. Sprint's proposed full scope of work is as follows:

Remove:

- (6) 1-5/8" lines

Remove and Replace:

- Remove (3) Decibel DB980H90E-M Panel Antennas and replace with (3) RFS APXVTM14-C-120 Panel Antennas
- Remove (3) Decibel DB980H90E-M Panel Antennas and replace with (3) Commscope NNW-65B-R4 Panel Antennas

Install:

- (3) ALU 1900 MHz RRUs
- (6) ALU 800 MHz RRUs
- (3) ALU TD-RRH8x20-25 RRUs
- (4) 1-1/4" lines
- (1) PRK 1245L
- (1) HRK14-U
- (1) PRK-SFS-H-L

Existing Equipment to Remain (Including entitlements):

- (1) Low Profile Platform

This facility was approved by the Town of Pomfret prior to the Council's jurisdiction over same. Pomfret's Board of Selectmen voted to approve the Application for Wireless Telecommunication Structure on April 19, 1999. The application was found to be compliance with all Town requirements except with regard to Section 3.6/Surety Bond. Such Bond was waived in lieu of a donation to the Town to be used for recreation purposes. The Tower was to hold up to five carriers. There were no additional conditions placed on the facility and it is SBA's opinion that this proposed modification is in full compliance.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to the Town of Pomfret's First Selectmen, Craig Baldwin, and Zoning Enforcement Officer, Ryan Brais, as well as to the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. §16.50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modification will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modification will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, Sprint respectfully submits that the proposed modifications to the above-referenced telecommunication facility constitute an exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kri Pelletier
Property Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3804 + T
508.366.2610 + F
203.446.7700 + C
kpelletier@sbasite.com
Attachments
cc: Craig Baldwin, First Selectman / with attachments
Town of Pomfret, 5 Haven Road, Pomfret Center, CT 06259
Ryan Brais, Zoning Enforcement Officer / with attachments
Town of Pomfret, 5 Haven Road, Pomfret Center, CT 06259
Joseph & Cecile Stoddard / with attachments
62 Babbitt Hill Road Pomfret CT 06259-1700

POWER DENSITY

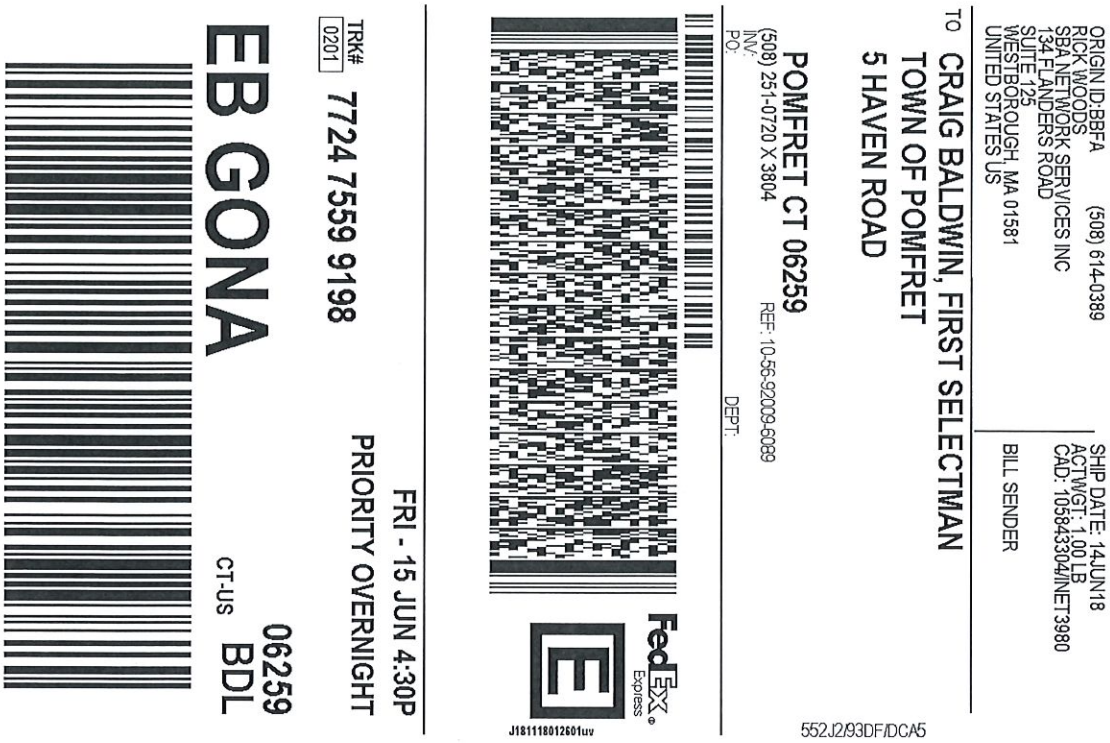
SPRINT Site Inventory and Power Data by Antenna

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):	**157 feet**	Height (AGL):	**157 feet**	Height (AGL):	**157 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%	**1.44 %**	Antenna B1 MPE%	**1.44 %**	Antenna C1 MPE%	**1.44 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVTM14-C-I20	Make / Model:	RFS APXVTM14-C-I20	Make / Model:	RFS APXVTM14-C-I20
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	**157 feet**	Height (AGL):	**157 feet**	Height (AGL):	**157 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%	**0.98 %**	Antenna B2 MPE%	**0.98 %**	Antenna C2 MPE%	**0.98 %**

Site Composite MPE%	
Carrier	MPE%
SPRINT – Max per sector	**2.42 %**
T-Mobile	1.75 %
Nextel	0.22 %
AT&T	2.04 %
Site Total MPE %:	**6.43 %**

SPRINT Sector A Total:	2.42 %
SPRINT Sector B Total:	2.42 %
SPRINT Sector C Total:	2.42 %
Site Total:	6.43 %

SPRINT _ Frequency Band / Technology (Per Sector)	# 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	157	0.59	850 MHz	567	0.10%
Sprint 850 MHz LTE	2	941.82	157	2.97	850 MHz	567	0.52%
Sprint 1900 MHz (PCS) CDMA	5	511.82	157	4.03	1900 MHz (PCS)	1000	0.40%
Sprint 1900 MHz (PCS) LTE	2	1,279.56	157	4.03	1900 MHz (PCS)	1000	0.40%
Sprint 2500 MHz (BRS) LTE	8	778.09	157	9.81	2500 MHz (BRS)	1000	0.98%
						Total:	**2.42%**



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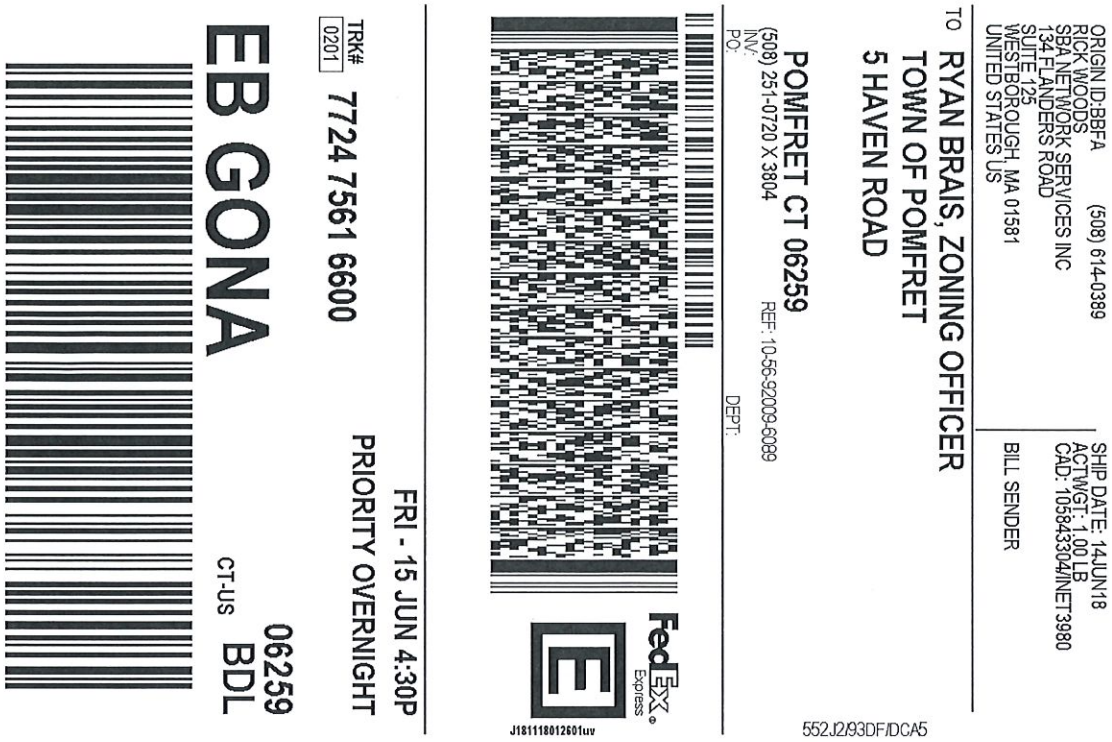

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62 BABBITT HILL RD

A = Tower

Location	62 BABBITT HILL RD	**Mblu**	23/ B/ 005.00/ A/
Acct#	S0159010	**Owner**	STODDARD JOSEPH & CECILE
Assessment	$1,233,900	**Appraisal**	$1,762,700
PID	100643	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$1,762,700	$0	$1,762,700
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$1,233,900	$0	$1,233,900

Owner of Record

Owner	STODDARD JOSEPH & CECILE	**Sale Price**	$0
Co-Owner	C/O SBA TOWERS INC	**Certificate**	
		Book & Page	0053/1043
		Sale Date	02/29/1984

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
STODDARD JOSEPH & CECILE	$0		0053/1043	02/29/1984

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost
Less Depreciation: $0

Building Photo

Building Attributes	
Field	**Description**
Style	Outbuildings
Model	
Stories:	
Occupancy	
Exterior Wall 1	

Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Full Baths:	
Half Baths:	
Xtra Fixtrs:	
Total Rooms:	
Extra Kitchens	
Whirlpool	
Fireplace	
Xtra Opening	
Blocked FPL	
Gas Fireplace	

(http://images.vgsi.com/photos/PomfretCTPhotos//\00\00\37/22.jpg)

Building Layout

Building Layout

(http://images.vgsi.com/photos/PomfretCTPhotos//Sketches/100

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	4300
Description	TEL TWR MDL-00
Zone	RR
Neighborhood	
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0
Frontage	0
Depth	0
Assessed Value	$0
Appraised Value	$0

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
	CELL TOWER			9	$1,653,000	1
FN1	FENCE-4' CHAIN			320 L.F.	$1,700	1
SHD5	Shed-Cell			200 SF	$54,000	1

SHD5	Shed-Cell			200 SF	$54,000	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2017	$1,762,700	$0	$1,762,700
2016	$1,762,700	$0	$1,762,700
2015	$754,500	$0	$754,500

Assessment			
Valuation Year	Improvements	Land	Total
2017	$1,233,900	$0	$1,233,900
2016	$1,233,900	$0	$1,233,900
2015	$528,200	$0	$528,200

62 BABBITT HILL RD

Location	62 BABBITT HILL RD	**Mblu**	23/ B/ 005.00/ /
Acct#	S0159000	**Owner**	STODDARD JOHN TRUSTEE
Assessment	$329,810	**Appraisal**	$628,900
PID	922	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$148,900	$480,000	$628,900
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$104,200	$225,610	$329,810

Owner of Record

Owner STODDARD JOHN TRUSTEE
Co-Owner STODDARD FAMILY TRUST

Sale Price $0
Certificate
Book & Page 0292/0183
Sale Date 09/24/2009
Instrument 29

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
STODDARD JOHN TRUSTEE	$0		0292/0183	29	09/24/2009
STODDARD JOSEPH + CECILE	$0		0053/1043		02/29/1984
STODDARD JOSEPH P	$0		0037/0568		02/17/1960

Building Information

Building 1 : Section 1

Year Built: 1880
Living Area: 2,065
Replacement Cost Less Depreciation: $118,200

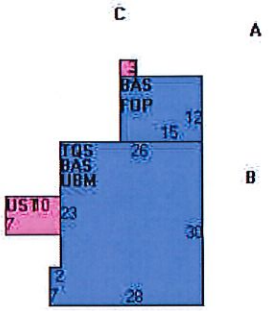
Building Attributes	
Field	**Description**
Style	Conventional
Model	Residential

Building Photo

Stories:	1.75
Occupancy	1
Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure:	Gable
Roof Cover	Arch Shing
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	3 Bedrooms
Full Baths:	1
Half Baths:	1
Xtra Fixtrs:	
Total Rooms:	8
Extra Kitchens	
Whirlpool	
Fireplace	1
Xtra Opening	1
Blocked FPL	
Gas Fireplace	

(http://images.vgsi.com/photos/PomfretCTPhotos//\00\00\30/64.jpg)

Building Layout



(http://images.vgsi.com/photos/PomfretCTPhotos//Sketches/922

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	1,350	1,350
TQS	Three Quarter Story	794	715
FOP	Open Porch	9	0
UBM	Unfin Bsmt	794	0
WDK	Deck	273	0
		3,220	2,065

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	1010
Description	Single Family

Land Line Valuation

Size (Acres)	53.90
Frontage	0

Zone	RR	**Depth**	0
Neighborhood	0070	**Assessed Value**	$225,610
Alt Land Appr	No	**Appraised Value**	$480,000
Category			

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
BRN1	1S Barn			2208 S.F.	$24,300	1
SHD1	Shed			480 S.F.	$3,400	1
SPL2	Ing Pool - Vinyl/Plastic			800 S.F.	$3,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$148,900	$480,000	$628,900
2016	$148,900	$480,000	$628,900
2015	$135,800	$480,000	$615,800

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$104,200	$225,610	$329,810
2016	$104,200	$225,610	$329,810
2015	$95,100	$225,610	$320,710

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: CT33XC256

62 Babbit Hill Road
Pomfret, CT 06259

June 7, 2018

EBI Project Number: 6218004242

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	6.43 %

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

EBI Consulting
environmental | engineering | due diligence

June 7, 2018

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

Emissions Analysis for Site: **CT33XC256**

EBI Consulting was directed to analyze the proposed SPRINT facility located at **62 Babbit Hill Road, Pomfret, 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 **62 Babbit Hill Road, Pomfret, 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-C-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 **157 feet** above ground level (AGL) for **Sector A**, **157 feet** above ground level (AGL) for **Sector B** and **157 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):	**157 feet**	Height (AGL):	**157 feet**	Height (AGL):	**157 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%	**1.44 %**	Antenna B1 MPE%	**1.44 %**	Antenna C1 MPE%	**1.44 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVTM14-C-I20	Make / Model:	RFS APXVTM14-C-I20	Make / Model:	RFS APXVTM14-C-I20
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	**157 feet**	Height (AGL):	**157 feet**	Height (AGL):	**157 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%	**0.98 %**	Antenna B2 MPE%	**0.98 %**	Antenna C2 MPE%	**0.98 %**

Site Composite MPE%	
Carrier	**MPE%**
SPRINT – Max per sector	**2.42 %**
T-Mobile	1.75 %
Nextel	0.22 %
AT&T	2.04 %
Site Total MPE %:	**6.43 %**

SPRINT Sector A Total:	2.42 %
SPRINT Sector B Total:	2.42 %
SPRINT Sector C Total:	2.42 %
Site Total:	6.43 %

SPRINT _ Frequency Band / Technology (Per Sector)	**# 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	157	0.59	850 MHz	567	0.10%
Sprint 850 MHz LTE	2	941.82	157	2.97	850 MHz	567	0.52%
Sprint 1900 MHz (PCS) CDMA	5	511.82	157	4.03	1900 MHz (PCS)	1000	0.40%
Sprint 1900 MHz (PCS) LTE	2	1,279.56	157	4.03	1900 MHz (PCS)	1000	0.40%
Sprint 2500 MHz (BRS) LTE	8	778.09	157	9.81	2500 MHz (BRS)	1000	0.98%
						Total:	**2.42%**

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:	2.42 %
Sector B:	2.42 %
Sector C:	2.42 %
SPRINT Maximum Total (per sector):	2.42 %
Site Total:	6.43 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **6.43 %** 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.

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Structural Analysis Report

Client: Sprint Nextel

Client Site ID: CT33XC256
Client Site Name: Moody Road
AppID: 73265, v4

SBA Site Name: Pomfret
SBA Site ID: CT01364-S
168 ft Monopole
62 Babbitt Hill Road
Pomfret, Connecticut 06259-1700
Lat: 41.870258, Long: -71.988241

Project number: CT01364-SN-041618

Analysis Results

Tower	66.70%	Pass
Foundation	62.73%	Pass

Client Mount modification / replacement

Net change in tower stress due to mount Modification / replacement	4.50%

Prepared by:

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05/18/2018

May 18, 2018

Prepared in compliance with:

- *ANSI/TIA/EIA 222-G Structural Standard for Antennas and Antenna Supporting Structures*
- *2012 International Building Code (IBC)*

Table of Contents

Executive Summary

The enclosed structural analysis was performed for Sprint Nextel on May 18, 2018 to verify the structural capacity of the 168 ft Monopole located at 62 Babbitt Hill Road, [CITY], Connecticut 06259-1700 to support the proposed antenna, transmission lines and mounting equipment in addition to those currently installed. The following documents were used to determine the geotechnical characteristics, foundation data, tower geometry and member sizes/type:

Table 1 List of Documents Used

Item	Document
Tower design/drawings	Tower Drawings prepared by Paul J. Ford and Company, Job # 4728 Dated 04/30/1999
Foundation drawings	Dispersive Wave Propagation Testing and Rebar Investigation prepared by FDH Engineering, Project #1207133EN1 Dated 08/17/2012
Geotechnical report	Geotechnical Report prepared by Jaworski Geotech Inc., Project # 99261G Dated 05/21/1999
Latest SA	TES Project Number: 45315 REV1, Dated 01/08/18

The analysis was performed in accordance with the following requirements:

Table 2 Code Related Data

Jurisdiction (State/County/City)	Connecticut/Windham/Pomfret
Governing Codes	ANSI/TIA/EIA 222-G, 2012 IBC
Base Wind Speed	99.0 mph (Ultimate Wind Speed: 128 mph 3-Sec. Gust)
Wind Speed with Ice	50 mph (3-Sec. Gust)
Ice Thickness	1.00”
Structural Class	II
Exposure Category	C
Topographic Category	1
Crest Height	0 ft

“This structural analysis is based upon the tower being classified as a class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.”

The SBA Communications Corporation verifies that the 168 ft Monopole located at 62 Babbitt Hill Road, [CITY], Connecticut 06259-1700 is ***Sufficient*** to support the proposed loadings for Sprint Nextel in addition to those currently existing based on standards set forth in governing building codes and dependent on Sprint Nextel satisfying all Installation Requirements provided herein. The analysis performed assumes the site information provided is accurate and the tower/foundation has been properly designed, manufactured, installed and maintained. Additional details regarding the assumptions and limitations are provided within the Assumptions and Limitations section of this report.

Assumptions

This analysis was completed based on the following assumptions:

- Tower has been properly maintained
- Tower erection was in accordance to manufacturer drawings
- Leg flanges have been properly designed by manufacturer to not be a limiting reaction
- Welds have been properly designed and installed by manufacturer to not be a limiting reaction
- Foundation was constructed in accordance to manufacturer drawings
- Foundation does not have structural damage
- Bolts have been properly tightened according to manufacturer specifications
- Appurtenance, mount and transmission line sizes and weights are best estimates using the TES database and manufacturer information

Limitations

The computer generated analysis performed by the TES software is limited to theoretical capacities of the towers structural members and does not account for any missing or damaged members or connections. The tower and foundation are assumed to have been properly designed, fabricated, installed and maintained, barring any conflicting findings from the most recent inspection. All leg flanges, welds and bolts are assumed to be designed by the manufacturer in such a way that these are not limiting reactions.
SBA Communications Corporation has used its due diligence to verify the information provided to perform this analysis. It is unreasonable to perform a more detailed inspection of a tower and its components. This report is not a condition assessment of the tower or foundation.

Installation Requirements

This analysis was performed under the assumption that Sprint Nextel will place the proposed equipment and feed lines at a height of 157 ft and in accordance with the coax layout shown. RRUs are to be installed on existing mounts behind tenant's antennas unless otherwise noted. No equipment is to be installed directly in the climbing path. All equipment is to be installed per mount manufacturer specifications. In case site conditions do not allow for the required installation parameters to be met Sprint Nextel must notify SBA Communications Corporation engineers for approval of an alternative placement.

Appurtenance Loading

Existing Loading:

The existing antenna and feed line information was obtained from the Site Summary and/or previous Structural Analysis. SBA Communications Corporation uses due diligence to ensure reasonably accurate information has been recorded. The existing loadings are shown in Table 3.

Table 3 Existing Appurtenances

Mount Elev. (ft)	CL Elev. (ft)	Carrier	Type	Qty	Manufacturer	Model	Qty	Feed Line Size	Mount Type Qty
167	-	-	-	-	-	-	-	-	(1) Low Profile Platform*
157	157	Sprint Nextel	Panel	6	Decibel	DB980H90E-M	6	1-5/8"	(1) Low Profile Platform
147	147	AT&T	Panel	6	Powerwave	7770	12 2 1	1-5/8" 3/4" DC 7/16" Fiber	(1) Low Profile Platform (1) Ring Mount (Balmount LWRM)
			Panel	3	KMW	AM-X-CD-17-65-00T			
			TMA	6	Powerwave	LGP 21401			
			TMA	6	ADC Cleargain	1900W800			
			RRU	6	Ericsson	RRUS 11			
			RRU	3	Ericsson	RRUS 12			
			Diplexer	6	Powerwave	LGP21903			
			Other	1	Raycap	DC6-48-60-18-8F			
			Other	3	CSS	Dual Band Combiner			
137	137.5	T-Mobile	Other	3	Kathrein	782 11056-Bias T's	12	1-5/8"	(1) Low Profile Platform w/Site Pro P/N PRK-1245
	137		Panel	3	RFS	APXV18-206516S-C-A20			
			Panel	3	Commscope	LNX-6515DS-VTM			
			TMA	3	Allen Telecom	FE15501P77/75			
			TMA	3	Ericsson	KRY 112 144/1			

Proposed Loading:

Information pertaining to proposed antennas and transmission lines were based upon the APP ID [APPID] from Sprint Nextel and is listed in Table 4.

Table 4 Proposed Appurtenances

Mount Elev. (ft)	CL Elev. (ft)	Carrier	Type	Qty	Manufacturer	Model	Qty	Feed Line Size	Mount Type Qty
157	157	Sprint Nextel	Panel	3	RFS	APXVTM14-C-I20	4	1-1/4"	(1) Low Pro Platform, (1) PRK-1245L, (1) HRK14-U and (1) PRK-SFS-H-L
			Panel	3	Commscope	NNVV-65B-R4			
			RRU	3	ALU	1900 MHz			
			RRU	6	ALU	800 MHz			
			RRU	3	ALU	TD-RRH8x20-25			

Results

Tower

The results of the structural analysis performed with the TES software are shown below. Table 5 shows the most critical member elements and the percentage of the force in the member with respect to the member capacity. Capacities of up to 105% are considered acceptable. The foundation reactions obtained from TES are shown in Table 6. Table 7 displays the twist and sway at service wind speeds. These reactions are used for the analysis of the foundation systems. Additional information for the tower analysis is provided within the Appendix.

Table 5 Tower Analysis Summary

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	66.7%	61.2%	54.1%
Pass/Fail	Pass	Pass	Pass

Table 6 Tower Base Reactions

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	4042.5	33.9	51.9

Table 7 Client mount modification / replacement

Tower stress with mount Modification / replacement	Tower stress without mount Modification / replacement	Difference
66.70%	62.20%	4.50%

Foundation System

The results of the foundation based on the geotechnical report and foundation mapping or design drawings are shown below in Table 8. Additional information for the foundation analysis is provided within the Appendix.

Table 8 Foundation Analysis Summary

Structural Component	% capacity	Analysis Result
Foundation	62.73%	Pass

Appendix

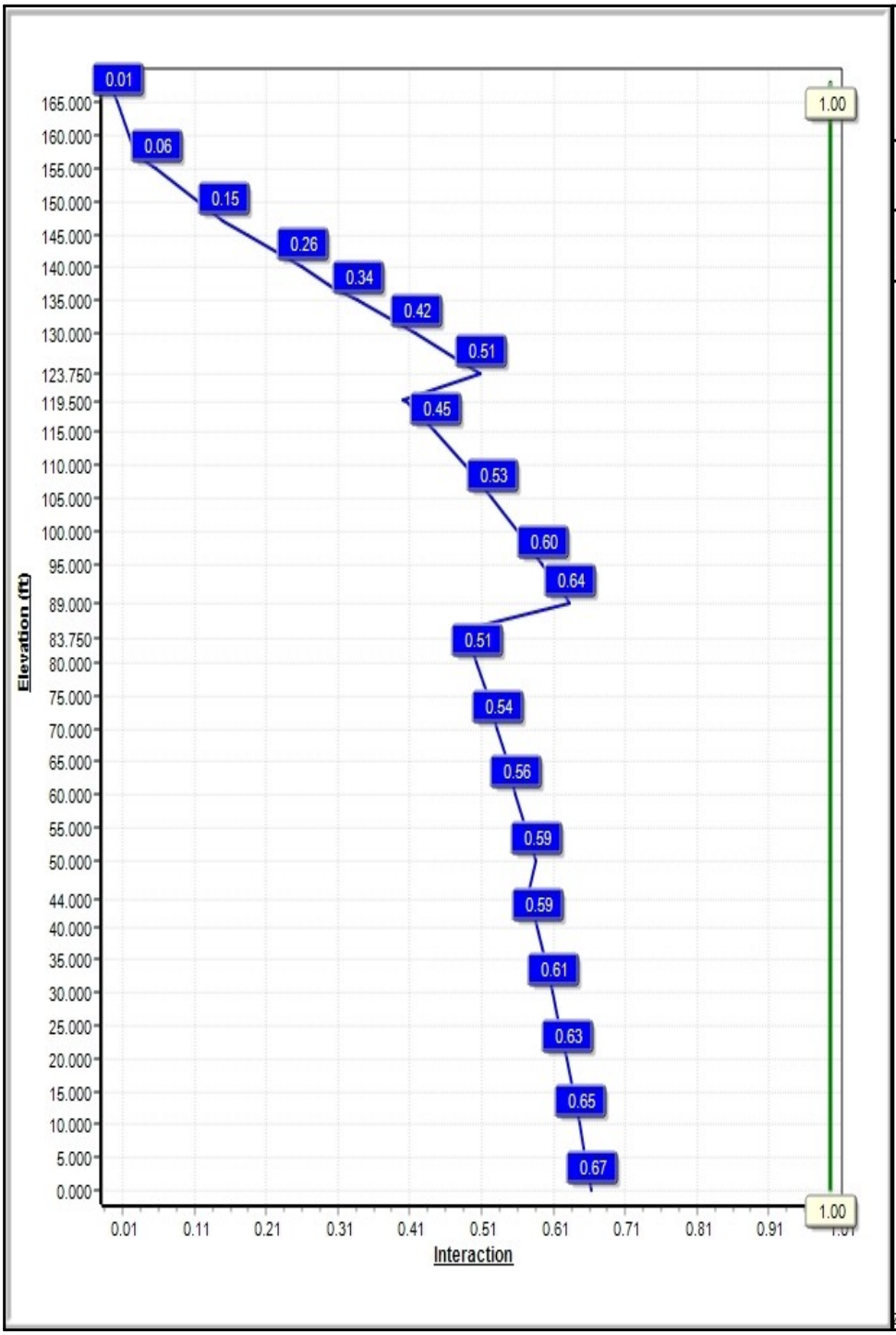
Usage Diagram - Max Ratio 66.68% at 0.0ft

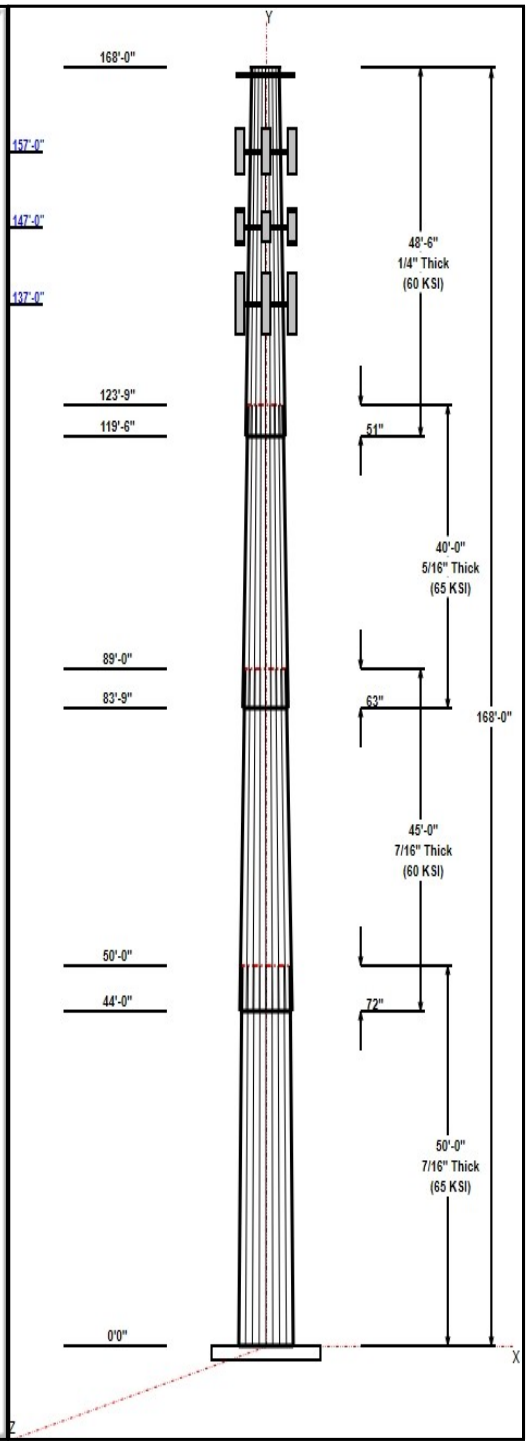
Structure:	CT01364-S	**Code:**	EIA/TIA-222-G	5/18/2018
Site Name:	Pomfret	**Exposure:**	C	
Height:	168.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

Dead Load Factor:	1.20
Wind Load Factor:	1.60

Load Case : 1.2D + 1.6W 99 mph Wind

Iterations: 26





Structure: CT01364-S

Type: Tapered
Site Name: Pomfret
Height: 168.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.20500

5/18/2018

Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	50.00	46.19	56.44	0.438		0.20500	65
2	45.00	39.07	48.30	0.438	Slip	0.20500	60
3	40.00	32.57	40.77	0.313	Slip	0.20500	65
4	48.50	24.00	33.94	0.250	Slip	0.20500	60

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
168.00	168.00	1	6' Lightning rod	Other
167.00	167.00	1	Low Profile Platform-flat	Vacant
157.00	157.00	3	ALU 1900 Mhz	Sprint Nextel
157.00	157.00	6	ALU 800 Mhz	Sprint Nextel
157.00	157.00	3	ALU TD-RRH8x20-25	Sprint Nextel
157.00	157.00	3	APXVTM14-C-120	Sprint Nextel
157.00	157.00	1	Low Profile Platform-flat	Sprint Nextel
157.00	157.00	3	NNVV-65B-R4	Sprint Nextel
157.00	157.00	1	SitePro HRK14-U	Sprint Nextel
157.00	157.00	1	SitePro PRK-1245L	Sprint Nextel
157.00	157.00	3	SitePro PRK-SFS-H-L	Sprint Nextel
147.00	147.00	6	1900W800	AT&T
147.00	147.00	6	7770.00	AT&T
147.00	147.00	3	AM-X-CD-17-65-00T-RET	AT&T
147.00	147.00	1	DC6-48-60-18-8F	AT&T
147.00	147.00	3	Dual Combiner	AT&T
147.00	147.00	6	LGP21401	AT&T
147.00	147.00	6	LGP21903	AT&T
147.00	147.00	1	Low Profile	AT&T
147.00	147.00	6	RRUS 11	AT&T
147.00	147.00	3	RRUS 12	AT&T
137.50	137.50	3	782 11056	T-Mobile
137.00	137.00	3	APXV18-206516S-C-A20	T-Mobile
137.00	137.00	3	FE15501P77/75	T-Mobile
137.00	137.00	3	KRY 112 144/1	T-Mobile
137.00	137.00	3	LNX-6515DS-VTM	T-Mobile
137.00	137.00	1	Low Profile Platform w/	T-Mobile

Linear Appurtenances

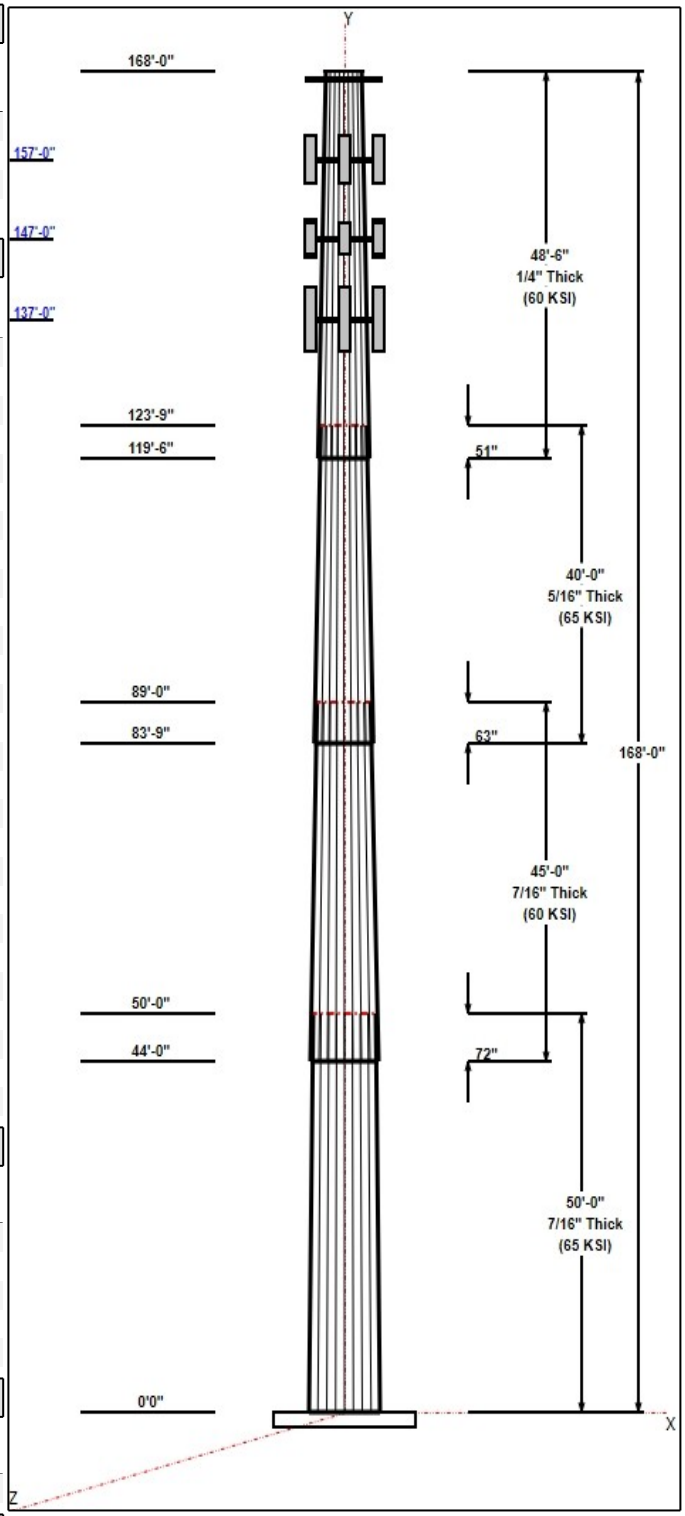
Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	157.00	Inside	1 1/4" Coax	Sprint Nextel
0.00	147.00	Inside	1 5/8" Coax	AT&T
0.00	147.00	Inside	3/4" DC	AT&T
0.00	147.00	Inside	7/16" Fiber	AT&T
0.00	137.00	Inside	1 5/8" Coax	T-Mobile

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
20	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry



3.2500	64.0	50.0	Clipped

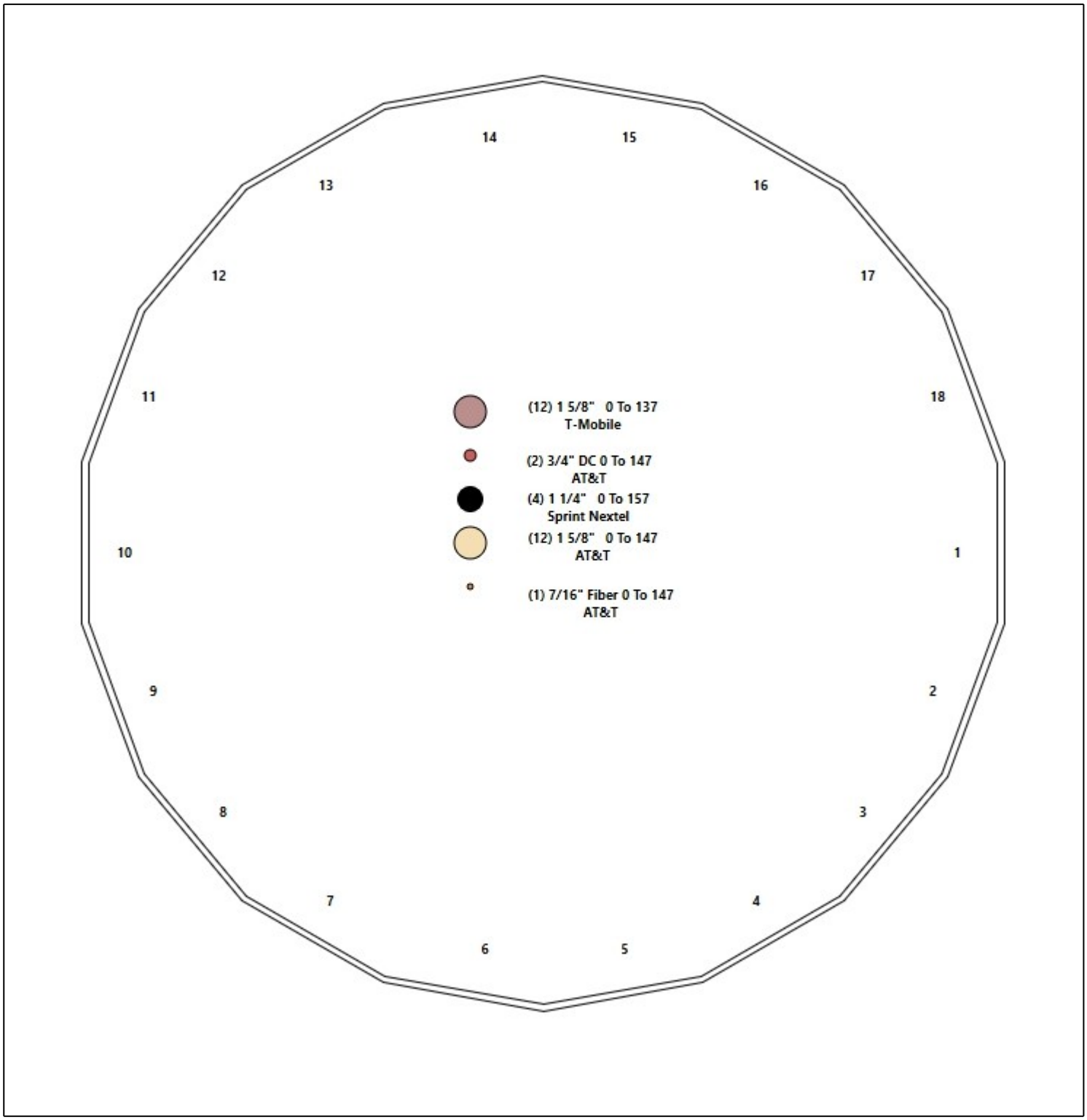
Reactions

Load Case	Moment	Shear	Axial
1.2D + 1.6W 99 mph Wind	4042.5	33.9	51.9
0.9D + 1.6W 99 mph Wind	3996.9	33.9	38.9
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1214.5	10.0	84.5
1.0D + 1.0W 60 mph Wind	922.2	7.8	43.3

Structure: CT01364-S - Coax Line Placement

Type: Monopole
Site Name: Pomfret
Height: 168.00 (ft)

5/18/2018



Shaft Properties

Structure:	CT01364-S		**Code:**	EIA/TIA-222-G	5/18/2018
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	50.000	0.4375	65		0.00	12,020
2	18	45.000	0.4375	60	Slip	72.00	9,195
3	18	40.000	0.3125	65	Slip	63.00	4,908
4	18	48.500	0.2500	60	Slip	51.00	3,761
					Total Shaft Weight:		**29,884**

	Bottom						Top						
Sec. No.	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Taper**
1	56.44	0.00	77.76	30813.76	21.34	129.01	46.19	50.00	63.53	16802.2	17.21	105.5	0.205000
2	48.30	44.00	66.45	19229.70	18.05	110.39	39.07	89.00	53.64	10115.3	14.34	89.30	0.205000
3	40.77	83.75	40.13	8299.11	21.59	130.47	32.57	123.75	32.00	4206.66	16.97	104.2	0.205000
4	33.94	119.5	26.73	3834.28	22.53	135.77	24.00	168.00	18.84	1343.00	15.52	96.00	0.205000

Load Summary

Structure:	CT01364-S		**Code:**	EIA/TIA-222-G	5/18/2018
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 6

Discrete Appurtenances

				No Ice			Ice				
No.	**Elev (ft)**	**Description**	**Qty**	**Weight (lb)**	**CaAa (sf)**	**CaAa Factor**	**Weight (lb)**	**CaAa (sf)**	**CaAa Factor**	**Hor. Ecc. (ft)**	**Vert Ecc (ft)**
1	168.0	6' Lightning rod	1	6.50	0.38	1.00	55.45	1.847	1.00	0.00	0.00
2	167.0	Low Profile Platform-flat	1	1200.00	25.00	1.00	2611.24	53.22	1.00	0.00	0.00
3	157.0	ALU 1900 Mhz	3	60.00	2.77	0.99	171.76	4.469	0.99	0.00	0.00
4	157.0	ALU 800 Mhz	6	53.00	2.49	0.92	152.06	4.022	0.92	0.00	0.00
5	157.0	ALU TD-RRH8x20-25	3	70.00	4.05	0.69	228.65	5.168	0.69	0.00	0.00
6	157.0	APXVTM14-C-120	3	56.00	6.34	0.75	285.82	7.864	0.75	0.00	0.00
7	157.0	Low Profile Platform-flat	1	1200.00	25.00	1.00	2602.55	53.05	1.00	0.00	0.00
8	157.0	NNVV-65B-R4	3	84.70	12.27	0.75	480.48	14.28	0.75	0.00	0.00
9	157.0	SitePro HRK14-U	1	339.39	10.33	1.00	498.06	11.29	1.00	0.00	0.00
10	157.0	SitePro PRK-1245L	1	517.21	11.84	1.00	759.02	12.94	1.00	0.00	0.00
11	157.0	SitePro PRK-SFS-H-L	3	65.00	3.04	0.75	95.39	3.324	0.75	0.00	0.00
12	147.0	1900W800	6	28.70	1.54	0.76	79.94	2.727	0.77	0.00	0.00
13	147.0	7770.00	6	35.00	5.50	0.75	228.61	6.948	0.75	0.00	0.00
14	147.0	AM-X-CD-17-65-00T-RET	3	30.80	5.00	0.76	179.83	7.494	0.77	0.00	0.00
15	147.0	DC6-48-60-18-8F	1	31.80	1.47	1.00	114.07	2.401	1.00	0.00	0.00
16	147.0	Dual Combiner	3	4.80	0.51	0.59	17.66	1.214	0.63	0.00	0.00
17	147.0	LGP21401	6	14.10	1.29	0.64	47.37	2.402	0.66	0.00	0.00
18	147.0	LGP21903	6	5.50	0.27	0.74	16.71	0.799	0.76	0.00	0.00
19	147.0	Low Profile Platform-Round	1	1500.00	22.00	1.00	3241.69	45.50	1.00	0.00	0.00
20	147.0	RRUS 11	6	50.70	2.52	0.76	178.44	3.412	0.77	0.00	0.00
21	147.0	RRUS 12	3	60.00	2.70	0.67	149.17	3.578	0.69	0.00	0.00
22	137.5	782 11056	3	1.80	0.13	0.78	5.08	0.516	0.82	0.00	0.00
23	137.0	APXV18-206516S-C-A20	3	18.70	3.61	0.78	111.29	6.064	0.79	0.00	0.00
24	137.0	FE15501P77/75	3	17.50	0.52	0.99	47.46	1.291	0.99	0.00	0.00
25	137.0	KRY 112 144/1	3	11.00	0.41	0.72	25.25	1.038	0.75	0.00	0.00
26	137.0	LNX-6515DS-VTM	3	51.30	11.46	0.84	354.80	15.76	0.84	0.00	0.00
27	137.0	Low Profile Platform w/ Kicker	1	1800.00	22.00	1.00	3875.36	45.33	1.00	0.00	0.00
		Totals:	**83**	**9,311.70**			**24,434.21**				

Linear Appurtenances

Bottom Elev. (ft)	**Top Elev. (ft)**	**Description**	**Exposed Width**	**Exposed**
0.00	157.0	(4) 1 1/4" Coax	0.00	Inside
0.00	147.0	(12) 1 5/8" Coax	0.00	Inside
0.00	147.0	(2) 3/4" DC	0.00	Inside
0.00	147.0	(1) 7/16" Fiber	0.00	Inside
0.00	137.0	(12) 1 5/8" Coax	0.00	Inside

Shaft Section Properties

Structure: CT01364-S
Site Name: Pomfret
Height: 168.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1
Topography: 1

Code: EIA/TIA-222-G 5/18/2018
Exposure: C
Crest Height: 0.00
Site Class: B - Competent Rock
Struct Class: II

Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.4375	56.440	77.764	30813.8	21.34	129.01	76.3	1075.	0.0
5.00		0.4375	55.415	76.340	29152.6	20.92	126.66	76.8	1036.	1311.0
10.00		0.4375	54.390	74.917	27552.3	20.51	124.32	77.3	997.7	1286.7
15.00		0.4375	53.365	73.494	26011.6	20.10	121.98	77.8	960.0	1262.5
20.00		0.4375	52.340	72.071	24529.4	19.68	119.63	78.2	923.1	1238.3
25.00		0.4375	51.315	70.647	23104.7	19.27	117.29	78.7	886.8	1214.1
30.00		0.4375	50.290	69.224	21736.2	18.86	114.95	79.2	851.3	1189.9
35.00		0.4375	49.265	67.801	20422.8	18.44	112.61	79.7	816.5	1165.7
40.00		0.4375	48.240	66.377	19163.5	18.03	110.26	80.2	782.4	1141.4
44.00	Bot - Section 2	0.4375	47.420	65.239	18194.1	17.70	108.39	80.6	755.7	895.7
45.00		0.4375	47.215	64.954	17957.0	17.62	107.92	80.7	749.1	447.2
50.00	Top - Section 1	0.4375	47.065	64.746	17784.8	17.56	107.58	0.0	0.0	2206.7
55.00		0.4375	46.040	63.322	16637.5	17.15	105.23	75.7	711.8	1089.5
60.00		0.4375	45.015	61.899	15540.7	16.73	102.89	76.1	680.0	1065.3
65.00		0.4375	43.990	60.476	14493.1	16.32	100.55	76.2	648.9	1041.0
70.00		0.4375	42.965	59.053	13493.7	15.91	98.21	76.2	618.6	1016.8
75.00		0.4375	41.940	57.629	12541.4	15.49	95.86	76.2	589.0	992.6
80.00		0.4375	40.915	56.206	11634.9	15.08	93.52	76.2	560.1	968.4
83.75	Bot - Section 3	0.4375	40.146	55.139	10984.5	14.77	91.76	76.2	538.9	710.4
85.00		0.4375	39.890	54.783	10773.2	14.67	91.18	76.2	531.9	403.9
89.00	Top - Section 2	0.3125	39.695	39.061	7654.3	20.99	127.02	0.0	0.0	1275.1
90.00		0.3125	39.490	38.858	7535.4	20.87	126.37	76.9	375.8	132.6
95.00		0.3125	38.465	37.841	6959.3	20.29	123.09	77.5	356.4	652.5
100.00		0.3125	37.440	36.825	6413.3	19.71	119.81	78.2	337.4	635.2
105.00		0.3125	36.415	35.808	5896.7	19.14	116.53	78.9	318.9	617.9
110.00		0.3125	35.390	34.791	5408.5	18.56	113.25	79.6	301.0	600.6
115.00		0.3125	34.365	33.775	4948.1	17.98	109.97	80.3	283.6	583.3
119.50	Bot - Section 4	0.3125	33.443	32.860	4556.8	17.46	107.02	80.9	268.4	510.2
120.00		0.3125	33.340	32.758	4514.6	17.40	106.69	80.9	266.7	101.2
123.75	Top - Section 3	0.2500	33.071	26.043	3544.5	21.91	132.28	0.0	0.0	749.3
125.00		0.2500	32.815	25.839	3462.1	21.73	131.26	70.9	207.8	110.3
130.00		0.2500	31.790	25.026	3145.4	21.01	127.16	71.7	194.9	432.7
135.00		0.2500	30.765	24.213	2848.6	20.29	123.06	72.4	182.4	418.9
137.00		0.2500	30.355	23.887	2735.3	20.00	121.42	72.7	177.5	163.7
137.50		0.2500	30.253	23.806	2707.4	19.93	121.01	72.8	176.3	40.6
140.00		0.2500	29.740	23.399	2571.0	19.57	118.96	73.2	170.3	200.8
145.00		0.2500	28.715	22.586	2312.2	18.84	114.86	73.9	158.6	391.2
147.00		0.2500	28.305	22.261	2213.7	18.55	113.22	74.2	154.0	152.6
150.00		0.2500	27.690	21.773	2071.3	18.12	110.76	74.7	147.3	224.8
155.00		0.2500	26.665	20.960	1847.7	17.40	106.66	75.5	136.5	363.5
157.00		0.2500	26.255	20.634	1763.0	17.11	105.02	75.8	132.3	141.5
160.00		0.2500	25.640	20.146	1640.9	16.67	102.56	76.2	126.0	208.2
165.00		0.2500	24.615	19.333	1450.1	15.95	98.46	76.2	116.0	335.8
167.00		0.2500	24.205	19.008	1378.1	15.66	96.82	76.2	112.1	130.5
168.00		0.2500	24.000	18.845	1343.0	15.52	96.00	76.2	110.2	64.4
										29884.3

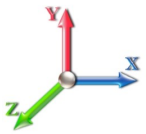
Wind Loading - Shaft

Structure:	CT01364-S	**Code:**	EIA/TIA-222-G	5/18/2018	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

Load Case: 1.2D + 1.6W 99 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	20.261	22.29	435.91	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	20.261	22.29	428.00	0.650	0.000	5.00	23.663	15.38	548.5	0.0	1573.1
10.00		1.00	0.85	20.261	22.29	420.08	0.650	0.000	5.00	23.229	15.10	538.4	0.0	1544.1
15.00		1.00	0.85	20.261	22.29	412.16	0.650	0.000	5.00	22.795	14.82	528.4	0.0	1515.0
20.00		1.00	0.90	21.497	23.65	416.40	0.650	0.000	5.00	22.362	14.54	549.9	0.0	1486.0
25.00		1.00	0.95	22.531	24.78	417.95	0.650	0.000	5.00	21.928	14.25	565.2	0.0	1456.9
30.00		1.00	0.98	23.413	25.75	417.54	0.650	0.000	5.00	21.494	13.97	575.7	0.0	1427.9
35.00		1.00	1.01	24.185	26.60	415.72	0.650	0.000	5.00	21.061	13.69	582.7	0.0	1398.8
40.00		1.00	1.04	24.875	27.36	412.83	0.650	0.000	5.00	20.627	13.41	587.0	0.0	1369.7
44.00	Bot - Section 2	1.00	1.06	25.379	27.92	409.91	0.650	0.000	4.00	16.189	10.52	470.0	0.0	1074.9
45.00		1.00	1.07	25.499	28.05	409.10	0.650	0.000	1.00	4.078	2.65	119.0	0.0	536.6
50.00	Top - Section 1	1.00	1.09	26.071	28.68	404.68	0.650	0.000	5.00	20.130	13.08	600.4	0.0	2648.0
55.00		1.00	1.12	26.600	29.26	407.44	0.650	0.000	5.00	19.696	12.80	599.4	0.0	1307.4
60.00		1.00	1.14	27.091	29.80	402.03	0.650	0.000	5.00	19.262	12.52	597.0	0.0	1278.3
65.00		1.00	1.16	27.552	30.31	396.20	0.650	0.000	5.00	18.829	12.24	593.5	0.0	1249.2
70.00		1.00	1.17	27.985	30.78	390.00	0.650	0.000	5.00	18.395	11.96	588.9	0.0	1220.2
75.00		1.00	1.19	28.394	31.23	383.47	0.650	0.000	5.00	17.961	11.67	583.4	0.0	1191.1
80.00		1.00	1.21	28.783	31.66	376.65	0.650	0.000	5.00	17.528	11.39	577.1	0.0	1162.1
83.75	Bot - Section 3	1.00	1.22	29.062	31.97	371.36	0.650	0.000	3.75	12.861	8.36	427.6	0.0	852.5
85.00		1.00	1.22	29.153	32.07	369.56	0.650	0.000	1.25	4.299	2.79	143.4	0.0	484.7
89.00	Top - Section 2	1.00	1.23	29.436	32.38	363.72	0.650	0.000	4.00	13.575	8.82	457.1	0.0	1530.1
90.00		1.00	1.24	29.506	32.46	368.06	0.650	0.000	1.00	3.350	2.18	113.1	0.0	159.1
95.00		1.00	1.25	29.843	32.83	360.56	0.650	0.000	5.00	16.491	10.72	563.0	0.0	783.0
100.00		1.00	1.27	30.167	33.18	352.85	0.650	0.000	5.00	16.057	10.44	554.2	0.0	762.2
105.00		1.00	1.28	30.479	33.53	344.96	0.650	0.000	5.00	15.624	10.16	544.8	0.0	741.5
110.00		1.00	1.29	30.779	33.86	336.89	0.650	0.000	5.00	15.190	9.87	534.9	0.0	720.7
115.00		1.00	1.30	31.068	34.17	328.67	0.650	0.000	5.00	14.756	9.59	524.5	0.0	699.9
119.50	Bot - Section 4	1.00	1.31	31.320	34.45	321.14	0.650	0.000	4.50	12.910	8.39	462.6	0.0	612.2
120.00		1.00	1.32	31.348	34.48	320.30	0.650	0.000	0.50	1.434	0.93	51.4	0.0	121.5
123.75	Top - Section 3	1.00	1.32	31.552	34.71	313.93	0.650	0.000	3.75	10.616	6.90	383.2	0.0	899.2
125.00		1.00	1.33	31.618	34.78	316.61	0.650	0.000	1.25	3.485	2.26	126.0	0.0	132.4
130.00		1.00	1.34	31.880	35.07	307.99	0.650	0.000	5.00	13.667	8.88	498.5	0.0	519.3
135.00		1.00	1.35	32.135	35.35	299.25	0.650	0.000	5.00	13.233	8.60	486.5	0.0	502.6
137.00	Appurtenance(s)	1.00	1.35	32.234	35.46	295.72	0.650	0.000	2.00	5.172	3.36	190.7	0.0	196.4
137.50	Appurtenance(s)	1.00	1.35	32.259	35.49	294.83	0.650	0.000	0.50	1.282	0.83	47.3	0.0	48.7
140.00		1.00	1.36	32.382	35.62	290.39	0.650	0.000	2.50	6.346	4.12	235.1	0.0	240.9
145.00		1.00	1.37	32.622	35.88	281.42	0.650	0.000	5.00	12.366	8.04	461.5	0.0	469.4
147.00	Appurtenance(s)	1.00	1.37	32.716	35.99	277.80	0.650	0.000	2.00	4.825	3.14	180.6	0.0	183.1
150.00		1.00	1.38	32.856	36.14	272.34	0.650	0.000	3.00	7.107	4.62	267.1	0.0	269.7
155.00		1.00	1.39	33.083	36.39	263.17	0.650	0.000	5.00	11.499	7.47	435.2	0.0	436.2
157.00	Appurtenance(s)	1.00	1.39	33.173	36.49	259.47	0.650	0.000	2.00	4.478	2.91	169.9	0.0	169.8
160.00		1.00	1.40	33.305	36.64	253.90	0.650	0.000	3.00	6.587	4.28	251.0	0.0	249.8
165.00		1.00	1.41	33.521	36.87	244.54	0.650	0.000	5.00	10.631	6.91	407.7	0.0	403.0
167.00	Appurtenance(s)	1.00	1.41	33.607	36.97	240.77	0.650	0.000	2.00	4.131	2.69	158.8	0.0	156.6
168.00	Appurtenance(s)	1.00	1.41	33.649	37.01	238.88	0.650	0.000	1.00	2.040	1.33	78.5	0.0	77.3
								Totals:	**168.00**			**17,958.5**		**35,861.2**

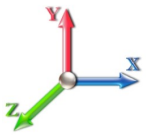
Discrete Appurtenance Forces

Structure:	CT01364-S	**Code:**	EIA/TIA-222-G	5/18/2018	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Load Case: 1.2D + 1.6W 99 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	168.00	6' Lightning rod	1	33.649	37.014	1.00	1.00	0.38	7.80	0.000	0.000	22.50	0.00	0.00
2	167.00	Low Profile Platform-flat	1	33.607	36.967	1.00	1.00	25.00	1440.00	0.000	0.000	1478.69	0.00	0.00
3	157.00	ALU 1900 Mhz	3	33.173	36.490	0.89	0.90	7.40	216.00	0.000	0.000	432.29	0.00	0.00
4	157.00	ALU 800 Mhz	6	33.173	36.490	0.83	0.90	12.37	381.60	0.000	0.000	722.22	0.00	0.00
5	157.00	ALU TD-RRH8x20-25	3	33.173	36.490	0.62	0.90	7.55	252.00	0.000	0.000	440.51	0.00	0.00
6	157.00	APXVTM14-C-120	3	33.173	36.490	0.68	0.90	12.84	201.60	0.000	0.000	749.56	0.00	0.00
7	157.00	Low Profile Platform-flat	1	33.173	36.490	1.00	1.00	25.00	1440.00	0.000	0.000	1459.59	0.00	0.00
8	157.00	NNVV-65B-R4	3	33.173	36.490	0.68	0.90	24.85	304.92	0.000	0.000	1450.65	0.00	0.00
9	157.00	SitePro HRK14-U	1	33.173	36.490	1.00	1.00	10.33	407.27	0.000	0.000	603.10	0.00	0.00
10	157.00	SitePro PRK-1245L	1	33.173	36.490	1.00	1.00	11.84	620.65	0.000	0.000	691.26	0.00	0.00
11	157.00	SitePro PRK-SFS-H-L	3	33.173	36.490	0.56	0.75	5.13	234.00	0.000	0.000	299.51	0.00	0.00
12	147.00	RRUS 12	3	32.716	35.988	0.54	0.80	4.34	216.00	0.000	0.000	249.99	0.00	0.00
13	147.00	RRUS 11	6	32.716	35.988	0.61	0.80	9.19	365.04	0.000	0.000	529.33	0.00	0.00
14	147.00	Low Profile	1	32.716	35.988	1.00	1.00	22.00	1800.00	0.000	0.000	1266.77	0.00	0.00
15	147.00	AM-X-CD-17-65-00T-RET	3	32.716	35.988	0.61	0.80	9.12	110.88	0.000	0.000	525.13	0.00	0.00
16	147.00	1900W800	6	32.716	35.988	0.61	0.80	5.62	206.64	0.000	0.000	323.48	0.00	0.00
17	147.00	7770.00	6	32.716	35.988	0.60	0.80	19.80	252.00	0.000	0.000	1140.09	0.00	0.00
18	147.00	LGP21903	6	32.716	35.988	0.59	0.80	0.96	39.60	0.000	0.000	55.22	0.00	0.00
19	147.00	DC6-48-60-18-8F	1	32.716	35.988	0.80	0.80	1.18	38.16	0.000	0.000	67.71	0.00	0.00
20	147.00	Dual Combiner	3	32.716	35.988	0.47	0.80	0.72	17.28	0.000	0.000	41.58	0.00	0.00
21	147.00	LGP21401	6	32.716	35.988	0.51	0.80	3.96	101.52	0.000	0.000	228.18	0.00	0.00
22	137.50	782 11056	3	32.259	35.485	0.62	0.80	0.24	6.48	0.000	0.000	13.82	0.00	0.00
23	137.00	Low Profile Platform w/	1	32.234	35.458	1.00	1.00	22.00	2160.00	0.000	0.000	1248.12	0.00	0.00
24	137.00	LNX-6515DS-VTM	3	32.234	35.458	0.67	0.80	23.10	184.68	0.000	0.000	1310.71	0.00	0.00
25	137.00	KRY 112 144/1	3	32.234	35.458	0.58	0.80	0.71	39.60	0.000	0.000	40.19	0.00	0.00
26	137.00	FE15501P77/75	3	32.234	35.458	0.79	0.80	1.24	63.00	0.000	0.000	70.09	0.00	0.00
27	137.00	APXV18-206516S-C-A20	3	32.234	35.458	0.62	0.80	6.76	67.32	0.000	0.000	383.39	0.00	0.00
							Totals:		**11,174.04**			**15,843.72**		

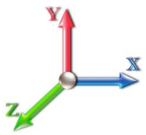
Total Applied Force Summary

Structure:	CT01364-S		**Code:**	EIA/TIA-222-G	5/18/2018
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 10

Load Case: 1.2D + 1.6W 99 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		548.46	1743.91	0.00	0.00
10.00		538.40	1714.85	0.00	0.00
15.00		528.35	1685.79	0.00	0.00
20.00		549.94	1656.73	0.00	0.00
25.00		565.21	1627.67	0.00	0.00
30.00		575.71	1598.61	0.00	0.00
35.00		582.70	1569.55	0.00	0.00
40.00		586.98	1540.49	0.00	0.00
44.00		470.03	1211.47	0.00	0.00
45.00		118.96	570.73	0.00	0.00
50.00		600.38	2818.80	0.00	0.00
55.00		599.35	1478.12	0.00	0.00
60.00		596.99	1449.06	0.00	0.00
65.00		593.47	1420.01	0.00	0.00
70.00		588.92	1390.95	0.00	0.00
75.00		583.45	1361.89	0.00	0.00
80.00		577.15	1332.83	0.00	0.00
83.75		427.59	980.55	0.00	0.00
85.00		143.37	527.39	0.00	0.00
89.00		457.12	1666.73	0.00	0.00
90.00		113.09	193.24	0.00	0.00
95.00		563.02	953.73	0.00	0.00
100.00		554.17	932.97	0.00	0.00
105.00		544.77	912.22	0.00	0.00
110.00		534.86	891.46	0.00	0.00
115.00		524.47	870.70	0.00	0.00
119.50		462.57	765.89	0.00	0.00
120.00		51.42	138.56	0.00	0.00
123.75		383.19	1027.29	0.00	0.00
125.00		126.04	175.10	0.00	0.00
130.00		498.45	690.01	0.00	0.00
135.00		486.49	673.41	0.00	0.00
137.00	(13) attachments	3243.23	2779.31	0.00	0.00
137.50	(3) attachments	61.13	64.76	0.00	0.00
140.00		235.07	288.89	0.00	0.00
145.00		461.49	565.32	0.00	0.00
147.00	(41) attachments	4608.08	3368.60	0.00	0.00
150.00		267.14	279.21	0.00	0.00
155.00		435.19	452.07	0.00	0.00
157.00	(24) attachments	7018.63	4234.22	0.00	0.00
160.00		250.97	249.78	0.00	0.00
165.00		407.70	403.02	0.00	0.00
167.00	(1) attachments	1637.51	1596.56	0.00	0.00
168.00	(1) attachments	101.01	85.08	0.00	0.00
	Totals:	**33,802.26**	**51,937.50**	**0.00**	**0.00**

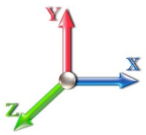
Calculated Forces

Structure:	CT01364-S	**Code:**	EIA/TIA-222-G	5/18/2018	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 11	

Load Case: 1.2D + 1.6W 99 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-51.88	-33.89	0.00	-4042.4	0.00	4042.46	5340.38	2670.19	12289.6	6153.95	0.00	0.000	0.000	0.667
5.00	-50.03	-33.50	0.00	-3873.0	0.00	3873.03	5276.02	2638.01	11917.5	5967.64	0.10	-0.183	0.000	0.659
10.00	-48.21	-33.11	0.00	-3705.5	0.00	3705.55	5210.42	2605.21	11548.2	5782.69	0.39	-0.368	0.000	0.650
15.00	-46.42	-32.72	0.00	-3540.0	0.00	3540.03	5143.57	2571.78	11181.7	5599.17	0.87	-0.555	0.000	0.641
20.00	-44.67	-32.30	0.00	-3376.4	0.00	3376.45	5075.47	2537.74	10818.2	5417.17	1.56	-0.744	0.000	0.632
25.00	-42.94	-31.85	0.00	-3214.9	0.00	3214.97	5006.13	2503.07	10457.9	5236.76	2.44	-0.935	0.000	0.623
30.00	-41.25	-31.39	0.00	-3055.7	0.00	3055.72	4935.55	2467.77	10101.0	5058.02	3.52	-1.128	0.000	0.613
35.00	-39.58	-30.91	0.00	-2898.7	0.00	2898.78	4863.72	2431.86	9747.59	4881.04	4.81	-1.323	0.000	0.602
40.00	-37.97	-30.40	0.00	-2744.2	0.00	2744.26	4790.64	2395.32	9397.80	4705.88	6.30	-1.519	0.000	0.591
44.00	-36.72	-29.96	0.00	-2622.6	0.00	2622.66	4731.29	2365.64	9120.70	4567.13	7.64	-1.679	0.000	0.582
45.00	-36.09	-29.90	0.00	-2592.7	0.00	2592.71	4716.32	2358.16	9051.82	4532.64	8.00	-1.719	0.000	0.580
50.00	-33.18	-29.33	0.00	-2443.2	0.00	2443.21	4386.97	2193.49	8392.46	4202.47	9.90	-1.919	0.000	0.589
55.00	-31.63	-28.78	0.00	-2296.5	0.00	2296.59	4315.09	2157.55	8071.80	4041.90	12.02	-2.120	0.000	0.576
60.00	-30.11	-28.23	0.00	-2152.6	0.00	2152.67	4242.11	2121.05	7755.22	3883.37	14.34	-2.310	0.000	0.562
65.00	-28.63	-27.67	0.00	-2011.5	0.00	2011.53	4147.44	2073.72	7406.11	3708.56	16.86	-2.500	0.000	0.549
70.00	-27.17	-27.11	0.00	-1873.1	0.00	1873.16	4049.83	2024.91	7059.92	3535.21	19.58	-2.691	0.000	0.537
75.00	-25.75	-26.55	0.00	-1737.6	0.00	1737.60	3952.22	1976.11	6722.01	3366.00	22.50	-2.881	0.000	0.523
80.00	-24.38	-25.97	0.00	-1604.8	0.00	1604.86	3854.61	1927.31	6392.39	3200.95	25.62	-3.071	0.000	0.508
83.75	-23.38	-25.53	0.00	-1507.4	0.00	1507.46	3781.40	1890.70	6150.62	3079.88	28.09	-3.214	0.000	0.496
85.00	-22.82	-25.40	0.00	-1475.5	0.00	1475.55	3757.00	1878.50	6071.06	3040.04	28.94	-3.262	0.000	0.492
89.00	-21.14	-24.88	0.00	-1373.9	0.00	1373.95	2696.95	1348.48	4363.97	2185.23	31.73	-3.412	0.000	0.637
90.00	-20.89	-24.81	0.00	-1349.0	0.00	1349.07	2687.67	1343.84	4326.14	2166.29	32.45	-3.451	0.000	0.631
95.00	-19.87	-24.27	0.00	-1225.0	0.00	1225.04	2640.52	1320.26	4138.17	2072.16	36.19	-3.694	0.000	0.599
100.00	-18.88	-23.73	0.00	-1103.6	0.00	1103.69	2592.12	1296.06	3952.30	1979.09	40.19	-3.932	0.000	0.565
105.00	-17.92	-23.20	0.00	-985.03	0.00	985.03	2542.48	1271.24	3768.69	1887.15	44.43	-4.163	0.000	0.529
110.00	-16.98	-22.66	0.00	-869.05	0.00	869.05	2491.60	1245.80	3587.51	1796.42	48.91	-4.387	0.000	0.491
115.00	-16.08	-22.13	0.00	-755.74	0.00	755.74	2439.47	1219.73	3408.91	1706.99	53.61	-4.601	0.000	0.450
119.50	-15.32	-21.63	0.00	-656.18	0.00	656.18	2391.49	1195.74	3250.50	1627.67	58.03	-4.783	0.000	0.410
120.00	-15.15	-21.59	0.00	-645.37	0.00	645.37	2386.09	1193.05	3233.04	1618.92	58.54	-4.804	0.000	0.405
123.75	-14.13	-21.14	0.00	-564.41	0.00	564.41	1658.06	829.03	2236.65	1119.99	62.36	-4.947	0.000	0.513
125.00	-13.92	-21.03	0.00	-537.99	0.00	537.99	1649.50	824.75	2207.60	1105.44	63.66	-4.993	0.000	0.496
130.00	-13.21	-20.52	0.00	-432.83	0.00	432.83	1614.57	807.28	2092.31	1047.71	69.00	-5.193	0.000	0.422
135.00	-12.54	-20.00	0.00	-330.24	0.00	330.24	1578.53	789.26	1978.61	990.78	74.52	-5.365	0.000	0.342
137.00	-10.07	-16.51	0.00	-290.25	0.00	290.25	1563.80	781.90	1933.60	968.24	76.78	-5.427	0.000	0.307
137.50	-10.00	-16.45	0.00	-282.00	0.00	282.00	1560.09	780.05	1922.40	962.63	77.35	-5.442	0.000	0.300
140.00	-9.71	-16.21	0.00	-240.87	0.00	240.87	1541.39	770.69	1866.63	934.70	80.22	-5.511	0.000	0.264
145.00	-9.17	-15.70	0.00	-159.83	0.00	159.83	1503.14	751.57	1756.51	879.56	86.04	-5.621	0.000	0.188
147.00	-6.26	-10.79	0.00	-128.43	0.00	128.43	1487.53	743.77	1713.02	857.78	88.40	-5.657	0.000	0.154
150.00	-6.00	-10.50	0.00	-96.06	0.00	96.06	1463.79	731.89	1648.40	825.42	91.97	-5.700	0.000	0.121
155.00	-5.59	-10.03	0.00	-43.54	0.00	43.54	1423.34	711.67	1542.43	772.36	97.96	-5.748	0.000	0.061
157.00	-2.08	-2.62	0.00	-23.49	0.00	23.49	1406.84	703.42	1500.67	751.45	100.36	-5.758	0.000	0.033
160.00	-1.86	-2.34	0.00	-15.63	0.00	15.63	1381.63	690.81	1438.59	720.36	103.98	-5.768	0.000	0.023
165.00	-1.50	-1.90	0.00	-3.91	0.00	3.91	1325.85	662.93	1324.24	663.10	110.01	-5.776	0.000	0.007
167.00	-0.07	-0.11	0.00	-0.11	0.00	0.11	1303.54	651.77	1279.82	640.86	112.43	-5.777	0.000	0.000
168.00	0.00	-0.10	0.00	0.00	0.00	0.00	1292.39	646.19	1257.90	629.89	113.64	-5.777	0.000	0.000

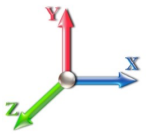
Wind Loading - Shaft

Structure:	CT01364-S	**Code:**	EIA/TIA-222-G	5/18/2018	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Load Case: 0.9D + 1.6W 99 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	20.261	22.29	435.91	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	20.261	22.29	428.00	0.650	0.000	5.00	23.663	15.38	548.5	0.0	1179.9
10.00		1.00	0.85	20.261	22.29	420.08	0.650	0.000	5.00	23.229	15.10	538.4	0.0	1158.1
15.00		1.00	0.85	20.261	22.29	412.16	0.650	0.000	5.00	22.795	14.82	528.4	0.0	1136.3
20.00		1.00	0.90	21.497	23.65	416.40	0.650	0.000	5.00	22.362	14.54	549.9	0.0	1114.5
25.00		1.00	0.95	22.531	24.78	417.95	0.650	0.000	5.00	21.928	14.25	565.2	0.0	1092.7
30.00		1.00	0.98	23.413	25.75	417.54	0.650	0.000	5.00	21.494	13.97	575.7	0.0	1070.9
35.00		1.00	1.01	24.185	26.60	415.72	0.650	0.000	5.00	21.061	13.69	582.7	0.0	1049.1
40.00		1.00	1.04	24.875	27.36	412.83	0.650	0.000	5.00	20.627	13.41	587.0	0.0	1027.3
44.00	Bot - Section 2	1.00	1.06	25.379	27.92	409.91	0.650	0.000	4.00	16.189	10.52	470.0	0.0	806.1
45.00		1.00	1.07	25.499	28.05	409.10	0.650	0.000	1.00	4.078	2.65	119.0	0.0	402.4
50.00	Top - Section 1	1.00	1.09	26.071	28.68	404.68	0.650	0.000	5.00	20.130	13.08	600.4	0.0	1986.0
55.00		1.00	1.12	26.600	29.26	407.44	0.650	0.000	5.00	19.696	12.80	599.4	0.0	980.5
60.00		1.00	1.14	27.091	29.80	402.03	0.650	0.000	5.00	19.262	12.52	597.0	0.0	958.7
65.00		1.00	1.16	27.552	30.31	396.20	0.650	0.000	5.00	18.829	12.24	593.5	0.0	936.9
70.00		1.00	1.17	27.985	30.78	390.00	0.650	0.000	5.00	18.395	11.96	588.9	0.0	915.1
75.00		1.00	1.19	28.394	31.23	383.47	0.650	0.000	5.00	17.961	11.67	583.4	0.0	893.3
80.00		1.00	1.21	28.783	31.66	376.65	0.650	0.000	5.00	17.528	11.39	577.1	0.0	871.6
83.75	Bot - Section 3	1.00	1.22	29.062	31.97	371.36	0.650	0.000	3.75	12.861	8.36	427.6	0.0	639.4
85.00		1.00	1.22	29.153	32.07	369.56	0.650	0.000	1.25	4.299	2.79	143.4	0.0	363.5
89.00	Top - Section 2	1.00	1.23	29.436	32.38	363.72	0.650	0.000	4.00	13.575	8.82	457.1	0.0	1147.6
90.00		1.00	1.24	29.506	32.46	368.06	0.650	0.000	1.00	3.350	2.18	113.1	0.0	119.3
95.00		1.00	1.25	29.843	32.83	360.56	0.650	0.000	5.00	16.491	10.72	563.0	0.0	587.2
100.00		1.00	1.27	30.167	33.18	352.85	0.650	0.000	5.00	16.057	10.44	554.2	0.0	571.7
105.00		1.00	1.28	30.479	33.53	344.96	0.650	0.000	5.00	15.624	10.16	544.8	0.0	556.1
110.00		1.00	1.29	30.779	33.86	336.89	0.650	0.000	5.00	15.190	9.87	534.9	0.0	540.5
115.00		1.00	1.30	31.068	34.17	328.67	0.650	0.000	5.00	14.756	9.59	524.5	0.0	525.0
119.50	Bot - Section 4	1.00	1.31	31.320	34.45	321.14	0.650	0.000	4.50	12.910	8.39	462.6	0.0	459.2
120.00		1.00	1.32	31.348	34.48	320.30	0.650	0.000	0.50	1.434	0.93	51.4	0.0	91.1
123.75	Top - Section 3	1.00	1.32	31.552	34.71	313.93	0.650	0.000	3.75	10.616	6.90	383.2	0.0	674.4
125.00		1.00	1.33	31.618	34.78	316.61	0.650	0.000	1.25	3.485	2.26	126.0	0.0	99.3
130.00		1.00	1.34	31.880	35.07	307.99	0.650	0.000	5.00	13.667	8.88	498.5	0.0	389.4
135.00		1.00	1.35	32.135	35.35	299.25	0.650	0.000	5.00	13.233	8.60	486.5	0.0	377.0
137.00	Appurtenance(s)	1.00	1.35	32.234	35.46	295.72	0.650	0.000	2.00	5.172	3.36	190.7	0.0	147.3
137.50	Appurtenance(s)	1.00	1.35	32.259	35.49	294.83	0.650	0.000	0.50	1.282	0.83	47.3	0.0	36.5
140.00		1.00	1.36	32.382	35.62	290.39	0.650	0.000	2.50	6.346	4.12	235.1	0.0	180.7
145.00		1.00	1.37	32.622	35.88	281.42	0.650	0.000	5.00	12.366	8.04	461.5	0.0	352.1
147.00	Appurtenance(s)	1.00	1.37	32.716	35.99	277.80	0.650	0.000	2.00	4.825	3.14	180.6	0.0	137.3
150.00		1.00	1.38	32.856	36.14	272.34	0.650	0.000	3.00	7.107	4.62	267.1	0.0	202.3
155.00		1.00	1.39	33.083	36.39	263.17	0.650	0.000	5.00	11.499	7.47	435.2	0.0	327.2
157.00	Appurtenance(s)	1.00	1.39	33.173	36.49	259.47	0.650	0.000	2.00	4.478	2.91	169.9	0.0	127.4
160.00		1.00	1.40	33.305	36.64	253.90	0.650	0.000	3.00	6.587	4.28	251.0	0.0	187.3
165.00		1.00	1.41	33.521	36.87	244.54	0.650	0.000	5.00	10.631	6.91	407.7	0.0	302.3
167.00	Appurtenance(s)	1.00	1.41	33.607	36.97	240.77	0.650	0.000	2.00	4.131	2.69	158.8	0.0	117.4
168.00	Appurtenance(s)	1.00	1.41	33.649	37.01	238.88	0.650	0.000	1.00	2.040	1.33	78.5	0.0	58.0
								Totals:	**168.00**			**17,958.5**		**26,895.9**

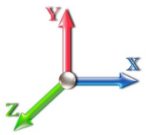
Discrete Appurtenance Forces

Structure:	CT01364-S	**Code:**	EIA/TIA-222-G	5/18/2018	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Load Case: 0.9D + 1.6W 99 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	168.00	6' Lightning rod	1	33.649	37.014	1.00	1.00	0.38	5.85	0.000	0.000	22.50	0.00	0.00
2	167.00	Low Profile Platform-flat	1	33.607	36.967	1.00	1.00	25.00	1080.00	0.000	0.000	1478.69	0.00	0.00
3	157.00	ALU 1900 Mhz	3	33.173	36.490	0.89	0.90	7.40	162.00	0.000	0.000	432.29	0.00	0.00
4	157.00	ALU 800 Mhz	6	33.173	36.490	0.83	0.90	12.37	286.20	0.000	0.000	722.22	0.00	0.00
5	157.00	ALU TD-RRH8x20-25	3	33.173	36.490	0.62	0.90	7.55	189.00	0.000	0.000	440.51	0.00	0.00
6	157.00	APXVTM14-C-120	3	33.173	36.490	0.68	0.90	12.84	151.20	0.000	0.000	749.56	0.00	0.00
7	157.00	Low Profile Platform-flat	1	33.173	36.490	1.00	1.00	25.00	1080.00	0.000	0.000	1459.59	0.00	0.00
8	157.00	NNVV-65B-R4	3	33.173	36.490	0.68	0.90	24.85	228.69	0.000	0.000	1450.65	0.00	0.00
9	157.00	SitePro HRK14-U	1	33.173	36.490	1.00	1.00	10.33	305.45	0.000	0.000	603.10	0.00	0.00
10	157.00	SitePro PRK-1245L	1	33.173	36.490	1.00	1.00	11.84	465.49	0.000	0.000	691.26	0.00	0.00
11	157.00	SitePro PRK-SFS-H-L	3	33.173	36.490	0.56	0.75	5.13	175.50	0.000	0.000	299.51	0.00	0.00
12	147.00	RRUS 12	3	32.716	35.988	0.54	0.80	4.34	162.00	0.000	0.000	249.99	0.00	0.00
13	147.00	RRUS 11	6	32.716	35.988	0.61	0.80	9.19	273.78	0.000	0.000	529.33	0.00	0.00
14	147.00	Low Profile	1	32.716	35.988	1.00	1.00	22.00	1350.00	0.000	0.000	1266.77	0.00	0.00
15	147.00	AM-X-CD-17-65-00T-RET	3	32.716	35.988	0.61	0.80	9.12	83.16	0.000	0.000	525.13	0.00	0.00
16	147.00	1900W800	6	32.716	35.988	0.61	0.80	5.62	154.98	0.000	0.000	323.48	0.00	0.00
17	147.00	7770.00	6	32.716	35.988	0.60	0.80	19.80	189.00	0.000	0.000	1140.09	0.00	0.00
18	147.00	LGP21903	6	32.716	35.988	0.59	0.80	0.96	29.70	0.000	0.000	55.22	0.00	0.00
19	147.00	DC6-48-60-18-8F	1	32.716	35.988	0.80	0.80	1.18	28.62	0.000	0.000	67.71	0.00	0.00
20	147.00	Dual Combiner	3	32.716	35.988	0.47	0.80	0.72	12.96	0.000	0.000	41.58	0.00	0.00
21	147.00	LGP21401	6	32.716	35.988	0.51	0.80	3.96	76.14	0.000	0.000	228.18	0.00	0.00
22	137.50	782 11056	3	32.259	35.485	0.62	0.80	0.24	4.86	0.000	0.000	13.82	0.00	0.00
23	137.00	Low Profile Platform w/	1	32.234	35.458	1.00	1.00	22.00	1620.00	0.000	0.000	1248.12	0.00	0.00
24	137.00	LNX-6515DS-VTM	3	32.234	35.458	0.67	0.80	23.10	138.51	0.000	0.000	1310.71	0.00	0.00
25	137.00	KRY 112 144/1	3	32.234	35.458	0.58	0.80	0.71	29.70	0.000	0.000	40.19	0.00	0.00
26	137.00	FE15501P77/75	3	32.234	35.458	0.79	0.80	1.24	47.25	0.000	0.000	70.09	0.00	0.00
27	137.00	APXV18-206516S-C-A20	3	32.234	35.458	0.62	0.80	6.76	50.49	0.000	0.000	383.39	0.00	0.00
							Totals:		**8,380.53**			**15,843.72**		

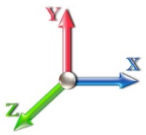
Total Applied Force Summary

Structure:	CT01364-S		**Code:**	EIA/TIA-222-G	5/18/2018
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 14

Load Case: 0.9D + 1.6W 99 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		548.46	1307.93	0.00	0.00
10.00		538.40	1286.14	0.00	0.00
15.00		528.35	1264.34	0.00	0.00
20.00		549.94	1242.55	0.00	0.00
25.00		565.21	1220.75	0.00	0.00
30.00		575.71	1198.96	0.00	0.00
35.00		582.70	1177.16	0.00	0.00
40.00		586.98	1155.37	0.00	0.00
44.00		470.03	908.60	0.00	0.00
45.00		118.96	428.05	0.00	0.00
50.00		600.38	2114.10	0.00	0.00
55.00		599.35	1108.59	0.00	0.00
60.00		596.99	1086.80	0.00	0.00
65.00		593.47	1065.00	0.00	0.00
70.00		588.92	1043.21	0.00	0.00
75.00		583.45	1021.42	0.00	0.00
80.00		577.15	999.62	0.00	0.00
83.75		427.59	735.41	0.00	0.00
85.00		143.37	395.54	0.00	0.00
89.00		457.12	1250.05	0.00	0.00
90.00		113.09	144.93	0.00	0.00
95.00		563.02	715.30	0.00	0.00
100.00		554.17	699.73	0.00	0.00
105.00		544.77	684.16	0.00	0.00
110.00		534.86	668.59	0.00	0.00
115.00		524.47	653.03	0.00	0.00
119.50		462.57	574.41	0.00	0.00
120.00		51.42	103.92	0.00	0.00
123.75		383.19	770.47	0.00	0.00
125.00		126.04	131.32	0.00	0.00
130.00		498.45	517.51	0.00	0.00
135.00		486.49	505.06	0.00	0.00
137.00	(13) attachments	3243.23	2084.48	0.00	0.00
137.50	(3) attachments	61.13	48.57	0.00	0.00
140.00		235.07	216.66	0.00	0.00
145.00		461.49	423.99	0.00	0.00
147.00	(41) attachments	4608.08	2526.45	0.00	0.00
150.00		267.14	209.41	0.00	0.00
155.00		435.19	339.05	0.00	0.00
157.00	(24) attachments	7018.63	3175.66	0.00	0.00
160.00		250.97	187.34	0.00	0.00
165.00		407.70	302.26	0.00	0.00
167.00	(1) attachments	1637.51	1197.42	0.00	0.00
168.00	(1) attachments	101.01	63.81	0.00	0.00
	Totals:	**33,802.26**	**38,953.13**	**0.00**	**0.00**

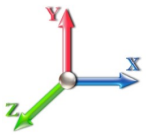
Calculated Forces

Structure:	CT01364-S	**Code:**	EIA/TIA-222-G	5/18/2018	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Load Case: 0.9D + 1.6W 99 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-38.90	-33.86	0.00	-3996.8	0.00	3996.86	5340.38	2670.19	12289.6	6153.95	0.00	0.000	0.000	0.657
5.00	-37.49	-33.43	0.00	-3827.5	0.00	3827.54	5276.02	2638.01	11917.5	5967.64	0.10	-0.181	0.000	0.649
10.00	-36.10	-33.00	0.00	-3660.3	0.00	3660.38	5210.42	2605.21	11548.2	5782.69	0.38	-0.363	0.000	0.640
15.00	-34.73	-32.58	0.00	-3495.3	0.00	3495.37	5143.57	2571.78	11181.7	5599.17	0.86	-0.548	0.000	0.631
20.00	-33.39	-32.12	0.00	-3332.4	0.00	3332.48	5075.47	2537.74	10818.2	5417.17	1.54	-0.735	0.000	0.622
25.00	-32.07	-31.65	0.00	-3171.8	0.00	3171.87	5006.13	2503.07	10457.9	5236.76	2.41	-0.923	0.000	0.612
30.00	-30.78	-31.15	0.00	-3013.6	0.00	3013.64	4935.55	2467.77	10101.0	5058.02	3.48	-1.114	0.000	0.602
35.00	-29.51	-30.64	0.00	-2857.8	0.00	2857.88	4863.72	2431.86	9747.59	4881.04	4.75	-1.306	0.000	0.592
40.00	-28.28	-30.12	0.00	-2704.6	0.00	2704.65	4790.64	2395.32	9397.80	4705.88	6.22	-1.500	0.000	0.581
44.00	-27.33	-29.67	0.00	-2584.1	0.00	2584.19	4731.29	2365.64	9120.70	4567.13	7.54	-1.657	0.000	0.572
45.00	-26.85	-29.59	0.00	-2554.5	0.00	2554.52	4716.32	2358.16	9051.82	4532.64	7.89	-1.697	0.000	0.569
50.00	-24.65	-29.01	0.00	-2406.5	0.00	2406.56	4386.97	2193.49	8392.46	4202.47	9.78	-1.893	0.000	0.578
55.00	-23.47	-28.45	0.00	-2261.5	0.00	2261.51	4315.09	2157.55	8071.80	4041.90	11.87	-2.091	0.000	0.565
60.00	-22.32	-27.89	0.00	-2119.2	0.00	2119.24	4242.11	2121.05	7755.22	3883.37	14.16	-2.278	0.000	0.551
65.00	-21.19	-27.32	0.00	-1979.8	0.00	1979.81	4147.44	2073.72	7406.11	3708.56	16.64	-2.466	0.000	0.539
70.00	-20.09	-26.75	0.00	-1843.2	0.00	1843.21	4049.83	2024.91	7059.92	3535.21	19.32	-2.653	0.000	0.527
75.00	-19.01	-26.18	0.00	-1709.4	0.00	1709.45	3952.22	1976.11	6722.01	3366.00	22.20	-2.841	0.000	0.513
80.00	-17.97	-25.61	0.00	-1578.5	0.00	1578.55	3854.61	1927.31	6392.39	3200.95	25.28	-3.027	0.000	0.498
83.75	-17.21	-25.17	0.00	-1482.5	0.00	1482.53	3781.40	1890.70	6150.62	3079.88	27.71	-3.167	0.000	0.486
85.00	-16.78	-25.03	0.00	-1451.0	0.00	1451.07	3757.00	1878.50	6071.06	3040.04	28.55	-3.215	0.000	0.482
89.00	-15.52	-24.53	0.00	-1350.9	0.00	1350.95	2696.95	1348.48	4363.97	2185.23	31.30	-3.363	0.000	0.624
90.00	-15.32	-24.44	0.00	-1326.4	0.00	1326.42	2687.67	1343.84	4326.14	2166.29	32.01	-3.401	0.000	0.618
95.00	-14.55	-23.90	0.00	-1204.2	0.00	1204.21	2640.52	1320.26	4138.17	2072.16	35.70	-3.639	0.000	0.587
100.00	-13.79	-23.35	0.00	-1084.7	0.00	1084.72	2592.12	1296.06	3952.30	1979.09	39.63	-3.873	0.000	0.554
105.00	-13.06	-22.81	0.00	-967.95	0.00	967.95	2542.48	1271.24	3768.69	1887.15	43.81	-4.101	0.000	0.518
110.00	-12.35	-22.28	0.00	-853.87	0.00	853.87	2491.60	1245.80	3587.51	1796.42	48.22	-4.321	0.000	0.481
115.00	-11.66	-21.75	0.00	-742.48	0.00	742.48	2439.47	1219.73	3408.91	1706.99	52.86	-4.531	0.000	0.440
119.50	-11.09	-21.26	0.00	-644.63	0.00	644.63	2391.49	1195.74	3250.50	1627.67	57.21	-4.710	0.000	0.401
120.00	-10.96	-21.21	0.00	-634.00	0.00	634.00	2386.09	1193.05	3233.04	1618.92	57.71	-4.730	0.000	0.397
123.75	-10.19	-20.78	0.00	-554.45	0.00	554.45	1658.06	829.03	2236.65	1119.99	61.47	-4.871	0.000	0.502
125.00	-10.03	-20.67	0.00	-528.47	0.00	528.47	1649.50	824.75	2207.60	1105.44	62.75	-4.916	0.000	0.485
130.00	-9.49	-20.16	0.00	-425.13	0.00	425.13	1614.57	807.28	2092.31	1047.71	68.01	-5.112	0.000	0.412
135.00	-8.99	-19.64	0.00	-324.35	0.00	324.35	1578.53	789.26	1978.61	990.78	73.45	-5.282	0.000	0.334
137.00	-7.21	-16.23	0.00	-285.07	0.00	285.07	1563.80	781.90	1933.60	968.24	75.67	-5.343	0.000	0.299
137.50	-7.15	-16.17	0.00	-276.95	0.00	276.95	1560.09	780.05	1922.40	962.63	76.23	-5.357	0.000	0.293
140.00	-6.94	-15.92	0.00	-236.54	0.00	236.54	1541.39	770.69	1866.63	934.70	79.05	-5.425	0.000	0.258
145.00	-6.54	-15.43	0.00	-156.92	0.00	156.92	1503.14	751.57	1756.51	879.56	84.79	-5.534	0.000	0.183
147.00	-4.46	-10.60	0.00	-126.06	0.00	126.06	1487.53	743.77	1713.02	857.78	87.11	-5.568	0.000	0.150
150.00	-4.27	-10.32	0.00	-94.25	0.00	94.25	1463.79	731.89	1648.40	825.42	90.62	-5.611	0.000	0.117
155.00	-3.97	-9.86	0.00	-42.65	0.00	42.65	1423.34	711.67	1542.43	772.36	96.51	-5.658	0.000	0.058
157.00	-1.51	-2.56	0.00	-22.94	0.00	22.94	1406.84	703.42	1500.67	751.45	98.88	-5.668	0.000	0.032
160.00	-1.34	-2.29	0.00	-15.27	0.00	15.27	1381.63	690.81	1438.59	720.36	102.44	-5.677	0.000	0.022
165.00	-1.08	-1.85	0.00	-3.82	0.00	3.82	1325.85	662.93	1324.24	663.10	108.38	-5.685	0.000	0.007
167.00	-0.05	-0.11	0.00	-0.11	0.00	0.11	1303.54	651.77	1279.82	640.86	110.76	-5.686	0.000	0.000
168.00	0.00	-0.10	0.00	0.00	0.00	0.00	1292.39	646.19	1257.90	629.89	111.95	-5.686	0.000	0.000

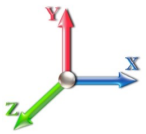
Wind Loading - Shaft

Structure:	CT01364-S	**Code:**	EIA/TIA-222-G	5/18/2018	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.656	5.00	25.043	30.05	170.8	592.0	2165.2
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.775	5.00	24.708	29.65	168.6	624.4	2168.5
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.848	5.00	24.336	29.20	166.0	639.2	2154.2
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.902	5.00	23.947	28.74	173.3	646.3	2132.3
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.945	5.00	23.549	28.26	178.6	648.9	2105.8
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.981	5.00	23.145	27.77	182.5	648.5	2076.4
35.00		1.00	1.01	6.169	6.79	0.00	1.200	2.012	5.00	22.737	27.28	185.2	646.1	2044.9
40.00		1.00	1.04	6.345	6.98	0.00	1.200	2.039	5.00	22.326	26.79	187.0	642.0	2011.7
44.00	Bot - Section 2	1.00	1.06	6.474	7.12	0.00	1.200	2.058	4.00	17.562	21.07	150.1	510.3	1585.1
45.00		1.00	1.07	6.504	7.15	0.00	1.200	2.063	1.00	4.422	5.31	38.0	129.6	666.2
50.00	Top - Section 1	1.00	1.09	6.650	7.32	0.00	1.200	2.085	5.00	21.867	26.24	192.0	641.7	3289.8
55.00		1.00	1.12	6.785	7.46	0.00	1.200	2.105	5.00	21.450	25.74	192.1	634.6	1942.0
60.00		1.00	1.14	6.910	7.60	0.00	1.200	2.123	5.00	21.032	25.24	191.8	626.8	1905.1
65.00		1.00	1.16	7.028	7.73	0.00	1.200	2.140	5.00	20.612	24.73	191.2	618.3	1867.5
70.00		1.00	1.17	7.138	7.85	0.00	1.200	2.156	5.00	20.192	24.23	190.3	609.2	1829.4
75.00		1.00	1.19	7.243	7.97	0.00	1.200	2.171	5.00	19.771	23.72	189.0	599.7	1790.8
80.00		1.00	1.21	7.342	8.08	0.00	1.200	2.185	5.00	19.349	23.22	187.5	589.7	1751.8
83.75	Bot - Section 3	1.00	1.22	7.413	8.15	0.00	1.200	2.195	3.75	14.233	17.08	139.3	436.5	1289.0
85.00		1.00	1.22	7.436	8.18	0.00	1.200	2.198	1.25	4.757	5.71	46.7	147.0	631.7
89.00	Top - Section 2	1.00	1.23	7.508	8.26	0.00	1.200	2.209	4.00	15.047	18.06	149.1	463.6	1993.7
90.00		1.00	1.24	7.526	8.28	0.00	1.200	2.211	1.00	3.719	4.46	36.9	115.5	274.6
95.00		1.00	1.25	7.612	8.37	0.00	1.200	2.223	5.00	18.344	22.01	184.3	566.4	1349.3
100.00		1.00	1.27	7.695	8.46	0.00	1.200	2.234	5.00	17.920	21.50	182.0	555.1	1317.3
105.00		1.00	1.28	7.774	8.55	0.00	1.200	2.245	5.00	17.495	20.99	179.5	543.5	1285.0
110.00		1.00	1.29	7.851	8.64	0.00	1.200	2.256	5.00	17.070	20.48	176.9	531.7	1252.4
115.00		1.00	1.30	7.925	8.72	0.00	1.200	2.266	5.00	16.645	19.97	174.1	519.7	1219.6
119.50	Bot - Section 4	1.00	1.31	7.989	8.79	0.00	1.200	2.275	4.50	14.616	17.54	154.1	457.8	1070.0
120.00		1.00	1.32	7.996	8.80	0.00	1.200	2.276	0.50	1.624	1.95	17.1	51.5	172.9
123.75	Top - Section 3	1.00	1.32	8.048	8.85	0.00	1.200	2.283	3.75	12.043	14.45	127.9	378.9	1278.1
125.00		1.00	1.33	8.065	8.87	0.00	1.200	2.285	1.25	3.961	4.75	42.2	125.5	257.9
130.00		1.00	1.34	8.132	8.95	0.00	1.200	2.294	5.00	15.579	18.69	167.2	489.5	1008.7
135.00		1.00	1.35	8.197	9.02	0.00	1.200	2.303	5.00	15.152	18.18	163.9	476.6	979.3
137.00	Appurtenance(s)	1.00	1.35	8.222	9.04	0.00	1.200	2.306	2.00	5.941	7.13	64.5	188.6	385.0
137.50	Appurtenance(s)	1.00	1.35	8.229	9.05	0.00	1.200	2.307	0.50	1.474	1.77	16.0	47.0	95.7
140.00		1.00	1.36	8.260	9.09	0.00	1.200	2.311	2.50	7.309	8.77	79.7	231.8	472.8
145.00		1.00	1.37	8.321	9.15	0.00	1.200	2.319	5.00	14.299	17.16	157.1	450.5	919.9
147.00	Appurtenance(s)	1.00	1.37	8.345	9.18	0.00	1.200	2.322	2.00	5.599	6.72	61.7	178.1	361.2
150.00		1.00	1.38	8.381	9.22	0.00	1.200	2.327	3.00	8.271	9.92	91.5	262.3	532.0
155.00		1.00	1.39	8.439	9.28	0.00	1.200	2.335	5.00	13.444	16.13	149.8	423.7	860.0
157.00	Appurtenance(s)	1.00	1.39	8.462	9.31	0.00	1.200	2.338	2.00	5.257	6.31	58.7	167.3	337.2
160.00		1.00	1.40	8.495	9.34	0.00	1.200	2.342	3.00	7.758	9.31	87.0	246.1	495.9
165.00		1.00	1.41	8.551	9.41	0.00	1.200	2.349	5.00	12.589	15.11	142.1	396.4	799.5
167.00	Appurtenance(s)	1.00	1.41	8.572	9.43	0.00	1.200	2.352	2.00	4.915	5.90	55.6	156.4	312.9
168.00	Appurtenance(s)	1.00	1.41	8.583	9.44	0.00	1.200	2.353	1.00	2.432	2.92	27.6	77.6	154.9
								Totals:	**168.00**			**5,866.5**		**54,593.2**

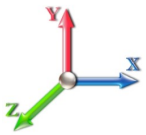
Discrete Appurtenance Forces

Structure:	CT01364-S	**Code:**	EIA/TIA-222-G	5/18/2018	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	168.00	6' Lightning rod	1	8.583	9.441	1.00	1.00	1.85	51.45	0.000	0.000	17.44	0.00	0.00
2	167.00	Low Profile Platform-flat	1	8.572	9.429	1.00	1.00	53.22	2551.24	0.000	0.000	501.88	0.00	0.00
3	157.00	ALU 1900 Mhz	3	8.462	9.308	0.89	0.90	11.95	479.57	0.000	0.000	111.19	0.00	0.00
4	157.00	ALU 800 Mhz	6	8.462	9.308	0.83	0.90	19.98	849.39	0.000	0.000	185.98	0.00	0.00
5	157.00	ALU TD-RRH8x20-25	3	8.462	9.308	0.62	0.90	9.63	727.95	0.000	0.000	89.61	0.00	0.00
6	157.00	APXVTM14-C-120	3	8.462	9.308	0.68	0.90	15.92	891.07	0.000	0.000	148.22	0.00	0.00
7	157.00	Low Profile Platform-flat	1	8.462	9.308	1.00	1.00	53.05	2542.55	0.000	0.000	493.78	0.00	0.00
8	157.00	NNVV-65B-R4	3	8.462	9.308	0.68	0.90	28.92	1492.27	0.000	0.000	269.16	0.00	0.00
9	157.00	SitePro HRK14-U	1	8.462	9.308	1.00	1.00	11.30	905.33	0.000	0.000	105.14	0.00	0.00
10	157.00	SitePro PRK-1245L	1	8.462	9.308	1.00	1.00	12.95	1083.47	0.000	0.000	120.51	0.00	0.00
11	157.00	SitePro PRK-SFS-H-L	3	8.462	9.308	0.56	0.75	5.61	520.17	0.000	0.000	52.21	0.00	0.00
12	147.00	RRUS 12	3	8.345	9.180	0.55	0.80	5.92	436.42	0.000	0.000	54.39	0.00	0.00
13	147.00	RRUS 11	6	8.345	9.180	0.62	0.80	12.61	1131.49	0.000	0.000	115.77	0.00	0.00
14	147.00	Low Profile	1	8.345	9.180	1.00	1.00	45.50	3241.69	0.000	0.000	417.68	0.00	0.00
15	147.00	AM-X-CD-17-65-00T-RET	3	8.345	9.180	0.62	0.80	13.85	461.37	0.000	0.000	127.13	0.00	0.00
16	147.00	1900W800	6	8.345	9.180	0.62	0.80	10.08	448.68	0.000	0.000	92.53	0.00	0.00
17	147.00	7770.00	6	8.345	9.180	0.60	0.80	25.01	1413.69	0.000	0.000	229.61	0.00	0.00
18	147.00	LGP21903	6	8.345	9.180	0.61	0.80	2.92	92.49	0.000	0.000	26.76	0.00	0.00
19	147.00	DC6-48-60-18-8F	1	8.345	9.180	0.80	0.80	1.92	102.73	0.000	0.000	17.63	0.00	0.00
20	147.00	Dual Combiner	3	8.345	9.180	0.50	0.80	1.84	47.17	0.000	0.000	16.86	0.00	0.00
21	147.00	LGP21401	6	8.345	9.180	0.53	0.80	7.61	258.53	0.000	0.000	69.85	0.00	0.00
22	137.50	782 11056	3	8.229	9.051	0.66	0.80	1.02	9.71	0.000	0.000	9.19	0.00	0.00
23	137.00	Low Profile Platform w/	1	8.222	9.044	1.00	1.00	45.34	3835.36	0.000	0.000	410.04	0.00	0.00
24	137.00	LNX-6515DS-VTM	3	8.222	9.044	0.67	0.80	31.78	897.78	0.000	0.000	287.40	0.00	0.00
25	137.00	KRY 112 144/1	3	8.222	9.044	0.60	0.80	1.87	73.04	0.000	0.000	16.89	0.00	0.00
26	137.00	FE15501P77/75	3	8.222	9.044	0.79	0.80	3.07	155.88	0.000	0.000	27.74	0.00	0.00
27	137.00	APXV18-206516S-C-A20	3	8.222	9.044	0.63	0.80	11.50	285.09	0.000	0.000	103.99	0.00	0.00
							Totals:		**24,985.55**			**4,118.58**		

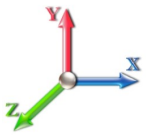
Total Applied Force Summary

Structure:	CT01364-S		**Code:**	EIA/TIA-222-G	5/18/2018
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 18

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		170.84	2335.92	0.00	0.00
10.00		168.55	2339.26	0.00	0.00
15.00		166.01	2325.00	0.00	0.00
20.00		173.33	2303.01	0.00	0.00
25.00		178.65	2276.56	0.00	0.00
30.00		182.46	2247.15	0.00	0.00
35.00		185.15	2215.63	0.00	0.00
40.00		186.99	2182.50	0.00	0.00
44.00		150.07	1721.73	0.00	0.00
45.00		37.96	700.33	0.00	0.00
50.00		191.95	3460.53	0.00	0.00
55.00		192.11	2112.74	0.00	0.00
60.00		191.85	2075.83	0.00	0.00
65.00		191.21	2038.29	0.00	0.00
70.00		190.26	2000.19	0.00	0.00
75.00		189.02	1961.60	0.00	0.00
80.00		187.51	1922.58	0.00	0.00
83.75		139.27	1417.07	0.00	0.00
85.00		46.69	674.39	0.00	0.00
89.00		149.13	2130.34	0.00	0.00
90.00		36.94	308.71	0.00	0.00
95.00		184.32	1520.09	0.00	0.00
100.00		182.02	1488.05	0.00	0.00
105.00		179.54	1455.74	0.00	0.00
110.00		176.90	1423.17	0.00	0.00
115.00		174.12	1390.37	0.00	0.00
119.50		154.13	1223.66	0.00	0.00
120.00		17.14	190.01	0.00	0.00
123.75		127.94	1406.20	0.00	0.00
125.00		42.16	300.62	0.00	0.00
130.00		167.22	1179.47	0.00	0.00
135.00		163.94	1150.05	0.00	0.00
137.00	(13) attachments	910.54	5700.44	0.00	0.00
137.50	(3) attachments	25.20	115.00	0.00	0.00
140.00		79.68	520.71	0.00	0.00
145.00		157.05	1015.82	0.00	0.00
147.00	(41) attachments	1229.90	8033.81	0.00	0.00
150.00		91.50	541.53	0.00	0.00
155.00		149.76	875.81	0.00	0.00
157.00	(24) attachments	1634.51	9835.26	0.00	0.00
160.00		87.00	495.88	0.00	0.00
165.00		142.09	799.45	0.00	0.00
167.00	(1) attachments	557.50	2864.16	0.00	0.00
168.00	(1) attachments	44.99	206.36	0.00	0.00
	Totals:	**9,985.10**	**84,481.01**	**0.00**	**0.00**

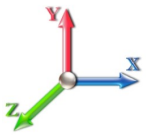
Calculated Forces

Structure:	CT01364-S	**Code:**	EIA/TIA-222-G	5/18/2018	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-84.48	-10.03	0.00	-1214.5	0.00	1214.53	5340.38	2670.19	12289.6	6153.95	0.00	0.000	0.000	0.213
5.00	-82.13	-9.93	0.00	-1164.4	0.00	1164.40	5276.02	2638.01	11917.5	5967.64	0.03	-0.055	0.000	0.211
10.00	-79.78	-9.84	0.00	-1114.7	0.00	1114.74	5210.42	2605.21	11548.2	5782.69	0.12	-0.111	0.000	0.208
15.00	-77.45	-9.74	0.00	-1065.5	0.00	1065.54	5143.57	2571.78	11181.7	5599.17	0.26	-0.167	0.000	0.205
20.00	-75.14	-9.64	0.00	-1016.8	0.00	1016.82	5075.47	2537.74	10818.2	5417.17	0.47	-0.224	0.000	0.203
25.00	-72.85	-9.52	0.00	-968.64	0.00	968.64	5006.13	2503.07	10457.9	5236.76	0.73	-0.281	0.000	0.200
30.00	-70.59	-9.40	0.00	-921.02	0.00	921.02	4935.55	2467.77	10101.0	5058.02	1.06	-0.339	0.000	0.196
35.00	-68.37	-9.27	0.00	-874.02	0.00	874.02	4863.72	2431.86	9747.59	4881.04	1.45	-0.398	0.000	0.193
40.00	-66.18	-9.13	0.00	-827.67	0.00	827.67	4790.64	2395.32	9397.80	4705.88	1.90	-0.457	0.000	0.190
44.00	-64.46	-9.00	0.00	-791.15	0.00	791.15	4731.29	2365.64	9120.70	4567.13	2.30	-0.506	0.000	0.187
45.00	-63.75	-9.00	0.00	-782.15	0.00	782.15	4716.32	2358.16	9051.82	4532.64	2.41	-0.518	0.000	0.186
50.00	-60.28	-8.83	0.00	-737.18	0.00	737.18	4386.97	2193.49	8392.46	4202.47	2.98	-0.578	0.000	0.189
55.00	-58.16	-8.68	0.00	-693.01	0.00	693.01	4315.09	2157.55	8071.80	4041.90	3.62	-0.639	0.000	0.185
60.00	-56.08	-8.52	0.00	-649.62	0.00	649.62	4242.11	2121.05	7755.22	3883.37	4.32	-0.696	0.000	0.181
65.00	-54.04	-8.36	0.00	-607.02	0.00	607.02	4147.44	2073.72	7406.11	3708.56	5.08	-0.753	0.000	0.177
70.00	-52.03	-8.19	0.00	-565.24	0.00	565.24	4049.83	2024.91	7059.92	3535.21	5.90	-0.811	0.000	0.173
75.00	-50.07	-8.02	0.00	-524.28	0.00	524.28	3952.22	1976.11	6722.01	3366.00	6.78	-0.868	0.000	0.168
80.00	-48.14	-7.85	0.00	-484.17	0.00	484.17	3854.61	1927.31	6392.39	3200.95	7.72	-0.926	0.000	0.164
83.75	-46.72	-7.71	0.00	-454.74	0.00	454.74	3781.40	1890.70	6150.62	3079.88	8.46	-0.969	0.000	0.160
85.00	-46.04	-7.67	0.00	-445.10	0.00	445.10	3757.00	1878.50	6071.06	3040.04	8.72	-0.983	0.000	0.159
89.00	-43.91	-7.51	0.00	-414.40	0.00	414.40	2696.95	1348.48	4363.97	2185.23	9.56	-1.029	0.000	0.206
90.00	-43.60	-7.50	0.00	-406.89	0.00	406.89	2687.67	1343.84	4326.14	2166.29	9.78	-1.040	0.000	0.204
95.00	-42.07	-7.34	0.00	-369.40	0.00	369.40	2640.52	1320.26	4138.17	2072.16	10.91	-1.113	0.000	0.194
100.00	-40.58	-7.18	0.00	-332.69	0.00	332.69	2592.12	1296.06	3952.30	1979.09	12.11	-1.185	0.000	0.184
105.00	-39.12	-7.02	0.00	-296.80	0.00	296.80	2542.48	1271.24	3768.69	1887.15	13.39	-1.255	0.000	0.173
110.00	-37.69	-6.85	0.00	-261.72	0.00	261.72	2491.60	1245.80	3587.51	1796.42	14.74	-1.322	0.000	0.161
115.00	-36.30	-6.68	0.00	-227.48	0.00	227.48	2439.47	1219.73	3408.91	1706.99	16.16	-1.387	0.000	0.148
119.50	-35.08	-6.51	0.00	-197.42	0.00	197.42	2391.49	1195.74	3250.50	1627.67	17.50	-1.442	0.000	0.136
120.00	-34.89	-6.51	0.00	-194.16	0.00	194.16	2386.09	1193.05	3233.04	1618.92	17.65	-1.448	0.000	0.135
123.75	-33.48	-6.36	0.00	-169.75	0.00	169.75	1658.06	829.03	2236.65	1119.99	18.80	-1.491	0.000	0.172
125.00	-33.18	-6.33	0.00	-161.80	0.00	161.80	1649.50	824.75	2207.60	1105.44	19.20	-1.505	0.000	0.167
130.00	-32.00	-6.17	0.00	-130.14	0.00	130.14	1614.57	807.28	2092.31	1047.71	20.80	-1.565	0.000	0.144
135.00	-30.85	-5.99	0.00	-99.32	0.00	99.32	1578.53	789.26	1978.61	990.78	22.47	-1.617	0.000	0.120
137.00	-25.17	-4.92	0.00	-87.35	0.00	87.35	1563.80	781.90	1933.60	968.24	23.15	-1.635	0.000	0.106
137.50	-25.06	-4.90	0.00	-84.89	0.00	84.89	1560.09	780.05	1922.40	962.63	23.33	-1.640	0.000	0.104
140.00	-24.54	-4.82	0.00	-72.64	0.00	72.64	1541.39	770.69	1866.63	934.70	24.19	-1.661	0.000	0.094
145.00	-23.53	-4.64	0.00	-48.57	0.00	48.57	1503.14	751.57	1756.51	879.56	25.95	-1.694	0.000	0.071
147.00	-15.53	-3.17	0.00	-39.29	0.00	39.29	1487.53	743.77	1713.02	857.78	26.66	-1.705	0.000	0.056
150.00	-14.99	-3.07	0.00	-29.78	0.00	29.78	1463.79	731.89	1648.40	825.42	27.74	-1.718	0.000	0.046
155.00	-14.12	-2.89	0.00	-14.43	0.00	14.43	1423.34	711.67	1542.43	772.36	29.54	-1.733	0.000	0.029
157.00	-4.34	-0.96	0.00	-8.64	0.00	8.64	1406.84	703.42	1500.67	751.45	30.27	-1.737	0.000	0.015
160.00	-3.85	-0.86	0.00	-5.75	0.00	5.75	1381.63	690.81	1438.59	720.36	31.36	-1.740	0.000	0.011
165.00	-3.05	-0.70	0.00	-1.44	0.00	1.44	1325.85	662.93	1324.24	663.10	33.19	-1.744	0.000	0.004
167.00	-0.20	-0.05	0.00	-0.05	0.00	0.05	1303.54	651.77	1279.82	640.86	33.92	-1.744	0.000	0.000
168.00	0.00	-0.04	0.00	0.00	0.00	0.00	1292.39	646.19	1257.90	629.89	34.28	-1.744	0.000	0.000

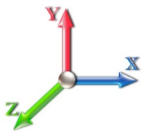
Wind Loading - Shaft

Structure:	CT01364-S	**Code:**	EIA/TIA-222-G	5/18/2018	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	264.19	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	259.39	0.650	0.000	5.00	23.663	15.38	125.9	0.0	1311.0
10.00		1.00	0.85	7.442	8.19	254.59	0.650	0.000	5.00	23.229	15.10	123.6	0.0	1286.7
15.00		1.00	0.85	7.442	8.19	249.80	0.650	0.000	5.00	22.795	14.82	121.3	0.0	1262.5
20.00		1.00	0.90	7.896	8.69	252.36	0.650	0.000	5.00	22.362	14.54	126.2	0.0	1238.3
25.00		1.00	0.95	8.276	9.10	253.30	0.650	0.000	5.00	21.928	14.25	129.8	0.0	1214.1
30.00		1.00	0.98	8.600	9.46	253.05	0.650	0.000	5.00	21.494	13.97	132.2	0.0	1189.9
35.00		1.00	1.01	8.883	9.77	251.95	0.650	0.000	5.00	21.061	13.69	133.8	0.0	1165.7
40.00		1.00	1.04	9.137	10.05	250.20	0.650	0.000	5.00	20.627	13.41	134.8	0.0	1141.4
44.00	Bot - Section 2	1.00	1.06	9.322	10.25	248.43	0.650	0.000	4.00	16.189	10.52	107.9	0.0	895.7
45.00		1.00	1.07	9.366	10.30	247.94	0.650	0.000	1.00	4.078	2.65	27.3	0.0	447.2
50.00	Top - Section 1	1.00	1.09	9.576	10.53	245.26	0.650	0.000	5.00	20.130	13.08	137.8	0.0	2206.7
55.00		1.00	1.12	9.770	10.75	246.93	0.650	0.000	5.00	19.696	12.80	137.6	0.0	1089.5
60.00		1.00	1.14	9.951	10.95	243.65	0.650	0.000	5.00	19.262	12.52	137.1	0.0	1065.3
65.00		1.00	1.16	10.120	11.13	240.12	0.650	0.000	5.00	18.829	12.24	136.2	0.0	1041.0
70.00		1.00	1.17	10.279	11.31	236.36	0.650	0.000	5.00	18.395	11.96	135.2	0.0	1016.8
75.00		1.00	1.19	10.430	11.47	232.41	0.650	0.000	5.00	17.961	11.67	133.9	0.0	992.6
80.00		1.00	1.21	10.572	11.63	228.27	0.650	0.000	5.00	17.528	11.39	132.5	0.0	968.4
83.75	Bot - Section 3	1.00	1.22	10.675	11.74	225.07	0.650	0.000	3.75	12.861	8.36	98.2	0.0	710.4
85.00		1.00	1.22	10.708	11.78	223.98	0.650	0.000	1.25	4.299	2.79	32.9	0.0	403.9
89.00	Top - Section 2	1.00	1.23	10.812	11.89	220.44	0.650	0.000	4.00	13.575	8.82	104.9	0.0	1275.1
90.00		1.00	1.24	10.838	11.92	223.07	0.650	0.000	1.00	3.350	2.18	26.0	0.0	132.6
95.00		1.00	1.25	10.962	12.06	218.52	0.650	0.000	5.00	16.491	10.72	129.3	0.0	652.5
100.00		1.00	1.27	11.081	12.19	213.85	0.650	0.000	5.00	16.057	10.44	127.2	0.0	635.2
105.00		1.00	1.28	11.195	12.31	209.06	0.650	0.000	5.00	15.624	10.16	125.1	0.0	617.9
110.00		1.00	1.29	11.305	12.44	204.18	0.650	0.000	5.00	15.190	9.87	122.8	0.0	600.6
115.00		1.00	1.30	11.412	12.55	199.19	0.650	0.000	5.00	14.756	9.59	120.4	0.0	583.3
119.50	Bot - Section 4	1.00	1.31	11.504	12.65	194.63	0.650	0.000	4.50	12.910	8.39	106.2	0.0	510.2
120.00		1.00	1.32	11.514	12.67	194.12	0.650	0.000	0.50	1.434	0.93	11.8	0.0	101.2
123.75	Top - Section 3	1.00	1.32	11.589	12.75	190.26	0.650	0.000	3.75	10.616	6.90	88.0	0.0	749.3
125.00		1.00	1.33	11.614	12.78	191.89	0.650	0.000	1.25	3.485	2.26	28.9	0.0	110.3
130.00		1.00	1.34	11.710	12.88	186.66	0.650	0.000	5.00	13.667	8.88	114.4	0.0	432.7
135.00		1.00	1.35	11.803	12.98	181.36	0.650	0.000	5.00	13.233	8.60	111.7	0.0	418.9
137.00	Appurtenance(s)	1.00	1.35	11.840	13.02	179.22	0.650	0.000	2.00	5.172	3.36	43.8	0.0	163.7
137.50	Appurtenance(s)	1.00	1.35	11.849	13.03	178.69	0.650	0.000	0.50	1.282	0.83	10.9	0.0	40.6
140.00		1.00	1.36	11.894	13.08	175.99	0.650	0.000	2.50	6.346	4.12	54.0	0.0	200.8
145.00		1.00	1.37	11.982	13.18	170.56	0.650	0.000	5.00	12.366	8.04	105.9	0.0	391.2
147.00	Appurtenance(s)	1.00	1.37	12.017	13.22	168.36	0.650	0.000	2.00	4.825	3.14	41.5	0.0	152.6
150.00		1.00	1.38	12.068	13.27	165.06	0.650	0.000	3.00	7.107	4.62	61.3	0.0	224.8
155.00		1.00	1.39	12.152	13.37	159.49	0.650	0.000	5.00	11.499	7.47	99.9	0.0	363.5
157.00	Appurtenance(s)	1.00	1.39	12.185	13.40	157.25	0.650	0.000	2.00	4.478	2.91	39.0	0.0	141.5
160.00		1.00	1.40	12.233	13.46	153.88	0.650	0.000	3.00	6.587	4.28	57.6	0.0	208.2
165.00		1.00	1.41	12.313	13.54	148.21	0.650	0.000	5.00	10.631	6.91	93.6	0.0	335.8
167.00	Appurtenance(s)	1.00	1.41	12.344	13.58	145.92	0.650	0.000	2.00	4.131	2.69	36.5	0.0	130.5
168.00	Appurtenance(s)	1.00	1.41	12.360	13.60	144.78	0.650	0.000	1.00	2.040	1.33	18.0	0.0	64.4
								Totals:	**168.00**			**4,122.7**		**29,884.3**

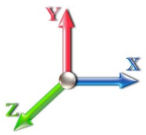
Discrete Appurtenance Forces

Structure:	CT01364-S	**Code:**	EIA/TIA-222-G	5/18/2018	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	168.00	6' Lightning rod	1	12.360	13.596	1.00	1.00	0.38	6.50	0.000	0.000	5.17	0.00	0.00
2	167.00	Low Profile Platform-flat	1	12.344	13.578	1.00	1.00	25.00	1200.00	0.000	0.000	339.46	0.00	0.00
3	157.00	ALU 1900 Mhz	3	12.185	13.403	0.89	0.90	7.40	180.00	0.000	0.000	99.24	0.00	0.00
4	157.00	ALU 800 Mhz	6	12.185	13.403	0.83	0.90	12.37	318.00	0.000	0.000	165.80	0.00	0.00
5	157.00	ALU TD-RRH8x20-25	3	12.185	13.403	0.62	0.90	7.55	210.00	0.000	0.000	101.13	0.00	0.00
6	157.00	APXVTM14-C-120	3	12.185	13.403	0.68	0.90	12.84	168.00	0.000	0.000	172.08	0.00	0.00
7	157.00	Low Profile Platform-flat	1	12.185	13.403	1.00	1.00	25.00	1200.00	0.000	0.000	335.08	0.00	0.00
8	157.00	NNVV-65B-R4	3	12.185	13.403	0.68	0.90	24.85	254.10	0.000	0.000	333.02	0.00	0.00
9	157.00	SitePro HRK14-U	1	12.185	13.403	1.00	1.00	10.33	339.39	0.000	0.000	138.45	0.00	0.00
10	157.00	SitePro PRK-1245L	1	12.185	13.403	1.00	1.00	11.84	517.21	0.000	0.000	158.69	0.00	0.00
11	157.00	SitePro PRK-SFS-H-L	3	12.185	13.403	0.56	0.75	5.13	195.00	0.000	0.000	68.76	0.00	0.00
12	147.00	RRUS 12	3	12.017	13.219	0.54	0.80	4.34	180.00	0.000	0.000	57.39	0.00	0.00
13	147.00	RRUS 11	6	12.017	13.219	0.61	0.80	9.19	304.20	0.000	0.000	121.52	0.00	0.00
14	147.00	Low Profile	1	12.017	13.219	1.00	1.00	22.00	1500.00	0.000	0.000	290.81	0.00	0.00
15	147.00	AM-X-CD-17-65-00T-RET	3	12.017	13.219	0.61	0.80	9.12	92.40	0.000	0.000	120.55	0.00	0.00
16	147.00	1900W800	6	12.017	13.219	0.61	0.80	5.62	172.20	0.000	0.000	74.26	0.00	0.00
17	147.00	7770.00	6	12.017	13.219	0.60	0.80	19.80	210.00	0.000	0.000	261.73	0.00	0.00
18	147.00	LGP21903	6	12.017	13.219	0.59	0.80	0.96	33.00	0.000	0.000	12.68	0.00	0.00
19	147.00	DC6-48-60-18-8F	1	12.017	13.219	0.80	0.80	1.18	31.80	0.000	0.000	15.55	0.00	0.00
20	147.00	Dual Combiner	3	12.017	13.219	0.47	0.80	0.72	14.40	0.000	0.000	9.55	0.00	0.00
21	147.00	LGP21401	6	12.017	13.219	0.51	0.80	3.96	84.60	0.000	0.000	52.38	0.00	0.00
22	137.50	782 11056	3	11.849	13.034	0.62	0.80	0.24	5.40	0.000	0.000	3.17	0.00	0.00
23	137.00	Low Profile Platform w/	1	11.840	13.024	1.00	1.00	22.00	1800.00	0.000	0.000	286.53	0.00	0.00
24	137.00	LNX-6515DS-VTM	3	11.840	13.024	0.67	0.80	23.10	153.90	0.000	0.000	300.90	0.00	0.00
25	137.00	KRY 112 144/1	3	11.840	13.024	0.58	0.80	0.71	33.00	0.000	0.000	9.23	0.00	0.00
26	137.00	FE15501P77/75	3	11.840	13.024	0.79	0.80	1.24	52.50	0.000	0.000	16.09	0.00	0.00
27	137.00	APXV18-206516S-C-A20	3	11.840	13.024	0.62	0.80	6.76	56.10	0.000	0.000	88.02	0.00	0.00
							Totals:		**9,311.70**			**3,637.22**		

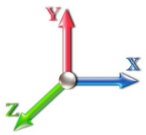
Total Applied Force Summary

Structure:	CT01364-S		**Code:**	EIA/TIA-222-G	5/18/2018
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 22

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		125.91	1453.25	0.00	0.00
10.00		123.60	1429.04	0.00	0.00
15.00		121.29	1404.82	0.00	0.00
20.00		126.25	1380.61	0.00	0.00
25.00		129.75	1356.39	0.00	0.00
30.00		132.17	1332.18	0.00	0.00
35.00		133.77	1307.96	0.00	0.00
40.00		134.75	1283.74	0.00	0.00
44.00		107.90	1009.56	0.00	0.00
45.00		27.31	475.61	0.00	0.00
50.00		137.83	2349.00	0.00	0.00
55.00		137.59	1231.77	0.00	0.00
60.00		137.05	1207.55	0.00	0.00
65.00		136.24	1183.34	0.00	0.00
70.00		135.20	1159.12	0.00	0.00
75.00		133.94	1134.91	0.00	0.00
80.00		132.49	1110.69	0.00	0.00
83.75		98.16	817.13	0.00	0.00
85.00		32.91	439.49	0.00	0.00
89.00		104.94	1388.95	0.00	0.00
90.00		25.96	161.03	0.00	0.00
95.00		129.25	794.77	0.00	0.00
100.00		127.22	777.48	0.00	0.00
105.00		125.06	760.18	0.00	0.00
110.00		122.79	742.88	0.00	0.00
115.00		120.40	725.59	0.00	0.00
119.50		106.19	638.24	0.00	0.00
120.00		11.81	115.47	0.00	0.00
123.75		87.97	856.07	0.00	0.00
125.00		28.93	145.91	0.00	0.00
130.00		114.43	575.01	0.00	0.00
135.00		111.68	561.17	0.00	0.00
137.00	(13) attachments	744.54	2316.09	0.00	0.00
137.50	(3) attachments	14.03	53.96	0.00	0.00
140.00		53.97	240.74	0.00	0.00
145.00		105.94	471.10	0.00	0.00
147.00	(41) attachments	1057.87	2807.16	0.00	0.00
150.00		61.33	232.68	0.00	0.00
155.00		99.91	376.72	0.00	0.00
157.00	(24) attachments	1611.26	3528.51	0.00	0.00
160.00		57.61	208.15	0.00	0.00
165.00		93.59	335.85	0.00	0.00
167.00	(1) attachments	375.92	1330.46	0.00	0.00
168.00	(1) attachments	23.19	70.90	0.00	0.00
	Totals:	**7,759.93**	**43,281.25**	**0.00**	**0.00**

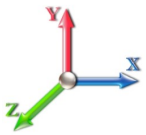
Calculated Forces

Structure:	CT01364-S	**Code:**	EIA/TIA-222-G	5/18/2018	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-43.28	-7.77	0.00	-922.22	0.00	922.22	5340.38	2670.19	12289.6	6153.95	0.00	0.000	0.000	0.158
5.00	-41.82	-7.68	0.00	-883.34	0.00	883.34	5276.02	2638.01	11917.5	5967.64	0.02	-0.042	0.000	0.156
10.00	-40.38	-7.58	0.00	-844.95	0.00	844.95	5210.42	2605.21	11548.2	5782.69	0.09	-0.084	0.000	0.154
15.00	-38.97	-7.49	0.00	-807.03	0.00	807.03	5143.57	2571.78	11181.7	5599.17	0.20	-0.126	0.000	0.152
20.00	-37.59	-7.39	0.00	-769.59	0.00	769.59	5075.47	2537.74	10818.2	5417.17	0.36	-0.170	0.000	0.149
25.00	-36.23	-7.28	0.00	-732.65	0.00	732.65	5006.13	2503.07	10457.9	5236.76	0.56	-0.213	0.000	0.147
30.00	-34.89	-7.17	0.00	-696.25	0.00	696.25	4935.55	2467.77	10101.0	5058.02	0.80	-0.257	0.000	0.145
35.00	-33.58	-7.06	0.00	-660.39	0.00	660.39	4863.72	2431.86	9747.59	4881.04	1.10	-0.302	0.000	0.142
40.00	-32.29	-6.94	0.00	-625.11	0.00	625.11	4790.64	2395.32	9397.80	4705.88	1.44	-0.346	0.000	0.140
44.00	-31.28	-6.84	0.00	-597.37	0.00	597.37	4731.29	2365.64	9120.70	4567.13	1.74	-0.383	0.000	0.137
45.00	-30.80	-6.82	0.00	-590.53	0.00	590.53	4716.32	2358.16	9051.82	4532.64	1.82	-0.392	0.000	0.137
50.00	-28.45	-6.69	0.00	-556.43	0.00	556.43	4386.97	2193.49	8392.46	4202.47	2.26	-0.437	0.000	0.139
55.00	-27.21	-6.56	0.00	-523.00	0.00	523.00	4315.09	2157.55	8071.80	4041.90	2.74	-0.483	0.000	0.136
60.00	-26.00	-6.43	0.00	-490.20	0.00	490.20	4242.11	2121.05	7755.22	3883.37	3.27	-0.526	0.000	0.132
65.00	-24.81	-6.30	0.00	-458.03	0.00	458.03	4147.44	2073.72	7406.11	3708.56	3.84	-0.570	0.000	0.129
70.00	-23.65	-6.17	0.00	-426.51	0.00	426.51	4049.83	2024.91	7059.92	3535.21	4.46	-0.613	0.000	0.126
75.00	-22.51	-6.05	0.00	-395.64	0.00	395.64	3952.22	1976.11	6722.01	3366.00	5.13	-0.656	0.000	0.123
80.00	-21.40	-5.91	0.00	-365.41	0.00	365.41	3854.61	1927.31	6392.39	3200.95	5.84	-0.700	0.000	0.120
83.75	-20.58	-5.81	0.00	-343.23	0.00	343.23	3781.40	1890.70	6150.62	3079.88	6.40	-0.732	0.000	0.117
85.00	-20.14	-5.78	0.00	-335.97	0.00	335.97	3757.00	1878.50	6071.06	3040.04	6.60	-0.743	0.000	0.116
89.00	-18.75	-5.67	0.00	-312.84	0.00	312.84	2696.95	1348.48	4363.97	2185.23	7.23	-0.777	0.000	0.150
90.00	-18.59	-5.65	0.00	-307.17	0.00	307.17	2687.67	1343.84	4326.14	2166.29	7.40	-0.786	0.000	0.149
95.00	-17.79	-5.53	0.00	-278.93	0.00	278.93	2640.52	1320.26	4138.17	2072.16	8.25	-0.841	0.000	0.141
100.00	-17.01	-5.40	0.00	-251.30	0.00	251.30	2592.12	1296.06	3952.30	1979.09	9.16	-0.896	0.000	0.134
105.00	-16.25	-5.28	0.00	-224.29	0.00	224.29	2542.48	1271.24	3768.69	1887.15	10.13	-0.948	0.000	0.125
110.00	-15.50	-5.16	0.00	-197.90	0.00	197.90	2491.60	1245.80	3587.51	1796.42	11.15	-0.999	0.000	0.116
115.00	-14.77	-5.04	0.00	-172.11	0.00	172.11	2439.47	1219.73	3408.91	1706.99	12.22	-1.048	0.000	0.107
119.50	-14.13	-4.92	0.00	-149.45	0.00	149.45	2391.49	1195.74	3250.50	1627.67	13.23	-1.090	0.000	0.098
120.00	-14.02	-4.91	0.00	-146.98	0.00	146.98	2386.09	1193.05	3233.04	1618.92	13.34	-1.094	0.000	0.097
123.75	-13.16	-4.81	0.00	-128.56	0.00	128.56	1658.06	829.03	2236.65	1119.99	14.22	-1.127	0.000	0.123
125.00	-13.01	-4.79	0.00	-122.54	0.00	122.54	1649.50	824.75	2207.60	1105.44	14.51	-1.137	0.000	0.119
130.00	-12.44	-4.67	0.00	-98.59	0.00	98.59	1614.57	807.28	2092.31	1047.71	15.73	-1.183	0.000	0.102
135.00	-11.88	-4.55	0.00	-75.23	0.00	75.23	1578.53	789.26	1978.61	990.78	16.99	-1.222	0.000	0.083
137.00	-9.58	-3.76	0.00	-66.12	0.00	66.12	1563.80	781.90	1933.60	968.24	17.51	-1.236	0.000	0.074
137.50	-9.52	-3.75	0.00	-64.24	0.00	64.24	1560.09	780.05	1922.40	962.63	17.64	-1.240	0.000	0.073
140.00	-9.28	-3.69	0.00	-54.87	0.00	54.87	1541.39	770.69	1866.63	934.70	18.29	-1.255	0.000	0.065
145.00	-8.81	-3.58	0.00	-36.41	0.00	36.41	1503.14	751.57	1756.51	879.56	19.62	-1.280	0.000	0.047
147.00	-6.03	-2.46	0.00	-29.25	0.00	29.25	1487.53	743.77	1713.02	857.78	20.16	-1.289	0.000	0.038
150.00	-5.80	-2.39	0.00	-21.87	0.00	21.87	1463.79	731.89	1648.40	825.42	20.97	-1.298	0.000	0.030
155.00	-5.42	-2.29	0.00	-9.90	0.00	9.90	1423.34	711.67	1542.43	772.36	22.34	-1.309	0.000	0.017
157.00	-1.93	-0.59	0.00	-5.33	0.00	5.33	1406.84	703.42	1500.67	751.45	22.89	-1.312	0.000	0.008
160.00	-1.73	-0.53	0.00	-3.55	0.00	3.55	1381.63	690.81	1438.59	720.36	23.71	-1.314	0.000	0.006
165.00	-1.39	-0.43	0.00	-0.89	0.00	0.89	1325.85	662.93	1324.24	663.10	25.09	-1.316	0.000	0.002
167.00	-0.07	-0.02	0.00	-0.02	0.00	0.02	1303.54	651.77	1279.82	640.86	25.64	-1.316	0.000	0.000
168.00	0.00	-0.02	0.00	0.00	0.00	0.00	1292.39	646.19	1257.90	629.89	25.91	-1.316	0.000	0.000

Final Analysis Summary

Structure:	CT01364-S		**Code:**	EIA/TIA-222-G	5/18/2018
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 24

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 99 mph Wind	33.9	0.00	51.88	0.00	0.00	4042.46
0.9D + 1.6W 99 mph Wind	33.9	0.00	38.90	0.00	0.00	3996.86
1.2D + 1.0Di + 1.0Wi 50 mph Wind	10.0	0.00	84.48	0.00	0.00	1214.53
1.0D + 1.0W 60 mph Wind	7.8	0.00	43.28	0.00	0.00	922.22

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 99 mph Wind	-51.88	-33.89	0.00	-4042.4	0.00	-4042.4	5340.38	2670.1	12289.6	6153.95	0.00	0.667
0.9D + 1.6W 99 mph Wind	-38.90	-33.86	0.00	-3996.8	0.00	-3996.8	5340.38	2670.1	12289.6	6153.95	0.00	0.657
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-84.48	-10.03	0.00	-1214.5	0.00	-1214.5	5340.38	2670.1	12289.6	6153.95	0.00	0.213
1.0D + 1.0W 60 mph Wind	-43.28	-7.77	0.00	-922.22	0.00	-922.22	5340.38	2670.1	12289.6	6153.95	0.00	0.158

Base Plate Summary

Structure:	CT01364-S		**Code:**	EIA/TIA-222-G	5/18/2018
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 25

Reactions

Original Design

Moment (kip-ft):	4615.00
Axial (kip):	34.00
Shear (kip):	37.00

Analysis

Moment (kip-ft):	4042.46
Axial (kip):	84.48
Shear (kip):	33.89
Moment Design %:	87.59

Base Plate

Yield (ksi):	50.00
Width (in):	64.00
Style:	Clipped
Polygon Sides:	0.00
Clip Length (in):	11.00
Effective Len (in):	9.17
Moment (kip-in):	588.98
Allow Stress (ksi):	67.50
Applied Stress (ksi):	0.00
Stress Ratio:	0.54

Anchor Bolts

Bolt Circle:	64.00
Number Bolts:	20.00
Bolt Type:	2.25" 18J
Bolt Diameter (in):	2.25
Yield (ksi):	75.00
Ultimate (ksi):	100.00
Arrangement:	Clustered
Cluster Dist (in):	6.00
Start Angle (deg):	45.00

Compression

Force (kip):	155.82
Allowable (kip):	260.00
Ratio:	0.61

Tension

Force (kip):	147.37
Allowable (kip):	260.00
Ratio:	0.58

Monopole Mat Foundation Design

			Date: 5/18/2018
Customer Name:	Sprint Nextel	**EIA/TIA Standard:**	EIA-222-G
Site Name:	Moody Road	**Structure Height (Ft.):**	168
Site Number:	CT01364-S	**Engineer Name:**	S. Berthomieu
Engr. Number:		**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

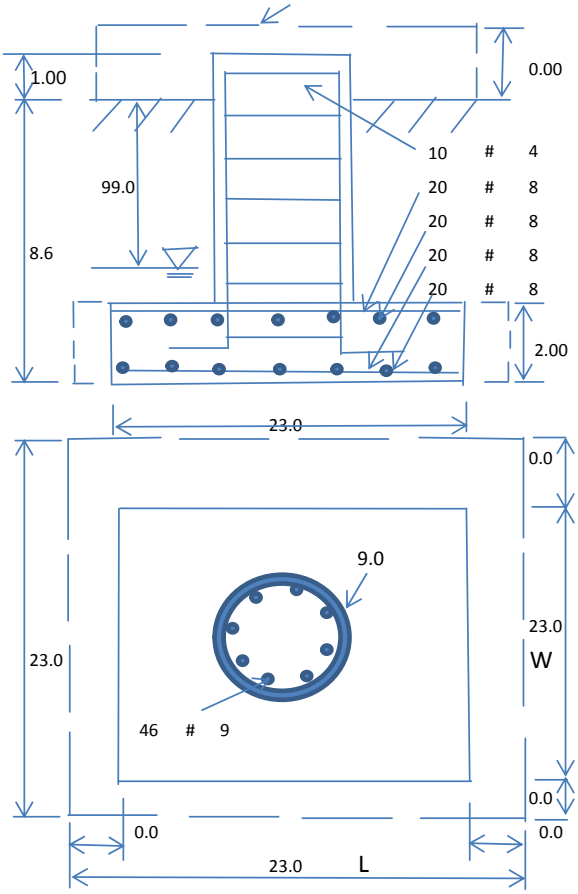
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	51.9	Shear Force (Kips):	33.9
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4042.5
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	9.0	Depth of Base BG (ft.):	8.6
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.00
Length of Pad (ft.):	23	Width of Pad (ft.):	23
Final Length of pad (ft)	23.0	Final width of pad (ft):	23.0
Control Value for Cell D18:	0	Control Value for Cell F18:	0



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	46	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	20	Qty. of Rebar in Pad (W):	20	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	20	Qty. of Rebar in Pad (W):	20	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	18000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00			

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 — Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	3071.53	Total Dry Soil Weight (Kips):	383.94
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	383.94	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1541.49	Total Dry Concrete Weight (Kips):	231.22
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	231.22	Total Vertical Load on Base (Kips):	667.04

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	3836	<	Allowable Factored Soil Bearing (psf): 13500	0.28	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	6963.6	>	Design Factored Momont (kips-ft): 4368	0.63	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.59	OK!			

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.00		

(1) Concrete Pier:

					Load/ Capacity Ratio	
Vertical Steel Rebar Area (sq. in./each):	1.00		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	9927.8	>	Design Factored Moment (Mu, Kips-F	4300.1	0.43	OK!
Calculated Shear Capacity (Kips):	925.4	>	Design Factored Shear (Kips):	33.9	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	2484.0	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	12086.3	>	Design Factored Axial Load (Pu Kips):	51.9	0.00	OK!
Moment & Axial Strength Combination:	0.43	OK!	Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI				

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	464.9	>	One-Way Factored Shear (L-D. Kips):	261.0	0.56	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	464.9	>	One-Way Factored Shear (W-D., Kips)	261.0	0.56	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	406.4	>	One-Way Factored Shear (C-C, Kips):	251.6	0.62	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0028	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0028		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	1409.7	>	Moment at Bottom (L-Direct. K-Ft):	690.4	0.49	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	1409.7	>	Moment at Bottom (W-Direct. K-Ft):	690.4	0.49	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	1967.7	>	Moment at Bottom (C-C Dir. K-Ft):	976.4	0.50	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0028	OK!	Upper Steel Reinf. Ratio (W-Direct.):	0.0028		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	1409.7	>	Moment at the top (L-Dir Kips-Ft):	180.1	0.13	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	1409.7	>	Moment at the top (W-Dir Kips-Ft):	180.1	0.13	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	1967.7	>	Moment at the top (C-C Direc. K-Ft):	382.9	0.19	OK!

Antenna Mount Structural Analysis

Source: SBA Date: 11.15.2017

SBA Site:	CT01364-S Pomfret
Sprint Site Number:	CT33XC256
Project:	Sprint DO Macro Upgrade
Prepared For:	Sprint
Mount Description:	(1) Platform
Site Location:	62 Babbitt Hill Rd, Pomfret, CT Windham County 41.870258°, -71.988241°
Design Codes:	ANSI/TIA-222-G IBC 2012 w/ 2016 CT Building Code
Analysis Load Case:	Sprint Final Configuration
Analysis Result:	**Adequate @ 56%** - Once Augmented See Conclusion

Revision 0
May 1, 2018

CT33XC256-PASSING-MOUNT-STRUCTURAL-ANALYSIS-05-01-18

1.0 Introduction

An antenna mount structural analysis has been performed on Sprint's existing mount assembly located at the CT01364-S Pomfret communications site in Windham County, CT considering the final equipment loading configuration listed in Section 3.0.

2.0 Analysis Criteria

An elastic three-dimensional model of the mount structure has been analyzed pursuant to the following criteria:

- IBC 2012 – International Building Code.
- ANSI/TIA-222-G – Structural Standard for Antenna Supporting Structures and Antennas.
- AISC – Steel Construction Manual.
- ANSI/AWS D1.1 – Structural Welding Code.

Wind w/o ice = 130 mph (3-sec gust Ultimate Wind Speed) Wind w/o ice = 101 mph (3-sec gust Equivalent per TIA-222-G Tower Code)	
Wind with ice = 50 mph (3-sec gust, 1" Ice) Exposure Category C	Topographic Category 1 Structure Class II

The following documents were provided:

- Mount and Tower Record Documents
  SBA
- Tower Structural Analysis
  TES, 1/8/18.
- RF Design
  Sprint DOMU Project, RFDS ID: 111261.

The results of the analysis are illustrated in Section 4.0. If any of the existing or proposed conditions reported in this analysis are not properly represented, please contact our office immediately to request an amended report.

3.0 Appurtenance Information

Table 3.1 – Sprint Final Configuration[1]

COR	(Quantity) Appurtenance Make/Model	Mount Description
157.0'±	(3) RFS APXVTM14-ALU-I20	*(1) Platform*
	(3) COMMSCOPE NNVV-65B-R4	
	(6) ALU 800MHz RRH	
	(3) ALU 1900MHz RRH	
	(3) ALU 2500MHz RRH	

1. *Refer to antenna installation Construction Drawings (by others, when applicable) for additional information regarding final antenna and equipment orientations.*
2. *Panel antennas to be installed in Positions 1 and 3 (as close to the center of face near existing standoff as possible. RRH units to be installed on dual swivel brackets behind panel antennas in Positions 1 and 3 (a maximum of 2 RRH per pipe).*

4.0 Analysis Results

Table 4.1 – Existing Mount Capacity

Load Case	Governing Mount Component[1]	% Capacity[2]	Result
Final Sprint Configuration	Angle Rail	>200%	**Inadequate[3]**

1. *Refer to the Calculations & Software Output portion of this report for mount component and structural information.*
2. *Listed results are expressed as a percentage of available mount member capacity based upon the assumed material strengths listed in Table 4.3. 105% is an acceptable allowable stress percentage for mount components.*
3. *Structural augments to the existing mount structure are required to obtain a mount structure capable of supporting the currently proposed final loading configuration in Table 3.1.*

Table 4.2 – Augmented Mount Capacity

Load Case	Governing Mount Component[1]	% Capacity[2]	Result
Final Sprint Configuration	New SFS-H Connection Capacity	56%	**Adequate Once Augmented[3]**

1. *Refer to the Calculations & Software Output portion of this report for mount component and structural information.*
2. *Listed results are expressed as a percentage of available mount member capacity based upon the assumed material strengths listed in Table 4.3. 105% is an acceptable allowable stress percentage for mount components.*
3. *Refer to GeoStructural Mount Augmentation Drawings and Section 5.0 for information regarding required mount augments.*

Table 4.3 – Structural Component Material Strengths

Structural Component	Nominal Strength/Material[1]
Pipe	F_y = 35 ksi (A53, Gr. B)
Tube	F_y = 46 ksi (A500, Gr. B)
Structural Shapes (L, C, W, etc.), Plate / Bar	F_y = 36 ksi (A36)
Uni-Strut	F_y = 33 ksi (A570, Gr. 33)
Connection Bolts	A325
Stainless Steel Bolts	18-8 Stainless, Grade 316/304 F_y = 74 ksi (Yield) & F_u = 29 ksi (Tension)
U-Bolts / Threaded Rod	SAE J429 Grade 2 (Substitution: ASTM A449) F_y = 57 ksi (Yield) & F_u = 74 ksi (Tension)
Welds	E70XX Electrodes

1. *Strengths listed were assumed for this analysis and are based upon ASTM, AISC, RCSC, AWS and ACI preferred specification values. Values and materials are consistent with industry standards. Material strengths were taken from original design documents when available.*

5.0 Conclusion & Recommendations

Based on Sprint's final equipment loading configuration, the existing mount assembly does not have sufficient capacity to support the loading considered in this analysis pursuant to the listed standards. Structural augments (reinforcements) will be required and are briefly summarized below:

- Install Platform Reinforcement Kit; located 4' below the existing collar mount and attaching to the middle of the existing back-to-back angle platform member at the platform corners.
  - Sitepro1 PRK-1245L, (1) total.
- Install Handrail Kit; located 3.0' above the existing platform rail and attaching to the mount pipes.
  - Sitepro1 HRK14-U, (1) total. Attach all mount pipes to new handrail with kit-provided cross-over plates. (6) new Pipe2.0STD x 9' tall mount pipes will be required to span between the existing rail and new top and bottom rails.
- Install V-Brace Kit; located 2.5' below the existing platform rail and attaching to the new bottom handrail kit.
  - Sitepro1 PRK-SFS-H-L, (1) total. Attach kit ring mount in kit to monopole shaft.
    - If the PRK-SFS-H-L kit is not available, provide (6) total L2-1/2x2-1/2x3/16 x ~8' long replacement angles, field-cut and drill to suit.
  - Pipe2.0STD x 14.0' Horizontal Rail, (3) total. Attach SFS-H-L kit angles to new horizontal bottom rail.
  - Pipe2.0STD x ~4' long corner braces, (3) total. Attach to new horizontal bottom rail w/ Sitepro1 PUCK brackets, (6) total.
  - Sitepro1 SCX1-K, (6) total. Attach all mount pipes to new horizontal bottom rail.
- Panel antennas to be installed in Positions 1 and 3 (as close to the center of face near existing standoff as possible. RRH units to be installed on dual swivel brackets behind panel antennas in Positions 1 and 3 (a maximum of 2 RRH per pipe).

Once the recommended augments are successfully implemented, the augmented mount assembly has sufficient capacity to support the loading considered in this analysis pursuant to the listed standards.

Augmentation Requirements:

- **In order to obtain a mount structure capable of supporting the currently proposed final loading configuration, upgrade augments must be installed in accordance with GeoStructural's *Mount Augmentation Drawings*.**
- **Antennas and equipment shall be installed centered vertically on the mount front face rails. If this assumption is incorrect, the results of this analysis will be affected.**

This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If any of the existing or proposed conditions (appurtenance loading, member sizes, etc.) reported in this analysis are not properly represented, please contact our office immediately to request an amended report.

Prepared by:

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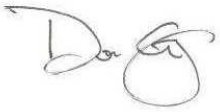
Reviewed and Approved by:



Don George, PE, SE, MLSE
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6.0 Standard Conditions

- All data required to complete our structural analysis was furnished by our client and provided record data. GeoStructural has not conducted a site visit or independent study to verify existing conditions and the results of this analysis are based solely on the information provided. It has been assumed that the tower, antenna support structure and foundation have been constructed according to the provided existing drawings, previous structural analysis reports, mapping documents, etc.

- The default Structure Classification is Class II in accordance with ANSI/TIA-222-G §A.2.2 & §A.15.3 and has been assumed for this analysis. The owner shall verify this classification conforms with original or desired reliability criteria.

- This analysis assumes that the structure has been properly installed and maintained in accordance with ANSI/TIA-222-G §15.5 and that no physical deterioration has occurred in any of the components of the structure. Damaged, missing, or rusted members were not considered.

- This analysis verifies the adequacy of the main components of the structure. Not all connections, welds, bolts, plates, etc. were individually detailed and analyzed. Where not specifically analyzed, the existing connection plates, welds, bolts, etc. were assumed adequate to develop the full capacity of the main structural members.

- No consideration has been made for unusual or extreme wind events, rime/in-cloud ice loadings, harmonic or nodal vibration, vortex shedding or other similar conditions.

- It is the owner's responsibility to determine the appropriate design wind speed and amount of ice accumulation beyond code minimum values that should be considered in the analysis.

- This analysis report does not constitute a maintenance and condition assessment. No certifications regarding maintenance and condition are expressed or implied. If desired, GeoStructural can provide these services under a subsequent contract.

- This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If desired, GeoStructural can provide these services under a subsequent contract.

7.0 Calculations & Software Output

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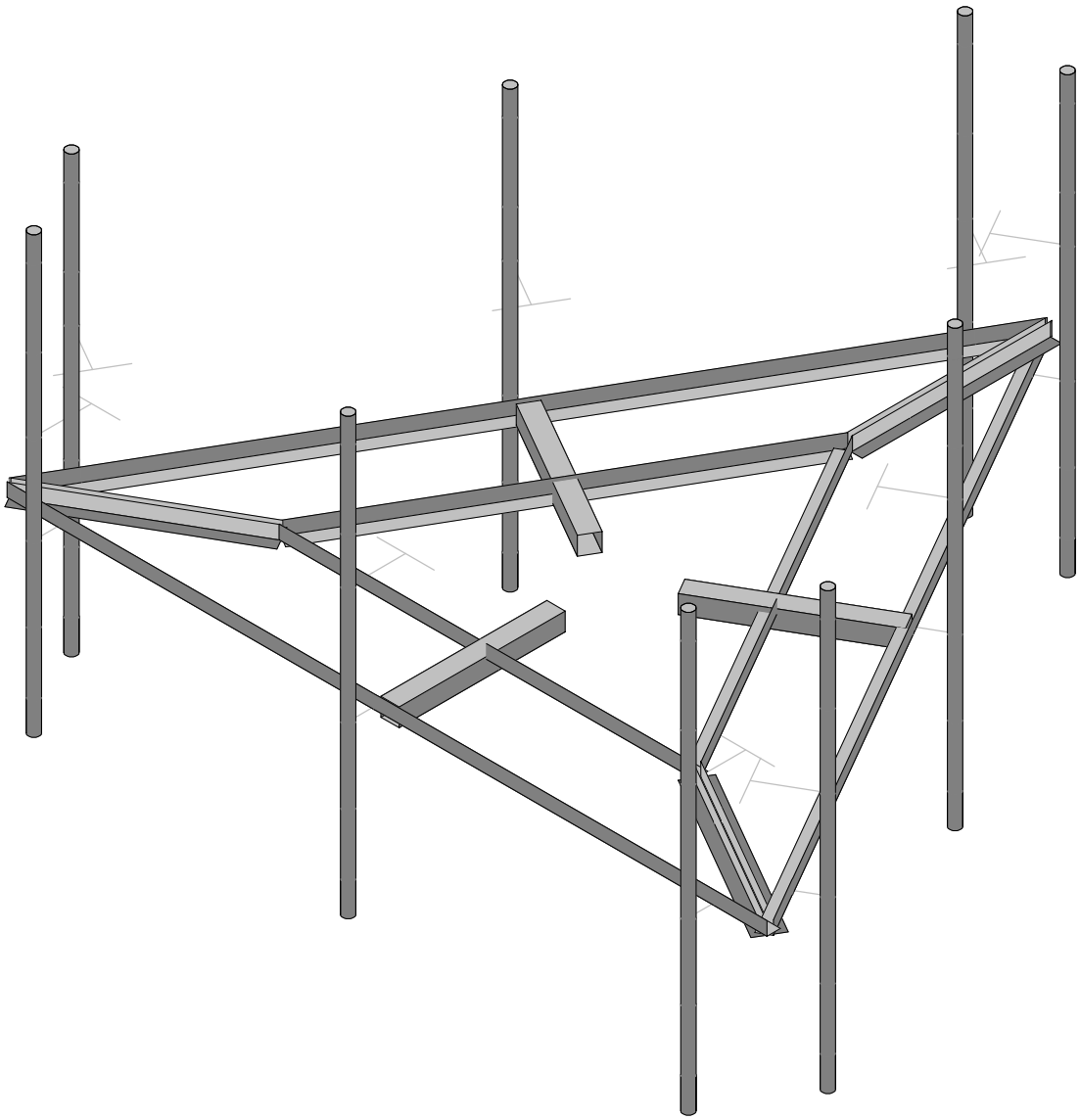

Envelope Only Solution

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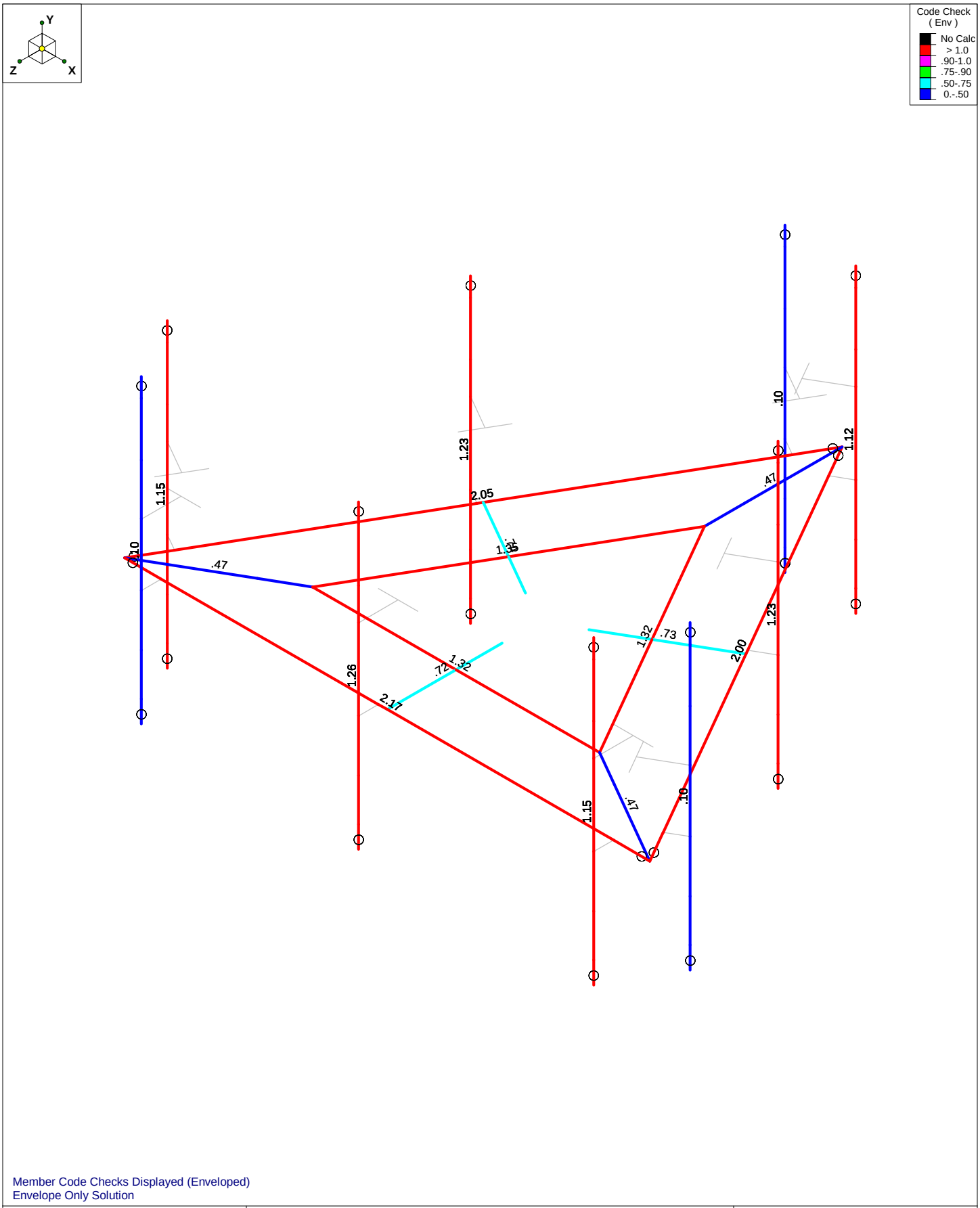

Member Code Checks Displayed (Enveloped)
Envelope Only Solution

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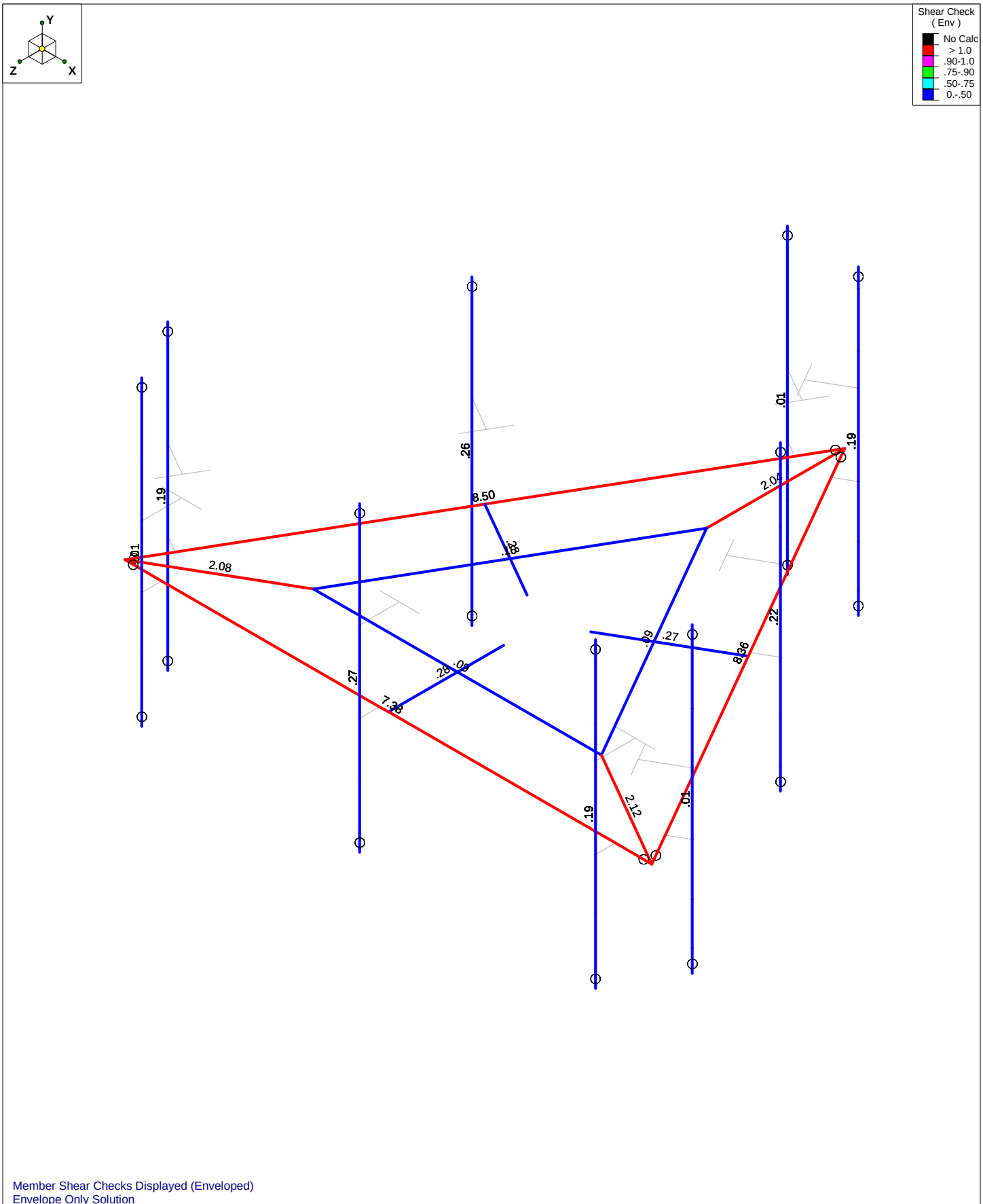

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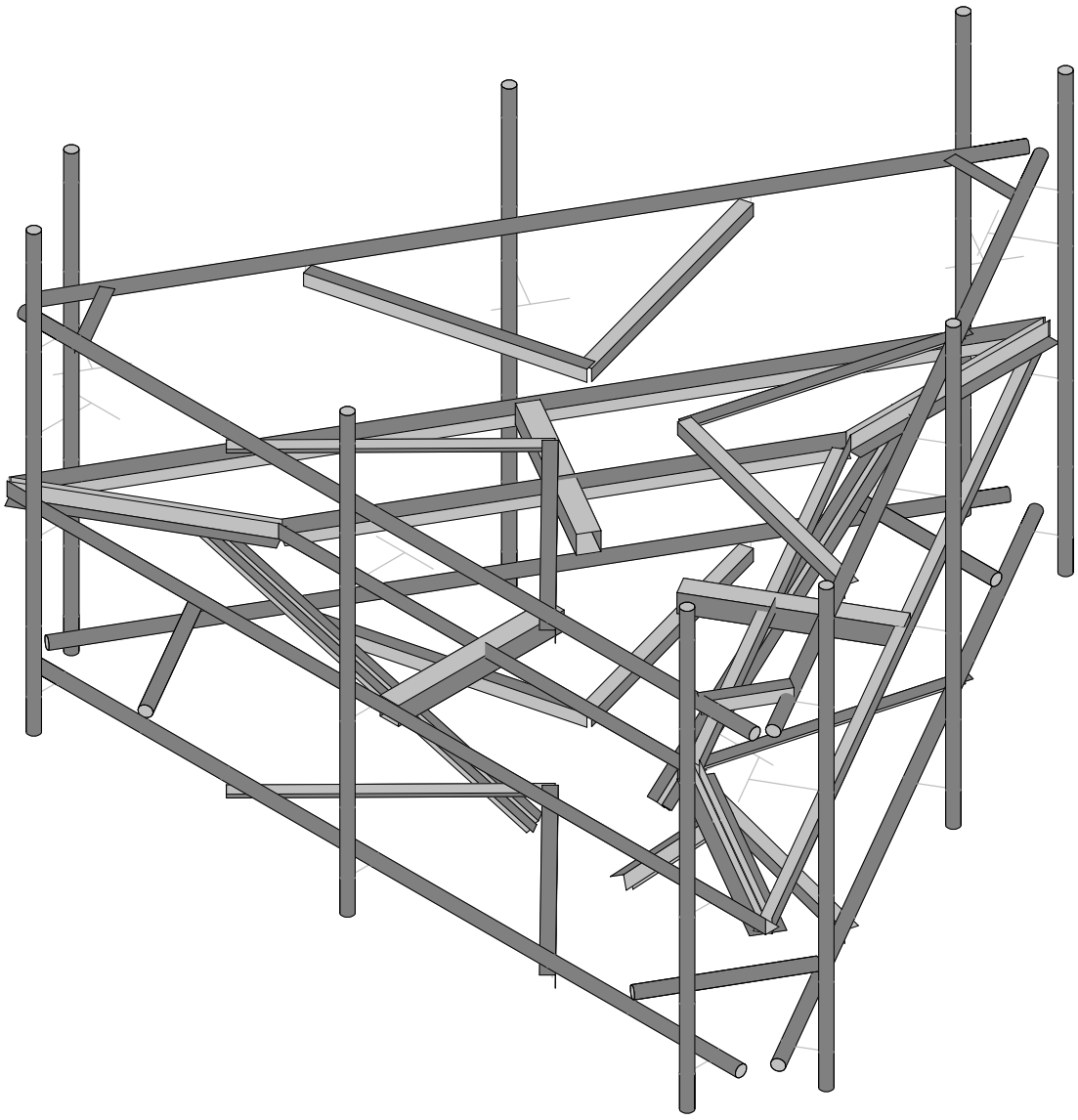

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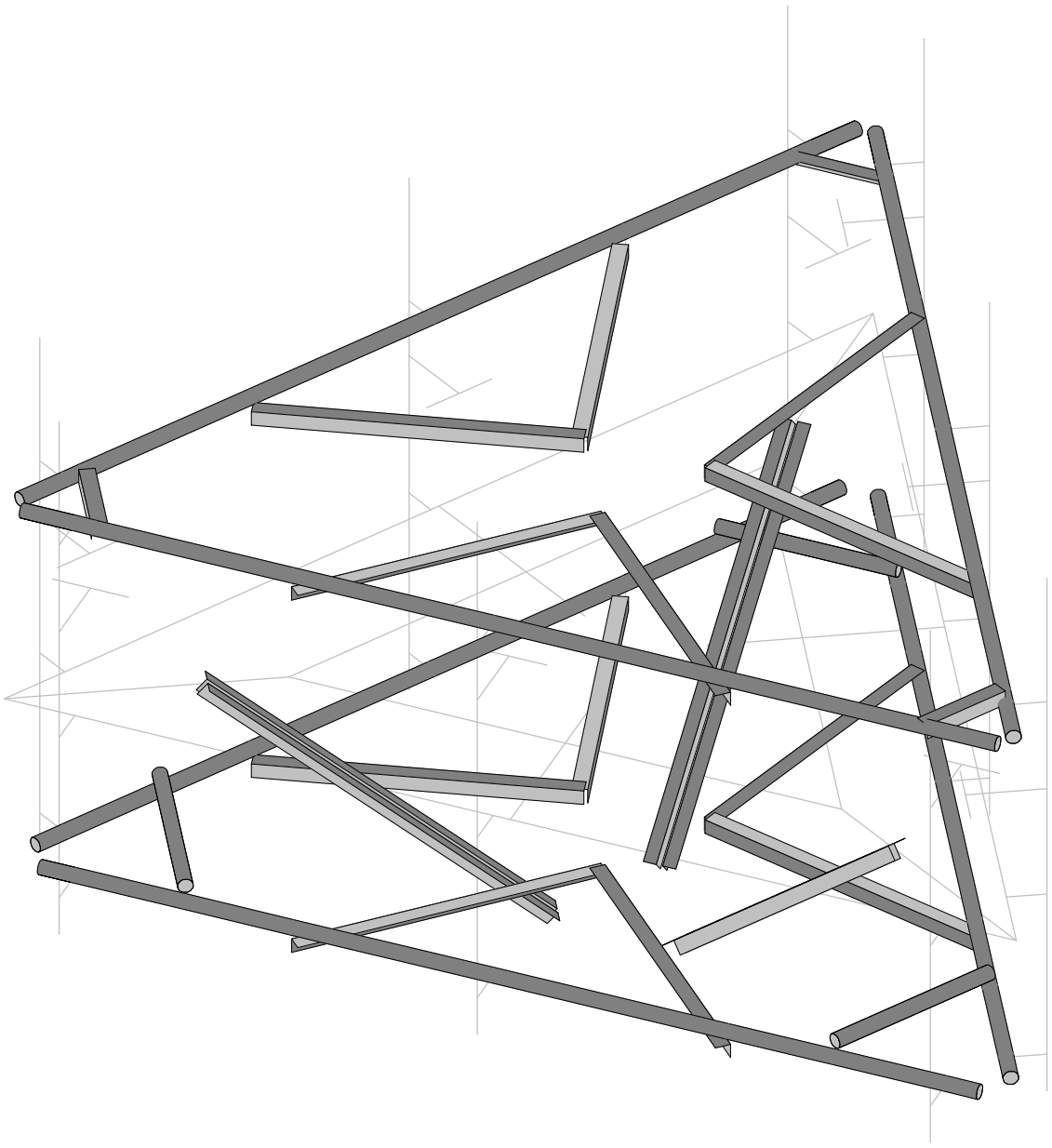

Envelope Only Solution

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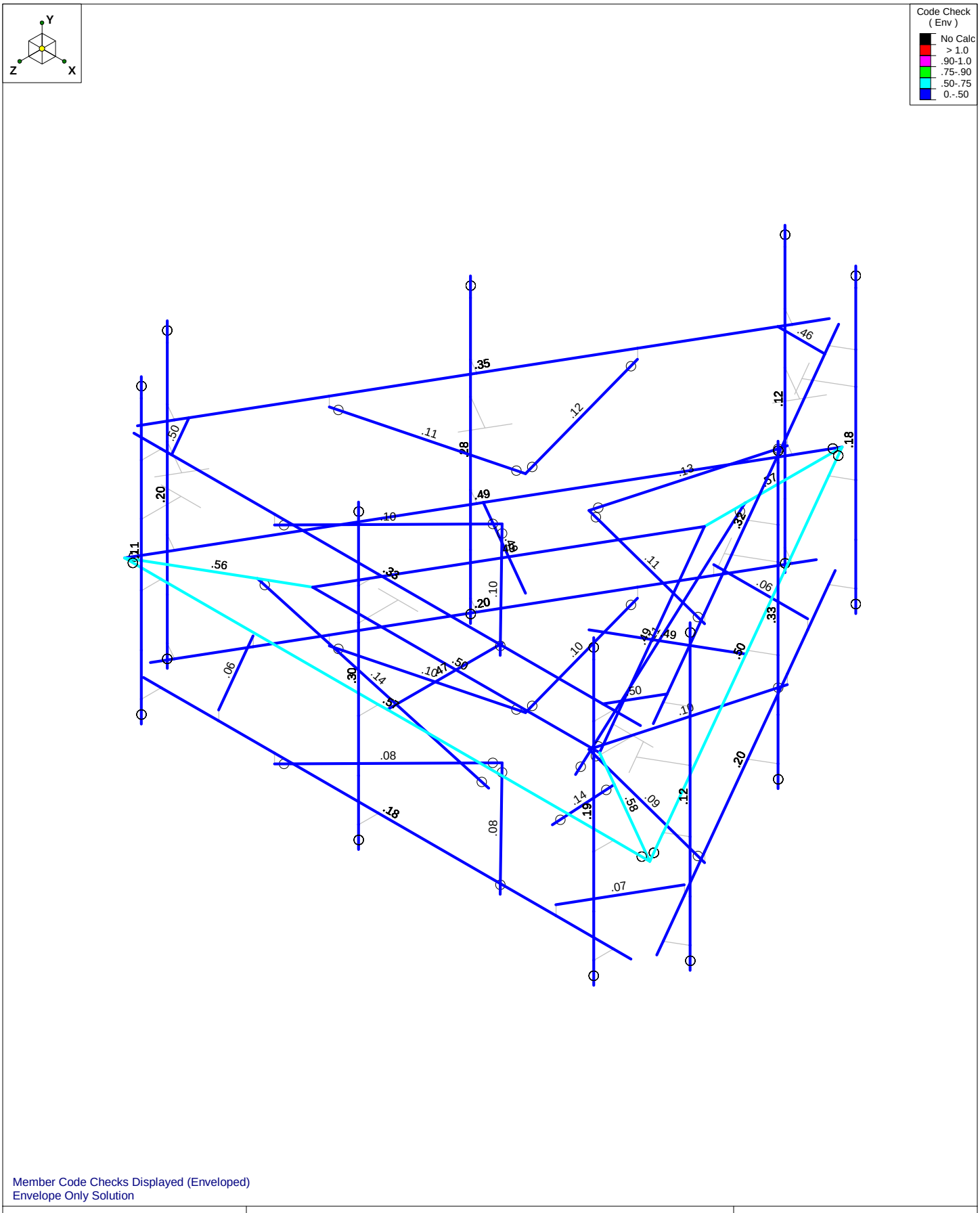

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Envelope Only Solution

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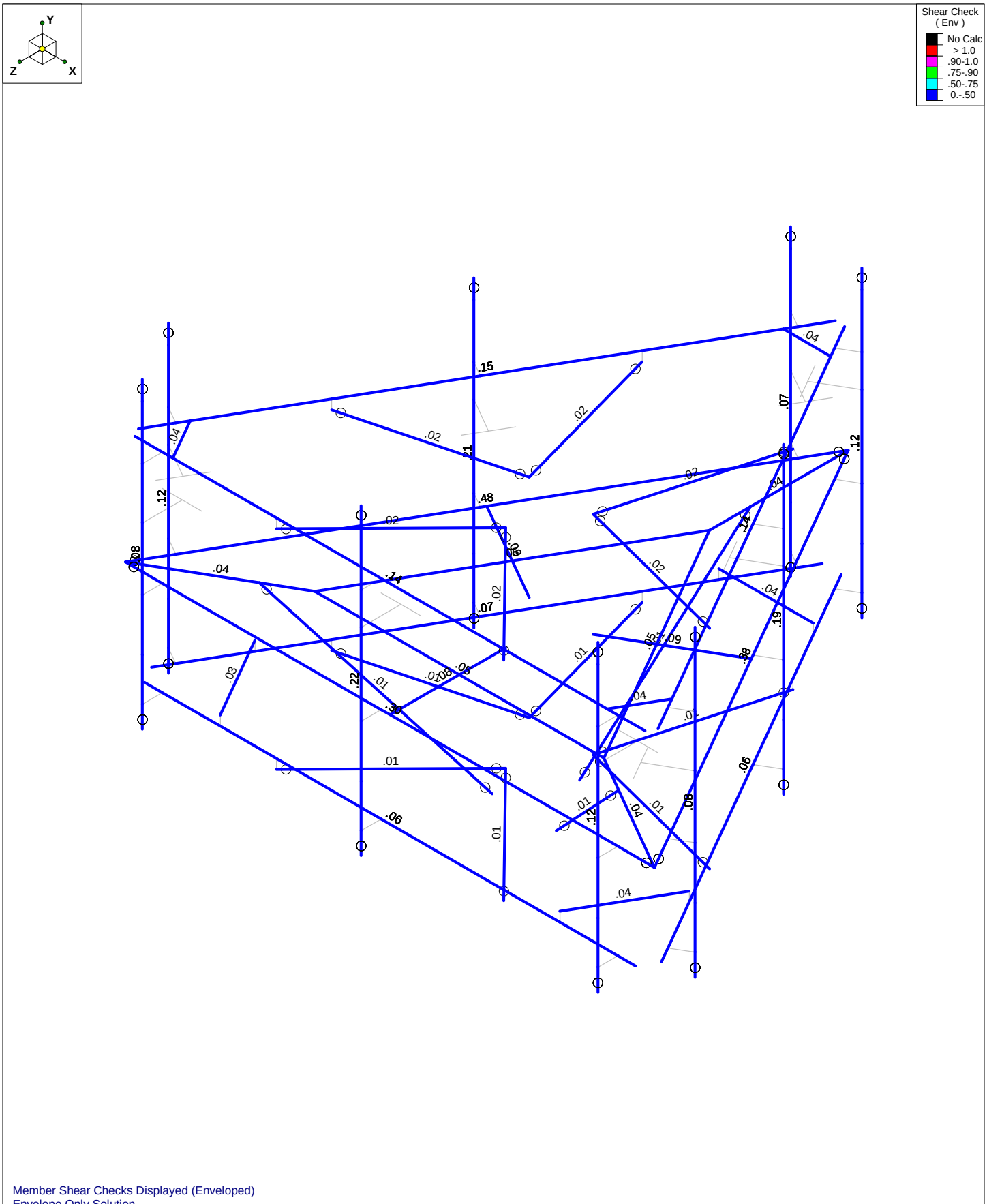

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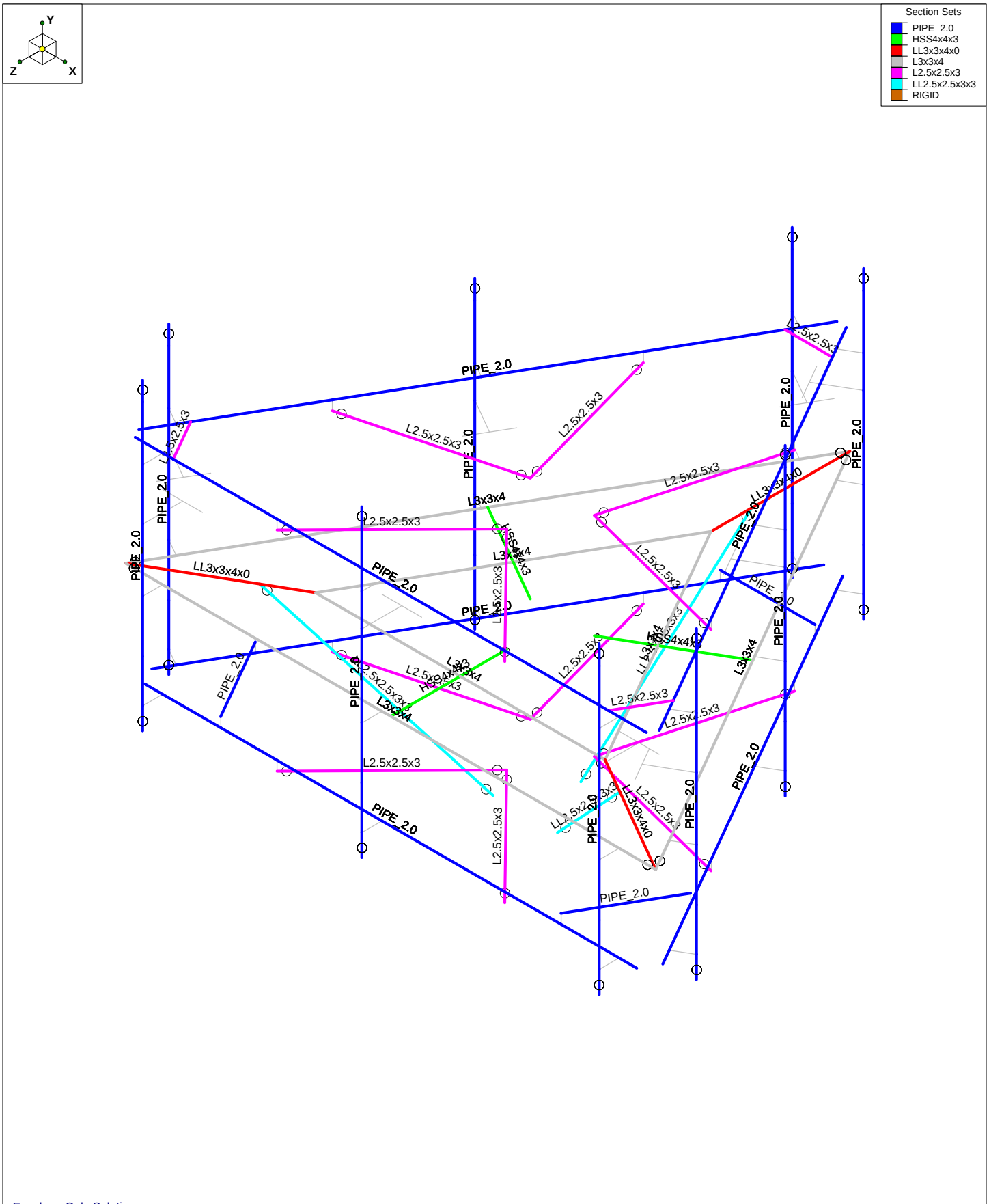

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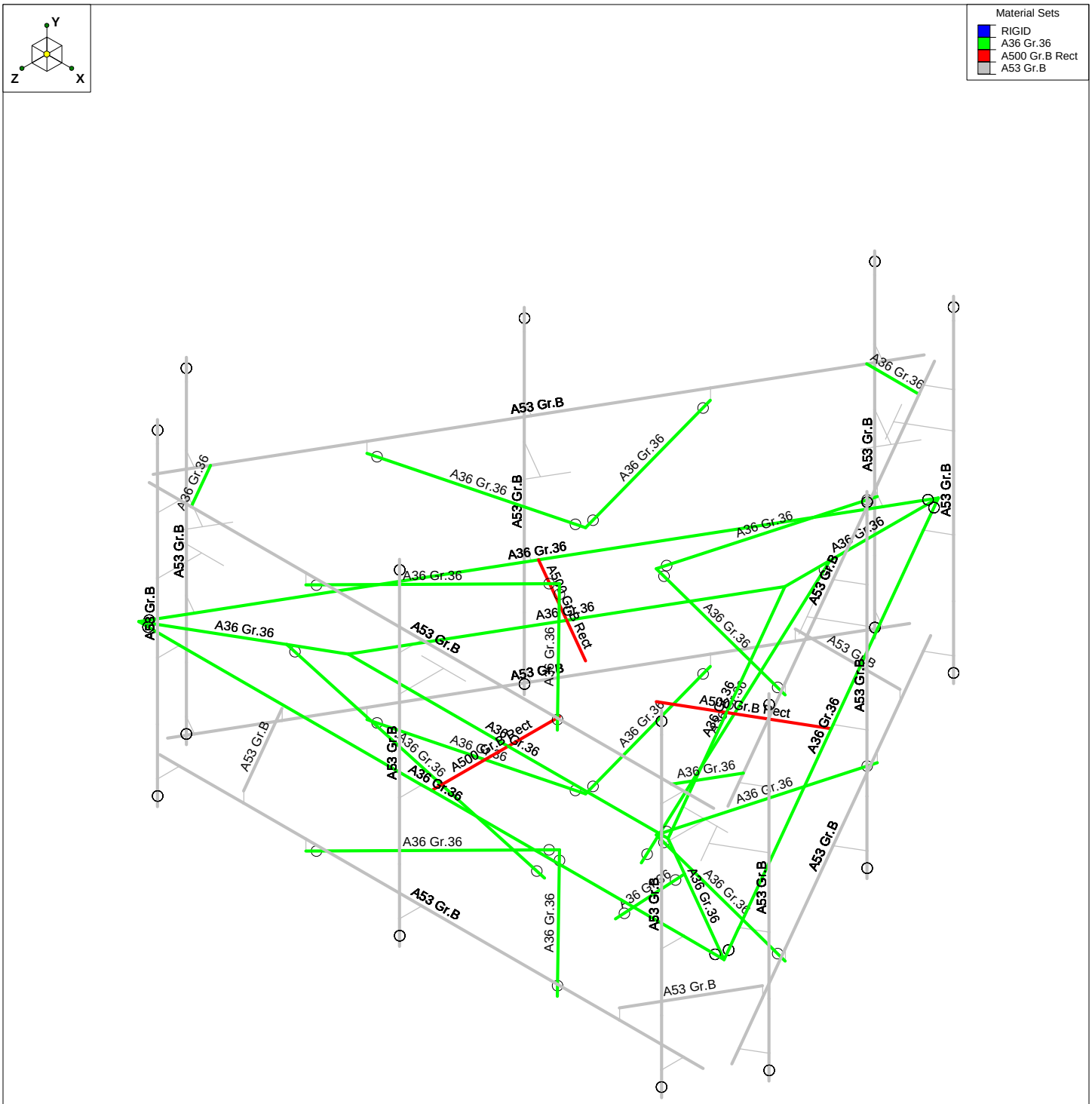

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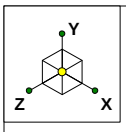

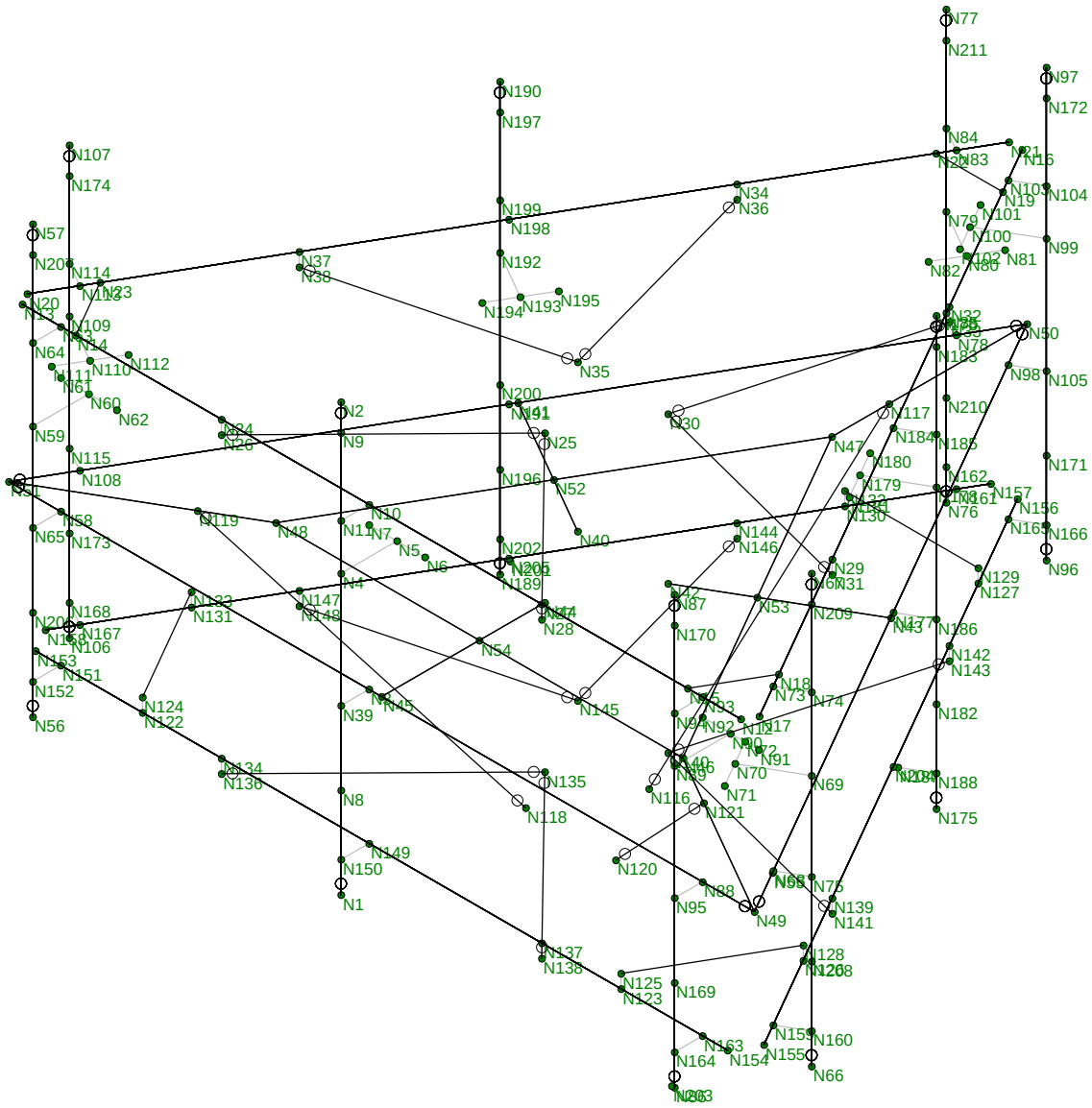

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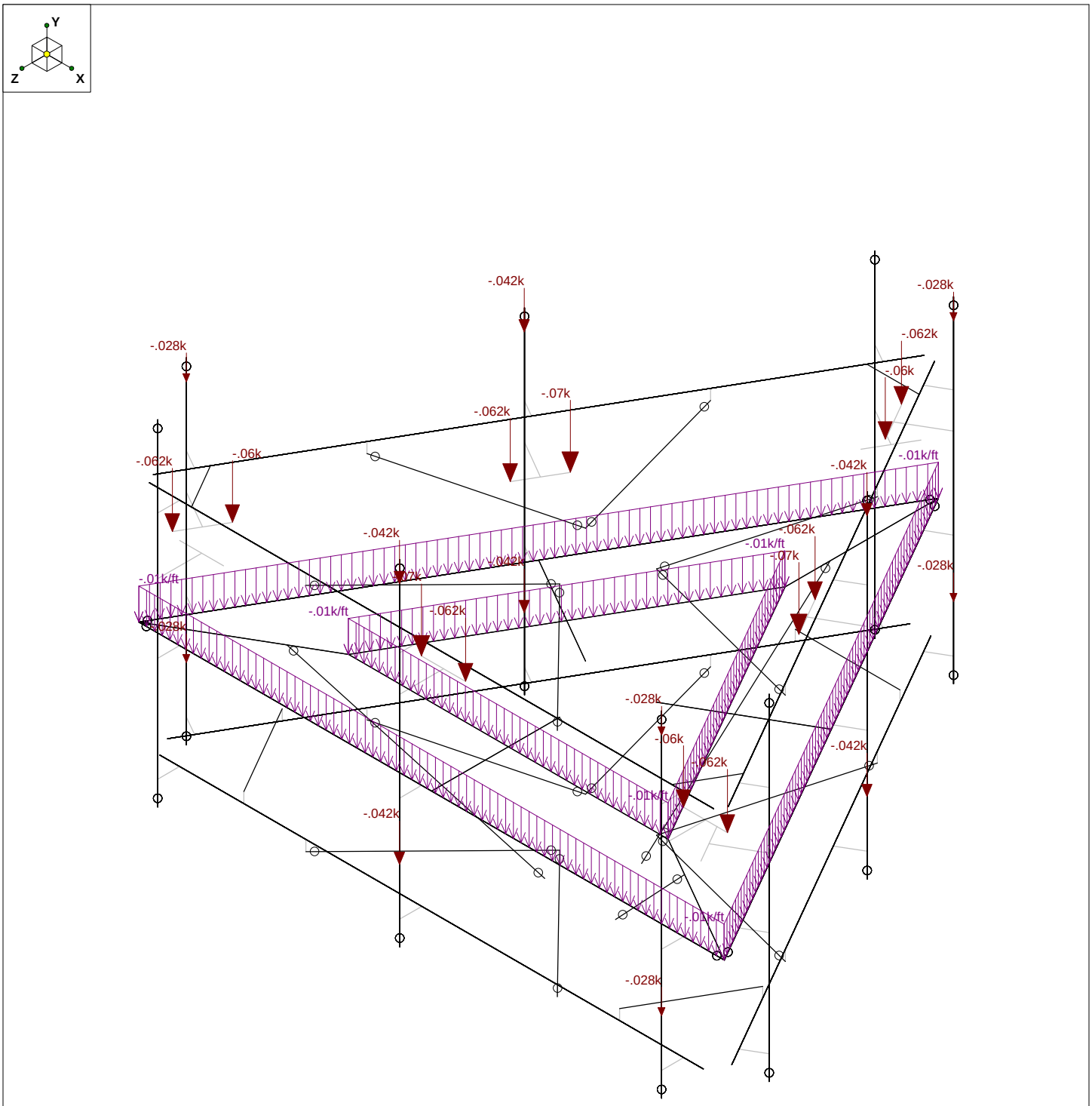

Loads: BLC 1, D
Envelope Only Solution

GeoStructural, LLC	CT33XC256	SK - 7
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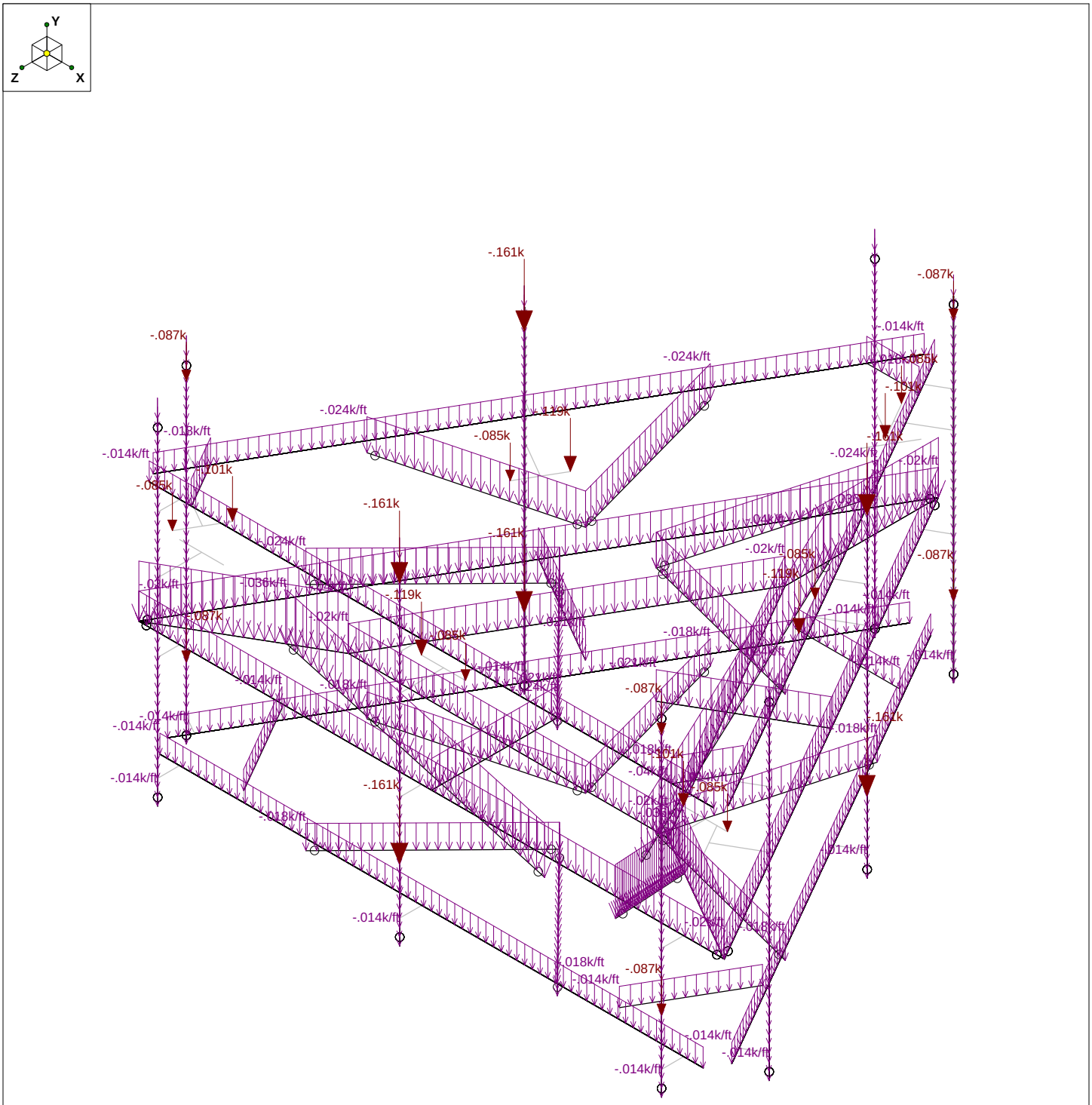

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Envelope Only Solution

GeoStructural, LLC	CT33XC256	SK - 8
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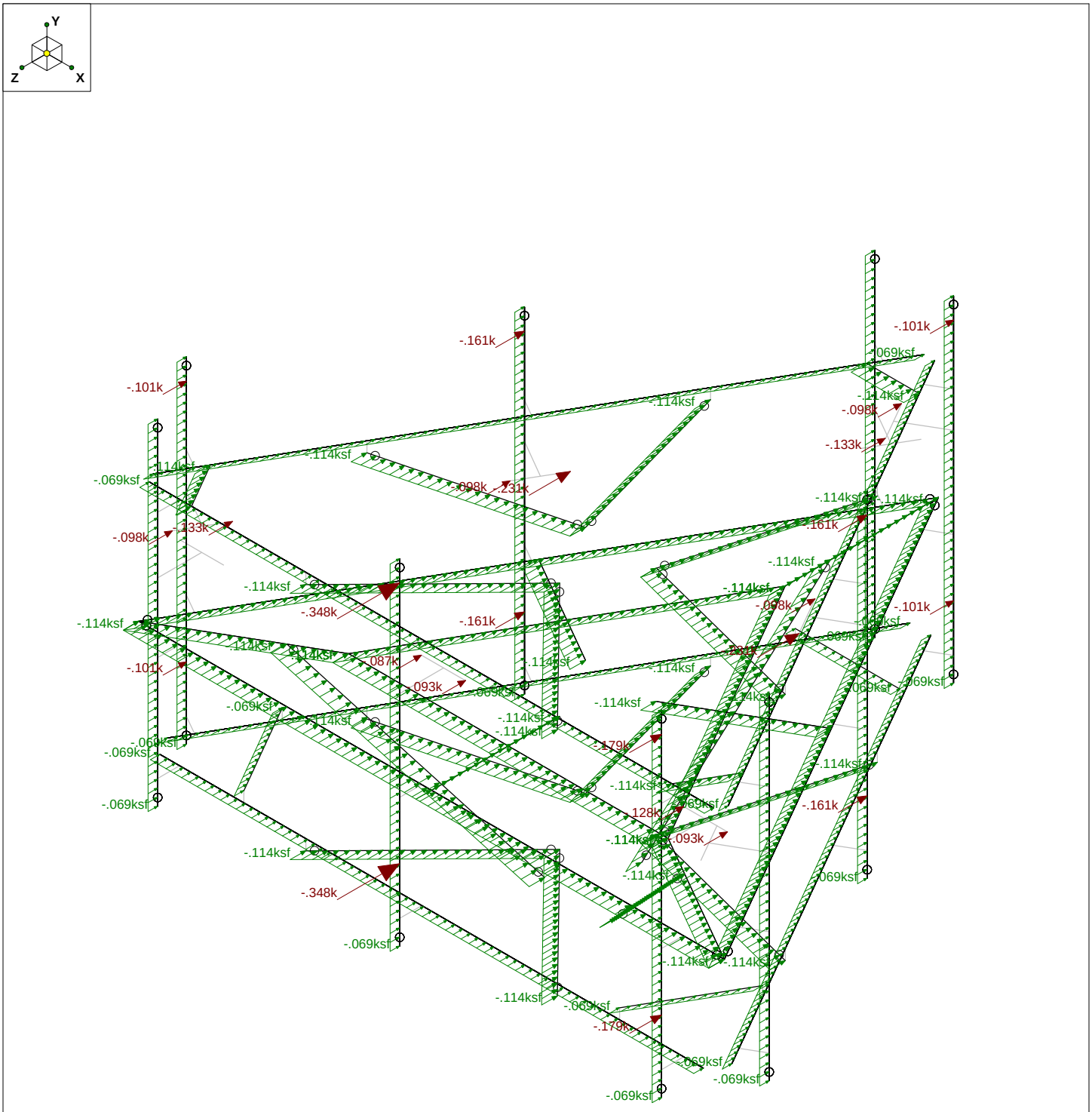

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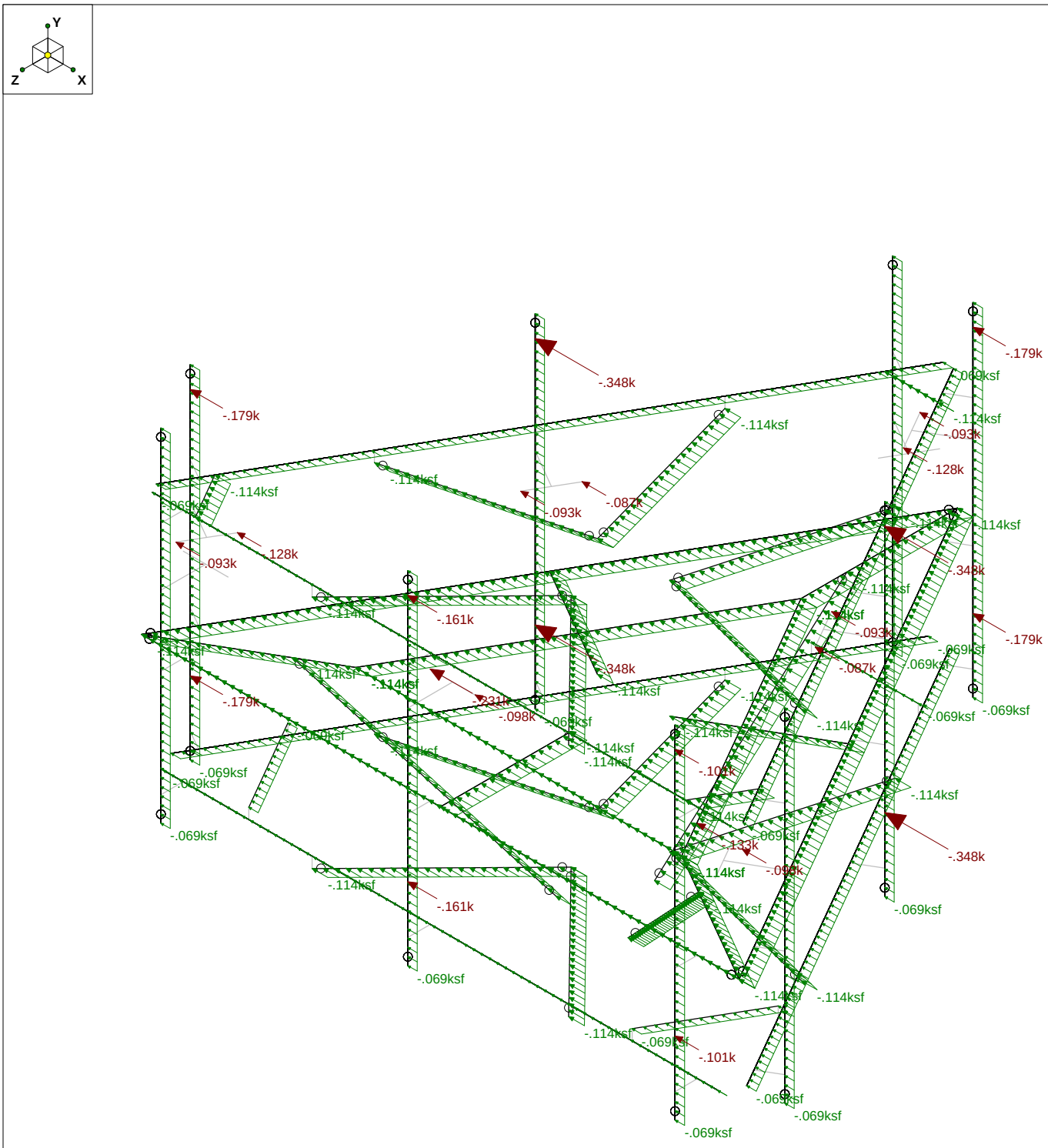

Loads: BLC 6, Wox
Envelope Only Solution

GeoStructural, LLC	CT33XC256	SK - 10
Jesse Drennen, PE		May 1, 2018 at 12:41 PM
		CT33XC256_Mount Analysis_R0 1...

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	D	DL		-1		25		6		
2	Di	SL				25		54		
3	Lm [500]	LL				1				
4	Lv [250]	LL				2				
5	Woz	WL				25		48		
6	Wox	WL				25		48		
7	Wiz	WL				25		48		
8	Wix	WL				25		48		
9	Ez	EL				25				
10	Ex	EL				25				

Load Combination Design

	Description	ASIF	CD	Service	Hot Rol...	Cold Form...	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	1) 1.4D				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
21	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
23	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
31	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
32	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
33	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
34	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
35	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
36	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
37	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
38	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
39	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
40	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Load Combination Design (Continued)

	Description	ASIF	CD	Service	Hot Rol...	Cold Form...	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
42	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
43	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
44	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
45	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
46	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
47	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
48	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
49	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
50	6) 1.2D+1.5Lv				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
51	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
52	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
53	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
54	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
55	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
56	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
57	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
58	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
59	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
60	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
61	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
62	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
63	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
64	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
65	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
66	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
67	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
68	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
69	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
70	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
71	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
72	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
73	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
74	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
3	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.49	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.49	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	PIPE_1.5	PIPE_1.5	Beam	Pipe	A53 Gr.B	Typical	.749	.293	.293	.586
2	PIPE_2.0	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
3	PIPE_2.5	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
4	PIPE_3.0	PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
5	PIPE_3.5	PIPE_3.5	Beam	Pipe	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
6	PIPE_4.0	PIPE_4.0	Beam	Pipe	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
7	PIPE_5.0	PIPE_5.0	Beam	Pipe	A53 Gr.B	Typical	4.01	14.3	14.3	28.6
8	HSS2x2x3	HSS2x2x3	Beam	Tube	A500 Gr.B R...	Typical	1.19	.641	.641	1.09
9	HSS3x3x3	HSS3x3x3	Beam	Tube	A500 Gr.B R...	Typical	1.89	2.46	2.46	4.03

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
10	HSS4x4x3	HSS4x4x3	Beam	Tube	A500 Gr.B R...	Typical	2.58	6.21	6.21	10
11	HSS4x4x4	HSS4x4x4	Beam	Tube	A500 Gr.B R...	Typical	3.37	7.8	7.8	12.8
12	HSS5x5x4	HSS5x5x4	Beam	Tube	A500 Gr.B R...	Typical	4.3	16	16	25.8
13	C3x3.5	C3x3.5	Beam	Channel	A36 Gr.36	Typical	1.09	.169	1.57	.023
14	C4x4.5	C4x4.5	Beam	Channel	A36 Gr.36	Typical	1.38	.289	3.65	.032
15	C5.62x3.88x3/8	C5.62x3.88x3/8	Beam	Channel	A36 Gr.36	Typical	4.736	7.118	23.657	.21
16	LL3x3x4x0	LL3x3x4x0	Beam	Double Angle (No ...	A36 Gr.36	Typical	2.88	4.5	2.46	.063
17	L2.5x2.5x4	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026
18	L3x3x3	L3x3x3	Beam	Single Angle	A36 Gr.36	Typical	1.09	.948	.948	.014
19	L3x3x4	L3x3x4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
20	L3x3x6	L3x3x6	Beam	Single Angle	A36 Gr.36	Typical	2.11	1.75	1.75	.101
21	L2.5x2.5x3	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical	.901	.535	.535	.011
22	L4x4x4	L4x4x4	Beam	Single Angle	A36 Gr.36	Typical	1.93	3	3	.044
23	1/4" x 4"	4" x 1/4" Bar	Beam	BAR	A36 Gr.36	Typical	1	.005	1.333	.02
24	WT4.5x0.25	WT4.5x0.25	Beam	W_Tee	A36 Gr.36	Typical	2.188	1.904	4.371	.046
25	LL3x3x3x6	LL3x3x3x6	Beam	Double Angle (3/8...	A36 Gr.36	Typical	2.18	4.97	1.9	.027
26	L6x6x5	L6x6x5	Beam	Single Angle	A36 Gr.36	Typical	3.67	13	13	.129
27	6" x 3/8" Bar	6" x 3/8" Bar	Beam	BAR	A36 Gr.36	Typical	2.25	.026	6.75	.101
28	LL2.5x2.5x3x3	LL2.5x2.5x3x3	Beam	Double Angle (3/8...	A36 Gr.36	Typical	1.8	2.46	1.07	.023
29	L3.5x3.5x4	L3.5x3.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.7	2	2	.039

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M28	N1	N2			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
2	M68A	N4	N5			RIGID	None	None	RIGID	Typical
3	M69A	N7	N6			RIGID	None	None	RIGID	Typical
4	M40	N10	N11			RIGID	None	None	RIGID	Typical
5	M41A	N13	N12		270	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
6	M47	N17	N16		270	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
7	M48	N21	N20		270	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
8	M49A	N23	N14		180	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
9	M50	N15	N18		180	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
10	M51A	N19	N22		180	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
11	M73	N24	N26			RIGID	None	None	RIGID	Typical
12	M74	N26	N25		90	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
13	M75	N27	N28			RIGID	None	None	RIGID	Typical
14	M76	N28	N25		180	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
15	M77	N29	N31			RIGID	None	None	RIGID	Typical
16	M78	N31	N30		90	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
17	M79	N32	N33			RIGID	None	None	RIGID	Typical
18	M80	N33	N30		180	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
19	M81	N34	N36			RIGID	None	None	RIGID	Typical
20	M82	N36	N35		90	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
21	M83	N37	N38			RIGID	None	None	RIGID	Typical
22	M84	N38	N35		180	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
23	M36	N3	N39			RIGID	None	None	RIGID	Typical
24	M52	N40	N41		90	HSS4x4x3	Beam	Tube	A500 Gr.B...	Typical
25	M53	N42	N43		90	HSS4x4x3	Beam	Tube	A500 Gr.B...	Typical
26	M57	N47	N50		180	LL3x3x4x0	Beam	Double Angle (...	A36 Gr.36	Typical
27	M58	N46	N49		180	LL3x3x4x0	Beam	Double Angle (...	A36 Gr.36	Typical
28	M59	N48	N51		180	LL3x3x4x0	Beam	Double Angle (...	A36 Gr.36	Typical
29	M60	N44	N45		90	HSS4x4x3	Beam	Tube	A500 Gr.B...	Typical
30	M61	N48	N46		270	L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
31	M62	N46	N47		270	L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
32	M63	N47	N48		270	L3x3x4	Beam	Single Angle	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
33	M64_1	N51	N49		270	L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
34	M65	N49	N50		270	L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
35	M66	N50	N51		270	L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
36	M57C	N56	N57			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
37	M58B	N59	N60			RIGID	None	None	RIGID	Typical
38	M59A	N62	N61			RIGID	None	None	RIGID	Typical
39	M60A	N63	N64			RIGID	None	None	RIGID	Typical
40	M62A	N58	N65			RIGID	None	None	RIGID	Typical
41	M75A	N66	N67			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
42	M76A	N69	N70			RIGID	None	None	RIGID	Typical
43	M77A	N72	N71			RIGID	None	None	RIGID	Typical
44	M78A	N73	N74			RIGID	None	None	RIGID	Typical
45	M80A	N68	N75			RIGID	None	None	RIGID	Typical
46	M93	N76	N77			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
47	M94	N79	N80			RIGID	None	None	RIGID	Typical
48	M95	N82	N81			RIGID	None	None	RIGID	Typical
49	M96	N83	N84			RIGID	None	None	RIGID	Typical
50	M98	N78	N85			RIGID	None	None	RIGID	Typical
51	M54	N86	N87			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
52	M55	N89	N90			RIGID	None	None	RIGID	Typical
53	M56	N92	N91			RIGID	None	None	RIGID	Typical
54	M57A	N88	N95			RIGID	None	None	RIGID	Typical
55	M62B	N96	N97			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
56	M63A	N99	N100			RIGID	None	None	RIGID	Typical
57	M64	N102	N101			RIGID	None	None	RIGID	Typical
58	M65A	N98	N105			RIGID	None	None	RIGID	Typical
59	M70	N106	N107			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
60	M71	N109	N110			RIGID	None	None	RIGID	Typical
61	M72	N112	N111			RIGID	None	None	RIGID	Typical
62	M73A	N108	N115			RIGID	None	None	RIGID	Typical
63	M104	N117	N116			LL2.5x2.5x3x3	Beam	Double Angle (...	A36 Gr.36	Typical
64	M105	N119	N118			LL2.5x2.5x3x3	Beam	Double Angle (...	A36 Gr.36	Typical
65	M106	N121	N120			LL2.5x2.5x3x3	Beam	Double Angle (...	A36 Gr.36	Typical
66	M57A_1	N153	N154		270	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
67	M58A_1	N124	N122			RIGID	None	None	RIGID	Typical
68	M59B_1	N125	N123			RIGID	None	None	RIGID	Typical
69	M63C	N128	N126			RIGID	None	None	RIGID	Typical
70	M64_2	N129	N127			RIGID	None	None	RIGID	Typical
71	M68_1	N132	N130			RIGID	None	None	RIGID	Typical
72	M69_1	N133	N131			RIGID	None	None	RIGID	Typical
73	M70_1	N133	N124			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
74	M71_1	N125	N128			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
75	M72_1	N129	N132			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
76	M73_1	N134	N136			RIGID	None	None	RIGID	Typical
77	M74_1	N136	N135		90	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
78	M75_1	N137	N138			RIGID	None	None	RIGID	Typical
79	M76_1	N138	N135		180	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
80	M77_1	N139	N141			RIGID	None	None	RIGID	Typical
81	M78_1	N141	N140		90	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
82	M79_1	N142	N143			RIGID	None	None	RIGID	Typical
83	M80_1	N143	N140		180	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
84	M81_1	N144	N146			RIGID	None	None	RIGID	Typical
85	M82_1	N146	N145		90	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
86	M83_1	N147	N148			RIGID	None	None	RIGID	Typical
87	M84_1	N148	N145		180	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
88	M55A	N149	N150			RIGID	None	None	RIGID	Typical
89	M61A_1	N151	N152			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
90	M61B	N155	N156		270	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
91	M62B_1	N157	N158		270	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
92	M79A_1	N159	N160			RIGID	None	None	RIGID	Typical
93	M97	N161	N162			RIGID	None	None	RIGID	Typical
94	M110	N163	N164			RIGID	None	None	RIGID	Typical
95	M111	N165	N166			RIGID	None	None	RIGID	Typical
96	M112	N167	N168			RIGID	None	None	RIGID	Typical
97	M108	N175	N176			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
98	M109	N178	N179			RIGID	None	None	RIGID	Typical
99	M110A	N181	N180			RIGID	None	None	RIGID	Typical
100	M111A	N184	N185			RIGID	None	None	RIGID	Typical
101	M112A	N177	N186			RIGID	None	None	RIGID	Typical
102	M118	N189	N190			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
103	M119	N192	N193			RIGID	None	None	RIGID	Typical
104	M120	N195	N194			RIGID	None	None	RIGID	Typical
105	M121	N198	N199			RIGID	None	None	RIGID	Typical
106	M122	N191	N200			RIGID	None	None	RIGID	Typical
107	M128	N93	N94			RIGID	None	None	RIGID	Typical
108	M129	N103	N104			RIGID	None	None	RIGID	Typical
109	M130	N113	N114			RIGID	None	None	RIGID	Typical
110	M110B	N204	N188			RIGID	None	None	RIGID	Typical
111	M111B	N205	N202			RIGID	None	None	RIGID	Typical

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N25	max	.759	5	.121	32	1.415	2	.002	2	0	1	0	17
2		min	-.741	23	.008	14	-1.382	20	0	20	0	1	0	11
3	N30	max	1.17	5	.121	36	.905	25	0	23	0	1	0	24
4		min	-1.148	23	.008	18	-.921	7	0	5	0	1	-.001	6
5	N35	max	1.278	17	.121	28	.81	15	0	17	0	1	.001	34
6		min	-1.304	11	.009	22	-.824	9	0	11	0	1	0	16
7	N42	max	1.499	16	1.509	32	2.419	3	2.877	36	2.596	22	4.902	34
8		min	-1.803	10	.3	63	-2.235	21	.533	69	-2.607	4	.91	66
9	N40	max	1.73	6	1.54	35	2.262	13	2.842	27	2.439	24	-.929	71
10		min	-1.421	24	.306	68	-2.092	19	.518	69	-2.446	6	-4.973	37
11	N44	max	1.693	5	1.517	37	.549	14	-1.071	64	.912	5	.082	23
12		min	-1.688	23	.302	66	-.904	8	-5.71	33	-.906	23	-.104	5
13	N116	max	.071	17	2.446	26	-.403	69	0	1	0	23	0	5
14		min	-.071	23	.348	20	-2.592	26	0	1	0	5	0	23
15	N118	max	-.346	73	2.43	30	1.292	29	0	5	0	23	0	23
16		min	-2.226	30	.327	24	.169	22	0	23	0	5	0	5
17	N120	max	2.27	33	2.474	34	1.315	35	0	23	0	23	0	23
18		min	.354	65	.34	16	.189	18	0	5	0	5	0	5
19	N135	max	.161	17	.09	32	.599	2	0	27	0	1	0	47
20		min	-.19	11	.009	69	-.428	20	0	74	0	1	0	5
21	N140	max	.456	5	.09	36	.224	25	0	15	0	1	0	21
22		min	-.314	23	.009	72	-.321	7	0	45	0	1	0	27
23	N145	max	.358	17	.09	28	.194	15	0	25	0	1	0	37
24		min	-.519	11	.009	64	-.27	9	0	31	0	1	0	19
25	Totals:	max	8.618	5	12.4	28	8.483	14						
26		min	-8.618	23	2.279	71	-8.483	8						

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear...	Loc[ft]	Dir	LC	phi*Pnc...	phi*Pnt ...	phi*Mn ...	phi*Mn ...	Cb	Eqn
1	M58	LL3x3x4x0	.579	1.067	34	.041	1.105	y	33	79.399	93.312	6.48	4.911	1...	H1-1b
2	M64_1	L3x3x4	.571	6.982	29	.299	6.982	z	32	32.733	46.656	1.688	2.278	1	H2-1
3	M57	LL3x3x4x0	.567	1.067	26	.040	1.105	y	36	79.399	93.312	6.48	4.911	1...	H1-1b
4	M59	LL3x3x4x0	.564	1.067	29	.040	1.105	y	28	79.399	93.312	6.48	4.911	1...	H1-1b
5	M65	L3x3x4	.501	6.983	27	.381	6.983	z	34	32.733	46.656	1.688	2.278	1	H2-1
6	M50	L2.5x2.5x3	.500	0	3	.042	1.25	z	8	27.293	29.192	.873	1.972	1...	H2-1
7	M49A	L2.5x2.5x3	.499	0	11	.042	1.25	z	4	27.293	29.192	.873	1.972	1...	H2-1
8	M61	L3x3x4	.497	7.627	34	.048	7.627	z	34	13.292	46.656	1.688	3.516	2...	H2-1
9	M62	L3x3x4	.495	0	34	.048	0	z	34	13.292	46.656	1.688	3.51	2...	H2-1
10	M66	L3x3x4	.492	6.983	31	.482	6.983	z	30	32.733	46.656	1.688	2.278	1	H2-1
11	M52	HSS4x4x3	.489	0	30	.087	0	y	12	102.875	106.812	12.662	12.662	3...	H1-1b
12	M63	L3x3x4	.487	0	27	.047	0	z	27	13.292	46.656	1.688	3.514	2...	H2-1
13	M53	HSS4x4x3	.487	0	27	.091	0	y	9	102.875	106.812	12.662	12.662	3...	H1-1b
14	M60	HSS4x4x3	.471	0	29	.082	1.241	z	29	102.875	106.812	12.662	12.662	1...	H1-1b
15	M51A	L2.5x2.5x3	.462	0	7	.039	1.25	y	5	27.293	29.192	.873	1.972	1...	H2-1
16	M48	PIPE_2.0	.352	9.678	11	.150	9.818		11	17.855	32.13	1.872	1.872	1	H1-1b
17	M41A	PIPE_2.0	.330	9.678	3	.143	3.647		2	17.855	32.13	1.872	1.872	1	H1-1b
18	M108	PIPE_2.0	.326	3	36	.188	6		8	14.916	32.13	1.872	1.872	1...	H1-1b
19	M47	PIPE_2.0	.323	3.787	5	.140	3.647		5	17.855	32.13	1.872	1.872	1	H1-1b
20	M28	PIPE_2.0	.295	5.167	26	.223	6		5	14.916	32.13	1.872	1.872	1...	H1-1b
21	M118	PIPE_2.0	.283	3	28	.214	6		7	14.916	32.13	1.872	1.872	1...	H1-1b
22	M62B_1	PIPE_2.0	.201	6.618	29	.066	9.589		36	17.855	32.13	1.872	1.872	1	H1-1b
23	M70	PIPE_2.0	.196	6	5	.116	6		3	14.916	32.13	1.872	1.872	2...	H1-1b
24	M61B	PIPE_2.0	.196	6.618	26	.063	9.589		32	17.855	32.13	1.872	1.872	1	H1-1b
25	M54	PIPE_2.0	.188	6	8	.120	3.083		10	14.916	32.13	1.872	1.872	1...	H1-1b
26	M62B	PIPE_2.0	.184	3.083	29	.116	6		11	14.916	32.13	1.872	1.872	1...	H1-1b
27	M57A_1	PIPE_2.0	.180	6.347	33	.056	9.589		39	17.855	32.13	1.872	1.872	1	H1-1b
28	M106	LL2.5x2.5x...	.143	3.01	17	.009	6.021	y	10	36.392	58.32	3.954	1.593	1...	H1-1b
29	M105	LL2.5x2.5x...	.142	3.01	23	.009	6.021	z	4	36.392	58.32	3.954	1.593	1...	H1-1b
30	M80	L2.5x2.5x3	.128	2.185	18	.015	4.282	y	30	15.939	29.192	.873	1.724	1...	H2-1
31	M82	L2.5x2.5x3	.124	2.185	22	.016	4.282	z	33	15.939	29.192	.873	1.724	1...	H2-1
32	M75A	PIPE_2.0	.116	3.083	28	.079	3.083		10	14.916	32.13	1.872	1.872	1...	H1-1b
33	M93	PIPE_2.0	.116	3.083	33	.074	3.083		2	14.916	32.13	1.872	1.872	1...	H1-1b
34	M84	L2.5x2.5x3	.115	2.141	13	.015	0	y	35	15.939	29.192	.873	1.724	1...	H2-1
35	M104	LL2.5x2.5x...	.112	3.01	27	.006	0	y	27	36.392	58.32	3.954	2.55	1...	H1-1b
36	M57C	PIPE_2.0	.109	3.083	36	.078	3.083		6	14.916	32.13	1.872	1.872	1...	H1-1b
37	M78	L2.5x2.5x3	.108	2.141	3	.016	0	z	29	15.939	29.192	.873	1.724	1...	H2-1
38	M74	L2.5x2.5x3	.103	2.185	14	.016	0	z	37	15.939	29.192	.873	1.724	1...	H2-1
39	M76	L2.5x2.5x3	.102	2.185	14	.016	0	y	27	15.939	29.192	.873	1.724	1...	H2-1
40	M80_1	L2.5x2.5x3	.101	2.141	5	.010	4.282	y	27	15.939	29.192	.873	1.724	1...	H2-1
41	M82_1	L2.5x2.5x3	.100	2.141	11	.010	4.282	z	37	15.939	29.192	.873	1.724	1...	H2-1
42	M84_1	L2.5x2.5x3	.095	2.141	2	.010	0	y	31	15.939	29.192	.873	1.724	1...	H2-1
43	M78_1	L2.5x2.5x3	.094	2.141	2	.010	0	z	33	15.939	29.192	.873	1.724	1...	H2-1
44	M74_1	L2.5x2.5x3	.079	2.141	3	.011	0	z	29	15.939	29.192	.873	1.724	1...	H2-1
45	M76_1	L2.5x2.5x3	.078	2.141	13	.010	0	y	35	15.939	29.192	.873	1.724	1...	H2-1
46	M71_1	PIPE_2.0	.073	0	39	.036	2.5		7	29.81	32.13	1.872	1.872	1...	H1-1b
47	M70_1	PIPE_2.0	.063	0	37	.035	2.5		3	29.81	32.13	1.872	1.872	1...	H1-1b
48	M72_1	PIPE_2.0	.057	0	34	.043	2.5		11	29.81	32.13	1.872	1.872	1...	H1-1b

SPECIAL CONSTRUCTION NOTE:
SPRINT WORK IS CONTINGENT ON THE FOLLOWING:
* COMPLETION OF A GLOBAL STRUCTURAL STABILITY ANALYSIS.
* COMPLETION OF AN ANTENNA/RRH MOUNT STRUCTURAL ASSESSMENT.
* GC SHALL FURNISH, INSTALL AND COMPLETE ALL REQUIRED STRUCTURAL MODIFICATIONS AS INDICATED IN BEFORE-MENTIONED ANALYSIS AND ASSESSMENT.

SPECIAL CONSTRUCTION NOTE:
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS AND (STRUCTURAL MODIFICATIONS) AT THE SPRINT'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

Sprint

PROJECT: DO MACRO UPGRADE
EQUIPMENT DEPLOYMENT

SITE NUMBER: CT33XC256

SITE ADDRESS: 62 BABBIT HILL ROAD
POMFRET, CT 06259

SITE TYPE: MONOPOLE

PROJECT INFORMATION

SITE INFORMATION:

LATITUDE: 41° 52' 13.0" N
(PER SBA RECORDS) 41.870269°

LONGITUDE: -71° 59' 17.7" W
(PER SBA RECORDS) -71.988258°

STRUCTURE HEIGHT: 170'±

STRUCTURE TYPE: MONOPOLE

APPLICANT:

SPRINT
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495

TOWER OWNER:

SBA PROPERTIES LLC.
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

SBA SITE ID: CT01364-S

SBA SITE NAME: POMFRET

SBA CONTACT: STEPHEN ROTH
(860) 539-4920
sroth@sbasite.com

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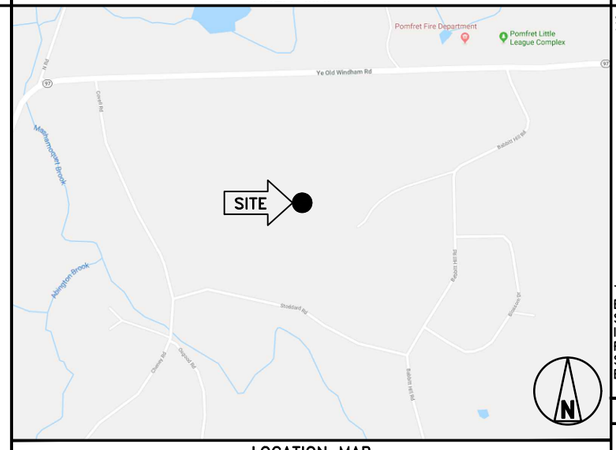
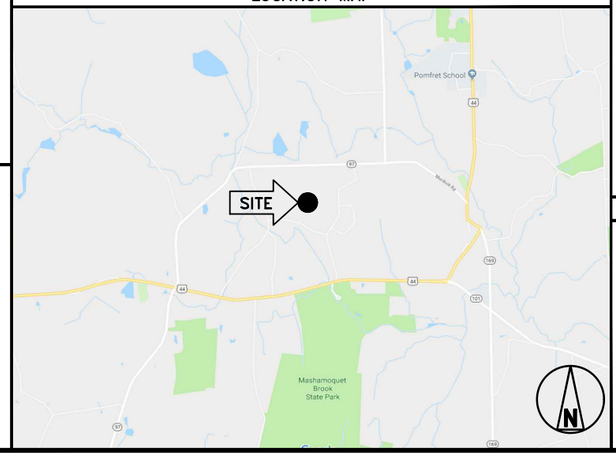
AREA MAP



LOCATION MAP



PROJECT DESCRIPTION

SPRINT PROPOSES TO MODIFY AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY.

- REMOVE (6) PANEL ANTENNAS
- INSTALL (6) PANEL ANTENNAS
- INSTALL (3) 2.5 GHz RRH'S ON PROPOSED PIPE MOUNT
- RELOCATE (3) 1900 MHz RRH'S ON PROPOSED PIPE MOUNT
- INSTALL (6) 800 MHz RRH'S ON PROPOSED PIPE MOUNT
- REMOVE (6) COAX CABLES
- INSTALL (4) HYBRID CABLES
- INSTALL RAN EQUIPMENT INSIDE EXISTING MMBTS CABINET
- INSTALL STRUCTURAL AUGMENTS

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 (2012 IBC)
2. TIA-222-G OR LATEST EDITION
3. NFPA 780 – LIGHTNING PROTECTION CODE
4. 2014 NATIONAL ELECTRIC CODE OR LATEST EDITION
5. ANY OTHER NATIONAL OR LOCAL APPLICABLE CODES, MOST RECENT EDITIONS
6. CT BUILDING CODE
7. LOCAL BUILDING CODE
8. CITY/COUNTY ORDINANCES

GENERAL NOTES

1. THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION:
   - ADA COMPLIANCE NOT REQUIRED.
   - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.

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PLANS PREPARED FOR:
Sprint
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MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:
SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
TEL: (508) 251-0720

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

ENGINEERING LICENSE:
STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
4-18-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/18/18	SL	0

SITE NUMBER:
CT33XC256

SITE ADDRESS:
62 BABBIT HILL RD
POMFRET, CT 06259

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:
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1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:
SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
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TEL: (508) 251-0720

PLANS PREPARED BY:
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FROM ZERO TO INFINIGY
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Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 526-104

ENGINEERING LICENSE:

STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
4-18-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/18/18	SL	0

SITE NUMBER:
CT33XC256

SITE ADDRESS:
62 BABBIT HILL RD
POMFRET, CT 06259

SHEET DESCRIPTION:
OUTLINE 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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MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:
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SBA COMMUNICATIONS CORP.
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www.infinigy.com
JOB NUMBER 526-104

ENGINEERING LICENSE:
STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
4-18-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/18/18	SL	0

SITE NUMBER:
CT33XC256

SITE ADDRESS:
62 BABBIT HILL RD
POMFRET, CT 06259

SHEET DESCRIPTION:
OUTLINE 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.

PLANS PREPARED FOR:
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1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:
SBA
SBA COMMUNICATIONS CORP.
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TEL: (508) 251-0720

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Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 526-104

ENGINEERING LICENSE:
STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
4-18-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

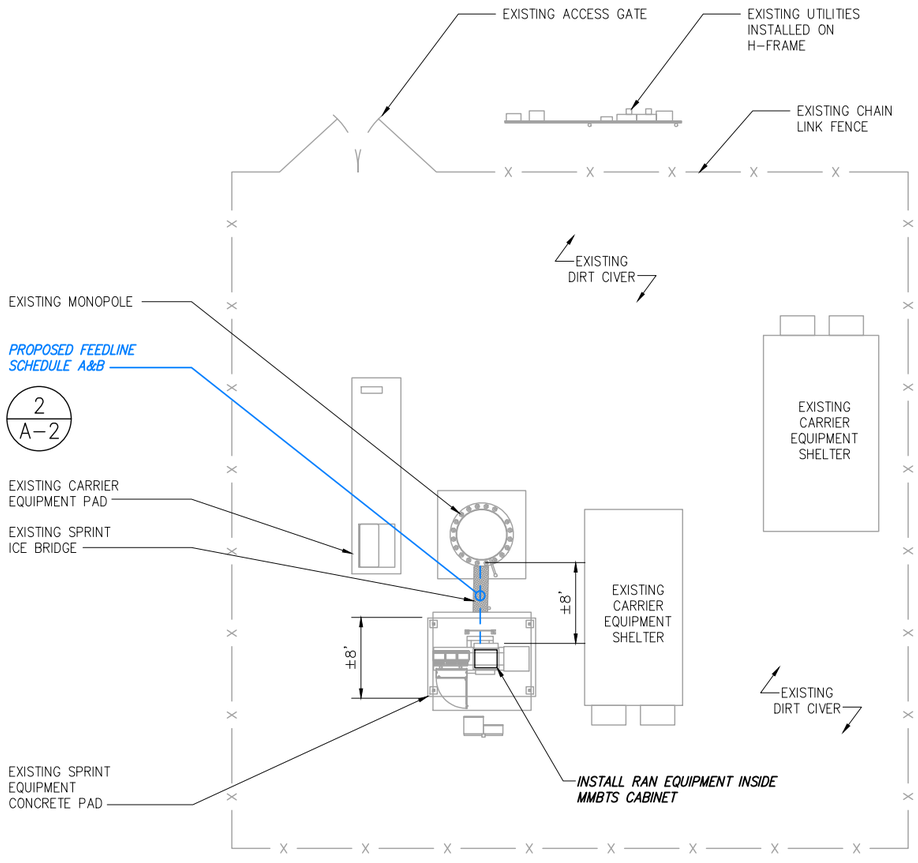
DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/18/18	SL	0

SITE NUMBER:
CT33XC256

SITE ADDRESS:
62 BABBIT HILL RD
POMFRET, CT 06259

SHEET DESCRIPTION:
OUTLINE SPECIFICATIONS

SHEET NUMBER:
SP-3



SOURCE: WESTCHESTER SERVICES 11/16/17

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

GRAPHIC SCALE:

15' 7.5' 0 7.5' 15'

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

OVERALL SITE PLAN	SCALE: AS NOTED	1	SPRINT EQUIPMENT PLAN	SCALE: AS NOTED	2

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TEL: (800) 357-7641

PROJECT MANAGER:
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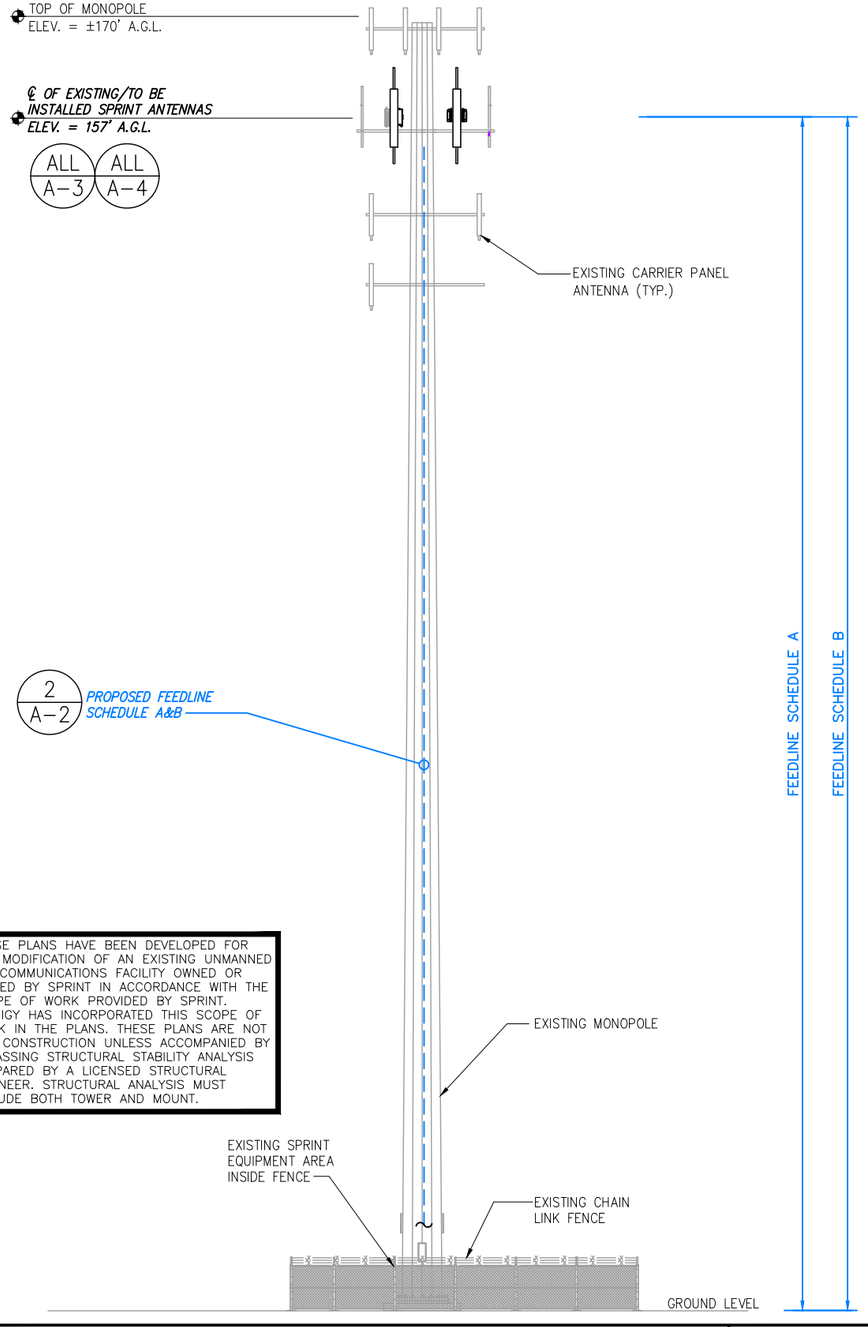
CT33XC256

SITE ADDRESS:
62 BABBIT HILL RD
POMFRET, CT 06259

SHEET DESCRIPTION:
SITE PLAN

SHEET NUMBER:
A-1

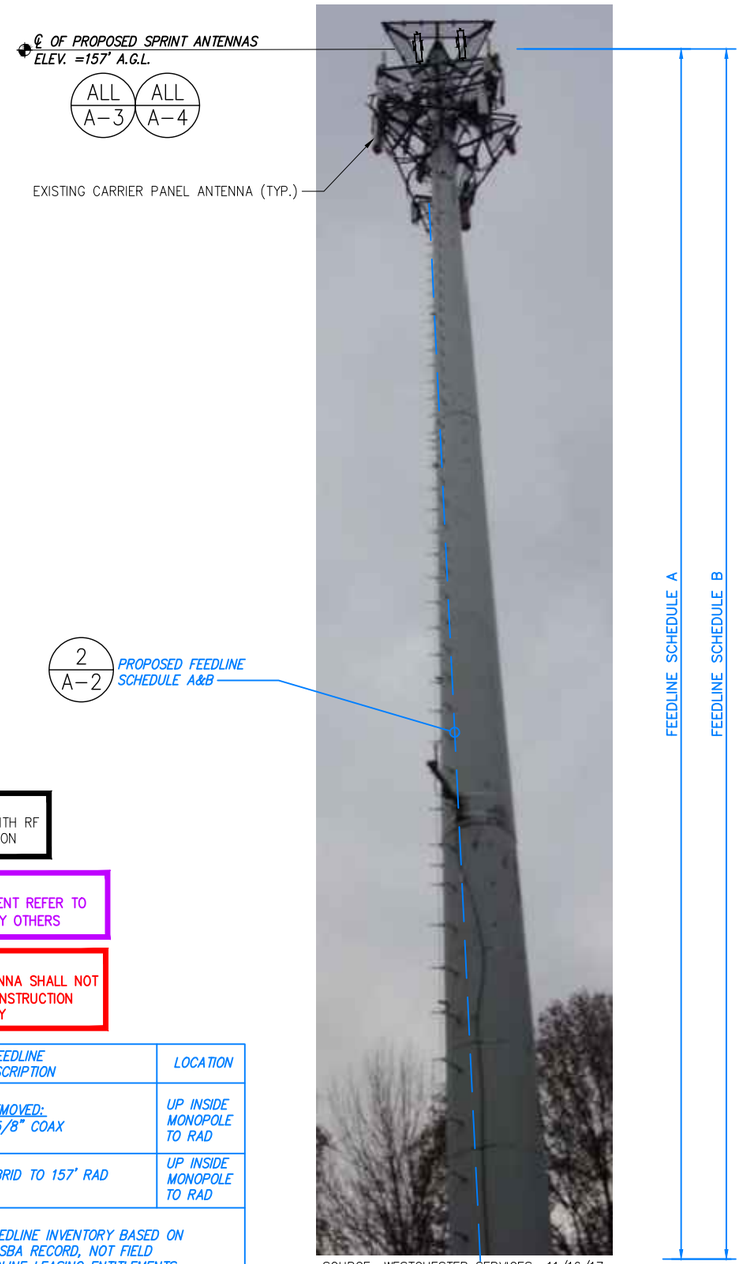
NOTE:
SEE DETAIL 2 ON A-3
FOR ANTENNA LAYOUT



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.

TOWER ELEVATION | NO SCALE | 1

SPECIAL CONSTRUCTION NOTE:
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS AND (STRUCTURAL MODIFICATIONS) AT THE SPRINT'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).



SOURCE: WESTCHESTER SERVICES 11/16/17

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION

NOTE:
FOR DETAILS OF MOUNT AUGMENT REFER TO MOUNT AUGMENT CD's DONE BY OTHERS

SPECIAL INSTALLATION NOTE:
JUMPERS FROM RRHs TO ANTENNA SHALL NOT EXCEED 15'. NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY DISCREPANCY

FEEDLINE SCHEDULE	FEEDLINE DESCRIPTION	LOCATION
	EXISTING TO BE REMOVED: (6) 1 5/8" COAX	UP INSIDE MONOPOLE TO RAD
	PROPOSED: (4) HYBRID TO 157' RAD	UP INSIDE MONOPOLE TO RAD
NOTE: EXISTING SPRINT EQUIPMENT FEEDLINE INVENTORY BASED ON COLOCATION APPLICATION AND SBA RECORD, NOT FIELD OBSERVATIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.		

TOWER ELEVATION PHOTO DETAIL | NO SCALE | 2

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CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
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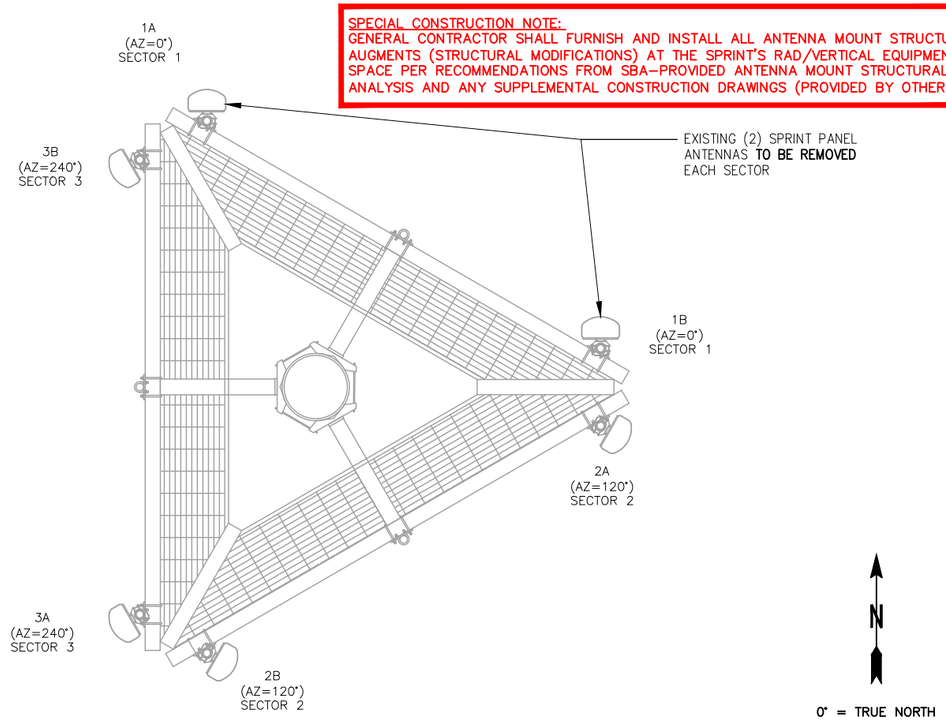
CT33XC256

SITE ADDRESS:
62 BABBIT HILL RD
POMFRET, CT 06259

SHEET DESCRIPTION:
TOWER ELEVATION

SHEET NUMBER:
A-2

SPECIAL CONSTRUCTION NOTE:
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE SPRINT'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

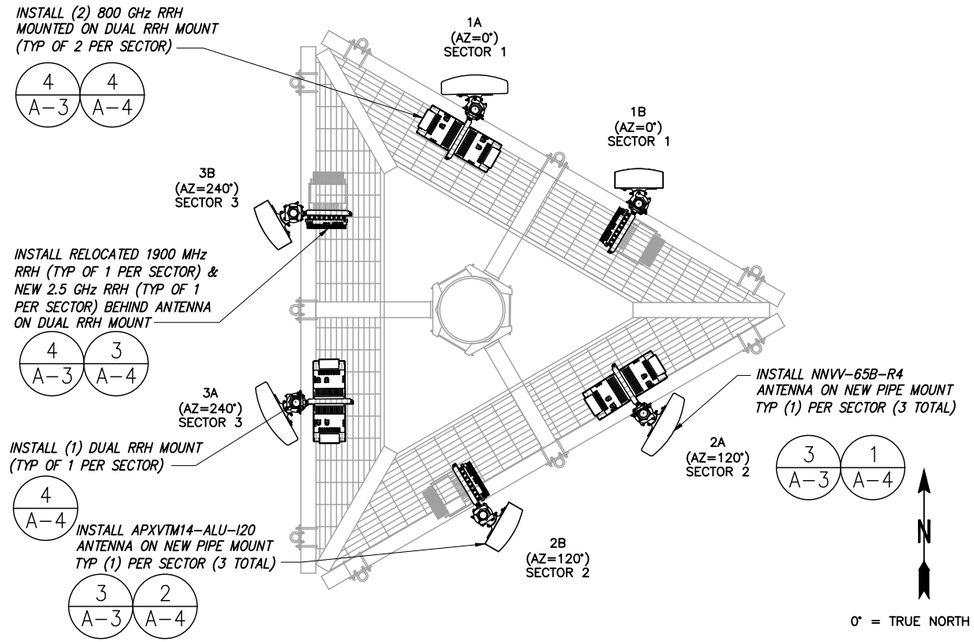


EXISTING ANTENNA & RRH LAYOUT | NO SCALE | 1

SPECIAL INSTALLATION NOTE:
JUMPERS FROM RRHs TO ANTENNA SHALL NOT EXCEED 15'. NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY DISCREPANCY

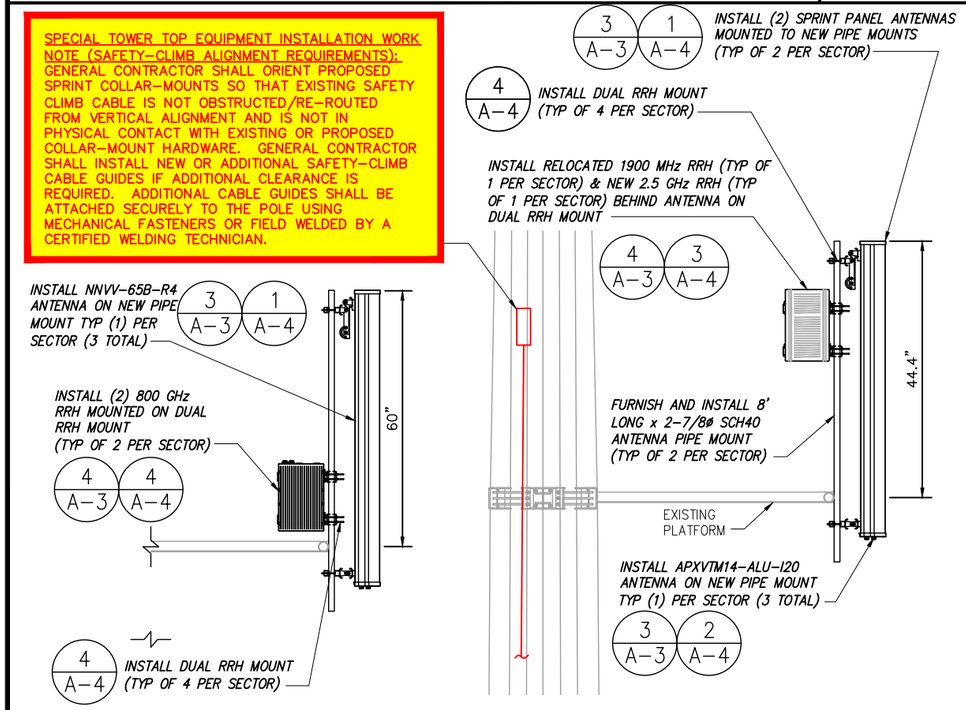
NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION

NOTE:
FOR DETAILS OF MOUNT AUGMENT REFER TO MOUNT AUGMENT CD's DONE BY OTHERS

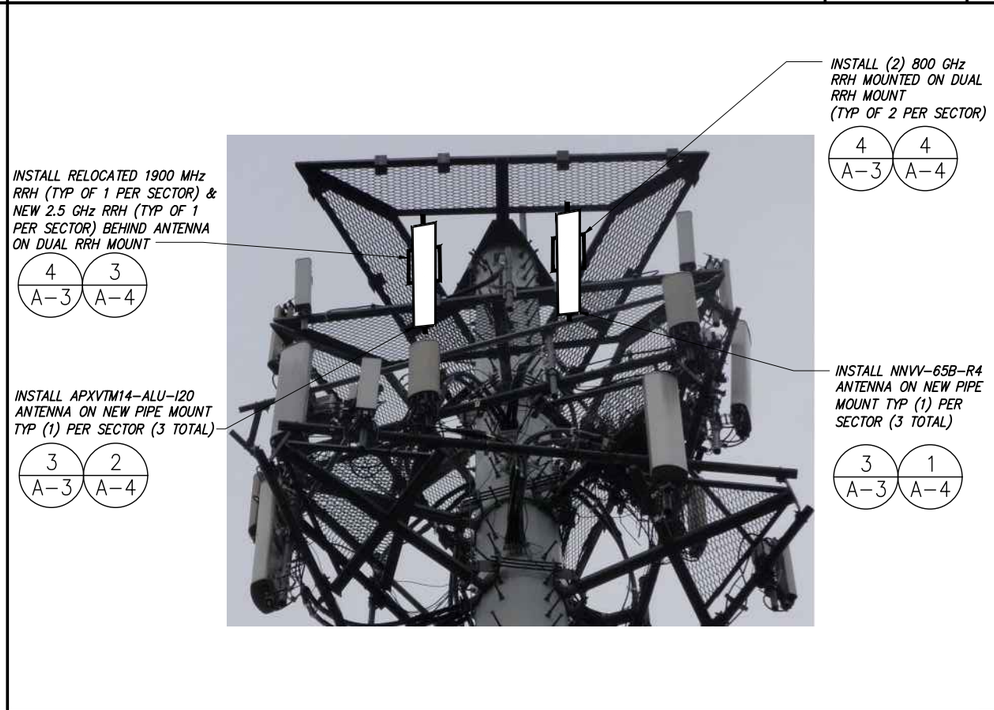


FINAL ANTENNA & RRH LAYOUT | NO SCALE | 2

SPECIAL TOWER TOP EQUIPMENT INSTALLATION WORK NOTE (SAFETY-CLIMB ALIGNMENT REQUIREMENTS):
GENERAL CONTRACTOR SHALL ORIENT PROPOSED SPRINT COLLAR-MOUNTS SO THAT EXISTING SAFETY CLIMB CABLE IS NOT OBSTRUCTED/RE-ROUTED FROM VERTICAL ALIGNMENT AND IS NOT IN PHYSICAL CONTACT WITH EXISTING OR PROPOSED COLLAR-MOUNT HARDWARE. GENERAL CONTRACTOR SHALL INSTALL NEW OR ADDITIONAL SAFETY-CLIMB CABLE GUIDES IF ADDITIONAL CLEARANCE IS REQUIRED. ADDITIONAL CABLE GUIDES SHALL BE ATTACHED SECURELY TO THE POLE USING MECHANICAL FASTENERS OR FIELD WELDED BY A CERTIFIED WELDING TECHNICIAN.



TYPICAL MOUNTING DETAIL | NO SCALE | 3



ANTENNA & RRH MOUNT PHOTO DETAIL | NO SCALE | 4

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ENGINEERING LICENSE:
STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
4-18-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

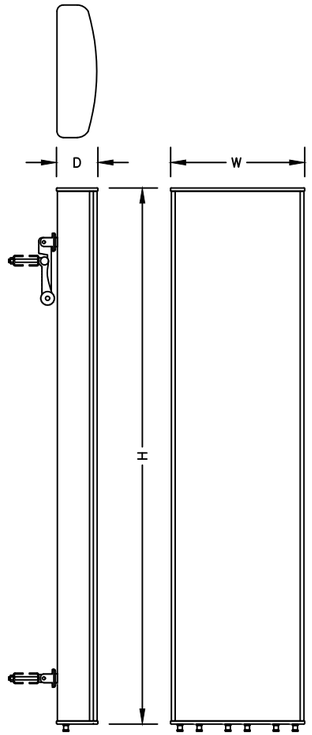
DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/18/18	SL	0

SITE NUMBER:
CT33XC256

SITE ADDRESS:
62 BABBIT HILL RD
POMFRET, CT 06259

SHEET DESCRIPTION:
ANTENNA LAYOUT & MOUNTING DETAILS

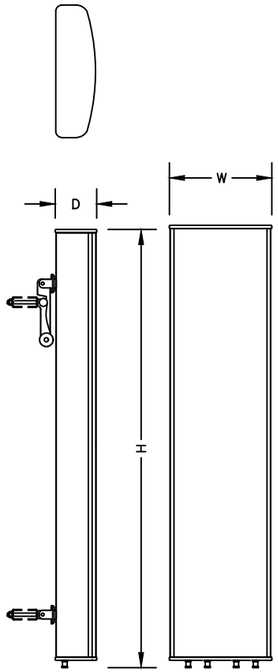
SHEET NUMBER:
A-3



ANTENNA SPECIFICATIONS

MANUF.	COMMSCOPE
MODEL #	NNVV-65B-R4
HEIGHT	72"
WIDTH	19.6"
DEPTH	7.8"
WEIGHT	84.7± LBS.

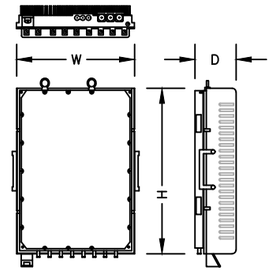
DUAL BAND ANTENNA DETAIL | NO SCALE | 1



ANTENNA SPECIFICATIONS

MANUF.	RFS
MODEL #	APXVTM14-ALU-I20
HEIGHT	56.3"
WIDTH	12.6"
DEPTH	6.3"
WEIGHT	56.2± LBS.

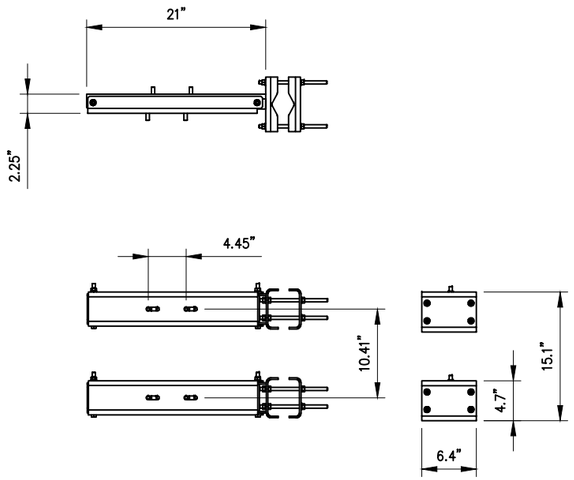
DUAL BAND ANTENNA DETAIL | NO SCALE | 2



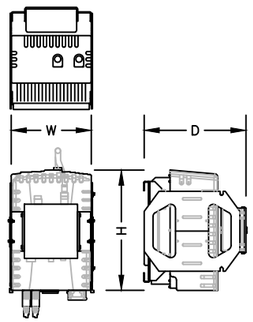
2.5 GHZ RRH SPECIFICATIONS

MANUF.	NOKIA (ALU)
MODEL #	TD-RRH8X20-25
HEIGHT	26.1"
WIDTH	18.6"
DEPTH	6.7"
WEIGHT	70± LBS

2.5 RRH | NO SCALE | 3



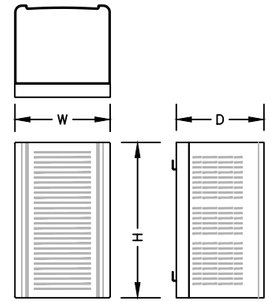
DUAL RRH MOUNT DETAIL | NO SCALE | 4



800 MHZ RRH SPECIFICATIONS

MANUF.	NOKIA (ALU)
MODEL #	800MHZ 2X50W
HEIGHT	19.7"
WIDTH	13"
DEPTH	10.8"
WEIGHT	53± LBS

800 MHz RRH | NO SCALE | 5



1900 MHZ RRH SPECIFICATIONS

MANUF.	NOKIA (ALU)
MODEL #	1900 4X45 65MHZ
HEIGHT	25"
WIDTH	11.1"
DEPTH	11.4"
WEIGHT	60± LBS

1900 MHz RRH (EXISTING TO BE RELOCATED) | NO SCALE | 6

PLANS PREPARED FOR:
Sprint
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:
SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
TEL: (508) 251-0720

PLANS PREPARED BY:
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JOB NUMBER 526-104

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SHEET DESCRIPTION:
EQUIPMENT & MOUNTING DETAILS

SHEET NUMBER:
A-4

RFS HYBRIFLEX RISER CABLE SCHEDULE

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

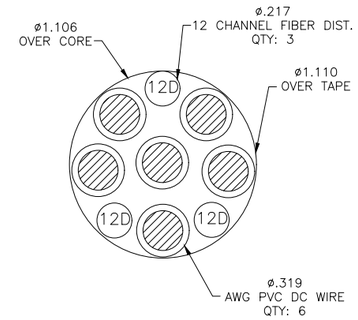
RFS HYBRIFLEX JUMPER CABLE SCHEDULE

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

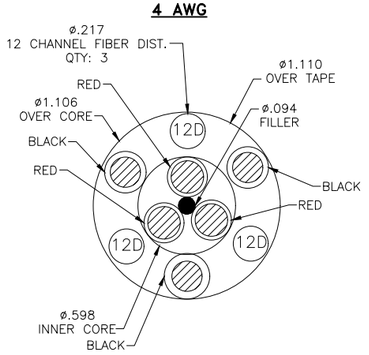
NOTE:
SPRINT CM TO CONFIRM HYBRID OR FIBER RISER CABLE AND HYBRID OR FIBER JUMPER CABLE MODEL NUMBERS IF HYBRID CABLES ARE REQUIRED BEFORE PREPARING BOM.

* 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.

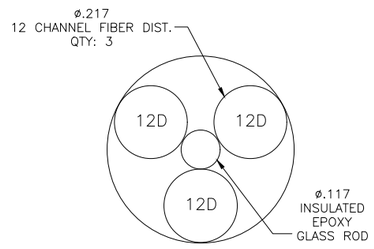
* SPRINT CM TO CONFIRM HYBRID RISER CABLE AND HYBRID JUMPER CABLE MODEL NUMBERS BEFORE PREPARING BOM.



4 AWG



8 & 6 AWG



FIBER ONLY

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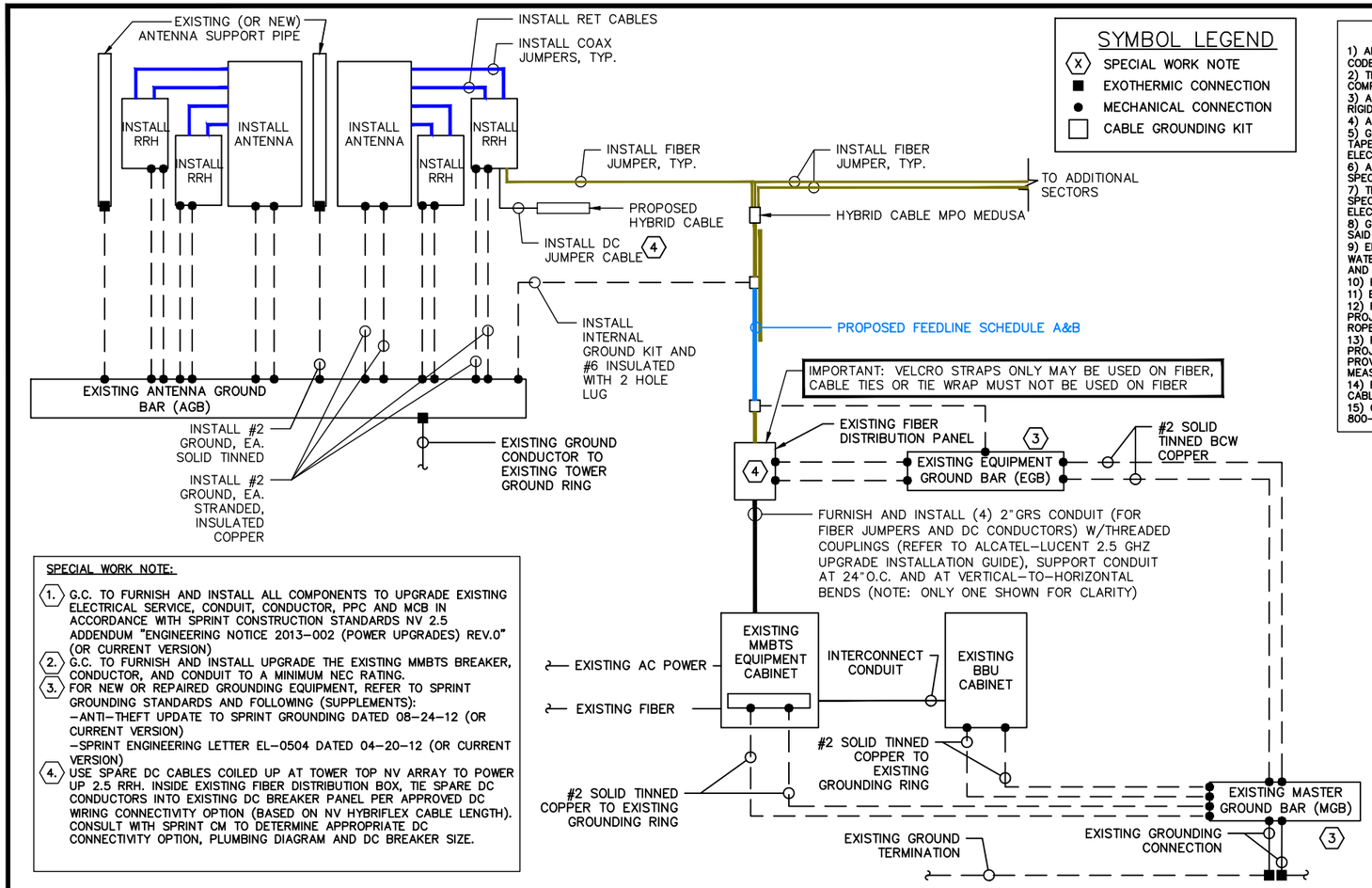
POMFRET, CT 06259

SHEET DESCRIPTION:
DETAILS

SHEET NUMBER:
A-5



SYMBOL LEGEND

- (X) SPECIAL WORK NOTE
- ■ EXOTHERMIC CONNECTION
- ● MECHANICAL CONNECTION
- □ CABLE GROUNDING KIT

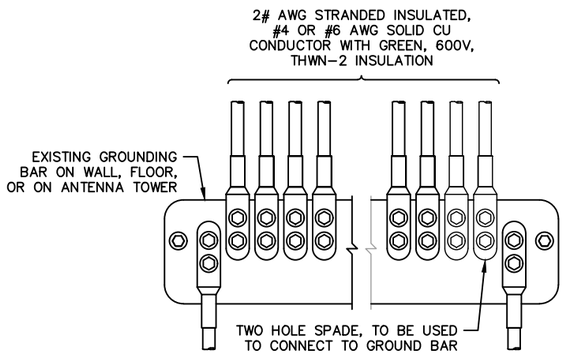
SPECIAL WORK NOTE:

1. G.C. TO FURNISH AND INSTALL ALL COMPONENTS TO UPGRADE EXISTING ELECTRICAL SERVICE, CONDUIT, CONDUCTOR, PPC AND MCB IN ACCORDANCE WITH SPRINT CONSTRUCTION STANDARDS NV 2.5 ADDENDUM "ENGINEERING NOTICE 2013-002 (POWER UPGRADES) REV.0" (OR CURRENT VERSION)
2. G.C. TO FURNISH AND INSTALL UPGRADE THE EXISTING MMBTS BREAKER, CONDUCTOR, AND CONDUIT TO A MINIMUM NEC RATING.
3. FOR NEW OR REPAIRED GROUNDING EQUIPMENT, REFER TO SPRINT GROUNDING STANDARDS AND FOLLOWING (SUPPLEMENTS):
   -ANTI-THEFT UPDATE TO SPRINT GROUNDING DATED 08-24-12 (OR CURRENT VERSION)
   -SPRINT ENGINEERING LETTER EL-0504 DATED 04-20-12 (OR CURRENT VERSION)
4. USE SPARE DC CABLES COILED UP AT TOWER TOP NV ARRAY TO POWER UP 2.5 RRH. INSIDE EXISTING FIBER DISTRIBUTION BOX, TIE SPARE DC CONDUCTORS INTO EXISTING DC BREAKER PANEL PER APPROVED DC WIRING CONNECTIVITY OPTION (BASED ON NV HYBRIFLEX CABLE LENGTH). CONSULT WITH SPRINT CM TO DETERMINE APPROPRIATE DC CONNECTIVITY OPTION, PLUMBING DIAGRAM AND DC BREAKER SIZE.

TYPICAL POWER AND GROUNDING ONE LINE DIAGRAMS

1 / E-1

SCALE: N.T.S.

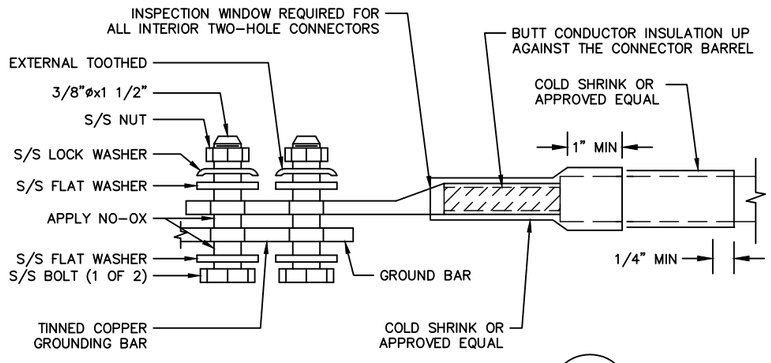


1. APPLY NO-OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.

INSTALLATION OF GROUNDING CONDUCTOR TO GROUNDING BAR

2 / E-1

SCALE: N.T.S.



TWO HOLE LUG

3 / E-1

SCALE: N.T.S.

ELECTRICAL NOTES

1) ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2) THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL CONDUIT ROUTING WITH LOCAL UTILITY COMPANIES AND SPRINT CONSTRUCTION MANAGER.
3) ALL CONDUITS ROUTED BELOW GRADE SHALL TRANSITION TO RIGID GALVANIZED ELBOWS WITH RIGID GALVANIZED STEEL CONDUIT ABOVE GRADE.
4) ALL METAL CONDUITS SHALL BE PROVIDED WITH GROUNDING BUSHINGS.
5) GENERAL CONTRACTOR SHALL PROVIDE ALL DIRECT BURIED CONDUITS WITH PLASTIC WARNING TAPE IDENTIFYING CONTENTS. TAPE COLORS SHALL BE ORANGE FOR TELEPHONE AND RED FOR ELECTRIC.
6) ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
7) THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIALS DESCRIBED BY DRAWINGS AND SPECIFICATIONS INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
8) GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
9) ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
10) BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
11) ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THIN INSULATION.
12) ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
13) RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
14) FIBER OPTIC CIRCUITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 770-OPTICAL FIBER CABLES AND RACEWAYS.
15) COMMUNICATIONS CIRCUITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 800-COMMUNICATIONS SYSTEMS.

PROTECTIVE GROUNDING SYSTEMS GENERAL NOTES:

1. GROUNDING SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250-GROUNDING AND BONDING.
2. GROUNDING SHALL BE IN ACCORDANCE WITH SPRINT SSEO DOCUMENTS 3.018.02.004 "BONDING, GROUNDING AND TRANSIENT PROTECTION FOR CELL SITES" AND 3.018.10.002 "SITE RESISTANCE TO EARTH TESTING".
3. PROVIDE GROUND CONNECTIONS FOR ALL METALLIC STRUCTURES, ENCLOSURES, RACEWAYS AND OTHER CONDUCTIVE ITEMS ASSOCIATED WITH THE INSTALLATION OF CARRIER'S EQUIPMENT.
4. GROUND CONNECTIONS: CLEAN SURFACES THOROUGHLY BEFORE APPLYING GROUND LUGS OR CLAMPS. IF SURFACE IS COATED, REMOVE THE COATING, APPLY A NON-CORROSIVE APPROVED COMPOUND TO CLEAN SURFACE AND INSTALL LUGS OR CLAMPS. WHERE GALVANIZING IS REMOVED FROM METAL, IT SHALL BE PAINTED OR TOUCHED UP WITH "GALVAMOX" OR EQUAL.
5. ALL GROUNDING WIRES SHALL PROVIDE A STRAIGHT, DOWNWARD PATH TO GROUND WITH GRADUAL BENDS AS REQUIRED. GROUND WIRES SHALL NOT BE LOOPED OR SHARPLY BENT.
6. ALL CLAMPS AND SUPPORTS USED TO SUPPORT THE GROUNDING SYSTEM CONDUCTORS AND PVC CONDUITS SHALL BE PVC TYPE (NON CONDUCTIVE). DO NOT USE METAL BRACKETS OR SUPPORTS WHICH WOULD FORM A COMPLETE RING AROUND ANY GROUNDING CONDUCTOR.
7. ALL GROUND WIRES SHALL BE #2 SOLID TINNED BCW UNLESS NOTED OTHERWISE.
8. PROVIDE DEDICATED #2 AWG COPPER GROUND WIRE FROM EACH ANTENNA MOUNTING PIPE TO ASSOCIATED CIGBE.
9. GROUND ANTENNA BASES, FRAMES, CABLE RACKS, AND OTHER METALLIC COMPONENTS WITH #2 INSULATED TINNED STRANDED COPPER GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR GROUNDING.
10. EACH EQUIPMENT CABINET SHALL BE CONNECTED TO THE MASTER ISOLATION GROUND BAR (MGB) WITH #2 SOLID TINNED BCW EQUIPMENT CABINETS WALL HAVE (2) CONNECTIONS.
11. GROUND HYBRIFLEX SHIELD AT TOP, BOTTOM AND AT TRANSITION TO HYBRIFLEX JUMPER CABLES AT EQUIPMENT CABINET ENTRANCE USING MANUFACTURER'S GUIDELINES. WHEN HYBRIFLEX CABLE EXCEEDS 200', GROUND AT INTERVALS NOT EXCEEDING 100'.
12. THE CONTRACTOR SHALL VERIFY THAT THE EXISTING GROUND BARS HAVE ENOUGH SPACE/HOLES FOR ADDITIONAL TWO HOLE LUGS.
13. EXOTHERMIC WELDING IS RECOMMENDED FOR GROUNDING CONNECTION WHERE PRACTICAL OTHERWISE. THE CONNECTION SHALL BE MADE USING COMPRESSION TYPE-2 HOLES, LONG BARREL LUGS OR DOUBLE CRIMP "C" CLAMP. THE COPPER CABLES SHALL BE COATED WITH AN ANTI-OXIDANT (THOMAS BETTS KOPR-SHILD) BEFORE MAKING THE CRIMP CONNECTIONS THE CONTRACTOR SHALL FOLLOW MANUFACTURER'S RECOMMENDED TORQUES ON THE BOLT ASSEMBLY TO SECURE CONNECTIONS.
14. AT ALL TERMINATIONS AT EQUIPMENT ENCLOSURES, PANEL, AND FRAMES OF EQUIPMENT AND WHERE EXPOSED FOR GROUNDING. CONDUCTOR TERMINATION SHALL BE PERFORMED UTILIZING TWO HOLE BOLTED TONGUE COMPRESSION TYPE LUGS WITH STAINLESS STEEL SELF-TAPPING SCREWS.
15. THE MASTER GROUND BAR (MGB) SHALL BE MADE OF BARE 1/4"x2" COPPER (FOR OUTDOOR APPLICATIONS IT SHALL BE TINNED COPPER) AND LARGE ENOUGH TO ACCOMMODATE THE REQUIRED NUMBER OF GROUND CONNECTIONS. THE HARDWARE SECURING THE MGB SHALL ELECTRICAL INSULATE THE MGB FROM ANY STRUCTURE TO WHICH IT IS FASTENED.
16. ALL BOLTS, WASHERS, AND NUTS USED ON GROUNDING CONNECTIONS SHALL BE STAINLESS STEEL.
17. ALL GROUNDING CONNECTIONS SHALL BE COATED WITH A COPPER SHIELD ANTI-CORROSIVE AGENT SUCH AS T&B KOPR SHIELD. VERIFY PRODUCT WITH SPRINT CONSTRUCTION MANAGER.
18. FOR NEW OR REPAIRED GROUNDING EQUIPMENT. REFER TO SPRINT GROUNDING STANDARDS AND FOLLOWING (SUPPLEMENTS):
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SITE NUMBER: CT33XC256

SITE ADDRESS: 62 BABBIT HILL RD, POMFRET, CT 06259

SHEET DESCRIPTION: ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER: E-1

SprintVision

RF Design Sheet

Site Identification	
Cascade	CT33XC256
SMS Schedule ID	12323238
SMS Schedule Name	DO Macro Upgrade
PID	
RRU OEM	ALU
Switch OEM	Alcatel Lucent
RFDS Issue Date	2017-08-15 00:00:00.0
RFDS Revision Date	2017-10-20 10:05:48.0
RFDS Revision	3

Filter Analysis Complete	YES
RFDS - Issue Date	08/15/2017
Design Status	Complete
Project Description	DO Macro Upgrade - Add 800MHz (3G + 4G) and 2500 MHz

Contact Information	
Engineer Email	Bill.M.Hastings@sprint.com
Sprint Badged RF Engineer	Bill Hastings
RF Engineer Email	Bill.M.Hastings@sprint.com
RF Engineer Phone	978-590-9700
RF Manager	Jonathan Hull
RF Manager Email	Jonathan.B.Hull@Sprint.com
RF Manager Phone	617-233-2920

Carrier Count	
2500 LTE	3
1900 LTE	1
1900 EVDO	
1900 Voice	1
800 LTE	1
800 Voice	1

Location Details	
Latitude	41.87028
Longitude	-71.98861
Market	Northern Connecticut
Region	Northeast
City	Pomfret
State	CT
Zip Code	CT/06259
County	Windham

2500MHz	3
1900MHz	3
800MHz	3

Band: 2500	Alpha	Beta	Gamma	Delta	Epsilon	Zeta
Radio Model						
Model Number	TD-RRH8x20-25	TD-RRH8x20-25	TD-RRH8x20-25	N/A	N/A	N/A
Weight (lbs)	76.2	76.2	76.2	N/A	N/A	N/A
Dimensions	26 x 18.6 x 6.7	26 x 18.6 x 6.7	26 x 18.6 x 6.7	N/A	N/A	N/A
Manufacturer	ALU	ALU	ALU	N/A	N/A	N/A
Number of RRUs needed	1	1	1	0	0	0
Trunk Cable 1						
Model Number	Hybriflex	N/A	N/A	N/A	N/A	N/A
Weight (Lbs.)	1	N/A	N/A	N/A	N/A	N/A
Dimensions (In.)	1.54	N/A	N/A	N/A	N/A	N/A
Manufacturer	ALU	N/A	N/A	N/A	N/A	N/A

Band: 800	Alpha	Beta	Gamma	Delta	Epsilon	Zeta
Radio Model						
Model Number	RRH-2x50-800	RRH-2x50-800	RRH-2x50-800	N/A	N/A	N/A
Weight (lbs)	69.1	69.1	69.1	N/A	N/A	N/A
Dimensions	16 x 13 x 10	16 x 13 x 10	16 x 13 x 10	N/A	N/A	N/A
Manufacturer	ALU	ALU	ALU	N/A	N/A	N/A
Number of RRUs needed	2	2	2	0	0	0

Band: 2500	Alpha	Beta	Gamma	Delta	Epsilon	Zeta
Antenna1						
Model Number	APXVTM14-ALU-I20	APXVTM14-ALU-I20	APXVTM14-ALU-I20			
Weight (lbs)	56.2	56.2	56.2	N/A	N/A	N/A
Dimensions	56.3 x 12.6 x 6.3	56.3 x 12.6 x 6.3	56.3 x 12.6 x 6.3	N/A	N/A	N/A
Manufacturer	RFS	RFS	RFS	N/A	N/A	N/A
Ant1 Top Jumper Make/Mode/Qty	2.5 Jumper 8	2.5 Jumper 8	2.5 Jumper 8	N/A 0	N/A 0	N/A 0
Ant 1 RF requested Diameter	1/2"	1/2"	1/2"	N/A	N/A	N/A
Ant 1 RF requested Top Jumper Length(ft)	8	8	8	N/A	N/A	N/A
Antenna 1 Azimuth	0	120	240	N/A	N/A	N/A
Antenna 1 Mechanical DT	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 1 Center Line (ft)	156.9553856	156.9553856	156.9553856	N/A	N/A	N/A
Antenna 1 Electrical DT	2	2	2	N/A	N/A	N/A
Antenna 1 Electrical DT 2	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 1 Electrical DT 3	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 1 Twist	N/A	N/A	N/A	N/A	N/A	N/A

Band: 1900	Alpha	Beta	Gamma	Delta	Epsilon	Zeta
Antenna1						
Model Number	NNVV-65B-R4	NNVV-65B-R4	NNVV-65B-R4			
Weight (lbs)	84.7	84.7	84.7	N/A	N/A	N/A
Dimensions	72 x 19.6 x 7.8	72 x 19.6 x 7.8	72 x 19.6 x 7.8	N/A	N/A	N/A
Manufacturer	CommScope	CommScope	CommScope	N/A	N/A	N/A
Ant1 Top Jumper Make/Mode/Qty	800/1900 Jumper 4	800/1900 Jumper 4	800/1900 Jumper 4	N/A 0	N/A 0	N/A 0
Ant 1 RF requested Diameter	1/2"	1/2"	1/2"	N/A	N/A	N/A
Ant 1 RF requested Top Jumper Length(ft)	8	8	8	N/A	N/A	N/A
Antenna 1 Azimuth	0	120	240	N/A	N/A	N/A
Antenna 1 Mechanical DT	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 1 Center Line (ft)	156.9553856	156.9553856	156.9553856	N/A	N/A	N/A
Antenna 1 Electrical DT	3	3	3	N/A	N/A	N/A
Antenna 1 Electrical DT 2	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 1 Electrical DT 3	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 1 Twist	N/A	N/A	N/A	N/A	N/A	N/A

A&E Drawing Requirements
10/10/2017 (WR): RFDS revised to modify RRU location to "GM to Standard".

PLANS PREPARED FOR:
Sprint
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:
SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
TEL: (508) 251-0720

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

ENGINEERING LICENSE:
STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
4-18-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/18/18	SL	0

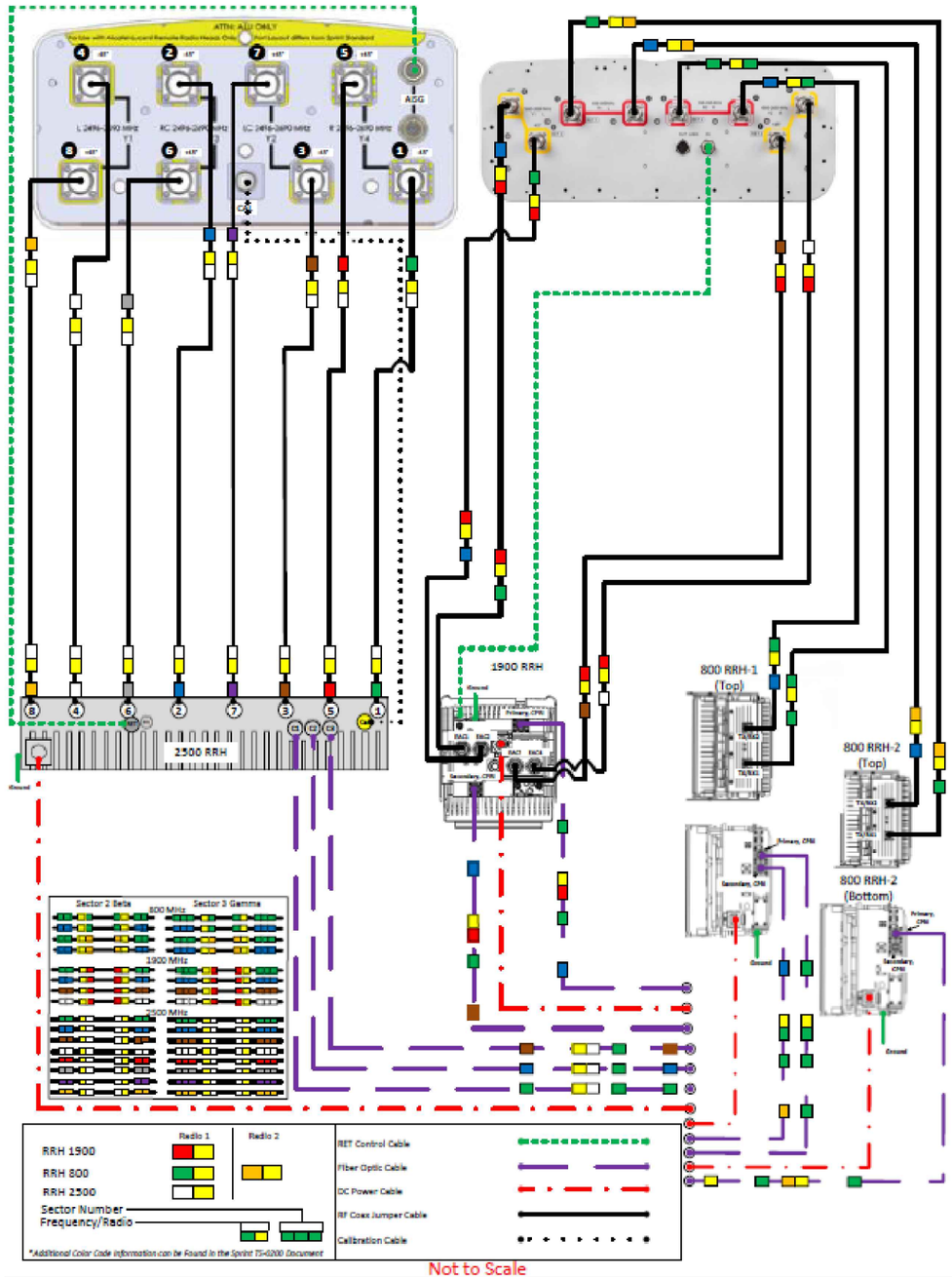
SITE NUMBER:
CT33XC256

SITE ADDRESS:
62 BABBIT HILL RD
POMFRET, CT 06259

SHEET DESCRIPTION:
RF DATA SHEET

SHEET NUMBER:
RF-1

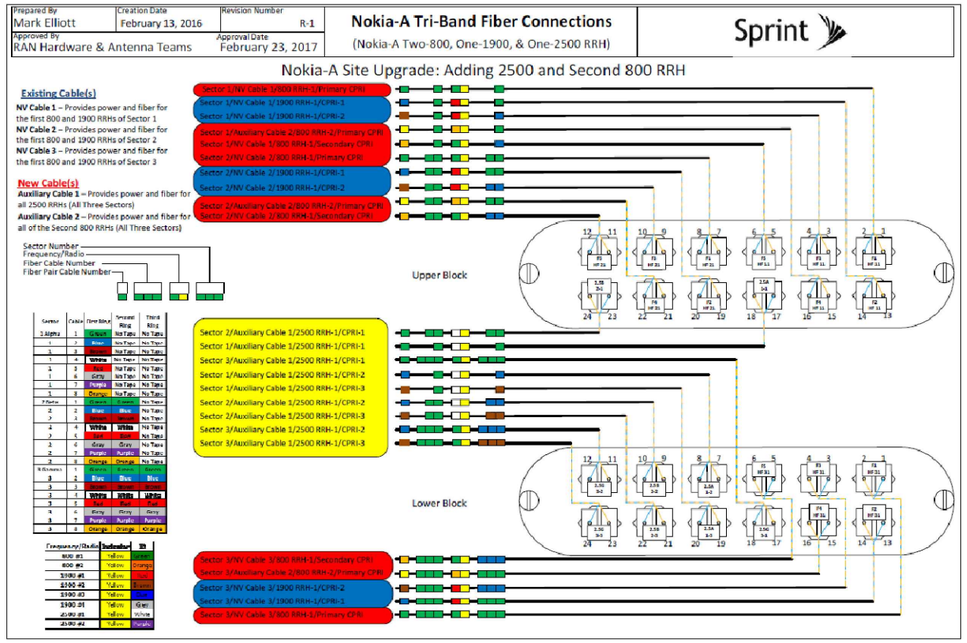
ALU 211 APXVTM14-ALU-I20 & NNVV-65B-R4 wo Filters



Not to Scale

Prepared By	Creation Date	Revision Number	Nokia-A Tri-Band Fiber Connections	Sprint
Mark Elliott	February 13, 2016	R-1	(Nokia-A Two-800, One-1900, & One-2500 RRH)	
Approved By	Approval Date			
RAN Hardware & Antenna Teams	February 23, 2017			

Nokia-A Site Upgrade: Adding 2500 and Second 800 RRH



PLUMBING DIAGRAM	NO SCALE	1	

PLANS PREPARED FOR:

Sprint

1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:

SBA

SBA COMMUNICATIONS CORP.
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PLANS PREPARED BY:

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1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
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JOB NUMBER 526-104

ENGINEERING LICENSE:

STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
4-18-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/18/18	SL	0

SITE NUMBER:

CT33XC256

SITE ADDRESS:

62 BABBIT HILL RD
POMFRET, CT 06259

SHEET DESCRIPTION:

PLUMBING DIAGRAM

SHEET NUMBER:

RF-2

CT33XC256
DO MACRO EQUIPMENT DEPLOYMENT

MOUNT AUGMENTATION @ 157'

MONOPOLE TOWER

POMFRET, CT
WINDHAM COUNTY

SITE INFORMATION

STRUCTURE TYPE:	MONOPOLE
MOUNT TYPE:	PLATFORM
LATITUDE:	41.870258 (NAD 83)
LONGITUDE:	-71.988241 (NAD 83)
CITY, STATE:	POMFRET, CT
COUNTY:	WINDHAM
SBA SITE:	CT01364-S POMFRET

COORDINATES ARE FOR NAVIGATIONAL PURPOSES ONLY, NOT TO 1A ACCURACY.

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR THE LABOR & MATERIALS FOR THE DISCREPANCIES.

CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES.

BUILDING CODE AND DESIGN STANDARD: 2012 IBC / TIA-222-G / 2016 CT

RIGGING PLAN REQUIRED

THIS SET OF PLANS DOES "NOT" CONSTITUTE A RIGGING PLAN.

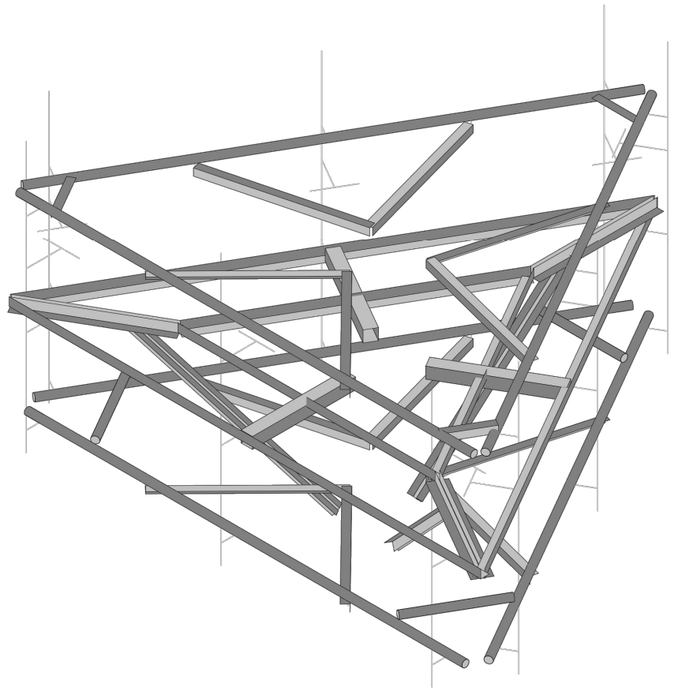
A PROPER RIGGING PLAN SHALL BE PERFORMED BY A LICENSED PROFESSIONAL ENGINEER PRIOR TO PROCEEDING ON ANY AUGMENTATIONS SHOWN HEREIN.

GENERAL DESIGN NOTES

1. THIS PLAN HAS BEEN DESIGNED UTILIZING THE CORRESPONDING MOUNT STRUCTURAL ANALYSIS.
2. THESE PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF TIA/EIA-222, ASCE 7, AWS, ACI, AND AISC. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE-MENTIONED CODES AND THE CONTRACT SPECIFICATIONS.
3. ALL STRUCTURE INFORMATION OBTAINED IN THE FORM OF FROM INFORMATION PROVIDED BY THE CLIENT. CONTRACTOR SHALL OBTAIN AND BECOME FAMILIAR WITH THE REFERENCED DOCUMENTS. CONTRACTOR SHALL ISSUE A REQUEST FOR INFORMATION (RFI) IN THE EVENT ANY DISCREPANCIES ARE DISCOVERED BETWEEN THESE DOCUMENTS AND THE AS-BUILT CONDITIONS IN THE FIELD IN A SITE VISIT THAT SHALL BE PERFORMED PRIOR TO STARTING FABRICATION OR CONSTRUCTION.
4. ALL MATERIALS UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS.
5. ALL PRODUCT OR MATERIAL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER SUITABLE TO DETERMINE IF SUBSTITUTE IS ACCEPTABLE FOR USE AND MEETS THE ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
6. PROVIDE STRUCTURAL STEEL SHOP DRAWING(S) TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION (ONLY IF SPECIFICALLY REQUESTED BY ENGINEER).
7. UNLESS NOTED OTHERWISE, ALL NEW MEMBERS AND REINFORCING SHALL MAINTAIN THE EXISTING MEMBER WORK LINES AND NOT INTRODUCE ECCENTRICITIES INTO THE STRUCTURE.
8. ANY CONTRACTOR-CAUSED DAMAGE TO PROPERTY OF THE LAND OWNER, PROPERTY OF THE STRUCTURE OWNER, PROPERTY OF THE CUSTOMER, SITE FENCING OR GATES, ANY AND ALL UTILITY AND/OR SERVICE LINES, SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE REPAIRED OR REPLACED AT THE SOLE COST OF THE CONTRACTOR AND SHALL BE ACCOMPLISHED BY THE CONTRACTOR OR SUBCONTRACTOR AS APPROVED BY THE ENGINEER OF RECORD AND LAND OWNER. DAMAGE TO EQUIPMENT OR PROPERTY OF ANY KIND BELONGING TO OTHER COMPANIES (BESIDES THE INDICATED CUSTOMER) SHALL BE ADDRESSED BY THE CONTRACTOR WITH THE COMPANIES THAT OWN THE DAMAGED ITEMS.

SHEET INDEX

MOUNT AUGMENTATION CONFIGURATION



AUGMENTATION SCOPE

AUGMENT ALL SECTORS OF CARRIER'S EXISTING MOUNT INSTALLATION AS REQUIRED (UNLESS NOTED OTHERWISE)

Sprint
1 INTERNATIONAL BLVD., SUITE 800
MAHWAH, NJ 07495
P: 800.357.7641

SBA
134 FLANDERS RD., SUITE 125
WESTBOROUGH, MA 01581
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GEOSTRUCTURAL
PO BOX 2621, BOISE, ID 83701
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WWW.GEOSTRUCTURAL.COM

REVISIONS:

0	05/15/18	ISSUE FOR CONSTRUCTION	RWR

CHECKED BY: DWG

STATE OF CONNECTICUT
GREGORY DURGIN
No. 32155
LICENSED
PROFESSIONAL ENGINEER

SITE INFORMATION:

MOUNT AUGMENTATION

CT33XC256

POMFRET, CT

LATITUDE: 41.870258
LONGITUDE: -71.988241

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

S1

CONTRACTOR NOTES

1. PRIOR TO BEGINNING CONSTRUCTION, ALL CONTRACTORS AND SUBCONTRACTORS MUST ACKNOWLEDGE IN WRITING TO TOWER OWNER THAT THEY HAVE OBTAINED, UNDERSTAND, AND WILL FOLLOW STRUCTURE OWNER STANDARDS OF PRACTICE, CONSTRUCTION GUIDELINES, ALL SITE AND STRUCTURE/TOWER SAFETY PROCEDURES, ALL PRODUCT LIMITATIONS AND INSTALLATION PROCEDURES USED ON SITE, AND PROPOSED AUGMENTATIONS DESCRIBED. RECEIPT OF ACKNOWLEDGEMENT MUST OCCUR PRIOR TO BEGINNING CONSTRUCTION OR CLIMBING. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE THIS DOCUMENTATION FOR STRUCTURE OWNER ON COMPANY LETTERHEAD AND THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OBTAIN THIS DOCUMENTATION FROM ANY SUBCONTRACTORS (ON SUBCONTRACTOR LETTERHEAD) AND DELIVER IT TO THE STRUCTURE OWNER.
2. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE AUGMENTATIONS, THE ENGINEER OF RECORD SHALL BE CONTACTED IMMEDIATELY TO EVALUATE THE SIGNIFICANCE OF THE DEVIATION.
3. THE CONTRACTOR SHALL SOLICIT AND HIRE THE SERVICES OF A QUALIFIED AUGMENTATION INSPECTOR PRIOR TO BEGINNING CONSTRUCTION. THE AUGMENTATION INSPECTOR MAY BE AN EMPLOYEE OF THE CONTRACTOR'S FIRM, HOWEVER THE INSPECTOR'S ONLY DUTIES SHALL BE INSPECTION, TESTING, AND REPORT CREATION AS REQUIRED ON THE "AUGMENTATION INSPECTION NOTES" SHEET.
4. THE CONTRACTOR SHALL NOTIFY THE TOWER OWNER OF THE PLANNED CONSTRUCTION & INSPECTION SCHEDULE, AS WELL AS ANY CHANGES TO THE SCHEDULE, WITHIN TWO BUSINESS DAYS OF THE COMPLETION OF THE SCHEDULE OR SCHEDULE REVISION BOTH PRIOR TO BEGINNING CONSTRUCTION AND DURING CONSTRUCTION AS THE SCHEDULE CHANGES. THE STRUCTURE OWNER WHEN THE WORK HAS BEEN COMPLETED WITHIN 2 BUSINESS DAYS OF THE COMPLETION OF THE WORK AND ASSOCIATED AUGMENTATION INSPECTIONS & TESTING (WHEN APPLICABLE).
5. IT IS ASSUMED THAT ANY STRUCTURAL AUGMENTATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE. THIS INCLUDES PROVIDING THE NECESSARY CERTIFICATIONS TO THE STRUCTURE OWNER AND ENGINEER INCLUDING BUT NOT LIMITED TO TOWER CLIMBER AND RESCUE CLIMBER CERTIFICATIONS, ET CETERA.
6. THESE DRAWINGS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES AND PROCEDURES.
7. CONTRACTOR SHALL WORK WITHIN THE LIMITS OF THE STRUCTURE OWNER'S PROPERTY OR LEASE AREA AND APPROVED EASEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WORK IS WITHIN THESE BOUNDARIES. CONTRACTOR SHALL EMPLOY A SURVEYOR AS REQUIRED. ANY WORK OUTSIDE THESE BOUNDARIES SHALL BE APPROVED IN WRITING BY THE LAND OWNER PRIOR TO MOBILIZATION. CONSTRUCTION STAKING AND BOUNDARY MARKING IS THE RESPONSIBILITY OF THE CONTRACTOR.

STRUCTURAL ERECTION AND BRACING REQUIREMENTS

1. THE STRUCTURAL DRAWINGS ILLUSTRATE THE COMPLETED STRUCTURE WITH ALL ELEMENTS IN THEIR FINAL POSITIONS, PROPERLY SUPPORTED AND BRACED.
2. THE CONTRACTOR SHALL PROVIDE SHORING AND BRACING AS REQUIRED DURING CONSTRUCTION TO ENSURE STABILITY. DESIGN AND SEQUENCING OF CONSTRUCTION SHORING AND BRACING IS OUTSIDE THE SCOPE OF THIS WORK.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, GUYING, ETC. NECESSARY TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.

BOLTS

1. ALL CONNECTIONS OF STRUCTURAL STEEL MEMBERS SHALL BE MADE USING SPECIFIED GALVANIZED HIGH STRENGTH ASTM A325 OR A490 BOLTS WITH THREADS EXCLUDED FROM SHEAR PLANE.
2. FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES, WITH BOLT HEADS FACING DOWN WHERE APPLICABLE.
3. ALL BOLTS AT EVERY CONNECTION SHALL BE INSTALLED SNUG-TIGHT UNTIL THE SECTION IS FULLY COMPACTED AND ALL PLIES ARE JOINED, AND THEN TIGHTENED FURTHER BY AISC - "TURN OF THE NUT" METHOD. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.
4. BOLT LENGTHS UP TO AND INCLUDING 4 DIAMETERS SHALL BE TENSIONED 1/3 TURN BEYOND SNUG-TIGHT. BOLT LENGTHS OVER 4 DIAMETERS SHALL BE 1½ TURNS BEYOND SNUG-TIGHT.
5. ALL BOLTED CONNECTIONS SHALL USE LOCK WASHERS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC STEEL CONSTRUCTION MANUAL AND SECTION 4 OF THE TIA CODE.
2. PRE-QUALIFIED STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING MINIMUM GRADES UNLESS OTHERWISE NOTED:
   - CHANNELS & ANGLES ..... ASTM A36, (Fy = 36 KSI)
   - PLATES ..... ASTM A36, (Fy = 36 KSI)
   - PIPES ..... ASTM A53 GR.B, (Fy = 35 KSI)
   - HSS ROUND ..... ASTM A500 GR.B, (Fy = 42 KSI)
   - HSS RECTANGULAR ..... ASTM A500 GR.B, (Fy = 46 KSI)
   - STRUCTURAL BOLTS ..... ASTM A325
   - U-BOLTS ..... ASTM A307 GR.A
   - NUTS FOR BOLTS ..... ASTM A563 (THREADING TO MATCH BOLT)
   - WASHERS FOR BOLTS ..... ASTM F436
   - SEE TABLE 5-1 OF THE TIA CODE FOR ADDITIONAL SHAPES AND STANDARDS THAT ARE NOT LISTED ABOVE.
3. NON PRE-QUALIFIED STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS PER THE TIA CODE:
   - THE CARBON EQUIVALENT OF STEEL SHALL NOT EXCEED 0.65 PER SECTION 5.4.2 OF THE TIA CODE
   - ELONGATION OF STEEL SHALL NOT BE LESS THAN 18%
   - TEST REPORTS SHALL BE IN ACCORDANCE WITH ASTM A6 OR A568
   - TOLERANCES SHALL BE IN ACCORDANCE WITH ASTM A6
4. FIELD CUT EDGES, EXCEPT DRILLED HOLES, SHALL BE GROUND SMOOTH AND COLD GALVANIZED.
5. ALL WELDING WORK SHALL CONFORM TO THE AWS D1.1 STRUCTURAL WELDING CODE. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS ONLY. WELDING ELECTRODES SHALL BE E70XX.
6. ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO AISC SPECS AND CODES, LATEST EDITION.
7. UPON REQUEST, THE CONTRACTOR SHALL SUBMIT DETAILED, ENGINEERED, COORDINATED AND CHECKED SHOP DRAWINGS FOR ALL STRUCTURAL STEEL TO THE ENGINEER OF RECORD TO REVIEW FOR COMPLIANCE WITH DESIGN INTENT PRIOR TO THE START OF FABRICATION AND/OR ERECTION.
8. TORCH-CUTTING OF ANY KIND SHALL NOT BE PERMITTED.
9. ALL BOLT HOLES SHALL BE STANDARD SIZE BOLT HOLES PER AISC 360, UNLESS OTHERWISE NOTED. ALL HOLES SHALL BE SHOP DRILLED OR SUB-PUNCHED AND REAMED. BURNING OF HOLES IS NOT PERMITTED. WHERE SLOTTED OR OVERSIZE HOLES ARE SPECIFIED ON THE DRAWINGS, EXTRA-THICK ASTM F436 PLATE WASHERS SHALL BE USED (3/16" MINIMUM THICKNESS) WITH A DIAMETER SUITABLE TO COVER THE EXTENTS OF THE SLOT OR HOLE. BOLTS SHALL BE HEAVY-HEX WHERE AVAILABLE IN THE SIZE AND GRADE SPECIFIED, OTHERWISE BOLTS SHALL BE HEX HEAD CAP SCREWS.
10. ALL STEEL HARDWARE, INCLUDING ADHESIVE OR EMBEDDED ANCHOR BOLTS AND THEIR ACCESSORIES, SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 (EXCEPT BOLTS SMALLER THAN ½" SHALL CONFORM TO FE/ZN 3 AT PER ASTM F1941 WHERE HOT-DIP GALVANIZED BOLTS ARE NOT AVAILABLE). ALL STEEL MEMBERS, INCLUDING WELDMENTS, SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123. REPAIR DAMAGE TO GALVANIZED COATINGS USING ASTM A780 PROCEDURES WITH A ZINC RICH PAINT (SUCH AS ZINC GALVILITE) FOR GALVANIZING DAMAGED BY HANDLING, TRANSPORTING, CUTTING, WELDING, OR BOLTING. DO NOT HEAT SURFACES TO WHICH REPAIR PAINT HAS BEEN APPLIED. CALL OUT HOLES REQUIRED FOR HOT-DIP GALVANIZING ON SHOP DRAWINGS.
11. MEMBERS SHALL BE SHOP-FABRICATED AND WELDED TO THE EXTENT PRACTICABLE IN ORDER TO REDUCE FIELD INSTALLATION COSTS.

CONSTRUCTION INSPECTION CHECKLIST

CONSTRUCTION AND/OR INSTALLATION INSPECTIONS REQUIRED FOR REPORT? (CHECK=YES, BLANK=NO)	INSPECTION REPORT ITEM
√	CONSTRUCTION INSPECTIONS
	THIRD-PARTY CERTIFIED WELD INSPECTION (INCLUDING IBC SPECIAL INSPECTIONS)
√	GALVANIZING REPAIR MATERIAL PREPARATION, INSPECTION, & PAINT APPLICATION
√	PRIME CONTRACTOR'S AS-BUILT DOCUMENTS (SIGNED & DATED)
√	FABRICATION INSPECTION
√	MATERIAL TEST REPORT(S) / MILL CERTIFICATE(S)
√	PACKING SLIPS FOR STRUCTURAL MATERIALS

NOMINAL HOLE DIMENSIONS

BOLT Ø	STANDARD HOLE Ø
1/2"Ø	9/16"Ø
5/8"Ø	11/16"Ø
3/4"Ø	13/16"Ø
7/8"Ø	15/16"Ø
1"Ø	1 1/16"Ø

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REVISIONS:

0	05/15/18	ISSUE FOR CONSTRUCTION	RWR

CHECKED BY: DWG

STATE OF CONNECTICUT
GREGORY DURGIN
No. 32155
LICENSED
PROFESSIONAL ENGINEER

SITE INFORMATION:

MOUNT AUGMENTATION

CT33XC256

POMFRET, CT

LATITUDE: 41.870258
LONGITUDE: -71.988241

SHEET TITLE:

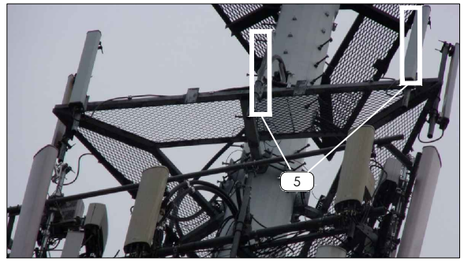
NOTES AND SPECIFICATIONS

SHEET NUMBER:

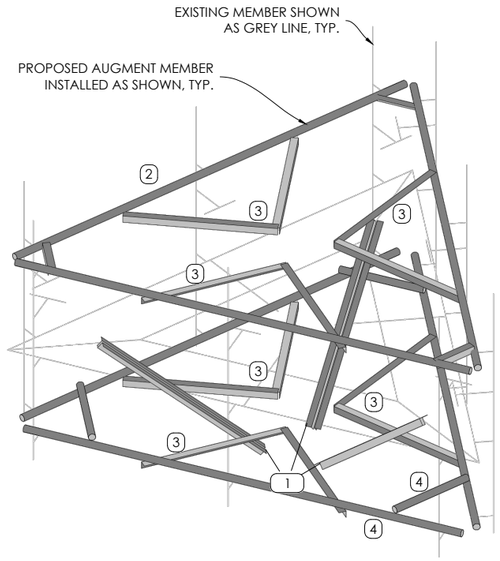
S2

NEW MOUNT AUGMENTATIONS

1	PLATFORM REINFORCEMENT KIT SITEPRO1 PART# PRK-1245L. ATTACH PRK COLLAR TO MONOPOLE SHAFT ~4.0' BELOW EXISTING STANDOFF CENTERLINE AND DOUBLE ANGLE KICKER BRACKET TO BACK-TO-BACK ANGLES AT PLATFORM CORNERS AS SHOWN PER MANUF. SPECS. [(1) KIT TOTAL]
2	HANDRAIL KIT COMPONENTS SITEPRO1 PART# HRK12-U OR HRK14-U. ATTACH TO MOUNT PIPES ~3.0' ABOVE EXISTING STANDOFF CENTERLINE. VERIFY MOUNT FACE WIDTH IN FIELD PRIOR TO ORDERING. [(1) KIT TOTAL]
3	HANDRAIL KIT COMPONENTS - V-BRACE KIT SITEPRO1 PART# PRK-SFS-H-L. ATTACH COLLAR MOUNT TO MONOPOLE SHAFT ~2.5' BELOW AND ~3.0' ABOVE EXISTING STANDOFF CENTERLINE. NOTE: IF THE PRK-SFS-H-L KIT IS NOT AVAILABLE, PROVIDE (12) TOTAL L2½x2½x3/16 x ~8' LONG REPLACEMENT ANGLES, FIELD-CUT AND DRILL TO SUIT. [(2) KITS TOTAL]
4	HANDRAIL KIT COMPONENTS - BOTTOM FACE RAIL ▪ PIPE2.0STD X 14.0' HORIZ. RAIL, [(3) TOTAL]. ATTACH SFS-H-L KIT ANGLES TO NEW HORIZ. RAIL. ▪ PIPE2.0STD X ~4' LONG CORNER BRACE, [(3) TOTAL]. ATTACH TO NEW HORIZ. RAIL W/ (6) SITEPRO1 PART# PUCK BRACKETS. ▪ PIPE2.0STD x 8.0' MOUNT PIPES, [(6) TOTAL] W/ SITEPRO1 SCX**x**-K, [(6) TOTAL] CROSS-OVER PLATES. ATTACH ALL MOUNT PIPES TO EXISTING AND NEW HORIZ. RAILS. ▪ 1/2"Ø OR 5/8"Ø U-BOLTS, (12) TOTAL. ATTACH ALL MOUNT PIPES TO EXISTING BOTTOM RAIL W/ (2) U-BOLTS.
5	·PANEL ANTENNAS TO BE INSTALLED IN POSITIONS 1 AND 3 (AS CLOSE TO THE CENTER OF FACE NEAR EXISTING STANDOFF AS POSSIBLE. RRH UNITS TO BE INSTALLED ON DUAL SWIVEL BRACKETS BEHIND PANEL ANTENNAS IN POSITIONS 1 AND 3 (A MAXIMUM OF 2 RRH PER PIPE).
	AUGMENTATIONS SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF ANY NEW EQUIPMENT.



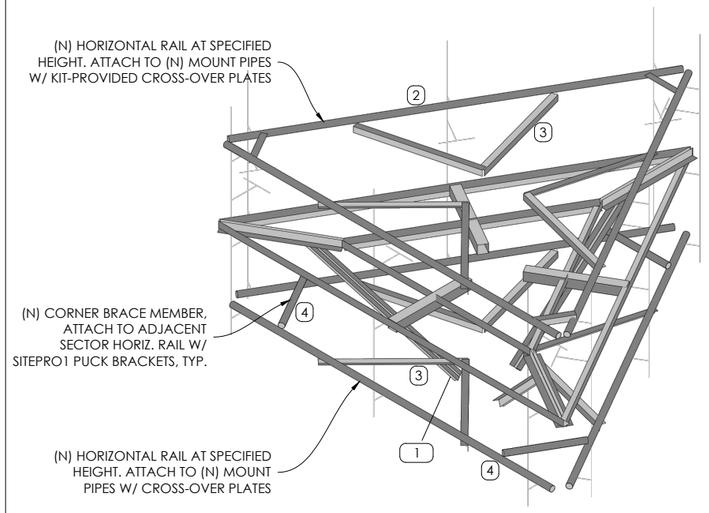
PLATFORM @ 157' AUGMENTATION



MOUNT AUGMENTATION ISOLATION
SCALE: N.T.S.

CONSTRUCTION NOTES

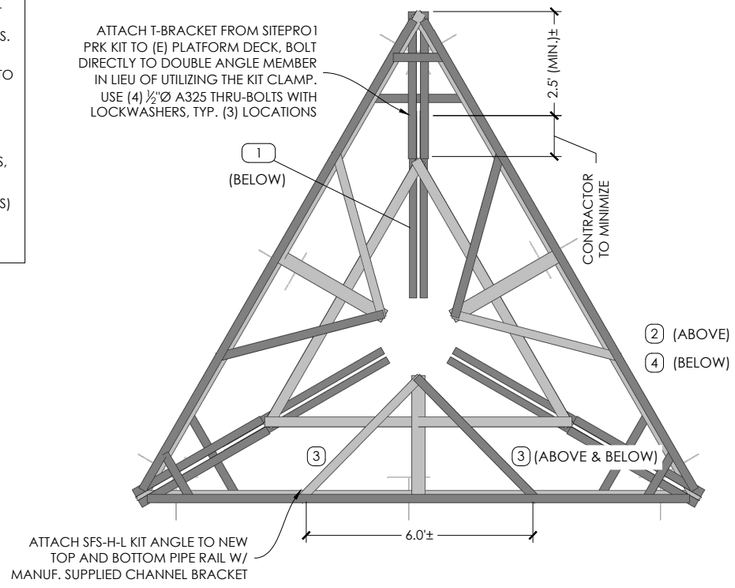
1. SCOPE OF WORK MUST BE COMPLETED AT WIND SPEEDS < 20 MPH.
2. ALL DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHOULD FIELD-VERIFY ALL DIMENSIONS BEFORE FABRICATION OF STEEL AND COMMENCEMENT OF WORK. FIELD CUT MEMBERS AS REQUIRED.
3. CONTRACTOR TO COORDINATE THE TEMPORARY REMOVAL/RELOCATION/REPLACEMENT OF ELEMENTS (E.G. COAX, CLIPS, TMAs, ETC.) CONNECTED TO, OR IN THE DIRECT PATH, OF NEW AUGMENTATION MEMBERS.



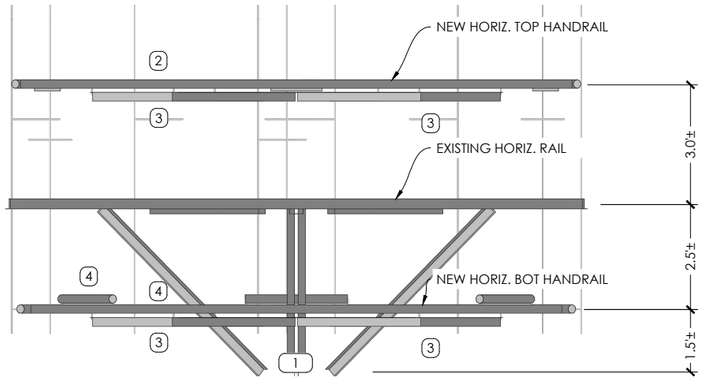
AUGMENTED MOUNT ISOMETRIC
SCALE: N.T.S.

INSTALLATION NOTES

1. AUGMENT MEMBER(S) MAY NEED TO BE FIELD-CUT TO LENGTH TO ACCOMMODATE THIS INSTALLATION. CONTRACTOR TO CUT AND DRILL TO SUIT AS REQUIRED AND APPLY (2) COATS OF COLD-GALV. COMPOUND TO CUT MEMBER ENDS.
2. CONTRACTOR TO CHECK ALL EXISTING MEMBER CONNECTION BOLTS, PARTICULARLY STANDOFF TO TOWER BOLTS, FOR PROPER INSTALLATION AND TIGHTNESS.
3. COORDINATE PLACEMENT OF NEW AUGMENT MEMBERS WITH EXISTING TOWER AND CLIMBING FACILITY ELEMENTS (E.G. STEP PEGS, COAX PORTS, ETC.)
4. REFER TO CONSTRUCTION DRAWINGS (BY OTHERS) AND MOUNT STRUCTURAL ANALYSIS FOR APPROVED INSTALLATION LOCATIONS AND QUANTITIES OF APPURTENANCES.



AUGMENTED MOUNT PLAN
SCALE: N.T.S.



AUGMENTED MOUNT FRONT ELEVATION
SCALE: N.T.S.

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REVISIONS:

0	05/15/18	ISSUE FOR CONSTRUCTION	RWR

CHECKED BY: DWG

STATE OF CONNECTICUT
GREGORY DURGIN
No. 32155
LICENSED PROFESSIONAL ENGINEER

SITE INFORMATION:

MOUNT AUGMENTATION

CT33XC256

POMFRET, CT

LATITUDE: 41.870258
LONGITUDE: -71.988241

SHEET TITLE:

AUGMENTATIONS, SECTIONS & DETAILS

SHEET NUMBER:

S3