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

July 11, 2018

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

Notice of Exempt Modification
56 Roper Road, Plainfield, CT 06114
Sprint Site #: CT23XC406_DO Macro Upgrade
N 41 44 45.61
W -71 52 48.57

Dear Ms. Bachman:

Sprint currently maintains antennas at the 145-foot level of the existing 178-foot Monopole Tower at 56 Roper Rd. in Plainfield, CT. The tower is owned by SBA Properties, LLC. The property is owned by Tilcon Mineral, Inc. Sprint now intends to replace (6) existing antennas with (6) newer technology cell antennas at the 145-foot level of the tower. The proposed full scope of work is as follows:

Remove:

- (6) 1-5/8" lines

Remove and Replace:

- Remove: (6) Decibel DB908H90E-M – Panel Antennas
- Replace with: (3) RFS APXVTM14-C-I20 – Panel Antennas and (3) Commscope NNVV-65B-R4 – Panel Antennas

Install:

- (3) ALU 1900 MHz – RRUs
- (6) ALU 800 MHz – RRUs
- (3) ALU TD-RRH8x20-25 – RRUs
- (1) SitePro Platform Reinforcement Kit PRK-1245L
- (1) SitePro V Brace Kit PRK-SFS-H-L
- (4) 1-1/4" Fiber

Existing Equipment to Remain (Including entitlements):

- (1) Platform w/ Hand Rails

This facility was approved prior to the Council's jurisdiction, on July 14, 1998. The Town of Plainfield's Planning & Zoning Commission approved Special Permit 98-06 for a telecommunication tower with no conditions. 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 Plainfield's First Selectman, Paul E. Sweet, Zoning Officer, Ryan Brais, as well as to the property owner, Tilcon Mineral. (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: Paul E. Sweet, First Selectman / with attachments
Town of Plainfield, 8 Community Ave, Plainfield, CT 06374
Ryan Brais, Zoning Officer / with attachments
Town of Plainfield, 8 Community Ave, Plainfield, CT 06374
Tilcon Mineral / with attachments
P. O. Box 311228, Newington, CT 06131

POWER DENSITY

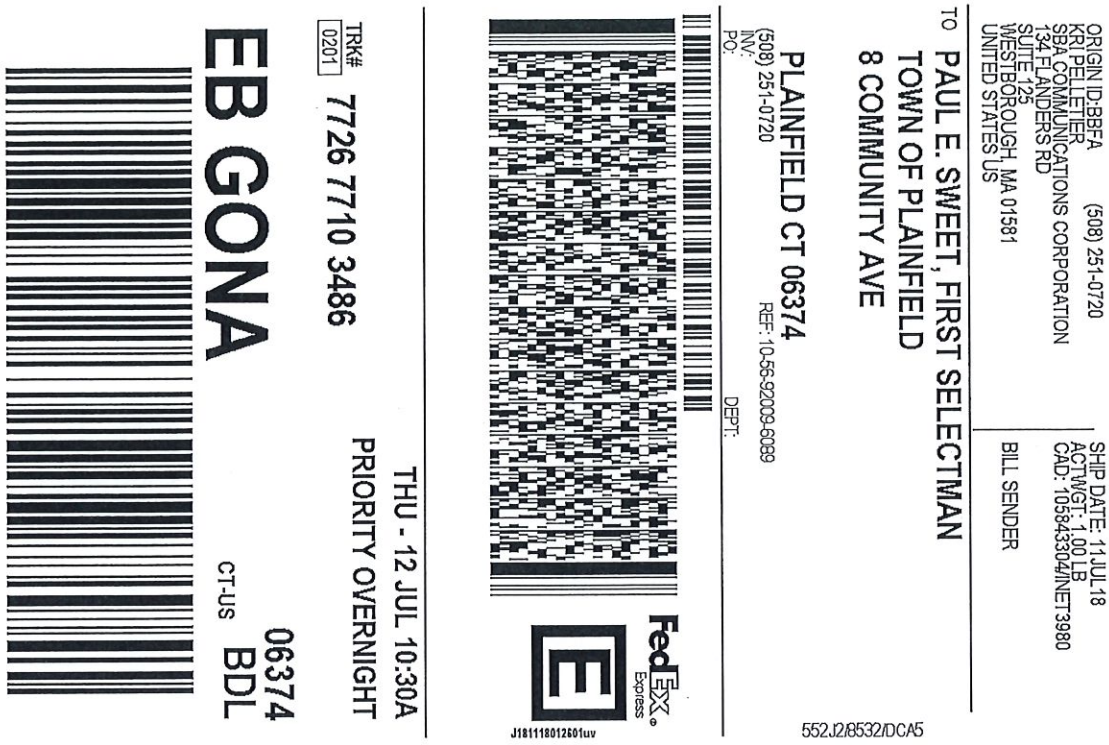
SPRINT Site Inventory and Power Data by Antenna

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):	**145 feet**	Height (AGL):	**145 feet**	Height (AGL):	**145 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%	**1.69 %**	Antenna B1 MPE%	**1.69 %**	Antenna C1 MPE%	**1.69 %**
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVTM14-ALU- I20	Make / Model:	RFS APXVTM14-ALU- I20	Make / Model:	RFS APXVTM14-ALU- I20
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	**145 feet**	Height (AGL):	**145 feet**	Height (AGL):	**145 feet**
Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts
ERP (W):	6,224.72	ERP (W):	6,224.72	ERP (W):	6,224.72
Antenna A2 MPE%	**1.16 %**	Antenna B2 MPE%	**1.16 %**	Antenna C2 MPE%	**1.16 %**

Site Composite MPE%	
Carrier	MPE%
SPRINT – Max per sector	**2.85 %**
Verizon Wireless	3.32 %
AT&T	1.60 %
MetroPCS	0.29 %
T-Mobile	1.65 %
Nextel	0.21 %
Site Total MPE %:	**9.92 %**

SPRINT Sector A Total:	2.85 %
SPRINT Sector B Total:	2.85 %
SPRINT Sector C Total:	2.85 %
Site Total:	9.92 %

SPRINT _ Frequency Band / Technology Max Power Values (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	145	0.70	850 MHz	567	0.11%
Sprint 850 MHz LTE	2	941.82	145	3.50	850 MHz	567	0.62%
Sprint 1900 MHz (PCS) CDMA	5	511.82	145	4.76	1900 MHz (PCS)	1000	0.48%
Sprint 1900 MHz (PCS) LTE	2	1,279.56	145	4.76	1900 MHz (PCS)	1000	0.48%
Sprint 2500 MHz (BRS) LTE	8	778.09	145	11.58	2500 MHz (BRS)	1000	1.16%
						Total:	**2.85%**



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56 ROPER RD

Location	56 ROPER RD	**Mblu**	021/ 0124/ 0006/ /
Acct#	00276300	**Owner**	TILCON MINERALS INC
Assessment	$324,870	**Appraisal**	$464,100
PID	3062	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$54,000	$410,100	$464,100
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$37,800	$287,070	$324,870

Owner of Record

Owner	TILCON MINERALS INC	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	PO BOX 311228 NEWINGTON, CT 06131	**Book & Page**	0140/0268
		Sale Date	07/30/1981

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
TILCON MINERALS INC	$0		0140/0268	07/30/1981
TILCON MINERALS	$0		0132/0853	04/26/1979

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Photo

Building Attributes	
Field	**Description**
Style	Outbuildings

Model	
Grade:	
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:	
Extra Fixtures:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Fireplaces:	
Xtra Openings:	
Gas Fireplaces:	
Woodstove/Pellet	
SF Fin Bsmt:	
Fin Bsmt Qual:	
Bsmt Gar:	
Unfin Area:	
Unhtd Area:	
Basement:	

(http://images.vgsi.com/photos/PlainfieldCTPhotos//default.jpg)

Building Layout

Building Layout

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	4400
Description	IND LD DV
Zone	IND

Land Line Valuation

Size (Acres)	65.8
Frontage	
Depth	

Neighborhood 4000
Alt Land Appr No
Category

Assessed Value $287,070
Appraised Value $410,100

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
TT4	Cell Tower			200 HEIGHT	$54,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$54,000	$410,100	$464,100
2014	$54,000	$410,100	$464,100
2013	$54,000	$410,100	$464,100

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$37,800	$287,070	$324,870
2014	$37,800	$287,070	$324,870
2013	$37,800	$287,070	$324,870

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: CT23XC406

Plainfield North
56 Roper Road
Plainfield, CT 06354

June 28, 2018

EBI Project Number: 6218004709

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	9.92 %

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

EBI Consulting
environmental | engineering | due diligence

June 28, 2018

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

Emissions Analysis for Site: **CT23XC406 – Plainfield North**

EBI Consulting was directed to analyze the proposed SPRINT facility located at **56 Roper Road, Plainfield, 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 **56 Roper Road, Plainfield, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since SPRINT is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

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

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

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

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

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

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

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

8) The antennas used in this modeling are the **Commscope NNVV-65B-R4 and the RFS APXVTM14-ALU-I20** for transmission in the 850 MHz, 1900 MHz (PCS) and 2500 MHz (BRS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

9) The antenna mounting height centerlines of the proposed antennas are **145 feet** above ground level (AGL) for **Sector A**, **145 feet** above ground level (AGL) for **Sector B** and **145 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):	**145 feet**	Height (AGL):	**145 feet**	Height (AGL):	**145 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%	**1.69 %**	Antenna B1 MPE%	**1.69 %**	Antenna C1 MPE%	**1.69 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVTM14-ALU-I20	Make / Model:	RFS APXVTM14-ALU-I20	Make / Model:	RFS APXVTM14-ALU-I20
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	**145 feet**	Height (AGL):	**145 feet**	Height (AGL):	**145 feet**
Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts
ERP (W):	6,224.72	ERP (W):	6,224.72	ERP (W):	6,224.72
Antenna A2 MPE%	**1.16 %**	Antenna B2 MPE%	**1.16 %**	Antenna C2 MPE%	**1.16 %**

Site Composite MPE%	
Carrier	**MPE%**
SPRINT – Max per sector	**2.85 %**
Verizon Wireless	3.32 %
AT&T	1.60 %
MetroPCS	0.29 %
T-Mobile	1.65 %
Nextel	0.21 %
Site Total MPE %:	**9.92 %**

SPRINT Sector A Total:	2.85 %
SPRINT Sector B Total:	2.85 %
SPRINT Sector C Total:	2.85 %
Site Total:	9.92 %

SPRINT _ Frequency Band / Technology Max Power Values (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	145	0.70	850 MHz	567	0.11%
Sprint 850 MHz LTE	2	941.82	145	3.50	850 MHz	567	0.62%
Sprint 1900 MHz (PCS) CDMA	5	511.82	145	4.76	1900 MHz (PCS)	1000	0.48%
Sprint 1900 MHz (PCS) LTE	2	1,279.56	145	4.76	1900 MHz (PCS)	1000	0.48%
Sprint 2500 MHz (BRS) LTE	8	778.09	145	11.58	2500 MHz (BRS)	1000	1.16%
						Total:	**2.85%**

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:	2.85 %
Sector B:	2.85 %
Sector C:	2.85 %
SPRINT Maximum Total (per sector):	2.85 %
Site Total:	9.92 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **9.92 %** 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.

Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
8445 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 178 ft Valmont Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT00594-S

Customer Site Name: Plainfield North

Carrier Name: Sprint Nextel

Carrier Site ID / Name: CT23XC406 / Plainfield North

Site Location: 56 Roper Road

Plainfield, Connecticut

Windham County

Latitude: 41.746002

Longitude: -71.880158

6/6/18

Analysis Result:

Max Structural Usage: 74.9% [Pass]

Max Foundation Usage: 99.7% [Pass]

Additional Usage Caused by Mount Modification: 1.90%

Report Prepared By: Mariana Franco

Introduction

The purpose of this report is to summarize the analysis results on the 178 ft Valmont Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Monopole original shaft section data prepared by Valmont. Dated 09-11-1998. Project No F138. Order No 17665-98. Monopole previous structural report prepared by FDH Engineering, Inc. Dated 03-28-2014. Project No 1425O21400.
Foundation Drawing	Monopole foundation mapping report prepared by FDH Engineering, Inc. Dated 08-16-2012. Project No 1207132 EN1.
Geotechnical Report	Monopole geotechnical report prepared by Jaworski Geotech, Inc. Dated 07-23-1998. Project No C98326G.
Modification Drawings	Tower previous modifications by Tower Engineering Solutions. Dated 11-25-2015. TES Project No 18414. Modification Inspection Report prepared by Tower Engineering Solutions. Dated 03-21-2016. TES Project No 20244.

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-G**.** In accordance with this standard, the structure was analyzed using **TESPoles,** a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 135.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 105.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.171g, S_1 = 0.061g

This structural analysis is based upon the tower being classified as a Structure 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.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	165.0	3	RFS APXV18-203219-C-A20 - Panel	Platform w/ Hand Rails + Reinforcement Kit (SitePro1 PRK-1245)	(12) 1 5/8"	T-Mobile
2		3	Commscope LNX- 6515DS-VTM - Panel			
3		6	Ericsson KRY 112 144/1 TMAs			
4		3	Kathrein 782 11056 Bias T's			
5	155.0	1	Kathrein 800 10764 - Panel	Platform w/ Hand Rails	(12) 1 5/8"; (2) 3/4" DC Power; (1) 7/16" Fiber; (1) 1/2"	AT&T
6		1	KMW AM-X-CD-17-65-00T - Panel			
7		1	Nokia CS72188.01			
8		6	Powerwave 7770 - Panel			
9		6	Powerwave LGP21401 TMAs			
10		6	Powerwave LGP21903 Diplexers			
11		1	Powerwave P65-17-XLH-RR - Panel			
12	152.5	6	Ericsson RRUS11 RRUs	Ring Mount (Part No LWRM)	-	-
13		1	Raycap DC2-48-60-18-8F			
-	145.0	6	Decibel DB908H90E-M - Panel	Platform w/ Hand Rails	(6) 1 5/8"	Sprint Nextel
19	125.0[1]	6	Antel LPA-80080-4CF-EDIN-0 - Panel	Low Profile Platform	(11) 1 5/8"; (2) 1 5/8" Hybrid; (1) 1/2"	Verizon[1]
20		6	Commscope SBNHH-1D65B - Panel			
21		3	ALU RRH2x60-700			
22		3	ALU RRH2x60-AWS			
23		3	ALU RRH2X60-PCS			
24		1	GPS			
25		2	RFS DB-T1-6Z-8AB-0Z			
26		6	RFS FD9R6004/2C-3L			

[1] Existing transmission lines considered running outside the pole shaft.

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
14	145.0	3	ALU 1900 MHz - RRUs	Platform w/ Hand Rails w/ (1) SitePro platform reinforcement kit PRK-1245L and (1) SitePro v-brace kit PRk-SFS-H-L	(4) 1-1/4" Fiber	Sprint Nextel
15		6	ALU 800 MHz - RRUs			
16		3	ALU TD-RRH8x20-25 - RRUs			
17		3	RFS APXVTM14-C-I20 - Panel			
18		3	Commscope NNVV-65B-R4 - Panel			

All transmission lines are considered running inside of the pole shafts.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	**74.9%**	**64.3%**	**43.4%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	5595.9	45.2	50.7
Analysis Reactions	5304.5	45.3	65.2
Factored Reactions*	7554.5	61.0	68.4
% of Design Reactions	70.2%	74.2%	95.3%

* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.1923 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-G Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.

3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.

4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.

5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.

6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 74.89% at 0.0ft

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Gh:**	1.1		
Base Elev:	0.000 (ft)			Page: 1	

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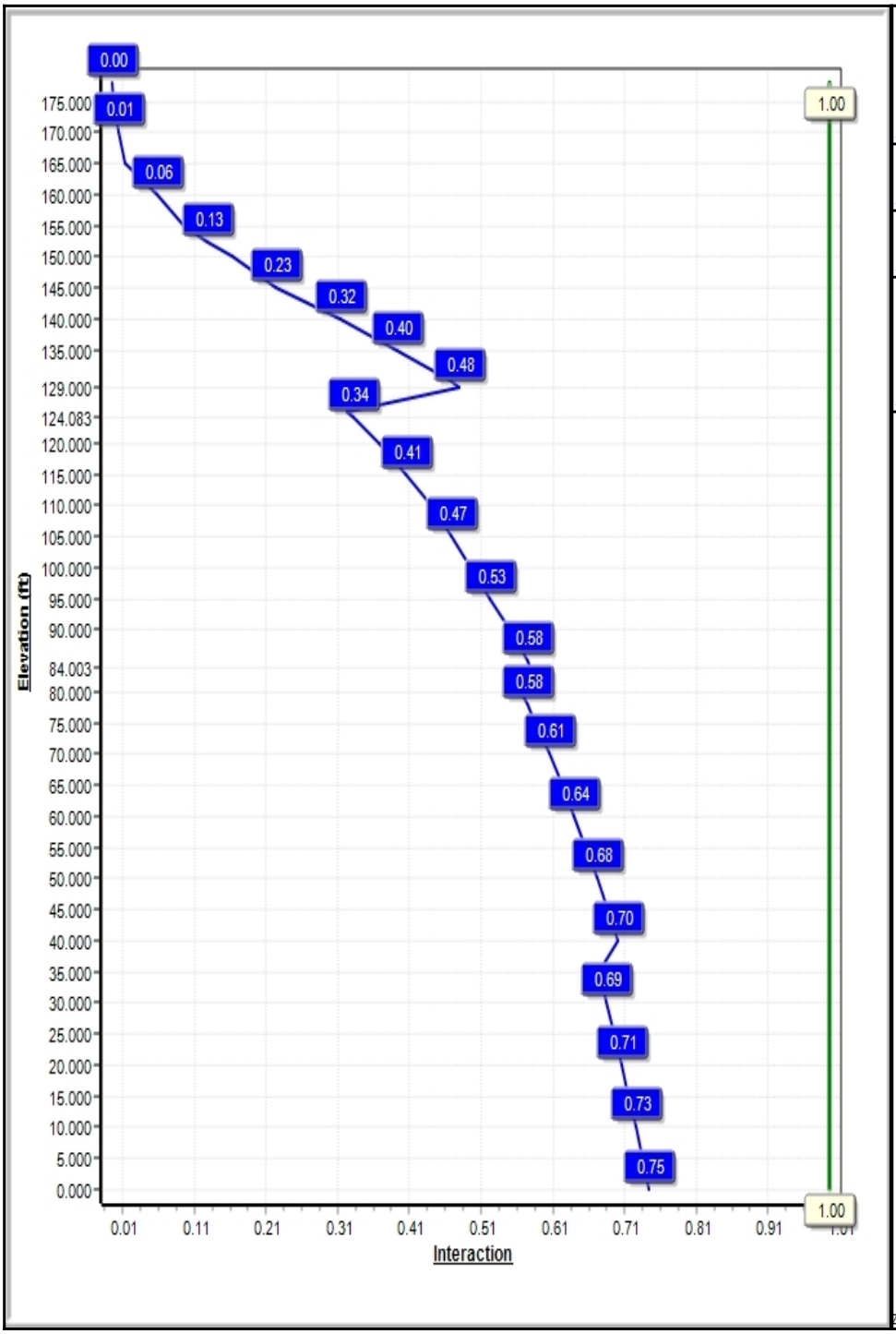
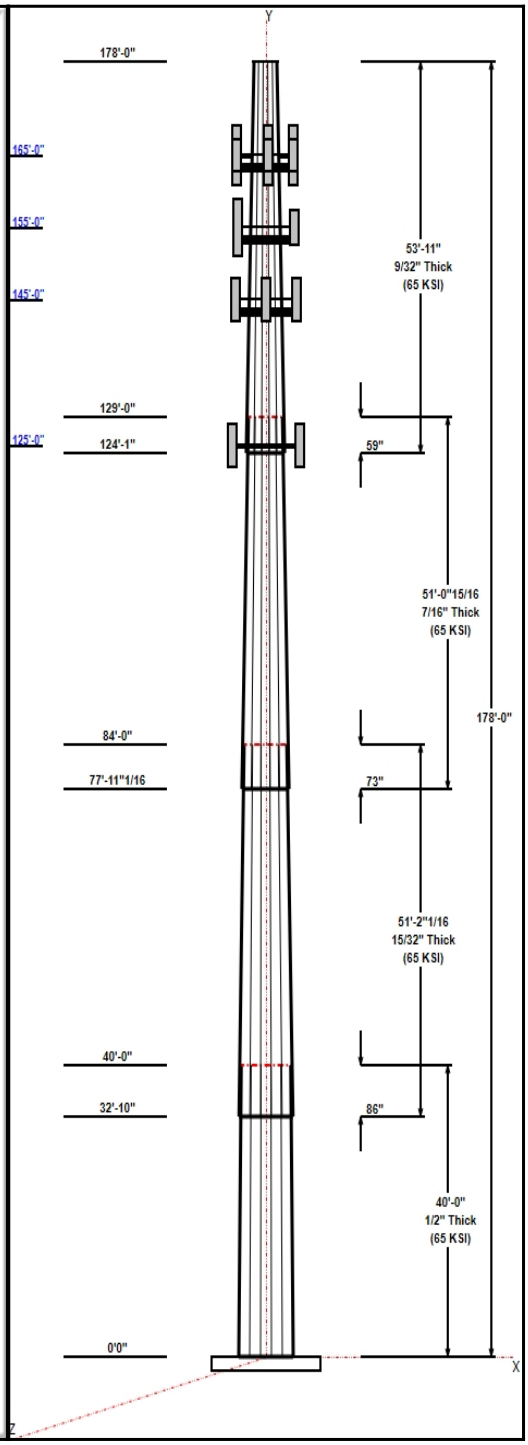
Dead Load Factor:	1.20	**Iterations:**	25
Wind Load Factor:	1.60		

Load Case : 1.2D + 1.6W 105 mph Wind





Structure: CT00594-S-SBA

Type: Tapered
Site Name: Plainfield North
Height: 178.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 12 Sided
Taper: 0.22997

6/6/2018

Tower Engineering Solutions

Shaft Properties

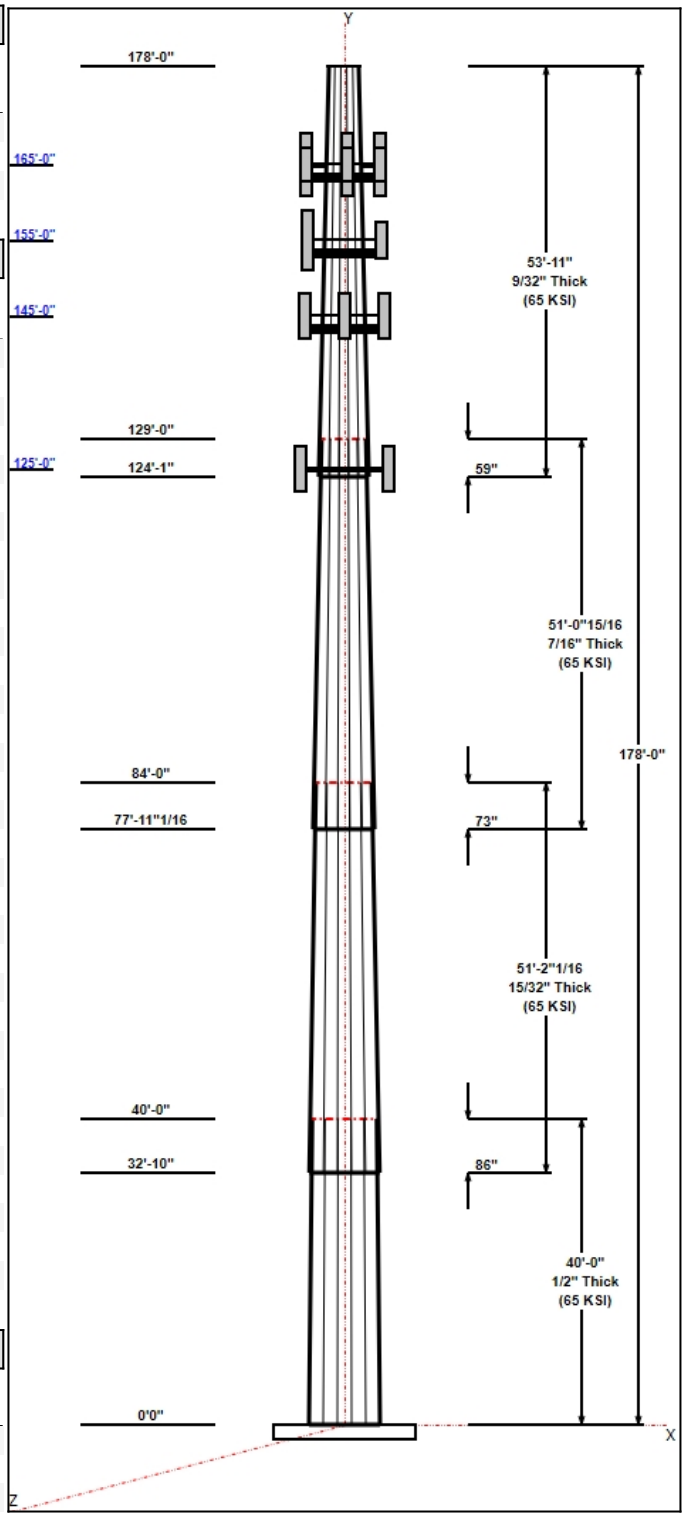
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	40.00	49.05	58.25	0.500		0.22997	65
2	51.17	39.87	51.64	0.469	Slip	0.22997	65
3	51.08	30.40	42.14	0.438	Slip	0.22997	65
4	53.92	19.69	32.09	0.281	Slip	0.22997	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
165.00	165.00	1	Platform w/ Hand Rails	T-Mobile
165.00	165.00	3	RFS	T-Mobile
165.00	165.00	3	Commscope LNX-	T-Mobile
165.00	165.00	6	Ericsson KRY 112 144/1	T-Mobile
165.00	165.00	3	Kathrein 782 11056 Bias	T-Mobile
165.00	165.00	3	Reinf. Kit (SitePro1	T-Mobile
155.00	155.00	6	Powerwave 7770	AT&T
155.00	155.00	1	KMW AM-X-CD-17-65-00T	AT&T
155.00	155.00	1	Powerwave	AT&T
155.00	155.00	1	Kathrein 800 10764	AT&T
155.00	155.00	1	Nokia CS72188.01	AT&T
155.00	155.00	6	Powerwave LGP21401	AT&T
155.00	155.00	6	Powerwave LGP21903	AT&T
155.00	155.00	1	Platform w/ Hand Rails	AT&T
152.50	152.50	6	Ericsson RRUS11 RRUs	---
152.50	152.50	1	Raycap DC2-48-60-18-8F	---
152.50	152.50	1	Ring Mount (Part No	---
145.00	145.00	1	Platform w/ Hand Rails	Sprint Nextel
145.00	145.00	3	ALU 1900 Mhz- RRUs	Sprint Nextel
145.00	145.00	6	ALU 800 Mhz- RRUs	Sprint Nextel
145.00	145.00	3	ALU TD-RRH8x20-25-	Sprint Nextel
145.00	145.00	3	APXVTM14-C-I20	Sprint Nextel
145.00	145.00	3	NNVV-65B-R4	Sprint Nextel
145.00	145.00	1	(3) SFS-H-L (V-Braces)	Sprint Nextel
145.00	145.00	1	PRK-1245 (kicker kit)	Sprint Nextel
125.00	125.00	6	Commscope	Verizon
125.00	125.00	6	Antel	Verizon
125.00	125.00	3	ALU RRH2x60-AWS	Verizon
125.00	125.00	3	ALU RRH2x60-700	Verizon
125.00	125.00	3	ALU RRH2X60-PCS	Verizon
125.00	125.00	6	RFS FD9R6004/2C-3L	Verizon
125.00	125.00	2	RFS DB-T1-6Z-8AB-0Z	Verizon
125.00	125.00	1	GPS	Verizon
125.00	125.00	1	Low Profile Platform	Verizon

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
3.00	165.00	Inside	1 5/8" Coax	T-Mobile
3.00	155.00	Inside	1 5/8" Coax	AT&T
3.00	155.00	Inside	1/2" Coax	AT&T
3.00	155.00	Inside	3/4" DC Power	AT&T
3.00	155.00	Inside	7/16" Fiber	AT&T
3.00	145.00	Inside	1-1/4" Fiber	Sprint Nextel
3.00	125.00	Outside	1 5/8" Coax	Verizon
3.00	125.00	Outside	1 5/8" Hybrid	Verizon



3.00	125.00	Outside	1/2" Coax	Verizon

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
24	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.0000	72.8	60.0	Polygon

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 105 mph Wind	5304.5	45.3	65.2
0.9D + 1.6W 105 mph Wind	5243.1	45.3	48.9
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1213.5	9.5	111.6
1.2D + 1.0E	184.4	1.7	65.3
0.9D + 1.0E	182.2	1.7	48.9
1.0D + 1.0W 60 mph Wind	1075.7	9.2	54.4

Structure: CT00594-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Plainfield North
Height: 178.00 (ft)

6/6/2018

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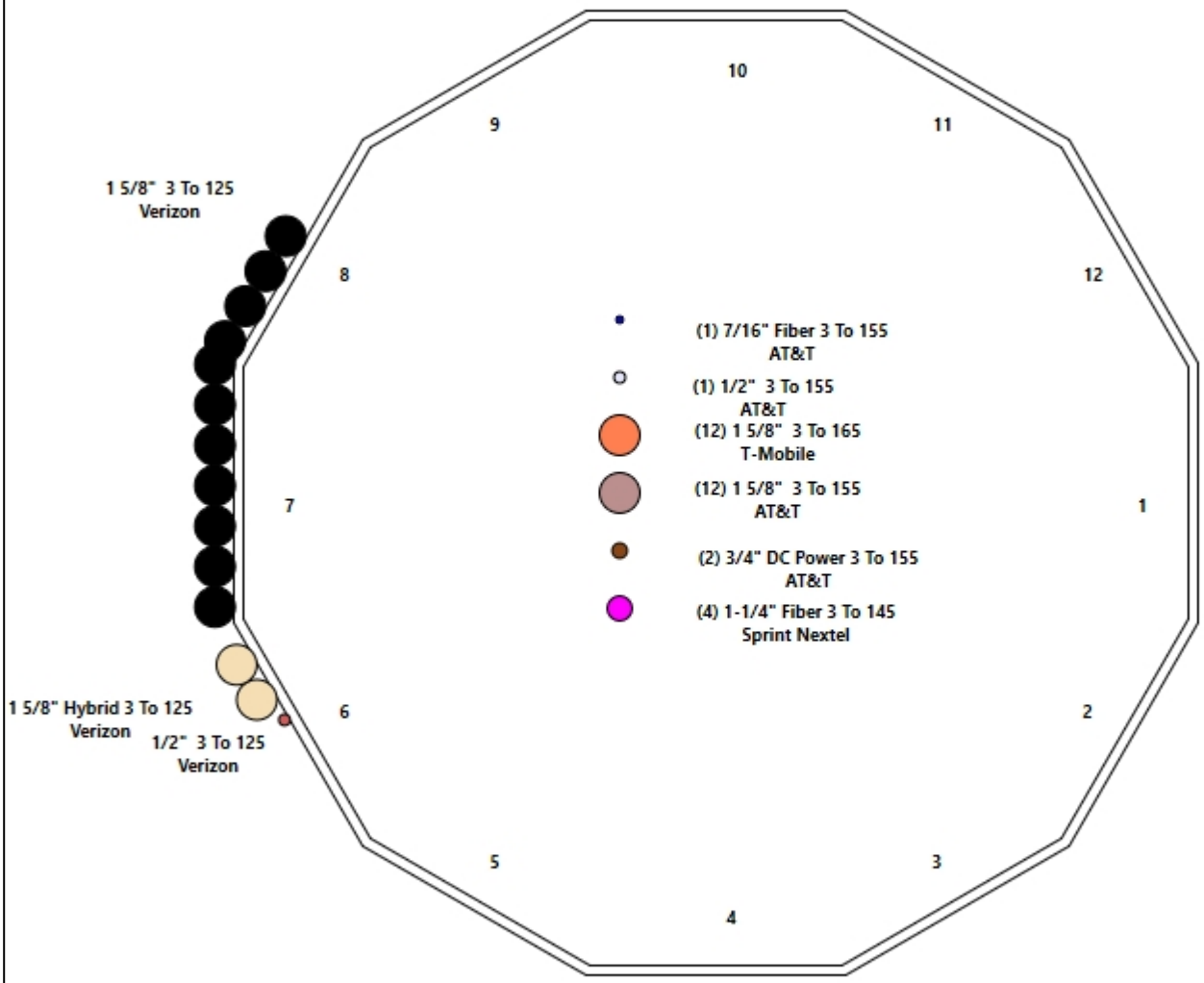

Shaft Properties

Structure:	CT00594-S-SBA		**Code:**	EIA/TIA-222-G	6/6/2018
Site Name:	Plainfield North		**Exposure:**	B	
Height:	178.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	12	40.000	0.5000	65		0.00	11,647
2	12	51.170	0.4688	65	Slip	86.00	11,901
3	12	51.080	0.4375	65	Slip	73.00	8,774
4	12	53.917	0.2813	65	Slip	59.00	4,255
					Total Shaft Weight:		**36,577**

	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	58.25	0.00	92.98	39579.27	29.07	116.50	49.05	40.00	78.17	23518.5	24.14	98.10	0.229972
2	51.64	32.83	77.23	25809.44	27.37	110.16	39.87	84.00	59.47	11783.7	20.65	85.05	0.229972
3	42.14	77.92	58.75	13043.76	23.67	96.33	30.40	129.00	42.20	4834.88	16.47	69.48	0.229972
4	32.09	124.0	28.81	3720.03	28.43	114.10	19.69	178.00	17.58	845.14	16.62	70.01	0.229972

Load Summary

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 6	

Tower Engineering Solutions

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	165.00	Platform w/ Hand Rails	1	2000.00	40.00	1.00	4819.09	68.191	1.00	0.00	0.00
2	165.00	RFS APXV18-203219-C-A20	3	18.70	5.52	0.70	90.48	8.337	0.70	0.00	0.00
3	165.00	Commscope LNX- 6515DS-VTM	3	50.30	11.47	0.80	362.87	15.846	0.80	0.00	0.00
4	165.00	Ericsson KRY 112 144/1 TMAs	6	11.00	0.41	0.70	25.51	1.050	0.70	0.00	0.00
5	165.00	Kathrein 782 11056 Bias T's	3	1.80	0.13	0.78	5.14	0.523	0.78	0.00	0.00
6	165.00	Reinf. Kit (SitePro1 PRK-1245)	3	95.00	3.50	0.75	351.83	14.259	0.75	0.00	0.00
7	155.00	Powerwave 7770	6	27.00	5.54	0.72	179.90	8.396	0.72	0.00	0.00
8	155.00	KMW AM-X-CD-17-65-00T	1	30.80	5.00	0.75	180.62	7.507	0.75	0.00	0.00
9	155.00	Powerwave P65-17-XLH-RR	1	59.00	11.44	0.75	348.75	15.767	0.75	0.00	0.00
10	155.00	Kathrein 800 10764	1	40.80	5.88	0.75	211.38	8.746	0.75	0.00	0.00
11	155.00	Nokia CS72188.01	1	19.80	1.32	0.70	58.65	2.439	0.70	0.00	0.00
12	155.00	Powerwave LGP21401 TMAs	6	14.10	1.29	1.00	47.54	2.408	1.00	0.00	0.00
13	155.00	Powerwave LGP21903 Diplexers	6	5.50	0.27	0.84	16.77	0.802	0.84	0.00	0.00
14	155.00	Platform w/ Hand Rails	1	2000.00	40.00	1.00	4801.52	68.015	1.00	0.00	0.00
15	152.50	Ericsson RRUS11 RRUs	6	51.00	3.26	0.74	152.85	4.971	0.74	0.00	0.00
16	152.50	Raycap DC2-48-60-18-8F	1	32.80	1.47	1.00	115.37	2.405	1.00	0.00	0.00
17	152.50	Ring Mount (Part No LWRM)	1	150.00	5.00	1.00	317.82	9.662	1.00	0.00	0.00
18	145.00	Platform w/ Hand Rails	1	2000.00	40.00	1.00	4782.89	67.829	1.00	0.00	0.00
19	145.00	ALU 1900 Mhz- RRUs	3	60.00	2.77	0.99	170.87	4.456	0.99	0.00	0.00
20	145.00	ALU 800 Mhz- RRUs	6	53.00	2.49	0.92	151.28	4.010	0.92	0.00	0.00
21	145.00	ALU TD-RRH8x20-25- RRUs	3	70.00	4.05	0.69	227.05	5.158	0.69	0.00	0.00
22	145.00	APXVTM14-C-I20	3	56.20	6.34	0.77	283.73	7.851	0.77	0.00	0.00
23	145.00	NNVV-65B-R4	3	77.40	12.27	0.74	456.86	14.205	0.74	0.00	0.00
24	145.00	(3) SFS-H-L (V-Braces)	1	230.00	6.70	1.00	656.71	16.023	1.00	0.00	0.00
25	145.00	PRK-1245 (kicker kit)	1	464.91	9.50	1.00	896.18	22.719	1.00	0.00	0.00
26	125.00	Commscope SBNHH-1D65B	6	50.71	8.08	0.83	329.88	9.779	0.83	0.00	0.00
27	125.00	Antel LPA-80080-4CF-EDIN-0	6	12.00	2.61	0.74	163.37	3.786	0.74	0.00	0.00
28	125.00	ALU RRH2x60-AWS	3	60.00	3.50	0.76	174.28	4.533	0.76	0.00	0.00
29	125.00	ALU RRH2x60-700	3	60.00	3.50	0.76	174.28	4.533	0.76	0.00	0.00
30	125.00	ALU RRH2X60-PCS	3	55.00	3.50	0.76	159.76	4.533	0.76	0.00	0.00
31	125.00	RFS FD9R6004/2C-3L	6	3.10	0.36	1.00	13.61	0.940	1.00	0.00	0.00
32	125.00	RFS DB-T1-6Z-8AB-0Z	2	44.00	4.10	0.91	363.30	5.149	0.91	0.00	0.00
33	125.00	GPS	1	10.00	1.00	0.83	48.39	1.932	0.87	0.00	0.00
34	125.00	Low Profile Platform	1	1200.00	25.00	1.00	2570.95	52.419	1.00	0.00	0.00
		Totals:	**102**	**11,503.77**			**34,390.68**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
3.00	165.00	(12) 1 5/8" Coax	0.00	Inside
3.00	155.00	(12) 1 5/8" Coax	0.00	Inside
3.00	155.00	(1) 1/2" Coax	0.00	Inside
3.00	155.00	(2) 3/4" DC Power	0.00	Inside
3.00	155.00	(1) 7/16" Fiber	0.00	Inside
3.00	145.00	(4) 1-1/4" Fiber	0.00	Inside
3.00	125.00	(11) 1 5/8" Coax	0.00	Outside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
3.00	125.00	(2) 1 5/8" Hybrid			0.00	Outside					
3.00	125.00	(1) 1/2" Coax			0.00	Outside					

Shaft Section Properties

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

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		0.5000	58.250	92.978	39579.3	29.07	116.50	73.0	1312.	0.0
5.00		0.5000	57.100	91.126	37261.8	28.46	114.20	73.7	1260.	1566.2
10.00		0.5000	55.950	89.275	35036.7	27.84	111.90	74.4	1209.	1534.7
15.00		0.5000	54.800	87.424	32901.9	27.22	109.60	75.0	1159.	1503.2
20.00		0.5000	53.651	85.572	30855.7	26.61	107.30	75.7	1111.	1471.7
25.00		0.5000	52.501	83.721	28896.1	25.99	105.00	76.4	1063.	1440.2
30.00		0.5000	51.351	81.870	27021.3	25.38	102.70	77.0	1016.	1408.7
32.83	Bot - Section 2	0.5000	50.699	80.821	25995.8	25.03	101.40	77.4	990.5	784.3
35.00		0.5000	50.201	80.019	25229.4	24.76	100.40	77.7	970.9	1159.5
40.00	Top - Section 1	0.4688	49.989	74.744	23394.9	26.43	106.64	0.0	0.0	2632.1
45.00		0.4688	48.839	73.008	21802.8	25.77	104.19	76.6	862.4	1256.9
50.00		0.4688	47.689	71.273	20284.5	25.12	101.74	77.3	821.7	1227.4
55.00		0.4688	46.539	69.537	18838.5	24.46	99.28	78.0	782.0	1197.9
60.00		0.4688	45.389	67.802	17462.8	23.80	96.83	78.8	743.3	1168.3
65.00		0.4688	44.239	66.066	16155.9	23.14	94.38	79.5	705.5	1138.8
70.00		0.4688	43.089	64.331	14915.8	22.49	91.92	80.2	668.7	1109.3
75.00		0.4688	41.940	62.595	13740.8	21.83	89.47	80.9	632.9	1079.8
77.92	Bot - Section 3	0.4688	41.268	61.582	13084.1	21.45	88.04	81.3	612.5	616.9
80.00		0.4688	40.790	60.860	12629.2	21.17	87.02	81.6	598.1	846.8
84.00	Top - Section 2	0.4375	40.744	56.782	11774.7	22.81	93.13	0.0	0.0	1601.9
85.00		0.4375	40.515	56.459	11574.9	22.67	92.61	80.0	551.9	192.0
90.00		0.4375	39.365	54.839	10606.9	21.97	89.98	80.8	520.5	946.8
95.00		0.4375	38.215	53.219	9694.5	21.26	87.35	81.5	490.1	919.2
100.00		0.4375	37.065	51.599	8835.9	20.56	84.72	81.9	460.5	891.7
105.00		0.4375	35.915	49.980	8029.6	19.85	82.09	81.9	431.9	864.1
110.00		0.4375	34.766	48.360	7273.9	19.15	79.46	81.9	404.2	836.6
115.00		0.4375	33.616	46.740	6567.2	18.44	76.84	81.9	377.4	809.0
120.00		0.4375	32.466	45.120	5907.8	17.74	74.21	81.9	351.5	781.4
124.08	Bot - Section 4	0.4375	31.527	43.797	5403.2	17.17	72.06	81.9	331.1	617.7
125.00		0.4375	31.316	43.500	5294.1	17.04	71.58	81.9	326.6	225.7
129.00	Top - Section 3	0.2813	30.959	27.782	3337.3	27.35	110.08	0.0	0.0	967.1
130.00		0.2813	30.729	27.574	3262.8	27.13	109.26	75.1	205.1	94.2
135.00		0.2813	29.579	26.533	2906.9	26.04	105.17	76.3	189.9	460.3
140.00		0.2813	28.429	25.491	2577.9	24.94	101.08	77.5	175.2	442.6
145.00		0.2813	27.279	24.450	2274.7	23.85	96.99	78.7	161.1	424.8
150.00		0.2813	26.129	23.409	1996.2	22.75	92.90	79.9	147.6	407.1
152.50		0.2813	25.554	22.888	1866.0	22.20	90.86	80.5	141.1	196.9
155.00		0.2813	24.979	22.367	1741.5	21.65	88.82	81.1	134.7	192.5
160.00		0.2813	23.829	21.326	1509.4	20.56	84.73	81.9	122.4	371.7
165.00		0.2813	22.680	20.285	1298.9	19.46	80.64	81.9	110.6	354.0
170.00		0.2813	21.530	19.243	1109.0	18.37	76.55	81.9	99.5	336.3
175.00		0.2813	20.380	18.202	938.5	17.27	72.46	81.9	89.0	318.5
178.00		0.2813	19.690	17.577	845.1	16.62	70.01	81.9	82.9	182.6
										36577.3

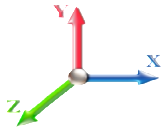
Wind Loading - Shaft

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

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	0.70	18.769	20.65	441.48	1.000	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	18.769	20.65	432.76	1.000	0.000	5.00	24.879	24.88	821.8	0.0	1879.4
10.00		1.00	0.70	18.769	20.65	424.05	1.000	0.000	5.00	24.383	24.38	805.5	0.0	1841.6
15.00		1.00	0.70	18.769	20.65	415.33	1.000	0.000	5.00	23.887	23.89	789.1	0.0	1803.8
20.00		1.00	0.70	18.769	20.65	406.62	1.000	0.000	5.00	23.391	23.39	772.7	0.0	1766.0
25.00		1.00	0.70	18.769	20.65	397.90	1.000	0.000	5.00	22.895	22.89	756.3	0.0	1728.2
30.00		1.00	0.70	18.785	20.66	389.35	1.000	0.000	5.00	22.399	22.40	740.5	0.0	1690.4
32.83	Bot - Section 2	1.00	0.72	19.275	21.20	389.40	1.000	0.000	2.83	12.473	12.47	423.1	0.0	941.1
35.00		1.00	0.73	19.631	21.59	389.11	1.000	0.000	2.17	9.606	9.61	331.9	0.0	1391.5
40.00	Top - Section 1	1.00	0.76	20.394	22.43	387.52	1.000	0.000	5.00	21.811	21.81	782.9	0.0	3158.6
45.00		1.00	0.79	21.092	23.20	392.39	1.000	0.000	5.00	21.315	21.32	791.3	0.0	1508.3
50.00		1.00	0.81	21.737	23.91	388.96	1.000	0.000	5.00	20.819	20.82	796.5	0.0	1472.9
55.00		1.00	0.83	22.337	24.57	384.79	1.000	0.000	5.00	20.323	20.32	799.0	0.0	1437.4
60.00		1.00	0.85	22.899	25.19	379.97	1.000	0.000	5.00	19.827	19.83	799.1	0.0	1402.0
65.00		1.00	0.87	23.429	25.77	374.61	1.000	0.000	5.00	19.331	19.33	797.1	0.0	1366.6
70.00		1.00	0.89	23.930	26.32	368.75	1.000	0.000	5.00	18.835	18.84	793.3	0.0	1331.1
75.00		1.00	0.91	24.406	26.85	362.47	1.000	0.000	5.00	18.339	18.34	787.8	0.0	1295.7
77.92	Bot - Section 3	1.00	0.92	24.674	27.14	358.62	1.000	0.000	2.92	10.481	10.48	455.1	0.0	740.3
80.00		1.00	0.93	24.861	27.35	355.80	1.000	0.000	2.08	7.520	7.52	329.0	0.0	1016.1
84.00	Top - Section 2	1.00	0.94	25.210	27.73	350.20	1.000	0.000	4.00	14.231	14.23	631.4	0.0	1922.3
85.00		1.00	0.94	25.295	27.82	356.47	1.000	0.000	1.00	3.494	3.49	155.5	0.0	230.4
90.00		1.00	0.96	25.711	28.28	349.19	1.000	0.000	5.00	17.229	17.23	779.6	0.0	1136.2
95.00		1.00	0.97	26.112	28.72	341.62	1.000	0.000	5.00	16.733	16.73	769.0	0.0	1103.1
100.00		1.00	0.99	26.497	29.15	333.78	1.000	0.000	5.00	16.237	16.24	757.2	0.0	1070.0
105.00		1.00	1.00	26.869	29.56	325.69	1.000	0.000	5.00	15.741	15.74	744.4	0.0	1037.0
110.00		1.00	1.02	27.229	29.95	317.36	1.000	0.000	5.00	15.245	15.24	730.6	0.0	1003.9
115.00		1.00	1.03	27.577	30.33	308.82	1.000	0.000	5.00	14.749	14.75	715.8	0.0	970.8
120.00		1.00	1.04	27.914	30.71	300.08	1.000	0.000	5.00	14.253	14.25	700.2	0.0	937.7
124.08	Bot - Section 4	1.00	1.05	28.182	31.00	292.79	1.000	0.000	4.08	11.272	11.27	559.1	0.0	741.3
125.00	Appurtenance(s)	1.00	1.05	28.242	31.07	291.14	1.000	0.000	0.92	2.529	2.53	125.7	0.0	270.8
129.00	Top - Section 3	1.00	1.06	28.497	31.35	283.86	1.000	0.000	4.00	10.842	10.84	543.8	0.0	1160.5
130.00		1.00	1.07	28.560	31.42	287.29	1.000	0.000	1.00	2.661	2.66	133.8	0.0	113.0
135.00		1.00	1.08	28.869	31.76	278.03	1.000	0.000	5.00	13.007	13.01	660.9	0.0	552.3
140.00		1.00	1.09	29.171	32.09	268.61	1.000	0.000	5.00	12.511	12.51	642.3	0.0	531.1
145.00	Appurtenance(s)	1.00	1.10	29.465	32.41	259.05	1.000	0.000	5.00	12.015	12.02	623.1	0.0	509.8
150.00		1.00	1.11	29.752	32.73	249.33	1.000	0.000	5.00	11.519	11.52	603.2	0.0	488.6
152.50	Appurtenance(s)	1.00	1.11	29.893	32.88	244.42	1.000	0.000	2.50	5.574	5.57	293.2	0.0	236.3
155.00	Appurtenance(s)	1.00	1.12	30.032	33.03	239.48	1.000	0.000	2.50	5.450	5.45	288.0	0.0	231.0
160.00		1.00	1.13	30.305	33.34	229.49	1.000	0.000	5.00	10.527	10.53	561.5	0.0	446.0
165.00	Appurtenance(s)	1.00	1.14	30.573	33.63	219.38	1.000	0.000	5.00	10.031	10.03	539.8	0.0	424.8
170.00		1.00	1.15	30.835	33.92	209.15	1.000	0.000	5.00	9.535	9.54	517.5	0.0	403.5
175.00		1.00	1.16	31.091	34.20	198.80	1.000	0.000	5.00	9.039	9.04	494.6	0.0	382.3
178.00		1.00	1.17	31.243	34.37	192.54	1.000	0.000	3.00	5.185	5.19	285.1	0.0	219.1
								Totals:	**178.00**			**25,427.3**		**43,892.8**

Discrete Appurtenance Forces

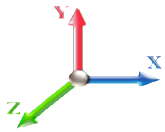
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

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	165.00	Kathrein 782 11056 Bias	3	30.573	33.630	0.58	0.75	0.23	6.48	0.000	0.000	12.28	0.00	0.00
2	165.00	Ericsson KRY 112 144/1	6	30.573	33.630	0.52	0.75	1.29	79.20	0.000	0.000	69.49	0.00	0.00
3	165.00	Commscope LNX-	3	30.573	33.630	0.60	0.75	20.65	181.08	0.000	0.000	1110.93	0.00	0.00
4	165.00	RFS	3	30.573	33.630	0.52	0.75	8.69	67.32	0.000	0.000	467.81	0.00	0.00
5	165.00	Platform w/ Hand Rails	1	30.573	33.630	1.00	1.00	40.00	2400.00	0.000	0.000	2152.34	0.00	0.00
6	165.00	Reinf. Kit (SitePro1	3	30.573	33.630	0.75	1.00	7.88	342.00	0.000	0.000	423.74	0.00	0.00
7	155.00	Kathrein 800 10764	1	30.032	33.035	0.56	0.75	3.31	48.96	0.000	0.000	174.82	0.00	0.00
8	155.00	Powerwave 7770	6	30.032	33.035	0.54	0.75	17.95	194.40	0.000	0.000	948.74	0.00	0.00
9	155.00	KMW AM-X-CD-17-65-00T	1	30.032	33.035	0.56	0.75	2.81	36.96	0.000	0.000	148.66	0.00	0.00
10	155.00	Powerwave	1	30.032	33.035	0.56	0.75	6.43	70.80	0.000	0.000	340.13	0.00	0.00
11	155.00	Powerwave LGP21401	6	30.032	33.035	0.75	0.75	5.80	101.52	0.000	0.000	306.83	0.00	0.00
12	155.00	Nokia CS72188.01	1	30.032	33.035	0.52	0.75	0.69	23.76	0.000	0.000	36.63	0.00	0.00
13	155.00	Powerwave LGP21903	6	30.032	33.035	0.63	0.75	1.02	39.60	0.000	0.000	53.94	0.00	0.00
14	155.00	Platform w/ Hand Rails	1	30.032	33.035	1.00	1.00	40.00	2400.00	0.000	0.000	2114.24	0.00	0.00
15	152.50	Raycap DC2-48-60-18-8F	1	29.893	32.882	0.90	0.90	1.32	39.36	0.000	0.000	69.60	0.00	0.00
16	152.50	Ericsson RRUS11 RRUs	6	29.893	32.882	0.67	0.90	13.03	367.20	0.000	0.000	685.36	0.00	0.00
17	152.50	Ring Mount (Part No	1	29.893	32.882	1.00	1.00	5.00	180.00	0.000	0.000	263.05	0.00	0.00
18	145.00	ALU TD-RRH8x20-25-	3	29.465	32.411	0.52	0.75	6.29	252.00	0.000	0.000	326.07	0.00	0.00
19	145.00	ALU 1900 Mhz- RRUs	3	29.465	32.411	0.74	0.75	6.17	216.00	0.000	0.000	319.97	0.00	0.00
20	145.00	PRK-1245 (kicker kit)	1	29.465	32.411	1.00	1.00	9.50	557.89	0.000	0.000	492.65	0.00	0.00
21	145.00	(3) SFS-H-L (V-Braces)	1	29.465	32.411	1.00	1.00	6.70	276.00	0.000	0.000	347.45	0.00	0.00
22	145.00	NNVV-65B-R4	3	29.465	32.411	0.55	0.75	20.43	278.64	0.000	0.000	1059.44	0.00	0.00
23	145.00	APXVTM14-C-I20	3	29.465	32.411	0.58	0.75	10.98	202.32	0.000	0.000	569.61	0.00	0.00
24	145.00	Platform w/ Hand Rails	1	29.465	32.411	1.00	1.00	40.00	2400.00	0.000	0.000	2074.33	0.00	0.00
25	145.00	ALU 800 Mhz- RRUs	6	29.465	32.411	0.69	0.75	10.31	381.60	0.000	0.000	534.59	0.00	0.00
26	125.00	Antel	6	28.242	31.066	0.59	0.80	9.31	86.40	0.000	0.000	462.67	0.00	0.00
27	125.00	ALU RRH2x60-AWS	3	28.242	31.066	0.61	0.80	6.38	216.00	0.000	0.000	317.32	0.00	0.00
28	125.00	ALU RRH2x60-700	3	28.242	31.066	0.61	0.80	6.38	216.00	0.000	0.000	317.32	0.00	0.00
29	125.00	Commscope	6	28.242	31.066	0.66	0.80	32.19	365.11	0.000	0.000	1600.05	0.00	0.00
30	125.00	Low Profile Platform	1	28.242	31.066	1.00	1.00	25.00	1440.00	0.000	0.000	1242.63	0.00	0.00
31	125.00	ALU RRH2X60-PCS	3	28.242	31.066	0.61	0.80	6.38	198.00	0.000	0.000	317.32	0.00	0.00
32	125.00	RFS FD9R6004/2C-3L	6	28.242	31.066	0.80	0.80	1.73	22.32	0.000	0.000	85.89	0.00	0.00
33	125.00	RFS DB-T1-6Z-8AB-0Z	2	28.242	31.066	0.73	0.80	5.97	105.60	0.000	0.000	296.72	0.00	0.00
34	125.00	GPS	1	28.242	31.066	0.67	0.80	0.67	12.00	0.000	0.000	33.12	0.00	0.00
							Totals:		**13,804.52**			**19,775.77**		

Total Applied Force Summary

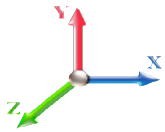
Structure:	CT00594-S-SBA		**Code:**	EIA/TIA-222-G	6/6/2018
Site Name:	Plainfield North		**Exposure:**	B	
Height:	178.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

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		821.84	1984.07	0.00	0.00
10.00		805.45	2103.29	0.00	0.00
15.00		789.07	2065.49	0.00	0.00
20.00		772.68	2027.70	0.00	0.00
25.00		756.30	1989.90	0.00	0.00
30.00		740.54	1952.10	0.00	0.00
32.83		423.13	1089.41	0.00	0.00
35.00		331.87	1504.85	0.00	0.00
40.00		782.89	3420.25	0.00	0.00
45.00		791.27	1770.00	0.00	0.00
50.00		796.47	1734.57	0.00	0.00
55.00		798.96	1699.13	0.00	0.00
60.00		799.08	1663.70	0.00	0.00
65.00		797.12	1628.27	0.00	0.00
70.00		793.28	1592.83	0.00	0.00
75.00		787.77	1557.40	0.00	0.00
77.92		455.14	893.13	0.00	0.00
80.00		329.02	1124.98	0.00	0.00
84.00		631.43	2131.85	0.00	0.00
85.00		155.53	282.59	0.00	0.00
90.00		779.64	1397.86	0.00	0.00
95.00		768.98	1364.79	0.00	0.00
100.00		757.20	1331.72	0.00	0.00
105.00		744.37	1298.65	0.00	0.00
110.00		730.56	1265.58	0.00	0.00
115.00		715.83	1232.50	0.00	0.00
120.00		700.22	1199.43	0.00	0.00
124.08		559.09	955.00	0.00	0.00
125.00	(31) attachments	4798.76	2980.25	0.00	0.00
129.00		543.79	1303.61	0.00	0.00
130.00		133.75	148.80	0.00	0.00
135.00		660.90	731.23	0.00	0.00
140.00		642.34	709.97	0.00	0.00
145.00	(21) attachments	6347.21	5253.16	0.00	0.00
150.00		603.18	644.56	0.00	0.00
152.50	(8) attachments	1311.25	900.86	0.00	0.00
155.00	(23) attachments	4412.03	3224.99	0.00	0.00
160.00		561.50	520.91	0.00	0.00
165.00	(19) attachments	4776.37	3575.73	0.00	0.00
170.00		517.47	403.51	0.00	0.00
175.00		494.63	382.25	0.00	0.00
178.00		285.13	219.15	0.00	0.00
	Totals:	**45,203.05**	**65,260.07**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

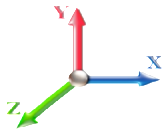
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	27.46
5.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.28
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.38
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	68.64
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	13.20
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.96
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	68.64
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	13.20
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.96
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	68.64
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	13.20
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.96
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	68.64
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	13.20
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.96
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	68.64
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	13.20
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	0.96
32.83	1 5/8" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	38.90
32.83	1 5/8" Hybrid	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	7.48
32.83	1/2" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	0.54
35.00	1 5/8" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	29.74
35.00	1 5/8" Hybrid	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	5.72
35.00	1/2" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	0.42
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	68.64
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	13.20
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	0.96
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	68.64
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	13.20
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	0.96
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	68.64
50.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	13.20
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	0.96
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	68.64
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	13.20
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	0.96
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	68.64
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	13.20
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	0.96
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	68.64
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	13.20
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	0.96
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	68.64
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	13.20
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	0.96
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	68.64
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	13.20

Linear Appurtenance Segment Forces (Factored)

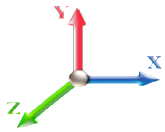
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	0.96
77.92	1 5/8" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	40.09
77.92	1 5/8" Hybrid	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	7.71
77.92	1/2" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	0.56
80.00	1 5/8" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	28.55
80.00	1 5/8" Hybrid	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	5.49
80.00	1/2" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	0.40
84.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	54.96
84.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	10.57
84.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	0.77
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	13.68
85.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	2.63
85.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	0.19
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	68.64
90.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	13.20
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	0.96
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	68.64
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	13.20
95.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	0.96
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	68.64
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	13.20
100.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	0.96
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	68.64
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	13.20
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	0.96
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	68.64
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	13.20
110.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	0.96
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	68.64
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	13.20
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	0.96
120.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	68.64
120.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	13.20
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	0.96
124.08	1 5/8" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	56.06
124.08	1 5/8" Hybrid	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	10.78
124.08	1/2" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	0.78
125.00	1 5/8" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	12.58
125.00	1 5/8" Hybrid	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	2.42
125.00	1/2" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	0.18
									Totals:		**0.0**	**2,020.3**

Calculated Forces

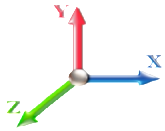
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

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	-65.18	-45.31	0.00	-5304.5	0.00	5304.53	6109.19	3054.60	14553.3	7187.37	0.00	0.000	0.000	0.749
5.00	-63.06	-44.69	0.00	-5077.9	0.00	5077.98	6042.67	3021.34	14105.8	6966.35	0.10	-0.187	0.000	0.740
10.00	-60.81	-44.08	0.00	-4854.5	0.00	4854.52	5973.91	2986.96	13659.5	6745.94	0.40	-0.376	0.000	0.730
15.00	-58.60	-43.47	0.00	-4634.1	0.00	4634.12	5902.91	2951.46	13214.8	6526.30	0.90	-0.569	0.000	0.720
20.00	-56.44	-42.87	0.00	-4416.7	0.00	4416.75	5829.67	2914.84	12771.9	6307.60	1.60	-0.764	0.000	0.710
25.00	-54.31	-42.28	0.00	-4202.4	0.00	4202.40	5754.19	2877.10	12331.3	6089.98	2.50	-0.963	0.000	0.700
30.00	-52.26	-41.64	0.00	-3991.0	0.00	3991.02	5676.47	2838.24	11893.2	5873.62	3.62	-1.165	0.000	0.689
32.83	-51.10	-41.29	0.00	-3873.0	0.00	3873.04	5631.44	2815.72	11646.2	5751.63	4.35	-1.282	0.000	0.683
35.00	-49.50	-41.05	0.00	-3783.5	0.00	3783.57	5596.51	2798.26	11457.9	5658.66	4.95	-1.373	0.000	0.678
40.00	-45.95	-40.35	0.00	-3578.3	0.00	3578.31	5104.93	2552.47	10419.5	5145.84	6.50	-1.580	0.000	0.705
45.00	-44.06	-39.67	0.00	-3376.5	0.00	3376.56	5033.50	2516.75	10032.9	4954.92	8.27	-1.791	0.000	0.690
50.00	-42.21	-38.98	0.00	-3178.2	0.00	3178.21	4959.83	2479.91	9648.87	4765.22	10.26	-2.005	0.000	0.676
55.00	-40.39	-38.27	0.00	-2983.3	0.00	2983.34	4883.92	2441.96	9267.55	4576.90	12.47	-2.221	0.000	0.660
60.00	-38.62	-37.55	0.00	-2792.0	0.00	2792.00	4805.76	2402.88	8889.36	4390.12	14.92	-2.439	0.000	0.644
65.00	-36.89	-36.82	0.00	-2604.2	0.00	2604.25	4725.37	2362.69	8514.61	4205.04	17.59	-2.658	0.000	0.627
70.00	-35.20	-36.09	0.00	-2420.1	0.00	2420.14	4642.74	2321.37	8143.62	4021.83	20.49	-2.880	0.000	0.610
75.00	-33.57	-35.33	0.00	-2239.6	0.00	2239.69	4557.87	2278.94	7776.72	3840.63	23.62	-3.102	0.000	0.591
77.92	-32.64	-34.89	0.00	-2136.5	0.00	2136.54	4507.27	2253.64	7564.46	3735.80	25.56	-3.234	0.000	0.579
80.00	-31.45	-34.57	0.00	-2063.9	0.00	2063.98	4470.76	2235.38	7414.22	3661.61	26.99	-3.329	0.000	0.571
84.00	-29.29	-33.87	0.00	-1925.5	0.00	1925.59	4079.95	2039.98	6768.85	3342.88	29.86	-3.509	0.000	0.583
85.00	-28.94	-33.77	0.00	-1891.8	0.00	1891.83	4064.53	2032.27	6704.51	3311.11	30.60	-3.555	0.000	0.579
90.00	-27.47	-33.00	0.00	-1723.0	0.00	1723.01	3985.82	1992.91	6384.01	3152.82	34.44	-3.777	0.000	0.554
95.00	-26.04	-32.24	0.00	-1557.9	0.00	1557.99	3904.88	1952.44	6067.57	2996.54	38.51	-3.997	0.000	0.527
100.00	-24.65	-31.49	0.00	-1396.7	0.00	1396.77	3803.39	1901.70	5727.93	2828.81	42.81	-4.214	0.000	0.501
105.00	-23.30	-30.73	0.00	-1239.3	0.00	1239.34	3683.99	1842.00	5371.89	2652.97	47.33	-4.426	0.000	0.474
110.00	-21.99	-29.98	0.00	-1085.6	0.00	1085.69	3564.59	1782.30	5027.27	2482.78	52.08	-4.632	0.000	0.444
115.00	-20.72	-29.24	0.00	-935.79	0.00	935.79	3445.19	1722.60	4694.07	2318.23	57.03	-4.830	0.000	0.410
120.00	-19.50	-28.49	0.00	-789.61	0.00	789.61	3325.79	1662.90	4372.30	2159.32	62.19	-5.017	0.000	0.372
124.08	-18.56	-27.88	0.00	-673.28	0.00	673.28	3228.28	1614.14	4118.00	2033.73	66.54	-5.160	0.000	0.337
125.00	-15.99	-22.85	0.00	-647.72	0.00	647.72	3206.39	1603.20	4061.96	2006.05	67.53	-5.192	0.000	0.328
129.00	-14.71	-22.21	0.00	-556.32	0.00	556.32	1872.41	936.20	2368.25	1169.59	71.93	-5.322	0.000	0.484
130.00	-14.53	-22.10	0.00	-534.11	0.00	534.11	1864.30	932.15	2340.16	1155.72	73.05	-5.354	0.000	0.470
135.00	-13.79	-21.42	0.00	-423.63	0.00	423.63	1822.43	911.21	2200.41	1086.70	78.76	-5.563	0.000	0.398
140.00	-13.09	-20.74	0.00	-316.56	0.00	316.56	1778.31	889.16	2062.08	1018.38	84.68	-5.744	0.000	0.319
145.00	-8.47	-13.92	0.00	-212.84	0.00	212.84	1731.96	865.98	1925.47	950.92	90.77	-5.890	0.000	0.229
150.00	-7.88	-13.26	0.00	-143.26	0.00	143.26	1683.36	841.68	1790.92	884.47	96.99	-6.001	0.000	0.167
152.50	-7.11	-11.87	0.00	-110.12	0.00	110.12	1658.23	829.11	1724.52	851.67	100.14	-6.046	0.000	0.134
155.00	-4.37	-7.14	0.00	-80.46	0.00	80.46	1632.53	816.27	1658.75	819.19	103.31	-6.083	0.000	0.101
160.00	-3.90	-6.53	0.00	-44.75	0.00	44.75	1571.93	785.97	1521.98	751.65	109.70	-6.134	0.000	0.062
165.00	-0.86	-1.40	0.00	-12.11	0.00	12.11	1495.17	747.59	1376.14	679.62	116.13	-6.160	0.000	0.018
170.00	-0.51	-0.84	0.00	-5.12	0.00	5.12	1418.42	709.21	1237.64	611.22	122.57	-6.170	0.000	0.009
175.00	-0.19	-0.31	0.00	-0.92	0.00	0.92	1341.66	670.83	1106.49	546.45	129.02	-6.174	0.000	0.002
178.00	0.00	-0.29	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33	132.89	-6.174	0.000	0.000

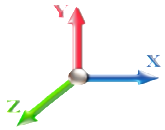
Wind Loading - Shaft

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Load Case: 0.9D + 1.6W 105 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	0.70	18.769	20.65	441.48	1.000	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	18.769	20.65	432.76	1.000	0.000	5.00	24.879	24.88	821.8	0.0	1409.5
10.00		1.00	0.70	18.769	20.65	424.05	1.000	0.000	5.00	24.383	24.38	805.5	0.0	1381.2
15.00		1.00	0.70	18.769	20.65	415.33	1.000	0.000	5.00	23.887	23.89	789.1	0.0	1352.8
20.00		1.00	0.70	18.769	20.65	406.62	1.000	0.000	5.00	23.391	23.39	772.7	0.0	1324.5
25.00		1.00	0.70	18.769	20.65	397.90	1.000	0.000	5.00	22.895	22.89	756.3	0.0	1296.2
30.00		1.00	0.70	18.785	20.66	389.35	1.000	0.000	5.00	22.399	22.40	740.5	0.0	1267.8
32.83	Bot - Section 2	1.00	0.72	19.275	21.20	389.40	1.000	0.000	2.83	12.473	12.47	423.1	0.0	705.8
35.00		1.00	0.73	19.631	21.59	389.11	1.000	0.000	2.17	9.606	9.61	331.9	0.0	1043.6
40.00	Top - Section 1	1.00	0.76	20.394	22.43	387.52	1.000	0.000	5.00	21.811	21.81	782.9	0.0	2368.9
45.00		1.00	0.79	21.092	23.20	392.39	1.000	0.000	5.00	21.315	21.32	791.3	0.0	1131.2
50.00		1.00	0.81	21.737	23.91	388.96	1.000	0.000	5.00	20.819	20.82	796.5	0.0	1104.7
55.00		1.00	0.83	22.337	24.57	384.79	1.000	0.000	5.00	20.323	20.32	799.0	0.0	1078.1
60.00		1.00	0.85	22.899	25.19	379.97	1.000	0.000	5.00	19.827	19.83	799.1	0.0	1051.5
65.00		1.00	0.87	23.429	25.77	374.61	1.000	0.000	5.00	19.331	19.33	797.1	0.0	1024.9
70.00		1.00	0.89	23.930	26.32	368.75	1.000	0.000	5.00	18.835	18.84	793.3	0.0	998.4
75.00		1.00	0.91	24.406	26.85	362.47	1.000	0.000	5.00	18.339	18.34	787.8	0.0	971.8
77.92	Bot - Section 3	1.00	0.92	24.674	27.14	358.62	1.000	0.000	2.92	10.481	10.48	455.1	0.0	555.2
80.00		1.00	0.93	24.861	27.35	355.80	1.000	0.000	2.08	7.520	7.52	329.0	0.0	762.1
84.00	Top - Section 2	1.00	0.94	25.210	27.73	350.20	1.000	0.000	4.00	14.231	14.23	631.4	0.0	1441.7
85.00		1.00	0.94	25.295	27.82	356.47	1.000	0.000	1.00	3.494	3.49	155.5	0.0	172.8
90.00		1.00	0.96	25.711	28.28	349.19	1.000	0.000	5.00	17.229	17.23	779.6	0.0	852.1
95.00		1.00	0.97	26.112	28.72	341.62	1.000	0.000	5.00	16.733	16.73	769.0	0.0	827.3
100.00		1.00	0.99	26.497	29.15	333.78	1.000	0.000	5.00	16.237	16.24	757.2	0.0	802.5
105.00		1.00	1.00	26.869	29.56	325.69	1.000	0.000	5.00	15.741	15.74	744.4	0.0	777.7
110.00		1.00	1.02	27.229	29.95	317.36	1.000	0.000	5.00	15.245	15.24	730.6	0.0	752.9
115.00		1.00	1.03	27.577	30.33	308.82	1.000	0.000	5.00	14.749	14.75	715.8	0.0	728.1
120.00		1.00	1.04	27.914	30.71	300.08	1.000	0.000	5.00	14.253	14.25	700.2	0.0	703.3
124.08	Bot - Section 4	1.00	1.05	28.182	31.00	292.79	1.000	0.000	4.08	11.272	11.27	559.1	0.0	556.0
125.00	Appurtenance(s)	1.00	1.05	28.242	31.07	291.14	1.000	0.000	0.92	2.529	2.53	125.7	0.0	203.1
129.00	Top - Section 3	1.00	1.06	28.497	31.35	283.86	1.000	0.000	4.00	10.842	10.84	543.8	0.0	870.4
130.00		1.00	1.07	28.560	31.42	287.29	1.000	0.000	1.00	2.661	2.66	133.8	0.0	84.8
135.00		1.00	1.08	28.869	31.76	278.03	1.000	0.000	5.00	13.007	13.01	660.9	0.0	414.3
140.00		1.00	1.09	29.171	32.09	268.61	1.000	0.000	5.00	12.511	12.51	642.3	0.0	398.3
145.00	Appurtenance(s)	1.00	1.10	29.465	32.41	259.05	1.000	0.000	5.00	12.015	12.02	623.1	0.0	382.4
150.00		1.00	1.11	29.752	32.73	249.33	1.000	0.000	5.00	11.519	11.52	603.2	0.0	366.4
152.50	Appurtenance(s)	1.00	1.11	29.893	32.88	244.42	1.000	0.000	2.50	5.574	5.57	293.2	0.0	177.2
155.00	Appurtenance(s)	1.00	1.12	30.032	33.03	239.48	1.000	0.000	2.50	5.450	5.45	288.0	0.0	173.2
160.00		1.00	1.13	30.305	33.34	229.49	1.000	0.000	5.00	10.527	10.53	561.5	0.0	334.5
165.00	Appurtenance(s)	1.00	1.14	30.573	33.63	219.38	1.000	0.000	5.00	10.031	10.03	539.8	0.0	318.6
170.00		1.00	1.15	30.835	33.92	209.15	1.000	0.000	5.00	9.535	9.54	517.5	0.0	302.6
175.00		1.00	1.16	31.091	34.20	198.80	1.000	0.000	5.00	9.039	9.04	494.6	0.0	286.7
178.00		1.00	1.17	31.243	34.37	192.54	1.000	0.000	3.00	5.185	5.19	285.1	0.0	164.4
								Totals:	**178.00**			**25,427.3**		**32,919.6**

Discrete Appurtenance Forces

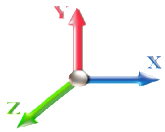
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 105 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	165.00	Kathrein 782 11056 Bias	3	30.573	33.630	0.58	0.75	0.23	4.86	0.000	0.000	12.28	0.00	0.00
2	165.00	Ericsson KRY 112 144/1	6	30.573	33.630	0.52	0.75	1.29	59.40	0.000	0.000	69.49	0.00	0.00
3	165.00	Commscope LNX-	3	30.573	33.630	0.60	0.75	20.65	135.81	0.000	0.000	1110.93	0.00	0.00
4	165.00	RFS	3	30.573	33.630	0.52	0.75	8.69	50.49	0.000	0.000	467.81	0.00	0.00
5	165.00	Platform w/ Hand Rails	1	30.573	33.630	1.00	1.00	40.00	1800.00	0.000	0.000	2152.34	0.00	0.00
6	165.00	Reinf. Kit (SitePro1	3	30.573	33.630	0.75	1.00	7.88	256.50	0.000	0.000	423.74	0.00	0.00
7	155.00	Kathrein 800 10764	1	30.032	33.035	0.56	0.75	3.31	36.72	0.000	0.000	174.82	0.00	0.00
8	155.00	Powerwave 7770	6	30.032	33.035	0.54	0.75	17.95	145.80	0.000	0.000	948.74	0.00	0.00
9	155.00	KMW AM-X-CD-17-65-00T	1	30.032	33.035	0.56	0.75	2.81	27.72	0.000	0.000	148.66	0.00	0.00
10	155.00	Powerwave	1	30.032	33.035	0.56	0.75	6.43	53.10	0.000	0.000	340.13	0.00	0.00
11	155.00	Powerwave LGP21401	6	30.032	33.035	0.75	0.75	5.80	76.14	0.000	0.000	306.83	0.00	0.00
12	155.00	Nokia CS72188.01	1	30.032	33.035	0.52	0.75	0.69	17.82	0.000	0.000	36.63	0.00	0.00
13	155.00	Powerwave LGP21903	6	30.032	33.035	0.63	0.75	1.02	29.70	0.000	0.000	53.94	0.00	0.00
14	155.00	Platform w/ Hand Rails	1	30.032	33.035	1.00	1.00	40.00	1800.00	0.000	0.000	2114.24	0.00	0.00
15	152.50	Raycap DC2-48-60-18-8F	1	29.893	32.882	0.90	0.90	1.32	29.52	0.000	0.000	69.60	0.00	0.00
16	152.50	Ericsson RRUS11 RRUs	6	29.893	32.882	0.67	0.90	13.03	275.40	0.000	0.000	685.36	0.00	0.00
17	152.50	Ring Mount (Part No	1	29.893	32.882	1.00	1.00	5.00	135.00	0.000	0.000	263.05	0.00	0.00
18	145.00	ALU TD-RRH8x20-25-	3	29.465	32.411	0.52	0.75	6.29	189.00	0.000	0.000	326.07	0.00	0.00
19	145.00	ALU 1900 Mhz- RRUs	3	29.465	32.411	0.74	0.75	6.17	162.00	0.000	0.000	319.97	0.00	0.00
20	145.00	PRK-1245 (kicker kit)	1	29.465	32.411	1.00	1.00	9.50	418.42	0.000	0.000	492.65	0.00	0.00
21	145.00	(3) SFS-H-L (V-Braces)	1	29.465	32.411	1.00	1.00	6.70	207.00	0.000	0.000	347.45	0.00	0.00
22	145.00	NNVV-65B-R4	3	29.465	32.411	0.55	0.75	20.43	208.98	0.000	0.000	1059.44	0.00	0.00
23	145.00	APXVTM14-C-I20	3	29.465	32.411	0.58	0.75	10.98	151.74	0.000	0.000	569.61	0.00	0.00
24	145.00	Platform w/ Hand Rails	1	29.465	32.411	1.00	1.00	40.00	1800.00	0.000	0.000	2074.33	0.00	0.00
25	145.00	ALU 800 Mhz- RRUs	6	29.465	32.411	0.69	0.75	10.31	286.20	0.000	0.000	534.59	0.00	0.00
26	125.00	Antel	6	28.242	31.066	0.59	0.80	9.31	64.80	0.000	0.000	462.67	0.00	0.00
27	125.00	ALU RRH2x60-AWS	3	28.242	31.066	0.61	0.80	6.38	162.00	0.000	0.000	317.32	0.00	0.00
28	125.00	ALU RRH2x60-700	3	28.242	31.066	0.61	0.80	6.38	162.00	0.000	0.000	317.32	0.00	0.00
29	125.00	Commscope	6	28.242	31.066	0.66	0.80	32.19	273.83	0.000	0.000	1600.05	0.00	0.00
30	125.00	Low Profile Platform	1	28.242	31.066	1.00	1.00	25.00	1080.00	0.000	0.000	1242.63	0.00	0.00
31	125.00	ALU RRH2X60-PCS	3	28.242	31.066	0.61	0.80	6.38	148.50	0.000	0.000	317.32	0.00	0.00
32	125.00	RFS FD9R6004/2C-3L	6	28.242	31.066	0.80	0.80	1.73	16.74	0.000	0.000	85.89	0.00	0.00
33	125.00	RFS DB-T1-6Z-8AB-0Z	2	28.242	31.066	0.73	0.80	5.97	79.20	0.000	0.000	296.72	0.00	0.00
34	125.00	GPS	1	28.242	31.066	0.67	0.80	0.67	9.00	0.000	0.000	33.12	0.00	0.00
							Totals:		**10,353.39**			**19,775.77**		

Total Applied Force Summary

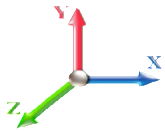
Structure:	CT00594-S-SBA		**Code:**	EIA/TIA-222-G	6/6/2018
Site Name:	Plainfield North		**Exposure:**	B	
Height:	178.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 17

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 105 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		821.84	1488.05	0.00	0.00
10.00		805.45	1577.47	0.00	0.00
15.00		789.07	1549.12	0.00	0.00
20.00		772.68	1520.77	0.00	0.00
25.00		756.30	1492.43	0.00	0.00
30.00		740.54	1464.08	0.00	0.00
32.83		423.13	817.06	0.00	0.00
35.00		331.87	1128.64	0.00	0.00
40.00		782.89	2565.19	0.00	0.00
45.00		791.27	1327.50	0.00	0.00
50.00		796.47	1300.93	0.00	0.00
55.00		798.96	1274.35	0.00	0.00
60.00		799.08	1247.77	0.00	0.00
65.00		797.12	1221.20	0.00	0.00
70.00		793.28	1194.62	0.00	0.00
75.00		787.77	1168.05	0.00	0.00
77.92		455.14	669.85	0.00	0.00
80.00		329.02	843.73	0.00	0.00
84.00		631.43	1598.89	0.00	0.00
85.00		155.53	211.95	0.00	0.00
90.00		779.64	1048.40	0.00	0.00
95.00		768.98	1023.59	0.00	0.00
100.00		757.20	998.79	0.00	0.00
105.00		744.37	973.99	0.00	0.00
110.00		730.56	949.18	0.00	0.00
115.00		715.83	924.38	0.00	0.00
120.00		700.22	899.57	0.00	0.00
124.08		559.09	716.25	0.00	0.00
125.00	(31) attachments	4798.76	2235.19	0.00	0.00
129.00		543.79	977.71	0.00	0.00
130.00		133.75	111.60	0.00	0.00
135.00		660.90	548.43	0.00	0.00
140.00		642.34	532.48	0.00	0.00
145.00	(21) attachments	6347.21	3939.87	0.00	0.00
150.00		603.18	483.42	0.00	0.00
152.50	(8) attachments	1311.25	675.65	0.00	0.00
155.00	(23) attachments	4412.03	2418.74	0.00	0.00
160.00		561.50	390.69	0.00	0.00
165.00	(19) attachments	4776.37	2681.80	0.00	0.00
170.00		517.47	302.63	0.00	0.00
175.00		494.63	286.69	0.00	0.00
178.00		285.13	164.36	0.00	0.00
	Totals:	**45,203.05**	**48,945.05**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

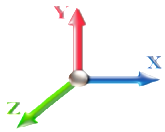
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	20.59
5.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	3.96
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.29
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	51.48
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	9.90
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.72
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	51.48
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	9.90
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.72
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	51.48
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	9.90
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.72
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	51.48
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	9.90
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.72
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	51.48
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	9.90
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	0.72
32.83	1 5/8" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	29.17
32.83	1 5/8" Hybrid	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	5.61
32.83	1/2" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	0.41
35.00	1 5/8" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	22.31
35.00	1 5/8" Hybrid	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	4.29
35.00	1/2" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	0.31
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	51.48
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	9.90
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	0.72
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	51.48
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	9.90
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	0.72
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	51.48
50.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	9.90
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	0.72
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	51.48
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	9.90
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	0.72
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	51.48
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	9.90
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	0.72
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	51.48
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	9.90
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	0.72
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	51.48
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	9.90
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	0.72
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	51.48
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	9.90

Linear Appurtenance Segment Forces (Factored)

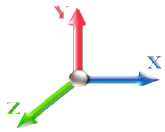
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	0.72
77.92	1 5/8" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	30.06
77.92	1 5/8" Hybrid	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	5.78
77.92	1/2" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	0.42
80.00	1 5/8" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	21.42
80.00	1 5/8" Hybrid	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	4.12
80.00	1/2" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	0.30
84.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	41.22
84.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	7.93
84.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	0.58
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	10.26
85.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	1.97
85.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	0.14
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	51.48
90.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	9.90
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	0.72
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	51.48
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	9.90
95.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	0.72
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	51.48
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	9.90
100.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	0.72
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	51.48
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	9.90
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	0.72
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	51.48
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	9.90
110.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	0.72
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	51.48
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	9.90
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	0.72
120.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	51.48
120.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	9.90
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	0.72
124.08	1 5/8" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	42.04
124.08	1 5/8" Hybrid	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	8.08
124.08	1/2" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	0.59
125.00	1 5/8" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	9.44
125.00	1 5/8" Hybrid	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	1.82
125.00	1/2" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	0.13
									Totals:		**0.0**	**1,515.2**

Calculated Forces

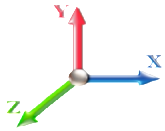
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 105 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	-48.87	-45.28	0.00	-5243.1	0.00	5243.12	6109.19	3054.60	14553.3	7187.37	0.00	0.000	0.000	0.738
5.00	-47.24	-44.61	0.00	-5016.7	0.00	5016.71	6042.67	3021.34	14105.8	6966.35	0.10	-0.184	0.000	0.728
10.00	-45.52	-43.95	0.00	-4793.6	0.00	4793.65	5973.91	2986.96	13659.5	6745.94	0.39	-0.372	0.000	0.718
15.00	-43.83	-43.29	0.00	-4573.9	0.00	4573.90	5902.91	2951.46	13214.8	6526.30	0.88	-0.562	0.000	0.708
20.00	-42.18	-42.65	0.00	-4357.4	0.00	4357.43	5829.67	2914.84	12771.9	6307.60	1.58	-0.755	0.000	0.698
25.00	-40.55	-42.01	0.00	-4144.1	0.00	4144.19	5754.19	2877.10	12331.3	6089.98	2.47	-0.951	0.000	0.688
30.00	-38.99	-41.35	0.00	-3934.1	0.00	3934.15	5676.47	2838.24	11893.2	5873.62	3.58	-1.150	0.000	0.677
32.83	-38.11	-40.98	0.00	-3817.0	0.00	3817.00	5631.44	2815.72	11646.2	5751.63	4.29	-1.265	0.000	0.671
35.00	-36.88	-40.71	0.00	-3728.2	0.00	3728.21	5596.51	2798.26	11457.9	5658.66	4.89	-1.355	0.000	0.666
40.00	-34.19	-39.99	0.00	-3524.6	0.00	3524.64	5104.93	2552.47	10419.5	5145.84	6.42	-1.559	0.000	0.692
45.00	-32.75	-39.28	0.00	-3324.7	0.00	3324.70	5033.50	2516.75	10032.9	4954.92	8.16	-1.766	0.000	0.678
50.00	-31.33	-38.56	0.00	-3128.3	0.00	3128.30	4959.83	2479.91	9648.87	4765.22	10.12	-1.977	0.000	0.663
55.00	-29.95	-37.82	0.00	-2935.5	0.00	2935.52	4883.92	2441.96	9267.55	4576.90	12.31	-2.190	0.000	0.648
60.00	-28.59	-37.08	0.00	-2746.4	0.00	2746.40	4805.76	2402.88	8889.36	4390.12	14.72	-2.404	0.000	0.632
65.00	-27.27	-36.34	0.00	-2560.9	0.00	2560.98	4725.37	2362.69	8514.61	4205.04	17.35	-2.620	0.000	0.615
70.00	-25.98	-35.59	0.00	-2379.3	0.00	2379.30	4642.74	2321.37	8143.62	4021.83	20.21	-2.838	0.000	0.597
75.00	-24.75	-34.82	0.00	-2201.3	0.00	2201.37	4557.87	2278.94	7776.72	3840.63	23.30	-3.056	0.000	0.579
77.92	-24.04	-34.37	0.00	-2099.7	0.00	2099.71	4507.27	2253.64	7564.46	3735.80	25.21	-3.186	0.000	0.568
80.00	-23.13	-34.05	0.00	-2028.2	0.00	2028.22	4470.76	2235.38	7414.22	3661.61	26.62	-3.279	0.000	0.559
84.00	-21.51	-33.37	0.00	-1891.9	0.00	1891.91	4079.95	2039.98	6768.85	3342.88	29.44	-3.456	0.000	0.571
85.00	-21.23	-33.25	0.00	-1858.6	0.00	1858.65	4064.53	2032.27	6704.51	3311.11	30.17	-3.501	0.000	0.567
90.00	-20.11	-32.48	0.00	-1692.4	0.00	1692.41	3985.82	1992.91	6384.01	3152.82	33.95	-3.720	0.000	0.542
95.00	-19.02	-31.72	0.00	-1530.0	0.00	1530.01	3904.88	1952.44	6067.57	2996.54	37.96	-3.936	0.000	0.516
100.00	-17.96	-30.96	0.00	-1371.4	0.00	1371.43	3803.39	1901.70	5727.93	2828.81	42.19	-4.149	0.000	0.490
105.00	-16.94	-30.20	0.00	-1216.6	0.00	1216.65	3683.99	1842.00	5371.89	2652.97	46.65	-4.357	0.000	0.463
110.00	-15.95	-29.46	0.00	-1065.6	0.00	1065.63	3564.59	1782.30	5027.27	2482.78	51.32	-4.559	0.000	0.434
115.00	-14.99	-28.72	0.00	-918.35	0.00	918.35	3445.19	1722.60	4694.07	2318.23	56.19	-4.753	0.000	0.401
120.00	-14.07	-27.98	0.00	-774.77	0.00	774.77	3325.79	1662.90	4372.30	2159.32	61.26	-4.936	0.000	0.363
124.08	-13.37	-27.38	0.00	-660.50	0.00	660.50	3228.28	1614.14	4118.00	2033.73	65.54	-5.078	0.000	0.329
125.00	-11.54	-22.42	0.00	-635.40	0.00	635.40	3206.39	1603.20	4061.96	2006.05	66.52	-5.109	0.000	0.321
129.00	-10.58	-21.81	0.00	-545.72	0.00	545.72	1872.41	936.20	2368.25	1169.59	70.85	-5.236	0.000	0.473
130.00	-10.44	-21.69	0.00	-523.91	0.00	523.91	1864.30	932.15	2340.16	1155.72	71.95	-5.267	0.000	0.459
135.00	-9.88	-21.01	0.00	-415.48	0.00	415.48	1822.43	911.21	2200.41	1086.70	77.57	-5.472	0.000	0.388
140.00	-9.36	-20.34	0.00	-310.44	0.00	310.44	1778.31	889.16	2062.08	1018.38	83.39	-5.650	0.000	0.311
145.00	-6.04	-13.65	0.00	-208.72	0.00	208.72	1731.96	865.98	1925.47	950.92	89.38	-5.793	0.000	0.223
150.00	-5.61	-13.01	0.00	-140.48	0.00	140.48	1683.36	841.68	1790.92	884.47	95.50	-5.902	0.000	0.162
152.50	-5.06	-11.64	0.00	-107.96	0.00	107.96	1658.23	829.11	1724.52	851.67	98.60	-5.946	0.000	0.130
155.00	-3.11	-7.00	0.00	-78.87	0.00	78.87	1632.53	816.27	1658.75	819.19	101.72	-5.982	0.000	0.098
160.00	-2.78	-6.40	0.00	-43.87	0.00	43.87	1571.93	785.97	1521.98	751.65	108.00	-6.032	0.000	0.060
165.00	-0.61	-1.37	0.00	-11.87	0.00	11.87	1495.17	747.59	1376.14	679.62	114.32	-6.058	0.000	0.018
170.00	-0.37	-0.82	0.00	-5.02	0.00	5.02	1418.42	709.21	1237.64	611.22	120.66	-6.068	0.000	0.008
175.00	-0.13	-0.30	0.00	-0.90	0.00	0.90	1341.66	670.83	1106.49	546.45	127.01	-6.071	0.000	0.002
178.00	0.00	-0.29	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33	130.82	-6.072	0.000	0.000

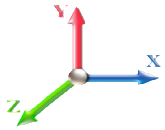
Wind Loading - Shaft

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

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

Dead Load Factor 1.20

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	0.70	4.256	4.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.256	4.68	0.00	1.200	1.656	5.00	26.259	31.51	147.5	630.1	2509.5
10.00		1.00	0.70	4.256	4.68	0.00	1.200	1.775	5.00	25.862	31.03	145.3	663.4	2505.0
15.00		1.00	0.70	4.256	4.68	0.00	1.200	1.848	5.00	25.427	30.51	142.8	678.0	2481.8
20.00		1.00	0.70	4.256	4.68	0.00	1.200	1.902	5.00	24.976	29.97	140.3	684.2	2450.2
25.00		1.00	0.70	4.256	4.68	0.00	1.200	1.945	5.00	24.516	29.42	137.7	685.7	2413.9
30.00		1.00	0.70	4.260	4.69	0.00	1.200	1.981	5.00	24.050	28.86	135.2	684.0	2374.4
32.83	Bot - Section 2	1.00	0.72	4.371	4.81	0.00	1.200	1.999	2.83	13.417	16.10	77.4	386.4	1327.6
35.00		1.00	0.73	4.451	4.90	0.00	1.200	2.012	2.17	10.332	12.40	60.7	300.0	1691.4
40.00	Top - Section 1	1.00	0.76	4.625	5.09	0.00	1.200	2.039	5.00	23.510	28.21	143.5	686.7	3845.2
45.00		1.00	0.79	4.783	5.26	0.00	1.200	2.063	5.00	23.035	27.64	145.4	679.7	2188.0
50.00		1.00	0.81	4.929	5.42	0.00	1.200	2.085	5.00	22.557	27.07	146.8	671.7	2144.6
55.00		1.00	0.83	5.065	5.57	0.00	1.200	2.105	5.00	22.077	26.49	147.6	662.7	2100.1
60.00		1.00	0.85	5.193	5.71	0.00	1.200	2.123	5.00	21.597	25.92	148.0	652.9	2054.9
65.00		1.00	0.87	5.313	5.84	0.00	1.200	2.140	5.00	21.115	25.34	148.1	642.4	2009.0
70.00		1.00	0.89	5.426	5.97	0.00	1.200	2.156	5.00	20.632	24.76	147.8	631.3	1962.5
75.00		1.00	0.91	5.534	6.09	0.00	1.200	2.171	5.00	20.149	24.18	147.2	619.7	1915.4
77.92	Bot - Section 3	1.00	0.92	5.595	6.15	0.00	1.200	2.179	2.92	11.541	13.85	85.2	357.8	1098.1
80.00		1.00	0.93	5.637	6.20	0.00	1.200	2.185	2.08	8.277	9.93	61.6	257.9	1274.1
84.00	Top - Section 2	1.00	0.94	5.717	6.29	0.00	1.200	2.196	4.00	15.696	18.84	118.4	488.5	2410.8
85.00		1.00	0.94	5.736	6.31	0.00	1.200	2.198	1.00	3.859	4.63	29.2	121.1	351.5
90.00		1.00	0.96	5.830	6.41	0.00	1.200	2.211	5.00	19.071	22.89	146.8	594.8	1731.0
95.00		1.00	0.97	5.921	6.51	0.00	1.200	2.223	5.00	18.585	22.30	145.3	581.6	1684.7
100.00		1.00	0.99	6.008	6.61	0.00	1.200	2.234	5.00	18.099	21.72	143.5	568.1	1638.1
105.00		1.00	1.00	6.093	6.70	0.00	1.200	2.245	5.00	17.612	21.13	141.6	554.3	1591.3
110.00		1.00	1.02	6.174	6.79	0.00	1.200	2.256	5.00	17.125	20.55	139.6	540.2	1544.1
115.00		1.00	1.03	6.253	6.88	0.00	1.200	2.266	5.00	16.637	19.96	137.3	525.9	1496.7
120.00		1.00	1.04	6.330	6.96	0.00	1.200	2.276	5.00	16.149	19.38	134.9	511.3	1449.0
124.08	Bot - Section 4	1.00	1.05	6.391	7.03	0.00	1.200	2.283	4.08	12.826	15.39	108.2	407.7	1149.0
125.00	Appurtenance(s)	1.00	1.05	6.404	7.04	0.00	1.200	2.285	0.92	2.878	3.45	24.3	92.6	363.4
129.00	Top - Section 3	1.00	1.06	6.462	7.11	0.00	1.200	2.292	4.00	12.370	14.84	105.5	394.3	1554.8
130.00		1.00	1.07	6.476	7.12	0.00	1.200	2.294	1.00	3.043	3.65	26.0	98.0	211.0
135.00		1.00	1.08	6.546	7.20	0.00	1.200	2.303	5.00	14.926	17.91	129.0	474.7	1027.0
140.00		1.00	1.09	6.615	7.28	0.00	1.200	2.311	5.00	14.437	17.32	126.1	459.3	990.4
145.00	Appurtenance(s)	1.00	1.10	6.681	7.35	0.00	1.200	2.319	5.00	13.948	16.74	123.0	443.7	953.6
150.00		1.00	1.11	6.746	7.42	0.00	1.200	2.327	5.00	13.458	16.15	119.9	428.0	916.6
152.50	Appurtenance(s)	1.00	1.11	6.778	7.46	0.00	1.200	2.331	2.50	6.545	7.85	58.6	210.0	446.4
155.00	Appurtenance(s)	1.00	1.12	6.810	7.49	0.00	1.200	2.335	2.50	6.422	7.71	57.7	206.1	437.1
160.00		1.00	1.13	6.872	7.56	0.00	1.200	2.342	5.00	12.479	14.97	113.2	396.1	842.1
165.00	Appurtenance(s)	1.00	1.14	6.933	7.63	0.00	1.200	2.349	5.00	11.989	14.39	109.7	379.9	804.7
170.00		1.00	1.15	6.992	7.69	0.00	1.200	2.356	5.00	11.499	13.80	106.1	363.6	767.1
175.00		1.00	1.16	7.050	7.76	0.00	1.200	2.363	5.00	11.008	13.21	102.4	347.1	729.4
178.00		1.00	1.17	7.085	7.79	0.00	1.200	2.367	3.00	6.369	7.64	59.6	202.3	421.5
								Totals:	**178.00**			**4,814.2**		**63,856.8**

Discrete Appurtenance Forces

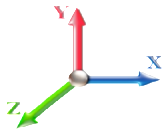
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

Tower Engineering Solutions

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

Dead Load Factor 1.20

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	165.00	Kathrein 782 11056 Bias	3	6.933	7.626	0.58	0.75	0.92	9.89	0.000	0.000	7.00	0.00	0.00
2	165.00	Ericsson KRY 112 144/1	6	6.933	7.626	0.52	0.75	3.31	147.68	0.000	0.000	25.21	0.00	0.00
3	165.00	Commscope LNX-	3	6.933	7.626	0.60	0.75	28.52	922.60	0.000	0.000	217.51	0.00	0.00
4	165.00	RFS	3	6.933	7.626	0.52	0.75	13.13	126.07	0.000	0.000	100.13	0.00	0.00
5	165.00	Platform w/ Hand Rails	1	6.933	7.626	1.00	1.00	68.19	4619.09	0.000	0.000	520.02	0.00	0.00
6	165.00	Reinf. Kit (SitePro1	3	6.933	7.626	0.75	1.00	32.08	1145.49	0.000	0.000	244.67	0.00	0.00
7	155.00	Kathrein 800 10764	1	6.810	7.491	0.56	0.75	4.92	183.04	0.000	0.000	36.85	0.00	0.00
8	155.00	Powerwave 7770	6	6.810	7.491	0.54	0.75	27.20	915.57	0.000	0.000	203.77	0.00	0.00
9	155.00	KMW AM-X-CD-17-65-00T	1	6.810	7.491	0.56	0.75	4.22	154.58	0.000	0.000	31.63	0.00	0.00
10	155.00	Powerwave	1	6.810	7.491	0.56	0.75	8.87	298.55	0.000	0.000	66.44	0.00	0.00
11	155.00	Powerwave LGP21401	6	6.810	7.491	0.75	0.75	10.84	259.59	0.000	0.000	81.17	0.00	0.00
12	155.00	Nokia CS72188.01	1	6.810	7.491	0.52	0.75	1.28	54.31	0.000	0.000	9.59	0.00	0.00
13	155.00	Powerwave LGP21903	6	6.810	7.491	0.63	0.75	3.03	92.84	0.000	0.000	22.71	0.00	0.00
14	155.00	Platform w/ Hand Rails	1	6.810	7.491	1.00	1.00	68.02	4601.52	0.000	0.000	509.50	0.00	0.00
15	152.50	Raycap DC2-48-60-18-8F	1	6.778	7.456	0.90	0.90	2.16	104.23	0.000	0.000	16.14	0.00	0.00
16	152.50	Ericsson RRUS11 RRUs	6	6.778	7.456	0.67	0.90	19.86	846.89	0.000	0.000	148.12	0.00	0.00
17	152.50	Ring Mount (Part No	1	6.778	7.456	1.00	1.00	9.66	47.82	0.000	0.000	72.04	0.00	0.00
18	145.00	ALU TD-RRH8x20-25-	3	6.681	7.350	0.52	0.75	8.01	723.16	0.000	0.000	58.85	0.00	0.00
19	145.00	ALU 1900 Mhz- RRUs	3	6.681	7.350	0.74	0.75	9.92	476.91	0.000	0.000	72.94	0.00	0.00
20	145.00	PRK-1245 (kicker kit)	1	6.681	7.350	1.00	1.00	22.72	894.07	0.000	0.000	166.97	0.00	0.00
21	145.00	(3) SFS-H-L (V-Braces)	1	6.681	7.350	1.00	1.00	16.02	601.71	0.000	0.000	117.76	0.00	0.00
22	145.00	NNVV-65B-R4	3	6.681	7.350	0.55	0.75	23.65	1219.61	0.000	0.000	173.83	0.00	0.00
23	145.00	APXVTM14-C-I20	3	6.681	7.350	0.58	0.75	13.60	884.92	0.000	0.000	99.96	0.00	0.00
24	145.00	Platform w/ Hand Rails	1	6.681	7.350	1.00	1.00	67.83	4582.89	0.000	0.000	498.51	0.00	0.00
25	145.00	ALU 800 Mhz- RRUs	6	6.681	7.350	0.69	0.75	16.60	844.68	0.000	0.000	122.01	0.00	0.00
26	125.00	Antel	6	6.404	7.044	0.59	0.80	13.50	796.05	0.000	0.000	95.12	0.00	0.00
27	125.00	ALU RRH2x60-AWS	3	6.404	7.044	0.61	0.80	8.27	498.55	0.000	0.000	58.25	0.00	0.00
28	125.00	ALU RRH2x60-700	3	6.404	7.044	0.61	0.80	8.27	498.55	0.000	0.000	58.25	0.00	0.00
29	125.00	Commscope	6	6.404	7.044	0.66	0.80	38.96	2040.12	0.000	0.000	274.44	0.00	0.00
30	125.00	Low Profile Platform	1	6.404	7.044	1.00	1.00	52.42	2510.95	0.000	0.000	369.26	0.00	0.00
31	125.00	ALU RRH2X60-PCS	3	6.404	7.044	0.61	0.80	8.27	436.98	0.000	0.000	58.25	0.00	0.00
32	125.00	RFS FD9R6004/2C-3L	6	6.404	7.044	0.80	0.80	4.51	71.57	0.000	0.000	31.80	0.00	0.00
33	125.00	RFS DB-T1-6Z-8AB-0Z	2	6.404	7.044	0.73	0.80	7.50	730.01	0.000	0.000	52.81	0.00	0.00
34	125.00	GPS	1	6.404	7.044	0.69	0.80	1.34	42.39	0.000	0.000	9.43	0.00	0.00
							Totals:		**32,382.85**			**4,630.93**		

Total Applied Force Summary

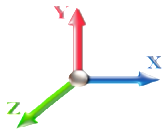
Structure:	CT00594-S-SBA		**Code:**	EIA/TIA-222-G	6/6/2018
Site Name:	Plainfield North		**Exposure:**	B	
Height:	178.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 23

Tower Engineering Solutions

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

Dead Load Factor 1.20

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		147.52	2710.98	0.00	0.00
10.00		145.29	3028.40	0.00	0.00
15.00		142.85	3017.55	0.00	0.00
20.00		140.31	2995.26	0.00	0.00
25.00		137.73	2966.37	0.00	0.00
30.00		135.22	2933.12	0.00	0.00
32.83		77.41	1645.97	0.00	0.00
35.00		60.71	1935.88	0.00	0.00
40.00		143.52	4414.16	0.00	0.00
45.00		145.42	2761.29	0.00	0.00
50.00		146.76	2721.70	0.00	0.00
55.00		147.60	2680.86	0.00	0.00
60.00		148.03	2638.95	0.00	0.00
65.00		148.07	2596.13	0.00	0.00
70.00		147.78	2552.51	0.00	0.00
75.00		147.19	2508.18	0.00	0.00
77.92		85.24	1445.19	0.00	0.00
80.00		61.59	1521.70	0.00	0.00
84.00		118.44	2889.04	0.00	0.00
85.00		29.22	470.70	0.00	0.00
90.00		146.77	2331.02	0.00	0.00
95.00		145.26	2286.98	0.00	0.00
100.00		143.54	2242.51	0.00	0.00
105.00		141.64	2197.66	0.00	0.00
110.00		139.57	2152.44	0.00	0.00
115.00		137.33	2106.90	0.00	0.00
120.00		134.93	2061.04	0.00	0.00
124.08		108.19	1649.95	0.00	0.00
125.00	(31) attachments	1031.93	8101.06	0.00	0.00
129.00		105.52	1697.90	0.00	0.00
130.00		26.02	246.77	0.00	0.00
135.00		128.98	1205.90	0.00	0.00
140.00		126.06	1169.26	0.00	0.00
145.00	(21) attachments	1433.85	11360.40	0.00	0.00
150.00		119.85	1072.57	0.00	0.00
152.50	(8) attachments	294.85	1523.29	0.00	0.00
155.00	(23) attachments	1019.39	7075.05	0.00	0.00
160.00		113.20	917.01	0.00	0.00
165.00	(19) attachments	1224.25	7850.38	0.00	0.00
170.00		106.13	767.10	0.00	0.00
175.00		102.45	729.39	0.00	0.00
178.00		59.56	421.47	0.00	0.00
	Totals:	**9,445.16**	**111,599.99**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

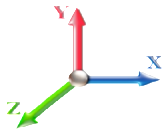
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	97.46
5.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	23.62
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	8.83
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	256.21
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	63.39
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	24.87
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	264.06
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	66.16
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	26.68
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	269.87
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	68.24
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	28.05
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	274.51
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	69.91
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	29.17
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.260	0.00	278.40
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.260	0.00	71.33
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.260	0.00	30.12
32.83	1 5/8" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	4.371	0.00	158.87
32.83	1 5/8" Hybrid	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	4.371	0.00	40.82
32.83	1/2" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	4.371	0.00	17.34
35.00	1 5/8" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	4.451	0.00	122.10
35.00	1 5/8" Hybrid	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	4.451	0.00	31.44
35.00	1/2" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	4.451	0.00	13.41
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.625	0.00	284.72
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.625	0.00	73.65
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.625	0.00	31.68
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.783	0.00	287.37
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.783	0.00	74.63
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.783	0.00	32.35
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.929	0.00	289.77
50.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.929	0.00	75.52
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.929	0.00	32.96
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.065	0.00	291.98
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.065	0.00	76.34
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.065	0.00	33.52
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.193	0.00	294.01
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.193	0.00	77.10
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.193	0.00	34.04
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.313	0.00	295.90
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.313	0.00	77.81
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.313	0.00	34.53
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.426	0.00	297.67
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.426	0.00	78.48
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.426	0.00	34.99
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.534	0.00	299.32
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.534	0.00	79.11

Linear Appurtenance Segment Forces (Factored)

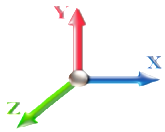
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.534	0.00	35.42
77.92	1 5/8" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	5.595	0.00	175.35
77.92	1 5/8" Hybrid	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	5.595	0.00	46.40
77.92	1/2" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	5.595	0.00	20.83
80.00	1 5/8" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	5.637	0.00	125.17
80.00	1 5/8" Hybrid	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	5.637	0.00	33.15
80.00	1/2" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	5.637	0.00	14.90
84.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	5.717	0.00	241.87
84.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	5.717	0.00	64.17
84.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	5.717	0.00	28.94
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.736	0.00	60.27
85.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.736	0.00	16.00
85.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.736	0.00	7.22
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.830	0.00	303.78
90.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.830	0.00	80.80
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.830	0.00	36.59
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.921	0.00	305.12
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.921	0.00	81.31
95.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.921	0.00	36.94
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.008	0.00	306.40
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.008	0.00	81.80
100.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.008	0.00	37.28
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.093	0.00	307.62
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.093	0.00	82.27
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.093	0.00	37.61
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.174	0.00	308.80
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.174	0.00	82.72
110.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.174	0.00	37.93
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.253	0.00	309.92
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.253	0.00	83.15
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.253	0.00	38.23
120.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.330	0.00	311.01
120.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.330	0.00	83.57
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.330	0.00	38.52
124.08	1 5/8" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	6.391	0.00	254.69
124.08	1 5/8" Hybrid	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	6.391	0.00	68.52
124.08	1/2" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	6.391	0.00	31.65
125.00	1 5/8" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	6.404	0.00	57.21
125.00	1 5/8" Hybrid	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	6.404	0.00	15.40
125.00	1/2" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	6.404	0.00	7.11
									Totals:		**0.0**	**9,817.9**

Calculated Forces

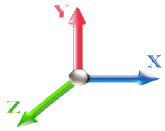
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

Tower Engineering Solutions

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

Dead Load Factor 1.20

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	-111.6	-9.49	0.00	-1213.5	0.00	1213.53	6109.19	3054.60	14553.3	7187.37	0.00	0.000	0.000	0.187
5.00	-108.8	-9.42	0.00	-1166.1	0.00	1166.10	6042.67	3021.34	14105.8	6966.35	0.02	-0.043	0.000	0.185
10.00	-105.8	-9.35	0.00	-1118.9	0.00	1118.99	5973.91	2986.96	13659.5	6745.94	0.09	-0.086	0.000	0.184
15.00	-102.8	-9.29	0.00	-1072.2	0.00	1072.23	5902.91	2951.46	13214.8	6526.30	0.21	-0.131	0.000	0.182
20.00	-99.82	-9.22	0.00	-1025.8	0.00	1025.80	5829.67	2914.84	12771.9	6307.60	0.37	-0.176	0.000	0.180
25.00	-96.84	-9.15	0.00	-979.72	0.00	979.72	5754.19	2877.10	12331.3	6089.98	0.58	-0.222	0.000	0.178
30.00	-93.90	-9.06	0.00	-933.98	0.00	933.98	5676.47	2838.24	11893.2	5873.62	0.83	-0.270	0.000	0.176
32.83	-92.26	-9.01	0.00	-908.31	0.00	908.31	5631.44	2815.72	11646.2	5751.63	1.00	-0.297	0.000	0.174
35.00	-90.31	-9.00	0.00	-888.78	0.00	888.78	5596.51	2798.26	11457.9	5658.66	1.14	-0.318	0.000	0.173
40.00	-85.89	-8.90	0.00	-843.79	0.00	843.79	5104.93	2552.47	10419.5	5145.84	1.50	-0.367	0.000	0.181
45.00	-83.13	-8.81	0.00	-799.27	0.00	799.27	5033.50	2516.75	10032.9	4954.92	1.91	-0.417	0.000	0.178
50.00	-80.40	-8.72	0.00	-755.22	0.00	755.22	4959.83	2479.91	9648.87	4765.22	2.38	-0.468	0.000	0.175
55.00	-77.71	-8.61	0.00	-711.64	0.00	711.64	4883.92	2441.96	9267.55	4576.90	2.89	-0.519	0.000	0.171
60.00	-75.06	-8.51	0.00	-668.57	0.00	668.57	4805.76	2402.88	8889.36	4390.12	3.47	-0.571	0.000	0.168
65.00	-72.46	-8.40	0.00	-626.02	0.00	626.02	4725.37	2362.69	8514.61	4205.04	4.09	-0.624	0.000	0.164
70.00	-69.90	-8.29	0.00	-584.01	0.00	584.01	4642.74	2321.37	8143.62	4021.83	4.77	-0.677	0.000	0.160
75.00	-67.39	-8.16	0.00	-542.56	0.00	542.56	4557.87	2278.94	7776.72	3840.63	5.51	-0.731	0.000	0.156
77.92	-65.94	-8.09	0.00	-518.72	0.00	518.72	4507.27	2253.64	7564.46	3735.80	5.97	-0.763	0.000	0.153
80.00	-64.42	-8.05	0.00	-501.89	0.00	501.89	4470.76	2235.38	7414.22	3661.61	6.31	-0.786	0.000	0.151
84.00	-61.53	-7.92	0.00	-469.68	0.00	469.68	4079.95	2039.98	6768.85	3342.88	6.99	-0.830	0.000	0.156
85.00	-61.05	-7.92	0.00	-461.79	0.00	461.79	4064.53	2032.27	6704.51	3311.11	7.16	-0.841	0.000	0.155
90.00	-58.72	-7.79	0.00	-422.22	0.00	422.22	3985.82	1992.91	6384.01	3152.82	8.07	-0.895	0.000	0.149
95.00	-56.43	-7.66	0.00	-383.27	0.00	383.27	3904.88	1952.44	6067.57	2996.54	9.04	-0.949	0.000	0.142
100.00	-54.18	-7.53	0.00	-344.97	0.00	344.97	3803.39	1901.70	5727.93	2828.81	10.06	-1.003	0.000	0.136
105.00	-51.98	-7.39	0.00	-307.33	0.00	307.33	3683.99	1842.00	5371.89	2652.97	11.14	-1.055	0.000	0.130
110.00	-49.82	-7.26	0.00	-270.36	0.00	270.36	3564.59	1782.30	5027.27	2482.78	12.27	-1.106	0.000	0.123
115.00	-47.71	-7.12	0.00	-234.07	0.00	234.07	3445.19	1722.60	4694.07	2318.23	13.46	-1.156	0.000	0.115
120.00	-45.65	-6.97	0.00	-198.48	0.00	198.48	3325.79	1662.90	4372.30	2159.32	14.69	-1.203	0.000	0.106
124.08	-44.00	-6.85	0.00	-170.00	0.00	170.00	3228.28	1614.14	4118.00	2033.73	15.74	-1.239	0.000	0.097
125.00	-35.92	-5.65	0.00	-163.72	0.00	163.72	3206.39	1603.20	4061.96	2006.05	15.98	-1.247	0.000	0.093
129.00	-34.22	-5.52	0.00	-141.11	0.00	141.11	1872.41	936.20	2368.25	1169.59	17.04	-1.280	0.000	0.139
130.00	-33.97	-5.51	0.00	-135.58	0.00	135.58	1864.30	932.15	2340.16	1155.72	17.30	-1.288	0.000	0.136
135.00	-32.77	-5.38	0.00	-108.04	0.00	108.04	1822.43	911.21	2200.41	1086.70	18.68	-1.341	0.000	0.117
140.00	-31.60	-5.25	0.00	-81.13	0.00	81.13	1778.31	889.16	2062.08	1018.38	20.11	-1.387	0.000	0.097
145.00	-20.27	-3.55	0.00	-54.87	0.00	54.87	1731.96	865.98	1925.47	950.92	21.59	-1.425	0.000	0.069
150.00	-19.20	-3.41	0.00	-37.12	0.00	37.12	1683.36	841.68	1790.92	884.47	23.10	-1.454	0.000	0.053
152.50	-17.69	-3.08	0.00	-28.60	0.00	28.60	1658.23	829.11	1724.52	851.67	23.86	-1.465	0.000	0.044
155.00	-10.64	-1.88	0.00	-20.90	0.00	20.90	1632.53	816.27	1658.75	819.19	24.63	-1.475	0.000	0.032
160.00	-9.73	-1.75	0.00	-11.49	0.00	11.49	1571.93	785.97	1521.98	751.65	26.18	-1.488	0.000	0.021
165.00	-1.91	-0.32	0.00	-2.76	0.00	2.76	1495.17	747.59	1376.14	679.62	27.74	-1.495	0.000	0.005
170.00	-1.15	-0.19	0.00	-1.17	0.00	1.17	1418.42	709.21	1237.64	611.22	29.31	-1.497	0.000	0.003
175.00	-0.42	-0.07	0.00	-0.21	0.00	0.21	1341.66	670.83	1106.49	546.45	30.88	-1.498	0.000	0.001
178.00	0.00	-0.06	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33	31.82	-1.498	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT00594-S-SBA		**Code:**	EIA/TIA-222-G	6/6/2018
Site Name:	Plainfield North		**Exposure:**	B	
Height:	178.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 27

Tower Engineering Solutions

Load Case:	1.2D + 1.0E							**Iterations**	22
Gust Response Factor	1.10				**Sds**	0.18		**Ss**	0.17
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.10		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency**	0.30		**SA**	0.03	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1566.1	0.00	0.03	0.02	26.92	
10.00		1534.6	0.01	0.05	0.03	38.83	
15.00		1503.1	0.01	0.06	0.03	44.50	
20.00		1471.6	0.02	0.07	0.04	47.06	
25.00		1440.1	0.04	0.07	0.04	48.03	
30.00		1408.6	0.05	0.07	0.04	48.25	
32.83	Bot - Section 2	784.27	0.06	0.07	0.04	27.19	
35.00		1159.5	0.07	0.07	0.04	40.56	
40.00	Top - Section 1	2632.1	0.10	0.07	0.04	93.97	
45.00		1256.9	0.12	0.07	0.03	45.79	
50.00		1227.3	0.15	0.07	0.03	45.54	
55.00		1197.8	0.18	0.07	0.03	44.96	
60.00		1168.3	0.21	0.06	0.02	43.73	
65.00		1138.8	0.25	0.05	0.02	41.45	
70.00		1109.2	0.29	0.05	0.01	37.64	
75.00		1079.7	0.34	0.04	0.01	31.82	
77.92	Bot - Section 3	616.92	0.36	0.03	0.01	15.88	
80.00		846.76	0.38	0.02	0.01	19.09	
84.00	Top - Section 2	1601.9	0.42	0.01	0.01	24.20	
85.00		192.02	0.43	0.01	0.01	2.50	
90.00		946.81	0.48	-0.01	0.01	1.30	
95.00		919.25	0.54	-0.03	0.01	-10.18	
100.00		891.69	0.60	-0.05	0.01	-20.17	
105.00		864.13	0.66	-0.07	0.02	-27.45	
110.00		836.57	0.72	-0.09	0.03	-31.47	
115.00		809.01	0.79	-0.11	0.05	-32.22	
120.00		781.45	0.86	-0.12	0.07	-30.01	
124.08	Bot - Section 4	617.74	0.92	-0.12	0.09	-21.39	
125.00	Appurtenance(s)	2443.5	0.93	-0.12	0.10	-81.75	
129.00	Top - Section 3	967.08	0.99	-0.11	0.13	-26.15	
130.00		94.18	1.01	-0.11	0.14	-2.36	
135.00		460.28	1.09	-0.08	0.18	-6.16	
140.00		442.56	1.17	-0.02	0.23	0.72	
145.00	Appurtenance(s)	4228.5	1.25	0.06	0.30	84.47	
150.00		407.13	1.34	0.18	0.37	16.97	
152.50	Appurtenance(s)	685.72	1.39	0.26	0.42	36.90	
155.00	Appurtenance(s)	2622.4	1.43	0.35	0.47	175.22	
160.00		371.69	1.53	0.57	0.58	35.47	
165.00	Appurtenance(s)	2917.3	1.62	0.85	0.70	372.21	
170.00		336.26	1.72	1.22	0.85	54.94	
175.00		318.54	1.83	1.66	1.02	64.62	
178.00		182.62	1.89	1.98	1.14	41.71	
	Totals:	**48,081.1**				**1,363.1**	**Total Wind:** **45,203.1**

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Tower Engineering Solutions

Load Case: 1.2D + 1.0E

Iterations 22

Gust Response Factor	1.10			**Sds**	0.18			**Ss**	0.17
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency**	0.30	**SA**	0.03	**Seismic Importance Factor**			1.00

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	-65.26	-1.66	0.00	-184.45	0.00	184.45	6109.19	3054.60	14553.3	7187.37		0.00	0.00	0.036
5.00	-63.28	-1.64	0.00	-176.17	0.00	176.17	6042.67	3021.34	14105.8	6966.35		0.00	-0.01	0.036
10.00	-61.17	-1.60	0.00	-167.99	0.00	167.99	5973.91	2986.96	13659.5	6745.94		0.01	-0.01	0.035
15.00	-59.11	-1.57	0.00	-159.98	0.00	159.98	5902.91	2951.46	13214.8	6526.30		0.03	-0.02	0.035
20.00	-57.08	-1.52	0.00	-152.15	0.00	152.15	5829.67	2914.84	12771.9	6307.60		0.06	-0.03	0.034
25.00	-55.09	-1.48	0.00	-144.53	0.00	144.53	5754.19	2877.10	12331.3	6089.98		0.09	-0.03	0.033
30.00	-53.14	-1.44	0.00	-137.12	0.00	137.12	5676.47	2838.24	11893.2	5873.62		0.13	-0.04	0.033
32.83	-52.05	-1.41	0.00	-133.05	0.00	133.05	5631.44	2815.72	11646.2	5751.63		0.15	-0.04	0.032
35.00	-50.54	-1.38	0.00	-129.99	0.00	129.99	5596.51	2798.26	11457.9	5658.66		0.17	-0.05	0.032
40.00	-47.12	-1.28	0.00	-123.11	0.00	123.11	5104.93	2552.47	10419.5	5145.84		0.22	-0.05	0.033
45.00	-45.35	-1.24	0.00	-116.69	0.00	116.69	5033.50	2516.75	10032.9	4954.92		0.29	-0.06	0.033
50.00	-43.62	-1.20	0.00	-110.47	0.00	110.47	4959.83	2479.91	9648.87	4765.22		0.35	-0.07	0.032
55.00	-41.92	-1.16	0.00	-104.47	0.00	104.47	4883.92	2441.96	9267.55	4576.90		0.43	-0.08	0.031
60.00	-40.25	-1.12	0.00	-98.68	0.00	98.68	4805.76	2402.88	8889.36	4390.12		0.52	-0.08	0.031
65.00	-38.63	-1.08	0.00	-93.08	0.00	93.08	4725.37	2362.69	8514.61	4205.04		0.61	-0.09	0.030
70.00	-37.03	-1.04	0.00	-87.68	0.00	87.68	4642.74	2321.37	8143.62	4021.83		0.71	-0.10	0.030
75.00	-35.48	-1.01	0.00	-82.46	0.00	82.46	4557.87	2278.94	7776.72	3840.63		0.82	-0.11	0.029
77.92	-34.58	-1.00	0.00	-79.50	0.00	79.50	4507.27	2253.64	7564.46	3735.80		0.89	-0.11	0.029
80.00	-33.46	-0.98	0.00	-77.42	0.00	77.42	4470.76	2235.38	7414.22	3661.61		0.94	-0.12	0.029
84.00	-31.33	-0.95	0.00	-73.49	0.00	73.49	4079.95	2039.98	6768.85	3342.88		1.04	-0.12	0.030
85.00	-31.04	-0.95	0.00	-72.54	0.00	72.54	4064.53	2032.27	6704.51	3311.11		1.06	-0.13	0.030
90.00	-29.64	-0.95	0.00	-67.77	0.00	67.77	3985.82	1992.91	6384.01	3152.82		1.20	-0.13	0.029
95.00	-28.28	-0.96	0.00	-63.00	0.00	63.00	3904.88	1952.44	6067.57	2996.54		1.34	-0.14	0.028
100.00	-26.95	-0.96	0.00	-58.23	0.00	58.23	3803.39	1901.70	5727.93	2828.81		1.50	-0.15	0.028
105.00	-25.65	-0.96	0.00	-53.45	0.00	53.45	3683.99	1842.00	5371.89	2652.97		1.66	-0.16	0.027
110.00	-24.38	-0.96	0.00	-48.66	0.00	48.66	3564.59	1782.30	5027.27	2482.78		1.83	-0.17	0.026
115.00	-23.15	-0.96	0.00	-43.88	0.00	43.88	3445.19	1722.60	4694.07	2318.23		2.02	-0.18	0.026
120.00	-21.95	-0.96	0.00	-39.09	0.00	39.09	3325.79	1662.90	4372.30	2159.32		2.21	-0.19	0.025
124.08	-21.00	-0.95	0.00	-35.19	0.00	35.19	3228.28	1614.14	4118.00	2033.73		2.37	-0.19	0.024
125.00	-18.02	-0.95	0.00	-34.32	0.00	34.32	3206.39	1603.20	4061.96	2006.05		2.41	-0.20	0.023
129.00	-16.71	-0.94	0.00	-30.53	0.00	30.53	1872.41	936.20	2368.25	1169.59		2.58	-0.20	0.035
130.00	-16.56	-0.94	0.00	-29.59	0.00	29.59	1864.30	932.15	2340.16	1155.72		2.62	-0.21	0.034
135.00	-15.83	-0.94	0.00	-24.87	0.00	24.87	1822.43	911.21	2200.41	1086.70		2.84	-0.22	0.032
140.00	-15.12	-0.94	0.00	-20.15	0.00	20.15	1778.31	889.16	2062.08	1018.38		3.08	-0.23	0.028
145.00	-9.87	-0.84	0.00	-15.43	0.00	15.43	1731.96	865.98	1925.47	950.92		3.32	-0.24	0.022
150.00	-9.22	-0.82	0.00	-11.23	0.00	11.23	1683.36	841.68	1790.92	884.47		3.57	-0.25	0.018
152.50	-8.32	-0.78	0.00	-9.18	0.00	9.18	1658.23	829.11	1724.52	851.67		3.70	-0.25	0.016
155.00	-5.10	-0.59	0.00	-7.23	0.00	7.23	1632.53	816.27	1658.75	819.19		3.84	-0.25	0.012
160.00	-4.58	-0.55	0.00	-4.27	0.00	4.27	1571.93	785.97	1521.98	751.65		4.10	-0.26	0.009
165.00	-1.00	-0.17	0.00	-1.50	0.00	1.50	1495.17	747.59	1376.14	679.62		4.38	-0.26	0.003
170.00	-0.60	-0.11	0.00	-0.67	0.00	0.67	1418.42	709.21	1237.64	611.22		4.65	-0.26	0.002
175.00	-0.22	-0.04	0.00	-0.13	0.00	0.13	1341.66	670.83	1106.49	546.45		4.92	-0.26	0.000
178.00	0.00	-0.04	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33		5.09	-0.26	0.000

Seismic Segment Forces (Factored)

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 29	

Tower Engineering Solutions

Load Case:	0.9D + 1.0E					**Iterations**	22
Gust Response Factor	1.10			**Sds**	0.18	**Ss**	0.17
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10	**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency**	0.30	**SA**	0.03	**Seismic Importance Factor**	1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1566.1	0.00	0.03	0.02	26.92	
10.00		1534.6	0.01	0.05	0.03	38.83	
15.00		1503.1	0.01	0.06	0.03	44.50	
20.00		1471.6	0.02	0.07	0.04	47.06	
25.00		1440.1	0.04	0.07	0.04	48.03	
30.00		1408.6	0.05	0.07	0.04	48.25	
32.83	Bot - Section 2	784.27	0.06	0.07	0.04	27.19	
35.00		1159.5	0.07	0.07	0.04	40.56	
40.00	Top - Section 1	2632.1	0.10	0.07	0.04	93.97	
45.00		1256.9	0.12	0.07	0.03	45.79	
50.00		1227.3	0.15	0.07	0.03	45.54	
55.00		1197.8	0.18	0.07	0.03	44.96	
60.00		1168.3	0.21	0.06	0.02	43.73	
65.00		1138.8	0.25	0.05	0.02	41.45	
70.00		1109.2	0.29	0.05	0.01	37.64	
75.00		1079.7	0.34	0.04	0.01	31.82	
77.92	Bot - Section 3	616.92	0.36	0.03	0.01	15.88	
80.00		846.76	0.38	0.02	0.01	19.09	
84.00	Top - Section 2	1601.9	0.42	0.01	0.01	24.20	
85.00		192.02	0.43	0.01	0.01	2.50	
90.00		946.81	0.48	-0.01	0.01	1.30	
95.00		919.25	0.54	-0.03	0.01	-10.18	
100.00		891.69	0.60	-0.05	0.01	-20.17	
105.00		864.13	0.66	-0.07	0.02	-27.45	
110.00		836.57	0.72	-0.09	0.03	-31.47	
115.00		809.01	0.79	-0.11	0.05	-32.22	
120.00		781.45	0.86	-0.12	0.07	-30.01	
124.08	Bot - Section 4	617.74	0.92	-0.12	0.09	-21.39	
125.00	Appurtenance(s)	2443.5	0.93	-0.12	0.10	-81.75	
129.00	Top - Section 3	967.08	0.99	-0.11	0.13	-26.15	
130.00		94.18	1.01	-0.11	0.14	-2.36	
135.00		460.28	1.09	-0.08	0.18	-6.16	
140.00		442.56	1.17	-0.02	0.23	0.72	
145.00	Appurtenance(s)	4228.5	1.25	0.06	0.30	84.47	
150.00		407.13	1.34	0.18	0.37	16.97	
152.50	Appurtenance(s)	685.72	1.39	0.26	0.42	36.90	
155.00	Appurtenance(s)	2622.4	1.43	0.35	0.47	175.22	
160.00		371.69	1.53	0.57	0.58	35.47	
165.00	Appurtenance(s)	2917.3	1.62	0.85	0.70	372.21	
170.00		336.26	1.72	1.22	0.85	54.94	
175.00		318.54	1.83	1.66	1.02	64.62	
178.00		182.62	1.89	1.98	1.14	41.71	
	Totals:	**48,081.1**				**1,363.1**	**Total Wind:** **45,203.1**

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT00594-S-SBA		**Code:**	EIA/TIA-222-G	6/6/2018
Site Name:	Plainfield North		**Exposure:**	B	
Height:	178.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 30

Tower Engineering Solutions

Load Case:	0.9D + 1.0E							**Iterations**	22
Gust Response Factor	1.10			**Sds**	0.18			**Ss**	0.17
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency**	0.30	**SA**	0.03			**Seismic Importance Factor**	1.00

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	-48.94	-1.65	0.00	-182.21	0.00	182.21	6109.19	3054.60	14553.3	7187.37		0.00	0.00	0.033
5.00	-47.46	-1.63	0.00	-173.94	0.00	173.94	6042.67	3021.34	14105.8	6966.35		0.00	-0.01	0.033
10.00	-45.88	-1.60	0.00	-165.78	0.00	165.78	5973.91	2986.96	13659.5	6745.94		0.01	-0.01	0.032
15.00	-44.33	-1.56	0.00	-157.78	0.00	157.78	5902.91	2951.46	13214.8	6526.30		0.03	-0.02	0.032
20.00	-42.81	-1.52	0.00	-149.99	0.00	149.99	5829.67	2914.84	12771.9	6307.60		0.05	-0.03	0.031
25.00	-41.32	-1.47	0.00	-142.40	0.00	142.40	5754.19	2877.10	12331.3	6089.98		0.09	-0.03	0.031
30.00	-39.85	-1.43	0.00	-135.04	0.00	135.04	5676.47	2838.24	11893.2	5873.62		0.12	-0.04	0.030
32.83	-39.03	-1.40	0.00	-131.00	0.00	131.00	5631.44	2815.72	11646.2	5751.63		0.15	-0.04	0.030
35.00	-37.91	-1.36	0.00	-127.96	0.00	127.96	5596.51	2798.26	11457.9	5658.66		0.17	-0.05	0.029
40.00	-35.34	-1.27	0.00	-121.14	0.00	121.14	5104.93	2552.47	10419.5	5145.84		0.22	-0.05	0.030
45.00	-34.01	-1.23	0.00	-114.78	0.00	114.78	5033.50	2516.75	10032.9	4954.92		0.28	-0.06	0.030
50.00	-32.71	-1.19	0.00	-108.64	0.00	108.64	4959.83	2479.91	9648.87	4765.22		0.35	-0.07	0.029
55.00	-31.44	-1.14	0.00	-102.70	0.00	102.70	4883.92	2441.96	9267.55	4576.90		0.42	-0.08	0.029
60.00	-30.19	-1.10	0.00	-96.99	0.00	96.99	4805.76	2402.88	8889.36	4390.12		0.51	-0.08	0.028
65.00	-28.97	-1.06	0.00	-91.47	0.00	91.47	4725.37	2362.69	8514.61	4205.04		0.60	-0.09	0.028
70.00	-27.77	-1.03	0.00	-86.16	0.00	86.16	4642.74	2321.37	8143.62	4021.83		0.70	-0.10	0.027
75.00	-26.61	-1.00	0.00	-81.02	0.00	81.02	4557.87	2278.94	7776.72	3840.63		0.81	-0.11	0.027
77.92	-25.94	-0.98	0.00	-78.11	0.00	78.11	4507.27	2253.64	7564.46	3735.80		0.87	-0.11	0.027
80.00	-25.09	-0.96	0.00	-76.07	0.00	76.07	4470.76	2235.38	7414.22	3661.61		0.92	-0.11	0.026
84.00	-23.49	-0.94	0.00	-72.22	0.00	72.22	4079.95	2039.98	6768.85	3342.88		1.02	-0.12	0.027
85.00	-23.28	-0.94	0.00	-71.29	0.00	71.29	4064.53	2032.27	6704.51	3311.11		1.05	-0.12	0.027
90.00	-22.23	-0.94	0.00	-66.61	0.00	66.61	3985.82	1992.91	6384.01	3152.82		1.18	-0.13	0.027
95.00	-21.21	-0.94	0.00	-61.93	0.00	61.93	3904.88	1952.44	6067.57	2996.54		1.32	-0.14	0.026
100.00	-20.21	-0.94	0.00	-57.25	0.00	57.25	3803.39	1901.70	5727.93	2828.81		1.47	-0.15	0.026
105.00	-19.24	-0.94	0.00	-52.57	0.00	52.57	3683.99	1842.00	5371.89	2652.97		1.64	-0.16	0.025
110.00	-18.29	-0.94	0.00	-47.88	0.00	47.88	3564.59	1782.30	5027.27	2482.78		1.81	-0.17	0.024
115.00	-17.36	-0.94	0.00	-43.19	0.00	43.19	3445.19	1722.60	4694.07	2318.23		1.99	-0.18	0.024
120.00	-16.46	-0.94	0.00	-38.51	0.00	38.51	3325.79	1662.90	4372.30	2159.32		2.17	-0.18	0.023
124.08	-15.75	-0.94	0.00	-34.68	0.00	34.68	3228.28	1614.14	4118.00	2033.73		2.34	-0.19	0.022
125.00	-13.51	-0.93	0.00	-33.82	0.00	33.82	3206.39	1603.20	4061.96	2006.05		2.37	-0.19	0.021
129.00	-12.53	-0.93	0.00	-30.11	0.00	30.11	1872.41	936.20	2368.25	1169.59		2.54	-0.20	0.032
130.00	-12.42	-0.93	0.00	-29.18	0.00	29.18	1864.30	932.15	2340.16	1155.72		2.58	-0.20	0.032
135.00	-11.87	-0.93	0.00	-24.54	0.00	24.54	1822.43	911.21	2200.41	1086.70		2.80	-0.21	0.029
140.00	-11.34	-0.93	0.00	-19.90	0.00	19.90	1778.31	889.16	2062.08	1018.38		3.03	-0.22	0.026
145.00	-7.40	-0.83	0.00	-15.26	0.00	15.26	1731.96	865.98	1925.47	950.92		3.27	-0.23	0.020
150.00	-6.92	-0.81	0.00	-11.12	0.00	11.12	1683.36	841.68	1790.92	884.47		3.52	-0.24	0.017
152.50	-6.24	-0.77	0.00	-9.09	0.00	9.09	1658.23	829.11	1724.52	851.67		3.65	-0.25	0.014
155.00	-3.82	-0.59	0.00	-7.16	0.00	7.16	1632.53	816.27	1658.75	819.19		3.78	-0.25	0.011
160.00	-3.43	-0.55	0.00	-4.23	0.00	4.23	1571.93	785.97	1521.98	751.65		4.04	-0.25	0.008
165.00	-0.75	-0.16	0.00	-1.49	0.00	1.49	1495.17	747.59	1376.14	679.62		4.31	-0.26	0.003
170.00	-0.45	-0.11	0.00	-0.67	0.00	0.67	1418.42	709.21	1237.64	611.22		4.58	-0.26	0.001
175.00	-0.16	-0.04	0.00	-0.13	0.00	0.13	1341.66	670.83	1106.49	546.45		4.85	-0.26	0.000
178.00	0.00	-0.04	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33		5.01	-0.26	0.000

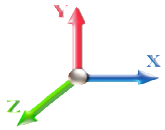
Wind Loading - Shaft

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 31	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

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	0.70	6.129	6.74	252.27	1.000	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.129	6.74	247.29	1.000	0.000	5.00	24.879	24.88	167.7	0.0	1566.2
10.00		1.00	0.70	6.129	6.74	242.31	1.000	0.000	5.00	24.383	24.38	164.4	0.0	1534.7
15.00		1.00	0.70	6.129	6.74	237.33	1.000	0.000	5.00	23.887	23.89	161.0	0.0	1503.2
20.00		1.00	0.70	6.129	6.74	232.35	1.000	0.000	5.00	23.391	23.39	157.7	0.0	1471.7
25.00		1.00	0.70	6.129	6.74	227.37	1.000	0.000	5.00	22.895	22.89	154.3	0.0	1440.2
30.00		1.00	0.70	6.134	6.75	222.49	1.000	0.000	5.00	22.399	22.40	151.1	0.0	1408.7
32.83	Bot - Section 2	1.00	0.72	6.294	6.92	222.51	1.000	0.000	2.83	12.473	12.47	86.4	0.0	784.3
35.00		1.00	0.73	6.410	7.05	222.35	1.000	0.000	2.17	9.606	9.61	67.7	0.0	1159.5
40.00	Top - Section 1	1.00	0.76	6.659	7.33	221.44	1.000	0.000	5.00	21.811	21.81	159.8	0.0	2632.1
45.00		1.00	0.79	6.887	7.58	224.22	1.000	0.000	5.00	21.315	21.32	161.5	0.0	1256.9
50.00		1.00	0.81	7.098	7.81	222.26	1.000	0.000	5.00	20.819	20.82	162.5	0.0	1227.4
55.00		1.00	0.83	7.294	8.02	219.88	1.000	0.000	5.00	20.323	20.32	163.1	0.0	1197.9
60.00		1.00	0.85	7.477	8.22	217.13	1.000	0.000	5.00	19.827	19.83	163.1	0.0	1168.3
65.00		1.00	0.87	7.650	8.42	214.06	1.000	0.000	5.00	19.331	19.33	162.7	0.0	1138.8
70.00		1.00	0.89	7.814	8.60	210.72	1.000	0.000	5.00	18.835	18.84	161.9	0.0	1109.3
75.00		1.00	0.91	7.969	8.77	207.12	1.000	0.000	5.00	18.339	18.34	160.8	0.0	1079.8
77.92	Bot - Section 3	1.00	0.92	8.057	8.86	204.92	1.000	0.000	2.92	10.481	10.48	92.9	0.0	616.9
80.00		1.00	0.93	8.118	8.93	203.31	1.000	0.000	2.08	7.520	7.52	67.1	0.0	846.8
84.00	Top - Section 2	1.00	0.94	8.232	9.05	200.11	1.000	0.000	4.00	14.231	14.23	128.9	0.0	1601.9
85.00		1.00	0.94	8.260	9.09	203.70	1.000	0.000	1.00	3.494	3.49	31.7	0.0	192.0
90.00		1.00	0.96	8.396	9.24	199.54	1.000	0.000	5.00	17.229	17.23	159.1	0.0	946.8
95.00		1.00	0.97	8.526	9.38	195.21	1.000	0.000	5.00	16.733	16.73	156.9	0.0	919.2
100.00		1.00	0.99	8.652	9.52	190.73	1.000	0.000	5.00	16.237	16.24	154.5	0.0	891.7
105.00		1.00	1.00	8.774	9.65	186.11	1.000	0.000	5.00	15.741	15.74	151.9	0.0	864.1
110.00		1.00	1.02	8.891	9.78	181.35	1.000	0.000	5.00	15.245	15.24	149.1	0.0	836.6
115.00		1.00	1.03	9.005	9.91	176.47	1.000	0.000	5.00	14.749	14.75	146.1	0.0	809.0
120.00		1.00	1.04	9.115	10.03	171.47	1.000	0.000	5.00	14.253	14.25	142.9	0.0	781.4
124.08	Bot - Section 4	1.00	1.05	9.202	10.12	167.31	1.000	0.000	4.08	11.272	11.27	114.1	0.0	617.7
125.00	Appurtenance(s)	1.00	1.05	9.222	10.14	166.37	1.000	0.000	0.92	2.529	2.53	25.7	0.0	225.7
129.00	Top - Section 3	1.00	1.06	9.305	10.24	162.21	1.000	0.000	4.00	10.842	10.84	111.0	0.0	967.1
130.00		1.00	1.07	9.326	10.26	164.16	1.000	0.000	1.00	2.661	2.66	27.3	0.0	94.2
135.00		1.00	1.08	9.427	10.37	158.87	1.000	0.000	5.00	13.007	13.01	134.9	0.0	460.3
140.00		1.00	1.09	9.525	10.48	153.49	1.000	0.000	5.00	12.511	12.51	131.1	0.0	442.6
145.00	Appurtenance(s)	1.00	1.10	9.621	10.58	148.03	1.000	0.000	5.00	12.015	12.02	127.2	0.0	424.8
150.00		1.00	1.11	9.715	10.69	142.47	1.000	0.000	5.00	11.519	11.52	123.1	0.0	407.1
152.50	Appurtenance(s)	1.00	1.11	9.761	10.74	139.67	1.000	0.000	2.50	5.574	5.57	59.8	0.0	196.9
155.00	Appurtenance(s)	1.00	1.12	9.806	10.79	136.84	1.000	0.000	2.50	5.450	5.45	58.8	0.0	192.5
160.00		1.00	1.13	9.896	10.89	131.14	1.000	0.000	5.00	10.527	10.53	114.6	0.0	371.7
165.00	Appurtenance(s)	1.00	1.14	9.983	10.98	125.36	1.000	0.000	5.00	10.031	10.03	110.2	0.0	354.0
170.00		1.00	1.15	10.069	11.08	119.51	1.000	0.000	5.00	9.535	9.54	105.6	0.0	336.3
175.00		1.00	1.16	10.152	11.17	113.60	1.000	0.000	5.00	9.039	9.04	100.9	0.0	318.5
178.00		1.00	1.17	10.202	11.22	110.02	1.000	0.000	3.00	5.185	5.19	58.2	0.0	182.6
								Totals:	**178.00**			**5,189.2**		**36,577.3**

Discrete Appurtenance Forces

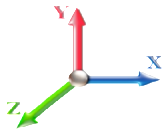
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 32	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

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	165.00	Kathrein 782 11056 Bias	3	9.983	10.981	0.58	0.75	0.23	5.40	0.000	0.000	2.51	0.00	0.00
2	165.00	Ericsson KRY 112 144/1	6	9.983	10.981	0.52	0.75	1.29	66.00	0.000	0.000	14.18	0.00	0.00
3	165.00	Commscope LNX-	3	9.983	10.981	0.60	0.75	20.65	150.90	0.000	0.000	226.72	0.00	0.00
4	165.00	RFS	3	9.983	10.981	0.52	0.75	8.69	56.10	0.000	0.000	95.47	0.00	0.00
5	165.00	Platform w/ Hand Rails	1	9.983	10.981	1.00	1.00	40.00	2000.00	0.000	0.000	439.25	0.00	0.00
6	165.00	Reinf. Kit (SitePro1	3	9.983	10.981	0.75	1.00	7.88	285.00	0.000	0.000	86.48	0.00	0.00
7	155.00	Kathrein 800 10764	1	9.806	10.787	0.56	0.75	3.31	40.80	0.000	0.000	35.68	0.00	0.00
8	155.00	Powerwave 7770	6	9.806	10.787	0.54	0.75	17.95	162.00	0.000	0.000	193.62	0.00	0.00
9	155.00	KMW AM-X-CD-17-65-00T	1	9.806	10.787	0.56	0.75	2.81	30.80	0.000	0.000	30.34	0.00	0.00
10	155.00	Powerwave	1	9.806	10.787	0.56	0.75	6.43	59.00	0.000	0.000	69.41	0.00	0.00
11	155.00	Powerwave LGP21401	6	9.806	10.787	0.75	0.75	5.80	84.60	0.000	0.000	62.62	0.00	0.00
12	155.00	Nokia CS72188.01	1	9.806	10.787	0.52	0.75	0.69	19.80	0.000	0.000	7.48	0.00	0.00
13	155.00	Powerwave LGP21903	6	9.806	10.787	0.63	0.75	1.02	33.00	0.000	0.000	11.01	0.00	0.00
14	155.00	Platform w/ Hand Rails	1	9.806	10.787	1.00	1.00	40.00	2000.00	0.000	0.000	431.48	0.00	0.00
15	152.50	Raycap DC2-48-60-18-8F	1	9.761	10.737	0.90	0.90	1.32	32.80	0.000	0.000	14.20	0.00	0.00
16	152.50	Ericsson RRUS11 RRUs	6	9.761	10.737	0.67	0.90	13.03	306.00	0.000	0.000	139.87	0.00	0.00
17	152.50	Ring Mount (Part No	1	9.761	10.737	1.00	1.00	5.00	150.00	0.000	0.000	53.68	0.00	0.00
18	145.00	ALU TD-RRH8x20-25-	3	9.621	10.583	0.52	0.75	6.29	210.00	0.000	0.000	66.54	0.00	0.00
19	145.00	ALU 1900 Mhz- RRUs	3	9.621	10.583	0.74	0.75	6.17	180.00	0.000	0.000	65.30	0.00	0.00
20	145.00	PRK-1245 (kicker kit)	1	9.621	10.583	1.00	1.00	9.50	464.91	0.000	0.000	100.54	0.00	0.00
21	145.00	(3) SFS-H-L (V-Braces)	1	9.621	10.583	1.00	1.00	6.70	230.00	0.000	0.000	70.91	0.00	0.00
22	145.00	NNVV-65B-R4	3	9.621	10.583	0.55	0.75	20.43	232.20	0.000	0.000	216.21	0.00	0.00
23	145.00	APXVTM14-C-I20	3	9.621	10.583	0.58	0.75	10.98	168.60	0.000	0.000	116.25	0.00	0.00
24	145.00	Platform w/ Hand Rails	1	9.621	10.583	1.00	1.00	40.00	2000.00	0.000	0.000	423.33	0.00	0.00
25	145.00	ALU 800 Mhz- RRUs	6	9.621	10.583	0.69	0.75	10.31	318.00	0.000	0.000	109.10	0.00	0.00
26	125.00	Antel	6	9.222	10.144	0.59	0.80	9.31	72.00	0.000	0.000	94.42	0.00	0.00
27	125.00	ALU RRH2x60-AWS	3	9.222	10.144	0.61	0.80	6.38	180.00	0.000	0.000	64.76	0.00	0.00
28	125.00	ALU RRH2x60-700	3	9.222	10.144	0.61	0.80	6.38	180.00	0.000	0.000	64.76	0.00	0.00
29	125.00	Commscope	6	9.222	10.144	0.66	0.80	32.19	304.26	0.000	0.000	326.54	0.00	0.00
30	125.00	Low Profile Platform	1	9.222	10.144	1.00	1.00	25.00	1200.00	0.000	0.000	253.60	0.00	0.00
31	125.00	ALU RRH2X60-PCS	3	9.222	10.144	0.61	0.80	6.38	165.00	0.000	0.000	64.76	0.00	0.00
32	125.00	RFS FD9R6004/2C-3L	6	9.222	10.144	0.80	0.80	1.73	18.60	0.000	0.000	17.53	0.00	0.00
33	125.00	RFS DB-T1-6Z-8AB-0Z	2	9.222	10.144	0.73	0.80	5.97	88.00	0.000	0.000	60.56	0.00	0.00
34	125.00	GPS	1	9.222	10.144	0.67	0.80	0.67	10.00	0.000	0.000	6.76	0.00	0.00
							Totals:		**11,503.77**			**4,035.87**		

Total Applied Force Summary

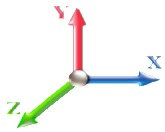
Structure:	CT00594-S-SBA		**Code:**	EIA/TIA-222-G	6/6/2018
Site Name:	Plainfield North		**Exposure:**	B	
Height:	178.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 33

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

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		167.72	1653.39	0.00	0.00
10.00		164.38	1752.74	0.00	0.00
15.00		161.03	1721.25	0.00	0.00
20.00		157.69	1689.75	0.00	0.00
25.00		154.35	1658.25	0.00	0.00
30.00		151.13	1626.75	0.00	0.00
32.83		86.35	907.85	0.00	0.00
35.00		67.73	1254.04	0.00	0.00
40.00		159.77	2850.21	0.00	0.00
45.00		161.48	1475.00	0.00	0.00
50.00		162.55	1445.47	0.00	0.00
55.00		163.05	1415.95	0.00	0.00
60.00		163.08	1386.42	0.00	0.00
65.00		162.68	1356.89	0.00	0.00
70.00		161.89	1327.36	0.00	0.00
75.00		160.77	1297.83	0.00	0.00
77.92		92.89	744.27	0.00	0.00
80.00		67.15	937.48	0.00	0.00
84.00		128.86	1776.54	0.00	0.00
85.00		31.74	235.50	0.00	0.00
90.00		159.11	1164.89	0.00	0.00
95.00		156.93	1137.33	0.00	0.00
100.00		154.53	1109.77	0.00	0.00
105.00		151.91	1082.21	0.00	0.00
110.00		149.09	1054.65	0.00	0.00
115.00		146.09	1027.09	0.00	0.00
120.00		142.90	999.53	0.00	0.00
124.08		114.10	795.84	0.00	0.00
125.00	(31) attachments	979.34	2483.55	0.00	0.00
129.00		110.98	1086.35	0.00	0.00
130.00		27.30	124.00	0.00	0.00
135.00		134.88	609.36	0.00	0.00
140.00		131.09	591.64	0.00	0.00
145.00	(21) attachments	1295.35	4377.64	0.00	0.00
150.00		123.10	537.13	0.00	0.00
152.50	(8) attachments	267.60	750.72	0.00	0.00
155.00	(23) attachments	900.42	2687.49	0.00	0.00
160.00		114.59	434.09	0.00	0.00
165.00	(19) attachments	974.77	2979.78	0.00	0.00
170.00		105.61	336.26	0.00	0.00
175.00		100.95	318.54	0.00	0.00
178.00		58.19	182.62	0.00	0.00
	Totals:	**9,225.11**	**54,383.39**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

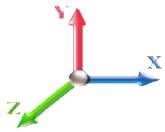
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	22.88
5.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	4.40
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.32
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	57.20
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	11.00
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.80
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	57.20
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	11.00
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.80
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	57.20
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	11.00
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.80
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	57.20
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	11.00
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.80
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.134	0.00	57.20
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.134	0.00	11.00
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.134	0.00	0.80
32.83	1 5/8" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	6.294	0.00	32.41
32.83	1 5/8" Hybrid	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	6.294	0.00	6.23
32.83	1/2" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	6.294	0.00	0.45
35.00	1 5/8" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	6.410	0.00	24.79
35.00	1 5/8" Hybrid	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	6.410	0.00	4.77
35.00	1/2" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	6.410	0.00	0.35
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.659	0.00	57.20
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.659	0.00	11.00
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.659	0.00	0.80
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.887	0.00	57.20
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.887	0.00	11.00
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.887	0.00	0.80
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.098	0.00	57.20
50.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.098	0.00	11.00
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.098	0.00	0.80
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.294	0.00	57.20
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.294	0.00	11.00
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.294	0.00	0.80
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.477	0.00	57.20
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.477	0.00	11.00
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.477	0.00	0.80
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.650	0.00	57.20
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.650	0.00	11.00
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.650	0.00	0.80
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.814	0.00	57.20
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.814	0.00	11.00
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.814	0.00	0.80
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.969	0.00	57.20
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.969	0.00	11.00

Linear Appurtenance Segment Forces (Factored)

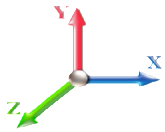
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.969	0.00	0.80
77.92	1 5/8" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	8.057	0.00	33.40
77.92	1 5/8" Hybrid	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	8.057	0.00	6.42
77.92	1/2" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	8.057	0.00	0.47
80.00	1 5/8" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	23.80
80.00	1 5/8" Hybrid	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	4.58
80.00	1/2" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	0.33
84.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.232	0.00	45.80
84.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.232	0.00	8.81
84.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.232	0.00	0.64
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	11.40
85.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	2.19
85.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	0.16
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.396	0.00	57.20
90.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.396	0.00	11.00
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.396	0.00	0.80
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.526	0.00	57.20
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.526	0.00	11.00
95.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.526	0.00	0.80
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.652	0.00	57.20
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.652	0.00	11.00
100.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.652	0.00	0.80
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.774	0.00	57.20
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.774	0.00	11.00
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.774	0.00	0.80
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.891	0.00	57.20
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.891	0.00	11.00
110.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.891	0.00	0.80
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.005	0.00	57.20
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.005	0.00	11.00
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.005	0.00	0.80
120.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.115	0.00	57.20
120.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.115	0.00	11.00
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.115	0.00	0.80
124.08	1 5/8" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	9.202	0.00	46.71
124.08	1 5/8" Hybrid	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	9.202	0.00	8.98
124.08	1/2" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	9.202	0.00	0.65
125.00	1 5/8" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	9.222	0.00	10.49
125.00	1 5/8" Hybrid	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	9.222	0.00	2.02
125.00	1/2" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	9.222	0.00	0.15
									Totals:		**0.0**	**1,683.6**

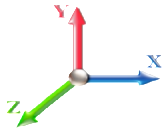
Calculated Forces

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 36	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

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	-54.38	-9.24	0.00	-1075.7	0.00	1075.73	6109.19	3054.60	14553.3	7187.37	0.00	0.000	0.000	0.159
5.00	-52.72	-9.11	0.00	-1029.5	0.00	1029.52	6042.67	3021.34	14105.8	6966.35	0.02	-0.038	0.000	0.157
10.00	-50.96	-8.98	0.00	-983.97	0.00	983.97	5973.91	2986.96	13659.5	6745.94	0.08	-0.076	0.000	0.154
15.00	-49.24	-8.85	0.00	-939.08	0.00	939.08	5902.91	2951.46	13214.8	6526.30	0.18	-0.115	0.000	0.152
20.00	-47.54	-8.72	0.00	-894.85	0.00	894.85	5829.67	2914.84	12771.9	6307.60	0.32	-0.155	0.000	0.150
25.00	-45.88	-8.59	0.00	-851.25	0.00	851.25	5754.19	2877.10	12331.3	6089.98	0.51	-0.195	0.000	0.148
30.00	-44.25	-8.46	0.00	-808.30	0.00	808.30	5676.47	2838.24	11893.2	5873.62	0.73	-0.236	0.000	0.145
32.83	-43.33	-8.39	0.00	-784.33	0.00	784.33	5631.44	2815.72	11646.2	5751.63	0.88	-0.260	0.000	0.144
35.00	-42.08	-8.33	0.00	-766.16	0.00	766.16	5596.51	2798.26	11457.9	5658.66	1.00	-0.278	0.000	0.143
40.00	-39.22	-8.19	0.00	-724.49	0.00	724.49	5104.93	2552.47	10419.5	5145.84	1.32	-0.320	0.000	0.148
45.00	-37.74	-8.05	0.00	-683.55	0.00	683.55	5033.50	2516.75	10032.9	4954.92	1.68	-0.363	0.000	0.145
50.00	-36.29	-7.90	0.00	-643.32	0.00	643.32	4959.83	2479.91	9648.87	4765.22	2.08	-0.406	0.000	0.142
55.00	-34.87	-7.75	0.00	-603.82	0.00	603.82	4883.92	2441.96	9267.55	4576.90	2.53	-0.450	0.000	0.139
60.00	-33.48	-7.61	0.00	-565.04	0.00	565.04	4805.76	2402.88	8889.36	4390.12	3.02	-0.494	0.000	0.136
65.00	-32.12	-7.46	0.00	-527.01	0.00	527.01	4725.37	2362.69	8514.61	4205.04	3.56	-0.538	0.000	0.132
70.00	-30.79	-7.31	0.00	-489.73	0.00	489.73	4642.74	2321.37	8143.62	4021.83	4.15	-0.583	0.000	0.128
75.00	-29.49	-7.15	0.00	-453.21	0.00	453.21	4557.87	2278.94	7776.72	3840.63	4.79	-0.628	0.000	0.124
77.92	-28.74	-7.06	0.00	-432.33	0.00	432.33	4507.27	2253.64	7564.46	3735.80	5.18	-0.655	0.000	0.122
80.00	-27.80	-7.00	0.00	-417.65	0.00	417.65	4470.76	2235.38	7414.22	3661.61	5.47	-0.674	0.000	0.120
84.00	-26.02	-6.86	0.00	-389.65	0.00	389.65	4079.95	2039.98	6768.85	3342.88	6.05	-0.711	0.000	0.123
85.00	-25.78	-6.83	0.00	-382.81	0.00	382.81	4064.53	2032.27	6704.51	3311.11	6.20	-0.720	0.000	0.122
90.00	-24.62	-6.68	0.00	-348.65	0.00	348.65	3985.82	1992.91	6384.01	3152.82	6.98	-0.765	0.000	0.117
95.00	-23.48	-6.52	0.00	-315.26	0.00	315.26	3904.88	1952.44	6067.57	2996.54	7.80	-0.809	0.000	0.111
100.00	-22.36	-6.37	0.00	-282.64	0.00	282.64	3803.39	1901.70	5727.93	2828.81	8.67	-0.853	0.000	0.106
105.00	-21.28	-6.22	0.00	-250.80	0.00	250.80	3683.99	1842.00	5371.89	2652.97	9.59	-0.896	0.000	0.100
110.00	-20.22	-6.07	0.00	-219.71	0.00	219.71	3564.59	1782.30	5027.27	2482.78	10.55	-0.938	0.000	0.094
115.00	-19.19	-5.92	0.00	-189.38	0.00	189.38	3445.19	1722.60	4694.07	2318.23	11.56	-0.978	0.000	0.087
120.00	-18.19	-5.77	0.00	-159.81	0.00	159.81	3325.79	1662.90	4372.30	2159.32	12.60	-1.016	0.000	0.079
124.08	-17.40	-5.64	0.00	-136.26	0.00	136.26	3228.28	1614.14	4118.00	2033.73	13.48	-1.045	0.000	0.072
125.00	-14.93	-4.62	0.00	-131.09	0.00	131.09	3206.39	1603.20	4061.96	2006.05	13.68	-1.051	0.000	0.070
129.00	-13.85	-4.50	0.00	-112.60	0.00	112.60	1872.41	936.20	2368.25	1169.59	14.58	-1.077	0.000	0.104
130.00	-13.72	-4.47	0.00	-108.11	0.00	108.11	1864.30	932.15	2340.16	1155.72	14.80	-1.084	0.000	0.101
135.00	-13.11	-4.33	0.00	-85.75	0.00	85.75	1822.43	911.21	2200.41	1086.70	15.96	-1.126	0.000	0.086
140.00	-12.52	-4.20	0.00	-64.08	0.00	64.08	1778.31	889.16	2062.08	1018.38	17.16	-1.163	0.000	0.070
145.00	-8.17	-2.82	0.00	-43.09	0.00	43.09	1731.96	865.98	1925.47	950.92	18.40	-1.192	0.000	0.050
150.00	-7.63	-2.68	0.00	-29.00	0.00	29.00	1683.36	841.68	1790.92	884.47	19.66	-1.215	0.000	0.037
152.50	-6.89	-2.40	0.00	-22.29	0.00	22.29	1658.23	829.11	1724.52	851.67	20.30	-1.224	0.000	0.030
155.00	-4.22	-1.45	0.00	-16.28	0.00	16.28	1632.53	816.27	1658.75	819.19	20.94	-1.231	0.000	0.022
160.00	-3.79	-1.32	0.00	-9.06	0.00	9.06	1571.93	785.97	1521.98	751.65	22.23	-1.242	0.000	0.014
165.00	-0.83	-0.28	0.00	-2.45	0.00	2.45	1495.17	747.59	1376.14	679.62	23.54	-1.247	0.000	0.004
170.00	-0.50	-0.17	0.00	-1.04	0.00	1.04	1418.42	709.21	1237.64	611.22	24.85	-1.249	0.000	0.002
175.00	-0.18	-0.06	0.00	-0.19	0.00	0.19	1341.66	670.83	1106.49	546.45	26.15	-1.250	0.000	0.000
178.00	0.00	-0.06	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33	26.94	-1.250	0.000	0.000

Final Analysis Summary

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	6/6/2018	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 37	

Tower Engineering Solutions

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 105 mph Wind	45.3	0.00	65.18	0.00	0.00	5304.53
0.9D + 1.6W 105 mph Wind	45.3	0.00	48.87	0.00	0.00	5243.12
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.5	0.00	111.60	0.00	0.00	1213.53
1.2D + 1.0E	1.7	0.00	65.26	0.00	0.00	184.45
0.9D + 1.0E	1.7	0.00	48.94	0.00	0.00	182.21
1.0D + 1.0W 60 mph Wind	9.2	0.00	54.38	0.00	0.00	1075.73

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 105 mph Wind	-65.18	-45.31	0.00	-5304.5	0.00	-5304.5	6109.19	3054.6	14553.3	7187.37	0.00	0.749
0.9D + 1.6W 105 mph Wind	-48.87	-45.28	0.00	-5243.1	0.00	-5243.1	6109.19	3054.6	14553.3	7187.37	0.00	0.738
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-111.60	-9.49	0.00	-1213.5	0.00	-1213.5	6109.19	3054.6	14553.3	7187.37	0.00	0.187
1.2D + 1.0E	-65.26	-1.66	0.00	-184.45	0.00	-184.45	6109.19	3054.6	14553.3	7187.37	0.00	0.036
0.9D + 1.0E	-48.94	-1.65	0.00	-182.21	0.00	-182.21	6109.19	3054.6	14553.3	7187.37	0.00	0.033
1.0D + 1.0W 60 mph Wind	-54.38	-9.24	0.00	-1075.7	0.00	-1075.7	6109.19	3054.6	14553.3	7187.37	0.00	0.159

Base Plate Summary

Structure:	CT00594-S-SB		**Code:**	EIA/TIA-222-G	6/6/2018
Site Name:	Plainfield North		**Exposure:**	B	
Height:	178.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 38

Tower Engineering Solutions

Reactions		Base Plate		Anchor Bolts	
Original Design		**Yield (ksi):**	60.00	**Bolt Circle:**	66.81
Moment (kip-ft):	5595.92	**Width (in):**	72.81	**Number Bolts:**	24.00
Axial (kip):	50.66	**Style:**	Polygon	**Bolt Type:**	2.25" 18J
Shear (kip):	45.22	**Polygon Sides:**	12.00	**Bolt Diameter (in):**	2.25
		Clip Length (in):	0.00	**Yield (ksi):**	75.00
Analysis				**Ultimate (ksi):**	100.00
Moment (kip-ft):	5304.53	**Effective Len (in):**	13.27	**Arrangement:**	Radial
Axial (kip):	111.60	**Moment (kip-in):**	699.54	**Cluster Dist (in):**	0.00
Shear (kip):	45.31	**Allow Stress (ksi):**	81.00	**Start Angle (deg):**	15.00
		Applied Stress (ksi):	0.00	Compression	
Moment Design %:	94.79	**Stress Ratio:**	0.43	**Force (kip):**	163.44
				Allowable (kip):	260.00
				Ratio:	0.64
				Tension	
				Force (kip):	154.14
				Allowable (kip):	260.00
				Ratio:	0.61

Antenna Mount Structural Analysis

Source: SBA Date: 11.14.2017

SBA Site:	CT00594-S Plainfield North
Sprint Site Number:	CT23XC406
Project:	Sprint DO Macro Upgrade
Prepared For:	Sprint
Mount Description:	(1) Platform
Site Location:	56 Roper Road, Plainfield, CT Windham County 41.746018°, -71.88014°
Design Codes:	ANSI/TIA-222-G IBC 2015 w/ 2016 CT State Amend.
Analysis Load Case:	Sprint Final Configuration
Analysis Result:	**Adequate @ 97%** - Once Augmented See Conclusion

STATE OF CONNECTICUT
GREGORY DURGIN
No 32155
LICENSED
PROFESSIONAL ENGINEER

Revision 0
March 14, 2018

DO Macro_CT23XC406_Mount Analysis (Pass with Mods)_3.14.2018

1.0 Introduction

An antenna mount structural analysis has been performed on Sprint's existing mount assembly located at the CT00594-S Plainfield North 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 2015 – 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 = 135 mph (3-sec gust Ultimate Wind Speed) Wind w/o ice = 105 mph (3-sec gust Equivalent per TIA-222-G Tower Code)	
Wind with ice = 50 mph (3-sec gust, 1" Ice) Exposure Category B	Topographic Category 1 Structure Class II

The following documents were provided:

- Prelim Construction Drawings
  Infinigy, 1/18/18.
- Mount and Tower Record Documents
  SBA
- Mount Assessment
  Westchester, 1/2/18.
- RF Design
  Sprint DOMU Project

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
145.0'±	(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.*

4.0 Analysis Results

Table 4.1 – Existing Mount Capacity

Load Case	Governing Mount Component[1]	% Capacity[2]	Result
Final Sprint Configuration	Collar	>200%	**Inadequate[3]**
	Bottom Rail	131%	

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 PRK Connection Capacity	97%	**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 3.0' below the existing collar mount and attaching to the existing tube steel platform members 3.0' from collar interface.
  - Sitepro1 PRK-1245L, (1) total.
- Install V-Brace Kit; located 3.75' below the existing mount face rail centerline.
  - 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 12.5' Horizontal Rail, (3) total. Attach SFS-L kit angles to new horizontal rail.
  - Pipe2.0STD x ~4' long corner braces, (3) total. Attach to new horizontal rail w/ Sitepro1 PUCK brackets, (6) total.
  - Sitepro1 SCX1-K, (12) total. 1/2"Ø or 5/8"Ø U-Bolts, (36) total. Attach all mount pipes to new rail w/ SCX1-K plates, to existing bottom rail w/ (2) U-Bolts, to top rail with (1) U-Bolt. (12) new Pipe2.0STD mount pipes will be required to span between existing rails and new bottom rail.
- Panel antennas to be installed in Positions 2 and 3. RRH units to be installed behind panel antennas on dual swivel brackets.
- Lower the panel antenna installation centerline approximately 2.0'.

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:

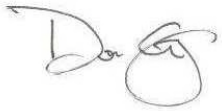
- **In order to obtain a mount structure capable of supporting the currently proposed final loading configuration, upgrade augments must be installed in accordance with GeoStructural's *Mount Augmentation Drawings*.**
- **Antennas and equipment shall be installed centered vertically on the mount front 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:

Jesse Drennen, PE, MLE
208.761.7986
jesse.drennen@geostructural.com

Reviewed and Approved by:



Don George, PE, SE, MLSE
208.602.6569
don.george@geostructural.com

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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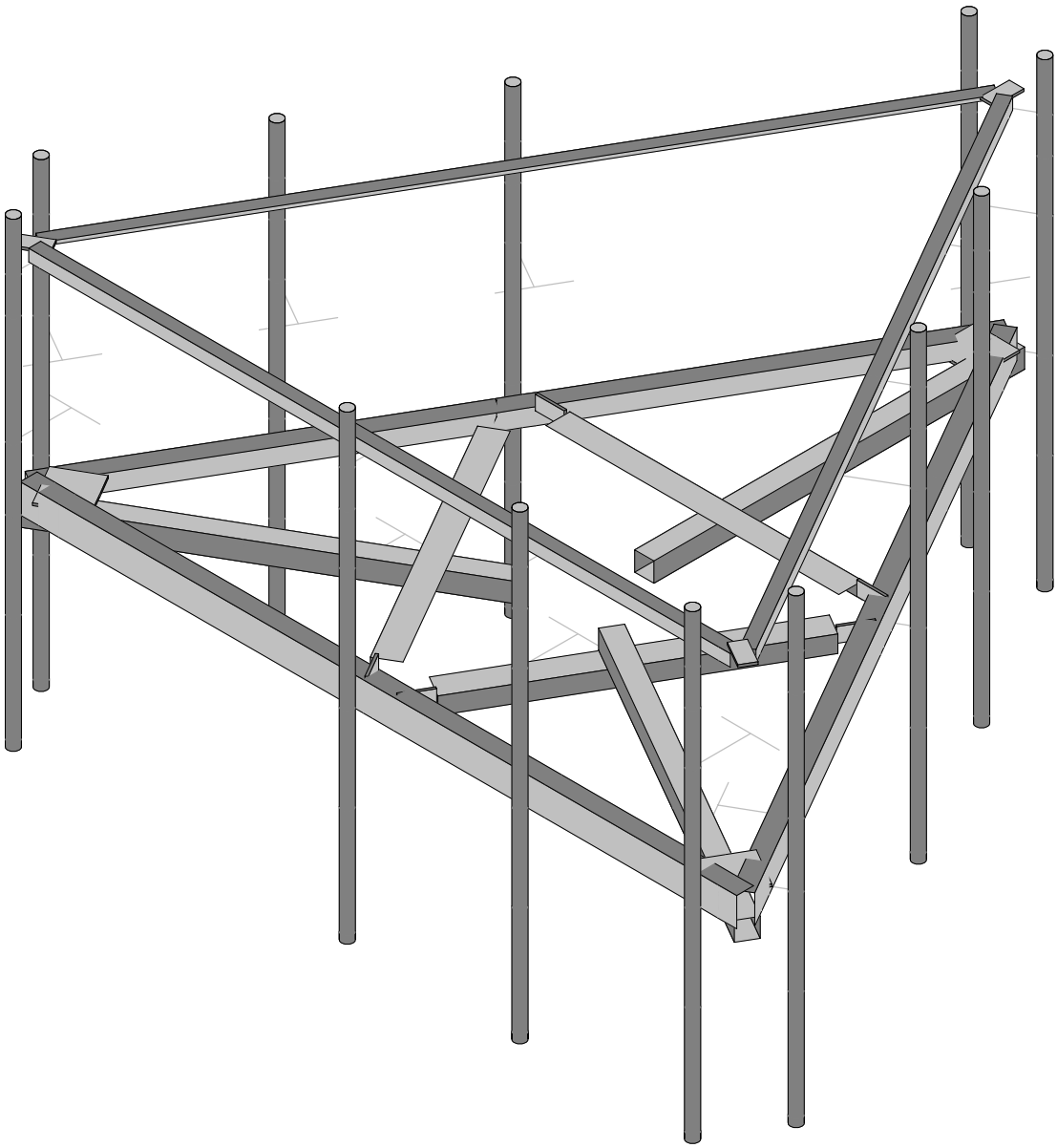

Envelope Only Solution

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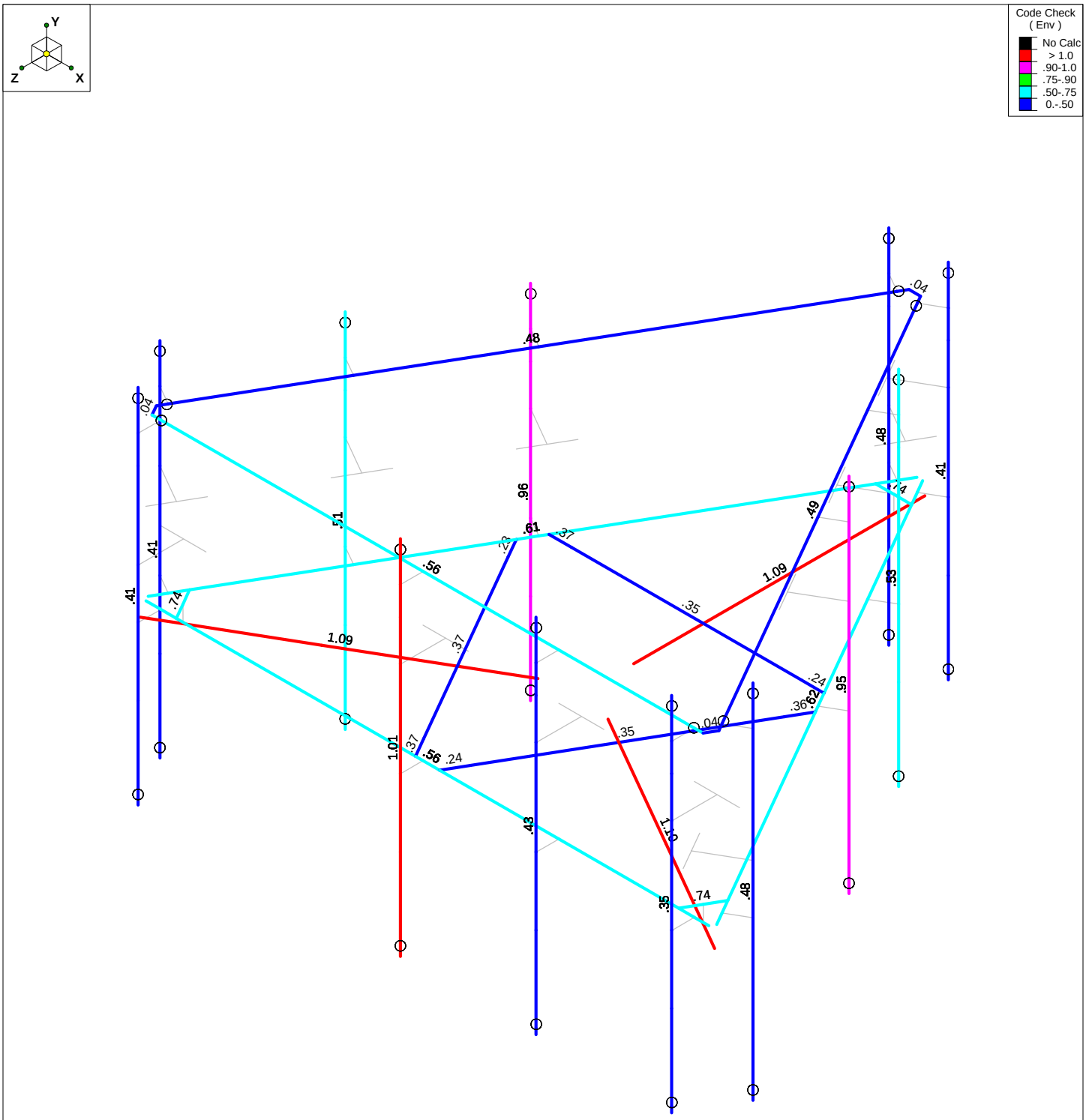

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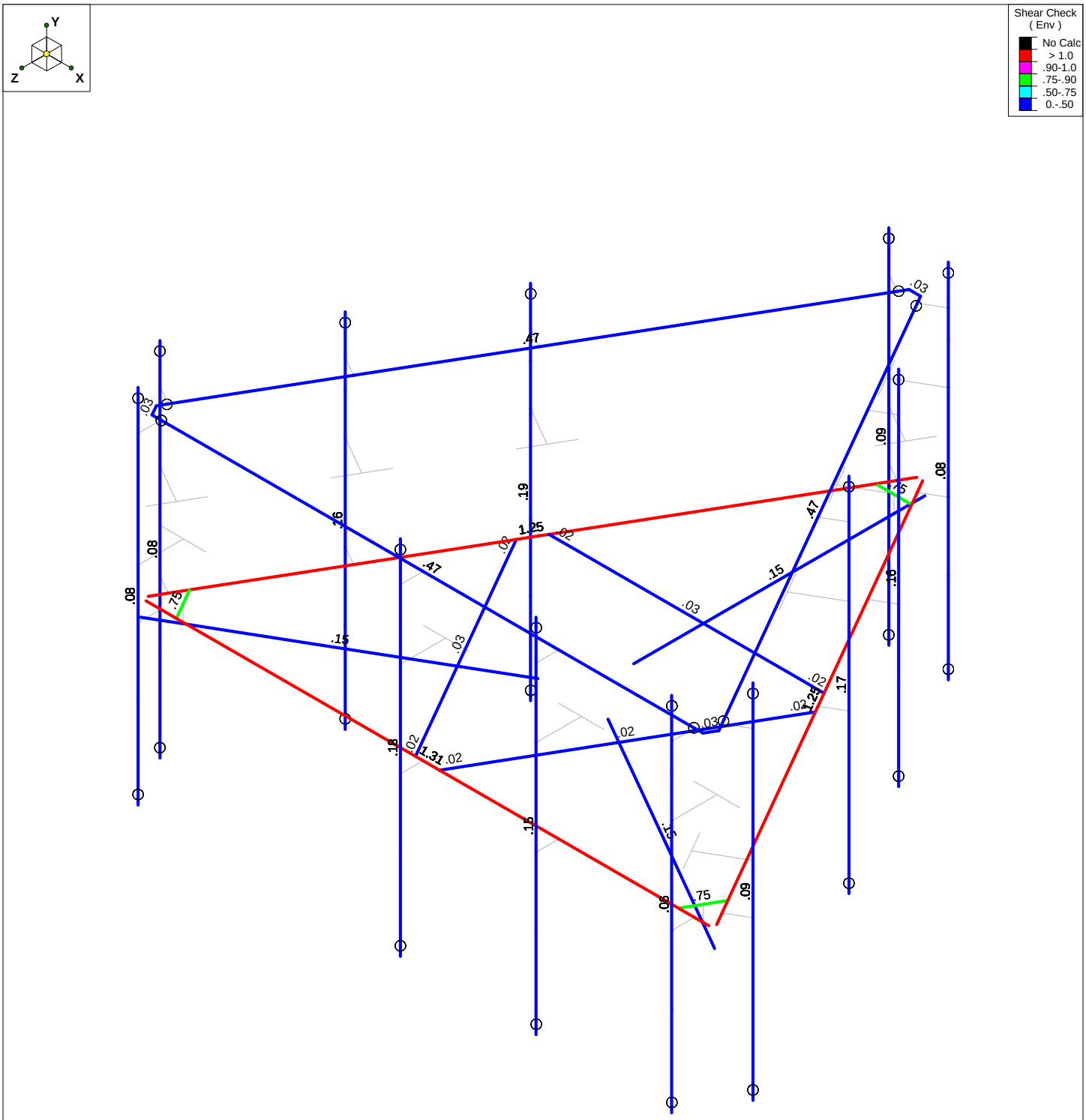

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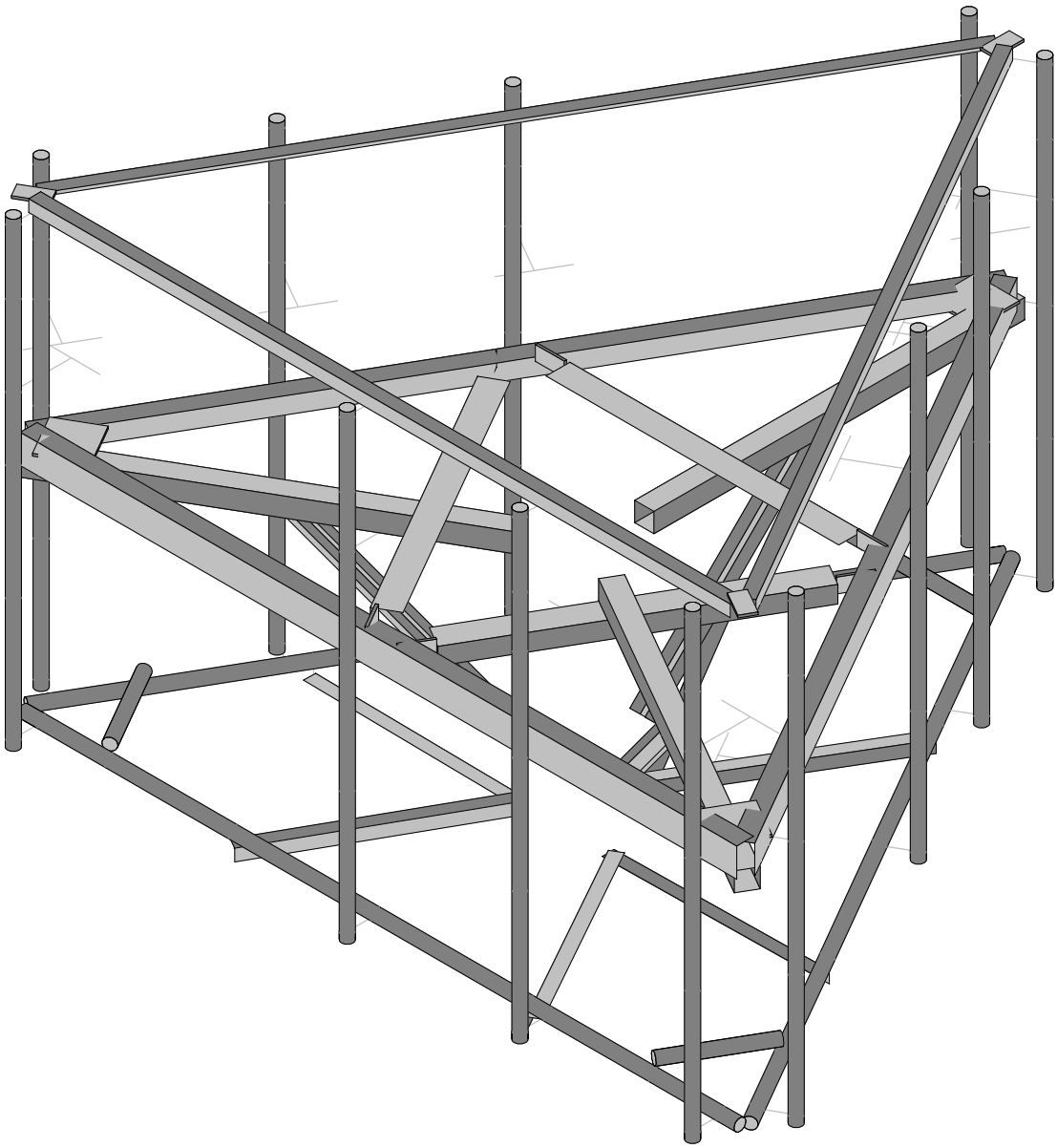

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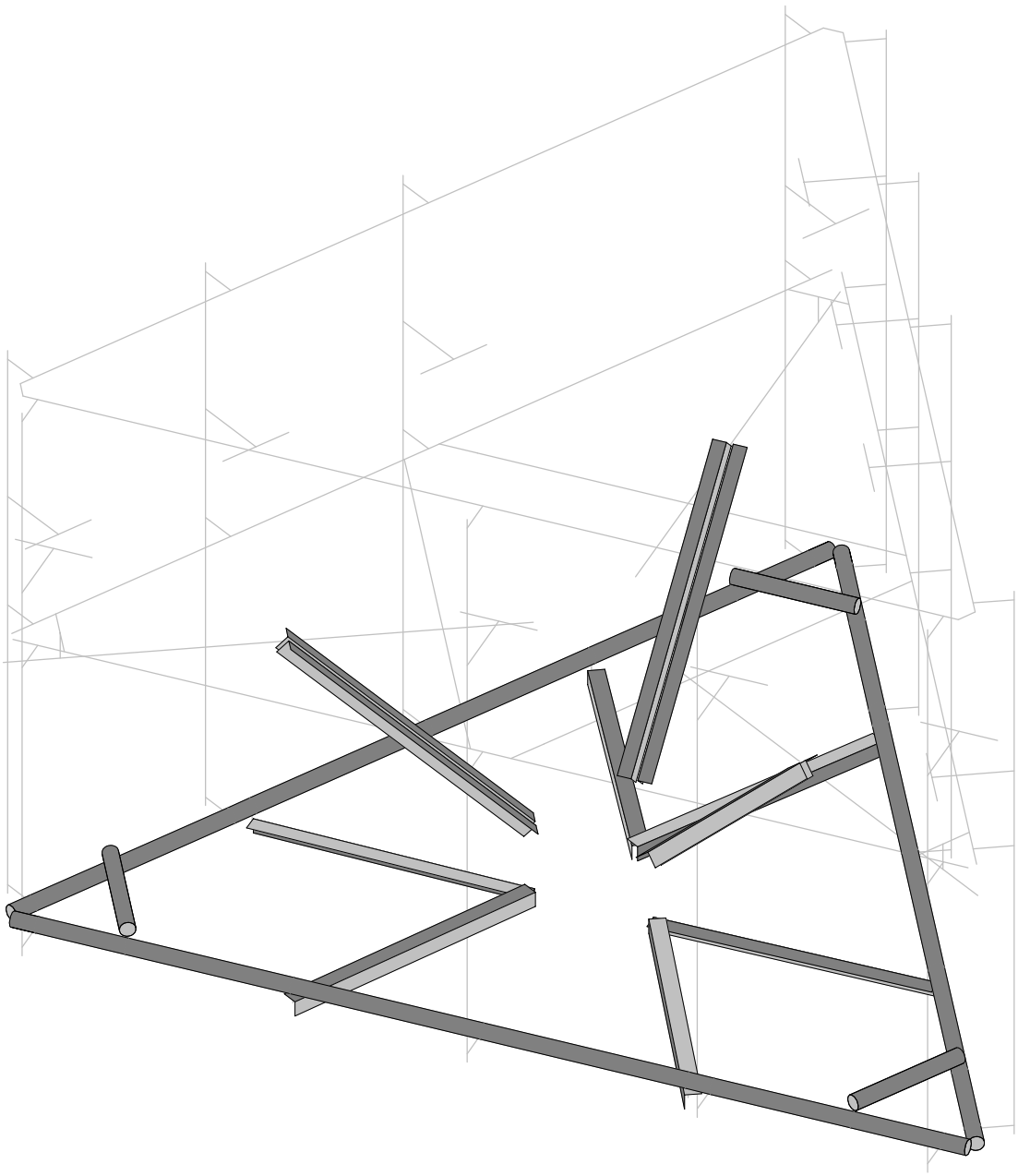

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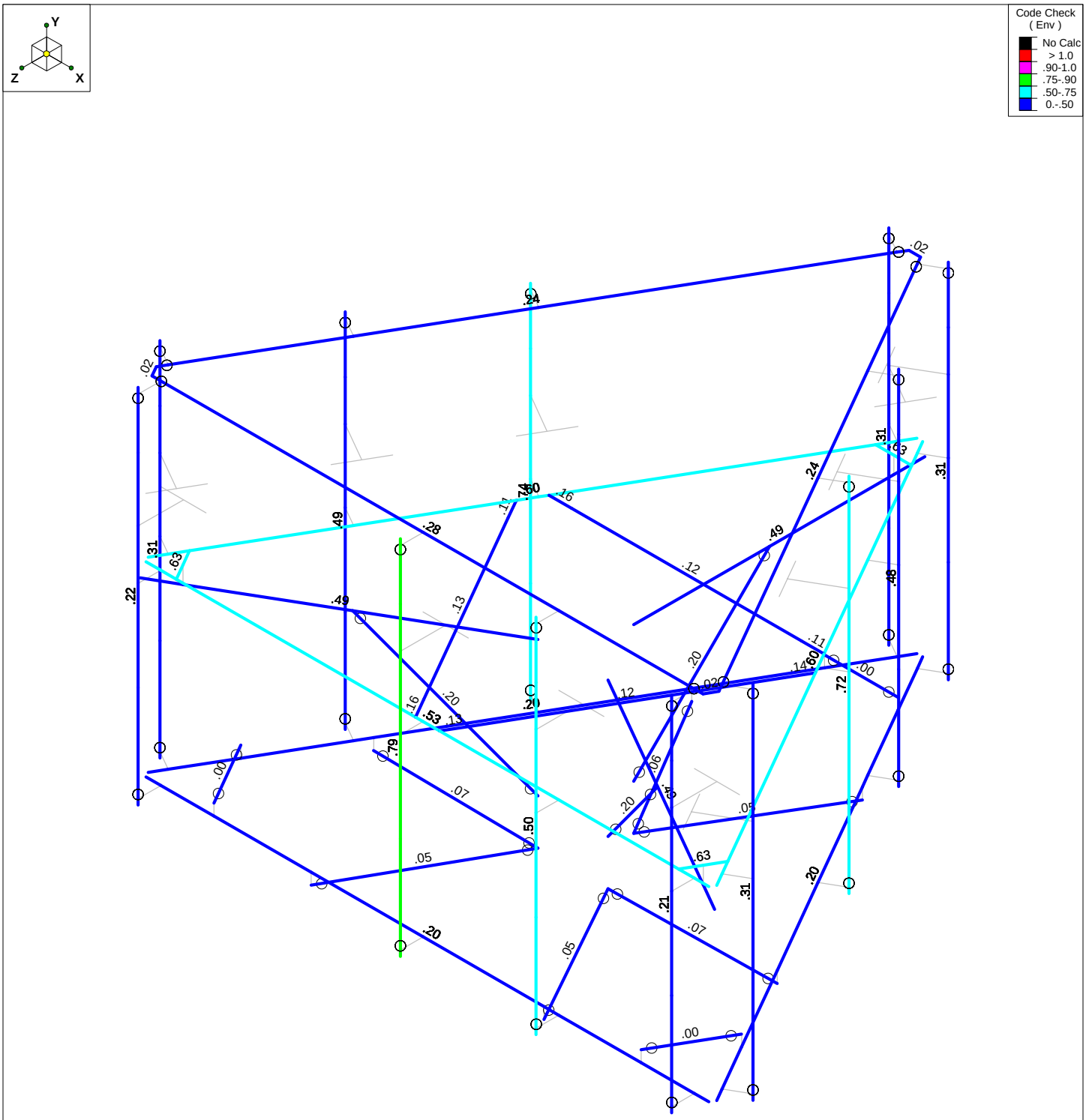

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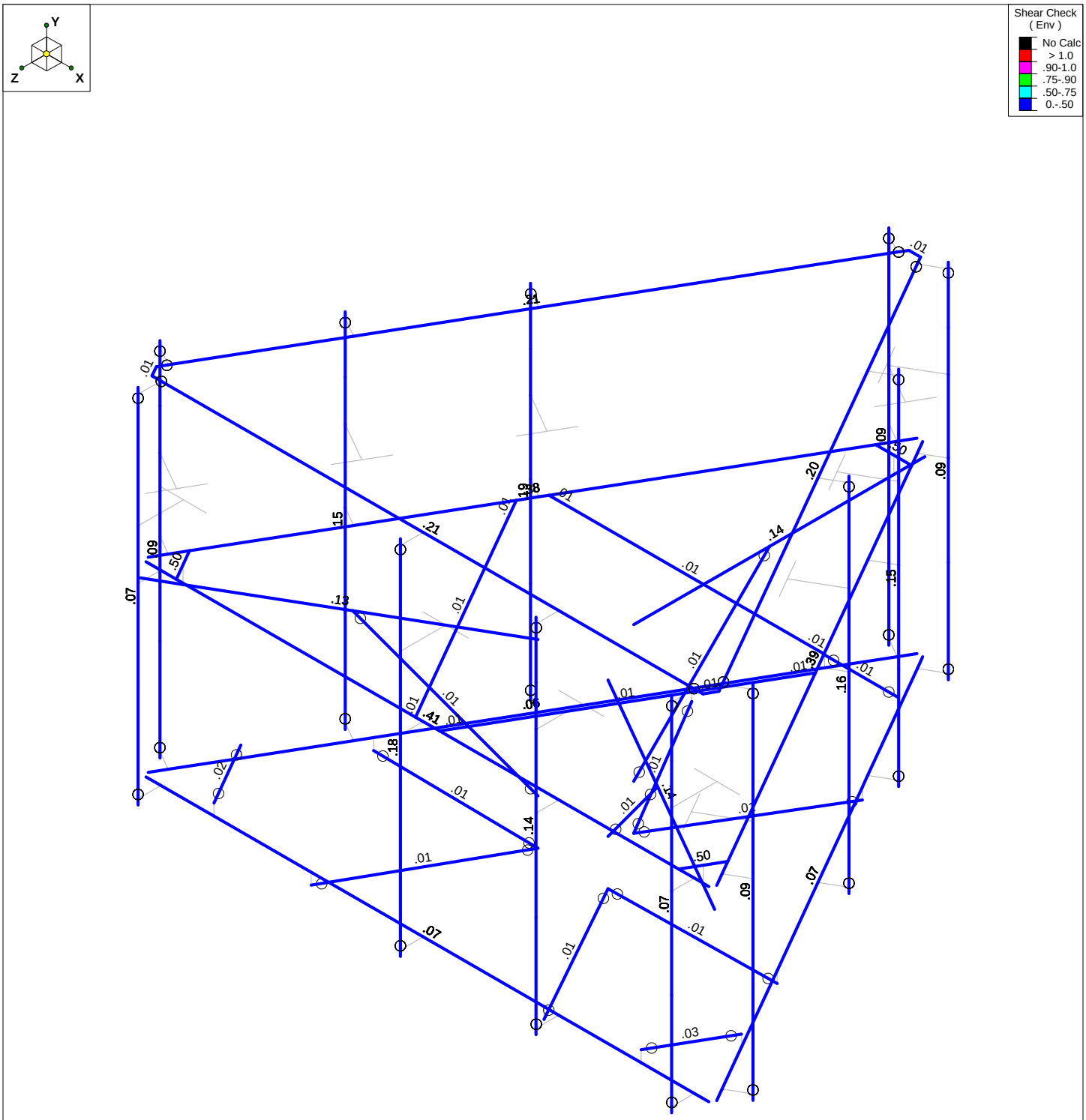

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Basic Load Cases

	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		51		
6	Wox	WL				25		51		
7	Wiz	WL				25		51		
8	Wix	WL				25		51		
9	Ez	EL				25				
10	Ex	EL				25				

Load Combination Design

	Description	ASIF	CD	ABIF	Service	Hot Rolled	Cold For...	Wood	Concrete	Masonry	Footings	Aluminum	Connecti...
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+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
39	5) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
40	5) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41	5) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Load Combination Design (Continued)

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

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	N15	max	3.581	18	.167	24	3.682	12	1.093	29	.86	12	1.681	30
2		min	-6.136	12	-2.317	30	-2.24	18	-.057	23	-.865	6	-.13	24
3	N19	max	6.024	4	.167	16	3.846	4	.915	35	1.29	10	.126	16
4		min	-3.478	22	-2.317	34	-2.386	22	-.07	17	-1.288	4	-1.785	34
5	N23	max	.673	5	.166	20	4.138	14	.111	20	2.091	11	.383	11
6		min	-.664	23	-2.318	26	-7.07	8	-1.997	26	-2.089	5	-.325	17
7	N286	max	.04	17	6.193	26	-.793	20	0	1	0	23	0	5
8		min	-.04	23	.744	20	-6.09	26	0	1	0	5	0	23
9	N289A	max	-.692	24	6.193	30	3.045	30	0	5	0	23	0	23
10		min	-5.272	30	.737	24	.395	24	0	23	0	5	0	5
11	N292	max	5.272	34	6.193	34	3.046	34	0	23	0	23	0	23
12		min	.691	16	.735	16	.394	16	0	5	0	5	0	5
13	N298	max	.12	17	.081	32	.307	8	0	14	0	1	0	23
14		min	-.131	11	.007	63	-.275	14	-.001	32	0	1	0	5
15	N299	max	.254	12	.081	36	.099	67	0	2	0	1	.001	35
16		min	-.218	18	.007	67	-.106	61	0	20	0	1	0	17
17	N300	max	.218	22	.081	28	.118	71	0	26	0	1	0	23
18		min	-.244	4	.007	71	-.144	53	0	20	0	1	0	29
19	Totals:	max	7.611	17	11.857	36	7.604	2						

Envelope Joint Reactions (Continued)

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
20		min	-7.611	11	2.267	67	-7.604	20						

Envelope Member Section Deflections

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
1	M1	1	max	.373	23	.26	30	.54	13	7.645e-03	19	NC	1	NC	1
2			min	-.415	5	-.063	24	-.496	19	-1.002e-02	13	NC	1	NC	1
3		2	max	.373	23	.557	28	.943	2	1.659e-02	20	NC	11	NC	68
4			min	-.415	5	.068	22	-.789	20	-2.026e-02	2	682.785	8	314.667	2
5		3	max	.373	23	.638	26	1.075	2	2.285e-02	20	NC	11	NC	10
6			min	-.415	5	.128	66	-.886	20	-2.813e-02	2	484.054	8	249.719	2
7		4	max	.373	23	.53	35	.896	2	1.756e-02	20	NC	11	NC	10
8			min	-.415	5	.076	17	-.783	20	-2.082e-02	2	412.343	23	352.188	2
9		5	max	.373	23	.268	34	.512	15	9.025e-03	9	NC	1	NC	1
10			min	-.414	5	-.062	16	-.563	9	-8.971e-03	3	300.902	23	4112.942	70
11	M2	1	max	.686	15	.26	34	.357	6	6.39e-03	23	NC	1	NC	1
12			min	-.724	9	-.061	16	-.313	24	-8.775e-03	5	NC	1	NC	1
13		2	max	.686	15	.554	32	.801	6	1.479e-02	24	NC	15	NC	14
14			min	-.725	9	.09	14	-.648	24	-1.846e-02	6	828.405	12	365.299	6
15		3	max	.686	15	.638	28	.984	6	2.016e-02	24	NC	57	NC	72
16			min	-.725	9	.128	70	-.796	24	-2.542e-02	6	586.492	12	287.691	6
17		4	max	.686	15	.531	26	.9	6	1.656e-02	24	NC	50	NC	72
18			min	-.725	9	.072	20	-.787	24	-1.984e-02	6	806.922	11	405.202	5
19		5	max	.686	15	.268	26	.605	18	9.079e-03	13	NC	1	NC	1
20			min	-.724	9	-.06	20	-.652	12	-8.995e-03	7	950.196	3	4113.175	74
21	M3	1	max	.678	19	.26	26	.665	10	7.83e-03	15	NC	1	NC	1
22			min	-.722	13	-.061	20	-.617	16	-1.018e-02	9	1320.423	25	NC	1
23		2	max	.678	19	.557	37	.962	10	1.578e-02	16	NC	57	NC	14
24			min	-.723	13	.065	18	-.807	16	-1.949e-02	10	815.311	4	362.438	10
25		3	max	.678	19	.637	35	.999	10	2.062e-02	16	NC	61	NC	14
26			min	-.723	13	.128	74	-.811	16	-2.588e-02	10	570.455	4	283.045	10
27		4	max	.678	19	.529	30	.767	10	1.561e-02	16	NC	45	NC	2
28			min	-.723	13	.086	24	-.655	16	-1.887e-02	10	773.234	4	395.105	10
29		5	max	.678	19	.268	30	.306	22	7.85e-03	5	NC	1	NC	1
30			min	-.722	13	-.06	24	-.355	4	-7.803e-03	11	NC	1	3273.072	2
31	M4	1	max	.436	2	.501	24	.26	30	1.664e-02	12	NC	1	NC	1
32			min	-.378	20	-.516	6	-.063	24	-1.432e-02	18	NC	1	346.822	13
33		2	max	.436	2	.545	24	.262	30	1.664e-02	12	NC	1	NC	1
34			min	-.378	20	-.553	6	-.062	24	-1.431e-02	18	NC	1	463.228	13
35		3	max	.436	2	.589	12	.264	30	1.665e-02	12	NC	1	NC	1
36			min	-.378	20	-.59	6	-.062	24	-1.431e-02	18	NC	1	693.775	13
37		4	max	.436	2	.634	12	.266	30	1.665e-02	12	NC	1	NC	1
38			min	-.378	20	-.627	18	-.061	24	-1.431e-02	18	NC	1	1380.892	13
39		5	max	.436	2	.679	12	.268	30	1.665e-02	12	NC	1	NC	1
40			min	-.378	20	-.665	18	-.06	24	-1.431e-02	18	NC	1	1093.412	23
41	M5	1	max	.396	14	.505	22	.268	34	1.426e-02	22	NC	1	NC	1
42			min	-.46	8	-.516	4	-.062	16	-1.66e-02	4	NC	1	494.185	15
43		2	max	.396	14	.547	22	.266	34	1.427e-02	22	NC	1	NC	1
44			min	-.46	8	-.553	4	-.062	16	-1.66e-02	4	NC	1	660.357	15
45		3	max	.396	14	.59	10	.264	34	1.427e-02	22	NC	1	NC	1
46			min	-.46	8	-.589	4	-.062	16	-1.66e-02	4	NC	1	988.569	15
47		4	max	.396	14	.633	10	.262	34	1.428e-02	22	NC	1	NC	1
48			min	-.46	8	-.626	16	-.062	16	-1.661e-02	4	NC	1	773.135	5
49		5	max	.396	14	.676	10	.26	34	1.428e-02	22	NC	1	NC	1
50			min	-.46	8	-.664	16	-.061	16	-1.661e-02	4	NC	1	577.938	5
51	M6	1	max	.756	11	.608	20	.26	26	1.68e-02	8	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
52			min	-.693	17	-.624	2	-.061	20	-1.453e-02	14	NC	1	323.328	9
53		2	max	.756	11	.609	20	.262	26	1.68e-02	8	NC	1	NC	1
54			min	-.693	17	-.619	2	-.06	20	-1.453e-02	14	NC	1	431.83	9
55		3	max	.756	11	.61	8	.264	26	1.68e-02	8	NC	1	NC	1
56			min	-.693	17	-.613	2	-.06	20	-1.453e-02	14	NC	1	646.768	9
57		4	max	.756	11	.612	8	.266	26	1.68e-02	8	NC	1	NC	1
58			min	-.693	17	-.608	14	-.06	20	-1.453e-02	14	NC	1	636.425	19
59		5	max	.756	11	.614	8	.268	26	1.68e-02	8	NC	1	NC	1
60			min	-.693	17	-.603	14	-.06	20	-1.452e-02	14	NC	1	476.193	19
61	M22	1	max	.104	15	.177	5	.184	7	4.259e-03	44	NC	1	NC	2
62			min	-.296	33	-.129	23	-.14	25	-3.521e-03	14	533.269	32	754.745	29
63		2	max	.104	15	.127	5	.152	6	4.402e-03	21	NC	10	NC	50
64			min	-.296	33	-.123	23	-.118	24	-4.441e-03	3	935.996	32	835.595	29
65		3	max	.105	15	.049	18	.129	17	5.042e-03	22	NC	1	NC	30
66			min	-.296	33	-.052	12	-.131	11	-5.674e-03	4	738.046	5	503.667	9
67		4	max	.105	15	.143	23	.288	15	4.777e-03	21	NC	1	NC	1
68			min	-.296	33	-.162	5	-.324	9	-5.344e-03	3	283.355	5	219.38	8
69		5	max	.105	15	.406	23	.55	15	4.491e-03	21	NC	1	NC	1
70			min	-.296	33	-.452	5	-.589	9	-4.922e-03	3	152.607	5	135.231	8
71	M29	1	max	.573	9	.053	16	.414	5	1.254e-02	5	NC	1	NC	1
72			min	-.534	15	-.287	34	-.373	23	-1.133e-02	23	NC	1	NC	1
73		2	max	.573	9	.065	16	.419	5	1.254e-02	5	NC	1	NC	1
74			min	-.534	15	-.289	34	-.377	23	-1.133e-02	23	NC	1	NC	1
75		3	max	.573	9	.077	16	.424	5	1.254e-02	5	NC	1	NC	1
76			min	-.534	15	-.291	34	-.381	23	-1.133e-02	23	NC	1	NC	1
77		4	max	.573	9	.089	16	.429	5	1.254e-02	5	NC	1	NC	1
78			min	-.534	15	-.293	33	-.385	23	-1.133e-02	23	NC	1	NC	1
79		5	max	.573	9	.105	15	.433	5	1.254e-02	5	NC	1	NC	1
80			min	-.534	15	-.296	33	-.389	23	-1.133e-02	23	NC	1	NC	1
81	M34	1	max	.144	10	.077	16	.056	11	6.513e-03	5	NC	1	NC	1
82			min	-.136	16	-.263	34	-.056	5	-6.156e-03	23	NC	1	NC	1
83		2	max	.144	10	.083	16	.051	11	6.513e-03	5	NC	1	NC	1
84			min	-.136	16	-.271	34	-.049	17	-6.156e-03	23	NC	1	NC	1
85		3	max	.144	10	.089	16	.045	11	6.513e-03	5	NC	1	NC	1
86			min	-.136	16	-.279	34	-.043	17	-6.156e-03	23	NC	1	NC	1
87		4	max	.144	10	.095	16	.039	11	6.513e-03	5	NC	1	NC	1
88			min	-.136	16	-.287	33	-.036	17	-6.156e-03	23	NC	1	NC	1
89		5	max	.144	10	.105	15	.037	12	6.513e-03	5	NC	1	NC	1
90			min	-.136	16	-.296	33	-.035	42	-6.156e-03	23	NC	1	NC	1
91	M56	1	max	0	1	0	1	0	1	0	1	NC	1	NC	1
92			min	0	1	0	1	0	1	0	1	NC	1	NC	1
93		2	max	.001	18	.012	12	0	24	5.155e-04	3	NC	1	NC	1
94			min	-.002	12	-.012	6	-.015	30	-3.952e-04	21	6186.998	12	5140.572	30
95		3	max	.003	18	.046	12	.026	30	1.031e-03	3	NC	1	NC	2
96			min	-.005	12	-.045	18	-.003	24	-7.906e-04	21	1697.06	12	2930.653	30
97		4	max	.003	18	.095	11	.177	30	1.547e-03	3	NC	1	NC	11
98			min	-.008	36	-.093	17	-.027	24	-1.186e-03	21	809.575	11	437.326	30
99		5	max	.004	18	.164	11	.294	30	1.842e-03	3	NC	1	NC	2
100			min	-.01	36	-.158	17	-.101	24	-1.413e-03	21	469.71	11	262.873	30
101	M58	1	max	0	1	0	1	0	1	0	1	NC	1	NC	1
102			min	0	1	0	1	0	1	0	1	NC	1	NC	1
103		2	max	.001	22	.018	10	0	16	5.669e-04	8	NC	1	NC	1
104			min	-.002	4	-.018	4	-.015	34	-4.391e-04	14	4328.464	10	5140.517	34
105		3	max	.003	22	.06	10	.026	34	1.134e-03	8	NC	1	NC	2
106			min	-.005	4	-.059	16	-.003	16	-8.782e-04	14	1286.533	10	2930.829	34
107		4	max	.003	22	.111	10	.177	34	1.701e-03	8	NC	1	NC	3
108			min	-.008	28	-.109	16	-.027	16	-1.317e-03	14	694.517	10	437.344	34

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
109		5	max	.004	22	.162	11	.294	34	2.025e-03	8	NC	1	NC	2
110			min	-.01	28	-.156	17	-.101	16	-1.568e-03	14	476.517	11	262.893	34
111	M59	1	max	.094	11	.061	18	.606	28	3.564e-03	9	NC	1	NC	1
112			min	-.092	17	-.064	12	.094	22	-2.249e-03	15	1419.358	21	532.951	16
113		2	max	.094	11	.049	7	.615	27	3.28e-03	9	NC	1	NC	2
114			min	-.092	17	-.044	25	.12	70	-2.097e-03	15	1886.967	21	759.548	4
115		3	max	.094	11	.049	8	.621	26	3.066e-03	8	NC	1	NC	2
116			min	-.092	17	-.04	14	.124	68	-2.007e-03	14	2876.519	21	1110.848	4
117		4	max	.094	11	.056	9	.619	37	2.904e-03	8	NC	1	NC	2
118			min	-.092	17	-.048	15	.118	67	-1.977e-03	14	2133.393	18	1342.457	13
119		5	max	.094	11	.068	10	.61	36	2.743e-03	8	NC	1	NC	1
120			min	-.092	17	-.063	16	.094	18	-1.947e-03	14	1583.149	18	946.064	13
121	M60	1	max	0	1	0	1	0	1	0	1	NC	1	NC	1
122			min	0	1	0	1	0	1	0	1	NC	1	NC	1
123		2	max	.001	14	.028	11	0	20	7.964e-04	11	NC	1	NC	1
124			min	-.002	8	-.028	5	-.015	26	-6.757e-04	17	2765.373	11	5139.265	26
125		3	max	.003	14	.089	11	.026	26	1.593e-03	11	NC	1	NC	6
126			min	-.005	8	-.088	17	-.003	20	-1.351e-03	17	867.438	11	2931.051	26
127		4	max	.003	14	.154	11	.177	26	2.388e-03	11	NC	1	NC	7
128			min	-.008	32	-.152	17	-.026	20	-2.026e-03	17	500.424	11	437.271	26
129		5	max	.004	14	.202	11	.294	26	2.843e-03	11	NC	1	NC	6
130			min	-.01	32	-.196	17	-.101	20	-2.412e-03	17	382.095	11	262.781	26
131	M73	1	max	.305	9	.034	17	.099	6	1.078e-02	5	NC	1	NC	1
132			min	-.27	15	-.264	35	-.088	24	-9.841e-03	23	NC	1	NC	1
133		2	max	.305	9	.04	16	.107	5	1.078e-02	5	NC	1	NC	1
134			min	-.27	15	-.269	34	-.095	23	-9.841e-03	23	NC	1	NC	1
135		3	max	.305	9	.06	16	.119	5	1.078e-02	5	NC	1	NC	1
136			min	-.27	15	-.278	34	-.105	23	-9.841e-03	23	NC	1	NC	1
137		4	max	.305	9	.081	16	.13	5	1.078e-02	5	NC	1	NC	1
138			min	-.27	15	-.286	34	-.115	23	-9.841e-03	23	NC	1	NC	1
139		5	max	.305	9	.105	15	.142	5	1.078e-02	5	NC	1	NC	1
140			min	-.27	15	-.296	33	-.125	23	-9.841e-03	23	NC	1	NC	1
141	M74	1	max	.088	24	-.03	17	.333	9	1.137e-02	8	NC	1	NC	1
142			min	-.099	6	-.262	36	-.302	15	-1.065e-02	14	NC	1	NC	1
143		2	max	.088	24	.002	17	.319	9	1.137e-02	8	NC	1	NC	1
144			min	-.099	6	-.263	35	-.286	15	-1.065e-02	14	NC	1	NC	1
145		3	max	.088	24	.034	17	.305	9	1.137e-02	8	NC	1	NC	1
146			min	-.099	6	-.264	35	-.27	15	-1.065e-02	14	NC	1	NC	1
147		4	max	.088	24	.066	17	.29	9	1.137e-02	8	NC	1	NC	1
148			min	-.099	6	-.264	35	-.254	15	-1.065e-02	14	NC	1	NC	1
149		5	max	.088	24	.098	17	.276	9	1.137e-02	8	NC	1	NC	1
150			min	-.099	6	-.265	35	-.238	15	-1.065e-02	14	NC	1	NC	1
151	M79A	1	max	.197	11	.027	19	.282	26	4.359e-03	9	NC	1	NC	1
152			min	-.19	17	-.033	13	-.063	20	-2.776e-03	15	623.261	24	307.266	17
153		2	max	.197	11	.027	20	.261	26	4.208e-03	20	NC	1	NC	15
154			min	-.19	17	-.032	2	-.063	20	-4.496e-03	2	831.32	24	439.014	28
155		3	max	.197	11	.028	20	.253	26	4.515e-03	20	NC	1	NC	71
156			min	-.19	17	-.033	2	-.063	20	-6.698e-03	2	969.235	10	311.299	28
157		4	max	.197	11	.03	20	.266	26	4.196e-03	20	NC	1	NC	5
158			min	-.19	17	-.034	2	-.062	20	-4.683e-03	2	627.929	10	463.364	23
159		5	max	.197	11	.032	21	.293	26	4.402e-03	7	NC	1	NC	3
160			min	-.19	17	-.035	3	-.06	20	-3.218e-03	25	464.37	10	254.648	11
161	M80B	1	max	.253	26	.19	17	.033	2	2.204e-03	11	NC	1	NC	1
162			min	-.063	20	-.197	11	-.028	20	-2.019e-03	17	NC	1	NC	1
163		2	max	.253	26	.188	17	.025	2	2.204e-03	11	NC	1	NC	1
164			min	-.063	20	-.193	11	-.023	20	-2.019e-03	17	NC	1	NC	1
165		3	max	.253	26	.185	17	.018	14	2.204e-03	11	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
166			min	-.063	20	-.19	11	-.018	8	-2.019e-03	17	NC	1	NC	1
167		4	max	.253	26	.182	17	.011	14	2.204e-03	11	NC	1	NC	1
168			min	-.063	20	-.187	11	-.013	8	-2.019e-03	17	NC	1	NC	1
169		5	max	.253	26	.179	17	.004	14	2.204e-03	11	NC	1	NC	1
170			min	-.063	20	-.184	11	-.01	32	-2.019e-03	17	NC	1	NC	1
171	M78C	1	max	.132	11	.018	25	.282	30	4.319e-03	13	NC	1	NC	1
172			min	-.126	17	-.023	7	-.065	24	-2.745e-03	19	1867.479	14	430.346	21
173		2	max	.132	11	.022	24	.261	30	4.184e-03	24	NC	1	NC	3
174			min	-.126	17	-.026	6	-.064	24	-4.473e-03	6	1117.642	11	442.707	32
175		3	max	.133	11	.028	24	.253	30	4.501e-03	24	NC	1	NC	9
176			min	-.126	17	-.033	6	-.063	24	-6.681e-03	6	556.332	11	315.158	32
177		4	max	.133	11	.036	24	.266	30	4.232e-03	24	NC	1	NC	10
178			min	-.126	17	-.039	6	-.061	24	-4.711e-03	6	362.423	11	514.707	32
179		5	max	.133	11	.043	24	.293	30	4.382e-03	11	NC	1	NC	6
180			min	-.126	17	-.046	6	-.059	24	-3.186e-03	17	267.993	11	334.453	3
181	M79B	1	max	.253	30	.046	11	.127	11	3.71e-03	11	NC	1	NC	1
182			min	-.063	24	-.038	17	-.123	17	-3.517e-03	17	NC	1	NC	1
183		2	max	.253	30	.049	11	.125	11	3.71e-03	11	NC	1	NC	1
184			min	-.063	24	-.044	17	-.121	17	-3.517e-03	17	NC	1	NC	1
185		3	max	.253	30	.053	11	.123	11	3.71e-03	11	NC	1	NC	1
186			min	-.063	24	-.05	17	-.118	17	-3.517e-03	17	NC	1	NC	1
187		4	max	.253	30	.056	11	.122	11	3.71e-03	11	NC	1	NC	1
188			min	-.063	24	-.056	5	-.116	17	-3.517e-03	17	NC	1	NC	1
189		5	max	.253	30	.06	23	.12	11	3.71e-03	11	NC	1	NC	1
190			min	-.063	24	-.063	5	-.113	17	-3.517e-03	17	NC	1	NC	1
191	M80C	1	max	.143	10	.039	16	.281	34	4.302e-03	5	NC	1	NC	1
192			min	-.137	16	-.044	10	-.061	16	-2.706e-03	23	329.028	11	425.809	25
193		2	max	.143	10	.034	16	.261	34	4.205e-03	16	NC	1	NC	7
194			min	-.137	16	-.038	10	-.062	16	-4.483e-03	10	438.67	11	445.777	36
195		3	max	.143	10	.028	16	.253	34	4.497e-03	16	NC	1	NC	8
196			min	-.137	16	-.033	10	-.063	16	-6.677e-03	10	658.449	11	318.132	36
197		4	max	.143	10	.023	16	.266	34	4.225e-03	16	NC	1	NC	2
198			min	-.137	16	-.027	10	-.063	16	-4.714e-03	10	1317.36	11	518.123	37
199		5	max	.143	10	.021	15	.293	34	4.433e-03	3	NC	1	NC	2
200			min	-.137	16	-.025	9	-.063	16	-3.355e-03	45	1222.315	2	330.36	7
201	M81B	1	max	.253	34	.044	23	.133	16	3.031e-03	11	NC	1	NC	1
202			min	-.063	16	-.045	5	-.14	10	-2.843e-03	17	NC	1	NC	1
203		2	max	.253	34	.05	11	.13	16	3.031e-03	11	NC	1	NC	1
204			min	-.063	16	-.049	5	-.135	10	-2.843e-03	17	NC	1	NC	1
205		3	max	.253	34	.055	11	.127	16	3.031e-03	11	NC	1	NC	1
206			min	-.063	16	-.052	17	-.131	10	-2.843e-03	17	NC	1	NC	1
207		4	max	.253	34	.061	11	.124	16	3.031e-03	11	NC	1	NC	1
208			min	-.063	16	-.056	17	-.126	10	-2.843e-03	17	NC	1	NC	1
209		5	max	.253	34	.067	10	.121	4	3.031e-03	11	NC	1	NC	1
210			min	-.063	16	-.06	16	-.122	10	-2.843e-03	17	NC	1	NC	1
211	M91	1	max	.092	17	-.077	18	.077	16	1.942e-03	14	NC	1	NC	1
212			min	-.094	11	-.605	36	-.08	10	-2.716e-03	8	570.956	24	375.723	5
213		2	max	.092	17	-.082	18	.073	16	1.943e-03	14	NC	1	NC	1
214			min	-.094	11	-.606	36	-.076	10	-2.723e-03	8	783.609	24	530.486	5
215		3	max	.092	17	-.086	18	.069	16	1.944e-03	14	NC	1	NC	1
216			min	-.094	11	-.607	36	-.073	10	-2.73e-03	8	1209.052	24	844.995	5
217		4	max	.092	17	-.09	18	.066	16	1.945e-03	14	NC	1	NC	1
218			min	-.094	11	-.609	36	-.07	10	-2.736e-03	8	1177.584	27	944.296	7
219		5	max	.092	17	-.094	18	.063	16	1.947e-03	14	NC	1	NC	2
220			min	-.094	11	-.61	36	-.068	10	-2.743e-03	8	883.423	27	698.705	7
221	M92	1	max	.094	11	-.074	22	.07	18	3.61e-03	9	NC	1	NC	1
222			min	-.092	17	-.603	28	-.074	12	-2.273e-03	15	404.993	16	600.35	12

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
223		2	max	.094	11	-.079	22	.067	18	3.598e-03	9	NC	7	NC	1
224			min	-.092	17	-.604	28	-.071	12	-2.267e-03	15	558.075	16	829.487	12
225		3	max	.094	11	-.084	22	.065	18	3.587e-03	9	NC	7	NC	1
226			min	-.092	17	-.604	28	-.068	12	-2.261e-03	15	865.034	16	1256.45	12
227		4	max	.094	11	-.089	22	.063	18	3.575e-03	9	NC	8	NC	1
228			min	-.092	17	-.605	28	-.066	12	-2.255e-03	15	876.054	34	2472.764	12
229		5	max	.094	11	-.094	22	.061	18	3.564e-03	9	NC	2	NC	1
230			min	-.092	17	-.606	28	-.064	12	-2.249e-03	15	654.95	34	3993.563	46
231	M91A	1	max	.041	13	.047	16	.605	32	3.741e-03	13	NC	1	NC	1
232			min	-.039	19	-.049	10	.099	14	-2.419e-03	19	385.573	10	978.064	19
233		2	max	.041	13	.027	2	.615	31	3.455e-03	12	NC	1	NC	9
234			min	-.039	19	-.023	20	.12	74	-2.258e-03	18	516.607	10	1585.763	8
235		3	max	.04	13	.048	12	.621	29	3.198e-03	12	NC	1	NC	5
236			min	-.038	19	-.04	18	.124	72	-2.13e-03	18	776.401	10	1852.773	13
237		4	max	.039	13	.078	11	.619	28	2.941e-03	12	NC	1	NC	4
238			min	-.038	19	-.069	17	.118	71	-2.002e-03	18	1547.773	10	2551.591	12
239		5	max	.039	13	.105	11	.61	28	2.684e-03	12	NC	1	NC	1
240			min	-.037	19	-.1	17	.093	22	-1.875e-03	18	NC	1	NC	1
241	M92A	1	max	.037	19	-.077	22	.108	17	1.854e-03	18	NC	1	NC	1
242			min	-.039	13	-.606	28	-.111	11	-2.642e-03	12	562.965	16	708.869	6
243		2	max	.037	19	-.081	22	.106	17	1.859e-03	18	NC	1	NC	1
244			min	-.039	13	-.607	28	-.11	11	-2.653e-03	12	772.978	16	992.032	6
245		3	max	.037	19	-.086	22	.105	17	1.864e-03	18	NC	1	NC	1
246			min	-.039	13	-.608	28	-.109	11	-2.663e-03	12	1193.209	16	1497.584	6
247		4	max	.037	19	-.09	22	.103	17	1.869e-03	18	NC	1	NC	1
248			min	-.039	13	-.609	28	-.107	11	-2.674e-03	12	885.109	48	2891.843	6
249		5	max	.037	19	-.093	22	.1	17	1.875e-03	18	NC	1	NC	2
250			min	-.039	13	-.61	28	-.105	11	-2.684e-03	12	663.742	48	5991.374	42
251	M93	1	max	.041	13	-.077	14	.055	16	3.791e-03	13	NC	1	NC	1
252			min	-.04	19	-.603	32	-.058	10	-2.448e-03	19	380.832	20	2658.308	8
253		2	max	.041	13	-.083	14	.054	16	3.778e-03	13	NC	2	NC	1
254			min	-.039	19	-.603	32	-.057	10	-2.441e-03	19	525.252	20	3019.15	12
255		3	max	.041	13	-.088	14	.052	16	3.766e-03	13	NC	2	NC	1
256			min	-.039	19	-.604	32	-.055	10	-2.433e-03	19	814.99	20	2450.719	12
257		4	max	.041	13	-.094	14	.049	16	3.753e-03	13	NC	2	NC	1
258			min	-.039	19	-.604	32	-.052	10	-2.426e-03	19	864.667	26	3554.905	12
259		5	max	.041	13	-.099	14	.047	16	3.741e-03	13	NC	2	NC	1
260			min	-.039	19	-.605	32	-.049	10	-2.419e-03	19	646.849	26	3239.757	48
261	M94	1	max	.053	9	.091	17	.605	36	3.446e-03	4	NC	1	NC	1
262			min	-.051	15	-.093	11	.096	18	-2.114e-03	22	8144.208	72	3769.619	24
263		2	max	.054	9	.07	5	.615	35	3.329e-03	4	NC	1	NC	10
264			min	-.052	15	-.066	23	.12	66	-2.131e-03	22	NC	1	2363.78	5
265		3	max	.054	9	.048	4	.62	34	3.212e-03	4	NC	1	NC	8
266			min	-.052	15	-.04	22	.124	64	-2.147e-03	22	NC	1	1850.498	4
267		4	max	.055	9	.03	2	.619	32	3.095e-03	4	NC	1	NC	8
268			min	-.053	15	-.022	20	.118	63	-2.164e-03	22	NC	1	1256.469	9
269		5	max	.055	9	.047	12	.609	32	2.978e-03	4	NC	1	NC	1
270			min	-.054	15	-.042	18	.097	14	-2.18e-03	22	NC	1	865.727	9
271	M95	1	max	.054	15	-.08	14	.048	18	2.183e-03	22	NC	1	NC	1
272			min	-.055	9	-.605	32	-.051	12	-2.959e-03	4	529.593	20	3174.262	73
273		2	max	.054	15	-.084	14	.048	18	2.182e-03	22	NC	1	NC	1
274			min	-.055	9	-.606	32	-.052	12	-2.963e-03	4	727.305	20	2872.832	3
275		3	max	.054	15	-.089	14	.047	18	2.181e-03	22	NC	1	NC	1
276			min	-.055	9	-.607	32	-.051	12	-2.968e-03	4	1123.104	20	1327.09	3
277		4	max	.054	15	-.093	14	.045	18	2.181e-03	22	NC	1	NC	1
278			min	-.055	9	-.608	32	-.049	12	-2.973e-03	4	1190.182	35	846.552	3
279		5	max	.054	15	-.097	14	.042	18	2.18e-03	22	NC	1	NC	2

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
280			min	-.055	9	-.609	32	-.047	12	-2.978e-03	4	892.672	35	625.93	3
281	M96	1	max	.053	9	-.076	18	.102	17	3.467e-03	5	NC	1	NC	1
282			min	-.051	15	-.603	36	-.105	11	-2.115e-03	23	403.411	24	494.981	11
283		2	max	.053	9	-.081	18	.098	17	3.46e-03	4	NC	4	NC	1
284			min	-.051	15	-.603	36	-.102	11	-2.114e-03	23	556.095	24	719.248	11
285		3	max	.053	9	-.086	18	.095	17	3.455e-03	4	NC	4	NC	1
286			min	-.051	15	-.604	36	-.099	11	-2.113e-03	22	862.292	24	1145.661	11
287		4	max	.053	9	-.091	18	.093	17	3.45e-03	4	NC	4	NC	1
288			min	-.051	15	-.605	36	-.096	11	-2.113e-03	22	875.799	30	2360.859	11
289		5	max	.053	9	-.096	18	.091	17	3.446e-03	4	NC	2	NC	1
290			min	-.051	15	-.605	36	-.093	11	-2.114e-03	22	654.811	30	NC	1
291	M98	1	max	.053	17	.229	30	.147	11	8.351e-03	8	NC	1	NC	1
292			min	-.061	11	-.089	24	-.143	17	-7.916e-03	14	NC	1	NC	1
293		2	max	.053	17	.473	31	.049	13	5.614e-03	7	3110.837	65	NC	9
294			min	-.059	11	.021	25	-.048	19	-4.115e-03	25	631.102	35	1679.8	29
295		3	max	.053	17	.605	32	.045	14	6.746e-03	20	2000.485	65	6698.229	21
296			min	-.057	11	.079	14	-.045	20	-7.852e-03	2	413.827	34	1119.288	27
297		4	max	.055	17	.497	33	.104	3	1.019e-02	8	2847.069	63	NC	5
298			min	-.057	11	.036	16	-.101	21	-9.664e-03	14	591.728	31	1301.998	37
299		5	max	.056	5	.236	34	.144	16	9.259e-03	8	NC	1	NC	1
300			min	-.056	11	-.09	16	-.153	10	-7.028e-03	14	NC	1	NC	1
301	M98A	1	max	.102	16	.229	34	.121	11	7.609e-03	12	NC	1	NC	1
302			min	-.109	10	-.088	16	-.117	17	-7.199e-03	18	NC	1	NC	1
303		2	max	.104	16	.472	35	.058	9	5.135e-03	12	3110.189	69	NC	2
304			min	-.109	10	.027	17	-.057	15	-3.65e-03	17	630.816	26	1732.076	32
305		3	max	.106	16	.605	36	.045	18	6.251e-03	24	2000.349	69	6369.498	24
306			min	-.109	10	.077	18	-.045	24	-7.341e-03	6	413.324	26	1120.469	31
307		4	max	.107	16	.497	37	.14	5	9.76e-03	12	2847.347	67	NC	10
308			min	-.108	10	.035	19	-.137	23	-9.236e-03	18	591.874	37	1333.405	30
309		5	max	.107	4	.235	26	.175	17	9.846e-03	12	NC	1	NC	1
310			min	-.107	10	-.088	20	-.184	11	-7.677e-03	18	NC	1	NC	1
311	M99	1	max	.102	17	.23	26	.181	11	8.837e-03	4	NC	1	NC	1
312			min	-.11	11	-.089	20	-.177	17	-8.475e-03	22	NC	1	NC	1
313		2	max	.103	17	.474	27	.108	11	5.734e-03	4	3110.32	73	NC	7
314			min	-.109	11	.019	21	-.107	17	-4.243e-03	22	631.51	30	1743.476	26
315		3	max	.103	17	.605	28	.045	22	6.258e-03	16	2000.429	73	6543.78	17
316			min	-.107	11	.076	22	-.046	16	-7.354e-03	10	413.495	29	1119.993	35
317		4	max	.103	17	.496	29	.045	8	9.547e-03	4	2847.465	71	NC	2
318			min	-.105	11	.042	23	-.042	14	-9.024e-03	22	590.92	28	1292.984	34
319		5	max	.102	5	.235	30	.115	17	8.718e-03	4	NC	1	NC	1
320			min	-.103	11	-.089	24	-.124	11	-6.52e-03	22	NC	1	NC	1
321	M33	1	max	.01	15	.186	5	.106	5	3.025e-03	8	NC	1	NC	1
322			min	-.53	33	-.139	23	-.078	23	-2.452e-03	14	546.659	32	1177.849	32
323		2	max	.01	15	.136	5	.072	6	3.024e-03	8	NC	2	NC	8
324			min	-.53	33	-.128	23	-.059	24	-2.885e-03	14	906.197	32	1454.688	32
325		3	max	.01	15	.061	17	.079	3	3.552e-03	21	NC	1	NC	22
326			min	-.53	33	-.064	11	-.075	21	-3.913e-03	3	760.924	5	919.466	7
327		4	max	.01	15	.146	23	.438	2	3.38e-03	20	NC	1	NC	23
328			min	-.53	33	-.166	5	-.396	20	-3.655e-03	2	272.718	5	220.673	2
329		5	max	.01	15	.385	23	.944	2	3.431e-03	20	NC	1	NC	11
330			min	-.53	33	-.429	5	-.82	20	-3.61e-03	2	155.973	5	102.066	2
331	M34A	1	max	.793	20	-.081	17	.415	5	1.084e-02	5	NC	1	NC	1
332			min	-.912	2	-.539	35	-.373	23	-9.747e-03	23	NC	1	NC	1
333		2	max	.793	20	-.067	16	.414	5	1.084e-02	5	NC	1	NC	1
334			min	-.912	2	-.535	34	-.372	23	-9.747e-03	23	NC	1	NC	1
335		3	max	.793	20	-.047	15	.414	5	1.084e-02	5	NC	1	NC	1
336			min	-.912	2	-.533	33	-.372	23	-9.747e-03	23	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
337		4	max	.793	20	-.019	15	.413	5	1.084e-02	5	NC	1	NC	1
338			min	-.912	2	-.532	33	-.371	23	-9.747e-03	23	NC	1	NC	1
339		5	max	.793	20	.01	15	.413	5	1.084e-02	5	NC	1	NC	1
340			min	-.912	2	-.53	33	-.37	23	-9.747e-03	23	NC	1	NC	1
341	M35	1	max	.099	21	-.043	16	.057	11	7.084e-03	5	NC	1	NC	1
342			min	-.103	3	-.511	33	-.054	17	-6.616e-03	23	NC	1	NC	1
343		2	max	.099	21	-.03	15	.054	11	7.084e-03	5	NC	1	NC	1
344			min	-.103	3	-.516	33	-.051	17	-6.616e-03	23	NC	1	NC	1
345		3	max	.099	21	-.017	15	.051	11	7.084e-03	5	NC	1	NC	1
346			min	-.103	3	-.52	33	-.048	17	-6.616e-03	23	NC	1	NC	1
347		4	max	.099	21	-.003	15	.048	11	7.084e-03	5	NC	1	NC	1
348			min	-.103	3	-.525	33	-.045	17	-6.616e-03	23	NC	1	NC	1
349		5	max	.099	21	.01	15	.046	12	7.084e-03	5	NC	1	NC	1
350			min	-.103	3	-.53	33	-.042	18	-6.616e-03	23	NC	1	NC	1
351	M36	1	max	.366	20	-.036	19	.154	5	1.106e-02	5	NC	1	NC	1
352			min	-.402	2	-.571	37	-.14	23	-1.016e-02	23	NC	1	NC	1
353		2	max	.366	20	-.074	18	.152	5	1.106e-02	5	NC	1	NC	1
354			min	-.402	2	-.552	36	-.137	23	-1.016e-02	23	NC	1	NC	1
355		3	max	.366	20	-.08	17	.15	5	1.106e-02	5	NC	1	NC	1
356			min	-.402	2	-.538	34	-.134	23	-1.016e-02	23	NC	1	NC	1
357		4	max	.366	20	-.043	15	.148	5	1.106e-02	5	NC	1	NC	1
358			min	-.402	2	-.533	33	-.131	23	-1.016e-02	23	NC	1	NC	1
359		5	max	.366	20	.01	15	.146	5	1.106e-02	5	NC	1	NC	1
360			min	-.402	2	-.53	33	-.128	23	-1.016e-02	23	NC	1	NC	1
361	M37	1	max	.14	23	-.05	20	.386	20	1.66e-02	20	NC	1	NC	1
362			min	-.154	5	-.581	27	-.424	2	-2.011e-02	2	NC	1	NC	1
363		2	max	.14	23	-.049	20	.376	20	1.66e-02	20	NC	1	NC	1
364			min	-.154	5	-.575	26	-.413	2	-2.011e-02	2	NC	1	NC	1
365		3	max	.14	23	-.036	19	.366	20	1.66e-02	20	NC	1	NC	1
366			min	-.154	5	-.571	37	-.402	2	-2.011e-02	2	NC	1	NC	1
367		4	max	.14	23	-.019	19	.356	20	1.66e-02	20	NC	1	NC	1
368			min	-.154	5	-.569	37	-.391	2	-2.011e-02	2	NC	1	NC	1
369		5	max	.14	23	.003	18	.346	20	1.66e-02	20	NC	1	NC	1
370			min	-.154	5	-.569	36	-.38	2	-2.011e-02	2	NC	1	NC	1
371	M38	1	max	-.023	14	.2	5	.035	2	3.574e-03	5	NC	1	NC	1
372			min	-.614	32	-.155	23	-.034	20	-2.878e-03	23	986.208	33	NC	1
373		2	max	-.023	14	.162	5	.006	19	2.354e-03	5	NC	1	NC	1
374			min	-.614	32	-.128	23	-.016	13	-1.443e-03	23	1218.182	33	1956.707	2
375		3	max	-.023	14	.079	5	.02	15	2.532e-03	54	NC	1	NC	1
376			min	-.614	32	-.073	23	-.022	9	-1.376e-03	72	797.164	5	6053.296	2
377		4	max	-.023	14	.142	23	.45	2	5.007e-03	54	NC	1	NC	31
378			min	-.614	32	-.159	5	-.38	20	-3.894e-03	72	267.472	5	231.166	2
379		5	max	-.023	14	.371	23	1.118	2	4.46e-03	54	NC	1	NC	43
380			min	-.614	32	-.408	5	-.921	20	-3.423e-03	72	157.976	5	88.632	2
381	M39	1	max	.886	20	-.129	66	.415	5	9.897e-03	5	NC	1	NC	1
382			min	-1.076	2	-.639	26	-.373	23	-9.136e-03	23	NC	1	NC	1
383		2	max	.886	20	-.117	63	.409	5	9.897e-03	5	NC	1	NC	1
384			min	-1.076	2	-.627	32	-.369	23	-9.136e-03	23	NC	1	NC	1
385		3	max	.886	20	-.104	63	.404	5	9.897e-03	5	NC	1	NC	1
386			min	-1.076	2	-.623	32	-.365	23	-9.136e-03	23	NC	1	NC	1
387		4	max	.886	20	-.064	14	.399	5	9.897e-03	5	NC	1	NC	1
388			min	-1.076	2	-.619	32	-.361	23	-9.136e-03	23	NC	1	NC	1
389		5	max	.886	20	-.023	14	.393	5	9.897e-03	5	NC	1	NC	1
390			min	-1.076	2	-.614	32	-.358	23	-9.136e-03	23	NC	1	NC	1
391	M40	1	max	.044	20	-.078	14	.057	11	7.695e-03	5	NC	1	NC	1
392			min	-.044	14	-.604	32	-.053	17	-6.584e-03	23	NC	1	NC	1
393		2	max	.044	20	-.064	14	.057	11	7.695e-03	5	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
394			min	-.044	14	-.607	32	-.054	17	-6.584e-03	23	NC	1	NC	1
395		3	max	.044	20	-.05	14	.056	11	7.695e-03	5	NC	1	NC	1
396			min	-.044	14	-.609	32	-.055	5	-6.584e-03	23	NC	1	NC	1
397		4	max	.044	20	-.036	14	.055	23	7.695e-03	5	NC	1	NC	1
398			min	-.044	14	-.611	32	-.057	5	-6.584e-03	23	NC	1	NC	1
399		5	max	.044	20	-.023	14	.055	23	7.695e-03	5	NC	1	NC	1
400			min	-.044	14	-.614	32	-.058	5	-6.584e-03	23	NC	1	NC	1
401	M41	1	max	.343	20	-.03	20	.195	5	1.125e-02	5	NC	1	NC	1
402			min	-.404	2	-.695	26	-.166	23	-1.034e-02	23	NC	1	NC	1
403		2	max	.343	20	-.09	20	.181	5	1.125e-02	5	NC	1	NC	1
404			min	-.404	2	-.663	26	-.155	23	-1.034e-02	23	NC	1	NC	1
405		3	max	.343	20	-.128	64	.167	5	1.125e-02	5	NC	1	NC	1
406			min	-.404	2	-.631	26	-.145	23	-1.034e-02	23	NC	1	NC	1
407		4	max	.343	20	-.097	14	.153	5	1.125e-02	5	NC	1	NC	1
408			min	-.404	2	-.622	32	-.134	23	-1.034e-02	23	NC	1	NC	1
409		5	max	.343	20	-.023	14	.139	5	1.125e-02	5	NC	1	NC	1
410			min	-.404	2	-.614	32	-.123	23	-1.034e-02	23	NC	1	NC	1
411	M42	1	max	.166	23	-.022	21	.345	20	2.025e-02	20	NC	1	NC	1
412			min	-.195	5	-.709	27	-.399	2	-2.554e-02	2	NC	1	NC	1
413		2	max	.166	23	-.031	20	.344	20	2.025e-02	20	NC	1	NC	1
414			min	-.195	5	-.701	26	-.401	2	-2.554e-02	2	NC	1	NC	1
415		3	max	.166	23	-.03	20	.343	20	2.025e-02	20	NC	1	NC	1
416			min	-.195	5	-.695	26	-.404	2	-2.554e-02	2	NC	1	NC	1
417		4	max	.166	23	-.028	20	.342	20	2.025e-02	20	NC	1	NC	1
418			min	-.195	5	-.69	37	-.406	2	-2.554e-02	2	NC	1	NC	1
419		5	max	.166	23	-.011	19	.341	20	2.025e-02	20	NC	1	NC	1
420			min	-.195	5	-.688	37	-.408	2	-2.554e-02	2	NC	1	NC	1
421	M43	1	max	.107	25	.176	5	.19	21	4.715e-03	2	NC	1	NC	1
422			min	-.266	31	-.137	23	-.22	3	-4.548e-03	20	1162.908	33	1046.784	30
423		2	max	.107	25	.154	5	.16	22	5.258e-03	13	NC	7	NC	6
424			min	-.266	31	-.11	23	-.164	4	-4.48e-03	19	1026.753	33	998.42	9
425		3	max	.107	25	.065	4	.131	11	6.435e-03	13	NC	1	NC	17
426			min	-.266	31	-.058	22	-.127	17	-4.982e-03	19	806.742	5	511.752	2
427		4	max	.107	25	.138	23	.292	13	6.182e-03	13	NC	1	NC	43
428			min	-.266	31	-.159	5	-.279	19	-4.794e-03	19	287.122	5	224.989	2
429		5	max	.107	25	.407	23	.583	13	5.754e-03	13	NC	1	NC	4
430			min	-.266	31	-.441	5	-.529	19	-4.525e-03	19	155.579	5	131.878	2
431	M44	1	max	.514	19	.051	24	.415	5	1.214e-02	5	NC	1	NC	1
432			min	-.565	13	-.281	30	-.373	23	-1.164e-02	23	NC	1	NC	1
433		2	max	.514	19	.065	24	.417	5	1.214e-02	5	NC	1	NC	1
434			min	-.565	13	-.277	30	-.377	23	-1.164e-02	23	NC	1	NC	1
435		3	max	.514	19	.078	24	.419	5	1.214e-02	5	NC	1	NC	1
436			min	-.565	13	-.273	30	-.381	23	-1.164e-02	23	NC	1	NC	1
437		4	max	.514	19	.091	24	.421	5	1.214e-02	5	NC	1	NC	1
438			min	-.565	13	-.269	30	-.385	23	-1.164e-02	23	NC	1	NC	1
439		5	max	.514	19	.107	25	.423	5	1.214e-02	5	NC	1	NC	1
440			min	-.565	13	-.266	31	-.389	23	-1.164e-02	23	NC	1	NC	1
441	M45	1	max	.129	17	.077	24	.061	11	7.147e-03	5	NC	1	NC	1
442			min	-.133	11	-.255	30	-.053	17	-5.669e-03	23	NC	1	NC	1
443		2	max	.129	17	.084	24	.054	11	7.147e-03	5	NC	1	NC	1
444			min	-.133	11	-.257	30	-.049	17	-5.669e-03	23	NC	1	NC	1
445		3	max	.129	17	.091	24	.05	10	7.147e-03	5	NC	1	NC	1
446			min	-.133	11	-.26	30	-.047	16	-5.669e-03	23	NC	1	NC	1
447		4	max	.129	17	.098	24	.047	10	7.147e-03	5	NC	1	NC	1
448			min	-.133	11	-.262	30	-.047	4	-5.669e-03	23	NC	1	NC	1
449		5	max	.129	17	.107	25	.045	22	7.147e-03	5	NC	1	NC	1
450			min	-.133	11	-.266	31	-.047	4	-5.669e-03	23	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
451	M46	1	max	.202	19	.038	23	.073	28	9.85e-03	5	NC	1	NC	1
452			min	-.208	13	-.27	29	-.039	71	-8.873e-03	23	NC	1	NC	1
453		2	max	.202	19	.043	24	.072	54	9.85e-03	5	NC	1	NC	1
454			min	-.208	13	-.266	30	-.045	72	-8.873e-03	23	NC	1	NC	1
455		3	max	.202	19	.064	24	.075	54	9.85e-03	5	NC	1	NC	1
456			min	-.208	13	-.266	30	-.052	72	-8.873e-03	23	NC	1	NC	1
457		4	max	.202	19	.084	24	.077	54	9.85e-03	5	NC	1	NC	1
458			min	-.208	13	-.266	30	-.059	72	-8.873e-03	23	NC	1	NC	1
459		5	max	.202	19	.107	25	.085	6	9.85e-03	5	NC	1	NC	1
460			min	-.208	13	-.266	31	-.07	24	-8.873e-03	23	NC	1	NC	1
461	M47	1	max	.073	28	-.015	23	.246	13	1.095e-02	2	NC	1	NC	1
462			min	-.039	71	-.246	29	-.231	19	-1.026e-02	20	NC	1	NC	1
463		2	max	.073	28	.011	23	.227	13	1.095e-02	2	NC	1	NC	1
464			min	-.039	71	-.258	29	-.217	19	-1.026e-02	20	NC	1	NC	1
465		3	max	.073	28	.038	23	.208	13	1.095e-02	2	NC	1	NC	1
466			min	-.039	71	-.27	29	-.202	19	-1.026e-02	20	NC	1	NC	1
467		4	max	.073	28	.065	23	.189	13	1.095e-02	2	NC	1	NC	1
468			min	-.039	71	-.281	29	-.187	7	-1.026e-02	20	NC	1	NC	1
469		5	max	.073	28	.091	23	.171	24	1.095e-02	2	NC	1	NC	1
470			min	-.039	71	-.293	29	-.174	6	-1.026e-02	20	NC	1	NC	1
471	M53	1	max	.105	19	.063	20	.1	7	4.949e-03	2	NC	3	NC	1
472			min	-.296	37	-.131	37	-.08	25	-4.437e-03	20	399.379	26	1650.534	29
473		2	max	.105	19	.076	21	.049	19	6.26e-03	14	NC	4	NC	3
474			min	-.296	37	-.107	3	-.062	13	-6.295e-03	8	520.966	26	1463.947	31
475		3	max	.105	19	.184	11	.051	15	7.734e-03	14	NC	3	NC	1
476			min	-.296	37	-.18	17	-.053	8	-8.346e-03	8	469.345	12	650.631	8
477		4	max	.105	19	.463	11	.312	2	7.18e-03	14	NC	1	NC	1
478			min	-.296	37	-.423	17	-.31	8	-7.75e-03	8	200.16	11	237.505	8
479		5	max	.106	19	.787	11	.658	14	6.389e-03	14	NC	1	NC	1
480			min	-.296	37	-.732	17	-.678	8	-6.837e-03	8	119.468	11	124.289	8
481	M54	1	max	.662	12	.051	20	.724	9	1.73e-02	9	NC	1	NC	1
482			min	-.626	18	-.286	26	-.686	15	-1.618e-02	15	NC	1	NC	1
483		2	max	.662	12	.062	20	.734	9	1.73e-02	9	NC	1	NC	1
484			min	-.626	18	-.289	26	-.695	15	-1.618e-02	15	NC	1	NC	1
485		3	max	.662	12	.074	20	.743	9	1.73e-02	9	NC	1	NC	1
486			min	-.626	18	-.291	26	-.704	15	-1.618e-02	15	NC	1	NC	1
487		4	max	.662	12	.089	19	.753	9	1.73e-02	9	NC	1	NC	1
488			min	-.626	18	-.293	37	-.713	15	-1.618e-02	15	NC	1	NC	1
489		5	max	.662	12	.106	19	.762	9	1.73e-02	9	NC	1	NC	1
490			min	-.626	18	-.296	37	-.721	15	-1.618e-02	15	NC	1	NC	1
491	M55	1	max	.176	11	.075	20	.107	10	8.59e-03	9	NC	1	NC	1
492			min	-.168	17	-.263	26	-.107	4	-8.284e-03	15	NC	1	NC	1
493		2	max	.176	11	.081	20	.116	10	8.59e-03	9	NC	1	NC	1
494			min	-.168	17	-.271	26	-.115	16	-8.284e-03	15	NC	1	NC	1
495		3	max	.176	11	.086	20	.126	10	8.59e-03	9	NC	1	NC	1
496			min	-.168	17	-.279	26	-.124	16	-8.284e-03	15	NC	1	NC	1
497		4	max	.176	11	.095	19	.135	10	8.59e-03	9	NC	1	NC	1
498			min	-.168	17	-.287	37	-.132	16	-8.284e-03	15	NC	1	NC	1
499		5	max	.176	11	.105	19	.145	10	8.59e-03	9	NC	1	NC	1
500			min	-.168	17	-.296	37	-.141	16	-8.284e-03	15	NC	1	NC	1
501	M56A	1	max	.37	12	.035	21	.296	10	1.47e-02	9	NC	1	NC	1
502			min	-.336	18	-.264	27	-.286	16	-1.384e-02	15	NC	1	NC	1
503		2	max	.37	12	.038	20	.312	10	1.47e-02	9	NC	1	NC	1
504			min	-.336	18	-.269	26	-.301	16	-1.384e-02	15	NC	1	NC	1
505		3	max	.37	12	.058	20	.328	10	1.47e-02	9	NC	1	NC	1
506			min	-.336	18	-.278	26	-.315	16	-1.384e-02	15	NC	1	NC	1
507		4	max	.37	12	.078	20	.344	10	1.47e-02	9	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
508			min	-.336	18	-.286	26	-.329	16	-1.384e-02	15	NC	1	NC	1
509		5	max	.37	12	.105	19	.362	9	1.47e-02	9	NC	1	NC	1
510			min	-.336	18	-.296	37	-.346	15	-1.384e-02	15	NC	1	NC	1
511	M57	1	max	.286	16	-.044	63	.383	12	1.197e-02	12	NC	1	NC	1
512			min	-.296	10	-.259	30	-.353	18	-1.135e-02	18	NC	1	NC	1
513		2	max	.286	16	-.009	21	.377	12	1.197e-02	12	NC	1	NC	1
514			min	-.296	10	-.261	27	-.345	18	-1.135e-02	18	NC	1	NC	1
515		3	max	.286	16	.035	21	.37	12	1.197e-02	12	NC	1	NC	1
516			min	-.296	10	-.264	27	-.336	18	-1.135e-02	18	NC	1	NC	1
517		4	max	.286	16	.079	21	.364	12	1.197e-02	12	NC	1	NC	1
518			min	-.296	10	-.266	27	-.328	18	-1.135e-02	18	NC	1	NC	1
519		5	max	.286	16	.122	21	.366	11	1.197e-02	12	NC	1	NC	1
520			min	-.296	10	-.269	27	-.328	17	-1.135e-02	18	NC	1	NC	1
521	M58A	1	max	.008	19	.031	25	.055	32	2.716e-03	2	NC	1	NC	1
522			min	-.529	37	-.097	32	-.022	25	-2.151e-03	20	851.954	58	1278.734	27
523		2	max	.008	19	.044	23	.04	6	3.95e-03	2	NC	2	NC	4
524			min	-.529	37	-.058	5	-.039	12	-3.818e-03	20	1289.122	58	1822.622	35
525		3	max	.008	19	.147	23	.057	15	5.742e-03	15	NC	2	NC	12
526			min	-.529	37	-.149	5	-.062	9	-6.026e-03	9	644.994	10	1046.815	8
527		4	max	.007	19	.485	23	.308	14	3.235e-03	71	NC	2	NC	53
528			min	-.53	37	-.512	5	-.345	8	-3.476e-03	53	203.192	11	248.666	8
529		5	max	.007	19	.908	23	.626	14	3.087e-03	14	NC	2	NC	5
530			min	-.53	37	-.994	5	-.725	8	-3.295e-03	8	103.21	5	125.458	8
531	M59A	1	max	.79	24	-.077	21	.725	9	1.553e-02	9	NC	1	NC	1
532			min	-.91	6	-.54	26	-.686	15	-1.453e-02	15	NC	1	NC	1
533		2	max	.79	24	-.063	20	.729	9	1.553e-02	9	NC	1	NC	1
534			min	-.91	6	-.536	26	-.691	15	-1.453e-02	15	NC	1	NC	1
535		3	max	.79	24	-.043	19	.734	9	1.553e-02	9	NC	1	NC	1
536			min	-.91	6	-.534	37	-.696	15	-1.453e-02	15	NC	1	NC	1
537		4	max	.79	24	-.018	19	.739	9	1.553e-02	9	NC	1	NC	1
538			min	-.91	6	-.532	37	-.7	15	-1.453e-02	15	NC	1	NC	1
539		5	max	.79	24	.007	19	.744	9	1.553e-02	9	NC	1	NC	1
540			min	-.91	6	-.53	37	-.705	15	-1.453e-02	15	NC	1	NC	1
541	M60A	1	max	.134	23	-.041	19	.108	10	9.227e-03	9	NC	1	NC	1
542			min	-.137	5	-.512	37	-.107	16	-8.81e-03	15	NC	1	NC	1
543		2	max	.134	23	-.028	19	.116	10	9.227e-03	9	NC	1	NC	1
544			min	-.137	5	-.516	37	-.114	16	-8.81e-03	15	NC	1	NC	1
545		3	max	.134	23	-.016	19	.124	10	9.227e-03	9	NC	1	NC	1
546			min	-.137	5	-.521	37	-.121	16	-8.81e-03	15	NC	1	NC	1
547		4	max	.134	23	-.004	19	.131	10	9.227e-03	9	NC	1	NC	1
548			min	-.137	5	-.525	37	-.128	16	-8.81e-03	15	NC	1	NC	1
549		5	max	.134	23	.008	19	.139	10	9.227e-03	9	NC	1	NC	1
550			min	-.137	5	-.529	37	-.135	16	-8.81e-03	15	NC	1	NC	1
551	M61	1	max	.389	24	-.042	23	.343	10	1.504e-02	9	NC	1	NC	1
552			min	-.425	6	-.571	29	-.329	16	-1.423e-02	15	NC	1	NC	1
553		2	max	.389	24	-.072	22	.35	10	1.504e-02	9	NC	1	NC	1
554			min	-.425	6	-.552	28	-.335	16	-1.423e-02	15	NC	1	NC	1
555		3	max	.389	24	-.074	20	.356	10	1.504e-02	9	NC	1	NC	1
556			min	-.425	6	-.539	26	-.341	16	-1.423e-02	15	NC	1	NC	1
557		4	max	.389	24	-.04	19	.363	10	1.504e-02	9	NC	1	NC	1
558			min	-.425	6	-.533	37	-.347	16	-1.423e-02	15	NC	1	NC	1
559		5	max	.389	24	.007	19	.37	10	1.504e-02	9	NC	1	NC	1
560			min	-.425	6	-.53	37	-.353	16	-1.423e-02	15	NC	1	NC	1
561	M62	1	max	.329	16	-.073	25	.394	24	1.565e-02	24	NC	1	NC	1
562			min	-.343	10	-.579	31	-.431	6	-1.918e-02	6	NC	1	NC	1
563		2	max	.329	16	-.069	24	.391	24	1.565e-02	24	NC	1	NC	1
564			min	-.343	10	-.573	30	-.428	6	-1.918e-02	6	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
565		3	max	.329	16	-.042	23	.389	24	1.565e-02	24	NC	1	NC	1
566			min	-.343	10	-.571	29	-.425	6	-1.918e-02	6	NC	1	NC	1
567		4	max	.329	16	-.007	22	.387	24	1.565e-02	24	NC	1	NC	1
568			min	-.343	10	-.571	28	-.422	6	-1.918e-02	6	NC	1	NC	1
569		5	max	.329	16	.035	22	.384	24	1.565e-02	24	NC	1	NC	1
570			min	-.343	10	-.573	28	-.418	6	-1.918e-02	6	NC	1	NC	1
571	M63	1	max	-.025	18	.054	25	.078	32	2.052e-03	7	NC	1	NC	1
572			min	-.613	36	-.078	7	-.038	25	-1.359e-03	25	1484.705	14	2221.376	72
573		2	max	-.025	18	.029	24	.095	6	4.286e-03	5	NC	1	NC	1
574			min	-.614	36	-.038	6	-.061	24	-3.261e-03	23	2251.261	14	1701.138	5
575		3	max	-.025	18	.076	23	.115	4	7.812e-03	4	NC	6	NC	6
576			min	-.613	36	-.078	5	-.106	22	-6.498e-03	22	1355.376	9	749.48	9
577		4	max	-.025	18	.431	23	.306	15	6.815e-03	5	NC	14	NC	60
578			min	-.614	36	-.483	5	-.355	9	-5.531e-03	23	225.836	5	231.828	8
579		5	max	-.025	18	.932	23	.603	14	7.151e-03	5	NC	14	NC	5
580			min	-.614	36	-1.084	5	-.732	8	-5.934e-03	23	93.613	5	120.149	8
581	M64	1	max	.794	24	-.129	70	.725	9	1.472e-02	9	NC	1	NC	1
582			min	-.982	6	-.638	28	-.686	15	-1.406e-02	15	NC	1	NC	1
583		2	max	.794	24	-.117	67	.729	9	1.472e-02	9	NC	1	NC	1
584			min	-.982	6	-.629	37	-.693	15	-1.406e-02	15	NC	1	NC	1
585		3	max	.794	24	-.099	18	.734	9	1.472e-02	9	NC	1	NC	1
586			min	-.982	6	-.624	36	-.699	15	-1.406e-02	15	NC	1	NC	1
587		4	max	.794	24	-.062	18	.739	9	1.472e-02	9	NC	1	NC	1
588			min	-.982	6	-.619	36	-.705	15	-1.406e-02	15	NC	1	NC	1
589		5	max	.794	24	-.025	18	.743	9	1.472e-02	9	NC	1	NC	1
590			min	-.982	6	-.614	36	-.712	15	-1.406e-02	15	NC	1	NC	1
591	M65	1	max	.043	24	-.077	18	.109	10	9.974e-03	9	NC	1	NC	1
592			min	-.043	18	-.605	36	-.106	16	-8.92e-03	15	NC	1	NC	1
593		2	max	.043	24	-.064	18	.12	10	9.974e-03	9	NC	1	NC	1
594			min	-.043	18	-.607	36	-.118	16	-8.92e-03	15	NC	1	NC	1
595		3	max	.043	24	-.051	18	.13	10	9.974e-03	9	NC	1	NC	1
596			min	-.043	18	-.609	36	-.13	4	-8.92e-03	15	NC	1	NC	1
597		4	max	.043	24	-.038	18	.14	22	9.974e-03	9	NC	1	NC	1
598			min	-.043	18	-.611	36	-.143	4	-8.92e-03	15	NC	1	NC	1
599		5	max	.043	24	-.025	18	.15	22	9.974e-03	9	NC	1	NC	1
600			min	-.043	18	-.613	36	-.155	4	-8.92e-03	15	NC	1	NC	1
601	M66	1	max	.314	24	-.054	24	.349	9	1.538e-02	9	NC	1	NC	1
602			min	-.374	6	-.692	30	-.321	15	-1.455e-02	15	NC	1	NC	1
603		2	max	.314	24	-.106	23	.356	9	1.538e-02	9	NC	1	NC	1
604			min	-.374	6	-.661	30	-.331	15	-1.455e-02	15	NC	1	NC	1
605		3	max	.314	24	-.128	68	.366	10	1.538e-02	9	NC	1	NC	1
606			min	-.374	6	-.632	27	-.344	16	-1.455e-02	15	NC	1	NC	1
607		4	max	.314	24	-.092	18	.38	10	1.538e-02	9	NC	1	NC	1
608			min	-.374	6	-.622	36	-.362	16	-1.455e-02	15	NC	1	NC	1
609		5	max	.314	24	-.025	18	.393	10	1.538e-02	9	NC	1	NC	1
610			min	-.374	6	-.614	36	-.379	16	-1.455e-02	15	NC	1	NC	1
611	M67	1	max	.321	15	-.053	25	.285	24	1.807e-02	24	NC	1	NC	1
612			min	-.349	9	-.705	31	-.338	6	-2.333e-02	6	NC	1	NC	1
613		2	max	.321	15	-.062	24	.3	24	1.807e-02	24	NC	1	NC	1
614			min	-.349	9	-.697	30	-.356	6	-2.333e-02	6	NC	1	NC	1
615		3	max	.321	15	-.054	24	.314	24	1.807e-02	24	NC	1	NC	1
616			min	-.349	9	-.692	30	-.374	6	-2.333e-02	6	NC	1	NC	1
617		4	max	.321	15	-.027	23	.328	24	1.807e-02	24	NC	1	NC	1
618			min	-.349	9	-.69	29	-.392	6	-2.333e-02	6	NC	1	NC	1
619		5	max	.321	15	.002	23	.343	24	1.807e-02	24	NC	1	NC	1
620			min	-.349	9	-.69	29	-.41	6	-2.333e-02	6	NC	1	NC	1
621	M68	1	max	.1	17	.169	5	.23	6	6.504e-03	5	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
622			min	-.265	35	-.164	23	-.181	24	-6.377e-03	23	1463.975	74	730.924	28
623		2	max	.1	17	.135	17	.204	6	7.975e-03	5	NC	2	NC	1
624			min	-.265	35	-.155	11	-.163	23	-7.209e-03	23	1572.581	35	858.469	28
625		3	max	.1	17	.036	17	.187	5	1.002e-02	4	NC	1	NC	29
626			min	-.265	35	-.043	11	-.183	23	-8.555e-03	22	716.143	5	652.207	8
627		4	max	.1	17	.217	23	.345	15	9.269e-03	4	NC	1	NC	5
628			min	-.265	35	-.217	5	-.369	9	-7.869e-03	22	248.625	5	242.141	8
629		5	max	.1	17	.539	23	.639	15	8.218e-03	5	NC	32	NC	6
630			min	-.265	35	-.566	5	-.697	9	-7.01e-03	23	130.479	5	132.708	8
631	M69	1	max	.337	24	.049	16	.724	9	1.688e-02	9	NC	1	NC	1
632			min	-.389	6	-.281	34	-.686	15	-1.647e-02	15	NC	1	NC	1
633		2	max	.337	24	.061	16	.731	9	1.688e-02	9	NC	1	NC	1
634			min	-.389	6	-.277	34	-.695	15	-1.647e-02	15	NC	1	NC	1
635		3	max	.337	24	.074	16	.738	9	1.688e-02	9	NC	1	NC	1
636			min	-.389	6	-.273	34	-.704	15	-1.647e-02	15	NC	1	NC	1
637		4	max	.337	24	.086	16	.745	9	1.688e-02	9	NC	1	NC	1
638			min	-.389	6	-.269	34	-.713	15	-1.647e-02	15	NC	1	NC	1
639		5	max	.337	24	.1	17	.752	9	1.688e-02	9	NC	1	NC	1
640			min	-.389	6	-.265	35	-.722	15	-1.647e-02	15	NC	1	NC	1
641	M70	1	max	.108	16	.075	16	.109	10	9.269e-03	9	NC	1	NC	1
642			min	-.111	10	-.254	34	-.102	16	-7.841e-03	15	NC	1	NC	1
643		2	max	.108	16	.081	16	.122	10	9.269e-03	9	NC	1	NC	1
644			min	-.111	10	-.257	34	-.117	16	-7.841e-03	15	NC	1	NC	1
645		3	max	.108	16	.087	16	.135	10	9.269e-03	9	NC	1	NC	1
646			min	-.111	10	-.259	34	-.132	16	-7.841e-03	15	NC	1	NC	1
647		4	max	.108	16	.092	16	.148	10	9.269e-03	9	NC	1	NC	1
648			min	-.111	10	-.262	34	-.147	4	-7.841e-03	15	NC	1	NC	1
649		5	max	.108	16	.1	17	.161	22	9.269e-03	9	NC	1	NC	1
650			min	-.111	10	-.265	35	-.163	4	-7.841e-03	15	NC	1	NC	1
651	M71	1	max	.077	14	.037	15	.207	10	1.332e-02	9	NC	1	NC	1
652			min	-.085	8	-.27	33	-.176	16	-1.241e-02	15	NC	1	NC	1
653		2	max	.077	14	.042	16	.231	10	1.332e-02	9	NC	1	NC	1
654			min	-.085	8	-.266	34	-.204	16	-1.241e-02	15	NC	1	NC	1
655		3	max	.077	14	.061	16	.255	10	1.332e-02	9	NC	1	NC	1
656			min	-.085	8	-.266	34	-.232	16	-1.241e-02	15	NC	1	NC	1
657		4	max	.077	14	.08	16	.279	10	1.332e-02	9	NC	1	NC	1
658			min	-.085	8	-.265	34	-.261	16	-1.241e-02	15	NC	1	NC	1
659		5	max	.077	14	.1	17	.303	10	1.332e-02	9	NC	1	NC	1
660			min	-.085	8	-.265	35	-.289	16	-1.241e-02	15	NC	1	NC	1
661	M72	1	max	.207	10	-.036	14	.087	7	1.017e-02	6	NC	1	NC	1
662			min	-.176	16	-.244	32	-.071	25	-9.455e-03	24	NC	1	NC	1
663		2	max	.207	10	0	15	.08	7	1.017e-02	6	NC	1	NC	1
664			min	-.176	16	-.257	33	-.068	25	-9.455e-03	24	NC	1	NC	1
665		3	max	.207	10	.037	15	.085	8	1.017e-02	6	NC	1	NC	1
666			min	-.176	16	-.27	33	-.077	14	-9.455e-03	24	NC	1	NC	1
667		4	max	.207	10	.074	15	.093	9	1.017e-02	6	NC	1	NC	1
668			min	-.176	16	-.283	33	-.09	15	-9.455e-03	24	NC	1	NC	1
669		5	max	.207	10	.111	15	.111	21	1.017e-02	6	NC	1	NC	1
670			min	-.176	16	-.296	33	-.113	3	-9.455e-03	24	NC	1	NC	1
671	M78	1	max	.098	23	.185	5	.204	22	6.715e-03	5	NC	2	NC	1
672			min	-.295	29	-.17	23	-.267	4	-6.192e-03	23	5200.687	26	428.345	29
673		2	max	.098	23	.16	5	.195	22	7.592e-03	17	NC	2	NC	1
674			min	-.295	29	-.132	23	-.214	4	-7.629e-03	11	2233.624	26	657.315	29
675		3	max	.098	23	.036	4	.189	11	9.241e-03	18	NC	1	NC	1
676			min	-.295	29	-.036	10	-.184	17	-9.882e-03	12	644.386	5	609.926	2
677		4	max	.098	23	.21	23	.359	13	8.545e-03	18	NC	1	NC	1
678			min	-.295	29	-.232	5	-.325	19	-9.135e-03	12	230.42	5	232.634	2

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
679		5	max	.098	23	.546	23	.683	13	7.576e-03	18	NC	1	NC	1
680			min	-.295	29	-.557	5	-.625	19	-8.032e-03	12	129.408	5	129.727	2
681	M79	1	max	.375	4	.05	24	.722	13	1.748e-02	13	NC	1	NC	1
682			min	-.338	22	-.286	30	-.678	19	-1.62e-02	19	NC	1	NC	1
683		2	max	.375	4	.061	24	.732	13	1.748e-02	13	NC	1	NC	1
684			min	-.338	22	-.288	30	-.686	19	-1.62e-02	19	NC	1	NC	1
685		3	max	.375	4	.072	24	.741	13	1.748e-02	13	NC	1	NC	1
686			min	-.338	22	-.29	30	-.695	19	-1.62e-02	19	NC	1	NC	1
687		4	max	.375	4	.084	24	.75	13	1.748e-02	13	NC	1	NC	1
688			min	-.338	22	-.292	29	-.703	19	-1.62e-02	19	NC	1	NC	1
689		5	max	.375	4	.098	23	.759	13	1.748e-02	13	NC	1	NC	1
690			min	-.338	22	-.295	29	-.711	19	-1.62e-02	19	NC	1	NC	1
691	M80	1	max	.109	11	.074	24	.103	11	8.783e-03	13	NC	1	NC	1
692			min	-.101	17	-.263	30	-.102	5	-8.389e-03	19	NC	1	NC	1
693		2	max	.109	11	.079	24	.117	11	8.783e-03	13	NC	1	NC	1
694			min	-.101	17	-.271	30	-.115	17	-8.389e-03	19	NC	1	NC	1
695		3	max	.109	11	.085	24	.131	11	8.783e-03	13	NC	1	NC	1
696			min	-.101	17	-.279	30	-.128	17	-8.389e-03	19	NC	1	NC	1
697		4	max	.109	11	.09	24	.146	12	8.783e-03	13	NC	1	NC	1
698			min	-.101	17	-.286	29	-.142	18	-8.389e-03	19	NC	1	NC	1
699		5	max	.109	11	.098	23	.161	12	8.783e-03	13	NC	1	NC	1
700			min	-.101	17	-.295	29	-.156	18	-8.389e-03	19	NC	1	NC	1
701	M81	1	max	.12	3	.033	25	.266	13	1.489e-02	13	NC	1	NC	1
702			min	-.087	21	-.264	31	-.256	19	-1.389e-02	19	NC	1	NC	1
703		2	max	.12	3	.038	24	.292	12	1.489e-02	13	NC	1	NC	1
704			min	-.087	21	-.269	30	-.28	18	-1.389e-02	19	NC	1	NC	1
705		3	max	.12	3	.057	24	.32	12	1.489e-02	13	NC	1	NC	1
706			min	-.087	21	-.277	30	-.306	18	-1.389e-02	19	NC	1	NC	1
707		4	max	.12	3	.076	24	.348	12	1.489e-02	13	NC	1	NC	1
708			min	-.087	21	-.286	30	-.332	18	-1.389e-02	19	NC	1	NC	1
709		5	max	.12	3	.098	23	.375	12	1.489e-02	13	NC	1	NC	1
710			min	-.087	21	-.295	29	-.358	18	-1.389e-02	19	NC	1	NC	1
711	M82	1	max	.256	19	-.044	67	.144	4	1.084e-02	4	NC	1	NC	1
712			min	-.266	13	-.261	34	-.114	22	-1.017e-02	22	NC	1	NC	1
713		2	max	.256	19	-.011	25	.128	4	1.084e-02	4	NC	1	NC	1
714			min	-.266	13	-.261	31	-.096	22	-1.017e-02	22	NC	1	NC	1
715		3	max	.256	19	.033	25	.12	3	1.084e-02	4	NC	1	NC	1
716			min	-.266	13	-.264	31	-.087	21	-1.017e-02	22	NC	1	NC	1
717		4	max	.256	19	.078	25	.116	3	1.084e-02	4	NC	1	NC	1
718			min	-.266	13	-.266	31	-.082	21	-1.017e-02	22	NC	1	NC	1
719		5	max	.256	19	.122	25	.121	2	1.084e-02	4	NC	1	NC	1
720			min	-.266	13	-.268	31	-.086	20	-1.017e-02	22	NC	1	NC	1
721	M83	1	max	.003	23	.002	5	.113	21	4.882e-03	5	NC	1	NC	2
722			min	-.529	29	-.002	23	-.168	3	-4.313e-03	23	NC	1	409.066	27
723		2	max	.003	23	.024	30	.129	22	6.369e-03	5	NC	1	NC	1
724			min	-.529	29	-.016	24	-.14	4	-6.262e-03	23	4228.79	30	592.212	27
725		3	max	.003	23	.068	10	.126	11	7.994e-03	17	NC	1	NC	5
726			min	-.529	29	-.064	16	-.124	5	-8.391e-03	11	1382.682	10	594.963	2
727		4	max	.003	23	.43	11	.325	25	6.943e-03	17	NC	2	NC	5
728			min	-.529	29	-.384	17	-.33	7	-7.284e-03	11	222.253	11	221.162	2
729		5	max	.003	23	.919	11	.625	14	7.008e-03	17	NC	29	NC	1
730			min	-.529	29	-.79	17	-.65	8	-7.264e-03	11	104.296	11	127.153	2
731	M84	1	max	.666	16	-.092	24	.723	13	1.572e-02	13	NC	1	NC	1
732			min	-.785	10	-.538	30	-.678	19	-1.456e-02	19	NC	1	NC	1
733		2	max	.666	16	-.074	24	.727	13	1.572e-02	13	NC	1	NC	1
734			min	-.785	10	-.535	30	-.682	19	-1.456e-02	19	NC	1	NC	1
735		3	max	.666	16	-.05	23	.732	13	1.572e-02	13	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
736			min	-.785	10	-.533	29	-.687	19	-1.456e-02	19	NC	1	NC	1
737		4	max	.666	16	-.023	23	.736	13	1.572e-02	13	NC	1	NC	1
738			min	-.785	10	-.531	29	-.691	19	-1.456e-02	19	NC	1	NC	1
739		5	max	.666	16	.003	23	.741	13	1.572e-02	13	NC	1	NC	1
740			min	-.785	10	-.529	29	-.695	19	-1.456e-02	19	NC	1	NC	1
741	M85	1	max	.045	15	-.048	23	.105	11	9.417e-03	13	NC	1	NC	1
742			min	-.048	9	-.511	29	-.103	17	-8.909e-03	19	NC	1	NC	1
743		2	max	.045	15	-.035	23	.118	11	9.417e-03	13	NC	1	NC	1
744			min	-.048	9	-.515	29	-.115	17	-8.909e-03	19	NC	1	NC	1
745		3	max	.045	15	-.022	23	.131	11	9.417e-03	13	NC	1	NC	1
746			min	-.048	9	-.52	29	-.127	17	-8.909e-03	19	NC	1	NC	1
747		4	max	.045	15	-.01	23	.144	11	9.417e-03	13	NC	1	NC	1
748			min	-.048	9	-.524	29	-.14	17	-8.909e-03	19	NC	1	NC	1
749		5	max	.045	15	.003	23	.157	11	9.417e-03	13	NC	1	NC	1
750			min	-.048	9	-.529	29	-.152	17	-8.909e-03	19	NC	1	NC	1
751	M86	1	max	.286	16	-.058	15	.324	13	1.523e-02	13	NC	1	NC	1
752			min	-.322	10	-.568	33	-.309	19	-1.428e-02	19	NC	1	NC	1
753		2	max	.286	16	-.091	14	.333	13	1.523e-02	13	NC	1	NC	1
754			min	-.322	10	-.549	32	-.317	19	-1.428e-02	19	NC	1	NC	1
755		3	max	.286	16	-.088	24	.349	12	1.523e-02	13	NC	1	NC	1
756			min	-.322	10	-.537	30	-.332	18	-1.428e-02	19	NC	1	NC	1
757		4	max	.286	16	-.047	23	.367	12	1.523e-02	13	NC	1	NC	1
758			min	-.322	10	-.532	29	-.349	18	-1.428e-02	19	NC	1	NC	1
759		5	max	.286	16	.003	23	.384	12	1.523e-02	13	NC	1	NC	1
760			min	-.322	10	-.529	29	-.366	18	-1.428e-02	19	NC	1	NC	1
761	M87	1	max	.309	19	-.039	17	.325	16	1.491e-02	16	NC	1	NC	1
762			min	-.324	13	-.583	35	-.362	10	-1.842e-02	10	NC	1	NC	1
763		2	max	.309	19	-.059	16	.306	16	1.491e-02	16	NC	1	NC	1
764			min	-.324	13	-.574	34	-.342	10	-1.842e-02	10	NC	1	NC	1
765		3	max	.309	19	-.058	15	.286	16	1.491e-02	16	NC	1	NC	1
766			min	-.324	13	-.568	33	-.322	10	-1.842e-02	10	NC	1	NC	1
767		4	max	.309	19	-.039	14	.267	16	1.491e-02	16	NC	1	NC	1
768			min	-.324	13	-.567	33	-.302	10	-1.842e-02	10	NC	1	NC	1
769		5	max	.309	19	-.003	14	.248	16	1.491e-02	16	NC	1	NC	1
770			min	-.324	13	-.568	32	-.281	10	-1.842e-02	10	NC	1	NC	1
771	M88	1	max	-.023	22	.073	22	.07	21	2.805e-03	3	NC	1	NC	1
772			min	-.614	28	-.093	4	-.109	3	-2.112e-03	21	1001.655	2	596.542	26
773		2	max	-.023	22	.04	22	.086	22	4.466e-03	4	NC	1	NC	3
774			min	-.614	28	-.064	4	-.11	4	-3.627e-03	22	1419.038	2	697.776	26
775		3	max	-.023	22	.086	23	.102	23	7.336e-03	5	NC	10	NC	16
776			min	-.614	28	-.091	5	-.105	5	-6.35e-03	23	1427.993	13	560.517	4
777		4	max	-.023	22	.497	11	.296	25	7.989e-03	4	NC	2	NC	28
778			min	-.614	28	-.427	17	-.315	7	-6.972e-03	22	214.825	11	248.288	2
779		5	max	-.023	22	1.102	11	.626	14	7.972e-03	4	NC	2	NC	4
780			min	-.614	28	-.913	17	-.693	8	-7.029e-03	22	91.266	11	128.107	8
781	M89	1	max	.814	16	-.129	74	.723	13	1.484e-02	13	NC	1	NC	1
782			min	-1.002	10	-.638	35	-.678	19	-1.401e-02	19	NC	1	NC	1
783		2	max	.814	16	-.117	71	.722	13	1.484e-02	13	NC	1	NC	1
784			min	-1.002	10	-.629	28	-.679	19	-1.401e-02	19	NC	1	NC	1
785		3	max	.814	16	-.099	22	.721	13	1.484e-02	13	NC	1	NC	1
786			min	-1.002	10	-.624	28	-.68	19	-1.401e-02	19	NC	1	NC	1
787		4	max	.814	16	-.061	22	.721	13	1.484e-02	13	NC	1	NC	1
788			min	-1.002	10	-.619	28	-.681	19	-1.401e-02	19	NC	1	NC	1
789		5	max	.814	16	-.023	22	.722	12	1.484e-02	13	NC	1	NC	1
790			min	-1.002	10	-.614	28	-.685	18	-1.401e-02	19	NC	1	NC	1
791	M90	1	max	.046	16	-.075	22	.107	11	9.93e-03	13	NC	1	NC	1
792			min	-.046	22	-.605	28	-.103	17	-8.784e-03	19	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
793		2	max	.046	16	-.062	22	.117	11	9.93e-03	13	NC	1	NC	1
794			min	-.046	22	-.607	28	-.114	17	-8.784e-03	19	NC	1	NC	1
795		3	max	.046	16	-.049	22	.127	11	9.93e-03	13	NC	1	NC	1
796			min	-.046	22	-.609	28	-.126	5	-8.784e-03	19	NC	1	NC	1
797		4	max	.046	16	-.036	22	.137	23	9.93e-03	13	NC	1	NC	1
798			min	-.046	22	-.611	28	-.137	5	-8.784e-03	19	NC	1	NC	1
799		5	max	.046	16	-.023	22	.147	23	9.93e-03	13	NC	1	NC	1
800			min	-.046	22	-.614	28	-.149	5	-8.784e-03	19	NC	1	NC	1
801	M91B	1	max	.322	16	-.051	16	.365	13	1.545e-02	13	NC	1	NC	1
802			min	-.382	10	-.693	34	-.335	19	-1.448e-02	19	NC	1	NC	1
803		2	max	.322	16	-.106	16	.362	13	1.545e-02	13	NC	1	NC	1
804			min	-.382	10	-.661	34	-.335	19	-1.448e-02	19	NC	1	NC	1
805		3	max	.322	16	-.128	72	.361	12	1.545e-02	13	NC	1	NC	1
806			min	-.382	10	-.631	37	-.338	18	-1.448e-02	19	NC	1	NC	1
807		4	max	.322	16	-.092	22	.369	12	1.545e-02	13	NC	1	NC	1
808			min	-.382	10	-.622	28	-.349	18	-1.448e-02	19	NC	1	NC	1
809		5	max	.322	16	-.023	22	.377	12	1.545e-02	13	NC	1	NC	1
810			min	-.382	10	-.614	28	-.359	18	-1.448e-02	19	NC	1	NC	1
811	M92B	1	max	.335	19	-.006	17	.369	16	1.846e-02	16	NC	1	NC	1
812			min	-.365	13	-.711	35	-.423	10	-2.373e-02	10	NC	1	NC	1
813		2	max	.335	19	-.032	17	.345	16	1.846e-02	16	NC	1	NC	1
814			min	-.365	13	-.701	35	-.402	10	-2.373e-02	10	NC	1	NC	1
815		3	max	.335	19	-.051	16	.322	16	1.846e-02	16	NC	1	NC	1
816			min	-.365	13	-.693	34	-.382	10	-2.373e-02	10	NC	1	NC	1
817		4	max	.335	19	-.055	16	.299	16	1.846e-02	16	NC	1	NC	1
818			min	-.365	13	-.687	33	-.362	10	-2.373e-02	10	NC	1	NC	1
819		5	max	.335	19	-.039	15	.275	16	1.846e-02	16	NC	1	NC	1
820			min	-.365	13	-.685	33	-.341	10	-2.373e-02	10	NC	1	NC	1
821	M93A	1	max	.109	21	.06	65	.094	21	4.404e-03	9	NC	1	NC	2
822			min	-.266	27	-.106	59	-.113	3	-4.217e-03	15	613.35	31	3806.814	29
823		2	max	.109	21	.052	24	.049	21	6.258e-03	8	NC	2	NC	6
824			min	-.266	27	-.077	6	-.086	3	-5.487e-03	14	825.366	31	1732.016	29
825		3	max	.109	21	.18	11	.042	14	8.305e-03	8	NC	2	NC	1
826			min	-.266	27	-.18	5	-.05	8	-6.862e-03	14	478.711	11	677.598	3
827		4	max	.109	21	.451	11	.317	2	7.706e-03	8	NC	14	NC	1
828			min	-.266	27	-.428	17	-.305	20	-6.319e-03	14	203.395	11	231.053	2
829		5	max	.109	21	.794	11	.675	2	6.79e-03	8	NC	8	NC	1
830			min	-.266	27	-.726	17	-.671	8	-5.553e-03	14	117.914	11	124.109	2
831	M94A	1	max	.632	16	.051	20	.722	13	1.707e-02	13	NC	1	NC	1
832			min	-.688	10	-.281	26	-.678	19	-1.651e-02	19	NC	1	NC	1
833		2	max	.632	16	.064	20	.729	13	1.707e-02	13	NC	1	NC	1
834			min	-.688	10	-.277	26	-.687	19	-1.651e-02	19	NC	1	NC	1
835		3	max	.632	16	.077	20	.736	13	1.707e-02	13	NC	1	NC	1
836			min	-.688	10	-.273	26	-.695	19	-1.651e-02	19	NC	1	NC	1
837		4	max	.632	16	.091	21	.743	13	1.707e-02	13	NC	1	NC	1
838			min	-.688	10	-.269	27	-.704	19	-1.651e-02	19	NC	1	NC	1
839		5	max	.632	16	.109	21	.75	13	1.707e-02	13	NC	1	NC	1
840			min	-.688	10	-.266	27	-.713	19	-1.651e-02	19	NC	1	NC	1
841	M95A	1	max	.169	17	.076	20	.11	11	9.44e-03	13	NC	1	NC	1
842			min	-.173	11	-.255	26	-.102	17	-7.923e-03	19	NC	1	NC	1
843		2	max	.169	17	.083	20	.112	12	9.44e-03	13	NC	1	NC	1
844			min	-.173	11	-.257	26	-.107	18	-7.923e-03	19	NC	1	NC	1
845		3	max	.169	17	.089	20	.118	12	9.44e-03	13	NC	1	NC	1
846			min	-.173	11	-.26	26	-.115	18	-7.923e-03	19	NC	1	NC	1
847		4	max	.169	17	.098	21	.125	12	9.44e-03	13	NC	1	NC	1
848			min	-.173	11	-.263	27	-.124	18	-7.923e-03	19	NC	1	NC	1
849		5	max	.169	17	.109	21	.131	24	9.44e-03	13	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
850			min	-.173	11	-.266	27	-.132	6	-7.923e-03	19	NC	1	NC	1
851	M96A	1	max	.289	16	.039	19	.228	12	1.35e-02	13	NC	1	NC	1
852			min	-.295	10	-.27	37	-.196	18	-1.247e-02	19	NC	1	NC	1
853		2	max	.289	16	.043	20	.239	12	1.35e-02	13	NC	1	NC	1
854			min	-.295	10	-.266	26	-.211	18	-1.247e-02	19	NC	1	NC	1
855		3	max	.289	16	.063	20	.25	12	1.35e-02	13	NC	1	NC	1
856			min	-.295	10	-.266	26	-.226	18	-1.247e-02	19	NC	1	NC	1
857		4	max	.289	16	.083	20	.26	12	1.35e-02	13	NC	1	NC	1
858			min	-.295	10	-.265	26	-.241	18	-1.247e-02	19	NC	1	NC	1
859		5	max	.289	16	.109	21	.271	12	1.35e-02	13	NC	1	NC	1
860			min	-.295	10	-.266	27	-.257	18	-1.247e-02	19	NC	1	NC	1
861	M97	1	max	.228	12	-.036	19	.317	10	1.156e-02	10	NC	1	NC	1
862			min	-.196	18	-.244	37	-.302	16	-1.077e-02	16	NC	1	NC	1
863		2	max	.228	12	.002	19	.306	10	1.156e-02	10	NC	1	NC	1
864			min	-.196	18	-.257	37	-.295	16	-1.077e-02	16	NC	1	NC	1
865		3	max	.228	12	.039	19	.295	10	1.156e-02	10	NC	1	NC	1
866			min	-.196	18	-.27	37	-.289	16	-1.077e-02	16	NC	1	NC	1
867		4	max	.228	12	.077	19	.286	11	1.156e-02	10	NC	1	NC	1
868			min	-.196	18	-.283	37	-.283	5	-1.077e-02	16	NC	1	NC	1
869		5	max	.228	12	.114	19	.286	11	1.156e-02	10	NC	1	NC	1
870			min	-.196	18	-.296	37	-.289	5	-1.077e-02	16	NC	1	NC	1
871	M115	1	max	.139	25	.097	15	.136	23	5.507e-03	29	NC	1	NC	1
872			min	-.183	7	-.296	33	-.176	5	3.572e-04	23	NC	1	NC	1
873		2	max	.139	25	.099	15	.134	23	5.507e-03	29	NC	1	NC	1
874			min	-.183	7	-.296	33	-.175	5	3.572e-04	23	NC	1	NC	1
875		3	max	.139	25	.101	15	.133	23	5.507e-03	29	NC	1	NC	1
876			min	-.183	7	-.296	33	-.174	5	3.572e-04	23	NC	1	NC	1
877		4	max	.139	25	.103	15	.131	23	5.507e-03	29	NC	1	NC	1
878			min	-.183	7	-.296	33	-.174	5	3.572e-04	23	NC	1	NC	1
879		5	max	.139	25	.104	15	.129	23	5.507e-03	29	NC	1	NC	1
880			min	-.183	7	-.296	33	-.173	5	3.572e-04	23	NC	1	NC	1
881	M116	1	max	.176	5	.271	30	.204	21	7.334e-04	20	NC	1	NC	1
882			min	-.136	23	-.104	24	-.233	3	-3.116e-03	26	1290.067	25	619.61	5
883		2	max	.176	5	.476	31	.091	23	3.05e-04	24	8279.337	15	NC	1
884			min	-.136	23	-.031	25	-.11	5	-1.458e-03	30	712.482	31	696.584	5
885		3	max	.176	5	.615	32	.033	3	1.854e-03	2	NC	15	NC	4
886			min	-.136	23	.012	14	-.031	20	-1.283e-03	20	427.502	32	748.179	20
887		4	max	.176	5	.515	33	.106	5	1.48e-03	4	4620.499	25	NC	5
888			min	-.136	23	-.023	15	-.078	23	-7.664e-04	22	607.683	33	1098.842	20
889		5	max	.176	5	.276	33	.195	7	1.215e-03	21	NC	1	NC	2
890			min	-.136	23	-.104	15	-.149	25	-1.206e-03	15	1222.986	15	751.543	6
891	M117	1	max	.091	7	.27	34	.251	23	4.772e-04	25	NC	1	NC	1
892			min	-.051	25	-.1	16	-.278	5	-3.089e-03	31	1411.729	17	484.779	4
893		2	max	.091	7	.476	35	.055	24	7.319e-04	16	8808.409	19	NC	1
894			min	-.051	25	-.031	17	-.074	6	-1.502e-03	34	710.68	35	1169.538	4
895		3	max	.091	7	.614	36	.031	6	1.816e-03	6	NC	19	NC	5
896			min	-.051	25	.014	18	-.03	24	-1.245e-03	24	427.764	36	868.91	13
897		4	max	.091	7	.514	37	.056	32	1.528e-03	8	4671.243	17	NC	5
898			min	-.05	25	-.02	19	-.016	65	-8.136e-04	14	608.254	37	1003.897	13
899		5	max	.091	7	.276	37	.163	2	1.5e-03	24	NC	1	NC	4
900			min	-.05	25	-.104	19	-.117	20	-1.473e-03	18	1198.766	19	617.991	3
901	M118	1	max	.122	3	.271	26	.079	14	1.157e-03	17	NC	1	NC	1
902			min	-.083	21	-.103	21	-.107	59	-3.164e-03	35	1242.15	21	1136.745	33
903		2	max	.122	3	.476	27	.037	21	6.885e-04	19	6298.036	23	NC	1
904			min	-.082	21	-.028	21	-.055	3	-1.505e-03	37	713.784	26	1063.14	9
905		3	max	.123	3	.614	28	.032	11	1.678e-03	10	NC	21	NC	18
906			min	-.083	21	.013	22	-.031	17	-1.106e-03	16	427.503	28	1156.474	9

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
907		4	max	.123	3	.514	29	.097	4	1.632e-03	12	4978.573	23	NC	2
908			min	-.083	21	-.017	23	-.069	22	-8.974e-04	18	608.748	29	1259.279	31
909		5	max	.123	3	.275	30	.309	5	1.007e-03	4	NC	1	NC	2
910			min	-.083	21	-.099	24	-.262	23	-9.886e-04	22	1334.073	23	493.942	5
911	M119	1	max	.077	23	.019	15	.136	23	4.763e-03	29	NC	1	NC	1
912			min	-.104	5	-.527	33	-.176	5	-2.666e-04	23	NC	1	NC	1
913		2	max	.077	23	.016	15	.136	23	4.763e-03	29	NC	1	NC	1
914			min	-.104	5	-.528	33	-.177	5	-2.666e-04	23	NC	1	NC	1
915		3	max	.077	23	.014	15	.137	23	4.763e-03	29	NC	1	NC	1
916			min	-.104	5	-.528	33	-.179	5	-2.666e-04	23	NC	1	NC	1
917		4	max	.077	23	.012	15	.138	23	4.763e-03	29	NC	1	NC	1
918			min	-.104	5	-.529	33	-.18	5	-2.666e-04	23	NC	1	NC	1
919		5	max	.077	23	.01	15	.138	23	4.763e-03	29	NC	1	NC	1
920			min	-.104	5	-.53	33	-.182	5	-2.666e-04	23	NC	1	NC	1
921	M120	1	max	.032	20	-.012	14	.136	23	1.659e-03	17	NC	1	NC	1
922			min	-.032	2	-.615	32	-.176	5	-1.763e-03	11	NC	1	NC	1
923		2	max	.032	20	-.015	14	.14	23	1.659e-03	17	NC	1	NC	1
924			min	-.032	2	-.614	32	-.181	5	-1.763e-03	11	NC	1	NC	1
925		3	max	.032	20	-.017	14	.144	23	1.659e-03	17	NC	1	NC	1
926			min	-.032	2	-.614	32	-.187	5	-1.763e-03	11	NC	1	NC	1
927		4	max	.032	20	-.02	14	.149	23	1.659e-03	17	NC	1	NC	1
928			min	-.032	2	-.614	32	-.192	5	-1.763e-03	11	NC	1	NC	1
929		5	max	.032	20	-.023	14	.153	23	1.659e-03	17	NC	1	NC	1
930			min	-.032	2	-.614	32	-.197	5	-1.763e-03	11	NC	1	NC	1
931	M121	1	max	.217	3	.098	24	.136	23	2.786e-04	17	NC	1	NC	1
932			min	-.189	21	-.282	30	-.176	5	-3.202e-03	35	NC	1	NC	1
933		2	max	.217	3	.099	24	.135	23	2.786e-04	17	NC	1	NC	1
934			min	-.189	21	-.278	31	-.176	5	-3.202e-03	35	NC	1	NC	1
935		3	max	.217	3	.102	25	.135	23	2.786e-04	17	NC	1	NC	1
936			min	-.189	21	-.274	31	-.176	5	-3.202e-03	35	NC	1	NC	1
937		4	max	.217	3	.104	25	.135	23	2.786e-04	17	NC	1	NC	1
938			min	-.189	21	-.27	31	-.176	5	-3.202e-03	35	NC	1	NC	1
939		5	max	.217	3	.107	25	.134	23	2.786e-04	17	NC	1	NC	1
940			min	-.189	21	-.266	31	-.176	5	-3.202e-03	35	NC	1	NC	1
941	M123	1	max	.099	20	.097	19	.05	25	5.481e-03	33	NC	1	NC	1
942			min	-.144	2	-.296	37	-.091	7	4.771e-04	15	NC	1	NC	1
943		2	max	.099	20	.099	19	.044	25	5.481e-03	33	NC	1	NC	1
944			min	-.144	2	-.296	37	-.087	32	4.771e-04	15	NC	1	NC	1
945		3	max	.099	20	.101	19	.037	25	5.481e-03	33	NC	1	NC	1
946			min	-.144	2	-.296	37	-.087	32	4.771e-04	15	NC	1	NC	1
947		4	max	.099	20	.103	19	.032	24	5.481e-03	33	NC	1	NC	1
948			min	-.144	2	-.296	37	-.087	32	4.771e-04	15	NC	1	NC	1
949		5	max	.099	20	.105	19	.028	24	5.481e-03	33	NC	1	NC	1
950			min	-.144	2	-.296	37	-.087	32	4.771e-04	15	NC	1	NC	1
951	M124	1	max	.015	24	.016	19	.05	25	4.735e-03	33	NC	1	NC	1
952			min	-.055	32	-.527	37	-.091	7	-1.045e-04	15	NC	1	NC	1
953		2	max	.015	24	.014	19	.047	25	4.735e-03	33	NC	1	NC	1
954			min	-.055	32	-.527	37	-.088	7	-1.045e-04	15	NC	1	NC	1
955		3	max	.015	24	.012	19	.043	25	4.735e-03	33	NC	1	NC	1
956			min	-.055	32	-.528	37	-.088	32	-1.045e-04	15	NC	1	NC	1
957		4	max	.015	24	.01	19	.039	25	4.735e-03	33	NC	1	NC	1
958			min	-.055	32	-.529	37	-.089	32	-1.045e-04	15	NC	1	NC	1
959		5	max	.015	24	.008	19	.035	25	4.735e-03	33	NC	1	NC	1
960			min	-.055	32	-.529	37	-.09	32	-1.045e-04	15	NC	1	NC	1
961	M125	1	max	.028	24	-.014	18	.051	25	1.602e-03	21	NC	1	NC	1
962			min	-.029	6	-.614	36	-.091	7	-1.711e-03	3	NC	1	NC	1
963		2	max	.028	24	-.017	18	.053	25	1.602e-03	21	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
964			min	-.029	6	-.614	36	-.094	7	-1.711e-03	3	NC	1	NC	1
965		3	max	.028	24	-.019	18	.055	25	1.602e-03	21	NC	1	NC	1
966			min	-.029	6	-.614	36	-.097	7	-1.711e-03	3	NC	1	NC	1
967		4	max	.028	24	-.022	18	.057	25	1.602e-03	21	NC	1	NC	1
968			min	-.029	6	-.614	36	-.1	7	-1.711e-03	3	NC	1	NC	1
969		5	max	.028	24	-.025	18	.059	25	1.602e-03	21	NC	1	NC	1
970			min	-.029	6	-.613	36	-.103	7	-1.711e-03	3	NC	1	NC	1
971	M126	1	max	.253	5	.096	16	.051	25	9.026e-05	44	NC	1	NC	1
972			min	-.226	23	-.282	34	-.091	7	-3.16e-03	26	NC	1	NC	1
973		2	max	.253	5	.096	16	.055	25	9.026e-05	44	NC	1	NC	1
974			min	-.226	23	-.277	34	-.096	7	-3.16e-03	26	NC	1	NC	1
975		3	max	.253	5	.097	17	.062	24	9.026e-05	44	NC	1	NC	1
976			min	-.226	23	-.273	35	-.104	6	-3.16e-03	26	NC	1	NC	1
977		4	max	.253	5	.098	17	.07	24	9.026e-05	44	NC	1	NC	1
978			min	-.226	23	-.269	35	-.112	6	-3.16e-03	26	NC	1	NC	1
979		5	max	.253	5	.1	17	.079	24	9.026e-05	44	NC	1	NC	1
980			min	-.226	23	-.265	35	-.121	6	-3.16e-03	26	NC	1	NC	1
981	M128	1	max	.238	23	.093	23	.083	21	5.5e-03	26	NC	1	NC	1
982			min	-.283	5	-.295	29	-.123	3	4.275e-04	20	NC	1	NC	1
983		2	max	.238	23	.094	23	.087	21	5.5e-03	26	NC	1	NC	1
984			min	-.283	5	-.295	29	-.127	3	4.275e-04	20	NC	1	NC	1
985		3	max	.238	23	.095	23	.09	21	5.5e-03	26	NC	1	NC	1
986			min	-.283	5	-.295	29	-.132	3	4.275e-04	20	NC	1	NC	1
987		4	max	.238	23	.097	23	.097	22	5.5e-03	26	NC	1	NC	1
988			min	-.283	5	-.295	29	-.139	4	4.275e-04	20	NC	1	NC	1
989		5	max	.238	23	.098	23	.104	22	5.5e-03	26	NC	1	NC	1
990			min	-.283	5	-.295	29	-.147	4	4.275e-04	20	NC	1	NC	1
991	M129	1	max	.059	22	.012	23	.083	21	4.75e-03	26	NC	1	NC	1
992			min	-.085	4	-.526	29	-.123	3	-1.395e-04	20	NC	1	NC	1
993		2	max	.059	22	.01	23	.086	21	4.75e-03	26	NC	1	NC	1
994			min	-.085	4	-.527	29	-.127	3	-1.395e-04	20	NC	1	NC	1
995		3	max	.059	22	.008	23	.09	21	4.75e-03	26	NC	1	NC	1
996			min	-.085	4	-.527	29	-.132	3	-1.395e-04	20	NC	1	NC	1
997		4	max	.059	22	.006	23	.094	21	4.75e-03	26	NC	1	NC	1
998			min	-.085	4	-.528	29	-.137	3	-1.395e-04	20	NC	1	NC	1
999		5	max	.059	22	.003	23	.098	21	4.75e-03	26	NC	1	NC	1
1000			min	-.085	4	-.529	29	-.141	3	-1.395e-04	20	NC	1	NC	1
1001	M130	1	max	.033	16	-.013	22	.083	21	1.552e-03	25	NC	1	NC	1
1002			min	-.034	10	-.614	28	-.123	3	-1.649e-03	7	NC	1	NC	1
1003		2	max	.033	16	-.016	22	.086	21	1.552e-03	25	NC	1	NC	1
1004			min	-.034	10	-.614	28	-.127	3	-1.649e-03	7	NC	1	NC	1
1005		3	max	.033	16	-.018	22	.089	21	1.552e-03	25	NC	1	NC	1
1006			min	-.034	10	-.614	28	-.131	3	-1.649e-03	7	NC	1	NC	1
1007		4	max	.033	16	-.02	22	.092	21	1.552e-03	25	NC	1	NC	1
1008			min	-.034	10	-.614	28	-.135	3	-1.649e-03	7	NC	1	NC	1
1009		5	max	.033	16	-.023	22	.095	21	1.552e-03	25	NC	1	NC	1
1010			min	-.034	10	-.614	28	-.139	3	-1.649e-03	7	NC	1	NC	1
1011	M131	1	max	.098	59	.098	21	.083	21	6.656e-05	25	NC	1	NC	1
1012			min	-.069	65	-.282	27	-.122	3	-3.165e-03	31	NC	1	NC	1
1013		2	max	.098	59	.101	21	.076	21	6.656e-05	25	NC	1	NC	1
1014			min	-.069	65	-.278	27	-.116	3	-3.165e-03	31	NC	1	NC	1
1015		3	max	.098	59	.103	21	.069	21	6.656e-05	25	NC	1	NC	1
1016			min	-.069	65	-.274	27	-.11	3	-3.165e-03	31	NC	1	NC	1
1017		4	max	.098	59	.106	21	.063	21	6.656e-05	25	NC	1	NC	1
1018			min	-.069	65	-.27	27	-.104	3	-3.165e-03	31	NC	1	NC	1
1019		5	max	.098	59	.109	21	.056	21	6.656e-05	25	NC	1	NC	1
1020			min	-.069	65	-.266	27	-.097	3	-3.165e-03	31	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
1021	M139	1	max	.011	26	.004	20	.079	17	1.386e-03	23	NC	1	NC	1
1022			min	.001	20	-.008	2	-.08	11	-1.51e-03	5	NC	1	NC	1
1023		2	max	.008	26	.007	20	.061	17	1.039e-03	23	NC	1	NC	1
1024			min	0	20	-.012	26	-.062	11	-1.132e-03	5	6996.839	26	NC	1
1025		3	max	.005	26	.007	20	.042	17	6.928e-04	23	NC	1	NC	1
1026			min	0	20	-.014	26	-.043	11	-7.549e-04	5	4985.248	26	NC	1
1027		4	max	.003	26	.005	20	.022	17	3.464e-04	23	NC	1	NC	1
1028			min	0	20	-.009	26	-.022	11	-3.774e-04	5	6996.839	26	NC	1
1029		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
1030			min	0	1	0	1	0	1	0	1	NC	1	NC	1
1031	M140	1	max	.011	30	.004	24	.039	18	1.571e-03	23	NC	1	NC	1
1032			min	.001	24	-.008	6	-.04	12	-1.687e-03	5	NC	1	1271.413	12
1033		2	max	.008	30	.01	24	.028	18	1.179e-03	23	NC	1	NC	1
1034			min	0	24	-.015	6	-.029	12	-1.266e-03	5	5735.133	6	1759.427	12
1035		3	max	.005	30	.012	24	.018	18	7.857e-04	23	NC	1	NC	1
1036			min	0	24	-.016	6	-.018	12	-8.437e-04	5	4086.282	6	2754.453	12
1037		4	max	.003	30	.008	24	.009	19	3.929e-04	23	NC	1	NC	1
1038			min	0	24	-.011	6	-.009	13	-4.219e-04	5	5735.133	6	5710.906	12
1039		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
1040			min	0	1	0	1	0	1	0	1	NC	1	NC	1
1041	M141	1	max	.011	34	.004	16	.053	16	1.631e-03	23	NC	1	NC	1
1042			min	.001	16	-.008	10	-.053	10	-1.767e-03	5	NC	1	952.508	10
1043		2	max	.008	34	.01	16	.039	16	1.223e-03	23	NC	1	NC	1
1044			min	0	16	-.015	10	-.039	10	-1.325e-03	5	5735.133	10	1305.71	10
1045		3	max	.005	34	.012	16	.025	16	8.156e-04	23	NC	1	NC	1
1046			min	0	16	-.016	10	-.025	10	-8.833e-04	5	4086.282	10	2021.366	10
1047		4	max	.003	34	.008	16	.013	15	4.078e-04	23	NC	1	NC	1
1048			min	0	16	-.011	10	-.013	9	-4.417e-04	5	5735.133	10	4150.465	10
1049		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
1050			min	0	1	0	1	0	1	0	1	NC	1	NC	1
1051	M142	1	max	0	18	.149	3	.543	29	6.786e-04	19	NC	1	NC	1
1052			min	0	12	-.095	21	-.007	23	-4.296e-03	37	252.203	7	145.817	4
1053		2	max	0	18	.103	3	.415	29	5.09e-04	19	NC	1	NC	1
1054			min	0	12	-.061	21	-.004	23	-3.222e-03	37	342.014	7	198.409	4
1055		3	max	0	18	.066	27	.283	29	3.393e-04	19	NC	1	NC	1
1056			min	0	12	-.033	21	-.002	23	-2.148e-03	37	522.892	7	304.514	4
1057		4	max	0	18	.034	27	.144	29	1.697e-04	19	NC	1	NC	1
1058			min	0	12	-.015	22	0	23	-1.074e-03	37	1061.102	6	620.677	4
1059		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
1060			min	0	1	0	1	0	1	0	1	NC	1	NC	1
1061	M143	1	max	0	67	.516	31	.166	23	4.999e-03	35	NC	1	NC	1
1062			min	0	61	-.018	25	-.2	5	-4.439e-04	17	140.46	6	199.723	9
1063		2	max	0	67	.396	31	.117	23	3.749e-03	35	NC	1	NC	1
1064			min	0	61	-.013	25	-.141	5	-3.329e-04	17	188.264	6	275.676	9
1065		3	max	0	67	.27	31	.073	23	2.499e-03	35	NC	1	NC	1
1066			min	0	61	-.009	25	-.087	5	-2.22e-04	17	284.046	6	430.261	9
1067		4	max	0	67	.137	31	.034	23	1.25e-03	35	NC	1	NC	1
1068			min	0	61	-.004	25	-.041	5	-1.11e-04	17	570.792	6	889.691	9
1069		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
1070			min	0	1	0	1	0	1	0	1	NC	1	NC	1
1071	M144	1	max	0	22	.212	5	.544	33	7.557e-04	23	NC	1	NC	1
1072			min	0	4	-.157	23	-.012	15	-4.312e-03	29	152.486	10	167.577	7
1073		2	max	0	22	.151	5	.416	33	5.668e-04	23	NC	1	NC	1
1074			min	0	4	-.109	23	-.009	15	-3.234e-03	29	204.475	10	229.996	7
1075		3	max	0	22	.095	5	.284	33	3.779e-04	23	NC	1	NC	1
1076			min	0	4	-.066	23	-.006	15	-2.156e-03	29	308.661	10	356.565	7
1077		4	max	0	22	.045	5	.144	33	1.889e-04	23	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
1078			min	0	4	-.03	23	-.003	15	-1.078e-03	29	620.513	10	733.033	7
1079		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
1080			min	0	1	0	1	0	1	0	1	NC	1	NC	1
1081	M145	1	max	0	22	.516	35	.068	25	5.024e-03	27	NC	1	NC	1
1082			min	0	4	-.018	17	-.101	7	-6.207e-04	21	220.306	10	184.584	12
1083		2	max	0	22	.395	35	.042	25	3.768e-03	27	NC	1	NC	1
1084			min	0	4	-.012	17	-.066	7	-4.656e-04	21	295.929	10	252.538	12
1085		3	max	0	22	.27	35	.023	24	2.512e-03	27	NC	1	NC	1
1086			min	0	4	-.008	17	-.038	6	-3.104e-04	21	447.577	10	390.062	12
1087		4	max	0	22	.137	35	.011	64	1.256e-03	27	NC	1	NC	1
1088			min	0	4	-.003	17	-.018	58	-1.552e-04	21	901.209	10	799.353	12
1089		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
1090			min	0	1	0	1	0	1	0	1	NC	1	NC	1
1091	M146	1	max	0	14	.115	32	.543	37	6.513e-04	15	NC	1	NC	1
1092			min	0	8	-.056	25	-.01	19	-4.29e-03	33	199.068	2	241.189	13
1093		2	max	0	14	.091	31	.416	37	4.885e-04	15	NC	1	NC	1
1094			min	0	8	-.043	25	-.005	19	-3.218e-03	33	266.063	2	321.959	13
1095		3	max	0	14	.064	31	.283	37	3.256e-04	15	NC	1	NC	1
1096			min	0	8	-.031	24	-.002	19	-2.145e-03	33	400.159	2	483.561	13
1097		4	max	0	14	.034	31	.144	37	1.628e-04	15	NC	1	NC	1
1098			min	0	8	-.017	24	0	19	-1.073e-03	33	802.051	2	968.13	13
1099		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
1100			min	0	1	0	1	0	1	0	1	NC	1	NC	1
1101	M147	1	max	0	25	.516	27	.101	21	5.031e-03	31	NC	1	NC	1
1102			min	0	7	-.014	21	-.135	3	-6.806e-04	25	162.829	2	387.857	4
1103		2	max	0	25	.395	27	.078	21	3.773e-03	31	NC	1	NC	1
1104			min	0	7	-.008	21	-.102	3	-5.105e-04	25	217.531	2	531.518	3
1105		3	max	0	25	.269	27	.054	21	2.516e-03	31	NC	1	NC	1
1106			min	0	7	-.004	21	-.068	3	-3.403e-04	25	327.007	2	799.02	3
1107		4	max	0	25	.137	27	.028	22	1.258e-03	31	NC	1	NC	1
1108			min	0	7	-.001	21	-.035	4	-1.702e-04	25	655.169	2	1600.875	3
1109		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
1110			min	0	1	0	1	0	1	0	1	NC	1	NC	1
1111	M148	1	max	.516	31	.136	23	.08	23	3.191e-03	21	NC	1	NC	1
1112			min	-.018	25	-.176	5	-.096	5	-3.642e-03	3	NC	1	NC	1
1113		2	max	.516	31	.138	23	.08	23	3.191e-03	21	NC	1	NC	1
1114			min	-.018	25	-.175	5	-.096	5	-3.642e-03	3	NC	1	NC	1
1115		3	max	.516	31	.14	23	.08	23	3.191e-03	21	NC	1	NC	1
1116			min	-.018	25	-.175	5	-.097	5	-3.642e-03	3	NC	1	NC	1
1117		4	max	.516	31	.143	23	.081	23	3.191e-03	21	NC	1	NC	1
1118			min	-.018	25	-.175	5	-.097	5	-3.642e-03	3	NC	1	NC	1
1119		5	max	.516	31	.145	23	.081	23	3.191e-03	21	NC	1	NC	1
1120			min	-.018	25	-.175	5	-.097	5	-3.642e-03	3	NC	1	NC	1
1121	M149	1	max	.543	29	.002	72	.095	21	3.699e-03	23	NC	1	NC	1
1122			min	-.007	23	-.004	30	-.142	3	-4.322e-03	5	NC	1	NC	1
1123		2	max	.543	29	.002	73	.095	21	3.699e-03	23	NC	1	NC	1
1124			min	-.007	23	-.003	55	-.144	3	-4.322e-03	5	NC	1	NC	1
1125		3	max	.543	29	.002	73	.095	21	3.699e-03	23	NC	1	NC	1
1126			min	-.007	23	-.002	55	-.146	3	-4.322e-03	5	NC	1	NC	1
1127		4	max	.543	29	.002	2	.095	21	3.699e-03	23	NC	1	NC	1
1128			min	-.007	23	-.001	20	-.147	3	-4.322e-03	5	NC	1	NC	1
1129		5	max	.543	29	.002	3	.095	21	3.699e-03	23	NC	1	NC	1
1130			min	-.007	23	-.001	21	-.149	3	-4.322e-03	5	NC	1	NC	1
1131	M144A	1	max	.516	35	.013	35	.103	7	3.288e-03	24	NC	1	NC	1
1132			min	-.018	17	0	66	-.061	25	-3.744e-03	6	NC	1	NC	1
1133		2	max	.516	35	.01	35	.103	7	3.288e-03	24	NC	1	NC	1
1134			min	-.018	17	0	66	-.062	25	-3.744e-03	6	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
1135		3	max	.516	35	.007	34	.102	7	3.288e-03	24	NC	1	NC	1
1136			min	-.018	17	0	65	-.064	25	-3.744e-03	6	NC	1	NC	1
1137		4	max	.516	35	.004	33	.102	7	3.288e-03	24	NC	1	NC	1
1138			min	-.018	17	0	65	-.066	25	-3.744e-03	6	NC	1	NC	1
1139		5	max	.516	35	.001	7	.101	7	3.288e-03	24	NC	1	NC	1
1140			min	-.018	17	0	25	-.068	25	-3.744e-03	6	NC	1	NC	1
1141	M145A	1	max	.544	33	.136	23	.099	5	2.391e-03	25	NC	1	NC	1
1142			min	-.012	15	-.176	5	-.074	23	-3.023e-03	7	NC	1	NC	1
1143		2	max	.544	33	.136	23	.1	5	2.391e-03	25	NC	1	NC	1
1144			min	-.012	15	-.178	5	-.075	23	-3.023e-03	7	NC	1	NC	1
1145		3	max	.544	33	.136	23	.101	5	2.391e-03	25	NC	1	NC	1
1146			min	-.012	15	-.18	5	-.075	23	-3.023e-03	7	NC	1	NC	1
1147		4	max	.544	33	.137	23	.102	5	2.391e-03	25	NC	1	NC	1
1148			min	-.012	15	-.183	5	-.076	23	-3.023e-03	7	NC	1	NC	1
1149		5	max	.544	33	.137	23	.103	5	2.391e-03	25	NC	1	NC	1
1150			min	-.012	15	-.185	5	-.076	23	-3.023e-03	7	NC	1	NC	1
1151	M146A	1	max	.516	27	.116	3	.048	21	1.087e-03	65	NC	1	NC	1
1152			min	-.014	21	-.083	21	-.074	3	-1.55e-03	59	NC	1	NC	1
1153		2	max	.516	27	.116	3	.049	21	1.087e-03	65	NC	1	NC	1
1154			min	-.014	21	-.084	21	-.073	3	-1.55e-03	59	NC	1	NC	1
1155		3	max	.516	27	.116	3	.05	21	1.087e-03	65	NC	1	NC	1
1156			min	-.014	21	-.085	21	-.072	3	-1.55e-03	59	NC	1	NC	1
1157		4	max	.516	27	.116	3	.051	21	1.087e-03	65	NC	1	NC	1
1158			min	-.014	21	-.086	21	-.071	3	-1.55e-03	59	NC	1	NC	1
1159		5	max	.516	27	.116	3	.052	21	1.087e-03	65	NC	1	NC	1
1160			min	-.014	21	-.087	21	-.069	3	-1.55e-03	59	NC	1	NC	1
1161	M147A	1	max	.543	37	.089	32	.054	7	1.475e-03	19	NC	1	NC	1
1162			min	-.01	19	-.046	25	-.032	25	-2.085e-03	13	NC	1	NC	1
1163		2	max	.543	37	.092	32	.055	7	1.475e-03	19	NC	1	NC	1
1164			min	-.01	19	-.047	25	-.031	25	-2.085e-03	13	NC	1	NC	1
1165		3	max	.543	37	.094	32	.056	7	1.475e-03	19	NC	1	NC	1
1166			min	-.01	19	-.047	25	-.03	25	-2.085e-03	13	NC	1	NC	1
1167		4	max	.543	37	.096	32	.056	32	1.475e-03	19	NC	1	NC	1
1168			min	-.01	19	-.047	25	-.03	25	-2.085e-03	13	NC	1	NC	1
1169		5	max	.543	37	.098	32	.059	32	1.475e-03	19	NC	1	NC	1
1170			min	-.01	19	-.048	25	-.029	25	-2.085e-03	13	NC	1	NC	1
1171	M148A	1	max	.348	31	.127	23	.14	22	4.332e-03	20	NC	1	NC	1
1172			min	-.073	25	-.178	5	-.163	4	-4.575e-03	2	NC	1	NC	1
1173		2	max	.348	31	.129	23	.14	22	4.332e-03	20	NC	1	NC	1
1174			min	-.073	25	-.177	5	-.164	4	-4.575e-03	2	NC	1	NC	1
1175		3	max	.348	31	.131	23	.14	22	4.332e-03	20	NC	1	NC	1
1176			min	-.073	25	-.177	5	-.164	4	-4.575e-03	2	NC	1	NC	1
1177		4	max	.348	31	.133	23	.141	22	4.332e-03	20	NC	1	NC	1
1178			min	-.073	25	-.176	5	-.165	4	-4.575e-03	2	NC	1	NC	1
1179		5	max	.348	31	.136	23	.141	22	4.332e-03	20	NC	1	NC	1
1180			min	-.073	25	-.176	5	-.166	4	-4.575e-03	2	NC	1	NC	1
1181	M149A	1	max	.388	33	.137	23	.138	6	3.351e-03	14	NC	1	NC	1
1182			min	-.067	15	-.165	5	-.102	24	-3.935e-03	44	NC	1	NC	1
1183		2	max	.388	33	.137	23	.139	6	3.351e-03	14	NC	1	NC	1
1184			min	-.067	15	-.167	5	-.102	24	-3.935e-03	44	NC	1	NC	1
1185		3	max	.388	33	.136	23	.14	6	3.351e-03	14	NC	1	NC	1
1186			min	-.067	15	-.17	5	-.103	24	-3.935e-03	44	NC	1	NC	1
1187		4	max	.388	33	.136	23	.14	6	3.351e-03	14	NC	1	NC	1
1188			min	-.067	15	-.173	5	-.103	24	-3.935e-03	44	NC	1	NC	1
1189		5	max	.388	33	.136	23	.141	6	3.351e-03	14	NC	1	NC	1
1190			min	-.067	15	-.176	5	-.103	24	-3.935e-03	44	NC	1	NC	1
1191	M150	1	max	.348	35	.112	11	.164	6	5.851e-03	23	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
1192			min	-.073	17	-.105	17	-.108	24	-6.052e-03	5	NC	1	NC	1
1193		2	max	.348	35	.111	11	.163	6	5.851e-03	23	NC	1	NC	1
1194			min	-.073	17	-.106	17	-.109	24	-6.052e-03	5	NC	1	NC	1
1195		3	max	.348	35	.11	11	.162	6	5.851e-03	23	NC	1	NC	1
1196			min	-.073	17	-.107	17	-.11	24	-6.052e-03	5	NC	1	NC	1
1197		4	max	.348	35	.109	11	.162	6	5.851e-03	23	NC	1	NC	1
1198			min	-.073	17	-.108	5	-.112	24	-6.052e-03	5	NC	1	NC	1
1199		5	max	.348	35	.108	23	.161	6	5.851e-03	23	NC	1	NC	1
1200			min	-.073	17	-.109	5	-.113	24	-6.052e-03	5	NC	1	NC	1
1201	M151	1	max	.388	37	.089	37	.082	7	3.954e-03	20	NC	1	NC	1
1202			min	-.066	19	-.031	66	-.076	25	-4.441e-03	2	NC	1	NC	1
1203		2	max	.388	37	.092	37	.084	7	3.954e-03	20	NC	1	NC	1
1204			min	-.066	19	-.031	66	-.075	25	-4.441e-03	2	NC	1	NC	1
1205		3	max	.388	37	.095	37	.086	7	3.954e-03	20	NC	1	NC	1
1206			min	-.066	19	-.031	66	-.075	25	-4.441e-03	2	NC	1	NC	1
1207		4	max	.388	37	.098	37	.088	7	3.954e-03	20	NC	1	NC	1
1208			min	-.066	19	-.03	66	-.074	25	-4.441e-03	2	NC	1	NC	1
1209		5	max	.388	37	.101	37	.09	7	3.954e-03	20	NC	1	NC	1
1210			min	-.066	19	-.03	66	-.073	25	-4.441e-03	2	NC	1	NC	1
1211	M152	1	max	.348	27	.089	37	.077	21	3.731e-03	15	NC	1	NC	1
1212			min	-.072	21	-.031	66	-.11	3	-3.991e-03	9	NC	1	NC	1
1213		2	max	.348	27	.089	37	.079	21	3.731e-03	15	NC	1	NC	1
1214			min	-.072	21	-.032	66	-.109	3	-3.991e-03	9	NC	1	NC	1
1215		3	max	.348	27	.088	37	.081	21	3.731e-03	15	NC	1	NC	1
1216			min	-.072	21	-.032	66	-.108	3	-3.991e-03	9	NC	1	NC	1
1217		4	max	.348	27	.087	37	.083	21	3.731e-03	15	NC	1	NC	1
1218			min	-.072	21	-.033	66	-.107	3	-3.991e-03	9	NC	1	NC	1
1219		5	max	.348	27	.087	37	.085	21	3.731e-03	15	NC	1	NC	1
1220			min	-.072	21	-.034	66	-.107	3	-3.991e-03	9	NC	1	NC	1
1221	M153	1	max	.387	29	.109	23	.147	22	5.764e-03	23	NC	1	NC	1
1222			min	-.062	23	-.127	5	-.188	4	-6.263e-03	5	NC	1	NC	1
1223		2	max	.387	29	.11	23	.146	22	5.764e-03	23	NC	1	NC	1
1224			min	-.062	23	-.127	5	-.19	4	-6.263e-03	5	NC	1	NC	1
1225		3	max	.387	29	.111	23	.144	22	5.764e-03	23	NC	1	NC	1
1226			min	-.062	23	-.126	5	-.191	4	-6.263e-03	5	NC	1	NC	1
1227		4	max	.387	29	.112	23	.143	22	5.764e-03	23	NC	1	NC	1
1228			min	-.062	23	-.126	5	-.193	4	-6.263e-03	5	NC	1	NC	1
1229		5	max	.387	29	.113	23	.142	22	5.764e-03	23	NC	1	NC	1
1230			min	-.062	23	-.125	5	-.195	4	-6.263e-03	5	NC	1	NC	1
1231	M154	1	max	.219	4	.062	23	.057	13	-5.592e-04	19	NC	1	NC	1
1232			min	-.175	22	-.387	29	-.051	19	-6.371e-03	37	488.96	23	1169.325	2
1233		2	max	.219	4	.057	24	.058	25	-5.643e-04	18	NC	1	NC	1
1234			min	-.175	22	-.376	30	-.062	7	-6.393e-03	36	652.471	23	1038.307	30
1235		3	max	.219	4	.06	24	.061	24	-5.465e-04	18	NC	1	NC	1
1236			min	-.175	22	-.367	30	-.075	6	-6.422e-03	36	562.749	13	519.075	30
1237		4	max	.219	4	.064	24	.066	24	-5.287e-04	18	NC	1	NC	1
1238			min	-.175	22	-.357	30	-.089	6	-6.451e-03	36	374.911	13	345.986	30
1239		5	max	.219	4	.073	25	.07	24	-4.883e-04	17	NC	1	NC	1
1240			min	-.175	22	-.348	31	-.104	6	-6.48e-03	35	281.01	13	259.446	30
1241	M155	1	max	.192	6	.067	15	.097	4	-4.142e-04	47	NC	1	NC	1
1242			min	-.147	24	-.388	33	-.092	22	-6.365e-03	29	454.253	15	262.65	4
1243		2	max	.192	6	.061	16	.079	16	-5.775e-04	46	NC	1	NC	1
1244			min	-.147	24	-.377	34	-.083	10	-6.376e-03	28	606.124	15	350.632	4
1245		3	max	.192	6	.063	16	.061	16	-7.2e-04	22	NC	1	NC	1
1246			min	-.147	24	-.367	34	-.075	10	-6.398e-03	28	589.831	5	526.666	4
1247		4	max	.192	6	.066	16	.044	16	-7.707e-04	22	NC	1	NC	1
1248			min	-.147	24	-.357	34	-.068	10	-6.419e-03	28	392.94	5	367.515	37

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
1249		5	max	.192	6	.073	17	.033	65	-7.315e-04	21	NC	1	NC	1
1250			min	-.147	24	-.348	35	-.069	34	-6.451e-03	27	294.515	5	275.626	37
1251	M156	1	max	.089	37	.066	19	.082	7	-4.63e-04	15	NC	1	NC	1
1252			min	-.031	66	-.388	37	-.076	25	-6.383e-03	33	430.808	19	215.759	6
1253		2	max	.089	37	.057	20	.071	20	-4.933e-04	14	NC	1	NC	1
1254			min	-.031	66	-.376	26	-.076	2	-6.401e-03	33	574.818	19	287.867	6
1255		3	max	.089	37	.06	20	.068	20	-5.002e-04	14	NC	1	NC	1
1256			min	-.031	66	-.367	26	-.082	2	-6.427e-03	32	541.95	9	412.488	4
1257		4	max	.089	37	.063	20	.07	21	-5.071e-04	14	NC	1	NC	1
1258			min	-.031	66	-.357	26	-.093	3	-6.453e-03	32	361.063	9	274.803	4
1259		5	max	.089	37	.072	21	.077	21	-5.14e-04	14	NC	1	NC	1
1260			min	-.031	66	-.348	27	-.11	3	-6.479e-03	32	270.637	9	205.974	4

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	M38	PIPE_2.0	.786	4.25	2	.178	4.25		11	14.916	32.13	1.872	1.872	2...	H1-1b
2	M88	PIPE_2.0	.737	4.25	10	.190	4.25		8	14.916	32.13	1.872	1.872	2...	H1-1b
3	M63	PIPE_2.0	.722	4.25	6	.156	4.25		4	14.916	32.13	1.872	1.872	2...	H1-1b
4	M79A	1/2"x9"	.632	.398	36	.499	0	y	37	110.855	145.8	1.519	27.338	1...	H1-1b
5	M78C	1/2"x9"	.631	.398	28	.500	0	y	29	110.855	145.8	1.519	27.338	1...	H1-1b
6	M80C	1/2"x9"	.631	.398	32	.499	0	y	33	110.855	145.8	1.519	27.338	1...	H1-1b
7	M98A	L6x3.5x5	.600	6.094	35	.387	5.964	z	12	17.215	93.636	3.395	9.37	1...	H2-1
8	M99	L6x3.5x5	.599	6.094	27	.383	5.964	z	4	17.215	93.636	3.395	9.369	1...	H2-1
9	M98	L6x3.5x5	.530	6.094	31	.415	5.964	z	8	49.327	93.636	3.395	10.987	1	H2-1
10	M33	PIPE_2.0	.503	4.25	2	.137	4.25		5	14.916	32.13	1.872	1.872	2...	H1-1b
11	M58	HSS4x4x3	.490	5.699	27	.135	3.017	z	32	90.409	106.812	12.662	12.662	1...	H1-1b
12	M60	HSS4x4x3	.490	5.699	31	.136	3.017	z	35	90.409	106.812	12.662	12.662	1...	H1-1b
13	M83	PIPE_2.0	.487	4.25	11	.150	4.25		13	14.916	32.13	1.872	1.872	1...	H1-1b
14	M56	HSS4x4x3	.486	5.699	35	.135	3.017	z	27	90.409	106.812	12.662	12.662	1...	H1-1b
15	M58A	PIPE_2.0	.484	4.25	6	.150	4.25		9	14.916	32.13	1.872	1.872	1...	H1-1b
16	M78	PIPE_2.0	.314	4.25	12	.090	4.25		13	14.916	32.13	1.872	1.872	1...	H1-1b
17	M68	PIPE_2.0	.313	4.25	4	.091	4.25		3	14.916	32.13	1.872	1.872	1...	H1-1b
18	M53	PIPE_2.0	.312	4.25	10	.090	4.25		9	14.916	32.13	1.872	1.872	1...	H1-1b
19	M93A	PIPE_2.0	.307	4.25	7	.091	4.25		7	14.916	32.13	1.872	1.872	1...	H1-1b
20	M1	L2.5x2.5x3	.280	4.062	2	.210	.127	y	9	2.212	29.192	.873	1.184	1...	H2-1
21	M3	L2.5x2.5x3	.240	7.742	10	.210	12.1...	y	9	2.212	29.192	.873	1.203	1...	H2-1
22	M2	L2.5x2.5x3	.235	7.742	5	.204	.127	y	13	2.212	29.192	.873	1.193	1...	H2-1
23	M43	PIPE_2.0	.223	4.25	12	.074	4.25		11	14.916	32.13	1.872	1.872	1...	H1-1b
24	M22	PIPE_2.0	.215	4.25	4	.072	4.25		5	14.916	32.13	1.872	1.872	1...	H1-1b
25	M118	PIPE_2.0	.203	.389	30	.063	.389		33	6.349	32.13	1.872	1.872	1...	H1-1b
26	M117	PIPE_2.0	.202	.389	27	.069	12.0...		7	6.349	32.13	1.872	1.872	1...	H1-1b
27	M116	PIPE_2.0	.200	.389	34	.069	12.0...		4	19.36	32.13	1.872	1.872	1	H1-1b
28	M139	LL2.5x2.5x...	.197	4.243	26	.005	4.243	z	5	44.024	58.32	3.954	2.55	1	H1-1b*
29	M141	LL2.5x2.5x...	.197	4.243	34	.008	4.243	y	11	44.024	58.32	3.954	2.55	1...	H1-1b*
30	M140	LL2.5x2.5x...	.197	4.243	30	.008	0	y	5	44.024	58.32	3.954	2.55	1...	H1-1b*
31	M93	1/2"x3"	.159	0	13	.009	0	y	34	44.374	48.6	.506	3.038	1...	H1-1b
32	M92	1/2"x3"	.157	0	9	.009	0	y	30	44.374	48.6	.506	3.038	1...	H1-1b
33	M96	1/2"x3"	.143	0	5	.009	0	y	37	44.374	48.6	.506	3.038	1...	H1-1b
34	M95	1/2"x3"	.132	0	6	.009	0	y	31	44.372	48.6	.506	3.038	1...	H1-1b
35	M91A	L5x3.5x4	.128	.953	13	.010	0	z	34	41.093	67.068	2.629	6.062	2...	H2-1
36	M94	L5x3.5x4	.124	.9	5	.010	0	z	37	41.093	67.068	2.629	6.062	3...	H2-1
37	M59	L5x3.5x4	.116	2.542	8	.010	0	z	29	41.093	67.068	2.629	7.465	2...	H2-1
38	M92A	1/2"x3"	.108	.5	10	.009	0	y	26	44.372	48.6	.506	3.029	1	H1-1b
39	M91	1/2"x3"	.107	0	10	.009	0	y	35	44.372	48.6	.506	3.038	1...	H1-1b
40	M145	L2.5x2.5x3	.067	1.844	8	.015	0	y	27	18.554	29.192	.873	1.782	1...	H2-1

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc...	phi*Pnt ...	phi*Mn ...	phi*Mn ...	Cb	Eqn
41	M142	L2.5x2.5x3	.065	1.843	8	.013	0	z	37	18.557	29.192	.873	1.782	1...	H2-1
42	M147	L2.5x2.5x3	.056	1.844	12	.015	3.687	y	31	18.554	29.192	.873	1.782	1...	H2-1
43	M146	L2.5x2.5x3	.054	1.843	4	.013	3.687	z	33	18.557	29.192	.873	1.782	1...	H2-1
44	M144	L2.5x2.5x3	.054	1.805	11	.013	0	z	29	18.557	29.192	.873	1.782	1...	H2-1
45	M143	L2.5x2.5x3	.053	1.805	5	.015	0	y	35	18.554	29.192	.873	1.782	1...	H2-1
46	M4	1/2"x6"	.020	.258	9	.015	.258	y	9	94.881	97.2	1.012	12.108	1	H1-1b
47	M5	1/2"x6"	.019	0	13	.014	.258	y	13	94.881	97.2	1.012	12.108	1	H1-1b
48	M6	1/2"x6"	.019	0	5	.014	0	y	5	94.881	97.2	1.012	12.108	1	H1-1b
49	M156	PIPE_2.0	.004	.813	32	.013	1.626		11	31.128	32.13	1.872	1.872	1...	H1-1b
50	M154	PIPE_2.0	.004	.813	37	.024	0		3	31.128	32.13	1.872	1.872	1...	H1-1b
51	M155	PIPE_2.0	.004	.813	28	.028	1.626		6	31.128	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 (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

APPROVED
By Hani Sayegh at 10:34 am, Apr 11, 2018

PROJECT: DO MACRO UPGRADE
EQUIPMENT DEPLOYMENT

SITE NUMBER: CT23XC406

SITE ADDRESS: 56 ROPER ROAD
PLAINFILED, CT 06354

SITE TYPE: MONOPOLE

APPROVED
By Stephen Roth at 4:24 am, Mar 27, 2018

PROJECT INFORMATION

SITE INFORMATION:

LATITUDE (NAD83):
41° 44' 45.7" N
41.746018°

LONGITUDE (NAD83):
71° 52' 48.5" W
-71.880140°

STRUCTURE HEIGHT: 175'±

STRUCTURE TYPE: MONOPOLE

APPLICANT:

SPRINT
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495

TOWER OWNER:

SBA PROPERTIES LLC.
8501 CONGRESS AVE
BOCA RATON, FL 33487

SBA SITE ID: CT00594-S

SBA SITE NAME: PLAINFIELD NORTH

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

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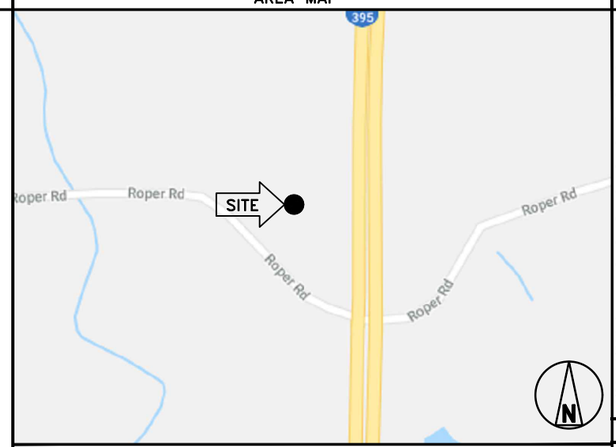
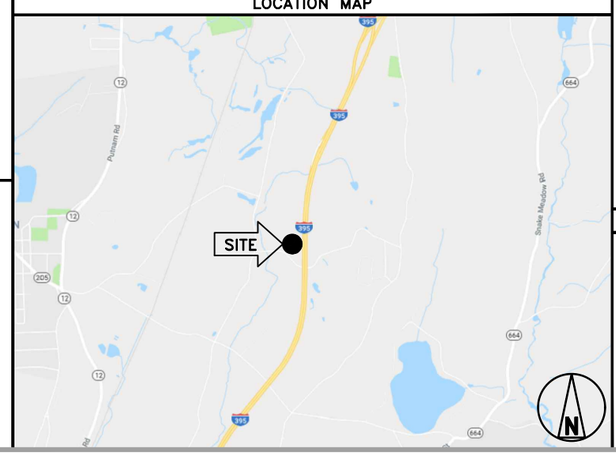
AREA MAP



LOCATION MAP



SCOPE OF WORK

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
- INSTALL STRUCTURAL AUGMENTS
- REMOVE (6) COAX CABLES
- INSTALL (4) HYBRID CABLES
- INSTALL RAN EQUIPMENT INSIDE EXISTING MMBTS CABINET

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

APPLICABLE CODES

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

1. INTERNATIONAL BUILDING CODE (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.

DRAWING INDEX

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

APPROVALS

TITLE	SIGNATURE	DATE
PROJECT MANAGER:		
CONSTRUCTION:		
RF ENGINEER:		
ZONING/SITE ACQ:		
OPERATIONS:		
TOWER OWNER:		

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

PLANS PREPARED FOR:
Sprint
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
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
4-10-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/10/18	RCD	0

SITE NUMBER:
CT23XC406

SITE ADDRESS:
56 ROPER ROAD
PLAINFIELD, CT 06354

SHEET DESCRIPTION:
TITLE SHEET
& PROJECT DATA

SHEET NUMBER:
T-1

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

SECTION 01 100 – SCOPE OF WORK

PART 1 – GENERAL

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

1.2 RELATED DOCUMENTS:

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

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

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

1.4 NATIONALLY RECOGNIZED CODES AND STANDARDS:

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

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

1.5 DEFINITIONS:

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

B. COMPANY: SPRINT CORPORATION

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

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

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

F. OFCI: OWNER FURNISHED, CONTRACTOR INSTALLED EQUIPMENT.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1.15 USE OF ELECTRONIC PROJECT MANAGEMENT SYSTEMS:

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

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

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

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

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

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

SECTION 01 200 – COMPANY FURNISHED MATERIAL AND EQUIPMENT

PART 1 – GENERAL

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

1.2 RELATED DOCUMENTS:

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

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

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 RECEIPT OF MATERIAL AND EQUIPMENT:

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

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

1 ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.

2. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.

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

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

5. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.

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

3.2 DELIVERABLES:

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

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

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

SECTION 01 300 – CELL SITE CONSTRUCTION CO.

PART 1 – GENERAL

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

1.2 RELATED DOCUMENTS:

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

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

1.3 NOTICE TO PROCEED

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

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

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 FUNCTIONAL REQUIREMENTS:

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

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

C. MANAGE AND CONDUCT ALL FIELD CONSTRUCTION SERVICE RELATED ACTIVITIES

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

PLANS PREPARED FOR:
Sprint
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
4-10-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/10/18	RCD	0

SITE NUMBER:
CT23XC406

SITE ADDRESS:
56 ROPER ROAD
PLAINFIELD, CT 06354

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 F R ANY A ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.

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

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

1.5 COMMISSIONING: PERFORM ALL COMMISSIONING AS REQUIRED BY APPLICABLE MOPs

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

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 REQUIREMENTS FOR TESTING:

A. THIRD PARTY TESTING AGENCY:

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

3.2 REQUIRED TESTS:

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

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

3.3 REQUIRED INSPECTIONS

A. SCHEDULE INSPECTIONS WITH COMPANY REPRESENTATIVE.

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

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

PLANS PREPARED FOR:
Sprint
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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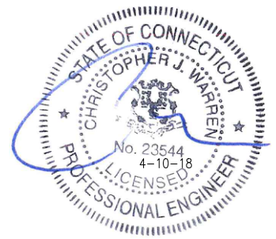
1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 526-104

ENGINEERING LICENSE:



CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/10/18	RCD	0

SITE NUMBER:
CT23XC406

SITE ADDRESS:
56 ROPER ROAD
PLAINFIELD, CT 06354

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.

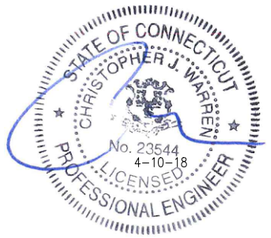
3.6 FINAL PROJECT ACCEPTANCE: COMPLETE ALL REQUIRED REPORTING TASKS PER CONTRACT, CONTRACT DOCUMENTS OR THE SPRINT INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES AND UPLOAD INTO SITERRA.

PLANS PREPARED FOR:
Sprint
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
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:



CHECKED BY:

APPROVED BY:

REVISIONS:

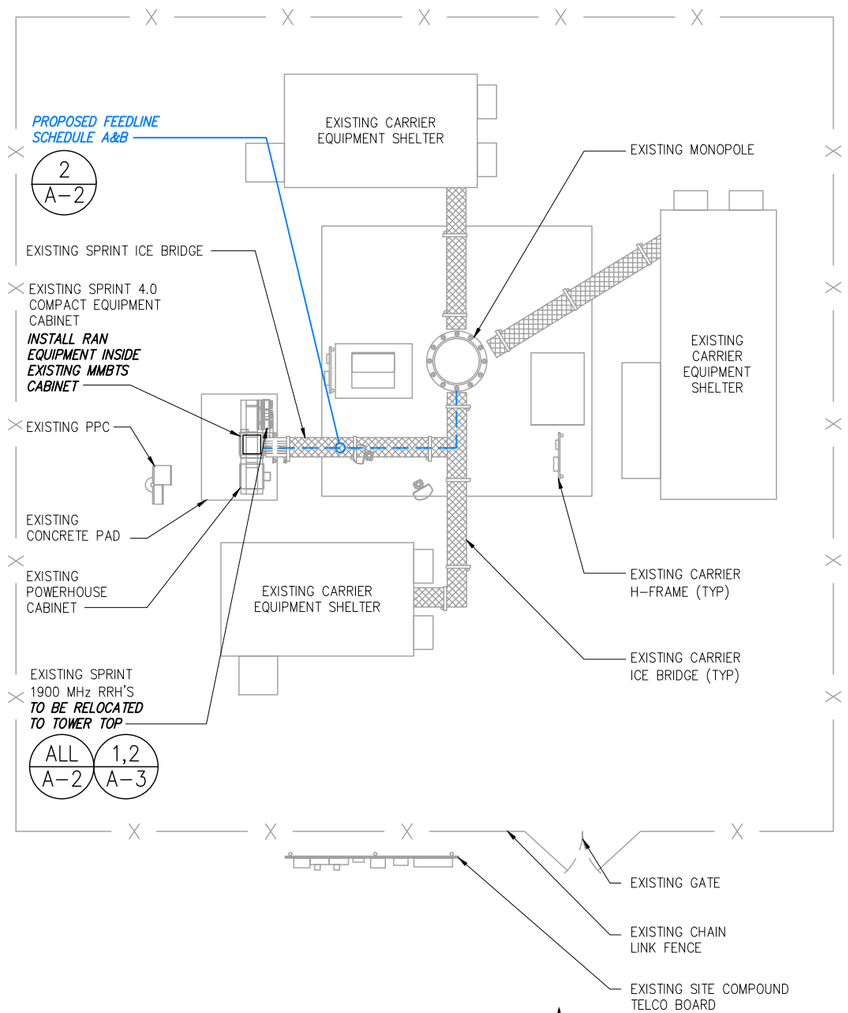
DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/10/18	RCD	0

SITE NUMBER:
CT23XC406

SITE ADDRESS:
56 ROPER ROAD
PLAINFIELD, CT 06354

SHEET DESCRIPTION:
OUTLINE SPECIFICATIONS

SHEET NUMBER:
SP-3



GRAPHIC SCALE:

N 1/8' 1/4" 0 1/4" 1/8'

SCALE (11x17): 1/8" = 1'-0"
SCALE (22x34): 1/4" = 0'-6"

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

OVERALL SITE PLAN | SCALE: AS NOTED | 1

SOURCE: WESTCHESTER SERVICES 11/15/17

SPRINT EQUIPMENT PHOTO DETAIL | SCALE: AS NOTED | 2

PLANS PREPARED FOR:
Sprint
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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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
4-10-18
LICENSED
PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/10/18	RCD	0

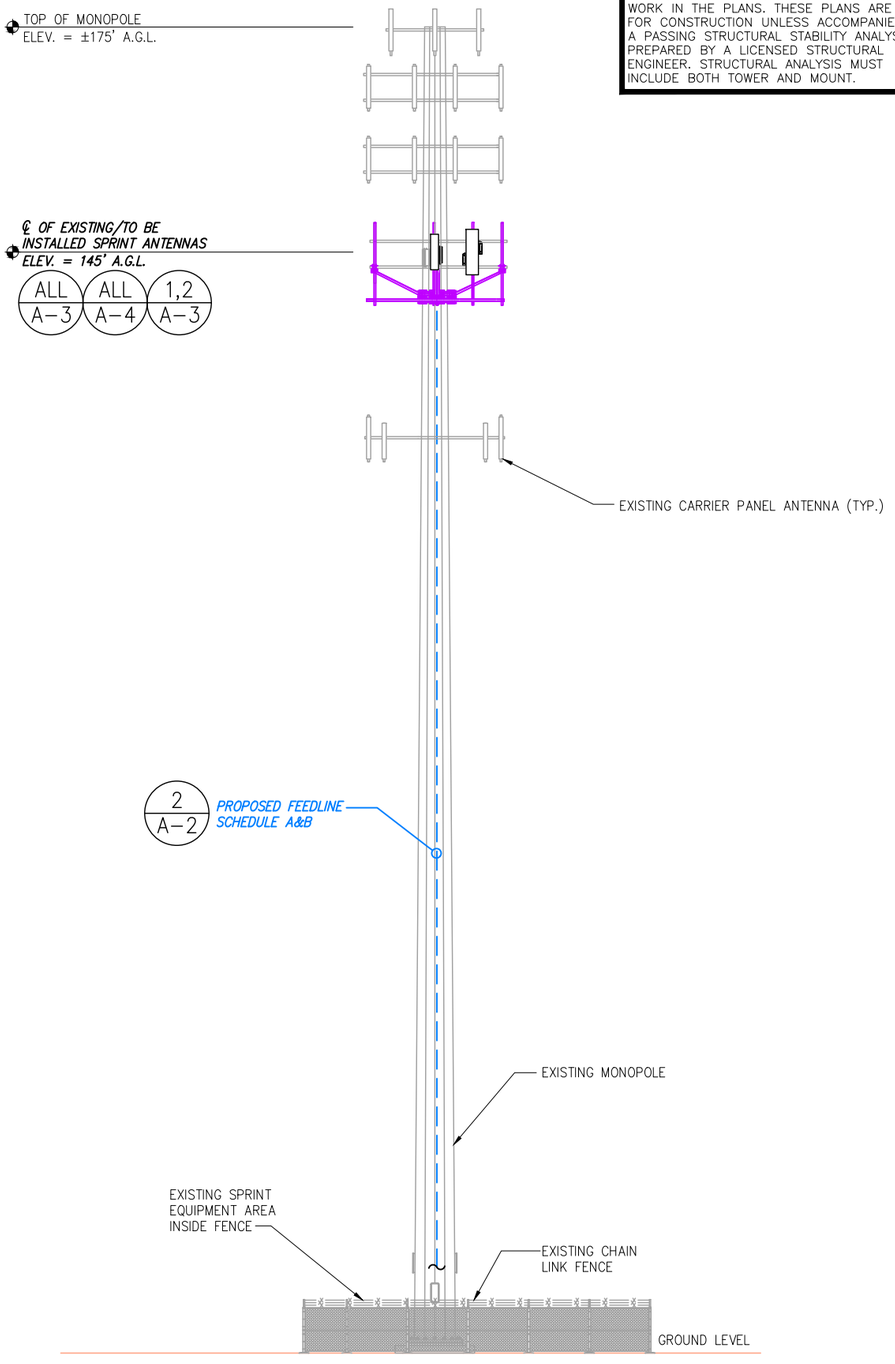
SITE NUMBER:
CT23XC406

SITE ADDRESS:
56 ROPER ROAD
PLAINFIELD, CT 06354

SHEET DESCRIPTION:
SITE PLAN

SHEET NUMBER:
A-1

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 (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 11/15/17

FEEDLINE SCHEDULE	FEEDLINE DESCRIPTION	LOCATION
A	EXISTING TO BE REMOVED: (6) 1 5/8" COAX	UP INSIDE MONOPOLE TO RAD
B	PROPOSED: (4) HYBRID TO 145' 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.

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

TOWER ELEVATION PHOTO DETAIL | NO SCALE | 2

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

PROJECT MANAGER:
SBA
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JOB NUMBER 526-104

ENGINEERING LICENSE:
STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
4-10-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/10/18	RCD	0

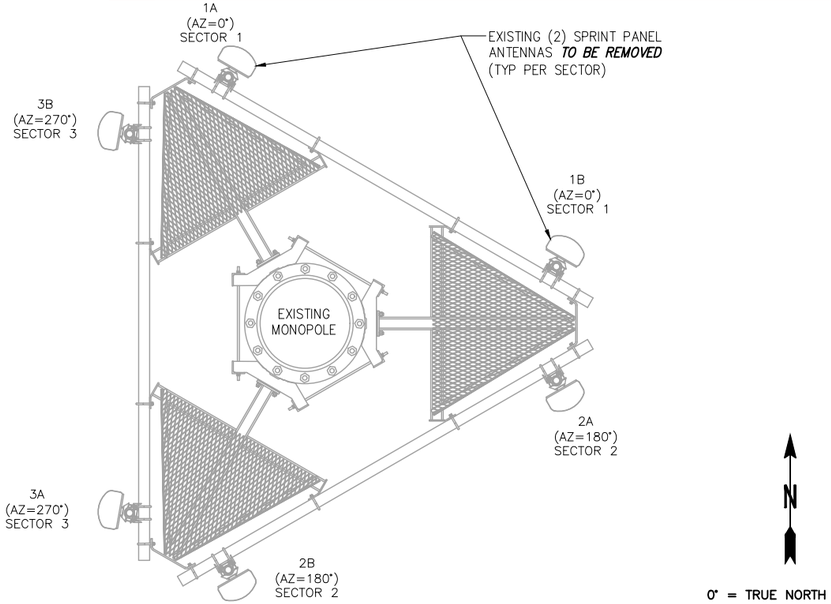
SITE NUMBER:
CT23XC406

SITE ADDRESS:
56 ROPER ROAD
PLAINFIELD, CT 06354

SHEET DESCRIPTION:
TOWER ELEVATION

SHEET NUMBER:
A-2

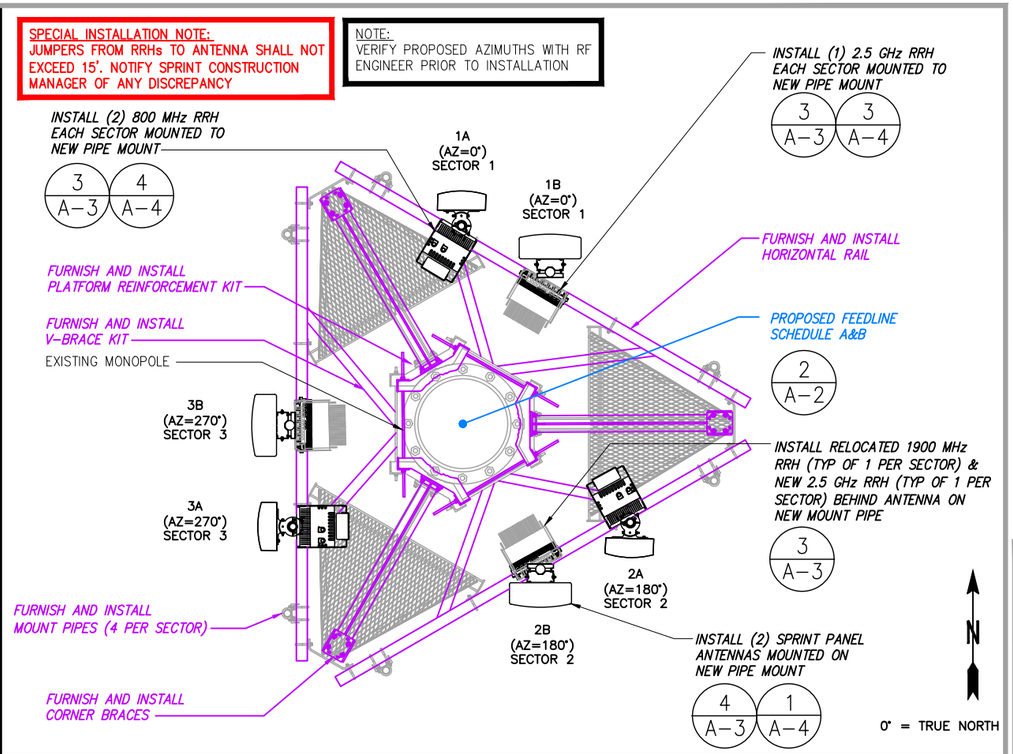
SPECIAL CONSTRUCTION NOTE:
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS AND STRUCTURAL MODIFICATIONS AT THE SPRINT'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS). SCHEMATIC DESIGNS DEPICTED IN MAGENTA ARE PRELIMINARY ONLY AND ARE NOT FOR FINAL CONSTRUCTION.



EXISTING ANTENNA & RRH LAYOUT | NO SCALE | 1

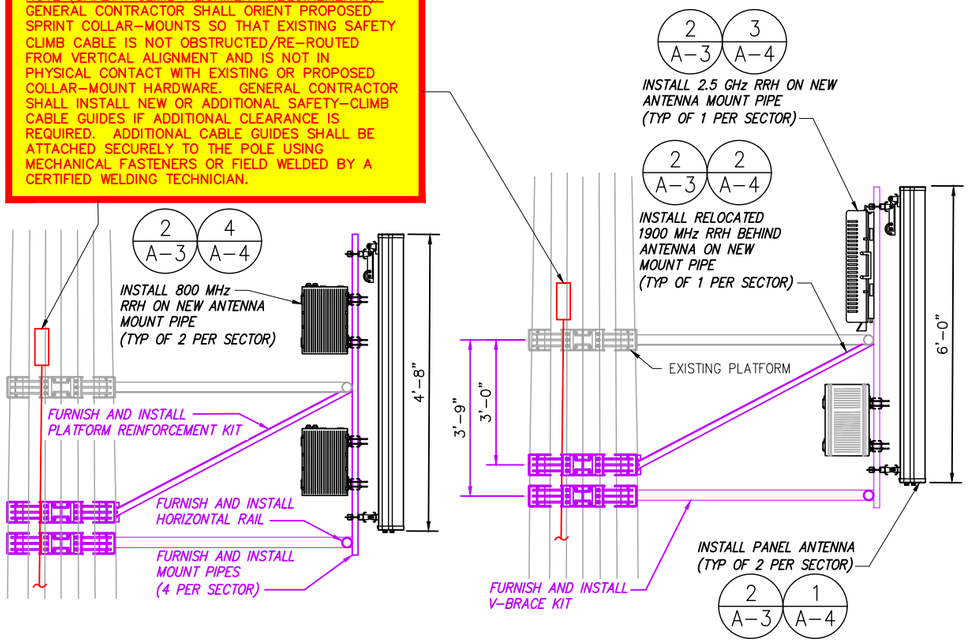
SPECIAL INSTALLATION NOTE:
JUMPERS FROM RRHs TO ANTENNA SHALL NOT EXCEED 15'. NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY DISCREPANCY

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION

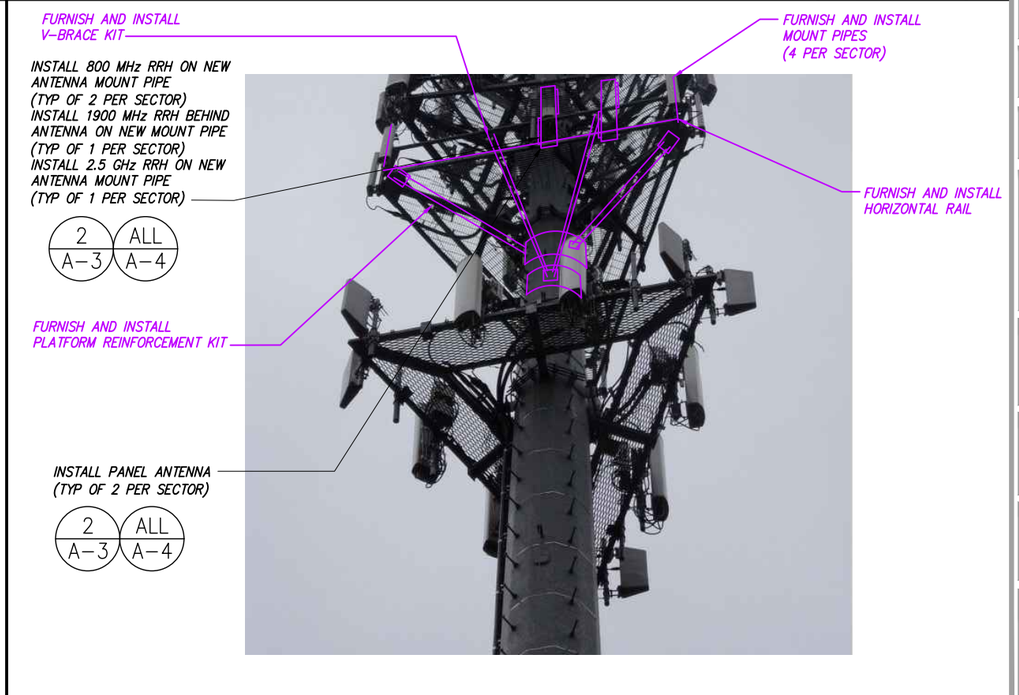


FINAL ANTENNA LAYOUT | NO SCALE | 2

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 ANTENNA & RRH MOUNTING DETAILS | NO SCALE | 3



ANTENNA & RRH MOUNT PHOTO DETAIL | NO SCALE | 4

PLANS PREPARED FOR:
Sprint
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

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www.infinigy.com
JOB NUMBER 526-104

ENGINEERING LICENSE:
STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
4-10-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

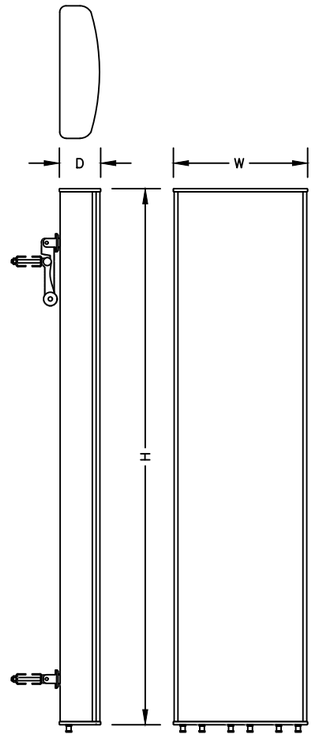
DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/10/18	RCD	0

SITE NUMBER:
CT23XC406

SITE ADDRESS:
56 ROPER ROAD
PLAINFIELD, CT 06354

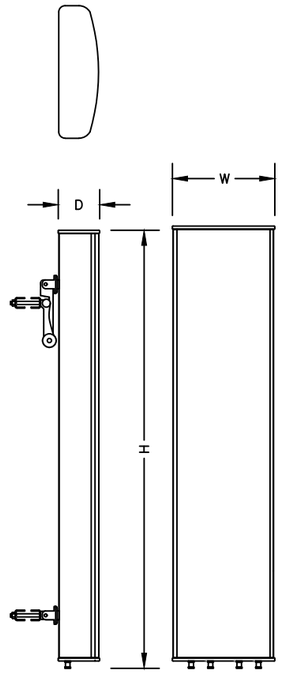
SHEET DESCRIPTION:
ANTENNA LAYOUT
& MOUNTING DETAILS

SHEET NUMBER:
A-3



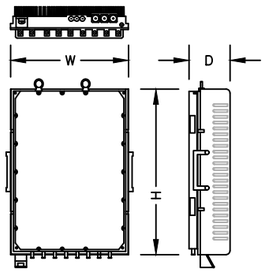
ANTENNA SPECIFICATIONS	
MANUF.	COMMSCOPE
MODEL #	NNVV-65B-R4
HEIGHT	72"
WIDTH	19.6"
DEPTH	7.8"
WEIGHT	84.7± LBS.

ANTENNA DETAIL | NO SCALE | 1



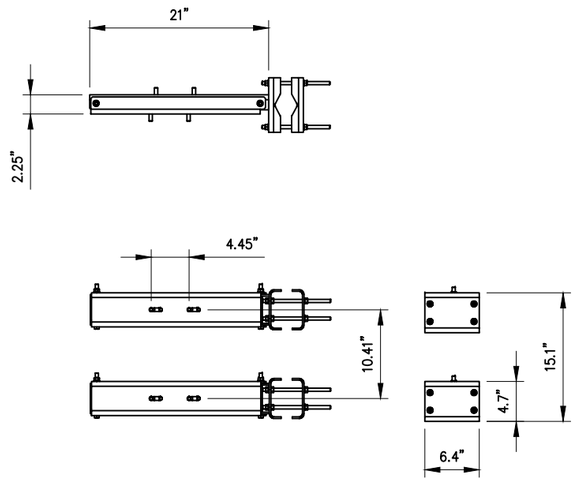
ANTENNA SPECIFICATIONS	
MANUF.	RFS
MODEL #	APXVTM14-ALU-I20
HEIGHT	56.3"
WIDTH	12.6"
DEPTH	6.3"
WEIGHT	56.2± LBS.

ANTENNA DETAIL | NO SCALE | 2

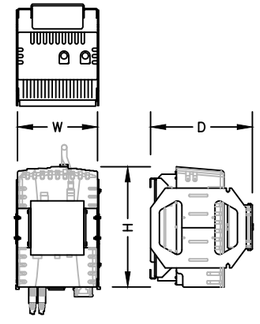


2.5 GHZ RRH SPECIFICATIONS	
MANUF.	NOKIA (ALU)
MODEL #	TD-RRH8X20-25
HEIGHT	26.1"
WIDTH	18.6"
DEPTH	6.7"
WEIGHT	70± LBS

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

PLANS PREPARED FOR:
Sprint
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
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CHRISTOPHER J. WARREN
No. 23544
4-10-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/10/18	RCD	0

SITE NUMBER:
CT23XC406

SITE ADDRESS:
56 ROPER ROAD
PLAINFIELD, CT 06354

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

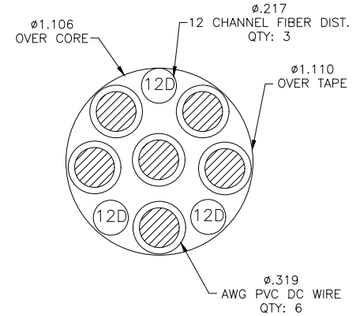
RFS HYBRIFLEX JUMPER CABLE SCHEDULE

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

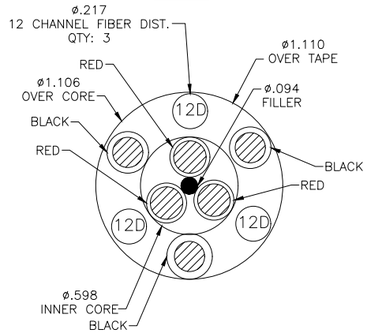
NOTE:
SPRINT CM TO CONFIRM HYBRID OR FIBER RISER CABLE AND HYBRID OR FIBER JUMPER CABLE MODEL NUMBERS IF HYBRID CABLES ARE REQUIRED BEFORE PREPARING BOM.

* 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.

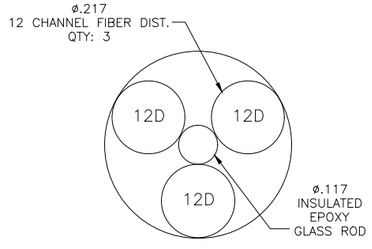
* SPRINT CM TO CONFIRM HYBRID RISER CABLE AND HYBRID JUMPER CABLE MODEL NUMBERS BEFORE PREPARING BOM.



4 AWG



8 & 6 AWG



FIBER ONLY

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

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

PROJECT MANAGER:
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SBA COMMUNICATIONS CORP.
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LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

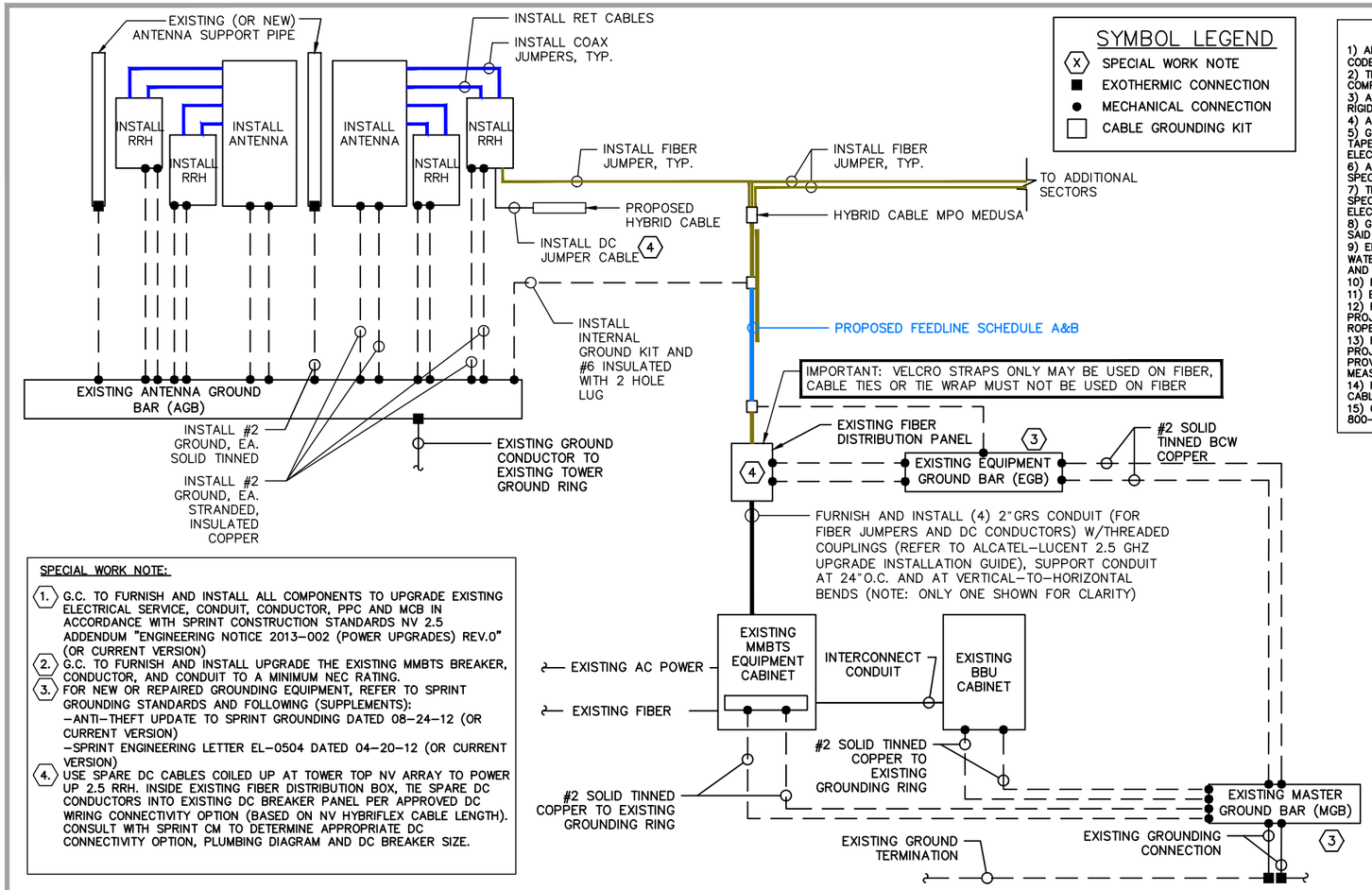
DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/10/18	RCD	0

SITE NUMBER:
CT23XC406

SITE ADDRESS:
56 ROPER ROAD
PLAINFIELD, CT 06354

SHEET DESCRIPTION:
DETAILS

SHEET NUMBER:
A-5



TYPICAL POWER AND GROUNDING ONE LINE DIAGRAMS

1 / E-1

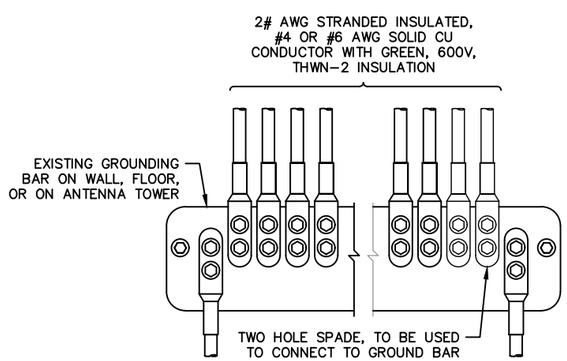
SCALE: N.T.S.

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.

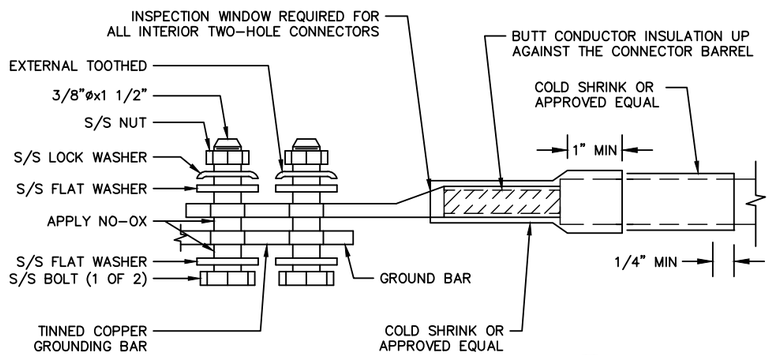


1. APPLY NO-OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.

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) RUN 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):
    -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)

PLANS PREPARED FOR:
Sprint
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:

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/10/18	RCD	0

SITE NUMBER:
CT23XC406

SITE ADDRESS:
56 ROPER ROAD
PLAINFIELD, CT 06354

SHEET DESCRIPTION:
ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER:
E-1

SprintVision

RF Design Sheet

Site Identification	
Cascade	CT23XC406
SMS Schedule ID	12323158
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 11:01:36.0
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	41.74611
Longitude	-71.88083
Market	Northern Connecticut
Region	Northeast
City	Plainfield
State	CT
Zip Code	CT/06354
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	180	270	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)	144.9803196	144.9803196	144.9803196	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	180	270	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)	144.9803196	144.9803196	144.9803196	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

10/09/2017: RFDS revised to modify RRU location to "GM to Standard".

PLANS PREPARED FOR:
Sprint
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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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
4-10-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/10/18	RCD	0

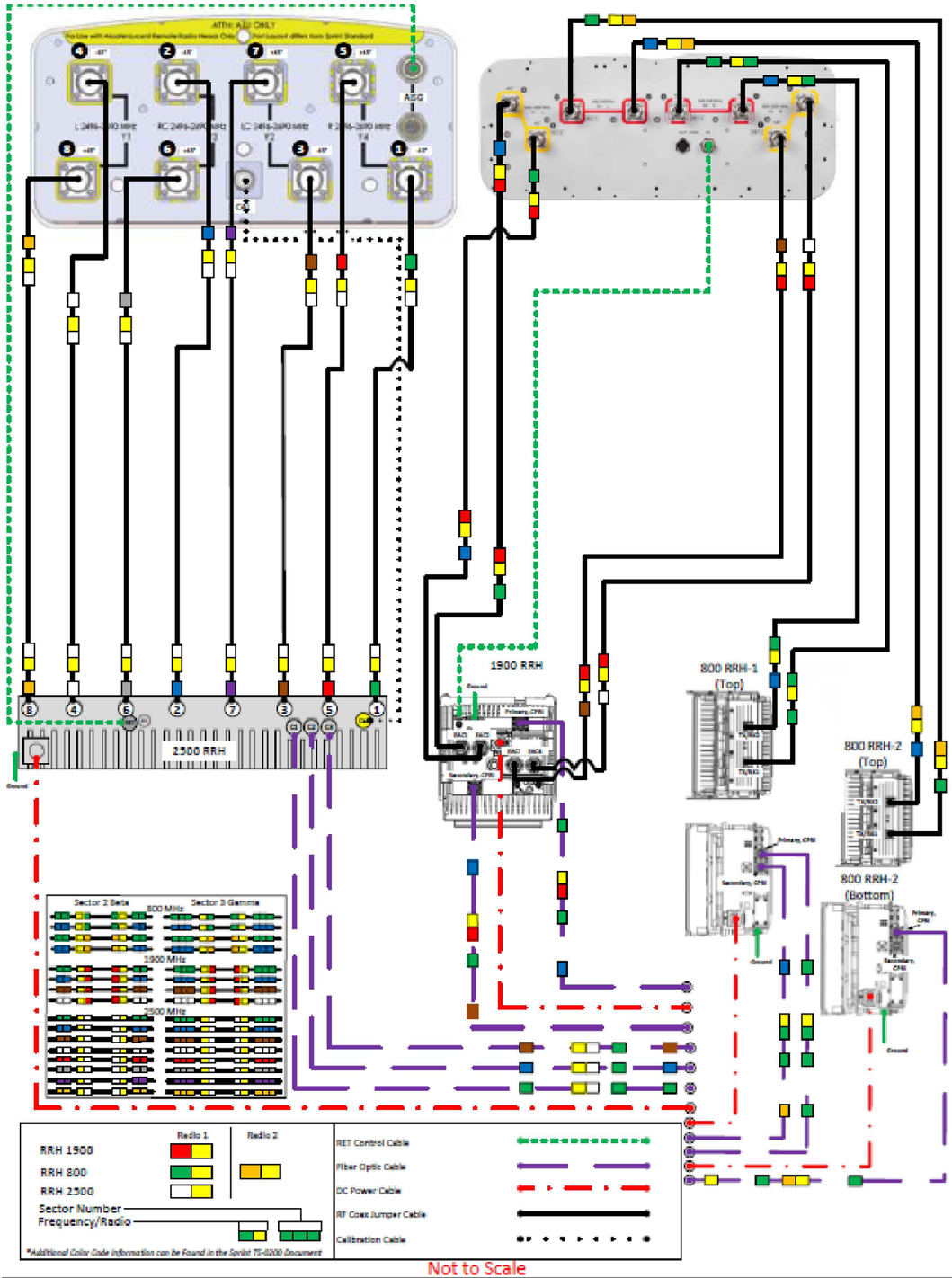
SITE NUMBER:
CT23XC406

SITE ADDRESS:
56 ROPER ROAD
PLAINFIELD, CT 06354

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
Mark Elliott	February 13, 2016	R-1
Approved By	Approval Date	
RAN Hardware & Antenna Teams	February 23, 2017	

Nokia-A Tri-Band Fiber Connections
(Nokia-A Two-800, One-1900, & One-2500 RRH)

Sprint

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

Existing Cable(s)

NV Cable 1 – Provides power and fiber for the first 800 and 1900 RRHs of Sector 1
NV Cable 2 – Provides power and fiber for the first 800 and 1900 RRHs of Sector 2
NV Cable 3 – Provides power and fiber for the first 800 and 1900 RRHs of Sector 3

New Cable(s)

Auxiliary Cable 1 – Provides power and fiber for all 2500 RRHs (All Three Sectors)
Auxiliary Cable 2 – Provides power and fiber for all of the Second 800 RRHs (All Three Sectors)

Sector Number
Frequency/Radio
Fiber Cable Number
Fiber Pair Cable Number

Sector 1/NV Cable 1800 RRH-2/Primary CPRI
Sector 1/NV Cable 1/1900 RRH-1/CPRI-1
Sector 1/NV Cable 1/1900 RRH-1/CPRI-2
Sector 1/Auxiliary Cable 2/800 RRH-2/Primary CPRI
Sector 1/NV Cable 1/800 RRH-1/Secondary CPRI
Sector 2/NV Cable 2/800 RRH-1/Primary CPRI
Sector 2/NV Cable 2/1900 RRH-1/CPRI-1
Sector 2/NV Cable 2/1900 RRH-1/CPRI-2
Sector 2/Auxiliary Cable 2/800 RRH-2/Primary CPRI
Sector 2/NV Cable 2/800 RRH-1/Secondary CPRI

Upper Block

Sector 2/Auxiliary Cable 1/2500 RRH-1/CPRI-1
Sector 1/Auxiliary Cable 1/2500 RRH-1/CPRI-1
Sector 3/Auxiliary Cable 1/2500 RRH-1/CPRI-1
Sector 1/Auxiliary Cable 1/2500 RRH-1/CPRI-2
Sector 3/Auxiliary Cable 1/2500 RRH-1/CPRI-3
Sector 2/Auxiliary Cable 1/2500 RRH-1/CPRI-2
Sector 2/Auxiliary Cable 1/2500 RRH-1/CPRI-3
Sector 3/Auxiliary Cable 1/2500 RRH-1/CPRI-2
Sector 3/Auxiliary Cable 1/2500 RRH-1/CPRI-3

Lower Block

Sector 3/NV Cable 1800 RRH-1/Secondary CPRI
Sector 3/Auxiliary Cable 2/800 RRH-2/Primary CPRI
Sector 3/NV Cable 3/1900 RRH-1/CPRI-2
Sector 3/NV Cable 3/1900 RRH-1/CPRI-1
Sector 3/NV Cable 3/800 RRH-1/Primary CPRI

Sector	Cable #	Fiber Ring	Secured Ring	Third Ring
1 Alpha	1	Green	Not Taken	Not Taken
1	2	Amber	Not Taken	Not Taken
1	3	Brown	Not Taken	Not Taken
1	4	White	Not Taken	Not Taken
1	5	Red	Not Taken	Not Taken
1	6	Gray	Not Taken	Not Taken
1	7	Purple	Not Taken	Not Taken
1	8	Orange	Not Taken	Not Taken
2 Beta	1	Green	Green	Not Taken
2	2	Blue	Blue	Not Taken
2	3	Red	Red	Not Taken
2	4	White	White	Not Taken
2	5	Gray	Gray	Not Taken
2	6	Gray	Gray	Not Taken
2	7	Purple	Purple	Not Taken
2	8	Orange	Orange	Not Taken
3 Gamma	1	Green	Green	Green
3	2	Blue	Blue	Blue
3	3	White	White	White
3	4	Red	Red	Red
3	5	Gray	Gray	Gray
3	6	Gray	Gray	Gray
3	7	Purple	Purple	Purple
3	8	Orange	Orange	Orange

Frequency/Radio	Jumper	
800 #1	Yellow	Green
800 #2	Yellow	Orange
1900 #1	Yellow	Blue
1900 #2	Yellow	Brown
1900 #3	Yellow	Gray
2500 #1	Yellow	White
2500 #2	Yellow	Purple

PLUMBING DIAGRAM | NO SCALE | 1

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

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

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STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
4-10-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	04/10/18	RCD	0

SITE NUMBER:
CT23XC406

SITE ADDRESS:
56 ROPER ROAD
PLAINFIELD, CT 06354

SHEET DESCRIPTION:
PLUMBING DIAGRAM

SHEET NUMBER:
RF-2

CT23XC406
DO MACRO EQUIPMENT DEPLOYMENT

MOUNT AUGMENTATION @ 145'

MONOPOLE TOWER

PLAINFIELD, CT
WINDHAM COUNTY

SITE INFORMATION

STRUCTURE TYPE:	MONOPOLE
MOUNT TYPE:	PLATFORM
LATITUDE:	41.746018 (NAD 83)
LONGITUDE:	-71.88014 (NAD 83)
CITY, STATE:	PLAINFIELD, CT
COUNTY:	WINDHAM
SBA SITE:	CT00594-S Plainfield North

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.

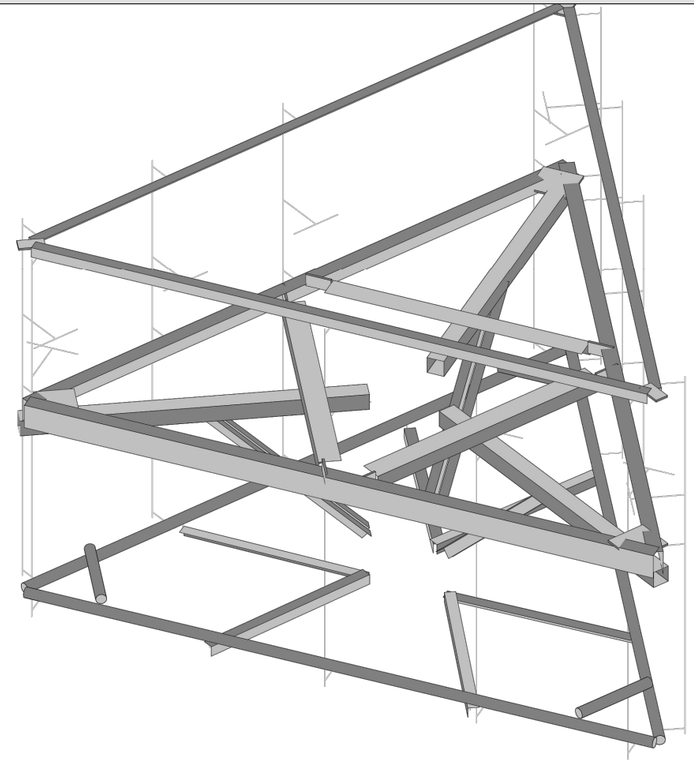
A PROPER RIGGING PLAN SHALL BE PERFORMED BY A LICENSED PROFESSIONAL ENGINEER PRIOR TO PROCEEDING ON ANY AUGMENTATIONS SHOWN HEREIN.

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
P: 508.251.0720

GEOSTRUCTURAL
PO BOX 2621, BOISE, ID 83701
P: 530.539.4787
E: CONTACT@GEOSTRUCTURAL.COM
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REVISIONS:

1	04/15/18	REVISED LOADING	JAD
0	02/19/18	ISSUE FOR CONSTRUCTION	JAD

CHECKED BY: DWG

STATE OF CONNECTICUT
GREGORY DURGIN
No. 32155
LICENSED
PROFESSIONAL ENGINEER

SITE INFORMATION:

MOUNT AUGMENTATION

CT23XC406

PLAINFIELD, CT

LATITUDE: 41.746018
LONGITUDE: -71.88014

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

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

SBA
134 FLANDERS RD., SUITE 125
WESTBOROUGH, MA 01581
P: 508.251.0720

GEOSTRUCTURAL
PO BOX 2621, BOISE, ID 83701
P: 530.539.4787
E: CONTACT@GEOSTRUCTURAL.COM
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STATE OF CONNECTICUT
GREGORY DURGIN
No. 32155
LICENSED
PROFESSIONAL ENGINEER

SITE INFORMATION:

MOUNT AUGMENTATION

CT23XC406

PLAINFIELD, CT

LATITUDE: 41.746018
LONGITUDE: -71.88014

SHEET TITLE:

NOTES AND SPECIFICATIONS

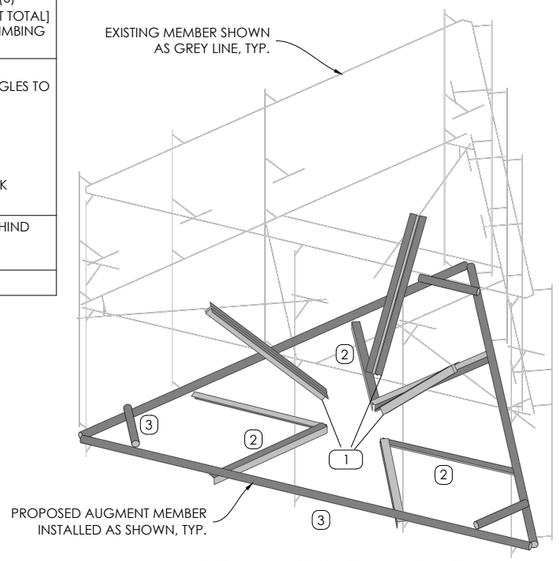
SHEET NUMBER:

S2

PLATFORM @ 145' AUGMENTATION

NEW MOUNT AUGMENTATIONS

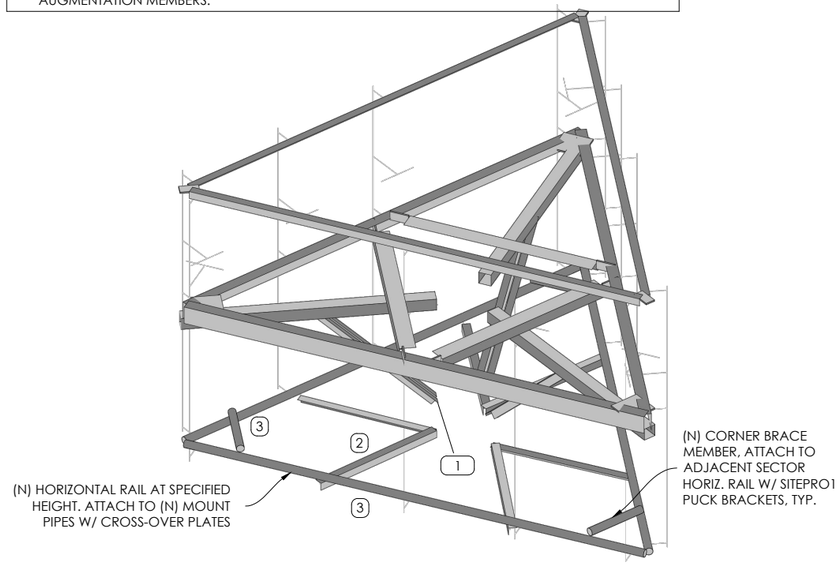
1	PLATFORM REINFORCEMENT KIT SITEPRO1 PART# PRK-1245L. ATTACH PRK COLLAR TO MONOPOLE SHAFT ~3.0' BELOW EXISTING STANDOFF CENTERLINE AND DOUBLE ANGLE KICKER BRACKET TO STANDOFF MEMBER ~3.0' OUT FROM THE STANDOFF-TO-COLLAR INTERFACE AS SHOWN PER MANUF. SPECS. [(1) KIT TOTAL]
2	HANDRAIL COMPONENTS - V-BRACE KIT SITEPRO1 PART# PRK-SFS-H-L. ATTACH COLLAR MOUNT TO MONOPOLE SHAFT ~3.75' BELOW EXISTING STANDOFF CENTERLINE. NOTE: IF THE PRK-SFS-H-L KIT IS NOT AVAILABLE, PROVIDE (6) TOTAL L2½x2½x3/16 x ~8' LONG REPLACEMENT ANGLES, FIELD-CUT AND DRILL TO SUIT. [(1) KIT TOTAL] ROTATE AND ORIENT SFS ANGLES AS GRAPHICALLY DISPLAYED IN ORDER TO MAINTAIN CLIMBING FACILITY PATHWAY THROUGH MOUNT.
3	HANDRAIL COMPONENTS ▪ PIPE2.0STD X 12.5' HORIZ. RAIL (OR MATCH EXISTING), [(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 MOUNT PIPES, [(12) TOTAL] W/ SITEPRO1 SCX **x** -K, [(12) TOTAL] CROSS-OVER PLATES. ATTACH ALL MOUNT PIPES TO EXISTING AND NEW HORIZ. RAILS. ▪ 1/2"Ø OR 5/8"Ø U-BOLTS, (36) TOTAL. ATTACH ALL MOUNT PIPES TO NEW RAIL W/ SCX1-K PLATES, TO EXISTING BOTTOM RAIL W/ (2) U-BOLTS, TO TOP RAIL WITH (1) U-BOLT.
4	· PANEL ANTENNAS TO BE INSTALLED IN POSITIONS 2 AND 3. RRH UNITS TO BE INSTALLED BEHIND PANEL ANTENNAS ON DUAL SWIVEL BRACKETS. · LOWER THE PANEL ANTENNA INSTALLATION CENTERLINE APPROXIMATELY 2.0'.
AUGMENTATIONS SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF ANY NEW EQUIPMENT.	



MOUNT AUGMENTATION ISOLATION
SCALE: N.T.S.

CONSTRUCTION NOTES

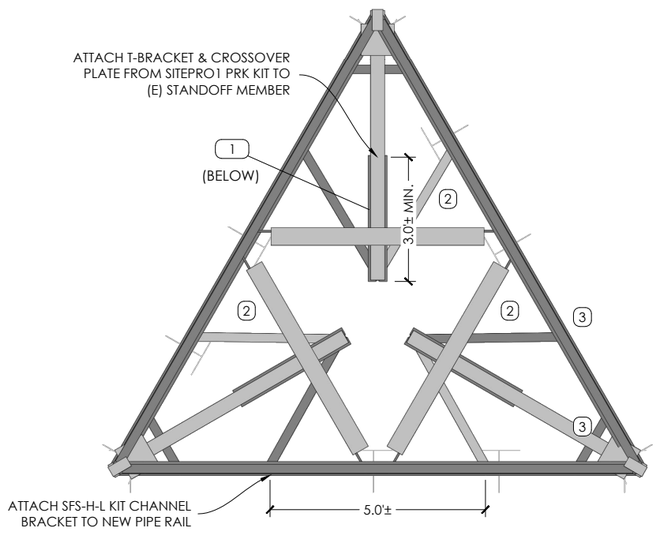
1. SCOPE OF WORK MUST BE COMPLETED AT WIND SPEEDS < 20 MPH.
2. ALL DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHOULD FIELD-VERIFY ALL DIMENSIONS BEFORE FABRICATION OF STEEL AND COMMENCEMENT OF WORK. FIELD CUT MEMBERS AS REQUIRED.
3. CONTRACTOR TO COORDINATE THE TEMPORARY REMOVAL/RELOCATION/REPLACEMENT OF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



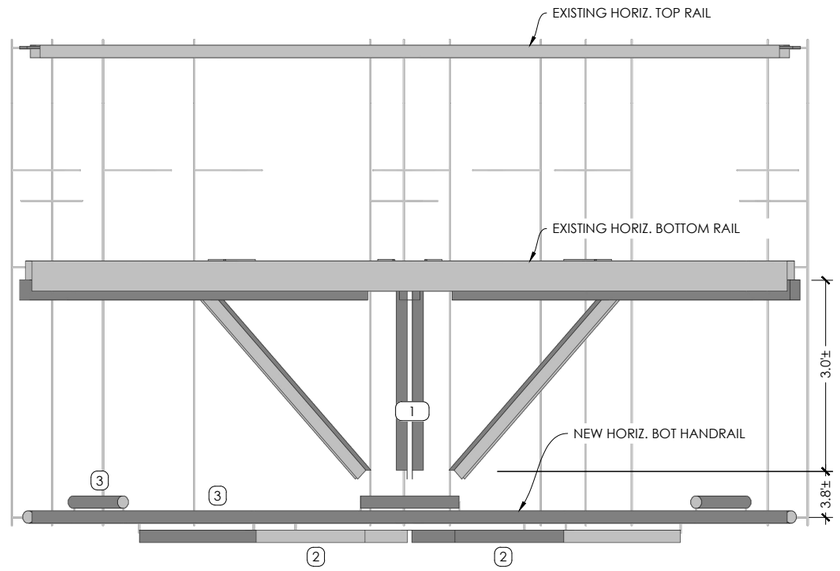
AUGMENTED MOUNT ISOMETRIC
SCALE: N.T.S.

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.

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

SBA
134 FLANDERS RD., SUITE 125
WESTBOROUGH, MA 01581
P: 508.251.0720

GEOSTRUCTURAL
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AUGMENTATIONS, SECTIONS & DETAILS

SHEET NUMBER:

S3