Filed by:
G. Scott Shepherd, Site Development Specialist II - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3807 - gshepherd@sbasite.com

April 2, 2021

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

RE: Notice of Exempt Modification
51 Stony Lane, Stafford Springs, CT. 06076
Latitude: 42.016417
Longitude: -72.309944
Sprint, now a part of T-Mobile USA #: CTHA629A_Sprint Keep

Dear Ms. Bachman:

Sprint, now a part of T-Mobile USA, hereinafter referred to as Sprint/T-Mobile currently maintains three (3) antennas at the 118-foot level of the existing 118-foot Monopole Tower at 51 Stony Lane, Stafford Springs, CT. The 118-foot tower is owned by SBA 201 TC Assets, LLC. The property is owned by Mark S. and Susan A. Cashman. Sprint/T-Mobile now intends to remove three (3) antennas and replace with three (3) new 1900/2100 MHz antennas and install three (3) new 600/700/1900/2100 and three (3) new 2500 MHz antennas for a total of nine (9) antennas.

The new antennas support 5G services and would be installed at the 118-foot level of the tower.

Please note: Per the Connecticut Siting Council Website: CSC COVID 19 Guidelines.
In order to prevent the spread of Coronavirus and protect the health and safety of our members and staff, as of March 18, 2020, the Connecticut Siting Council shall convert to full remote operations until March 30, 2020. Please be advised that during this time period, all hard copy filing requirements will be waived in lieu of an electronic filing. Please also be advised that the March 26, 2020 regular meeting shall be held via teleconference. The Council's website is not equipped with an on-line filing fee receipt service. Therefore, filing fees and/or direct cost charges associated with matters received electronically during the above-mentioned time period will be directly invoiced at a later date.

Planned Modifications:

TOWER

Remove:
- N/A

Remove and Replace:

- (3) KMW ETCR-654L12H6 antennas (remove) – (3) Ericsson AIR32 KRD901146-1_B66A_B2A 1900/2100 MHz antennas (replace)
- (3) ALU 1900 MHz RRH (remove) – (3) Ericsson 4415 B25 RRU (replace)
- (3) ALU TD-RRH8x20-25 RRU (remove) – (3) Ericsson 4449 B71 + B85 RRU (replace)

Install New:

- (3) RFS APXVAALL24_43-U-NA20 600/700/1900/2100 MHz antennas
- (3) Ericsson AIR6449 B41 2500 MHz antennas
- (3) 2" Hybrid

Existing Equipment to Remain:

- (1) Platform w/handrails and V-Brace Kit
- (6) ALU 800 MHz RRH

Entitlements:

- (4) 1-1/4" Fiber
- (12) 1-5/8" coax
- (1) 1-5/8" Hybrid fiber

GROUND

Remove:

- (3) Existing Sprint Cabinet

Remain:

- 10' x 20' concrete pad
- T-Mobile Telco Cabinet
- Ice Bridge

Install New:

- (1) T-Mobile Battery Cabinet
- (1) AAV Cabinet on proposed H-Frame
- (1) T-Mobile 6160 Cabinet
- (4) 2" conduit
- (1) 1" conduit underground

Entitlements:

- N/A

This facility was approved by the Connecticut Siting Council (CSC) on March 21, 2002 for the construction, operation and maintenance of a telecommunications facility by Sprint Spectrum L.P. at 51 Stony Lane, Stafford, CT. As required in the Council's Decision and Order, Sprint submitted a Development and Management (D&M) Plan for this

tower on September 12, 2002. Sprint would construct a 120-foot monopole at this site. Access to the 70-foot by 70-foot site compound would be via a 900-foot long by 12-foot long wide access road extending from the Lessor's driveway. Electrical and telecommunications lines would be installed underground along the access road. Sprint would mount antennas at 120-feet above ground level (AGL) and antenna platforms for future antennas could be installed at 110-feet AGL and 100-feet AGL. At a public meeting held on September 27, 2002 under Docket No. 213. The Council considered and approved with conditions the Development and Management (D&M) Plan submitted for this project on September 12, 2002. The approval applies to the D&M Plan submitted on September 12, 2002 with conditions that landscaping consist of plants resistant to deer forage, a spill prevention and countermeasure plan is submitted prior to the commencement of construction, and the tower foundation specifications be submitted prior to the construction of the tower foundation. On March 21, 2002 a Certificate of Environmental Compatibility and Public Need was issued by the Council and accordance with and subject to the terms and conditions set forth in the Decision and Order of the Council on March 21, 2002. There were no further post construction stipulations set. Please see attached.

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 Stafford Spring's First Selectman, *Mary Mitta*, Building Official, *Glenn T. Setzler*, and Town Clerk, *Karen G. Troiano,* as well as to the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

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

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

For the foregoing reasons, Sprint/T-Mobile 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,

G. Scott Shepherd
Site Development Specialist II
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3807 + T
508.366.2610 + F
508.868.6000 + C
gshepherd@sbasite.com

Attachments

cc: *Mary Mitta, First Selectman / with attachments*
Town of Stafford Springs, Warren Memorial Town Hall, 1 Main St. Stafford Springs, CT 06076
Glenn T. Setzler, Building Official / with attachments
Town of Stafford Springs, Warren Memorial Town Hall, 1 Main St. Stafford Springs, CT 06076
Karen G. Troiano, Town Clerk / with attachments
Town of Stafford Springs, Warren Memorial Town Hall, 1 Main St. Stafford Springs, CT 06076
Mark S. and Susan A. Cashman / with attachments
51 Stony Lane, Stafford Springs, CT 06076

EXHIBIT LIST

Exhibit 1	Check Copy	To be invoiced at a later date per Covid guidelines.
Exhibit 2	Notification Receipts	x
Exhibit 3	Property Card	x
Exhibit 4	Property Map	x
Exhibit 5	Original Zoning Approval	CSC Docket No. 213 (9/27/02)
Exhibit 6	Construction Drawings	Centerline 3/17/21
Exhibit 7	Structural Analysis	TES 3/25/21
Exhibit 8	Mount Analysis	TES 3/24/21
Exhibit 10	EME Report	EBI Consulting 2/22/21

EXHIBIT 1

Normally, Exhibit 1 would contain a copy of the check for the filing fee.

EXHIBIT 2

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

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EXHIBIT 3

51 STONY LA

Location	51 STONY LA	**Mblu**	14/ / 43/ /
Acct#	00047200	**Owner**	CASHMAN SUSAN A REV LIVING TRST
Assessment	$308,540	**Appraisal**	$600,400
PID	522	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$381,300	$219,100	$600,400

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$266,910	$41,630	$308,540

Owner of Record

Owner	CASHMAN SUSAN A REV LIVING TRST	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	51 STONY LA STAFFORD SPRINGS, CT 06076	**Book & Page**	645/ 687
		Sale Date	10/27/2016
		Instrument	01

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
CASHMAN SUSAN A REV LIVING TRST	$0		645/ 687	01	10/27/2016
CASHMAN MARK S+SUSAN A	$579,000		597/ 446	28	12/10/2012
RUSSO ROBERT P+PATRICIA LASINI	$66,275	1	376/ 531	0J	10/19/1999

Building Information

Building 1 : Section 1

Year Built:	2000
Living Area:	2,594
Replacement Cost:	$283,543

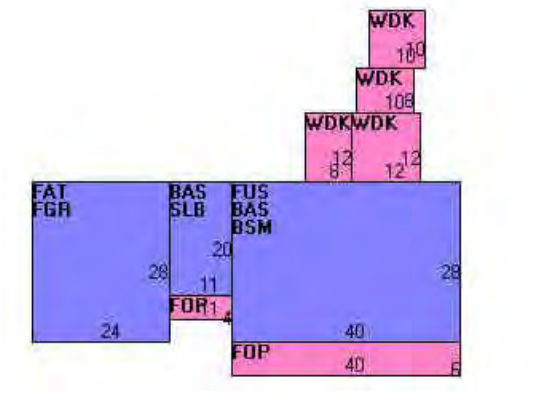
Building Percent Good: 89
Replacement Cost
Less Depreciation: $252,400

Building Attributes	
Field	**Description**
Style	Colonial
Model	Residential
Grade:	B-
Stories	2
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Asphalt
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Carpet
Heat Fuel	Oil
Heat Type:	Forced Hot Air
AC Type:	Central
Total Bedrooms:	4
Full Bthrms:	2
Half Baths:	1
Extra Fixtures	1
Total Rooms:	7
Bath Style:	Average
Kitchen Style:	Average
Num Kitchens	1
Fireplaces	1
Extra Openings	
Prefab Fpl(s)	
Attic Type	None
Bsmt Type	Full
Bsmt Garage(s)	0
Fin Bsmnt	168
Fn. Bmt. Qual.	BG Av Qual
Unfin Area	0.00
Fndtn Cndtn	
Basement	

Building Photo

(http://images.vgsi.com/photos2/StaffordCTPhotos//\00\01\34\44.jpg)

Building Layout



(http://images.vgsi.com/photos2/StaffordCTPhotos//Sketches/522_522.jpg)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,340	1,340
FUS	Finished Upper Story	1,120	1,120
FAT	1/4 Story Finished	672	134
BSM	Basement	1,120	0
FGR	Garage	672	0
FOP	Open Porch	284	0
SLB	Slab	220	0
WDK	Deck	420	0
		5,848	2,594

Extra Features

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	101
Description	Res Dwelling
Zone	
Neighborhood	220
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	51.49
Frontage	
Depth	
Assessed Value	$41,630
Appraised Value	$219,100

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHD1	Shed	FR	Frame	64.00 S.F.	$500	1
SHD1	Shed	FR	Frame	1000.00 S.F.	$8,400	1
BRN1	1 Story Barn			10000.00 S.F.	$120,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$358,100	$239,500	$597,600
2018	$355,600	$239,500	$595,100
2017	$355,600	$239,500	$595,100

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$250,670	$42,070	$292,740
2018	$248,920	$42,070	$290,990
2017	$248,920	$42,070	$290,990

EXHIBIT 4

Google Maps 51 Stony Ln

Imagery ©2021 MassGIS, Commonwealth of Massachusetts EOEA, Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency, Map data ©2021 100 ft

EXHIBIT 5

BROWN
RUDNICK
BERLACK
ISRAELS LLP

THOMAS J. REGAN
Direct Dial Telephone: (860) 509-6522
E-MAIL: tregan@brbilaw.com

Via FedEx

March 28, 2002

Ms. Tina Lopez
Sprint PCS
Crossroads Corporate Center
1 International Boulevard, Suite
Mahwah, NJ 07495

RE: Sprint/23 & 51 Stony Lane, Stafford, Connecticut (CT33XC732 & CT33XC732-A)

Dear Tina:

I enclose herewith a letter from the Connecticut Siting Council dated March 26, 2002, with the following attachments (all dated March 21, 2002):

1. Certificate of Environmental Compatibility and Public Need Docket No. 213 {Stony Lane, Stafford) approving the alternate site of 51 Stony Lane;

2. Findings of Fact;

3. Opinion; and

4. Decision and Order

There is a forty-five (45) day appeal period which commences on the date of the Decision (March 21, 2002). Therefore, the appeal period expires on May 5, 2002.

Please note in the Decision and Order the requirements for the approval, in particular, #1 tower height (not to exceed 120 feet above ground level), #2 (Development and Management Plan). The Development and Management Plan should be started during the appeal period as it must be submitted to and approved by the Siting Council prior to the commencement of construction.

CityPlace I
Hartford, Connecticut 06103
860.509.6500
fax 860.509.6501
www.brownrudnick.com

Boston | Dublin | London | New York | Providence

Please call me after you have had a chance to review the enclosed.

Very truly yours,

BROWN RUDNICK BERLACK ISRAELS LLP.

By: _____
Thomas J. Regan

TJR/bh
Enclosures

#40154487 v\1 - regantj - wn#f01!.doc - 1/5825

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@po.state.ct.us
Web Site: www.state.ct.us/csc/index.htm

March 26, 2002

Thomas J. Regan, Esquire
Brown, Rudnick, Freed & Gesmer, P.C.
CityPlace 1, 38th Floor
185 Asylum Street
Hartford, CT 06103-3402

RE: **DOCKET NO. 213** - Sprint Spectrum, L.P. d/b/a Sprint PCS application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a wireless telecommunications facility at 23 Stony Lane, or 51 Stony Lane, Stafford, Connecticut.

Dear Attorney Regan:

By its Decision and Order dated March 21, 2002, the Connecticut Siting Council (Council) approved a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of a wireless telecommunications facility located at 51 Stony Lane, Stafford, Connecticut.

Enclosed are the Council's Certificate, Findings of Fact, Opinion, and Decision and Order.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/FOC/grg

Enclosures (4)

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@po.state.ct.us
Web Site: www.state.ct.us/csc/index.htm

CERTIFICATE

OF

ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED

DOCKET NO. 213

Pursuant to General Statutes § 16-50k, as amended, the Connecticut Siting Council hereby issues a Certificate of Environmental Compatibility and Public Need to Sprint Spectrum, L.P. d/b/a Sprint PCS application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a wireless telecommunications facility at 51 Stony Lane, Stafford, Connecticut. This Certificate is issued in accordance with and subject to the terms and conditions set forth in the Decision and Order of the Council on March 21, 2002.

By order of the Council,

Mortimer A. Gelston

Mortimer A. Gelston, Chairman

March 21, 2002

DOCKET NO. 213 - Sprint Spectrum, L.P. d/b/a Sprint PCS application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a cellular telecommunications facility at 23 Stony Lane, or 51 Stony Lane, Stafford, Connecticut.	}	Connecticut Siting Council March 21, 2002

Findings of Fact

Introduction

1. Sprint Spectrum L.P., d/b/a Sprint PCS (Sprint) in accordance with provisions of General Statutes §§ 16-50g through 16-50aa applied to the Connecticut Siting Council (Council) on September 28, 2001, for the construction, operation, and maintenance of a wireless telecommunications facility in Stafford, Connecticut. (Sprint 1, p. 1)

2. Sprint is a wholly-owned subsidiary of WirelessCo L.P. licensed by the Federal Communications Commission (FCC) to provide wireless personal communication service (PCS). Sprint operates in 32 major trading areas within the United States including Connecticut. (Sprint 1, pp. 1-2)

3. The parties in this proceeding are the applicant and the Town of Stafford. The intervenor in this proceeding is Citizens for Neighborhood Preservation. (Transcript 1 3:00 p.m. (Tr. 1), pp. 5, 6, and 24)

4. Pursuant to General Statutes § 16-50m, the Council, after giving due notice thereof, held a public hearing on December 12, 2001, beginning at 2:00 p.m. and continuing at 7:00 p.m. in the Veterans Room of the Warren Memorial Town Hall, 1 Main Street, Stafford Springs, Connecticut. (Tr. 1, p. 3)

5. The Council and its staff made inspections of the proposed prime and alternate sites on December 12, 2001. During the field inspection, the applicant flew a balloon at the proposed prime and alternate site to simulate the heights of the towers proposed at these locations. The balloon flown at the proposed alternate site was located over a hundred feet southwest beyond the actual proposed tower location. The site plans based on an A-2 survey, provided in the application, identify the site locations. (Sprint 1 Tabs 7 and 8; Tr. 2, p. 82-87)

6. Pursuant to CGS § 16-50l(e), Sprint provided technical materials to John Julian, First Selectman and Wendell Avery, Zoning Enforcement Officer for the Town of Stafford via a letter dated June 29, 2001. On July 23, 2001 Sprint met with Mr. Avery to discuss plans and proposed locations for telecommunications facilities in the Town of Stafford. The Town held a public informational meeting on August 14, 2001. Town of Stafford Planning and Zoning Commission's letter to the Council dated August 17, 2001, recommends 51 Stony Lane location because the tower would be less visible from this site. The Planning and Zoning Commission requests the Council consider that utilities are placed underground and in the event the tower is not used for a period of three months said tower should be removed at the owner's expense. (Sprint 1, pp. 21-22, Tabs 14 and 15; Tr. 1, pp. 21-22)

PCS Service Design

7. Sprint operates a digital personal communications service network using a 1900-megahertz (MHz) frequency signal allocated by the FCC. This high frequency signal is twice that of traditional cellular service in the 800 MHz range and degrades quickly in areas of hilly terrain and dense foliage. This

system design provides for frequency reuse and handoff between other cell sites and is capable of orderly expansion. (Sprint 1, p. 10, Tab 14; Sprint 6, Q. 7)

8. Adjacent Sprint facilities that would hand off traffic with the proposed facility are as follows:

Location	Distance and Direction from proposed facility	Status
290 South Road, Stafford Springs	2.75 mi./southwest	Operating
Furnace Avenue, Stafford Springs	3.00 mi./south	Operating
Stafford Street, Stafford Springs	3.00 mi./southeast	Proposed facility in Council Docket No. 212
South Wales, Massachusetts	4.00 mi./northeast	Approved via court settlement, expected construction to start February 2002.
Monson, Massachusetts	4.00 mi./north	Sprint has executed a lease and would be seeking zoning approval in December 2001.

(Sprint 1, Tab 9 and Tab 13; Sprint 3, Q. 11)

9. Modifying equipment or adjusting antenna height at adjacent sites would not provide the necessary coverage to Route 32 in north Stafford and surrounding areas. Furthermore, use of alternative technologies like microcells or repeaters would be useful for filling coverage in small areas or providing service in buildings. Sprint identified the minimum signal level threshold for an area in Stafford to be -94 dbm. Presently, a 1.5 mile gap in coverage exists along Route 32. (Sprint 1, p. 22, Tab 5 and Tab 9; Sprint 3, Q. 8; Sprint 4, Anthony Wells Testimony)

Site Search

10. The search area is an approximate 0.5-mile by 0.2-mile polygon with the center located approximately 475 feet east of the intersection of Route 32 and Monson Road. No structures are located within or near this search area. (Sprint 1, Tab 16; Sprint 4, Timothy Keator Testimony)

11. Sprint identified and investigated 10 potential sites, including the prime and alternate. A Town owned cemetery is located over 1 mile east from the center of the search ring. Except for the proposed prime and alternate sites the remaining sites were rejected due to topography, located to far away to provide adequate coverage, low elevation, and/or the landowners reluctance to sell or lease property. (Sprint 1, p. 24 and Tab 17; Sprint 3, Q. 9; Sprint 4, Timothy Keator Testimony; Sprint 8)

Need and Coverage

12. In 1996, the United States Congress recognized a nationwide need for high quality wireless telecommunications services, including cellular telephone service. The Federal Telecommunications Act of 1996 seeks to promote competition, encourage technical innovations, and foster lower prices for telecommunications services. Furthermore, the Federal government has preempted the determination of public need for wireless service by the states, and has established design standards to ensure technical integrity and nationwide compatibility among all systems. (Telecommunications Act of 1996, Definition of Act, Sections 256, and 704)

CT54XC732

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@po.state.ct.us
Web Site: www.state.ct.us/csc/index.htm

September 27, 2002

Thomas J. Regan, Esq.
Brown Rudnick Berlack Israels LLP
185 Asylum Street, CityPlace I
Hartford, CT 06103-3402

RE: **DOCKET NO. 213** - Sprint Spectrum, L.P. d/b/a Sprint PCS Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a cellular telecommunications facility at 51 Stony Lane, Stafford, Connecticut.

Dear Attorney Regan:

At a public meeting of the Connecticut Siting Council held on September 25, 2002, the Connecticut Siting Council (Council) considered and approved with conditions the Development and Management (D&M) Plan submitted for this project on September 12, 2002.

This approval applies only to the D&M Plan submitted on September 12, 2002 with conditions that landscaping consist of plants resistant to deer forage, a spill prevention and countermeasure plan is submitted prior to the commencement of construction, and the tower foundation specifications be submitted prior to the construction of the tower foundation. Any changes to the D&M Plan require advance Council notification and approval.

Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Enclosed is a copy of the staff report on this D&M Plan, dated September 25, 2002.

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/FOC/laf

Enclosure: Staff Report, dated September 25, 2002

c: Parties and Intervenors

L:\siting\docket\213\d&m\dltr.mdc9253.doc

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@po.state.ct.us
Web Site: www.state.ct.us/csc/index.htm

Docket No. 213
Sprint Spectrum L.P
Stafford, CT
Development and Management Plan

On March 21, 2002, the Connecticut Siting Council approved the construction, operation, and maintenance of a telecommunications facility by Sprint Spectrum L.P. d/b/a Sprint PCS at 51 Stony Lane Stafford, Connecticut. As required in the Council's Decision and Order, Sprint submitted a Development and Management (D&M) Plan for this tower on September 12, 2002.

Sprint would construct a 120-foot monopole at this site. Access to the 70-foot by 70-foot site compound would be via a 900-foot long by 12-foot wide access road extending from the lessor's driveway. . The proposed access road would cross one inland wetland and be in proximity to two other inland wetlands and one intermittent watercourse all located east of the access road and lessor's residence. Sprint would place fill on approximately 3,100 square feet of inland wetland to provide for appropriate grade of the access road to the proposed site. This inland wetland is characterized as man-made by excavation for sand and gravel exposing a high water table and establishment of wetland vegetation. The inland wetland to be filled does not offer significant wetland functions such as nutrient retention, flood storage capacity and cover or wildlife values or offer any renovation value due to the present activity of grazing by beef cattle being raised by the property owner. Silt fence would be installed down-gradient of all disturbed areas prior to commencement of construction. A grass swale would be constructed on the east side of the access road along the slope to drain runoff from the site into a riprap plunge pool.

Electrical and telecommunication lines will be installed underground along the access road. Landscaping would include the planting of 6-foot arborvitae along the north and east outside perimeter of the six-foot high chain link fence with security wire surrounding the site compound.

Sprint would mount antennas at 120 feet above ground level (AGL) and antenna platforms for future antennas could be installed at 110 feet AGL and 100 feet AGL. A global positioning system (GPS) will be attached at 75 feet AGL. Sprint will place its telecommunications equipment on a 10-foot by 20-foot concrete pad at the base of the tower within the fenced compound.

Sprint has not provided details for the tower foundation or plans to control spills and other discharges as specified in the Council's Decision and Order. Therefore, Council staff recommends approval of the D&M plan with the condition that the tower foundation specifications be provided to the Council prior to constructing the foundation and that a spill prevention and countermeasure plan be filed with the Council prior to commencement of construction.

EXHIBIT 6

PROJECT INFORMATION

TOWER OWNER:	SBA PROPERTIES, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
SBA TOWER ID:	CT46148-A
SBA SITE NAME:	RUSSO PROPERT, SSUSA
T-MOBILE SITE NAME:	CTHA629A
T-MOBILE SITE NUMBER:	CTHA629A
SBA SITE ADDRESS:	51 STONY LANE STAFFORD SPRINGS, CT 06076
LATITUDE:	42.01641000
LONGITUDE:	-72.31000000
TOWER HEIGHT:	118'-0"± AGL
RAD CENTER:	118'-0"± AGL
ZONING JURISDICTION:	STAFFORD SPRINGS
COUNTY:	TOLLAND / STAFFORD COUNTY

DESCRIPTION OF WORK:

TELECOMMUNICATIONS FACILITY UPGRADE (SPRINT RETAIN 1):

MONOPOLE

COMPLIANCE CODES:

1.	BUILDING CODE: IBC 2015 & CONNECTICUT STATE BUILDING CODE 2018
2.	ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
3.	CONCRETE CODE: AMERICAN CONCRETE INSTITUTE (ACI) 318
4.	STEEL CODE: AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), 14TH EDITION
5.	TELECOMMUNICATIONS CODE: EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL

BASED ON INFORMATION PROVIDED BY T-MOBILE, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS AN ELIGIBLE FACILITY UNDER THE TAX RELIEF ACT OF 2012, 47 USC 1455(A), AND IS SUBJECT TO AN EXPEDITED ELIGIBLE FACILITIES REQUEST/REVIEW AND ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW).

PROJECT DIRECTORY

A&E / PROJECT MANAGER:
CENTERLINE COMMUNICATIONS
750 WEST CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE 781.713.4725

APPLICANT:
T-MOBILE NORTHEAST, LLC.
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
PHONE: (508) 286-2700
FAX: (508) 286-2893

SITE NAME: CTHA629A
51 STONY LANE
STAFFORD SPRINGS, CT 06076

SITE NUMBER: CTHA629A
SBA SITE #: CT46148-A
PROJECT: SPRINT RETAIN 1
CONFIGURATION: 67D5A997DB 6160 (GSM ONLY)

VICINITY MAP
NOT TO SCALE

GENERAL NOTES:

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSE OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.

3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE T-MOBILE REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

DRAWING INDEX

NO.	DESCRIPTION	REV.	DATE
T-1	TITLE SHEET	1	03/17/21
GN-1	GENERAL NOTES	1	03/17/21
A-1	COMPOUND & EQUIPMENT PLANS	1	03/17/21
A-2	ANTENNA LAYOUT & ELEVATIONS	1	03/17/21
A-3	DETAILS	1	03/17/21
SN-1	STRUCTURAL NOTES	1	03/17/21
RF-1	RF PLUMBING DIAGRAM	1	03/17/21
G-1	GROUNDING DETAILS	1	03/17/21

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CENTERLINE COMMUNICATIONS
750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS		
1	03/17/21	ISSUED FOR CONSTRUCTION
0	12/10/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION
DESIGNED BY: AG		APPROVED BY: DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 27551
LICENSED PROFESSIONAL ENGINEER

DATE: 03/17/21

811 CBYD.COM Call Before You Dig, Inc.

SITE NAME:	CTHA629A
SITE NUMBER:	CTHA629A
SITE ADDRESS:	51 STONY LANE STAFFORD SPRINGS, CT 06076
PROJECT TYPE:	SPRINT RETAIN 1
SHEET TITLE:	TITLE SHEET
DRAWING #: T-1	REVISION: 1

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – CENTERLINE COMMUNICATIONS
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – T–MOBILE

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR–ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF T–MOBILE SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
BUILDING CODE: IBC 2015 & CONNECTICUT STATE BUILDING CODE 2018
ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
LIGHTING CODE: NFPA 70–2017

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222–G, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE	TYP	TYPICAL
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED		

RF NOTES

1. ACTUAL LENGTHS SHALL BE DETERMINED PER SITE CONDITION BY SUBCONTRACTOR

2. THE DESIGN IS BASED ON RF DATA SHEETS, SIGNED AND APPROVED.

3. RADIO SIGNAL CABLE AND RACEWAY SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70), CHAPTER 8.

4. ALL SPECIFIED MATERIAL FOR EACH LOCATION (E.G. OUT DOORS–OCCUPIED, INDOORS–UNOCCUPIED, PLENUMS, RISER SHAFTS, ETC.) SHALL BE APPROVED, LISTED, OR LABELED AS REQUIRED BY THE NEC.

5. RADIO SIGNAL CABLE SHALL BE SUPPORTED AT MINIMUM OF EVERY THREE (3) FEET EXCEPT INSIDE MONOPOLES OR MONOPOLES WHERE CABLE AND CONNECTOR MANUFACTURERS SUPPORT RECOMMENDATIONS SHALL BE FOLLOWED. MANUFACTURER RECOMMENDATION CABLES SUPPORT ACCESSORIES SHALL BE USED.

6. THE OUTDOOR CABLE SUPPORT SYSTEM SHALL BE PROVIDED WITH AN ICE SHIELD TO SUPPORT AND PROTECT ANTENNA CABLE RUNS.

7. DRIP LOOPS SHALL BE REQUIRED ON ALL OUTSIDE CABLES. CABLES SHALL BE SLOPED AWAY FROM BUILDING OR OUTDOOR BTS CABINETS TO PREVENT WATER FROM ENTERING THROUGH THE COAXIAL CABLE PORT.

8. ALL FEEDER LINE AND JUMPER CONNECTORS SHALL BE 7/16 DIN CABLE CONNECTORS THAT MEET IP68 STANDARDS.

9. 7/16 DIN CONNECTORS REQUIRE NO ADDITIONAL WEATHER PROOFING IN INDOOR APPLICATIONS IF INSTALLED AND TORQUED PROPERLY. IN OUTDOOR APPLICATIONS WEATHER PROOFING IS REQUIRED AND THE FOLLOWING PROCEDURE SHOULD BE FOLLOWED.

10. USING WEATHERPROOFING KIT APPROVED BY CABLE MANUFACTURER AND CONTRACTOR START TAPE APPROXIMATELY 5 INCHES FROM THE CONNECTOR, AND WRAP 2 INCHES TOWARD THE CONNECTOR, THEN REVERSE THE TAPE SO THAT THE STICKY SIDE IS UP. TAPE OVER THE CONNECTOR OR SURGE ARRESTOR UNTIL THREE (3) TO FOUR (4) INCHES BEYOND THE CONNECTOR AND REVERSE AGAIN WITH THE STICKY SIDE DOWN FOR ANOTHER INCH OR TWO. PASS THE BUTYL RUBBER AND FINISH WITH A FINAL LAYER OF TAPE.

11. ANTENNAS SHALL BE PAINTED,WHEN REQUIRED, BY THE LANDLORD OR AUTHORITY OF HAVING JURISDICTION IN ACCORDANCE WITH ANTENNA MANUFACTURERS' SURFACES PREPARATION AND PAINTING REQUIREMENTS.

12. CABLE SHIELDS AND TOWER CONDUITS SHALL BE GROUNDED AT THE TOP OF THE TOWER WITHIN 10 FEET OF THEIR CONNECTORS, AND AT THE BOTTOM OF THE TOWER ABOUT 6 INCHES BEFORE THEY TURN TOWARD THE FACILITY. THEY SHALL BE GROUNDED AT THE MIDPOINT OF THE TOWERS THAT ARE BETWEEN 60 FEET AND 200 FEET HIGH, AND AT INTERVALS OF 60 FEET OR LESS ON TOWERS THAT ARE HIGHER THAN 200 FEET.

ANTENNA CABLE AND SCHEDULING NOTES

1. SUBCONTRACTOR SHALL VERIFY THE ACTUAL LENGTH IN THE FIELD BEFORE INSTALLATION.

2. TAG AND COLOR CODE ALL MAIN CABLES AT LOCATIONS PER T–MOBILE ANTENNA CABLE MARKING STANDARD:

- TOP OF TOWER END OF MAIN COAX
- BOTTOM OF TOWER END OF MAIN COAX
- DIRECTLY BEFORE AND AFTER RF EQUIPMENT
- END OF JUMPERS AT BTS EQUIPMENT

3. ANTENNAS SHALL BE PROCURED AND INSTALLED WITH DOWN TILT MOUNTING BRACKETS SUPPLIED BY ANTENNA MANUFACTURER.

4. PRIOR APPROVAL IS REQUIRED BEFORE PERFORMING ANY WORK ON EXISTING CELL SITE EQUIPMENT.

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PHONE: 781.713.4725

REVISIONS		
1	03/17/21	ISSUED FOR CONSTRUCTION
0	12/10/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION
DESIGNED BY: AG		APPROVED BY: DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 03/17/21

SITE NAME: CTHA629A

SITE NUMBER: CTHA629A

SITE ADDRESS: 51 STONY LANE
STAFFORD SPRINGS, CT 06076

PROJECT TYPE: SPRINT RETAIN 1

SHEET TITLE: GENERAL NOTES

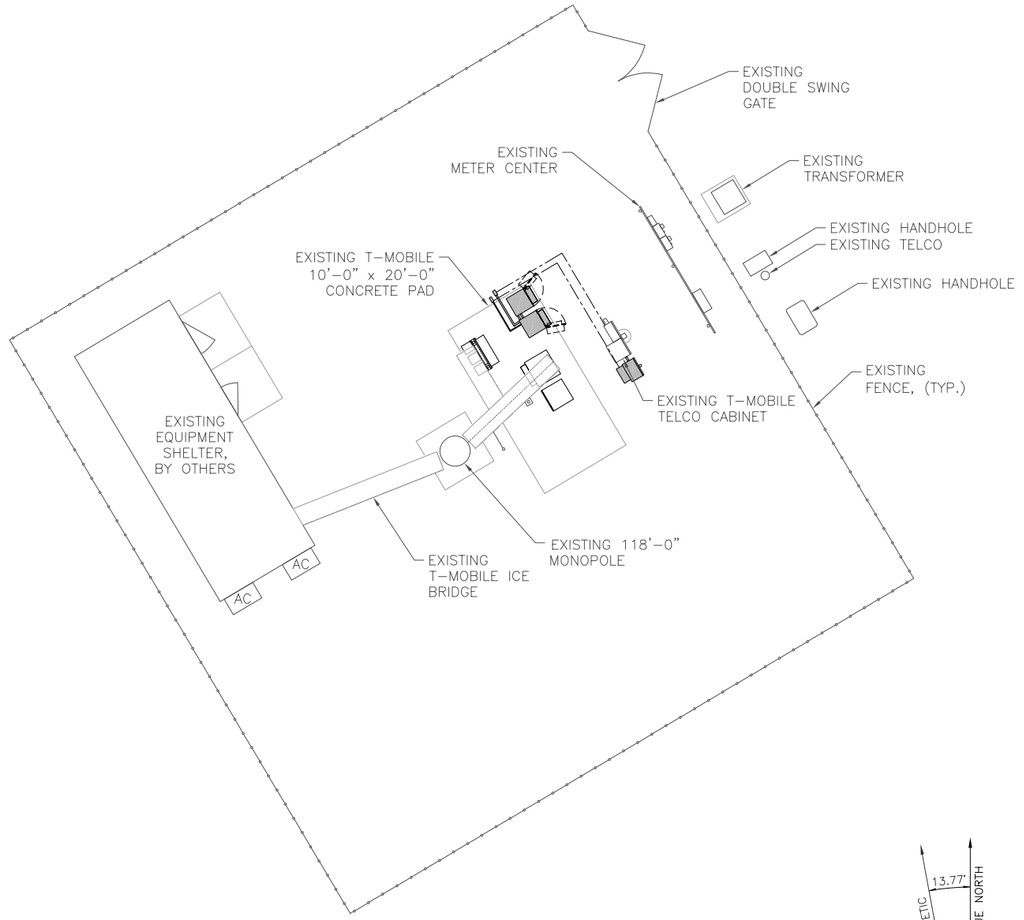
DRAWING #: GN–1 | REVISION: 1

NOTES:

1. REFERENCE STRUCTURAL ANALYSIS BY OTHERS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
2. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

FEEDLINE SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO BE REMOVED: (9) 1-5/8" COAX (1) 1-5/8" HYBRID FIBER EXISTING TO BE REMOVED: (3) 1-5/8" COAX	FROM CABINET TO TOP RAD
B	PROPOSED: (3) 6x12 (1-5/8") HYBRID FIBER	FROM CABINET TO TOP RAD

NOTE:
EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON COLLOCATION APPLICATION AND SBA RECORD, NOT FIELD OBSERVATIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.
SEE STRUCTURAL ANALYSIS FOR FEEDLINE INSTALLATION.



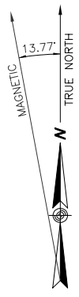
COMPOUND PLAN

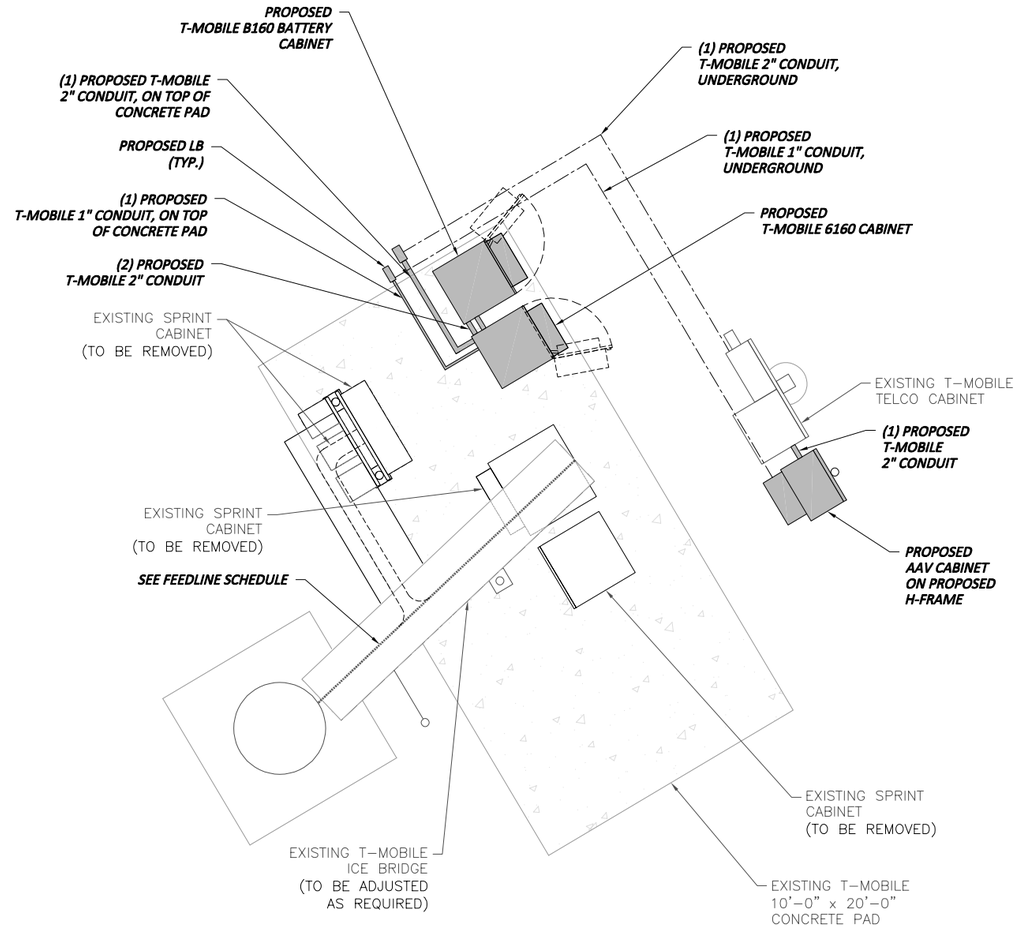
SCALE: 1/8" = 1'-0" (22"X34")
1/16" = 1'-0" (11"X17")

GRAPHIC SCALE

8 0 4 8 16 32

(IN FEET)





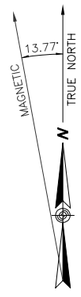
EQUIPMENT PLAN

SCALE: 3/8" = 1'-0" (22"X34")
3/16" = 1'-0" (11"X17")

GRAPHIC SCALE

2'-8" 0 1'-4" 2'-8" 5'-4" 10'-8"

(IN FEET)



T - Mobile
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NO.	DATE	DESCRIPTION
DESIGNED BY: AG		APPROVED BY: DC

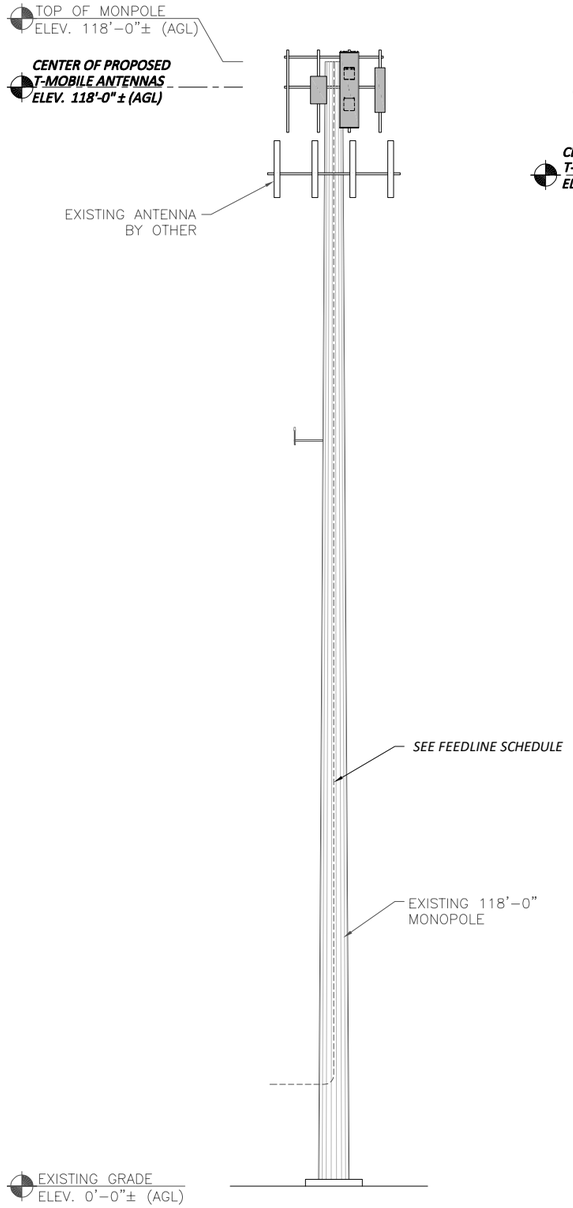
STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 03/17/21

SITE NAME:	CTHA629A
SITE NUMBER:	CTHA629A
SITE ADDRESS:	51 STONY LANE STAFFORD SPRINGS, CT 06076
PROJECT TYPE:	SPRINT RETAIN 1
SHEET TITLE:	COMPOUND & EQUIPMENT PLANS
DRAWING #: A-1	REVISION: 1

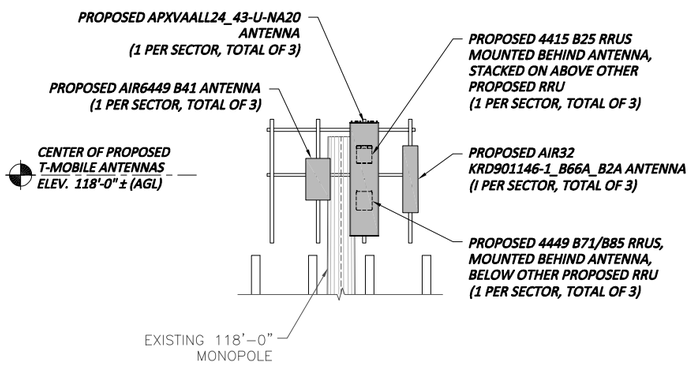
NOTES:

1. REFERENCE STRUCTURAL ANALYSIS BY OTHERS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
2. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



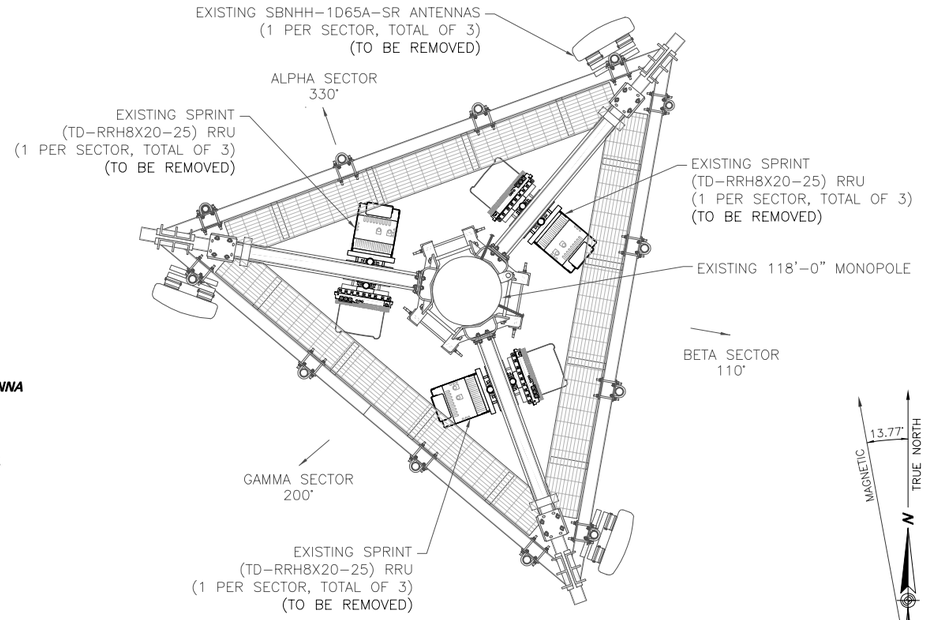
TOWER ELEVATION

SCALE: 1/8" = 1'-0" (22"X34")
3/64" = 1'-0" (11"X17")



ENLARGED ANTENNA ELEVATION

SCALE: N.T.S



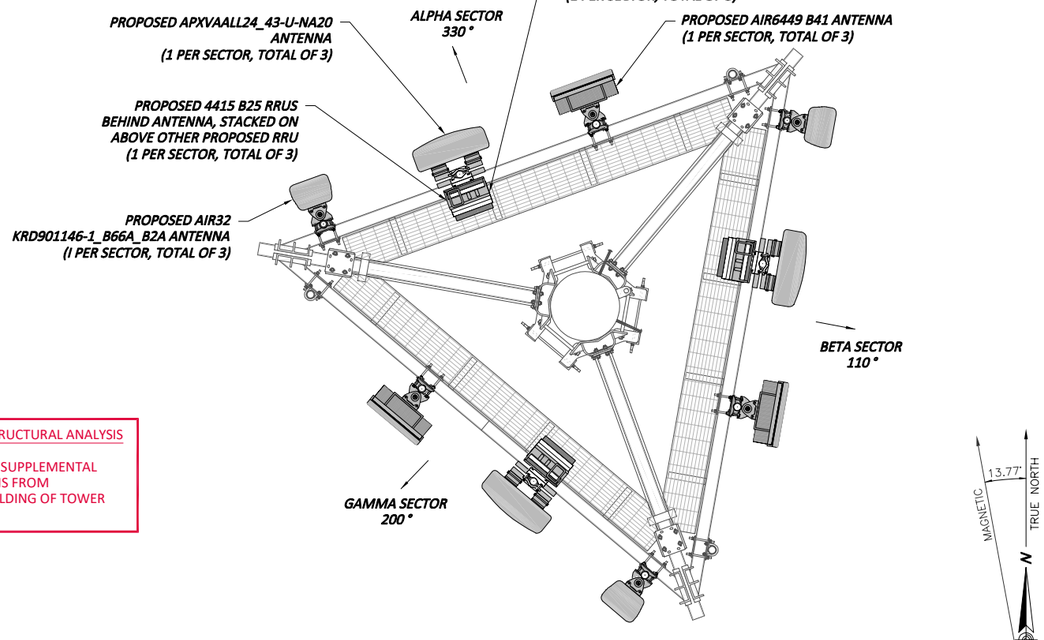
EXISTING ANTENNA CONFIGURATION

SCALE: N.T.S

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS)
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE OR RELOCATION.

GRAPHIC SCALE

8 0 4 8 16 32
(IN FEET)



PROPOSED ANTENNA CONFIGURATION

SCALE: N.T.S

T - Mobile
NORTHEAST LLC
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CENTERLINE COMMUNICATIONS
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REVISIONS		
1	03/17/21	ISSUED FOR CONSTRUCTION
0	12/10/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION
DESIGNED BY: AG		APPROVED BY: DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 03/17/21

SITE NAME:	CTHA629A
SITE NUMBER:	CTHA629A
SITE ADDRESS:	51 STONY LANE STAFFORD SPRINGS, CT 06076
PROJECT TYPE:	SPRINT RETAIN 1
SHEET TITLE:	ANTENNA LAYOUT & ELEVATIONS
DRAWING #: A-2	REVISION: 1

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER
A1	PROPOSED	L2100, G1900, L1900	AIR32 KRD901146-1_B66 A_B2A	56.6x12.9x8.7	±118'	330°	–	–	–	(P) (3) 1-5/8" HCS
A2	PROPOSED	L700, L600, N600, L1900	RFS-APXVALL24_43-U-NA20	95.9x24.0x8.7	±118'	330°	–	(P) (1) 4449 B71 B85 RRUS (P) (1) 4415 B25 RRUS	15x13.2x10.4 16.5x13.4x5.9	
A3	PROPOSED	L2500, N2500	AIR6449 B41	33.1x20.6x8.6	±118'	330°	–	–	–	
B1	PROPOSED	L2100, G1900, L1900	AIR32 KRD901146-1_B66 A_B2A	56.6x12.9x8.7	±118'	110°	–	–	–	
B2	PROPOSED	L700, L600, N600, L1900	RFS-APXVALL24_43-U-NA20	95.9x24.0x8.7	±118'	110°	–	(P) (1) 4449 B71 B85 RRUS (P) (1) 4415 B25 RRUS	15x13.2x10.4 16.5x13.4x5.9	
B3	PROPOSED	L2500, N2500	AIR6449 B41	33.1x20.6x8.6	±118'	110°	–	–	–	
C1	PROPOSED	L2100, G1900, L1900	AIR32 KRD901146-1_B66 A_B2A	56.6x12.9x8.7	±118'	200°	–	–	–	
C2	PROPOSED	L700, L600, N600, L1900	RFS-APXVALL24_43-U-NA20	95.9x24.0x8.7	±118'	200°	–	(P) (1) 4449 B71 B85 RRUS (P) (1) 4415 B25 RRUS	15x13.2x10.4 16.5x13.4x5.9	
C3	PROPOSED	L2500, N2500	AIR6449 B41	33.1x20.6x8.6	±118'	200°	–	–	–	

NOTES:

1. REFERENCE STRUCTURAL ANALYSIS BY OTHERS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
2. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

RRU CHART				
QUANTITY	MODEL	L	W	D
3(P)	4449 B71/B85	15.0"	13.2"	10.4"
3(P)	4415 B25	16.5"	13.4"	5.9"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

REFER TO THE FINAL RFDS AND TABLE FOR THE PROPOSED RRUS MODEL, QUANTITY, AND DIMENSIONS

RRUS DETAIL

N.T.S.

ERICSSON RBS6160 EQUIPMENT CABINET

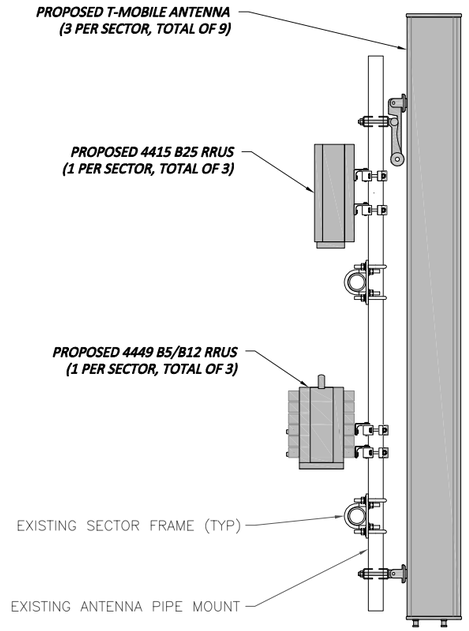
ENCLOSURE: ALUMINUM
DIMENSIONS (HxWxD): 63" X 25.6" X 33.5"
WEIGHT: 188LBS (EXCLUDES EQUIPMENT)
WEATHER TIGHTNESS: NEMA TYPE 3R

ERICSSON B160 BATTERY CABINET

ENCLOSURE: ALUMINUM
DIMENSIONS (HxWxD): 63" X 26" X 26"
WEIGHT: 188LBS (EXCLUDES EQUIPMENT)
WEATHER TIGHTNESS: NEMA TYPE 3R

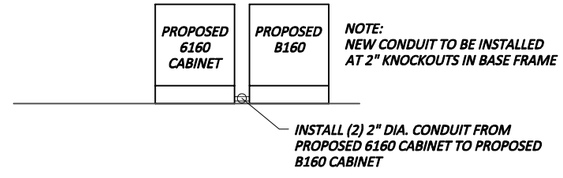
EQUIPMENT CABINET DETAIL

N.T.S.



ANTENNA MOUNTING DETAIL

N.T.S.



CONDUIT DETAIL

N.T.S.

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STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 03/17/21

SITE NAME:	CTHA629A
SITE NUMBER:	CTHA629A
SITE ADDRESS:	51 STONY LANE STAFFORD SPRINGS, CT 06076
PROJECT TYPE:	SPRINT RETAIN 1
SHEET TITLE:	DETAILS
DRAWING #: A-3	REVISION: 1

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DI.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

SPECIAL INSPECTION CHECKLIST	
BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS [1]
N/A	MATERIAL SPECIFICATIONS REPORT [2]
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS [3]
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS [4]
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION [5]
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	**MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS [6]**
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	**PHOTOGRAPHS**
ADDITIONAL TESTING AND INSPECTIONS:	

NOTES:

1. REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
2. PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
3. PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
4. HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
5. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
6. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

1. ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
2. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
3. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
4. VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
5. CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
6. EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

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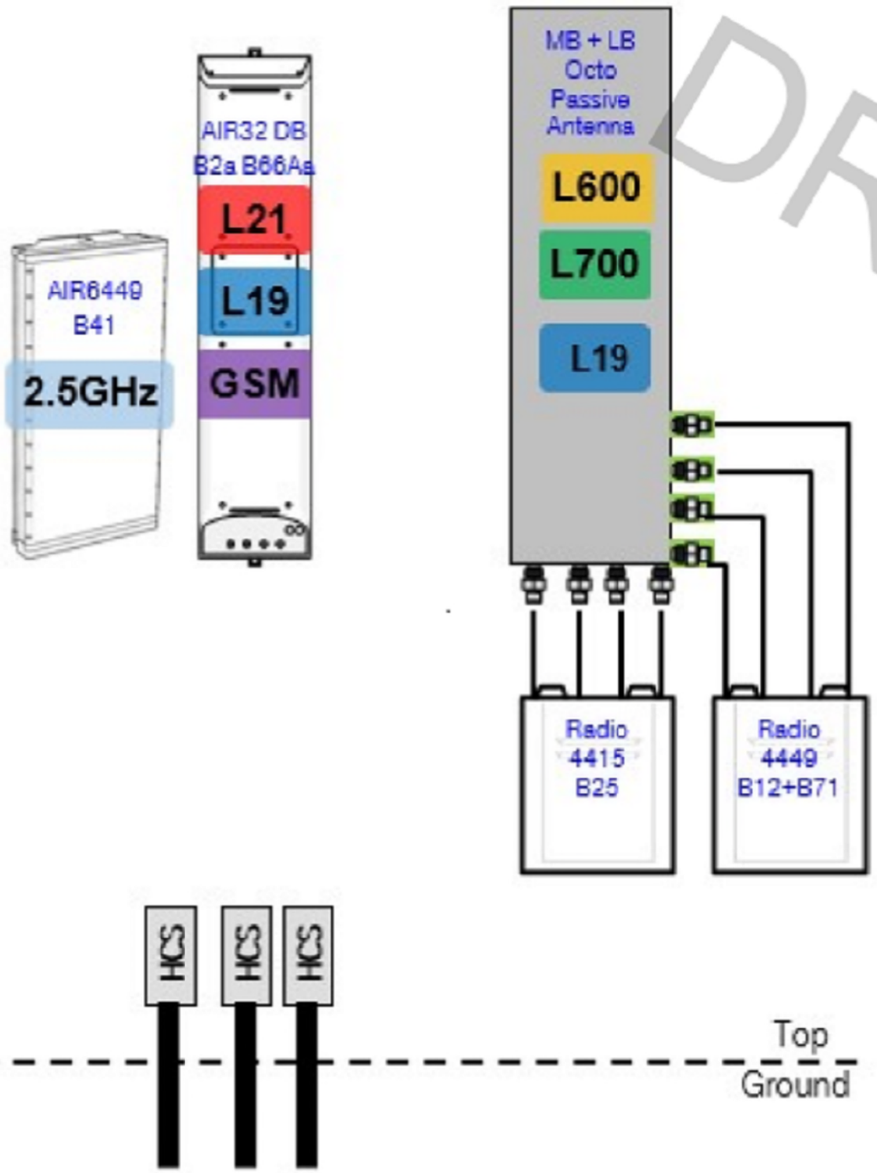
STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 03/17/21

SITE NAME: CTHA629A
SITE NUMBER: CTHA629A
SITE ADDRESS: 51 STONY LANE STAFFORD SPRINGS, CT 06076
PROJECT TYPE: SPRINT RETAIN 1
SHEET TITLE: STRUCTURAL NOTES
DRAWING #: SN-1 REVISION: 1



PLUMBING DIAGRAM

N.T.S.

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DATE: 03/17/21

SITE NAME: CTHA629A

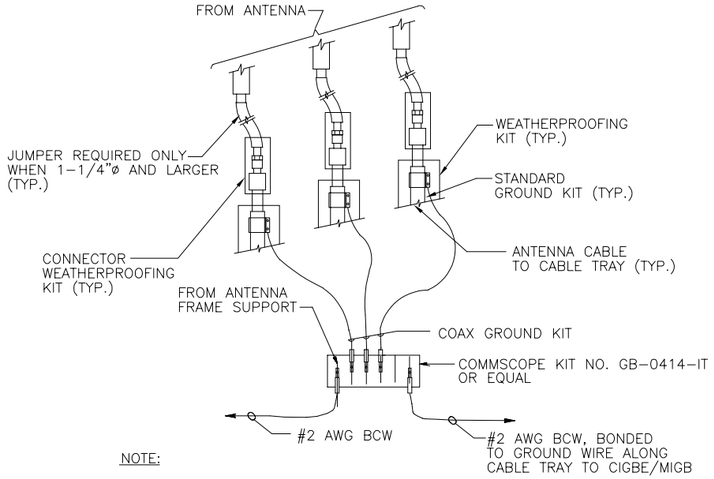
SITE NUMBER: CTHA629A

SITE ADDRESS: 51 STONY LANE
STAFFORD SPRINGS, CT 06076

PROJECT TYPE: SPRINT RETAIN 1

SHEET TITLE: RF PLUMBING DIAGRAM

DRAWING #: RF-1 | REVISION: 1

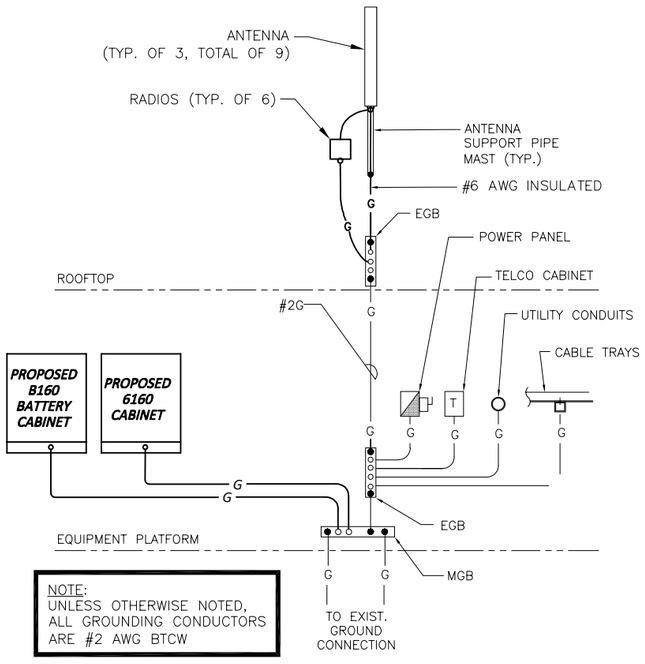


NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

GROUNDING RISER DIAGRAM

N.T.S.



NOTE:
UNLESS OTHERWISE NOTED, ALL GROUNDING CONDUCTORS ARE #2 AWG BTCW

GROUNDING RISER DIAGRAM

N.T.S.

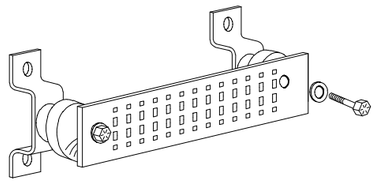
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
–48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

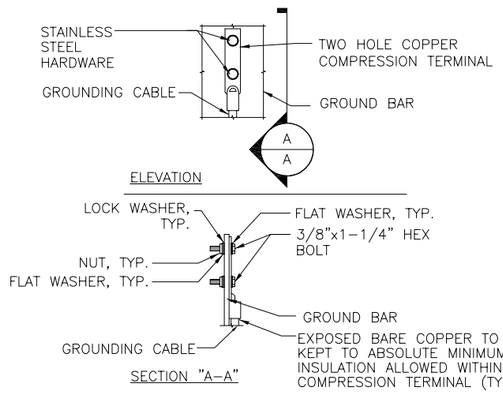
SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)



GROUND BAR DETAIL

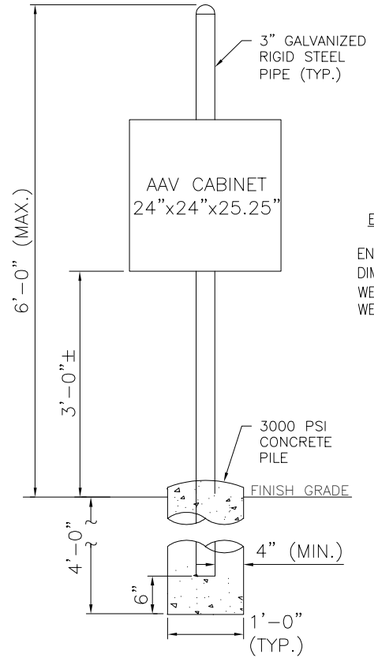
N.T.S.



NOTE:
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATION.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB

GROUND BAR CONNECTION DETAIL

N.T.S.

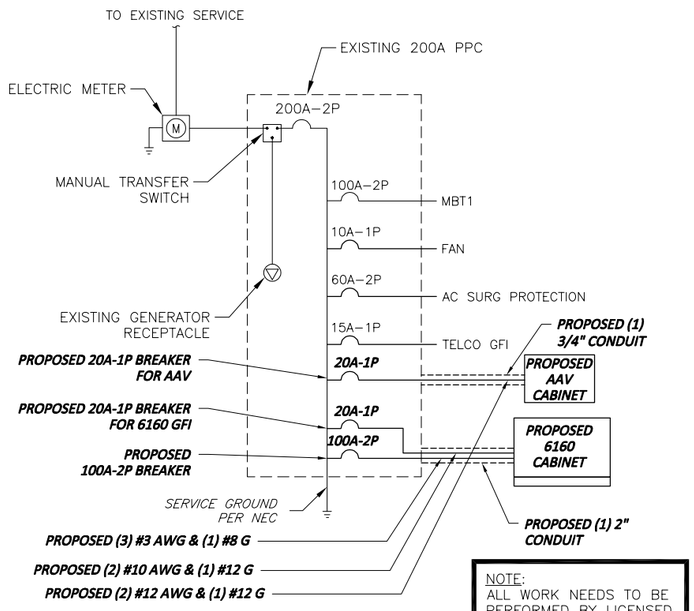


AAV CABINET DETAIL

N.T.S.

EMERSON NETXTEND COMPACT 2416 CABINET

ENCLOSURE: ALUMINUM
DIMENSIONS (HxWxD): 24" X 24" X 25.25"
WEIGHT: 64LBS (EXCLUDES EQUIPMENT)
WEATHER TIGHTNESS: NEMA TYPE 3R



NOTE:
ALL WORK NEEDS TO BE PERFORMED BY LICENSED ELECTRICIAN ADHERING TO THE NEC AND LOCAL CODE REQUIREMENTS

ONE LINE POWER DIAGRAM

N.T.S.

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SITE NUMBER:	CTHA629A
SITE ADDRESS:	51 STONY LANE STAFFORD SPRINGS, CT 06076
PROJECT TYPE:	SPRINT RETAIN 1
SHEET TITLE:	GROUNDING DETAILS
DRAWING #: G–1	REVISION: 1

EXHIBIT 7

Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 118 ft SUMMIT Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT46148-A

Customer Site Name: Russo Property/ Ssusa

Carrier Name: T-Mobile Sprint (App#: 143993-1)

Carrier Site ID / Name: CT54XC732 / -

Site Location: 51 Stony Lane

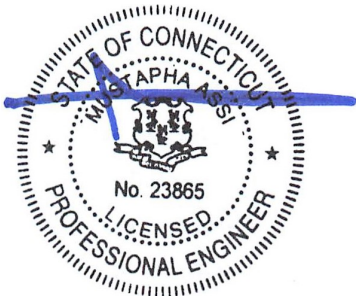
Stafford Springs, Connecticut

Tolland County

Latitude: 42.016417

Longitude: -72.309944

Exp.10/31/2021



03/25/2021

Analysis Result:

Max Structural Usage: 79.5% [Pass]

Max Foundation Usage: 82.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By : Tawfeeq Alajaj

Introduction

The purpose of this report is to summarize the analysis results on the 118 ft SUMMIT 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	Paul J. ford and Company, Job # 29202-0158 Dated 03/28/2002
Foundation Drawing	Paul J. ford and Company, Job # 29202-0158 Dated 03/28/2002
Geotechnical Report	SEA Consultants, ref # 2001042.01-A Dated 04/04/2001
Mount Analysis	T-Mobile Sprint MA by TES# 100581Rev1. Dated 03/24/2021.

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2**.** 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} = 125 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 97.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.173, S_1 = 0.065

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	118.0	3	KMW - ETCR-654L12H6 - Panel	Platform w/ Hand Rails and Kicker Kit	(4) 1-1/4" Fiber	Sprint Nextel
2		6	ALU - 800 MHz - RRU			
3		3	ALU - 1900MHz - RRU			
4		3	ALU - TD-RRH8x20-25 - RRU			
5	108.0	2	Antel - BXA 70080/6CF - Panel	Low Profile Platform	(18) 1 5/8"	Verizon
6		6	Antel - LPA 80080/6CF - Panel			
7		6	Antel - LPA 185080/12CF - Panel			
8		1	Antel - BXA-70063/6CF - Panel			
-	78.0	1	GPS	(1) Standoff	[1](1) 1/2"	Sprint Nextel

1. Coax 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
1	118.0	3	Ericsson - AIR32 KRD901146-1_B66A_B2A (Octo) - Panel	Platform w/ Hand Rails and Kicker Kit	(3) 2" Hybrid	T-Mobile Sprint
2		3	RFS - APXVAALL24_43-U-NA20 - Panel			
		3	Ericsson - AIR6449 B41 - Panel			
3		3	Ericsson 4415 B25			
4		6	ALU 800 MHz RRH			
5		3	Ericsson 4449 B71 + B85			
-	78.0	1	GPS	(1) Standoff	[1](1) 1/2"	Sprint Nextel

See the attached coax layout for the line placement considered in the analysis.

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:	**79.5%**	**58.9%**	**69.4%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	1656	18.03	21.6

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 TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.4024 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 TIA-222 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 structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.

3. 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 ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

4. 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.

5. 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.

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

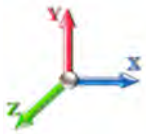
Usage Diagram - Max Ratio 79.48% at 0.0ft

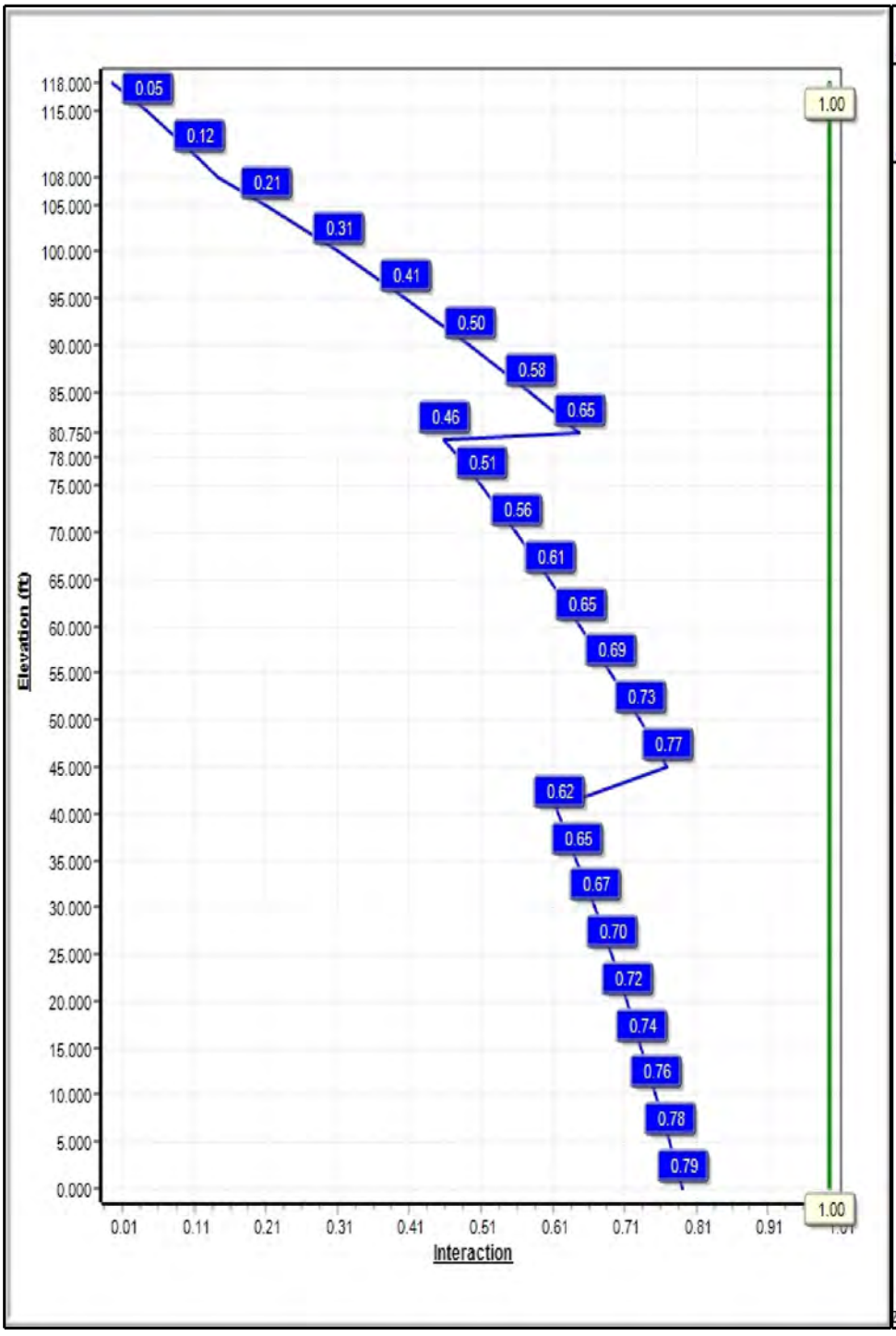
Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020
Site Name:	Russo Property/ Ssusa	**Exposure:**	C	
Height:	118.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

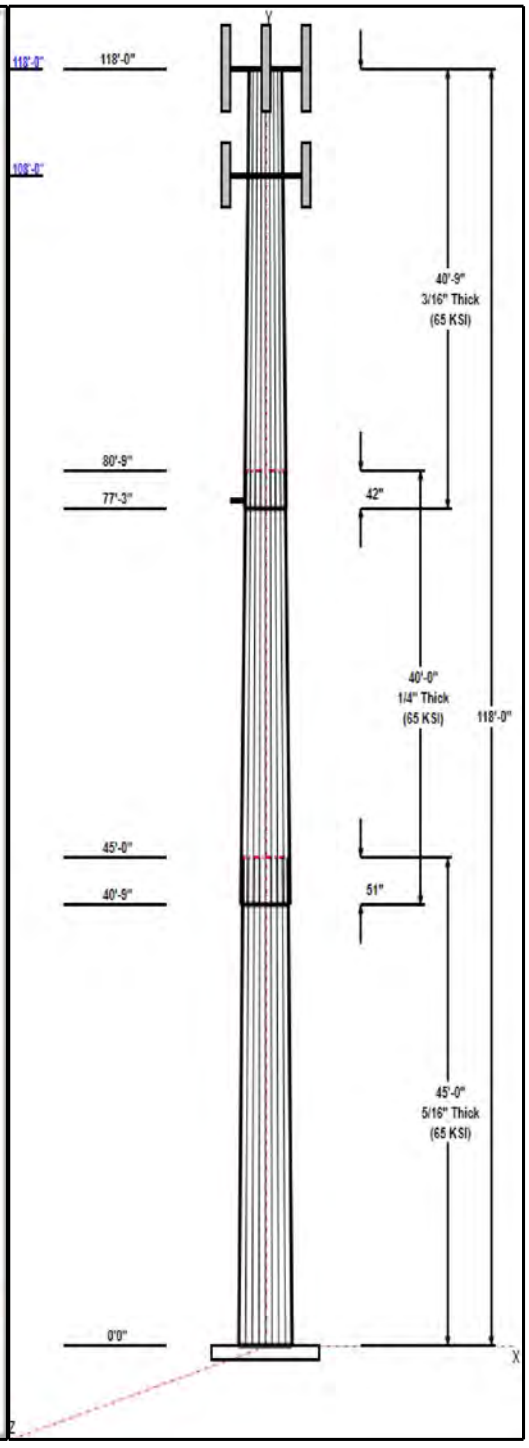
Tower Engineering Solutions

Dead Load Factor:	1.20	**Iterations:**	24
Wind Load Factor:	1.60		

Load Case : 1.2D + 1.6W 97 mph Wind







Structure: CT46148-A-SBA

Type: Tapered
Site Name: Russo Property/ Ssusa
Height: 118.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.15004

12/16/2020

Tower Engineering Solutions

Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	45.00	32.08	38.83	0.313		0.15004	65
2	40.00	27.21	33.22	0.250	Slip	0.15004	65
3	40.75	22.00	28.11	0.188	Slip	0.15004	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
118.00	118.00	1	6' Lightning rod	-
118.00	118.00	1	Platform w/ Hand Rails and	T-Mobile Sprint
118.00	118.00	3	AIR32	T-Mobile Sprint
118.00	118.00	3	APXVAALL24_43-U-NA20	T-Mobile Sprint
118.00	118.00	3	Ericsson 4415 B25	T-Mobile Sprint
118.00	118.00	6	ALU 800 MHz RRH	T-Mobile Sprint
118.00	118.00	3	Ericsson 4449 B71 + B85	T-Mobile Sprint
118.00	118.00	3	AIR6449 B41	T-Mobile Sprint
108.00	108.00	2	Antel - BXA 70080/6CF	Verizon
108.00	108.00	6	Antel - LPA 80080/6CF	Verizon
108.00	108.00	6	Antel - LPA 185080/12CF	Verizon
108.00	108.00	1	Antel - BXA-70063/6CF	Verizon
108.00	108.00	1	Low Profile Platform	Verizon
78.00	78.00	1	GPS	T-Mobile Sprint
78.00	78.00	1	Pipe Mount	T-Mobile Sprint

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	118.00	Inside	2" Hybrid	T-Mobile Sprint
0.00	108.00	Inside	1 5/8" Coax	Verizon
0.00	78.00	Outside	1/2" Coax	T-Mobile Sprint

Anchor Bolts

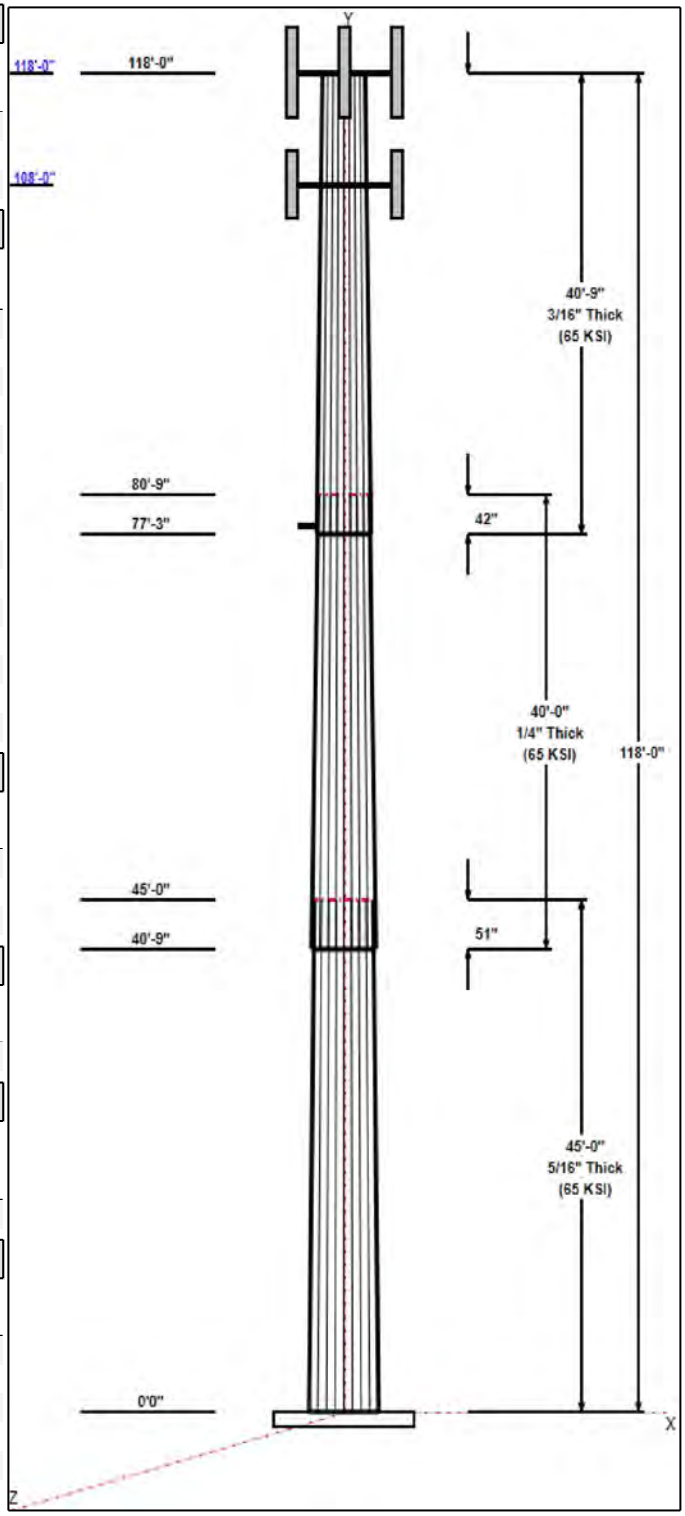
Qty	Specifications	Grade (ksi)	Arrangement
12	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.5000	44.0	55.0	Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 97 mph Wind	1655.9	18.0	21.6
0.9D + 1.6W 97 mph Wind	1636.5	18.0	16.2
1.2D + 1.0Di + 1.0Wi 50 mph Wind	470.8	5.2	36.3
1.2D + 1.0E	141.8	1.3	21.7
0.9D + 1.0E	140.0	1.3	16.3
1.0D + 1.0W 60 mph Wind	393.7	4.3	18.1



Structure: CT46148-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Russo Property/ Ssusa
Height: 118.00 (ft)

12/16/2020

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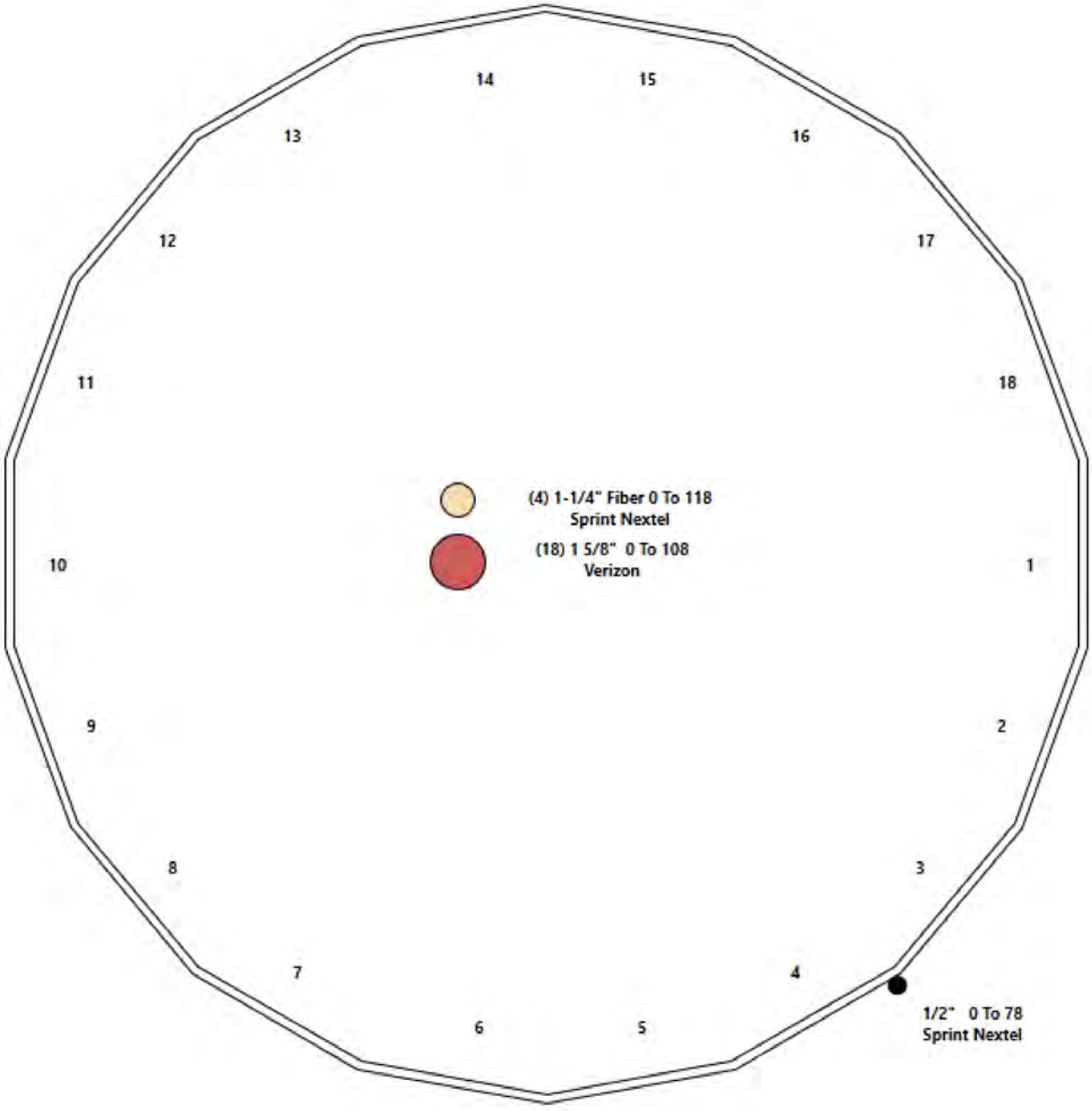


Shaft Properties

Structure:	CT46148-A-SBA		**Code:**	EIA/TIA-222-G	12/16/2020
Site Name:	Russo Property/ Ssusa		**Exposure:**	C	
Height:	118.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 4

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	45.000	0.3125	65		0.00	5,337
2	18	40.000	0.2500	65	Slip	51.00	3,236
3	18	40.750	0.1875	65	Slip	42.00	2,052
					Total Shaft Weight:		**10,626**

	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	38.83	0.00	38.20	7160.92	20.50	124.26	32.08	45.00	31.51	4016.66	16.69	102.6	0.150042
2	33.22	40.75	26.16	3591.49	22.02	132.86	27.21	80.75	21.40	1965.36	17.78	108.8	0.150042
3	28.11	77.25	16.62	1637.59	25.03	149.94	22.00	118.00	12.98	780.30	19.28	117.3	0.150042

Load Summary

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

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	118.00	6' Lightning rod	1	6.50	0.38	1.00	41.94	1.442	1.00	0.00	0.00
2	118.00	Platform w/ Hand Rails and Kicker Kit	1	1600.00	32.00	1.00	3650.06	59.261	1.00	0.00	0.00
3	118.00	AIR32 KRD901146-1_B66A_B2A	3	132.20	6.51	0.87	311.42	7.662	0.87	0.00	0.00
4	118.00	APXVAALL24_43-U-NA20	3	99.00	20.24	0.73	515.33	22.093	0.73	0.00	0.00
5	118.00	Ericsson 4415 B25	3	46.30	1.86	0.67	105.24	2.410	0.67	0.00	0.00
6	118.00	ALU 800 MHz RRH	6	53.00	2.49	0.67	125.21	3.607	0.67	0.00	0.00
7	118.00	Ericsson 4449 B71 + B85	3	73.20	1.97	0.67	129.57	2.526	0.67	0.00	0.00
8	118.00	AIR6449 B41	3	103.00	5.65	0.00	236.87	6.578	0.00	0.00	0.00
9	108.00	Antel - BXA 70080/6CF	2	18.00	5.84	0.88	139.86	8.148	0.89	0.00	0.00
10	108.00	Antel - LPA 80080/6CF	6	21.00	4.33	0.85	208.45	5.468	0.86	0.00	0.00
11	108.00	Antel - LPA 185080/12CF	6	10.50	3.52	0.84	122.21	4.630	0.85	0.00	0.00
12	108.00	Antel - BXA-70063/6CF	1	17.00	7.57	0.84	154.13	10.245	0.85	0.00	0.00
13	108.00	Low Profile Platform	1	1500.00	22.00	1.00	2766.61	39.091	1.00	0.00	0.00
14	78.00	GPS	1	10.00	1.00	1.00	37.46	1.667	1.00	0.00	0.00
15	78.00	Pipe Mount	1	40.00	2.63	0.75	115.20	8.221	0.75	0.00	0.00
		Totals:	**41**	**5,077.60**			**13,675.57**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	118.00	(3) 2" Hybrid	0.00	Inside
0.00	108.00	(18) 1 5/8" Coax	0.00	Inside
0.00	78.00	(1) 1/2" Coax	0.65	Outside

Shaft Section Properties

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

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		0.3125	38.830	38.203	7160.9	20.50	124.26	77.3	363.2	0.0
5.00		0.3125	38.080	37.459	6750.6	20.08	121.86	77.8	349.2	643.7
10.00		0.3125	37.330	36.715	6356.2	19.65	119.45	78.3	335.4	631.0
15.00		0.3125	36.579	35.971	5977.6	19.23	117.05	78.8	321.9	618.3
20.00		0.3125	35.829	35.227	5614.2	18.81	114.65	79.3	308.6	605.7
25.00		0.3125	35.079	34.483	5265.9	18.38	112.25	79.8	295.7	593.0
30.00		0.3125	34.329	33.739	4932.3	17.96	109.85	80.3	283.0	580.4
35.00		0.3125	33.579	32.995	4613.1	17.54	107.45	80.8	270.6	567.7
40.00		0.3125	32.828	32.250	4308.0	17.11	105.05	81.3	258.5	555.0
40.75	Bot - Section 2	0.3125	32.716	32.139	4263.4	17.05	104.69	81.3	256.7	82.2
45.00	Top - Section 1	0.2500	32.578	25.651	3387.1	21.57	130.31	0.0	0.0	834.8
50.00		0.2500	31.828	25.056	3156.7	21.04	127.31	76.7	195.3	431.4
55.00		0.2500	31.078	24.461	2937.0	20.51	124.31	77.3	186.1	421.2
60.00		0.2500	30.327	23.866	2727.8	19.98	121.31	77.9	177.2	411.1
65.00		0.2500	29.577	23.270	2528.7	19.45	118.31	78.5	168.4	401.0
70.00		0.2500	28.827	22.675	2339.6	18.92	115.31	79.1	159.9	390.9
75.00		0.2500	28.077	22.080	2160.1	18.39	112.31	79.8	151.5	380.7
77.25	Bot - Section 3	0.2500	27.739	21.812	2082.4	18.15	110.96	80.0	147.9	168.0
78.00		0.2500	27.627	21.723	2057.0	18.07	110.51	80.1	146.6	97.9
80.00		0.2500	27.327	21.485	1990.1	17.86	109.31	80.4	143.4	259.1
80.75	Top - Section 2	0.1875	27.589	16.307	1546.9	24.53	147.14	0.0	0.0	96.4
85.00		0.1875	26.951	15.927	1441.4	23.93	143.74	73.2	105.3	233.1
90.00		0.1875	26.201	15.481	1323.6	23.23	139.74	74.1	99.5	267.2
95.00		0.1875	25.451	15.034	1212.3	22.52	135.74	74.9	93.8	259.6
100.00		0.1875	24.701	14.588	1107.5	21.82	131.74	75.7	88.3	252.0
105.00		0.1875	23.951	14.141	1008.9	21.11	127.74	76.6	83.0	244.4
108.00		0.1875	23.500	13.874	952.7	20.69	125.34	77.1	79.8	143.0
110.00		0.1875	23.200	13.695	916.3	20.41	123.74	77.4	77.8	93.8
115.00		0.1875	22.450	13.249	829.6	19.70	119.73	78.2	72.8	229.2
118.00		0.1875	22.000	12.981	780.3	19.28	117.33	78.7	69.9	133.9
										10625.6

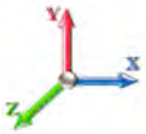
Wind Loading - Shaft

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 7	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	19.450	21.40	293.84	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	288.17	0.650	0.000	5.00	16.270	10.58	362.0	0.0	772.4
10.00		1.00	0.85	19.450	21.40	282.49	0.650	0.000	5.00	15.953	10.37	355.0	0.0	757.2
15.00		1.00	0.85	19.450	21.40	276.81	0.650	0.000	5.00	15.635	10.16	347.9	0.0	742.0
20.00		1.00	0.90	20.638	22.70	279.29	0.650	0.000	5.00	15.318	9.96	361.6	0.0	726.8
25.00		1.00	0.95	21.630	23.79	279.94	0.650	0.000	5.00	15.000	9.75	371.2	0.0	711.6
30.00		1.00	0.98	22.477	24.72	279.26	0.650	0.000	5.00	14.683	9.54	377.5	0.0	696.4
35.00		1.00	1.01	23.218	25.54	277.63	0.650	0.000	5.00	14.366	9.34	381.6	0.0	681.2
40.00		1.00	1.04	23.880	26.27	275.26	0.650	0.000	5.00	14.048	9.13	383.8	0.0	666.0
40.75	Bot - Section 2	1.00	1.05	23.974	26.37	274.86	0.650	0.000	0.75	2.080	1.35	57.0	0.0	98.6
45.00	Top - Section 1	1.00	1.07	24.479	26.93	272.33	0.650	0.000	4.25	11.831	7.69	331.3	0.0	1001.8
50.00		1.00	1.09	25.029	27.53	273.22	0.650	0.000	5.00	13.625	8.86	390.1	0.0	517.6
55.00		1.00	1.12	25.536	28.09	269.47	0.650	0.000	5.00	13.307	8.65	388.8	0.0	505.5
60.00		1.00	1.14	26.008	28.61	265.38	0.650	0.000	5.00	12.990	8.44	386.5	0.0	493.3
65.00		1.00	1.16	26.450	29.09	261.01	0.650	0.000	5.00	12.673	8.24	383.5	0.0	481.2
70.00		1.00	1.17	26.866	29.55	256.38	0.650	0.000	5.00	12.355	8.03	379.7	0.0	469.0
75.00		1.00	1.19	27.259	29.98	251.53	0.650	0.000	5.00	12.038	7.82	375.4	0.0	456.9
77.25	Bot - Section 3	1.00	1.20	27.429	30.17	249.28	0.650	0.000	2.25	5.313	3.45	166.7	0.0	201.6
78.00	Appurtenance(s)	1.00	1.20	27.485	30.23	248.52	0.650	0.000	0.75	1.781	1.16	56.0	0.0	117.5
80.00		1.00	1.21	27.632	30.39	246.48	0.650	0.000	2.00	4.714	3.06	149.0	0.0	310.9
80.75	Top - Section 2	1.00	1.21	27.686	30.45	245.70	0.650	0.000	0.75	1.754	1.14	55.6	0.0	115.7
85.00		1.00	1.22	27.987	30.79	244.65	0.650	0.000	4.25	9.807	6.37	314.0	0.0	279.7
90.00		1.00	1.24	28.325	31.16	239.27	0.650	0.000	5.00	11.244	7.31	364.4	0.0	320.6
95.00		1.00	1.25	28.650	31.51	233.75	0.650	0.000	5.00	10.927	7.10	358.1	0.0	311.5
100.00		1.00	1.27	28.961	31.86	228.09	0.650	0.000	5.00	10.609	6.90	351.5	0.0	302.4
105.00		1.00	1.28	29.260	32.19	222.30	0.650	0.000	5.00	10.292	6.69	344.5	0.0	293.3
108.00	Appurtenance(s)	1.00	1.29	29.434	32.38	218.77	0.650	0.000	3.00	6.023	3.91	202.8	0.0	171.6
110.00		1.00	1.29	29.548	32.50	216.39	0.650	0.000	2.00	3.952	2.57	133.6	0.0	112.6
115.00		1.00	1.30	29.826	32.81	210.38	0.650	0.000	5.00	9.657	6.28	329.5	0.0	275.0
118.00	Appurtenance(s)	1.00	1.31	29.988	32.99	206.72	0.650	0.000	3.00	5.642	3.67	193.6	0.0	160.7
								Totals:	**118.00**			**8,652.1**		**12,750.7**

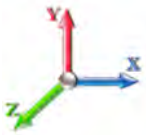
Discrete Appurtenance Forces

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor 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	118.00	AIR32	3	29.988	32.986	0.65	0.75	12.74	475.92	0.000	0.000	672.57	0.00	0.00
2	118.00	6' Lightning rod	1	29.988	32.986	1.00	1.00	0.38	7.80	0.000	0.000	20.06	0.00	0.00
3	118.00	AIR6449 B41	3	29.988	32.986	0.00	1.00	16.95	370.80	0.000	0.000	894.59	0.00	0.00
4	118.00	Ericsson 4449 B71 + B85	3	29.988	32.986	0.50	0.75	2.97	263.52	0.000	0.000	156.74	0.00	0.00
5	118.00	ALU 800 MHz RRH	6	29.988	32.986	0.50	0.75	7.51	381.60	0.000	0.000	396.23	0.00	0.00
6	118.00	Ericsson 4415 B25	3	29.988	32.986	0.50	0.75	2.80	166.68	0.000	0.000	147.99	0.00	0.00
7	118.00	APXVAALL24_43-U-NA20	3	29.988	32.986	0.55	0.75	33.24	356.40	0.000	0.000	1754.57	0.00	0.00
8	118.00	Platform w/ Hand Rails	1	29.988	32.986	1.00	1.00	32.00	1920.00	0.000	0.000	1688.91	0.00	0.00
9	108.00	Low Profile Platform	1	29.434	32.377	1.00	1.00	22.00	1800.00	0.000	0.000	1139.68	0.00	0.00
10	108.00	Antel - BXA-70063/6CF	1	29.434	32.377	0.67	0.80	5.09	20.40	0.000	0.000	263.53	0.00	0.00
11	108.00	Antel - LPA 185080/12CF	6	29.434	32.377	0.67	0.80	14.19	75.60	0.000	0.000	735.23	0.00	0.00
12	108.00	Antel - LPA 80080/6CF	6	29.434	32.377	0.68	0.80	17.67	151.20	0.000	0.000	915.18	0.00	0.00
13	108.00	Antel - BXA 70080/6CF	2	29.434	32.377	0.70	0.80	8.22	43.20	0.000	0.000	425.97	0.00	0.00
14	78.00	Pipe Mount	1	27.485	30.233	0.56	0.75	1.48	48.00	0.000	0.000	71.56	0.00	0.00
15	78.00	GPS	1	27.485	30.233	0.80	0.80	0.80	12.00	0.000	0.000	38.70	0.00	0.00
							Totals:		**6,093.12**			**9,321.49**		

Total Applied Force Summary

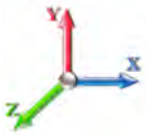
Structure:	CT46148-A-SBA		**Code:**	EIA/TIA-222-G	12/16/2020
Site Name:	Russo Property/ Ssusa		**Exposure:**	C	
Height:	118.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 9

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



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		362.03	902.84	0.00	0.00
10.00		354.96	887.65	0.00	0.00
15.00		347.90	872.45	0.00	0.00
20.00		361.64	857.26	0.00	0.00
25.00		371.18	842.07	0.00	0.00
30.00		377.55	826.88	0.00	0.00
35.00		381.57	811.69	0.00	0.00
40.00		383.78	796.49	0.00	0.00
40.75		57.04	118.16	0.00	0.00
45.00		331.31	1112.69	0.00	0.00
50.00		390.12	648.09	0.00	0.00
55.00		388.75	635.94	0.00	0.00
60.00		386.49	623.78	0.00	0.00
65.00		383.46	611.63	0.00	0.00
70.00		379.73	599.48	0.00	0.00
75.00		375.39	587.32	0.00	0.00
77.25		166.73	260.33	0.00	0.00
78.00	(2) attachments	166.25	197.02	0.00	0.00
80.00		149.00	362.67	0.00	0.00
80.75		55.57	135.13	0.00	0.00
85.00		313.99	389.77	0.00	0.00
90.00		364.36	450.12	0.00	0.00
95.00		358.13	441.00	0.00	0.00
100.00		351.50	431.89	0.00	0.00
105.00		344.51	422.77	0.00	0.00
108.00	(16) attachments	3682.38	2339.69	0.00	0.00
110.00		133.58	119.44	0.00	0.00
115.00		329.51	292.22	0.00	0.00
118.00	(23) attachments	5925.21	4113.68	0.00	0.00
	Totals:	**17,973.64**	**21,690.15**	**0.00**	**0.00**

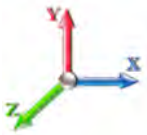
Linear Appurtenance Segment Forces (Factored)

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



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	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.017	0.000	19.450	0.00	0.96
10.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.017	0.000	19.450	0.00	0.96
15.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.017	0.000	19.450	0.00	0.96
20.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.018	0.000	20.638	0.00	0.96
25.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.018	0.000	21.630	0.00	0.96
30.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.018	0.000	22.477	0.00	0.96
35.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.019	0.000	23.218	0.00	0.96
40.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.019	0.000	23.880	0.00	0.96
40.75	1/2" Coax	Yes	0.75	0.000	0.65	0.04	0.00	0.020	0.000	23.974	0.00	0.14
45.00	1/2" Coax	Yes	4.25	0.000	0.65	0.23	0.00	0.020	0.000	24.479	0.00	0.82
50.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.020	0.000	25.029	0.00	0.96
55.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.020	0.000	25.536	0.00	0.96
60.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.021	0.000	26.008	0.00	0.96
65.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.021	0.000	26.450	0.00	0.96
70.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.022	0.000	26.866	0.00	0.96
75.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.022	0.000	27.259	0.00	0.96
77.25	1/2" Coax	Yes	2.25	0.000	0.65	0.12	0.00	0.023	0.000	27.429	0.00	0.43
78.00	1/2" Coax	Yes	0.75	0.000	0.65	0.04	0.00	0.023	0.000	27.485	0.00	0.14
									Totals:		**0.0**	**15.0**

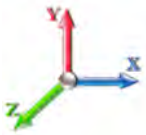
Calculated Forces

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



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	-21.64	-18.03	0.00	-1655.9	0.00	1655.95	2657.45	1328.73	4204.87	2105.56	0.00	0.000	0.000	0.795
5.00	-20.64	-17.79	0.00	-1565.7	0.00	1565.78	2622.48	1311.24	4068.06	2037.05	0.17	-0.320	0.000	0.777
10.00	-19.66	-17.53	0.00	-1476.8	0.00	1476.85	2586.84	1293.42	3932.41	1969.13	0.68	-0.641	0.000	0.758
15.00	-18.69	-17.28	0.00	-1389.1	0.00	1389.19	2550.53	1275.26	3797.98	1901.81	1.52	-0.961	0.000	0.738
20.00	-17.75	-17.00	0.00	-1302.8	0.00	1302.80	2513.55	1256.78	3664.83	1835.14	2.70	-1.282	0.000	0.717
25.00	-16.82	-16.70	0.00	-1217.8	0.00	1217.80	2475.91	1237.96	3533.03	1769.14	4.21	-1.601	0.000	0.695
30.00	-15.92	-16.39	0.00	-1134.3	0.00	1134.30	2437.60	1218.80	3402.64	1703.85	6.06	-1.919	0.000	0.672
35.00	-15.03	-16.06	0.00	-1052.3	0.00	1052.37	2398.63	1199.31	3273.71	1639.29	8.24	-2.234	0.000	0.648
40.00	-14.20	-15.69	0.00	-972.08	0.00	972.08	2358.98	1179.49	3146.32	1575.50	10.74	-2.546	0.000	0.623
40.75	-14.04	-15.66	0.00	-960.32	0.00	960.32	2352.98	1176.49	3127.35	1566.00	11.15	-2.594	0.000	0.619
45.00	-12.87	-15.34	0.00	-893.76	0.00	893.76	1755.34	877.67	2332.03	1167.75	13.57	-2.857	0.000	0.773
50.00	-12.16	-14.99	0.00	-817.05	0.00	817.05	1728.64	864.32	2242.86	1123.10	16.73	-3.160	0.000	0.735
55.00	-11.46	-14.63	0.00	-742.11	0.00	742.11	1701.27	850.64	2154.50	1078.85	20.22	-3.511	0.000	0.695
60.00	-10.78	-14.27	0.00	-668.95	0.00	668.95	1673.24	836.62	2067.01	1035.04	24.08	-3.853	0.000	0.653
65.00	-10.12	-13.90	0.00	-597.60	0.00	597.60	1644.54	822.27	1980.47	991.70	28.29	-4.183	0.000	0.609
70.00	-9.48	-13.53	0.00	-528.09	0.00	528.09	1615.17	807.59	1894.92	948.87	32.84	-4.500	0.000	0.563
75.00	-8.87	-13.14	0.00	-460.45	0.00	460.45	1585.14	792.57	1810.44	906.57	37.71	-4.800	0.000	0.514
77.25	-8.61	-12.97	0.00	-430.88	0.00	430.88	1571.40	785.70	1772.79	887.71	40.00	-4.932	0.000	0.491
78.00	-8.41	-12.79	0.00	-421.16	0.00	421.16	1566.79	783.40	1760.29	881.45	40.78	-4.976	0.000	0.483
80.00	-8.04	-12.63	0.00	-395.57	0.00	395.57	1554.43	777.22	1727.08	864.83	42.88	-5.089	0.000	0.463
80.75	-7.88	-12.58	0.00	-386.10	0.00	386.10	1064.66	532.33	1199.95	600.87	43.69	-5.131	0.000	0.651
85.00	-7.47	-12.26	0.00	-332.65	0.00	332.65	1050.00	525.00	1155.69	578.71	48.35	-5.352	0.000	0.582
90.00	-7.00	-11.89	0.00	-271.34	0.00	271.34	1032.12	516.06	1103.96	552.80	54.11	-5.650	0.000	0.498
95.00	-6.55	-11.52	0.00	-211.89	0.00	211.89	1013.59	506.79	1052.64	527.10	60.16	-5.910	0.000	0.409
100.00	-6.12	-11.14	0.00	-154.30	0.00	154.30	994.38	497.19	1001.80	501.65	66.46	-6.124	0.000	0.314
105.00	-5.71	-10.77	0.00	-98.59	0.00	98.59	974.51	487.26	951.51	476.46	72.95	-6.287	0.000	0.213
108.00	-3.79	-6.85	0.00	-66.29	0.00	66.29	962.27	481.13	921.62	461.49	76.92	-6.357	0.000	0.148
110.00	-3.68	-6.71	0.00	-52.59	0.00	52.59	953.97	476.99	901.82	451.58	79.59	-6.392	0.000	0.121
115.00	-3.42	-6.35	0.00	-19.05	0.00	19.05	932.77	466.38	852.80	427.03	86.30	-6.448	0.000	0.048
118.00	0.00	-5.93	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48	90.35	-6.458	0.000	0.000

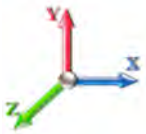
Wind Loading - Shaft

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	19.450	21.40	293.84	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	288.17	0.650	0.000	5.00	16.270	10.58	362.0	0.0	579.3
10.00		1.00	0.85	19.450	21.40	282.49	0.650	0.000	5.00	15.953	10.37	355.0	0.0	567.9
15.00		1.00	0.85	19.450	21.40	276.81	0.650	0.000	5.00	15.635	10.16	347.9	0.0	556.5
20.00		1.00	0.90	20.638	22.70	279.29	0.650	0.000	5.00	15.318	9.96	361.6	0.0	545.1
25.00		1.00	0.95	21.630	23.79	279.94	0.650	0.000	5.00	15.000	9.75	371.2	0.0	533.7
30.00		1.00	0.98	22.477	24.72	279.26	0.650	0.000	5.00	14.683	9.54	377.5	0.0	522.3
35.00		1.00	1.01	23.218	25.54	277.63	0.650	0.000	5.00	14.366	9.34	381.6	0.0	510.9
40.00		1.00	1.04	23.880	26.27	275.26	0.650	0.000	5.00	14.048	9.13	383.8	0.0	499.5
40.75	Bot - Section 2	1.00	1.05	23.974	26.37	274.86	0.650	0.000	0.75	2.080	1.35	57.0	0.0	73.9
45.00	Top - Section 1	1.00	1.07	24.479	26.93	272.33	0.650	0.000	4.25	11.831	7.69	331.3	0.0	751.4
50.00		1.00	1.09	25.029	27.53	273.22	0.650	0.000	5.00	13.625	8.86	390.1	0.0	388.2
55.00		1.00	1.12	25.536	28.09	269.47	0.650	0.000	5.00	13.307	8.65	388.8	0.0	379.1
60.00		1.00	1.14	26.008	28.61	265.38	0.650	0.000	5.00	12.990	8.44	386.5	0.0	370.0
65.00		1.00	1.16	26.450	29.09	261.01	0.650	0.000	5.00	12.673	8.24	383.5	0.0	360.9
70.00		1.00	1.17	26.866	29.55	256.38	0.650	0.000	5.00	12.355	8.03	379.7	0.0	351.8
75.00		1.00	1.19	27.259	29.98	251.53	0.650	0.000	5.00	12.038	7.82	375.4	0.0	342.7
77.25	Bot - Section 3	1.00	1.20	27.429	30.17	249.28	0.650	0.000	2.25	5.313	3.45	166.7	0.0	151.2
78.00	Appurtenance(s)	1.00	1.20	27.485	30.23	248.52	0.650	0.000	0.75	1.781	1.16	56.0	0.0	88.1
80.00		1.00	1.21	27.632	30.39	246.48	0.650	0.000	2.00	4.714	3.06	149.0	0.0	233.2
80.75	Top - Section 2	1.00	1.21	27.686	30.45	245.70	0.650	0.000	0.75	1.754	1.14	55.6	0.0	86.8
85.00		1.00	1.22	27.987	30.79	244.65	0.650	0.000	4.25	9.807	6.37	314.0	0.0	209.8
90.00		1.00	1.24	28.325	31.16	239.27	0.650	0.000	5.00	11.244	7.31	364.4	0.0	240.5
95.00		1.00	1.25	28.650	31.51	233.75	0.650	0.000	5.00	10.927	7.10	358.1	0.0	233.6
100.00		1.00	1.27	28.961	31.86	228.09	0.650	0.000	5.00	10.609	6.90	351.5	0.0	226.8
105.00		1.00	1.28	29.260	32.19	222.30	0.650	0.000	5.00	10.292	6.69	344.5	0.0	220.0
108.00	Appurtenance(s)	1.00	1.29	29.434	32.38	218.77	0.650	0.000	3.00	6.023	3.91	202.8	0.0	128.7
110.00		1.00	1.29	29.548	32.50	216.39	0.650	0.000	2.00	3.952	2.57	133.6	0.0	84.4
115.00		1.00	1.30	29.826	32.81	210.38	0.650	0.000	5.00	9.657	6.28	329.5	0.0	206.3
118.00	Appurtenance(s)	1.00	1.31	29.988	32.99	206.72	0.650	0.000	3.00	5.642	3.67	193.6	0.0	120.5
								Totals:	**118.00**			**8,652.1**		**9,563.0**

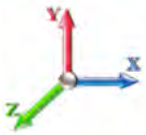
Discrete Appurtenance Forces

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor 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	118.00	AIR32	3	29.988	32.986	0.65	0.75	12.74	356.94	0.000	0.000	672.57	0.00	0.00
2	118.00	6' Lightning rod	1	29.988	32.986	1.00	1.00	0.38	5.85	0.000	0.000	20.06	0.00	0.00
3	118.00	AIR6449 B41	3	29.988	32.986	0.00	1.00	16.95	278.10	0.000	0.000	894.59	0.00	0.00
4	118.00	Ericsson 4449 B71 + B85	3	29.988	32.986	0.50	0.75	2.97	197.64	0.000	0.000	156.74	0.00	0.00
5	118.00	ALU 800 MHz RRH	6	29.988	32.986	0.50	0.75	7.51	286.20	0.000	0.000	396.23	0.00	0.00
6	118.00	Ericsson 4415 B25	3	29.988	32.986	0.50	0.75	2.80	125.01	0.000	0.000	147.99	0.00	0.00
7	118.00	APXVAALL24_43-U-NA20	3	29.988	32.986	0.55	0.75	33.24	267.30	0.000	0.000	1754.57	0.00	0.00
8	118.00	Platform w/ Hand Rails	1	29.988	32.986	1.00	1.00	32.00	1440.00	0.000	0.000	1688.91	0.00	0.00
9	108.00	Low Profile Platform	1	29.434	32.377	1.00	1.00	22.00	1350.00	0.000	0.000	1139.68	0.00	0.00
10	108.00	Antel - BXA-70063/6CF	1	29.434	32.377	0.67	0.80	5.09	15.30	0.000	0.000	263.53	0.00	0.00
11	108.00	Antel - LPA 185080/12CF	6	29.434	32.377	0.67	0.80	14.19	56.70	0.000	0.000	735.23	0.00	0.00
12	108.00	Antel - LPA 80080/6CF	6	29.434	32.377	0.68	0.80	17.67	113.40	0.000	0.000	915.18	0.00	0.00
13	108.00	Antel - BXA 70080/6CF	2	29.434	32.377	0.70	0.80	8.22	32.40	0.000	0.000	425.97	0.00	0.00
14	78.00	Pipe Mount	1	27.485	30.233	0.56	0.75	1.48	36.00	0.000	0.000	71.56	0.00	0.00
15	78.00	GPS	1	27.485	30.233	0.80	0.80	0.80	9.00	0.000	0.000	38.70	0.00	0.00
							Totals:		**4,569.84**			**9,321.49**		

Total Applied Force Summary

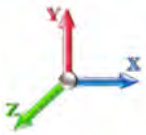
Structure:	CT46148-A-SBA		**Code:**	EIA/TIA-222-G	12/16/2020
Site Name:	Russo Property/ Ssusa		**Exposure:**	C	
Height:	118.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 14

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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		362.03	677.13	0.00	0.00
10.00		354.96	665.73	0.00	0.00
15.00		347.90	654.34	0.00	0.00
20.00		361.64	642.95	0.00	0.00
25.00		371.18	631.55	0.00	0.00
30.00		377.55	620.16	0.00	0.00
35.00		381.57	608.76	0.00	0.00
40.00		383.78	597.37	0.00	0.00
40.75		57.04	88.62	0.00	0.00
45.00		331.31	834.52	0.00	0.00
50.00		390.12	486.07	0.00	0.00
55.00		388.75	476.95	0.00	0.00
60.00		386.49	467.84	0.00	0.00
65.00		383.46	458.72	0.00	0.00
70.00		379.73	449.61	0.00	0.00
75.00		375.39	440.49	0.00	0.00
77.25		166.73	195.25	0.00	0.00
78.00	(2) attachments	166.25	147.77	0.00	0.00
80.00		149.00	272.01	0.00	0.00
80.75		55.57	101.34	0.00	0.00
85.00		313.99	292.32	0.00	0.00
90.00		364.36	337.59	0.00	0.00
95.00		358.13	330.75	0.00	0.00
100.00		351.50	323.91	0.00	0.00
105.00		344.51	317.08	0.00	0.00
108.00	(16) attachments	3682.38	1754.77	0.00	0.00
110.00		133.58	89.58	0.00	0.00
115.00		329.51	219.17	0.00	0.00
118.00	(23) attachments	5925.21	3085.26	0.00	0.00
	Totals:	**17,973.64**	**16,267.61**	**0.00**	**0.00**

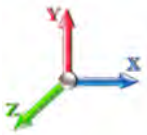
Linear Appurtenance Segment Forces (Factored)

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.017	0.000	19.450	0.00	0.72
10.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.017	0.000	19.450	0.00	0.72
15.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.017	0.000	19.450	0.00	0.72
20.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.018	0.000	20.638	0.00	0.72
25.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.018	0.000	21.630	0.00	0.72
30.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.018	0.000	22.477	0.00	0.72
35.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.019	0.000	23.218	0.00	0.72
40.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.019	0.000	23.880	0.00	0.72
40.75	1/2" Coax	Yes	0.75	0.000	0.65	0.04	0.00	0.020	0.000	23.974	0.00	0.11
45.00	1/2" Coax	Yes	4.25	0.000	0.65	0.23	0.00	0.020	0.000	24.479	0.00	0.61
50.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.020	0.000	25.029	0.00	0.72
55.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.020	0.000	25.536	0.00	0.72
60.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.021	0.000	26.008	0.00	0.72
65.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.021	0.000	26.450	0.00	0.72
70.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.022	0.000	26.866	0.00	0.72
75.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.022	0.000	27.259	0.00	0.72
77.25	1/2" Coax	Yes	2.25	0.000	0.65	0.12	0.00	0.023	0.000	27.429	0.00	0.32
78.00	1/2" Coax	Yes	0.75	0.000	0.65	0.04	0.00	0.023	0.000	27.485	0.00	0.11
									Totals:		**0.0**	**11.2**

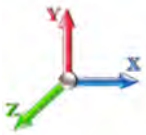
Calculated Forces

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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	-16.22	-18.02	0.00	-1636.5	0.00	1636.53	2657.45	1328.73	4204.87	2105.56	0.00	0.000	0.000	0.784
5.00	-15.44	-17.74	0.00	-1546.4	0.00	1546.43	2622.48	1311.24	4068.06	2037.05	0.17	-0.316	0.000	0.765
10.00	-14.68	-17.46	0.00	-1457.7	0.00	1457.73	2586.84	1293.42	3932.41	1969.13	0.67	-0.633	0.000	0.746
15.00	-13.94	-17.18	0.00	-1370.4	0.00	1370.43	2550.53	1275.26	3797.98	1901.81	1.50	-0.949	0.000	0.726
20.00	-13.21	-16.88	0.00	-1284.5	0.00	1284.52	2513.55	1256.78	3664.83	1835.14	2.66	-1.265	0.000	0.705
25.00	-12.50	-16.56	0.00	-1200.1	0.00	1200.12	2475.91	1237.96	3533.03	1769.14	4.16	-1.580	0.000	0.684
30.00	-11.80	-16.23	0.00	-1117.3	0.00	1117.31	2437.60	1218.80	3402.64	1703.85	5.98	-1.893	0.000	0.661
35.00	-11.12	-15.89	0.00	-1036.1	0.00	1036.16	2398.63	1199.31	3273.71	1639.29	8.13	-2.203	0.000	0.637
40.00	-10.49	-15.51	0.00	-956.72	0.00	956.72	2358.98	1179.49	3146.32	1575.50	10.60	-2.511	0.000	0.612
40.75	-10.37	-15.48	0.00	-945.09	0.00	945.09	2352.98	1176.49	3127.35	1566.00	11.00	-2.558	0.000	0.608
45.00	-9.47	-15.16	0.00	-879.30	0.00	879.30	1755.34	877.67	2332.03	1167.75	13.39	-2.816	0.000	0.759
50.00	-8.93	-14.79	0.00	-803.53	0.00	803.53	1728.64	864.32	2242.86	1123.10	16.50	-3.114	0.000	0.721
55.00	-8.39	-14.43	0.00	-729.58	0.00	729.58	1701.27	850.64	2154.50	1078.85	19.95	-3.460	0.000	0.681
60.00	-7.86	-14.06	0.00	-657.45	0.00	657.45	1673.24	836.62	2067.01	1035.04	23.75	-3.796	0.000	0.640
65.00	-7.36	-13.68	0.00	-587.17	0.00	587.17	1644.54	822.27	1980.47	991.70	27.89	-4.120	0.000	0.597
70.00	-6.87	-13.31	0.00	-518.76	0.00	518.76	1615.17	807.59	1894.92	948.87	32.37	-4.431	0.000	0.551
75.00	-6.41	-12.92	0.00	-452.22	0.00	452.22	1585.14	792.57	1810.44	906.57	37.17	-4.727	0.000	0.503
77.25	-6.21	-12.75	0.00	-423.15	0.00	423.15	1571.40	785.70	1772.79	887.71	39.43	-4.856	0.000	0.481
78.00	-6.06	-12.58	0.00	-413.59	0.00	413.59	1566.79	783.40	1760.29	881.45	40.19	-4.899	0.000	0.473
80.00	-5.79	-12.41	0.00	-388.44	0.00	388.44	1554.43	777.22	1727.08	864.83	42.27	-5.010	0.000	0.453
80.75	-5.66	-12.36	0.00	-379.13	0.00	379.13	1064.66	532.33	1199.95	600.87	43.06	-5.051	0.000	0.637
85.00	-5.34	-12.05	0.00	-326.59	0.00	326.59	1050.00	525.00	1155.69	578.71	47.65	-5.268	0.000	0.570
90.00	-4.99	-11.68	0.00	-266.35	0.00	266.35	1032.12	516.06	1103.96	552.80	53.32	-5.561	0.000	0.487
95.00	-4.65	-11.31	0.00	-207.96	0.00	207.96	1013.59	506.79	1052.64	527.10	59.27	-5.816	0.000	0.400
100.00	-4.33	-10.94	0.00	-151.43	0.00	151.43	994.38	497.19	1001.80	501.65	65.47	-6.027	0.000	0.307
105.00	-4.03	-10.57	0.00	-96.74	0.00	96.74	974.51	487.26	951.51	476.46	71.86	-6.186	0.000	0.208
108.00	-2.68	-6.72	0.00	-65.03	0.00	65.03	962.27	481.13	921.62	461.49	75.77	-6.254	0.000	0.144
110.00	-2.60	-6.58	0.00	-51.59	0.00	51.59	953.97	476.99	901.82	451.58	78.39	-6.289	0.000	0.117
115.00	-2.41	-6.23	0.00	-18.69	0.00	18.69	932.77	466.38	852.80	427.03	85.00	-6.344	0.000	0.047
118.00	0.00	-5.93	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48	88.98	-6.353	0.000	0.000

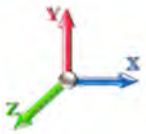
Wind Loading - Shaft

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

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

Dead Load Factor 1.20

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	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.242	5.00	17.305	20.77	118.1	305.9	1078.3
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	17.062	20.47	116.4	322.3	1079.5
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	16.790	20.15	114.5	329.6	1071.6
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	16.507	19.81	119.5	332.9	1059.7
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	16.216	19.46	123.0	333.8	1045.5
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	15.921	19.11	125.5	333.3	1029.7
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	15.623	18.75	127.2	331.5	1012.8
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	5.00	15.322	18.39	128.3	329.0	995.1
40.75	Bot - Section 2	1.00	1.05	6.370	7.01	0.00	1.200	1.532	0.75	2.271	2.73	19.1	49.3	147.9
45.00	Top - Section 1	1.00	1.07	6.504	7.15	0.00	1.200	1.547	4.25	12.927	15.51	111.0	281.1	1282.9
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	5.00	14.928	17.91	131.0	327.0	844.6
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	5.00	14.623	17.55	131.0	322.8	828.3
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	14.317	17.18	130.6	318.3	811.6
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	14.010	16.81	130.0	313.4	794.6
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	13.703	16.44	129.1	308.3	777.3
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	13.395	16.07	128.1	302.9	759.7
77.25	Bot - Section 3	1.00	1.20	7.288	8.02	0.00	1.200	1.633	2.25	5.926	7.11	57.0	135.2	336.8
78.00	Appurtenance(s)	1.00	1.20	7.303	8.03	0.00	1.200	1.635	0.75	1.985	2.38	19.1	45.5	163.0
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	2.00	5.260	6.31	51.0	120.4	431.3
80.75	Top - Section 2	1.00	1.21	7.356	8.09	0.00	1.200	1.640	0.75	1.960	2.35	19.0	45.0	160.7
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	4.25	10.975	13.17	107.7	251.0	530.7
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	5.00	12.626	15.15	125.4	289.3	609.9
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	5.00	12.316	14.78	123.8	283.1	594.6
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	5.00	12.006	14.41	121.9	276.7	579.1
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	5.00	11.695	14.03	120.0	270.3	563.5
108.00	Appurtenance(s)	1.00	1.29	7.821	8.60	0.00	1.200	1.689	3.00	6.867	8.24	70.9	159.8	331.4
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	2.00	4.516	5.42	46.8	105.5	218.0
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	11.073	13.29	115.8	256.9	532.0
118.00	Appurtenance(s)	1.00	1.31	7.968	8.76	0.00	1.200	1.704	3.00	6.494	7.79	68.3	151.7	312.3
								Totals:	**118.00**			**2,929.2**		**19,982.4**

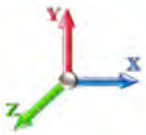
Discrete Appurtenance Forces

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor 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	118.00	AIR32	3	7.968	8.765	0.65	0.75	15.00	1013.58	0.000	0.000	131.45	0.00	0.00
2	118.00	6' Lightning rod	1	7.968	8.765	1.00	1.00	1.44	37.94	0.000	0.000	12.64	0.00	0.00
3	118.00	AIR6449 B41	3	7.968	8.765	0.00	1.00	19.73	677.30	0.000	0.000	172.96	0.00	0.00
4	118.00	Ericsson 4449 B71 + B85	3	7.968	8.765	0.50	0.75	3.81	257.44	0.000	0.000	33.37	0.00	0.00
5	118.00	ALU 800 MHz RRH	6	7.968	8.765	0.50	0.75	10.87	688.24	0.000	0.000	95.31	0.00	0.00
6	118.00	Ericsson 4415 B25	3	7.968	8.765	0.50	0.75	3.63	343.49	0.000	0.000	31.84	0.00	0.00
7	118.00	APXVAALL24_43-U-NA20	3	7.968	8.765	0.55	0.75	36.29	1605.38	0.000	0.000	318.05	0.00	0.00
8	118.00	Platform w/ Hand Rails	1	7.968	8.765	1.00	1.00	59.26	3370.06	0.000	0.000	519.40	0.00	0.00
9	108.00	Low Profile Platform	1	7.821	8.603	1.00	1.00	39.09	2766.61	0.000	0.000	336.29	0.00	0.00
10	108.00	Antel - BXA-70063/6CF	1	7.821	8.603	0.68	0.80	6.97	116.93	0.000	0.000	59.93	0.00	0.00
11	108.00	Antel - LPA 185080/12CF	6	7.821	8.603	0.68	0.80	18.89	745.84	0.000	0.000	162.49	0.00	0.00
12	108.00	Antel - LPA 80080/6CF	6	7.821	8.603	0.69	0.80	22.57	1275.89	0.000	0.000	194.19	0.00	0.00
13	108.00	Antel - BXA 70080/6CF	2	7.821	8.603	0.71	0.80	11.60	214.92	0.000	0.000	99.81	0.00	0.00
14	78.00	Pipe Mount	1	7.303	8.033	0.56	0.75	4.62	100.20	0.000	0.000	37.15	0.00	0.00
15	78.00	GPS	1	7.303	8.033	0.80	0.80	1.33	31.46	0.000	0.000	10.71	0.00	0.00
							Totals:		**13,245.29**			**2,215.60**		

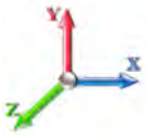
Total Applied Force Summary

Structure:	CT46148-A-SBA		**Code:**	EIA/TIA-222-G	12/16/2020
Site Name:	Russo Property/ Ssusa		**Exposure:**	C	
Height:	118.00 (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

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

Dead Load Factor 1.20

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		118.05	1221.49	0.00	0.00
10.00		116.39	1224.35	0.00	0.00
15.00		114.54	1217.51	0.00	0.00
20.00		119.48	1206.38	0.00	0.00
25.00		123.02	1192.78	0.00	0.00
30.00		125.51	1177.55	0.00	0.00
35.00		127.22	1161.13	0.00	0.00
40.00		128.33	1143.83	0.00	0.00
40.75		19.10	170.21	0.00	0.00
45.00		110.98	1409.65	0.00	0.00
50.00		131.04	994.12	0.00	0.00
55.00		130.97	978.15	0.00	0.00
60.00		130.60	961.77	0.00	0.00
65.00		129.97	945.03	0.00	0.00
70.00		129.12	927.99	0.00	0.00
75.00		128.06	910.68	0.00	0.00
77.25		57.01	404.76	0.00	0.00
78.00	(2) attachments	66.99	317.28	0.00	0.00
80.00		50.97	483.11	0.00	0.00
80.75		19.03	180.16	0.00	0.00
85.00		107.73	640.74	0.00	0.00
90.00		125.44	739.37	0.00	0.00
95.00		123.76	724.08	0.00	0.00
100.00		121.95	708.63	0.00	0.00
105.00		120.02	693.03	0.00	0.00
108.00	(16) attachments	923.61	5529.27	0.00	0.00
110.00		46.80	224.90	0.00	0.00
115.00		115.84	549.14	0.00	0.00
118.00	(23) attachments	1383.32	8316.09	0.00	0.00
	Totals:	**5,144.83**	**36,353.18**	**0.00**	**0.00**

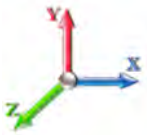
Linear Appurtenance Segment Forces (Factored)

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

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

Dead Load Factor 1.20

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	1/2" Coax	Yes	5.00	0.000	0.65	1.31	0.00	0.017	0.000	5.168	0.00	13.70
10.00	1/2" Coax	Yes	5.00	0.000	0.65	1.38	0.00	0.017	0.000	5.168	0.00	15.33
15.00	1/2" Coax	Yes	5.00	0.000	0.65	1.43	0.00	0.017	0.000	5.168	0.00	16.38
20.00	1/2" Coax	Yes	5.00	0.000	0.65	1.46	0.00	0.018	0.000	5.483	0.00	17.18
25.00	1/2" Coax	Yes	5.00	0.000	0.65	1.49	0.00	0.018	0.000	5.747	0.00	17.83
30.00	1/2" Coax	Yes	5.00	0.000	0.65	1.51	0.00	0.018	0.000	5.972	0.00	18.38
35.00	1/2" Coax	Yes	5.00	0.000	0.65	1.53	0.00	0.019	0.000	6.169	0.00	18.86
40.00	1/2" Coax	Yes	5.00	0.000	0.65	1.55	0.00	0.019	0.000	6.345	0.00	19.29
40.75	1/2" Coax	Yes	0.75	0.000	0.65	0.23	0.00	0.020	0.000	6.370	0.00	2.90
45.00	1/2" Coax	Yes	4.25	0.000	0.65	1.33	0.00	0.020	0.000	6.504	0.00	16.72
50.00	1/2" Coax	Yes	5.00	0.000	0.65	1.57	0.00	0.020	0.000	6.650	0.00	20.02
55.00	1/2" Coax	Yes	5.00	0.000	0.65	1.59	0.00	0.020	0.000	6.785	0.00	20.35
60.00	1/2" Coax	Yes	5.00	0.000	0.65	1.60	0.00	0.021	0.000	6.910	0.00	20.65
65.00	1/2" Coax	Yes	5.00	0.000	0.65	1.61	0.00	0.021	0.000	7.028	0.00	20.93
70.00	1/2" Coax	Yes	5.00	0.000	0.65	1.62	0.00	0.022	0.000	7.138	0.00	21.20
75.00	1/2" Coax	Yes	5.00	0.000	0.65	1.63	0.00	0.022	0.000	7.243	0.00	21.45
77.25	1/2" Coax	Yes	2.25	0.000	0.65	0.73	0.00	0.023	0.000	7.288	0.00	9.70
78.00	1/2" Coax	Yes	0.75	0.000	0.65	0.24	0.00	0.023	0.000	7.303	0.00	3.24
										Totals:	**0.0**	**294.1**

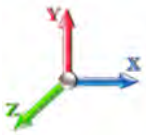
Calculated Forces

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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 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	-36.35	-5.17	0.00	-470.76	0.00	470.76	2657.45	1328.73	4204.87	2105.56	0.00	0.000	0.000	0.237
5.00	-35.12	-5.11	0.00	-444.90	0.00	444.90	2622.48	1311.24	4068.06	2037.05	0.05	-0.091	0.000	0.232
10.00	-33.89	-5.04	0.00	-419.35	0.00	419.35	2586.84	1293.42	3932.41	1969.13	0.19	-0.182	0.000	0.226
15.00	-32.66	-4.98	0.00	-394.13	0.00	394.13	2550.53	1275.26	3797.98	1901.81	0.43	-0.273	0.000	0.220
20.00	-31.45	-4.90	0.00	-369.24	0.00	369.24	2513.55	1256.78	3664.83	1835.14	0.77	-0.364	0.000	0.214
25.00	-30.25	-4.82	0.00	-344.74	0.00	344.74	2475.91	1237.96	3533.03	1769.14	1.20	-0.454	0.000	0.207
30.00	-29.07	-4.73	0.00	-320.66	0.00	320.66	2437.60	1218.80	3402.64	1703.85	1.72	-0.544	0.000	0.200
35.00	-27.90	-4.63	0.00	-297.03	0.00	297.03	2398.63	1199.31	3273.71	1639.29	2.34	-0.633	0.000	0.193
40.00	-26.75	-4.51	0.00	-273.88	0.00	273.88	2358.98	1179.49	3146.32	1575.50	3.05	-0.721	0.000	0.185
40.75	-26.58	-4.51	0.00	-270.49	0.00	270.49	2352.98	1176.49	3127.35	1566.00	3.16	-0.735	0.000	0.184
45.00	-25.17	-4.42	0.00	-251.32	0.00	251.32	1755.34	877.67	2332.03	1167.75	3.85	-0.809	0.000	0.230
50.00	-24.17	-4.31	0.00	-229.24	0.00	229.24	1728.64	864.32	2242.86	1123.10	4.74	-0.894	0.000	0.218
55.00	-23.18	-4.20	0.00	-207.69	0.00	207.69	1701.27	850.64	2154.50	1078.85	5.73	-0.992	0.000	0.206
60.00	-22.22	-4.09	0.00	-186.69	0.00	186.69	1673.24	836.62	2067.01	1035.04	6.82	-1.088	0.000	0.194
65.00	-21.27	-3.97	0.00	-166.24	0.00	166.24	1644.54	822.27	1980.47	991.70	8.01	-1.180	0.000	0.181
70.00	-20.34	-3.86	0.00	-146.37	0.00	146.37	1615.17	807.59	1894.92	948.87	9.29	-1.268	0.000	0.167
75.00	-19.43	-3.73	0.00	-127.09	0.00	127.09	1585.14	792.57	1810.44	906.57	10.67	-1.351	0.000	0.152
77.25	-19.02	-3.67	0.00	-118.70	0.00	118.70	1571.40	785.70	1772.79	887.71	11.31	-1.387	0.000	0.146
78.00	-18.71	-3.60	0.00	-115.95	0.00	115.95	1566.79	783.40	1760.29	881.45	11.53	-1.399	0.000	0.144
80.00	-18.22	-3.54	0.00	-108.75	0.00	108.75	1554.43	777.22	1727.08	864.83	12.12	-1.430	0.000	0.137
80.75	-18.04	-3.53	0.00	-106.09	0.00	106.09	1064.66	532.33	1199.95	600.87	12.35	-1.442	0.000	0.194
85.00	-17.40	-3.43	0.00	-91.08	0.00	91.08	1050.00	525.00	1155.69	578.71	13.66	-1.503	0.000	0.174
90.00	-16.66	-3.31	0.00	-73.92	0.00	73.92	1032.12	516.06	1103.96	552.80	15.28	-1.584	0.000	0.150
95.00	-15.93	-3.18	0.00	-57.39	0.00	57.39	1013.59	506.79	1052.64	527.10	16.98	-1.655	0.000	0.125
100.00	-15.23	-3.05	0.00	-41.48	0.00	41.48	994.38	497.19	1001.80	501.65	18.74	-1.713	0.000	0.098
105.00	-14.54	-2.92	0.00	-26.22	0.00	26.22	974.51	487.26	951.51	476.46	20.56	-1.756	0.000	0.070
108.00	-9.04	-1.83	0.00	-17.46	0.00	17.46	962.27	481.13	921.62	461.49	21.67	-1.775	0.000	0.047
110.00	-8.81	-1.78	0.00	-13.81	0.00	13.81	953.97	476.99	901.82	451.58	22.42	-1.784	0.000	0.040
115.00	-8.27	-1.64	0.00	-4.93	0.00	4.93	932.77	466.38	852.80	427.03	24.29	-1.798	0.000	0.020
118.00	0.00	-1.38	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48	25.43	-1.801	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

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**	0.07
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.40		**SA**	0.04	**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		643.65	0.00	0.04	0.02	11.59	
10.00		630.99	0.01	0.06	0.03	15.99	
15.00		618.33	0.03	0.07	0.04	17.66	
20.00		605.67	0.05	0.07	0.04	18.25	
25.00		593.02	0.08	0.07	0.04	18.53	
30.00		580.36	0.12	0.07	0.03	18.71	
35.00		567.70	0.17	0.07	0.03	18.74	
40.00		555.04	0.22	0.06	0.02	18.30	
40.75	Bot - Section 2	82.16	0.23	0.06	0.02	2.70	
45.00	Top - Section 1	834.84	0.27	0.05	0.01	26.05	
50.00		431.37	0.34	0.04	0.01	11.47	
55.00		421.24	0.41	0.01	0.01	7.70	
60.00		411.11	0.49	-0.01	0.01	2.62	
65.00		400.98	0.57	-0.04	0.01	-2.91	
70.00		390.85	0.67	-0.08	0.02	-7.56	
75.00		380.73	0.76	-0.10	0.04	-10.12	
77.25	Bot - Section 3	168.02	0.81	-0.11	0.06	-4.65	
78.00	Appurtenance(s)	147.88	0.83	-0.12	0.06	-4.09	
80.00		259.06	0.87	-0.12	0.08	-6.96	
80.75	Top - Section 2	96.42	0.89	-0.12	0.08	-2.53	
85.00		233.08	0.98	-0.11	0.12	-4.52	
90.00		267.19	1.10	-0.07	0.19	-1.05	
95.00		259.59	1.23	0.03	0.27	5.09	
100.00		252.00	1.36	0.21	0.39	12.90	
105.00		244.40	1.50	0.49	0.54	22.23	
108.00	Appurtenance(s)	1884.9	1.58	0.73	0.65	223.93	
110.00		93.81	1.64	0.92	0.73	13.04	
115.00		229.21	1.80	1.52	0.97	44.86	
118.00	Appurtenance(s)	3419.4	1.89	1.98	1.14	799.91	
	Totals:	**15,703.2**				**1,265.9**	**Total Wind:** **17,973.6**

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

Calculated Forces

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

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**	0.07
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.40	**SA**	0.04	**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	-21.69	-1.31	0.00	-141.82	0.00	141.82	2657.45	1328.73	4204.87	2105.56		0.00	0.00	0.076
5.00	-20.79	-1.31	0.00	-135.25	0.00	135.25	2622.48	1311.24	4068.06	2037.05		0.01	-0.03	0.074
10.00	-19.90	-1.31	0.00	-128.68	0.00	128.68	2586.84	1293.42	3932.41	1969.13		0.06	-0.06	0.073
15.00	-19.03	-1.30	0.00	-122.15	0.00	122.15	2550.53	1275.26	3797.98	1901.81		0.13	-0.08	0.072
20.00	-18.17	-1.29	0.00	-115.67	0.00	115.67	2513.55	1256.78	3664.83	1835.14		0.23	-0.11	0.070
25.00	-17.32	-1.27	0.00	-109.24	0.00	109.24	2475.91	1237.96	3533.03	1769.14		0.37	-0.14	0.069
30.00	-16.50	-1.26	0.00	-102.87	0.00	102.87	2437.60	1218.80	3402.64	1703.85		0.53	-0.17	0.067
35.00	-15.68	-1.25	0.00	-96.56	0.00	96.56	2398.63	1199.31	3273.71	1639.29		0.72	-0.20	0.065
40.00	-14.89	-1.23	0.00	-90.32	0.00	90.32	2358.98	1179.49	3146.32	1575.50		0.94	-0.23	0.064
40.75	-14.77	-1.23	0.00	-89.39	0.00	89.39	2352.98	1176.49	3127.35	1566.00		0.98	-0.23	0.063
45.00	-13.66	-1.21	0.00	-84.16	0.00	84.16	1755.34	877.67	2332.03	1167.75		1.20	-0.26	0.080
50.00	-13.01	-1.20	0.00	-78.12	0.00	78.12	1728.64	864.32	2242.86	1123.10		1.48	-0.28	0.077
55.00	-12.37	-1.20	0.00	-72.12	0.00	72.12	1701.27	850.64	2154.50	1078.85		1.79	-0.32	0.074
60.00	-11.75	-1.20	0.00	-66.14	0.00	66.14	1673.24	836.62	2067.01	1035.04		2.14	-0.35	0.071
65.00	-11.13	-1.20	0.00	-60.16	0.00	60.16	1644.54	822.27	1980.47	991.70		2.53	-0.38	0.067
70.00	-10.53	-1.20	0.00	-54.16	0.00	54.16	1615.17	807.59	1894.92	948.87		2.95	-0.42	0.064
75.00	-9.95	-1.20	0.00	-48.16	0.00	48.16	1585.14	792.57	1810.44	906.57		3.40	-0.45	0.059
77.25	-9.69	-1.20	0.00	-45.46	0.00	45.46	1571.40	785.70	1772.79	887.71		3.62	-0.46	0.057
78.00	-9.49	-1.20	0.00	-44.56	0.00	44.56	1566.79	783.40	1760.29	881.45		3.69	-0.47	0.057
80.00	-9.13	-1.20	0.00	-42.16	0.00	42.16	1554.43	777.22	1727.08	864.83		3.89	-0.48	0.055
80.75	-8.99	-1.20	0.00	-41.26	0.00	41.26	1064.66	532.33	1199.95	600.87		3.96	-0.48	0.077
85.00	-8.60	-1.20	0.00	-36.16	0.00	36.16	1050.00	525.00	1155.69	578.71		4.41	-0.51	0.071
90.00	-8.15	-1.20	0.00	-30.16	0.00	30.16	1032.12	516.06	1103.96	552.80		4.95	-0.54	0.062
95.00	-7.71	-1.19	0.00	-24.16	0.00	24.16	1013.59	506.79	1052.64	527.10		5.53	-0.57	0.053
100.00	-7.28	-1.18	0.00	-18.18	0.00	18.18	994.38	497.19	1001.80	501.65		6.14	-0.59	0.044
105.00	-6.85	-1.16	0.00	-12.28	0.00	12.28	974.51	487.26	951.51	476.46		6.78	-0.61	0.033
108.00	-4.52	-0.91	0.00	-8.82	0.00	8.82	962.27	481.13	921.62	461.49		7.16	-0.62	0.024
110.00	-4.40	-0.89	0.00	-7.00	0.00	7.00	953.97	476.99	901.82	451.58		7.43	-0.63	0.020
115.00	-4.10	-0.85	0.00	-2.54	0.00	2.54	932.77	466.38	852.80	427.03		8.09	-0.63	0.010
118.00	0.00	-0.80	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48		8.49	-0.64	0.000

Seismic Segment Forces (Factored)

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

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**	0.07
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.40		**SA**	0.04	**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		643.65	0.00	0.04	0.02	11.59	
10.00		630.99	0.01	0.06	0.03	15.99	
15.00		618.33	0.03	0.07	0.04	17.66	
20.00		605.67	0.05	0.07	0.04	18.25	
25.00		593.02	0.08	0.07	0.04	18.53	
30.00		580.36	0.12	0.07	0.03	18.71	
35.00		567.70	0.17	0.07	0.03	18.74	
40.00		555.04	0.22	0.06	0.02	18.30	
40.75	Bot - Section 2	82.16	0.23	0.06	0.02	2.70	
45.00	Top - Section 1	834.84	0.27	0.05	0.01	26.05	
50.00		431.37	0.34	0.04	0.01	11.47	
55.00		421.24	0.41	0.01	0.01	7.70	
60.00		411.11	0.49	-0.01	0.01	2.62	
65.00		400.98	0.57	-0.04	0.01	-2.91	
70.00		390.85	0.67	-0.08	0.02	-7.56	
75.00		380.73	0.76	-0.10	0.04	-10.12	
77.25	Bot - Section 3	168.02	0.81	-0.11	0.06	-4.65	
78.00	Appurtenance(s)	147.88	0.83	-0.12	0.06	-4.09	
80.00		259.06	0.87	-0.12	0.08	-6.96	
80.75	Top - Section 2	96.42	0.89	-0.12	0.08	-2.53	
85.00		233.08	0.98	-0.11	0.12	-4.52	
90.00		267.19	1.10	-0.07	0.19	-1.05	
95.00		259.59	1.23	0.03	0.27	5.09	
100.00		252.00	1.36	0.21	0.39	12.90	
105.00		244.40	1.50	0.49	0.54	22.23	
108.00	Appurtenance(s)	1884.9	1.58	0.73	0.65	223.93	
110.00		93.81	1.64	0.92	0.73	13.04	
115.00		229.21	1.80	1.52	0.97	44.86	
118.00	Appurtenance(s)	3419.4	1.89	1.98	1.14	799.91	
	Totals:	**15,703.2**				**1,265.9**	**Total Wind:** **17,973.6**

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

Calculated Forces

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

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**	0.07
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.40	**SA**	0.04	**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	-16.27	-1.31	0.00	-140.02	0.00	140.02	2657.45	1328.73	4204.87	2105.56		0.00	0.00	0.073
5.00	-15.59	-1.31	0.00	-133.45	0.00	133.45	2622.48	1311.24	4068.06	2037.05		0.01	-0.03	0.071
10.00	-14.92	-1.30	0.00	-126.90	0.00	126.90	2586.84	1293.42	3932.41	1969.13		0.06	-0.05	0.070
15.00	-14.27	-1.29	0.00	-120.40	0.00	120.40	2550.53	1275.26	3797.98	1901.81		0.13	-0.08	0.069
20.00	-13.62	-1.28	0.00	-113.96	0.00	113.96	2513.55	1256.78	3664.83	1835.14		0.23	-0.11	0.068
25.00	-12.99	-1.26	0.00	-107.58	0.00	107.58	2475.91	1237.96	3533.03	1769.14		0.36	-0.14	0.066
30.00	-12.37	-1.25	0.00	-101.27	0.00	101.27	2437.60	1218.80	3402.64	1703.85		0.52	-0.17	0.065
35.00	-11.76	-1.23	0.00	-95.03	0.00	95.03	2398.63	1199.31	3273.71	1639.29		0.71	-0.19	0.063
40.00	-11.16	-1.22	0.00	-88.87	0.00	88.87	2358.98	1179.49	3146.32	1575.50		0.93	-0.22	0.061
40.75	-11.08	-1.22	0.00	-87.96	0.00	87.96	2352.98	1176.49	3127.35	1566.00		0.96	-0.23	0.061
45.00	-10.24	-1.19	0.00	-82.79	0.00	82.79	1755.34	877.67	2332.03	1167.75		1.18	-0.25	0.077
50.00	-9.75	-1.18	0.00	-76.84	0.00	76.84	1728.64	864.32	2242.86	1123.10		1.46	-0.28	0.074
55.00	-9.28	-1.18	0.00	-70.93	0.00	70.93	1701.27	850.64	2154.50	1078.85		1.77	-0.31	0.071
60.00	-8.81	-1.18	0.00	-65.04	0.00	65.04	1673.24	836.62	2067.01	1035.04		2.11	-0.35	0.068
65.00	-8.35	-1.18	0.00	-59.16	0.00	59.16	1644.54	822.27	1980.47	991.70		2.49	-0.38	0.065
70.00	-7.90	-1.18	0.00	-53.26	0.00	53.26	1615.17	807.59	1894.92	948.87		2.91	-0.41	0.061
75.00	-7.46	-1.18	0.00	-47.36	0.00	47.36	1585.14	792.57	1810.44	906.57		3.35	-0.44	0.057
77.25	-7.26	-1.18	0.00	-44.71	0.00	44.71	1571.40	785.70	1772.79	887.71		3.56	-0.45	0.055
78.00	-7.11	-1.18	0.00	-43.82	0.00	43.82	1566.79	783.40	1760.29	881.45		3.64	-0.46	0.054
80.00	-6.84	-1.18	0.00	-41.46	0.00	41.46	1554.43	777.22	1727.08	864.83		3.83	-0.47	0.052
80.75	-6.74	-1.18	0.00	-40.58	0.00	40.58	1064.66	532.33	1199.95	600.87		3.90	-0.48	0.074
85.00	-6.45	-1.18	0.00	-35.57	0.00	35.57	1050.00	525.00	1155.69	578.71		4.34	-0.50	0.068
90.00	-6.11	-1.18	0.00	-29.67	0.00	29.67	1032.12	516.06	1103.96	552.80		4.88	-0.53	0.060
95.00	-5.78	-1.17	0.00	-23.77	0.00	23.77	1013.59	506.79	1052.64	527.10		5.45	-0.56	0.051
100.00	-5.45	-1.16	0.00	-17.90	0.00	17.90	994.38	497.19	1001.80	501.65		6.05	-0.58	0.041
105.00	-5.14	-1.14	0.00	-12.10	0.00	12.10	974.51	487.26	951.51	476.46		6.67	-0.60	0.031
108.00	-3.38	-0.89	0.00	-8.69	0.00	8.69	962.27	481.13	921.62	461.49		7.05	-0.61	0.022
110.00	-3.30	-0.88	0.00	-6.90	0.00	6.90	953.97	476.99	901.82	451.58		7.31	-0.62	0.019
115.00	-3.08	-0.83	0.00	-2.50	0.00	2.50	932.77	466.38	852.80	427.03		7.96	-0.62	0.009
118.00	0.00	-0.80	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48		8.35	-0.63	0.000

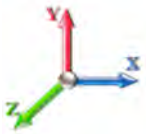
Wind Loading - Shaft

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

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	0.85	7.442	8.19	181.76	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	178.25	0.650	0.000	5.00	16.270	10.58	86.6	0.0	643.7
10.00		1.00	0.85	7.442	8.19	174.74	0.650	0.000	5.00	15.953	10.37	84.9	0.0	631.0
15.00		1.00	0.85	7.442	8.19	171.22	0.650	0.000	5.00	15.635	10.16	83.2	0.0	618.3
20.00		1.00	0.90	7.896	8.69	172.76	0.650	0.000	5.00	15.318	9.96	86.5	0.0	605.7
25.00		1.00	0.95	8.276	9.10	173.16	0.650	0.000	5.00	15.000	9.75	88.8	0.0	593.0
30.00		1.00	0.98	8.600	9.46	172.74	0.650	0.000	5.00	14.683	9.54	90.3	0.0	580.4
35.00		1.00	1.01	8.883	9.77	171.73	0.650	0.000	5.00	14.366	9.34	91.2	0.0	567.7
40.00		1.00	1.04	9.137	10.05	170.27	0.650	0.000	5.00	14.048	9.13	91.8	0.0	555.0
40.75	Bot - Section 2	1.00	1.05	9.173	10.09	170.02	0.650	0.000	0.75	2.080	1.35	13.6	0.0	82.2
45.00	Top - Section 1	1.00	1.07	9.366	10.30	168.45	0.650	0.000	4.25	11.831	7.69	79.2	0.0	834.8
50.00		1.00	1.09	9.576	10.53	169.00	0.650	0.000	5.00	13.625	8.86	93.3	0.0	431.4
55.00		1.00	1.12	9.770	10.75	166.68	0.650	0.000	5.00	13.307	8.65	93.0	0.0	421.2
60.00		1.00	1.14	9.951	10.95	164.15	0.650	0.000	5.00	12.990	8.44	92.4	0.0	411.1
65.00		1.00	1.16	10.120	11.13	161.45	0.650	0.000	5.00	12.673	8.24	91.7	0.0	401.0
70.00		1.00	1.17	10.279	11.31	158.59	0.650	0.000	5.00	12.355	8.03	90.8	0.0	390.9
75.00		1.00	1.19	10.430	11.47	155.58	0.650	0.000	5.00	12.038	7.82	89.8	0.0	380.7
77.25	Bot - Section 3	1.00	1.20	10.495	11.54	154.19	0.650	0.000	2.25	5.313	3.45	39.9	0.0	168.0
78.00	Appurtenance(s)	1.00	1.20	10.516	11.57	153.72	0.650	0.000	0.75	1.781	1.16	13.4	0.0	97.9
80.00		1.00	1.21	10.572	11.63	152.46	0.650	0.000	2.00	4.714	3.06	35.6	0.0	259.1
80.75	Top - Section 2	1.00	1.21	10.593	11.65	151.98	0.650	0.000	0.75	1.754	1.14	13.3	0.0	96.4
85.00		1.00	1.22	10.708	11.78	151.33	0.650	0.000	4.25	9.807	6.37	75.1	0.0	233.1
90.00		1.00	1.24	10.838	11.92	148.00	0.650	0.000	5.00	11.244	7.31	87.1	0.0	267.2
95.00		1.00	1.25	10.962	12.06	144.59	0.650	0.000	5.00	10.927	7.10	85.6	0.0	259.6
100.00		1.00	1.27	11.081	12.19	141.08	0.650	0.000	5.00	10.609	6.90	84.1	0.0	252.0
105.00		1.00	1.28	11.195	12.31	137.50	0.650	0.000	5.00	10.292	6.69	82.4	0.0	244.4
108.00	Appurtenance(s)	1.00	1.29	11.262	12.39	135.32	0.650	0.000	3.00	6.023	3.91	48.5	0.0	143.0
110.00		1.00	1.29	11.305	12.44	133.85	0.650	0.000	2.00	3.952	2.57	31.9	0.0	93.8
115.00		1.00	1.30	11.412	12.55	130.13	0.650	0.000	5.00	9.657	6.28	78.8	0.0	229.2
118.00	Appurtenance(s)	1.00	1.31	11.474	12.62	127.87	0.650	0.000	3.00	5.642	3.67	46.3	0.0	133.9
								Totals:	**118.00**			**2,069.0**		**10,625.6**

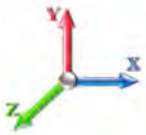
Discrete Appurtenance Forces

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

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)	Orient Factor 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	118.00	AIR32	3	11.474	12.621	0.65	0.75	12.74	396.60	0.000	0.000	160.83	0.00	0.00
2	118.00	6' Lightning rod	1	11.474	12.621	1.00	1.00	0.38	6.50	0.000	0.000	4.80	0.00	0.00
3	118.00	AIR6449 B41	3	11.474	12.621	0.00	1.00	16.95	309.00	0.000	0.000	213.93	0.00	0.00
4	118.00	Ericsson 4449 B71 + B85	3	11.474	12.621	0.50	0.75	2.97	219.60	0.000	0.000	37.48	0.00	0.00
5	118.00	ALU 800 MHz RRH	6	11.474	12.621	0.50	0.75	7.51	318.00	0.000	0.000	94.75	0.00	0.00
6	118.00	Ericsson 4415 B25	3	11.474	12.621	0.50	0.75	2.80	138.90	0.000	0.000	35.39	0.00	0.00
7	118.00	APXVAALL24_43-U-NA20	3	11.474	12.621	0.55	0.75	33.24	297.00	0.000	0.000	419.58	0.00	0.00
8	118.00	Platform w/ Hand Rails	1	11.474	12.621	1.00	1.00	32.00	1600.00	0.000	0.000	403.87	0.00	0.00
9	108.00	Low Profile Platform	1	11.262	12.388	1.00	1.00	22.00	1500.00	0.000	0.000	272.53	0.00	0.00
10	108.00	Antel - BXA-70063/6CF	1	11.262	12.388	0.67	0.80	5.09	17.00	0.000	0.000	63.02	0.00	0.00
11	108.00	Antel - LPA 185080/12CF	6	11.262	12.388	0.67	0.80	14.19	63.00	0.000	0.000	175.82	0.00	0.00
12	108.00	Antel - LPA 80080/6CF	6	11.262	12.388	0.68	0.80	17.67	126.00	0.000	0.000	218.85	0.00	0.00
13	108.00	Antel - BXA 70080/6CF	2	11.262	12.388	0.70	0.80	8.22	36.00	0.000	0.000	101.86	0.00	0.00
14	78.00	Pipe Mount	1	10.516	11.568	0.56	0.75	1.48	40.00	0.000	0.000	17.11	0.00	0.00
15	78.00	GPS	1	10.516	11.568	0.80	0.80	0.80	10.00	0.000	0.000	9.25	0.00	0.00
							Totals:		**5,077.60**			**2,229.07**		

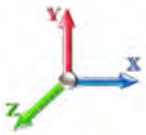
Total Applied Force Summary

Structure:	CT46148-A-SBA		**Code:**	EIA/TIA-222-G	12/16/2020
Site Name:	Russo Property/ Ssusa		**Exposure:**	C	
Height:	118.00 (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

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		86.57	752.36	0.00	0.00
10.00		84.88	739.70	0.00	0.00
15.00		83.19	727.04	0.00	0.00
20.00		86.48	714.38	0.00	0.00
25.00		88.76	701.73	0.00	0.00
30.00		90.28	689.07	0.00	0.00
35.00		91.25	676.41	0.00	0.00
40.00		91.77	663.75	0.00	0.00
40.75		13.64	98.47	0.00	0.00
45.00		79.23	927.24	0.00	0.00
50.00		93.29	540.08	0.00	0.00
55.00		92.96	529.95	0.00	0.00
60.00		92.42	519.82	0.00	0.00
65.00		91.70	509.69	0.00	0.00
70.00		90.81	499.56	0.00	0.00
75.00		89.77	489.44	0.00	0.00
77.25		39.87	216.94	0.00	0.00
78.00	(2) attachments	39.76	164.19	0.00	0.00
80.00		35.63	302.23	0.00	0.00
80.75		13.29	112.60	0.00	0.00
85.00		75.09	324.80	0.00	0.00
90.00		87.13	375.10	0.00	0.00
95.00		85.64	367.50	0.00	0.00
100.00		84.06	359.91	0.00	0.00
105.00		82.38	352.31	0.00	0.00
108.00	(16) attachments	880.58	1949.74	0.00	0.00
110.00		31.94	99.53	0.00	0.00
115.00		78.80	243.52	0.00	0.00
118.00	(23) attachments	1416.91	3428.06	0.00	0.00
	Totals:	**4,298.09**	**18,075.13**	**0.00**	**0.00**

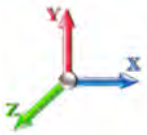
Linear Appurtenance Segment Forces (Factored)

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

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	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.017	0.000	7.442	0.00	0.80
10.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.017	0.000	7.442	0.00	0.80
15.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.017	0.000	7.442	0.00	0.80
20.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.018	0.000	7.896	0.00	0.80
25.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.018	0.000	8.276	0.00	0.80
30.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.018	0.000	8.600	0.00	0.80
35.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.019	0.000	8.883	0.00	0.80
40.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.019	0.000	9.137	0.00	0.80
40.75	1/2" Coax	Yes	0.75	0.000	0.65	0.04	0.00	0.020	0.000	9.173	0.00	0.12
45.00	1/2" Coax	Yes	4.25	0.000	0.65	0.23	0.00	0.020	0.000	9.366	0.00	0.68
50.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.020	0.000	9.576	0.00	0.80
55.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.020	0.000	9.770	0.00	0.80
60.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.021	0.000	9.951	0.00	0.80
65.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.021	0.000	10.120	0.00	0.80
70.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.022	0.000	10.279	0.00	0.80
75.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.022	0.000	10.430	0.00	0.80
77.25	1/2" Coax	Yes	2.25	0.000	0.65	0.12	0.00	0.023	0.000	10.495	0.00	0.36
78.00	1/2" Coax	Yes	0.75	0.000	0.65	0.04	0.00	0.023	0.000	10.516	0.00	0.12
										Totals:	**0.0**	**12.5**

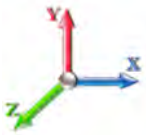
Calculated Forces

Structure:	CT46148-A-SBA	**Code:**	EIA/TIA-222-G	12/16/2020	
Site Name:	Russo Property/ Ssusa	**Exposure:**	C		
Height:	118.00 (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	

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	-18.07	-4.31	0.00	-393.66	0.00	393.66	2657.45	1328.73	4204.87	2105.56	0.00	0.000	0.000	0.194
5.00	-17.31	-4.25	0.00	-372.11	0.00	372.11	2622.48	1311.24	4068.06	2037.05	0.04	-0.076	0.000	0.189
10.00	-16.57	-4.18	0.00	-350.88	0.00	350.88	2586.84	1293.42	3932.41	1969.13	0.16	-0.152	0.000	0.185
15.00	-15.84	-4.12	0.00	-329.97	0.00	329.97	2550.53	1275.26	3797.98	1901.81	0.36	-0.228	0.000	0.180
20.00	-15.12	-4.05	0.00	-309.39	0.00	309.39	2513.55	1256.78	3664.83	1835.14	0.64	-0.304	0.000	0.175
25.00	-14.41	-3.97	0.00	-289.16	0.00	289.16	2475.91	1237.96	3533.03	1769.14	1.00	-0.380	0.000	0.169
30.00	-13.72	-3.90	0.00	-269.29	0.00	269.29	2437.60	1218.80	3402.64	1703.85	1.44	-0.456	0.000	0.164
35.00	-13.04	-3.82	0.00	-249.81	0.00	249.81	2398.63	1199.31	3273.71	1639.29	1.96	-0.531	0.000	0.158
40.00	-12.37	-3.73	0.00	-230.73	0.00	230.73	2358.98	1179.49	3146.32	1575.50	2.55	-0.605	0.000	0.152
40.75	-12.27	-3.72	0.00	-227.94	0.00	227.94	2352.98	1176.49	3127.35	1566.00	2.65	-0.616	0.000	0.151
45.00	-11.34	-3.64	0.00	-212.13	0.00	212.13	1755.34	877.67	2332.03	1167.75	3.23	-0.678	0.000	0.188
50.00	-10.80	-3.56	0.00	-193.91	0.00	193.91	1728.64	864.32	2242.86	1123.10	3.97	-0.750	0.000	0.179
55.00	-10.26	-3.47	0.00	-176.12	0.00	176.12	1701.27	850.64	2154.50	1078.85	4.80	-0.834	0.000	0.169
60.00	-9.74	-3.39	0.00	-158.76	0.00	158.76	1673.24	836.62	2067.01	1035.04	5.72	-0.915	0.000	0.159
65.00	-9.23	-3.30	0.00	-141.83	0.00	141.83	1644.54	822.27	1980.47	991.70	6.72	-0.993	0.000	0.149
70.00	-8.73	-3.21	0.00	-125.35	0.00	125.35	1615.17	807.59	1894.92	948.87	7.80	-1.068	0.000	0.138
75.00	-8.24	-3.12	0.00	-109.30	0.00	109.30	1585.14	792.57	1810.44	906.57	8.96	-1.140	0.000	0.126
77.25	-8.02	-3.08	0.00	-102.28	0.00	102.28	1571.40	785.70	1772.79	887.71	9.51	-1.171	0.000	0.120
78.00	-7.85	-3.04	0.00	-99.98	0.00	99.98	1566.79	783.40	1760.29	881.45	9.69	-1.181	0.000	0.118
80.00	-7.55	-3.00	0.00	-93.91	0.00	93.91	1554.43	777.22	1727.08	864.83	10.19	-1.208	0.000	0.113
80.75	-7.44	-2.98	0.00	-91.66	0.00	91.66	1064.66	532.33	1199.95	600.87	10.38	-1.218	0.000	0.160
85.00	-7.11	-2.91	0.00	-78.98	0.00	78.98	1050.00	525.00	1155.69	578.71	11.49	-1.271	0.000	0.143
90.00	-6.73	-2.82	0.00	-64.42	0.00	64.42	1032.12	516.06	1103.96	552.80	12.86	-1.341	0.000	0.123
95.00	-6.37	-2.73	0.00	-50.31	0.00	50.31	1013.59	506.79	1052.64	527.10	14.30	-1.403	0.000	0.102
100.00	-6.01	-2.65	0.00	-36.64	0.00	36.64	994.38	497.19	1001.80	501.65	15.80	-1.454	0.000	0.079
105.00	-5.66	-2.56	0.00	-23.41	0.00	23.41	974.51	487.26	951.51	476.46	17.34	-1.493	0.000	0.055
108.00	-3.73	-1.63	0.00	-15.74	0.00	15.74	962.27	481.13	921.62	461.49	18.29	-1.509	0.000	0.038
110.00	-3.63	-1.59	0.00	-12.49	0.00	12.49	953.97	476.99	901.82	451.58	18.92	-1.518	0.000	0.031
115.00	-3.39	-1.51	0.00	-4.52	0.00	4.52	932.77	466.38	852.80	427.03	20.52	-1.531	0.000	0.014
118.00	0.00	-1.42	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48	21.48	-1.533	0.000	0.000

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 97 mph Wind	18.0	0.00	21.64	0.00	0.00	1655.95
0.9D + 1.6W 97 mph Wind	18.0	0.00	16.22	0.00	0.00	1636.53
1.2D + 1.0Di + 1.0Wi 50 mph Wind	5.2	0.00	36.35	0.00	0.00	470.76
1.2D + 1.0E	1.3	0.00	21.69	0.00	0.00	141.82
0.9D + 1.0E	1.3	0.00	16.27	0.00	0.00	140.02
1.0D + 1.0W 60 mph Wind	4.3	0.00	18.07	0.00	0.00	393.66

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 97 mph Wind	-21.64	-18.03	0.00	-1655.9	0.00	-1655.9	2657.45	1328.7	4204.87	2105.56	0.00	0.795
0.9D + 1.6W 97 mph Wind	-16.22	-18.02	0.00	-1636.5	0.00	-1636.5	2657.45	1328.7	4204.87	2105.56	0.00	0.784
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-36.35	-5.17	0.00	-470.76	0.00	-470.76	2657.45	1328.7	4204.87	2105.56	0.00	0.237
1.2D + 1.0E	-13.66	-1.21	0.00	-84.16	0.00	-84.16	1755.34	877.67	2332.03	1167.75	45.00	0.080
0.9D + 1.0E	-10.24	-1.19	0.00	-82.79	0.00	-82.79	1755.34	877.67	2332.03	1167.75	45.00	0.077
1.0D + 1.0W 60 mph Wind	-18.07	-4.31	0.00	-393.66	0.00	-393.66	2657.45	1328.7	4204.87	2105.56	0.00	0.194

Base Plate Summary

Structure:	CT46148-A-SB		**Code:**	EIA/TIA-222-G	12/16/2020
Site Name:	Russo Property/ Ssusa		**Exposure:**	C	
Height:	118.00 (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

Reactions	
Original Design	
Moment (kip-ft):	1600.00
Axial (kip):	15.00
Shear (kip):	18.00
Analysis (1.2D + 1.6W)	
Moment (kip-ft):	1655.95
Axial (kip):	21.64
Shear (kip):	18.03

Base Plate	
Yield (ksi):	55.00
Width (in):	44.00
Style:	Clipped
Polygon Sides:	0.00
Clip Length (in):	8.00
Effective Len (in):	8.63
Moment (kip-in):	463.44
Allow Stress (ksi):	74.25
Applied Stress (ksi):	51.23
Stress Ratio:	0.69

Anchor Bolts	
Bolt Circle:	45.00
Number Bolts:	12.00
Bolt Type:	2.25" 18J
Bolt Diameter (in):	2.25
Yield (ksi):	75.00
Ultimate (ksi):	100.00
Arrangement:	Clustered
Cluster Dist (in):	6.00
Start Angle (deg):	45.00
Compression	
Force (kip):	150.22
Allowable (kip):	260.00
Ratio:	0.59
Tension	
Force (kip):	144.17
Allowable (kip):	260.00
Ratio:	0.57

Pier Foundation Design For Monopole

				Date
				12/16/2020
	Customer Name:	**T-Mobile Sprint**	**EIA/TIA Standard:**	EIA-222-G
	Site Name:		**Structure Height (Ft.):**	118
	Site Number:	CT46148-A-SBA	**Engineer Name:**	T. Alajaj
	Engr. Number:	100582	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Acceptable overstress (5.0%

Structure Type: Monopole

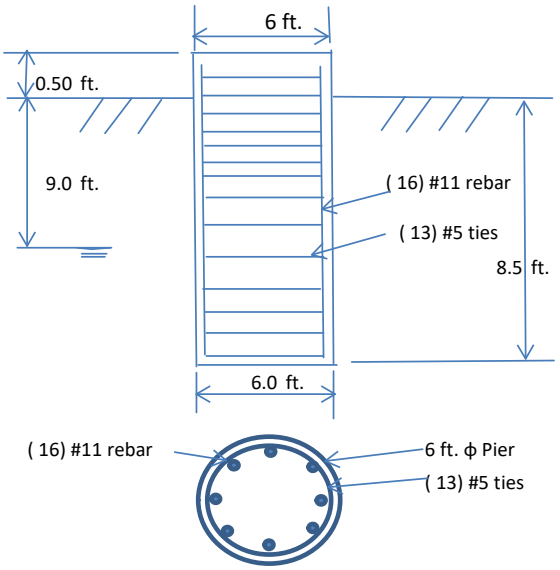
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	21.6	Shear Force (Kips):	18.0
Uplift Force (Kips):	0.0	Moment (Kips-ft):	1656.0

Foundation Geometries:

Diameter of Pier (ft.):	6.0	Depth of Base B. G. S. :	8.5	ft.
Pier Height A. G. (ft.):	0.50			



Monopole Pier Foundation

Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield strength:	60	ksi
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	16	Tie Spacing:	18.0	in.
Concrete Cover (in.):	4	Concrete unit weight:	150.0	pcf

Soil Design Parameters:

Water Table B.G.S. (ft):	9.0	Unit weight of water:	62.4	psf
Ratio of Uplift/Axial Skin Friction:	1.0	Pullout failure Angle:	30	(°)

Skin Frictions are to be obtained from: Soil Report

Clay

5000

Depth of Layers (ft) Top	Depth of Layers (ft) Bottom	γ_{soil} (pcf)	ϕ (°)	Cohesion (psf)	Ultimate Skin Friction (psf)	Ultimate Bearing (psf)	Soil Types
0.0	3.0	100	0	0	0	0	Clay
3.0	6.0	125	0	10000	1500	0	Clay
6.0	11.0	130	0	10000	1500	0	Clay
11.0	17.0	125	0	10000	1500	0	Clay
17.0	25.0	130	0	15000	2000	0	Clay
25.0	30.0						

Soil weight Increase Factor for bouyant soils (1.0 to 1.15): 1.1

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Soil Bearing Strength Reduction Factor:	0.75	
Total Dry Soil Volume from Conical Failure (cu. Ft.):	593	Dry Soil Weight from Conical Failure:	70	Kips
Total Buoyant Soil Volume from Conical Failure (cu. Ft.):	0	Buoyant Soil Weight from Conical Failure (Ki	0	Kips
Total Dry Concrete Volume (cu. Ft.):	254	Total Dry Concrete Weight:	38.2	Kips
Total Buoyant Concrete Volume (cu. Ft.):	0.0	Total Buoyant Concrete Weight:	0.00	Kips
Total Effective Concrete Weight (Kips):	38.2	Total Effective Soil Weight:	70.2	Kips
Total Effective Vertical Load on Base (Kips):	31.3			

Check Soil Capacities:

					Usage	
Allowable Foundation Overturning Resistance (kips-ft.):	2664.9	>	Design Factored Moment (kips-ft):	1765	0.66	OK!
Factor of Safety of Passive Soil Resistance against Moment:	1.51	OK!				

Check the capacities of Reinforceing Concrete:

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

Reinforcing Concrete Pier:

					Usage	
Vertical Steel Rebar Area (sq. in./each):	1.56		Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	3511.7	>	Design Factored Moment (Mu, K-Ft):	1718.9	0.49	OK!
Calculated Shear Capacity (Kips):	707.2	>	Design Factored Shear (Kips):	581.9	0.82	OK!
Calculated Tension Capacity (Tn, Kips):	1347.8	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	5366	>	Design Factored Axial Load (Pu Kips):	21.6	0.00	OK!
Moment & Axial Strength Combination:	0.49	OK!	Max. Allowable Tie/Stirrup Spacing:	10.33	in.	
Pier Reinforcement Ratio:	0.006	Reinforcement Ratio is satisfied per ACI				

EXHIBIT 8

Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Antenna Mount Analysis Report

Existing 118-Ft Monopole Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT46148-A-SBA / Russo Property/ Ssusa

Customer Site Name: Russo Property/ Ssusa

Carrier Name: T-Mobile Sprint (App#: 143993-1)

Carrier Site ID / Name: CT54XC732 / -

Site Location: 51 Stony Lane

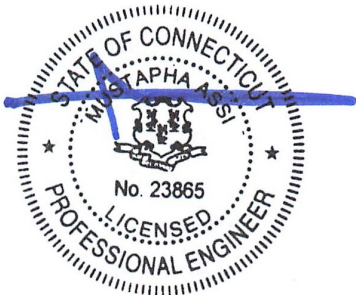
Stafford Springs, Connecticut

Tolland County

Latitude: 42.016417

Longitude: -72.309944

Exp.10/31/2021



03/24/2021

Analysis Result:

Max Structural Usage: 84.5% [Pass]

Report Prepared By : Mohammad Khanfar

Introduction

The purpose of this report is to summarize the analysis results on the Platform w/ Handrails and Kicker Kit at 118.00' elevation to support the proposed antenna configuration. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Mount Drawings	Mount mapping Info. from TEP, dated 12/16/2020
Antenna Loading	SBA, Application #: 143993, v1, dated 12/08/2020
Modification Drawings	N/A

Analysis Criteria

Basic Wind Speed Used in the Analysis: V_{ULT} = 125 mph (3-Sec. Gust) / Equivalent to
V_{ASD} = 97 mph (3-Sec. Gust)
Basic Wind Speed with Ice: 50 mph (3-Sec. Gust) with 0.75" radial ice concurrent
Operational Wind Speed: 30 mph +0" Radial ice
Standard/Codes: ANSI/TIA/EIA 222-G / 2015 IBC
Exposure Category: C
Structure Class: II
Topographic Category: 1
Crest Height (Ft): 0

Mount Information

Platform w/ Handrails and Kicker Kit at 118.00' elevation

Final Antenna Configuration

3 Ericsson AIR32 KRD901146-1_B66A_B2A (Octo)
3 RFS APXVAALL24_43-U-NA20
3 Ericsson AIR6449 B41
3 Ericsson 4415 B25
6 Alcatel-Lucent 800 MHz RRH
3 Ericsson 4449 B71 + B85

In addition to the proposed equipment loading, a 500 lb serviceability load was also considered in this analysis in accordance with TIA requirements.

Analysis Results

Our calculations have determined that under design wind load the existing mounts will be structurally adequate to support the proposed antenna configuration. The maximum structural usage is 84.5%, which occurs in the mount pipe. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

Attachments

1. Mount Photos
2. Antenna Placement Diagram
3. Mount Mapping Information
4. Analysis Calculations

Standard Conditions

1. The loading configuration as analyzed in this report is as provided from the customer. Any deviation from this design shall be communicated to TES to verify deviation will not adversely impact the analysis.

2. The analysis is based on the presumption that the antenna mount 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. The mount analysis is not a condition assessment of the mount.

4. The mount analysis was performed in accordance with the loading provided, and if applicable the modification required to support the additional loading.

5. If the mount is modified, installation must adhere to the configuration communicated in the modification drawings.

6. The modification drawings are not intended to convey means or methods. These are the responsibility of the installing contractor.

7. Rigging plan review is available if the contractor requires for a construction class IV or other if required. Review fee would apply.

8. The mount modification package was created based upon information provided for the mount loading. The underlying tower is assumed to provide support and sufficient rigidity to support the mount loads as a tower analysis was not part of the mount analysis.

9. TES is not responsible for modifications to climbing facilities unless communicated to TES in writing.

Structure: CT46148-A-SBA - Russo Property/ Ssusa

Sector: A

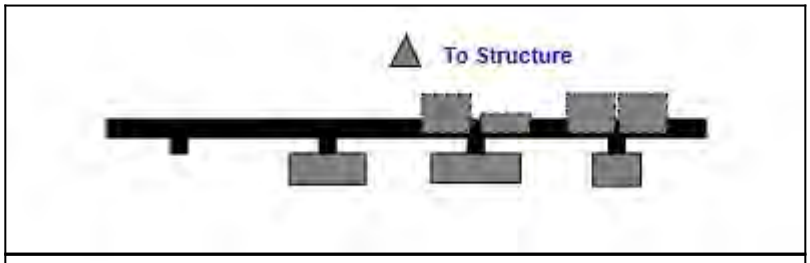
Structure Type: Monopole

Mount Elev: 118.00

12/22/2020

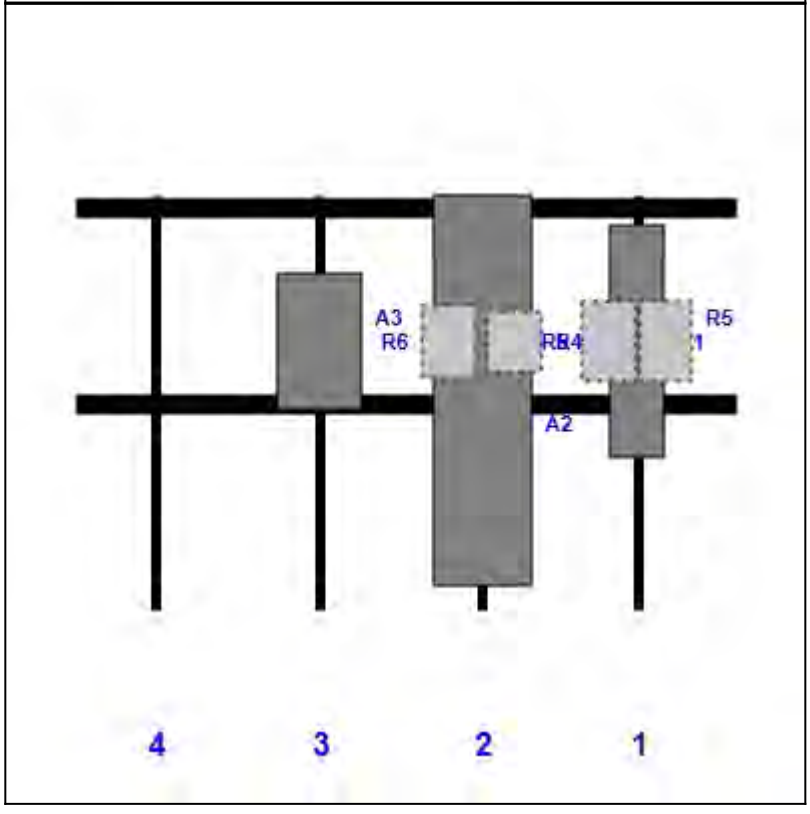
Tower Engineering Solutions

Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR32 KRD901146-1_B66A_B2A (Octo)	57.00	12.90	138.00	1	a	Front	36.00			
R5	800 MHz RRH	19.70	13.00	138.00	1	a	Behind	36.00	7.00		
R5	800 MHz RRH	19.70	13.00	138.00	1	b	Behind	36.00	-7.00		
A2	APXVAALL24_43-U-NA20	95.90	24.00	100.00	2	a	Front	48.00			
R4	4415 B25	15.00	13.20	100.00	2	a	Behind	36.00	8.00		
R6	4449 B71 + B85	17.90	13.20	100.00	2	a	Behind	36.00	-8.00		
A3	AIR6449 B41	33.10	20.50	60.00	3	a	Front	36.00			

Structure: CT46148-A-SBA - Russo Property/ Ssusa

Sector: B

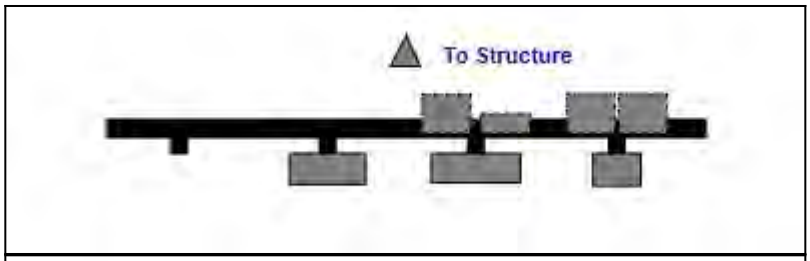
Structure Type: Monopole

Mount Elev: 118.00

12/22/2020

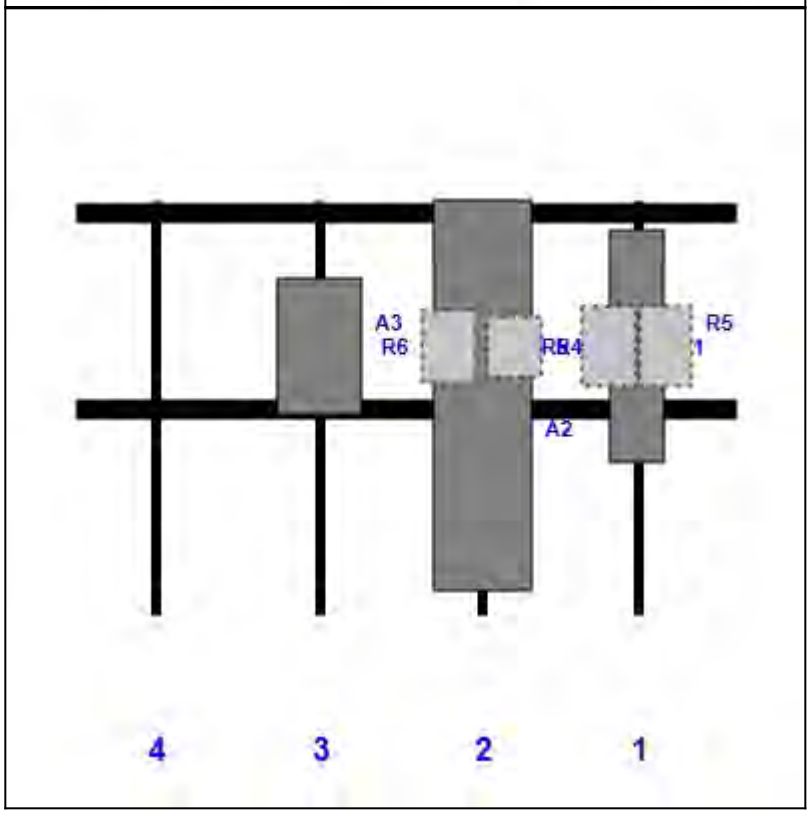
Tower Engineering Solutions

Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR32 KRD901146-1_B66A_B2A (Octo)	57.00	12.90	138.00	1	a	Front	36.00			
R5	800 MHz RRH	19.70	13.00	138.00	1	a	Behind	36.00	7.00		
R5	800 MHz RRH	19.70	13.00	138.00	1	b	Behind	36.00	-7.00		
A2	APXVAALL24_43-U-NA20	95.90	24.00	100.00	2	a	Front	48.00			
R4	4415 B25	15.00	13.20	100.00	2	a	Behind	36.00	8.00		
R6	4449 B71 + B85	17.90	13.20	100.00	2	a	Behind	36.00	-8.00		
A3	AIR6449 B41	33.10	20.50	60.00	3	a	Front	36.00			

Structure: CT46148-A-SBA - Russo Property/ Ssusa

Sector: C

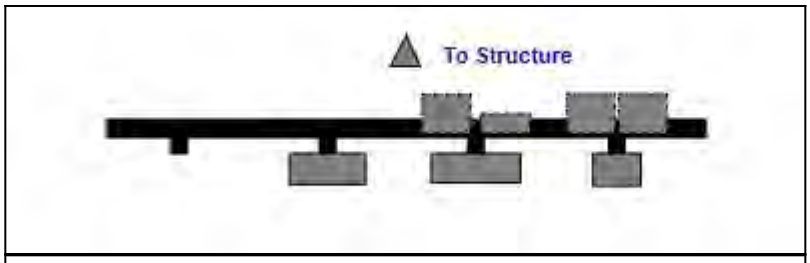
Structure Type: Monopole

Mount Elev: 118.00

12/22/2020

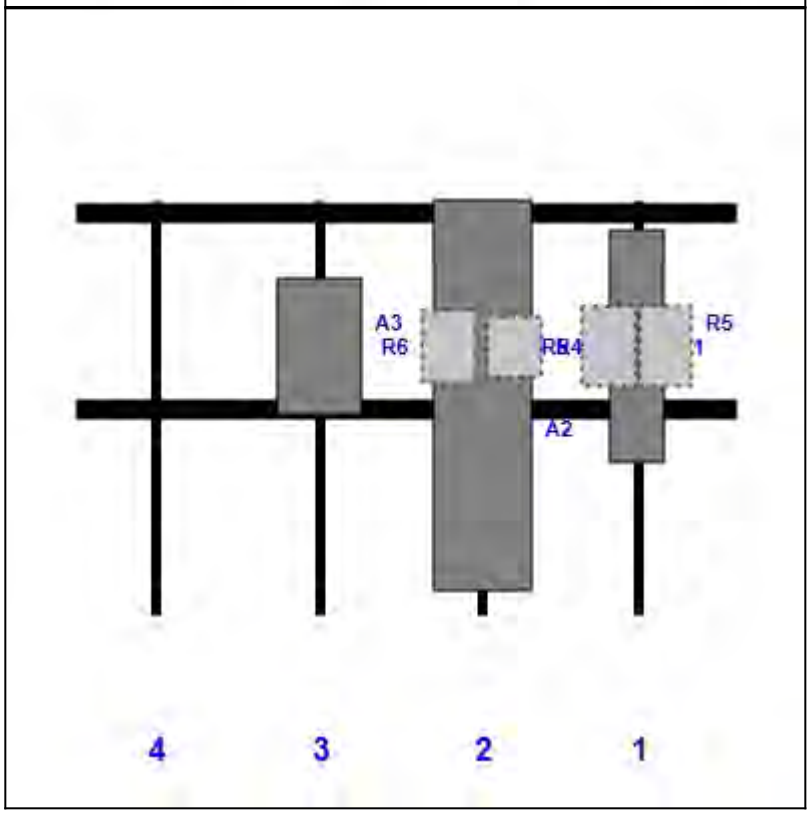
Tower Engineering Solutions

Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR32 KRD901146-1_B66A_B2A (Octo)	57.00	12.90	138.00	1	a	Front	36.00			
R5	800 MHz RRH	19.70	13.00	138.00	1	a	Behind	36.00	7.00		
R5	800 MHz RRH	19.70	13.00	138.00	1	b	Behind	36.00	-7.00		
A2	APXVAALL24_43-U-NA20	95.90	24.00	100.00	2	a	Front	48.00			
R4	4415 B25	15.00	13.20	100.00	2	a	Behind	36.00	8.00		
R6	4449 B71 + B85	17.90	13.20	100.00	2	a	Behind	36.00	-8.00		
A3	AIR6449 B41	33.10	20.50	60.00	3	a	Front	36.00			

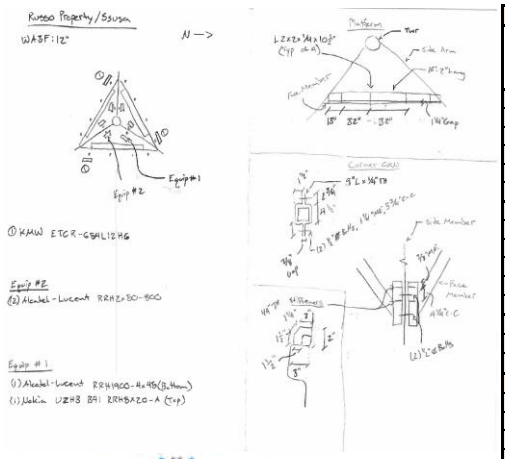
V3.0 Updated on 8-31-2020

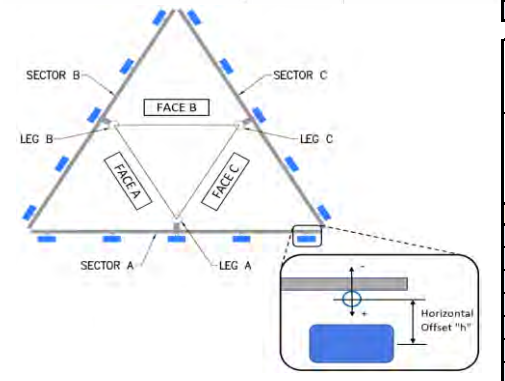
Antenna Mount Mapping Form (PATENT PENDING)

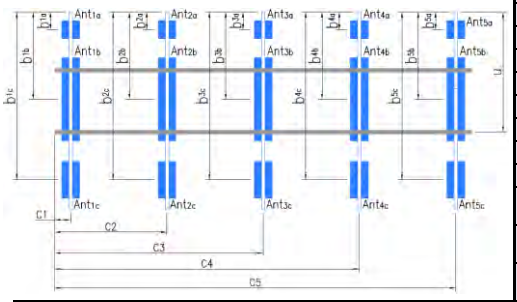
TES Tower Engineering Solutions

FCC # 1270244

Tower Owner:	SBA Communications	**Mapping Date:**	12/16/2020
Site Name:	Russo Property Ssusa	**Tower Type:**	Monopole
Site Number or ID:	CT46148-A-SBA	**Tower Height (Ft.):**	121
Mapping Contractor:	TEP	**Mount Elevation (Ft.):**	121







Antenna Layout (Looking Out From Tower)

Mount Pipe Configuration and Geometries [Unit = Inches]

Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."
A1	2.4"Øx0.154"x102"	50.50	24.50	C1	2.4"Øx0.154"x102"	50.50	24.50
A2	2.4"Øx0.154"x102"	50.50	61.75	C2	2.4"Øx0.154"x102"	50.50	61.75
A3	2.4"Øx0.154"x102"	50.50	101.75	C3	2.4"Øx0.154"x102"	50.50	101.75
A4	2.4"Øx0.154"x102"	50.50	141.75	C4	2.4"Øx0.154"x102"	50.50	141.75
A5				C5			
A6				C6			
B1	2.4"Øx0.154"x102"	50.50	24.50	D1			
B2	2.4"Øx0.154"x102"	50.50	61.75	D2			
B3	2.4"Øx0.154"x102"	50.50	101.75	D3			
B4	2.4"Øx0.154"x102"	50.50	141.75	D4			
B5				D5			
B6				D6			

Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :

Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :

Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :

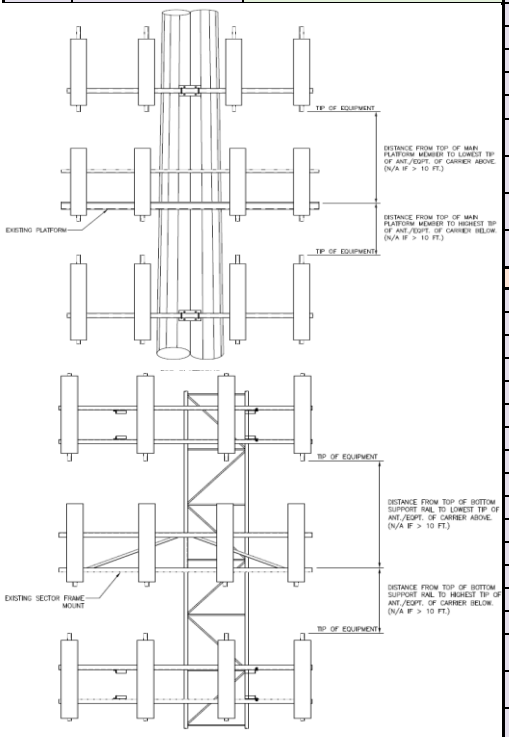
Please enter additional infomation or comments below.

Tower Face Width at Mount Elev. (ft.): | Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.): 22.69

Ants. Items	Enter antenna model. If not labeled, enter "Unknown". Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Mounting Locations [Units are inches and degrees] Vertical Distances"b_{1a}, b_{2a}, b_{3a}, b_{1b}...." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photos of antennas Photo Numbers
Sector A										
Ant_{1a}										
Ant_{1b}	Empty					125.208				
Ant_{1c}										
Ant_{2a}										
Ant_{2b}	Empty					125.208				
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	Empty					125.208				
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	ETCR-654L12H6	21.00	6.30	84.90	er from R	122.167	36.50	10.50	0.00	77
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff	(2) RRH 2x50-800	13.00	14.00	15.80	er from Raycap					73, 96
Ant on Standoff	RRH 1900-4x45	11.10	11.40	25.00	er from Raycap					74
Ant on Tower	UZHB B41 RRH 8x20-A	17.52	5.71	25.39	1) 1 3/8" HY					94
Ant on Tower										

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector	
Sector A:	0.00	Deg	Leg A:		Deg
Sector B:	120.00	Deg	Leg B:		Deg
Sector C:	240.00	Deg	Leg C:		Deg
Sector D:		Deg	Leg D:		Deg

Climbing Facility Information		
Location:		Deg
Climbing Facility	Corrosion Type:	Good condition.
	Access:	Climbing path was unobstructed.
	Condition:	Good condition.



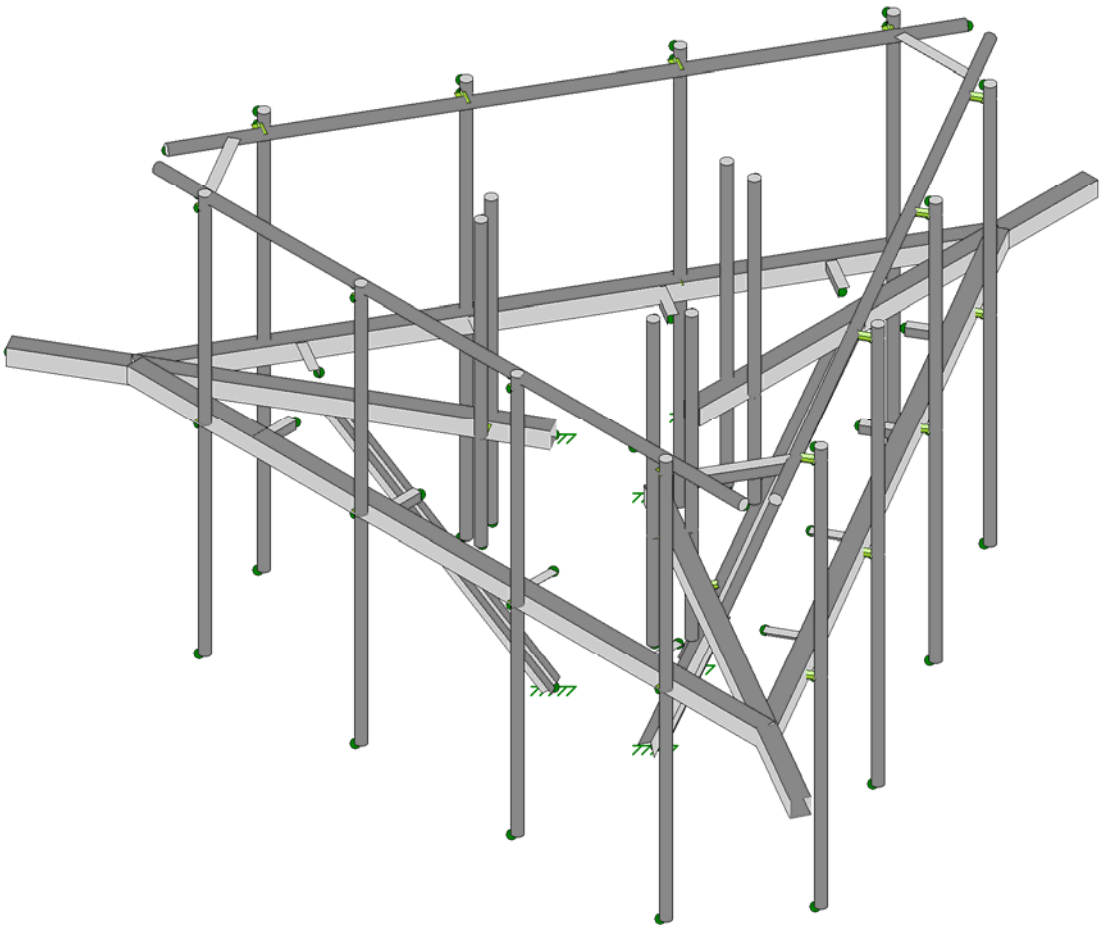
Sector B										
Ant_{1a}										
Ant_{1b}	Empty					125.208				
Ant_{1c}										
Ant_{2a}										
Ant_{2b}	Empty					125.208				
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	Empty					125.208				
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	ETCR-654L12H6	21.00	6.30	84.90	er from R	122.167	36.50	10.50	120.00	82
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff	(2) RRH 2x50-800	13.00	14.00	15.80	er from Raycap					81, 100
Ant on Standoff	RRH 1900-4x45	11.10	11.40	25.00	er from Raycap					80
Ant on Tower	UZHB B41 RRH 8x20-A	17.52	5.71	25.39	1) 1 3/8" HY					102
Ant on Tower										
Sector C										
Ant_{1a}										
Ant_{1b}	Empty					125.208				
Ant_{1c}										
Ant_{2a}										
Ant_{2b}	Empty					125.208				
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	Empty					125.208				
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	ETCR-654L12H6	21.00	6.30	84.90	er from R	122.167	36.50	10.50	240.00	87
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff	(2) RRH 2x50-800	13.00	14.00	15.80	er from Raycap					85
Ant on Standoff	RRH 1900-4x45	11.10	11.40	25.00	er from Raycap					86
Ant on Tower	UZHB B41 RRH 8x20-A	17.52	5.71	25.39	1) 1 3/8" HY					
Ant on Tower										
Sector D										
Ant_{1a}										
Ant_{1b}										
Ant_{1c}										
Ant_{2a}										
Ant_{2b}										
Ant_{2c}										
Ant_{3a}										
Ant_{3b}										
Ant_{3c}										
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #

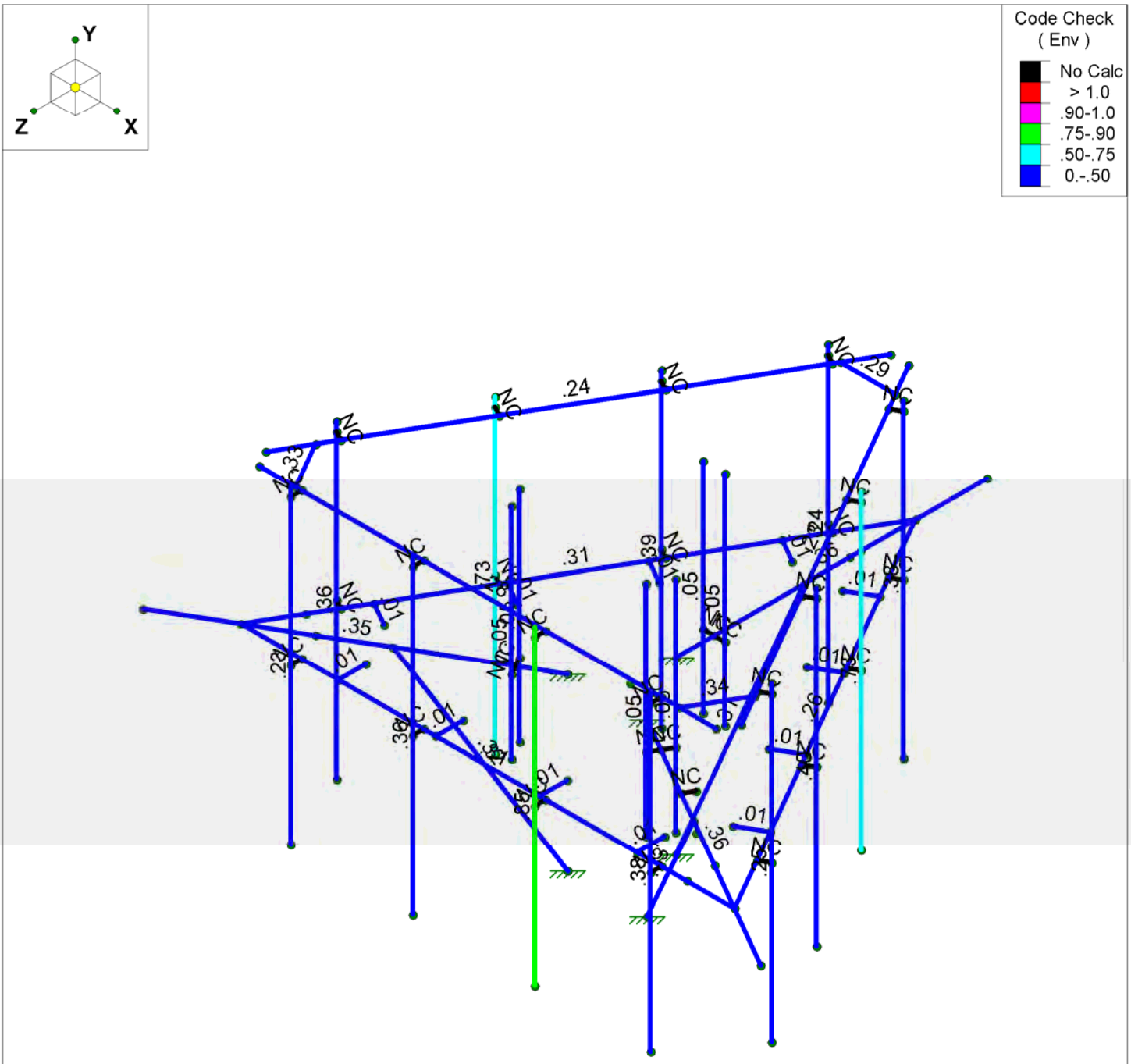
1		
2		
3		
4		
5		
6		
7		
8		

Mapping Notes
1. Please report any visible structural or safety issues observed on the antenna mounts (Damaged members, loose connections, tilting mounts, safety climb issues, etc.)
2. If the thickness of the existing pipes or tubing can't be obtained from a general tool (such as Caliper), please use an ultrasonic measurement tool (thickness gauge) to measure the thickness.
3. Please create all required detail sketches of the mounts and insert them into the "Sketches" tab.
4. Please measure and enter the bolt sizes and types under the Members Box in the spreadsheet of the mount type.
5. Take and label the photos of the tower, mounts, connections, antennas and all measurements. Minimum 50 photos are required.
6. Please measure and report the size and length of all existing antenna mounting pipes.
7. Please measure and report the antenna information for all sectors.
8. Don't delete or rearrange any sheet or contents of any sheet from this mapping form.

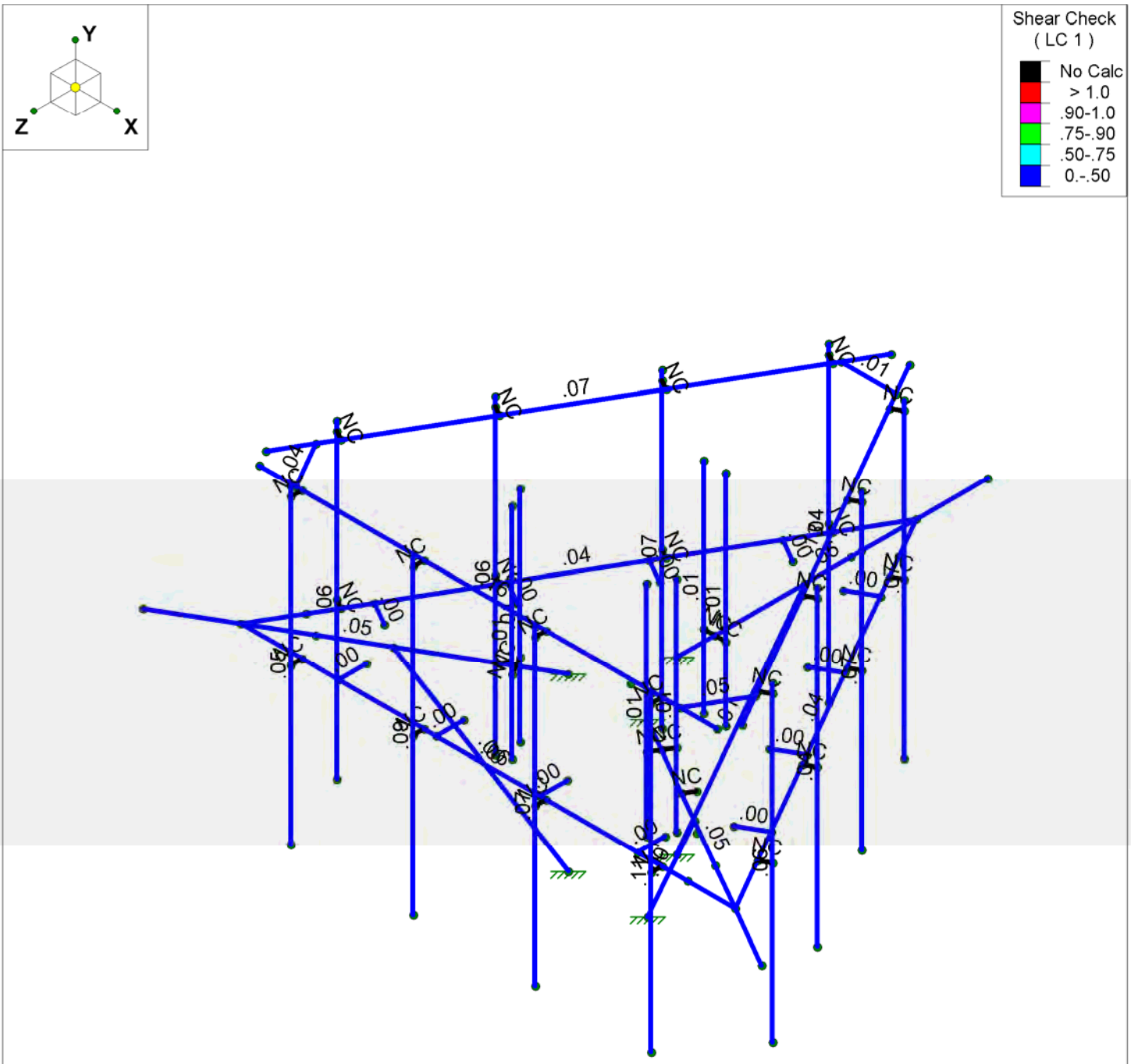
Standard Conditions
1. Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping are to be reported in this mapping. However, this mount mapping is not a condition assessment of the mount.



Tower Engineering Solutio...	CT46148-A-SBA_MT_LO_Loads Only_G	SK - 1
		Dec 22, 2020 at 3:21 PM
TES Project No. 100581		CT46148-A-SBA_100581_G_RISA_...



Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.6W (Front)



Member Shear Checks Displayed
Results for LC 1, 1.2D+1.6W (Front)

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Antenna D	None					27			
2	Antenna Di	None					27			
3	Antenna W Front	None					27			
4	Antenna Wi Front	None					27			
5	Antenna W Side	None					27			
6	Antenna Wi Side	None					27			
7	Service Lm1	None					1			
8	Service Lm2	None					1			
9	Structure D	None		-1						
10	Structure Di	None						45		
11	Structure W Front	None						45		
12	Structure Wi Front	None						45		
13	Structure W Side	None						45		
14	Structure Wi Side	None						45		

Load Combinations

	Description	So...	P...	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
1	1.2D+1.6W (Front)	Yes	Y		1	1.2	9	1.2	3	1.6	11	1.6												
2	1.2D+1.6W (Back)	Yes	Y		1	1.2	9	1.2	3	-1.6	11	-1.6												
3	1.2D+1.6W (Left)	Yes	Y		1	1.2	9	1.2	5	1.6	13	1.6												
4	1.2D+1.6W (Right)	Yes	Y		1	1.2	9	1.2	5	-1.6	13	-1.6												
5	1.2D+1.0Di+1.0Wi ...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	1	12	1								
6	1.2D+1.0Di+1.0Wi ...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	-1	12	-1								
7	1.2D+1.0Di+1.0Wi ...	Yes	Y		1	1.2	9	1.2	2	1	10	1	6	1	14	1								
8	1.2D+1.0Di+1.0Wi ...	Yes	Y		1	1.2	9	1.2	2	1	10	1	6	-1	14	-1								
9	1.2D+1.5L1+.16W ...	Yes	Y		1	1.2	9	1.2	7	1.5	3	.16	11	.16										
10	1.2D+1.5L2+.16W ...	Yes	Y		1	1.2	9	1.2	8	1.5	3	.16	11	.16										
11	1.4D	Yes	Y		1	1.4	9	1.4																

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	-1.082532	0	0.625	0	
2	N2	1.082532	0	0.625	0	
3	N3	-2.3e-13	0	-1.25	0	
4	N4	-6.75	0	3.897114	0	
5	N5	6.75	0	3.897114	0	
6	N7	-3e-14	0	-7.794229	0	
7	N10	-8.443748	0	4.875	0	
8	N11	8.443748	0	4.875	0	
9	N12	-4e-14	0	-9.75	0	
10	NP1	4.749967	4.25	4.195031	0	
11	NP2	4.749967	-4.250033	4.195031	0	
12	N35	4.749967	0	3.897114	0	
13	N47	4.749967	0	4.195031	0	
14	N59A	-4.083333	0	3.897114	0	
15	N60	-1.416667	0	3.897114	0	
16	N61	4.083333	0	3.897114	0	
17	N62	1.416667	0	3.897114	0	
18	N63	-4.083333	0	3.147114	0	
19	N64	-1.416667	0	3.147114	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
20	N65A	4.083333	0	3.147114	0	
21	N66A	1.416667	0	3.147114	0	
22	N67A	5.450962	0	3.147114	0	
23	N68A	-5.450962	0	3.147114	0	
24	N70	5.416667	0	1.587713	0	
25	N71	4.083333	0	-0.721688	0	
26	N72	1.333333	0	-5.484828	0	
27	N73	2.666667	0	-3.175426	0	
28	N74	4.767148	0	1.962713	0	
29	N75	3.433814	0	-0.346688	0	
30	N76	0.683814	0	-5.109828	0	
31	N77	2.017148	0	-2.800426	0	
32	N78	-3e-14	0	-6.294229	0	
33	N81	-1.333333	0	-5.484828	0	
34	N82	-2.666667	0	-3.175426	0	
35	N83	-5.416667	0	1.587713	0	
36	N84	-4.083333	0	-0.721688	0	
37	N85	-0.683814	0	-5.109828	0	
38	N86	-2.017148	0	-2.800426	0	
39	N87	-4.767148	0	1.962713	0	
40	N88	-3.433814	0	-0.346688	0	
41	N86A	5.450962	0	3.897114	0	
42	N91A	-1e-14	0	-2.294229	0	
43	N94	-0.297917	0	-2.294229	0	
44	N96	3.285898	0	1.897114	0	
45	N98	3.434857	-1	1.639111	0	
46	N99	3.434857	0	1.639111	0	
47	N135	-4.113621	0	2.375	0	
48	N137	4.113621	0	2.375	0	
49	N139	-2e-14	0	-4.75	0	
50	CENTER	0	0	0	0	
51	N51	1.5833	4.25	4.195031	0	
52	N52	1.5833	-4.250033	4.195031	0	
53	N53	1.5833	0	3.897114	0	
54	N54	1.5833	0	4.195031	0	
55	N55	-1.750033	4.25	4.195031	0	
56	N56	-1.750033	-4.25	4.195031	0	
57	N57	-1.750033	0	3.897114	0	
58	N58	-1.750033	0	4.195031	0	
59	N59	-5.0834	4.25	4.195031	0	
60	N60A	-5.0834	-4.250033	4.195031	0	
61	N61A	-5.0834	0	3.897114	0	
62	N62A	-5.0834	0	4.195031	0	
63	N63A	1.25802	4.25	-6.211107	0	
64	N64A	1.25802	-4.250033	-6.211107	0	
65	N65	1.000017	0	-6.062149	0	
66	N66	1.25802	0	-6.211107	0	
67	N67	0.649519	0	-6.669229	0	
68	N68	2.841353	4.25	-3.468694	0	
69	N69	2.841353	-4.250033	-3.468694	0	
70	N70A	2.58335	0	-3.319735	0	
71	N71A	2.841353	0	-3.468694	0	
72	N72A	4.50802	4.25	-0.581942	0	
73	N73A	4.50802	-4.25	-0.581942	0	
74	N74A	4.250017	0	-0.432984	0	
75	N75A	4.50802	0	-0.581942	0	
76	N76A	6.174703	4.25	2.304838	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
77	N77A	6.174703	-4.250033	2.304838	0	
78	N78A	5.9167	0	2.453796	0	
79	N79	6.174703	0	2.304838	0	
80	N80	-6.007987	4.25	2.016076	0	
81	N81A	-6.007987	-4.250033	2.016076	0	
82	N82A	-5.749983	0	2.165035	0	
83	N83A	-6.007987	0	2.016076	0	
84	N84A	-6.100481	0	2.772114	0	
85	N85A	-4.424653	4.25	-0.726337	0	
86	N86B	-4.424653	-4.250033	-0.726337	0	
87	N87A	-4.16665	0	-0.577379	0	
88	N88A	-4.424653	0	-0.726337	0	
89	N89	-2.757987	4.25	-3.613089	0	
90	N90	-2.757987	-4.25	-3.613089	0	
91	N91	-2.499983	0	-3.46413	0	
92	N92	-2.757987	0	-3.613089	0	
93	N93	-1.091303	4.25	-6.499869	0	
94	N94A	-1.091303	-4.250033	-6.499869	0	
95	N95	-0.8333	0	-6.350911	0	
96	N96A	-1.091303	0	-6.499869	0	
97	N97	-6.25	4	3.897114	0	
98	N98A	6.25	4	3.897114	0	
99	N99A	4.749967	4	3.897114	0	
100	N100	4.749967	4	4.195031	0	
101	N101	1.5833	4	3.897114	0	
102	N102	1.5833	4	4.195031	0	
103	N103	-1.750033	4	3.897114	0	
104	N104	-1.750033	4	4.195031	0	
105	N105	-5.0834	4	3.897114	0	
106	N106	-5.0834	4	4.195031	0	
107	N107	6.5	4	3.464102	0	
108	N108	0.25	4	-7.361216	0	
109	N109	1.000017	4	-6.062149	0	
110	N110	1.25802	4	-6.211107	0	
111	N111	2.58335	4	-3.319735	0	
112	N112	2.841353	4	-3.468694	0	
113	N113	4.250017	4	-0.432984	0	
114	N114	4.50802	4	-0.581942	0	
115	N115	5.9167	4	2.453796	0	
116	N116	6.174703	4	2.304838	0	
117	N117	-0.25	4	-7.361216	0	
118	N118	-6.5	4	3.464102	0	
119	N119	-5.749983	4	2.165035	0	
120	N120	-6.007987	4	2.016076	0	
121	N121	-4.16665	4	-0.577379	0	
122	N122	-4.424653	4	-0.726337	0	
123	N123	-2.499983	4	-3.46413	0	
124	N124	-2.757987	4	-3.613089	0	
125	N125	-0.8333	4	-6.350911	0	
126	N126	-1.091303	4	-6.499869	0	
127	N133	-5.25	4	3.897114	0	
128	N134	5.25	4	3.897114	0	
129	N135A	6.	4	2.598076	0	
130	N136	0.75	4	-6.49519	0	
131	N137A	-0.75	4	-6.49519	0	
132	N138	-6.	4	2.598076	0	
133	N139A	-2.3e-13	-4.66666	-1.25	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
134	N140	-2.4e-13	0	-6	0	
135	N141	-0.297917	4	-2.294229	0	
136	N142	-0.297917	-2	-2.294229	0	
137	N138A	0.297917	0	-2.294229	0	
138	N139B	0.297917	4	-2.294229	0	
139	N140A	0.297917	-2	-2.294229	0	
140	N140B	-1.98686	0	1.147114	0	
141	N141A	-1.837902	0	1.405118	0	
142	N142A	-1.837902	4	1.405118	0	
143	N143	-1.837902	-2	1.405118	0	
144	N144	-2.135819	0	0.889111	0	
145	N145	-2.135819	4	0.889111	0	
146	N146	-2.135819	-2	0.889111	0	
147	N147	1.98686	0	1.147114	0	
148	N148	2.135819	0	0.889111	0	
149	N149	2.135819	4	0.889111	0	
150	N150	2.135819	-2	0.889111	0	
151	N151	1.837902	0	1.405118	0	
152	N152	1.837902	4	1.405118	0	
153	N153	1.837902	-2	1.405118	0	
154	N155	-1.082532	-4.66666	0.625	0	
155	N157	1.082532	-4.66666	0.625	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	xxxxx	HSS16x0.438	Beam	None	A572 Gr.50	Typical	19.9	606	606	1210

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	CF	4CU5.25X03...	Beam	CU	A570 Gr.33	Typical	4.854	13.238	12.817	.228

Aluminum Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	AL1A	AACS14X13.9	Beam	AA Channel	3003-H14	Typical	11.8	44.7	401	1.19

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[k/ft^3]	Yield[ksi]	Fu[ksi]
1	A570 Gr.33	29500	11346	.3	.65	.49	33	52
2	A607 C1 Gr.55	29500	11346	.3	.65	.49	55	70

Aluminum Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (...	Density[...	Table B.4	kt	Ftu[ksi]	Fty[ksi]	Fcy[ksi]	Fsu[ksi]	Ct
1	3003-H14	10100	3787.5	.33	1.3	.173	Table B....	1	19	16	13	12	141
2	6061-T6	10100	3787.5	.33	1.3	.173	Table B....	1	38	35	35	24	141
3	6063-T5	10100	3787.5	.33	1.3	.173	Table B....	1	22	16	16	13	141
4	6063-T6	10100	3787.5	.33	1.3	.173	Table B....	1	30	25	25	19	141
5	5052-H34	10200	3787.5	.33	1.3	.173	Table B....	1	34	26	24	20	141
6	6061-T6 W	10100	3787.5	.33	1.3	.173	Table B....	1	24	15	15	15	141

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
1	M1						Yes			None
2	M2						Yes			None
3	M3						Yes			None
4	M4						Yes			None
5	M5						Yes			None
6	M6						Yes			None
7	MP1A						Yes	-z		None
8	M22						Yes			None
9	M31						Yes			None
10	M32						Yes			None
11	M33						Yes			None
12	M34						Yes			None
13	M35						Yes			None
14	M36						Yes			None
15	M37						Yes			None
16	M38						Yes			None
17	M39						Yes			None
18	M40						Yes			None
19	M41						Yes			None
20	M42						Yes			None
21	M44						Yes			None
22	M46						Yes			None
23	MP2A						Yes	-z		None
24	M24						Yes			None
25	MP3A						Yes	-z		None
26	M26						Yes			None
27	MP4A						Yes	-z		None
28	M28						Yes			None
29	MP1C						Yes	-z		None
30	M30						Yes			None
31	MP2C						Yes	-z		None
32	M32A						Yes			None
33	MP3C						Yes	-z		None
34	M34A						Yes			None
35	MP4C						Yes	-z		None
36	M36A						Yes			None
37	MP1B						Yes	-z		None
38	M38A						Yes			None
39	MP2B						Yes	-z		None
40	M40A						Yes			None
41	MP3B						Yes	-z		None
42	M42A						Yes			None
43	MP4B						Yes	-z		None
44	M44A						Yes			None
45	M45						Yes			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
46	M46A						Yes			None
47	M47						Yes			None
48	M48						Yes			None
49	M49						Yes			None
50	M50						Yes			None
51	M51						Yes			None
52	M52						Yes			None
53	M53						Yes			None
54	M54						Yes			None
55	M55						Yes			None
56	M56						Yes			None
57	M57						Yes			None
58	M58						Yes			None
59	M59						Yes			None
60	M60						Yes			None
61	M61						Yes			None
62	M62						Yes			None
63	M63						Yes			None
64	M64						Yes			None
65	M65						Yes			None
66	M66						Yes			None
67	M67						Yes			None
68	M68						Yes			None
69	M69						Yes			None
70	M70						Yes			None
71	M71						Yes			None
72	M72						Yes			None
73	M73						Yes			None
74	M74						Yes			None
75	M75						Yes			None
76	M76						Yes			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torq...	Kyy	Kzz	Cb	Function
1	M1	HSS4x4x4	13.5			Lbyy						Gravity
2	M2	HSS4x4x4	13.5			Lbyy						Gravity
3	M3	HSS4x4x4	13.5			Lbyy						Gravity
4	M4	HSS4x4x4	8.5			Lbyy						Lateral
5	M5	HSS4x4x4	8.5			Lbyy						Lateral
6	M6	HSS4x4x4	8.5			Lbyy						Lateral
7	MP1A	PIPE_2.0	8.5			Lbyy						Gravity
8	M31	L2x2x4	.75			Lbyy						Lateral
9	M32	L2x2x4	.75			Lbyy						Lateral
10	M33	L2x2x4	.75			Lbyy						Lateral
11	M34	L2x2x4	.75			Lbyy						Lateral
12	M35	L2x2x4	.75			Lbyy						Lateral
13	M36	L2x2x4	.75			Lbyy						Lateral
14	M37	L2x2x4	.75			Lbyy						Lateral
15	M38	L2x2x4	.75			Lbyy						Lateral
16	M39	L2x2x4	.75			Lbyy						Lateral
17	M40	L2x2x4	.75			Lbyy						Lateral
18	M41	L2x2x4	.75			Lbyy						Lateral
19	M42	L2x2x4	.75			Lbyy						Lateral
20	MP2A	PIPE_2.0	8.5			Lbyy						Lateral
21	MP3A	PIPE_2.0	8.5			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torq...	Kyy	Kzz	Cb	Function
22	MP4A	PIPE_2.0	8.5			Lbyy						Lateral
23	MP1C	PIPE_2.0	8.5			Lbyy						Lateral
24	MP2C	PIPE_2.0	8.5			Lbyy						Lateral
25	MP3C	PIPE_2.0	8.5			Lbyy						Lateral
26	MP4C	PIPE_2.0	8.5			Lbyy						Lateral
27	MP1B	PIPE_2.0	8.5			Lbyy						Lateral
28	MP2B	PIPE_2.0	8.5			Lbyy						Lateral
29	MP3B	PIPE_2.0	8.5			Lbyy						Lateral
30	MP4B	PIPE_2.0	8.5			Lbyy						Lateral
31	M49	PIPE_2.0	12.5			Lbyy						Lateral
32	M54	PIPE_2.0	12.5			Lbyy						Lateral
33	M59	PIPE_2.0	12.5			Lbyy						Lateral
34	M60	L2.5x2.5x4	1.5			Lbyy						Lateral
35	M61	L2.5x2.5x4	1.5			Lbyy						Lateral
36	M62	L2.5x2.5x4	1.5			Lbyy						Lateral
37	M63	LL3x3x3x0	5.833			Lbyy						Lateral
38	M64	PIPE_2.0	6			Lbyy						Lateral
39	M66	PIPE_2.0	6			Lbyy						Lateral
40	M68	PIPE_2.0	6			Lbyy						Lateral
41	M70	PIPE_2.0	6			Lbyy						Lateral
42	M72	PIPE_2.0	6			Lbyy						Lateral
43	M74	PIPE_2.0	6			Lbyy						Lateral
44	M75	LL3x3x3x0	5.833			Lbyy						Lateral
45	M76	LL3x3x3x0	5.833			Lbyy						Lateral

Cold Formed Steel Design Parameters

Label	Shape	Lengt...	Lbyy[ft]	Lbzz[ft]	Lcomp t...	Lcomp ...	L-torque...	Kyy	Kzz	Cm-...	Cm-...	Cb	R	a[ft]	y sw...	z sw...
No Data to Print ...																

Aluminum Design Parameters

Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torq...	Kyy	Kzz	Cb	Function
No Data to Print ...											

Joint Loads and Enforced Displacements

Joint Label	L,D,M	Direction	Magnitude[(lb,k-ft), (in,rad), (lb*s^2...
No Data to Print ...			

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-66.1	1
2	MP1A	Y	-66.1	5
3	MP1B	Y	-66.1	1
4	MP1B	Y	-66.1	5
5	MP1C	Y	-66.1	1
6	MP1C	Y	-66.1	5
7	MP2A	Y	-64	1
8	MP2A	Y	-64	7
9	MP2B	Y	-64	1
10	MP2B	Y	-64	7
11	MP2C	Y	-64	1
12	MP2C	Y	-64	7

Member Point Loads (BLC 1 : Antenna D) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	MP3A	Y	-103	3
14	MP3B	Y	-103	3
15	MP3C	Y	-103	3
16	MP2A	Y	-46	3
17	MP2B	Y	-46	3
18	MP2C	Y	-46	3
19	MP1A	Y	-53	3
20	MP1B	Y	-53	3
21	MP1C	Y	-53	3
22	MP1A	Y	-53	3
23	MP1B	Y	-53	3
24	MP1C	Y	-53	3
25	MP2A	Y	-73.2	3
26	MP2B	Y	-73.2	3
27	MP2C	Y	-73.2	3

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-89.611	1
2	MP1A	Y	-89.611	5
3	MP1B	Y	-89.611	1
4	MP1B	Y	-89.611	5
5	MP1C	Y	-89.611	1
6	MP1C	Y	-89.611	5
7	MP2A	Y	-203.397	1
8	MP2A	Y	-203.397	7
9	MP2B	Y	-203.397	1
10	MP2B	Y	-203.397	7
11	MP2C	Y	-203.397	1
12	MP2C	Y	-203.397	7
13	MP3A	Y	-148.641	3
14	MP3B	Y	-148.641	3
15	MP3C	Y	-148.641	3
16	MP2A	Y	-52.61	3
17	MP2B	Y	-52.61	3
18	MP2C	Y	-52.61	3
19	MP1A	Y	-84.935	3
20	MP1B	Y	-84.935	3
21	MP1C	Y	-84.935	3
22	MP1A	Y	-84.935	3
23	MP1B	Y	-84.935	3
24	MP1C	Y	-84.935	3
25	MP2A	Y	-79.474	3
26	MP2B	Y	-79.474	3
27	MP2C	Y	-79.474	3

Member Point Loads (BLC 3 : Antenna W Front)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Z	-107.371	1
2	MP1A	Z	-107.371	5
3	MP1B	Z	-85.632	1
4	MP1B	Z	-85.632	5
5	MP1C	Z	-85.632	1
6	MP1C	Z	-85.632	5
7	MP2A	Z	-333.823	1
8	MP2A	Z	-333.823	7

Member Point Loads (BLC 3 : Antenna W Front) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
9	MP2B	Z	-184.756	1
10	MP2B	Z	-184.756	7
11	MP2C	Z	-184.756	1
12	MP2C	Z	-184.756	7
13	MP3A	Z	-186.373	3
14	MP3B	Z	-106.355	3
15	MP3C	Z	-106.355	3
16	MP2A	Z	-54.098	3
17	MP2B	Z	-30.396	3
18	MP2C	Z	-30.396	3
19	MP1A	Z	-82.136	3
20	MP1B	Z	-64.398	3
21	MP1C	Z	-64.398	3
22	MP1A	Z	-82.136	3
23	MP1B	Z	-64.398	3
24	MP1C	Z	-64.398	3
25	MP2A	Z	-64.983	3
26	MP2B	Z	-55.364	3
27	MP2C	Z	-55.364	3

Member Point Loads (BLC 4 : Antenna Wi Front)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Z	-33.575	1
2	MP1A	Z	-33.575	5
3	MP1B	Z	-27.288	1
4	MP1B	Z	-27.288	5
5	MP1C	Z	-27.288	1
6	MP1C	Z	-27.288	5
7	MP2A	Z	-96.82	1
8	MP2A	Z	-96.82	7
9	MP2B	Z	-56.175	1
10	MP2B	Z	-56.175	7
11	MP2C	Z	-56.175	1
12	MP2C	Z	-56.175	7
13	MP3A	Z	-57.837	3
14	MP3B	Z	-34.828	3
15	MP3C	Z	-34.828	3
16	MP2A	Z	-19.051	3
17	MP2B	Z	-11.792	3
18	MP2C	Z	-11.792	3
19	MP1A	Z	-23.947	3
20	MP1B	Z	-21.334	3
21	MP1C	Z	-21.334	3
22	MP1A	Z	-23.947	3
23	MP1B	Z	-21.334	3
24	MP1C	Z	-21.334	3
25	MP2A	Z	-22.268	3
26	MP2B	Z	-19.435	3
27	MP2C	Z	-19.435	3

Member Point Loads (BLC 5 : Antenna W Side)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	78.386	1
2	MP1A	X	78.386	5
3	MP1B	X	100.125	1
4	MP1B	X	100.125	5

Member Point Loads (BLC 5 : Antenna W Side) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
5	MP1C	X	100.125	1
6	MP1C	X	100.125	5
7	MP2A	X	135.067	1
8	MP2A	X	135.067	7
9	MP2B	X	284.134	1
10	MP2B	X	284.134	7
11	MP2C	X	284.134	1
12	MP2C	X	284.134	7
13	MP3A	X	79.682	3
14	MP3B	X	159.701	3
15	MP3C	X	159.701	3
16	MP2A	X	22.495	3
17	MP2B	X	46.197	3
18	MP2C	X	46.197	3
19	MP1A	X	58.485	3
20	MP1B	X	76.223	3
21	MP1C	X	76.223	3
22	MP1A	X	58.485	3
23	MP1B	X	76.223	3
24	MP1C	X	76.223	3
25	MP2A	X	52.157	3
26	MP2B	X	61.777	3
27	MP2C	X	61.777	3

Member Point Loads (BLC 6 : Antenna Wi Side)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	25.193	1
2	MP1A	X	25.193	5
3	MP1B	X	31.48	1
4	MP1B	X	31.48	5
5	MP1C	X	31.48	1
6	MP1C	X	31.48	5
7	MP2A	X	42.627	1
8	MP2A	X	42.627	7
9	MP2B	X	83.272	1
10	MP2B	X	83.272	7
11	MP2C	X	83.272	1
12	MP2C	X	83.272	7
13	MP3A	X	27.158	3
14	MP3B	X	50.167	3
15	MP3C	X	50.167	3
16	MP2A	X	9.373	3
17	MP2B	X	16.631	3
18	MP2C	X	16.631	3
19	MP1A	X	20.463	3
20	MP1B	X	23.076	3
21	MP1C	X	23.076	3
22	MP1A	X	20.463	3
23	MP1B	X	23.076	3
24	MP1C	X	23.076	3
25	MP2A	X	18.491	3
26	MP2B	X	21.323	3
27	MP2C	X	21.323	3

Member Point Loads (BLC 7 : Service Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

Member Point Loads (BLC 7 : Service Lm1) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M1	Y	-500	%4

Member Point Loads (BLC 8 : Service Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M1	Y	-500	%50

Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
No Data to Print ...						

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N2	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N3	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N135						
5	N137						
6	N139						
7	N139A	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
8	N140						
9	N155	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
10	N157	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	5012.159	4	-184.942	3	1625.521	3	.664	5	1.346	1	.959	6
2		min	-3403.677	3	-1089.578	8	-2548.513	4	-.02	3	-1.331	2	.115	1
3	N2	max	3260.217	4	-166.681	4	1854.694	1	.533	5	2.097	2	-.133	1
4		min	-4854.792	3	-1094.827	7	-2806.339	2	-.085	2	-2.07	1	-1.041	6
5	N3	max	1335.116	4	-101.358	2	6215.319	1	-.217	2	3.263	3	.428	3
6		min	-1349.068	3	-1044.132	5	-4444.952	2	-1.042	5	-3.242	4	-.366	4
7	N139A	max	117.475	4	4443.875	5	-769.294	2	-.068	10	.249	3	.331	3
8		min	-102.328	3	930.921	2	-3422.936	5	-.185	6	-.266	4	-.353	4
9	N155	max	-806.794	3	4555.022	8	1748.038	8	.131	1	.075	1	.191	6
10		min	-3048.019	8	1126.472	3	444.753	3	-.067	2	-.089	2	.026	1
11	N157	max	3032.233	7	4558.791	7	1782.129	7	.222	1	.134	2	.028	1
12		min	788.034	4	1115.18	4	456.023	4	-.119	2	-.155	1	-.169	6
13	Totals:	max	8922.465	4	9996.96	6	9006.28	1						
14		min	-8922.465	3	4038.316	1	-9006.28	2						

Envelope Member Section Forces

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
1	M1	1	max	1866.257	2	1183.298	6	1178.785	1	.309	1	2.616	2	3.05	8
2			min	-2381.286	1	208.81	1	-1183.892	2	-.573	2	-2.588	1	.725	3
3		2	max	1843.804	2	733.511	8	850.045	1	.032	1	1.023	4	.236	4
4			min	-2434.24	1	144.532	3	-846.553	2	-.277	6	-1.014	3	-.171	3
5		3	max	1784.002	2	280.898	8	276.527	1	.297	2	2.786	1	-.322	4
6			min	-2464.498	1	-297.473	10	-268.359	2	-.424	1	-2.823	2	-1.611	10
7		4	max	1822.96	2	-112.686	4	956.099	2	.292	1	1.51	1	.218	3
8			min	-2472.713	1	-716.865	7	-948.875	1	-.27	2	-1.513	2	-.602	4

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
9		5	max	1871.302	2	-409.792	1	1756.271	2	.426	2	3.404	2	3.482	7
10			min	-2421.025	1	-1694.822	6	-1775.159	1	-.21	1	-3.388	1	.891	4
11	M2	1	max	2295.609	3	1259.97	7	945.895	4	.214	4	2.396	3	3.18	7
12			min	-2777.853	4	194.59	4	-953.526	3	-.403	3	-2.39	4	.9	4
13		2	max	2074.74	3	765.886	6	705.465	4	.083	4	1.176	2	.349	2
14			min	-2630.606	4	146.085	1	-700.846	3	-.214	3	-1.173	1	-.268	1
15		3	max	1687.312	3	304.948	6	274.119	4	.172	1	2.166	4	-.212	2
16			min	-2335.195	4	-53.912	1	-264.526	3	-.28	2	-2.19	3	-1.333	5
17		4	max	1489.166	1	-108.577	3	678.847	3	.244	4	1.47	4	.298	4
18			min	-2098.418	2	-692.849	8	-670.121	4	-.266	3	-1.463	3	-.722	3
19		5	max	2127.849	1	-415.342	2	1330.13	3	.286	1	2.155	1	3.504	5
20			min	-2652.782	2	-1675.236	5	-1339.377	4	-.184	2	-2.175	2	.846	2
21	M3	1	max	1814.862	1	1181.976	5	922.244	3	.291	3	1.976	1	3.025	5
22			min	-2306.43	2	181.962	2	-934.351	4	-.48	4	-1.991	2	.675	2
23		2	max	1511.034	1	699.858	7	622.32	3	.044	2	1.049	3	.321	3
24			min	-2067.136	2	155.293	4	-622.489	4	-.202	5	-1.052	4	-.277	4
25		3	max	1408.747	4	259.616	5	246.333	2	.325	4	2.316	3	-.195	3
26			min	-2056.923	3	-67.217	2	-239.411	1	-.431	3	-2.346	4	-1.293	8
27		4	max	2032.226	4	-103.393	1	789.155	4	.149	2	1.255	2	.312	2
28			min	-2643.613	3	-751.799	6	-783.034	3	-.169	1	-1.243	1	-.69	1
29		5	max	2487.601	4	-420.262	3	1396.522	4	.31	4	2.932	4	3.61	6
30			min	-3012.003	3	-1765.655	8	-1400.006	3	-.2	3	-2.917	3	.997	1
31	M4	1	max	3760.432	3	-185.331	3	797.522	2	.315	2	1.346	1	-.289	3
32			min	-5614.914	4	-1088.331	8	-807.2	1	-.365	1	-1.331	2	-1.094	8
33		2	max	3597.79	3	-266.097	3	610.092	2	.185	2	.676	3	1.401	8
34			min	-5452.272	4	-1306.849	8	-621.351	1	-.235	1	-.678	4	.322	3
35		3	max	4372.592	3	3050.73	8	497.08	2	.284	2	1.282	2	1.505	8
36			min	-3465.578	4	780.385	3	-490.442	1	-.373	1	-1.271	1	.203	3
37		4	max	4340.215	3	2987.039	8	444.583	2	.284	2	2.283	2	-1.419	3
38			min	-3433.202	4	746.814	3	-429.018	1	-.373	1	-2.246	1	-4.91	8
39		5	max	0	1	.002	9	.055	2	0	1	0	1	0	1
40			min	0	1	-.014	4	-.065	4	0	1	0	1	0	1
41	M5	1	max	3663.544	4	-167.034	4	1006.846	1	.33	1	2.097	2	-.269	4
42			min	-5519.45	3	-1093.58	7	-1027.215	2	-.406	2	-2.07	1	-1.099	7
43		2	max	3500.902	4	-248.338	4	822.162	1	.199	1	.674	3	1.405	7
44			min	-5356.808	3	-1309.864	7	-837.471	2	-.276	2	-.689	4	.304	4
45		3	max	4265.092	4	3049.333	7	720.432	1	.308	1	1.442	1	1.521	7
46			min	-3358.997	3	786.994	4	-723.069	2	-.444	2	-1.432	2	.148	4
47		4	max	4232.716	4	2985.626	7	657.509	1	.308	1	2.905	1	-1.488	4
48			min	-3326.621	3	753.169	4	-671.644	2	-.444	2	-2.915	2	-4.891	7
49		5	max	0	1	.002	5	.053	3	0	1	0	1	0	1
50			min	0	1	-.016	3	-.051	2	0	1	0	1	0	1
51	M6	1	max	4444.952	2	-101.719	2	1334.115	4	.366	4	3.263	3	-.217	2
52			min	-6215.319	1	-1042.925	5	-1347.878	3	-.428	3	-3.242	4	-1.042	5
53		2	max	4294.533	2	-182.605	2	1107.398	4	.215	4	.643	3	1.348	5
54			min	-6064.901	1	-1261.382	5	-1120.883	3	-.277	3	-.651	4	.236	2
55		3	max	4940.679	2	2984.388	5	1000.022	4	.364	4	1.486	4	1.421	5
56			min	-4043.705	1	667.537	2	-998.486	3	-.474	3	-1.475	3	.052	2
57		4	max	4940.679	2	2920.836	5	923.753	4	.364	4	3.529	4	-1.329	2
58			min	-4043.705	1	633.286	2	-922.607	3	-.474	3	-3.516	3	-4.853	5
59		5	max	0	1	0	1	0	1	0	1	0	1	0	1
60			min	0	1	0	1	0	1	0	1	0	1	0	1
61	MP1A	1	max	0	1	.003	8	.003	1	0	3	0	1	0	1
62			min	0	1	0	3	-.003	2	0	8	0	1	0	1
63		2	max	428.353	2	141.263	4	193.118	1	.103	1	.041	6	.078	2
64			min	-190.067	1	-241.347	3	-168.665	2	-.107	2	-.007	1	-.066	1
65		3	max	-97.021	2	178.628	3	225.165	2	0	7	.242	1	.207	3

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
66			min	-222.717	5	-178.709	4	-225.103	1	0	1	-.242	2	-.207	4
67		4	max	-8.851	2	26.574	3	26.735	2	0	7	.028	1	.028	3
68			min	-26.893	5	-26.654	4	-26.672	1	0	1	-.029	2	-.028	4
69		5	max	0	6	-.016	1	.201	6	0	7	0	1	0	3
70			min	0	1	-.272	7	-.036	1	0	1	0	6	0	4
71	M22	1	max	708.656	1	-41.547	1	633.284	3	.531	3	.111	2	.5	2
72			min	-680.244	2	-915.293	6	-533.174	4	-.305	4	-.098	1	-.514	1
73		2	max	708.656	1	-41.547	1	633.284	3	.531	3	.115	2	.549	2
74			min	-680.244	2	-915.293	6	-533.174	4	-.305	4	-.095	1	-.511	1
75		3	max	708.656	1	-41.547	1	633.284	3	.531	3	.151	3	.598	2
76			min	-680.244	2	-915.293	6	-533.174	4	-.305	4	-.122	4	-.507	1
77		4	max	708.656	1	-41.547	1	633.284	3	.531	3	.198	3	.647	2
78			min	-680.244	2	-915.293	6	-533.174	4	-.305	4	-.161	4	-.504	1
79		5	max	708.656	1	-41.547	1	633.284	3	.531	3	.245	3	.696	2
80			min	-680.244	2	-915.293	6	-533.174	4	-.305	4	-.201	4	-.501	1
81	M31	1	max	0	1	13.195	4	-2.891	9	0	1	.004	3	.004	4
82			min	0	1	-13.195	3	-8.56	8	0	1	-.003	4	-.003	3
83		2	max	0	1	9.896	4	-2.168	9	0	1	.002	3	.002	4
84			min	0	1	-9.896	3	-6.42	8	0	1	-.002	4	-.002	3
85		3	max	0	1	6.597	4	-1.445	9	0	1	.001	3	.001	4
86			min	0	1	-6.597	3	-4.28	8	0	1	0	4	0	3
87		4	max	0	1	3.299	4	-.723	9	0	1	0	3	0	4
88			min	0	1	-3.299	3	-2.14	8	0	1	0	4	0	3
89		5	max	0	1	0	1	0	1	0	1	0	1	0	1
90			min	0	1	0	1	0	1	0	1	0	1	0	1
91	M32	1	max	0	1	13.195	4	-2.891	10	0	1	.004	3	.004	4
92			min	0	1	-13.195	3	-8.56	5	0	1	-.003	4	-.003	3
93		2	max	0	1	9.896	4	-2.168	10	0	1	.002	3	.002	4
94			min	0	1	-9.896	3	-6.42	5	0	1	-.002	4	-.002	3
95		3	max	0	1	6.597	4	-1.445	10	0	1	.001	3	.001	4
96			min	0	1	-6.597	3	-4.28	5	0	1	0	4	0	3
97		4	max	0	1	3.299	4	-.723	10	0	1	0	3	0	4
98			min	0	1	-3.299	3	-2.14	5	0	1	0	4	0	3
99		5	max	0	1	0	1	0	1	0	1	0	1	0	1
100			min	0	1	0	1	0	1	0	1	0	1	0	1
101	M33	1	max	0	1	0	1	0	1	0	1	0	1	0	1
102			min	0	1	0	1	0	1	0	1	0	1	0	1
103		2	max	0	1	3.299	4	2.14	7	0	1	0	4	0	3
104			min	0	1	-3.299	3	.723	10	0	1	0	3	0	4
105		3	max	0	1	6.597	4	4.28	7	0	1	.001	4	.001	3
106			min	0	1	-6.597	3	1.445	10	0	1	0	3	0	4
107		4	max	0	1	9.896	4	6.42	7	0	1	.002	4	.002	3
108			min	0	1	-9.896	3	2.168	10	0	1	-.002	3	-.002	4
109		5	max	0	1	13.195	4	8.56	7	0	1	.004	4	.004	3
110			min	0	1	-13.195	3	2.891	10	0	1	-.003	3	-.003	4
111	M34	1	max	0	1	0	1	0	1	0	1	0	1	0	1
112			min	0	1	0	1	0	1	0	1	0	1	0	1
113		2	max	0	1	3.299	4	2.14	7	0	1	0	4	0	3
114			min	0	1	-3.299	3	.723	10	0	1	0	3	0	4
115		3	max	0	1	6.597	4	4.28	7	0	1	.001	4	.001	3
116			min	0	1	-6.597	3	1.446	10	0	1	0	3	0	4
117		4	max	0	1	9.896	4	6.42	7	0	1	.002	4	.002	3
118			min	0	1	-9.896	3	2.168	10	0	1	-.002	3	-.002	4
119		5	max	0	1	13.195	4	8.56	7	0	1	.004	4	.004	3
120			min	0	1	-13.195	3	2.891	10	0	1	-.003	3	-.003	4
121	M35	1	max	5.713	1	9.904	2	-2.883	3	0	1	.003	1	.003	2
122			min	-5.713	2	-9.888	1	-8.561	6	0	1	-.002	2	-.002	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
123		2	max	4.285	1	7.43	2	-2.161	3	0	1	.002	1	.002	2
124			min	-4.285	2	-7.414	1	-6.421	6	0	1	-.001	2	-.001	1
125		3	max	2.857	1	4.956	2	-1.438	3	0	1	0	1	0	2
126			min	-2.857	2	-4.94	1	-4.281	6	0	1	0	2	0	1
127		4	max	1.428	1	2.482	2	-.715	3	0	1	0	1	0	2
128			min	-1.428	2	-2.466	1	-2.141	6	0	1	0	2	0	1
129		5	max	0	1	.009	3	.008	3	0	1	0	1	0	1
130			min	0	1	0	11	0	6	0	1	0	1	0	1
131	M36	1	max	5.713	1	9.902	2	-2.885	3	0	1	.003	1	.003	2
132			min	-5.713	2	-9.89	1	-8.561	6	0	1	-.002	2	-.002	1
133		2	max	4.285	1	7.428	2	-2.163	3	0	1	.002	1	.002	2
134			min	-4.285	2	-7.416	1	-6.421	6	0	1	-.001	2	-.001	1
135		3	max	2.857	1	4.954	2	-1.44	3	0	1	0	1	0	2
136			min	-2.857	2	-4.942	1	-4.281	6	0	1	0	2	0	1
137		4	max	1.428	1	2.48	2	-.717	3	0	1	0	1	0	2
138			min	-1.428	2	-2.468	1	-2.141	6	0	1	0	2	0	1
139		5	max	0	1	.006	2	.006	3	0	1	0	1	0	1
140			min	0	1	0	4	0	6	0	1	0	1	0	1
141	M37	1	max	0	1	0	9	0	6	0	1	0	1	0	1
142			min	0	1	-.012	3	-.007	3	0	1	0	1	0	1
143		2	max	1.428	1	2.474	2	2.14	6	0	1	0	2	0	1
144			min	-1.428	4	-2.474	1	.716	3	0	1	0	1	0	2
145		3	max	2.857	1	4.948	2	4.28	6	0	1	0	2	0	1
146			min	-2.857	4	-4.948	1	1.439	3	0	1	0	1	0	2
147		4	max	4.285	1	7.422	2	6.42	6	0	1	.002	2	.002	1
148			min	-4.285	4	-7.422	1	2.162	3	0	1	-.001	1	-.001	2
149		5	max	5.713	1	9.896	2	8.56	6	0	1	.003	2	.003	1
150			min	-5.713	4	-9.896	1	2.884	3	0	1	-.002	1	-.002	2
151	M38	1	max	0	1	0	11	0	10	0	1	0	1	0	1
152			min	0	1	-.016	3	-.006	1	0	1	0	1	0	1
153		2	max	1.428	1	2.468	2	2.14	8	0	1	0	2	0	1
154			min	-1.428	2	-2.48	1	.717	1	0	1	0	1	0	2
155		3	max	2.857	1	4.942	2	4.28	8	0	1	0	2	0	1
156			min	-2.857	2	-4.954	1	1.439	1	0	1	0	1	0	2
157		4	max	4.285	1	7.415	2	6.42	8	0	1	.002	2	.002	1
158			min	-4.285	2	-7.428	1	2.162	1	0	1	-.001	1	-.001	2
159		5	max	5.713	1	9.889	2	8.56	8	0	1	.003	2	.003	1
160			min	-5.713	2	-9.902	1	2.885	1	0	1	-.002	1	-.002	2
161	M39	1	max	5.713	4	9.903	1	-2.885	4	0	1	.003	2	.003	1
162			min	-5.713	2	-9.889	2	-8.561	6	0	1	-.002	1	-.002	2
163		2	max	4.285	4	7.429	1	-2.162	4	0	1	.002	2	.002	1
164			min	-4.285	2	-7.415	2	-6.421	6	0	1	-.001	1	-.001	2
165		3	max	2.857	4	4.955	1	-1.439	4	0	1	0	2	0	1
166			min	-2.857	2	-4.941	2	-4.281	6	0	1	0	1	0	2
167		4	max	1.428	4	2.481	1	-.717	4	0	1	0	2	0	1
168			min	-1.428	2	-2.467	2	-2.141	6	0	1	0	1	0	2
169		5	max	0	1	.018	4	.006	4	0	1	0	1	0	1
170			min	0	1	0	11	0	6	0	1	0	1	0	1
171	M40	1	max	5.713	1	9.896	1	-2.885	4	0	1	.003	2	.003	1
172			min	-5.713	2	-9.896	2	-8.561	6	0	1	-.002	1	-.002	2
173		2	max	4.285	1	7.422	1	-2.162	4	0	1	.002	2	.002	1
174			min	-4.285	2	-7.422	2	-6.421	6	0	1	-.001	1	-.001	2
175		3	max	2.857	1	4.948	1	-1.44	4	0	1	0	2	0	1
176			min	-2.857	2	-4.948	2	-4.281	6	0	1	0	1	0	2
177		4	max	1.428	1	2.474	1	-.717	4	0	1	0	2	0	1
178			min	-1.428	2	-2.474	2	-2.141	6	0	1	0	1	0	2
179		5	max	0	1	.01	4	.006	4	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
180			min	0	1	0	10	0	6	0	1	0	1	0	1
181	M41	1	max	0	1	0	11	0	6	0	1	0	1	0	1
182			min	0	1	-.004	2	-.008	4	0	1	0	1	0	1
183		2	max	1.428	1	2.47	1	2.14	6	0	1	0	1	0	2
184			min	-1.428	3	-2.478	2	.714	4	0	1	0	2	0	1
185		3	max	2.857	1	4.944	1	4.28	6	0	1	0	1	0	2
186			min	-2.857	3	-4.952	2	1.437	4	0	1	0	2	0	1
187		4	max	4.285	1	7.418	1	6.42	6	0	1	.002	1	.002	2
188			min	-4.285	3	-7.426	2	2.16	4	0	1	-.001	2	-.001	1
189		5	max	5.713	1	9.892	1	8.56	6	0	1	.003	1	.003	2
190			min	-5.713	3	-9.9	2	2.883	4	0	1	-.002	2	-.002	1
191	M42	1	max	0	1	0	11	0	10	0	1	0	1	0	1
192			min	0	1	-.009	4	-.008	4	0	1	0	1	0	1
193		2	max	1.428	1	2.47	1	2.14	6	0	1	0	1	0	2
194			min	-1.428	2	-2.478	2	.715	4	0	1	0	2	0	1
195		3	max	2.857	1	4.944	1	4.28	6	0	1	0	1	0	2
196			min	-2.857	2	-4.952	2	1.438	4	0	1	0	2	0	1
197		4	max	4.285	1	7.418	1	6.42	6	0	1	.002	1	.002	2
198			min	-4.285	2	-7.426	2	2.16	4	0	1	-.001	2	-.001	1
199		5	max	5.713	1	9.892	1	8.56	6	0	1	.003	1	.003	2
200			min	-5.713	2	-9.9	2	2.883	4	0	1	-.002	2	-.002	1
201	M44	1	max	75.21	3	75.934	6	75.209	2	.075	2	.022	1	.083	4
202			min	-75.21	4	24.956	3	-75.209	1	-.075	1	-.022	2	-.068	3
203		2	max	75.21	3	75.934	6	75.209	2	.075	2	.017	1	.081	4
204			min	-75.21	4	24.956	3	-75.209	1	-.075	1	-.017	2	-.07	3
205		3	max	75.21	3	75.934	6	75.209	2	.075	2	.011	1	.079	4
206			min	-75.21	4	24.956	3	-75.209	1	-.075	1	-.011	2	-.072	3
207		4	max	75.21	3	75.934	6	75.209	2	.075	2	.006	1	.077	4
208			min	-75.21	4	24.956	3	-75.209	1	-.075	1	-.006	2	-.073	3
209		5	max	75.21	3	75.934	6	75.209	2	.075	2	0	4	.075	4
210			min	-75.21	4	24.956	3	-75.209	1	-.075	1	0	3	-.075	3
211	M46	1	max	.003	1	0	8	0	2	0	4	0	4	0	4
212			min	0	6	0	6	-.001	1	0	10	0	2	0	1
213		2	max	.003	1	0	8	0	2	0	4	0	4	0	6
214			min	0	6	0	6	-.001	1	0	10	0	2	0	1
215		3	max	.003	1	0	8	0	2	0	4	0	4	0	6
216			min	0	6	0	6	-.001	1	0	10	0	1	0	1
217		4	max	.003	1	0	8	0	2	0	4	0	4	0	6
218			min	0	6	0	6	-.001	1	0	10	0	1	0	1
219		5	max	.003	1	0	8	0	2	0	4	0	4	0	6
220			min	0	6	0	6	-.001	1	0	10	0	1	0	1
221	MP2A	1	max	0	1	.002	8	.004	1	0	3	0	1	0	1
222			min	0	1	0	3	-.004	2	0	8	0	1	0	1
223		2	max	197.013	5	230.722	4	315.377	1	.037	4	.058	1	.054	4
224			min	-30.418	10	-261.276	3	-292.305	2	-.032	3	-.035	2	-.054	3
225		3	max	-94.501	1	269.007	3	586.709	2	0	7	1.579	1	.706	3
226			min	-333.984	6	-269.04	4	-586.645	1	0	4	-1.579	2	-.706	4
227		4	max	-85.651	1	242.37	3	560.073	2	0	7	.361	1	.163	3
228			min	-307.091	6	-242.403	4	-560.008	1	0	4	-.361	2	-.163	4
229		5	max	0	1	.341	4	.753	5	0	7	0	1	0	4
230			min	0	6	-.439	7	-.681	2	0	4	0	6	0	3
231	M24	1	max	1118.835	1	-216.105	10	676.539	3	.127	10	.099	3	.618	1
232			min	-1096.68	2	-833.338	5	-645.818	4	-.027	3	-.101	4	-.634	2
233		2	max	1118.835	1	-216.105	10	676.539	3	.127	10	.15	3	.643	1
234			min	-1096.68	2	-833.338	5	-645.818	4	-.027	3	-.149	4	-.617	2
235		3	max	1118.835	1	-216.105	10	676.539	3	.127	10	.2	3	.668	1
236			min	-1096.68	2	-833.338	5	-645.818	4	-.027	3	-.197	4	-.6	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
237		4	max	1118.835	1	-216.105	10	676.539	3	.127	10	.251	3	.693	1
238			min	-1096.68	2	-833.338	5	-645.818	4	-.027	3	-.245	4	-.583	2
239		5	max	1118.835	1	-216.105	10	676.539	3	.127	10	.301	3	.717	1
240			min	-1096.68	2	-833.338	5	-645.818	4	-.027	3	-.293	4	-.565	2
241	MP3A	1	max	0	1	0	4	.004	1	0	7	0	1	0	1
242			min	0	1	-.002	7	-.004	2	0	4	0	1	0	1
243		2	max	44.279	1	238.569	4	87.317	1	.079	2	.059	1	.032	4
244			min	-63.278	10	-148.384	3	-73.759	2	-.071	1	-.034	2	-.035	3
245		3	max	308.893	5	392.696	4	412.151	1	.079	2	.645	1	.468	3
246			min	69.172	10	-302.511	3	-398.593	2	-.071	1	-.592	2	-.662	4
247		4	max	-8.851	1	26.635	3	26.657	2	0	3	.028	1	.028	3
248			min	-26.894	6	-26.623	4	-26.649	1	0	8	-.028	2	-.028	4
249		5	max	0	1	.055	8	.04	6	0	3	0	1	0	4
250			min	0	6	-.002	3	-.012	1	0	8	0	2	0	3
251	M26	1	max	464.645	1	-86.91	10	355.5	3	.354	3	.068	1	.488	2
252			min	-451.813	2	-362.734	5	-445.821	4	-.549	4	-.085	2	-.513	1
253		2	max	464.645	1	-86.91	10	355.5	3	.354	3	.076	3	.495	2
254			min	-451.813	2	-362.734	5	-445.821	4	-.549	4	-.101	4	-.498	1
255		3	max	464.645	1	-86.91	10	355.5	3	.354	3	.103	3	.502	2
256			min	-451.813	2	-362.734	5	-445.821	4	-.549	4	-.134	4	-.484	1
257		4	max	464.645	1	-86.91	10	355.5	3	.354	3	.129	3	.508	2
258			min	-451.813	2	-362.734	5	-445.821	4	-.549	4	-.167	4	-.469	1
259		5	max	464.645	1	-86.91	10	355.5	3	.354	3	.156	3	.515	2
260			min	-451.813	2	-362.734	5	-445.821	4	-.549	4	-.201	4	-.455	1
261	MP4A	1	max	0	1	0	4	.003	5	0	7	0	1	0	1
262			min	0	1	-.002	7	-.002	2	0	4	0	1	0	1
263		2	max	363.941	2	189.058	4	128.544	1	.07	3	.046	8	.04	1
264			min	-194.476	1	-113.483	3	-140.591	2	-.066	4	-.004	3	-.042	2
265		3	max	-17.701	1	53.274	3	53.287	2	0	9	.113	1	.113	3
266			min	-53.787	6	-53.265	4	-53.284	1	0	8	-.113	2	-.113	4
267		4	max	-8.851	1	26.638	3	26.651	2	0	9	.028	1	.028	3
268			min	-26.894	6	-26.629	4	-26.648	1	0	8	-.028	2	-.028	4
269		5	max	0	1	.046	8	.015	6	0	9	0	1	0	4
270			min	0	6	-.003	9	-.011	1	0	8	0	6	0	3
271	M28	1	max	209.442	1	168.435	1	193.21	3	.16	3	.042	1	.241	2
272			min	-218.697	2	-389.89	2	-268.59	4	-.323	4	-.053	2	-.226	1
273		2	max	209.442	1	168.435	1	193.21	3	.16	3	.038	1	.27	2
274			min	-218.697	2	-389.89	2	-268.59	4	-.323	4	-.055	2	-.239	1
275		3	max	209.442	1	168.435	1	193.21	3	.16	3	.034	1	.299	2
276			min	-218.697	2	-389.89	2	-268.59	4	-.323	4	-.056	2	-.251	1
277		4	max	209.442	1	168.435	1	193.21	3	.16	3	.03	1	.328	2
278			min	-218.697	2	-389.89	2	-268.59	4	-.323	4	-.058	2	-.264	1
279		5	max	209.442	1	168.435	1	193.21	3	.16	3	.027	1	.357	2
280			min	-218.697	2	-389.89	2	-268.59	4	-.323	4	-.059	2	-.276	1
281	MP1C	1	max	0	1	.002	4	.001	3	0	7	0	1	0	1
282			min	0	1	-.003	7	-.003	6	0	4	0	1	0	1
283		2	max	415.199	3	216.086	4	202.645	1	.075	4	.063	3	.046	4
284			min	-169.066	4	-160.032	3	-136.57	2	-.075	3	-.065	4	-.067	3
285		3	max	-97.021	2	213.554	3	190.277	2	0	4	.216	1	.234	3
286			min	-222.718	5	-213.475	4	-190.223	1	0	5	-.216	2	-.233	4
287		4	max	-8.851	2	26.718	3	26.628	2	0	4	.028	1	.028	3
288			min	-26.894	5	-26.639	4	-26.574	1	0	5	-.028	2	-.028	4
289		5	max	0	2	.249	5	.208	5	0	4	0	2	0	3
290			min	0	5	-.002	4	-.009	2	0	5	0	5	0	4
291	M30	1	max	575.206	4	-62.866	4	576.714	1	.448	1	.139	3	.325	3
292			min	-556.287	3	-920.485	7	-493.744	2	-.319	2	-.144	4	-.412	4
293		2	max	575.206	4	-62.866	4	576.714	1	.448	1	.115	3	.373	3

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
294			min	-556.287	3	-920.485	7	-493.744	2	-.319	2	-.114	4	-.408	4
295		3	max	575.206	4	-62.866	4	576.714	1	.448	1	.118	1	.421	3
296			min	-556.287	3	-920.485	7	-493.744	2	-.319	2	-.11	2	-.403	4
297		4	max	575.206	4	-62.866	4	576.714	1	.448	1	.161	1	.469	3
298			min	-556.287	3	-920.485	7	-493.744	2	-.319	2	-.147	2	-.398	4
299		5	max	575.206	4	-62.866	4	576.714	1	.448	1	.204	1	.517	3
300			min	-556.287	3	-920.485	7	-493.744	2	-.319	2	-.183	2	-.394	4
301	MP2C	1	max	0	1	.003	4	.001	3	0	3	0	1	0	1
302			min	0	1	-.003	3	-.002	8	0	4	0	1	0	1
303		2	max	196.527	8	297.339	4	286.869	1	.043	2	.048	3	.047	1
304			min	-13.085	3	-268.24	3	-268.37	2	-.036	1	-.058	4	-.063	2
305		3	max	-94.501	4	507.285	3	348.447	2	0	3	.924	1	1.361	3
306			min	-333.984	7	-507.235	4	-348.435	1	0	4	-.924	2	-1.361	4
307		4	max	-85.651	4	480.648	3	321.81	2	0	3	.212	1	.311	3
308			min	-307.091	7	-480.599	4	-321.798	1	0	4	-.212	2	-.311	4
309		5	max	0	4	.652	4	.448	1	0	3	0	4	0	3
310			min	0	7	-.603	3	-.436	2	0	4	0	7	0	4
311	M32A	1	max	857.906	4	-231.631	3	724.518	1	.283	3	.083	3	.376	4
312			min	-842.757	3	-832.647	8	-695.336	2	-.267	4	-.092	4	-.458	3
313		2	max	857.906	4	-231.631	3	724.518	1	.283	3	.084	1	.401	4
314			min	-842.757	3	-832.647	8	-695.336	2	-.267	4	-.091	2	-.44	3
315		3	max	857.906	4	-231.631	3	724.518	1	.283	3	.138	1	.426	4
316			min	-842.757	3	-832.647	8	-695.336	2	-.267	4	-.143	2	-.423	3
317		4	max	857.906	4	-231.631	3	724.518	1	.283	3	.192	1	.451	4
318			min	-842.757	3	-832.647	8	-695.336	2	-.267	4	-.195	2	-.406	3
319		5	max	857.906	4	-231.631	3	724.518	1	.283	3	.246	1	.476	4
320			min	-842.757	3	-832.647	8	-695.336	2	-.267	4	-.246	2	-.388	3
321	MP3C	1	max	0	1	.004	8	.002	5	0	3	0	1	0	1
322			min	0	1	-.003	3	-.002	2	0	8	0	1	0	1
323		2	max	46.509	4	84.327	4	148.677	1	.079	3	.034	3	.049	1
324			min	-55.181	3	-120.63	3	-233.819	2	-.07	4	-.048	4	-.067	2
325		3	max	312.446	8	366.484	4	345.481	1	.079	3	.542	1	.606	3
326			min	77.269	3	-402.787	3	-430.623	2	-.07	4	-.737	2	-.547	4
327		4	max	-8.851	1	26.642	3	26.633	2	0	6	.028	1	.028	3
328			min	-26.893	8	-26.644	4	-26.645	1	0	1	-.028	2	-.028	4
329		5	max	0	7	.013	1	.003	4	0	6	0	5	0	3
330			min	0	2	-.02	6	-.052	7	0	1	0	2	0	4
331	M34A	1	max	345.013	4	-94.167	3	352.324	1	.349	1	.029	4	.31	3
332			min	-334.48	3	-366.232	8	-444.486	2	-.574	2	-.034	3	-.371	4
333		2	max	345.013	4	-94.167	3	352.324	1	.349	1	.047	4	.317	3
334			min	-334.48	3	-366.232	8	-444.486	2	-.574	2	-.058	3	-.356	4
335		3	max	345.013	4	-94.167	3	352.324	1	.349	1	.065	4	.324	3
336			min	-334.48	3	-366.232	8	-444.486	2	-.574	2	-.083	3	-.342	4
337		4	max	345.013	4	-94.167	3	352.324	1	.349	1	.083	4	.331	3
338			min	-334.48	3	-366.232	8	-444.486	2	-.574	2	-.108	3	-.327	4
339		5	max	345.013	4	-94.167	3	352.324	1	.349	1	.103	1	.338	3
340			min	-334.48	3	-366.232	8	-444.486	2	-.574	2	-.136	2	-.313	4
341	MP4C	1	max	0	1	.004	8	.002	1	0	3	0	1	0	1
342			min	0	1	-.001	3	-.002	2	0	8	0	1	0	1
343		2	max	340.201	3	91.053	4	154.733	1	.068	1	.018	4	.014	1
344			min	-141.612	4	-141.403	3	-212.622	2	-.07	2	-.037	3	-.043	2
345		3	max	-17.701	4	53.274	3	53.276	2	0	6	.113	1	.113	3
346			min	-53.787	7	-53.279	4	-53.284	1	0	1	-.113	2	-.113	4
347		4	max	-8.851	4	26.638	3	26.64	2	0	6	.028	1	.028	3
348			min	-26.894	7	-26.642	4	-26.647	1	0	1	-.028	2	-.028	4
349		5	max	0	4	.008	1	.003	2	0	6	0	4	0	1
350			min	0	7	-.027	6	-.036	7	0	1	0	7	0	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
351	M36A	1	max	144.645	4	115.306	4	191.275	1	.153	1	.072	2	.161	1
352			min	-158.165	3	-410.56	7	-266.985	2	-.337	2	-.066	1	-.176	2
353		2	max	144.645	4	115.306	4	191.275	1	.153	1	.052	2	.181	1
354			min	-158.165	3	-410.56	7	-266.985	2	-.337	2	-.052	1	-.177	2
355		3	max	144.645	4	115.306	4	191.275	1	.153	1	.033	2	.201	1
356			min	-158.165	3	-410.56	7	-266.985	2	-.337	2	-.037	1	-.178	2
357		4	max	144.645	4	115.306	4	191.275	1	.153	1	.03	4	.221	1
358			min	-158.165	3	-410.56	7	-266.985	2	-.337	2	-.039	3	-.18	2
359		5	max	144.645	4	115.306	4	191.275	1	.153	1	.037	4	.241	1
360			min	-158.165	3	-410.56	7	-266.985	2	-.337	2	-.052	3	-.181	2
361	MP1B	1	max	0	1	.002	4	.002	5	0	7	0	1	0	1
362			min	0	1	-.003	7	0	2	0	4	0	1	0	1
363		2	max	390.026	8	160.117	4	143.045	1	.095	3	.055	2	.038	2
364			min	-102.755	3	-126.455	3	-225.723	2	-.093	4	-.073	1	-.021	1
365		3	max	-97.021	3	213.47	3	190.238	2	0	1	.216	1	.233	3
366			min	-222.718	8	-213.467	4	-190.327	1	0	2	-.216	2	-.233	4
367		4	max	-8.851	3	26.633	3	26.59	2	0	1	.028	1	.028	3
368			min	-26.894	8	-26.631	4	-26.679	1	0	2	-.028	2	-.028	4
369		5	max	0	3	.047	2	.003	3	0	1	0	3	0	3
370			min	0	8	-.045	1	-.291	8	0	2	0	8	0	4
371	M38A	1	max	524.292	3	-129.598	3	574.449	2	.456	2	.033	1	.211	4
372			min	-510.049	4	-936.55	8	-486.594	1	-.197	1	-.038	2	-.298	3
373		2	max	524.292	3	-129.598	3	574.449	2	.456	2	.059	4	.256	4
374			min	-510.049	4	-936.55	8	-486.594	1	-.197	1	-.058	3	-.288	3
375		3	max	524.292	3	-129.598	3	574.449	2	.456	2	.089	4	.301	4
376			min	-510.049	4	-936.55	8	-486.594	1	-.197	1	-.082	3	-.278	3
377		4	max	524.292	3	-129.598	3	574.449	2	.456	2	.118	4	.346	4
378			min	-510.049	4	-936.55	8	-486.594	1	-.197	1	-.105	3	-.269	3
379		5	max	524.292	3	-129.598	3	574.449	2	.456	2	.148	4	.391	4
380			min	-510.049	4	-936.55	8	-486.594	1	-.197	1	-.129	3	-.259	3
381	MP2B	1	max	0	1	.003	4	.002	8	0	3	0	1	0	1
382			min	0	1	-.003	3	-.002	3	0	4	0	1	0	1
383		2	max	206.147	7	300.209	4	236.592	1	.043	3	.058	4	.052	2
384			min	-13.761	4	-295.853	3	-276.149	2	-.037	4	-.068	3	-.035	1
385		3	max	-94.501	3	507.249	3	348.414	2	0	3	.924	1	1.361	3
386			min	-333.984	8	-507.266	4	-348.46	1	0	4	-.924	2	-1.361	4
387		4	max	-85.651	3	480.613	3	321.777	2	0	3	.212	1	.311	3
388			min	-307.091	8	-480.63	4	-321.823	1	0	4	-.212	2	-.311	4
389		5	max	0	3	.621	4	.423	1	0	3	0	3	0	3
390			min	0	8	-.639	3	-.539	6	0	4	0	8	0	4
391	M40A	1	max	850.047	3	-230.971	4	699.779	2	.256	3	.057	3	.391	3
392			min	-834.808	4	-842.262	7	-663.419	1	-.129	4	-.063	4	-.474	4
393		2	max	850.047	3	-230.971	4	699.779	2	.256	3	.077	2	.416	3
394			min	-834.808	4	-842.262	7	-663.419	1	-.129	4	-.079	1	-.457	4
395		3	max	850.047	3	-230.971	4	699.779	2	.256	3	.129	2	.442	3
396			min	-834.808	4	-842.262	7	-663.419	1	-.129	4	-.129	1	-.439	4
397		4	max	850.047	3	-230.971	4	699.779	2	.256	3	.181	2	.467	3
398			min	-834.808	4	-842.262	7	-663.419	1	-.129	4	-.178	1	-.422	4
399		5	max	850.047	3	-230.971	4	699.779	2	.256	3	.233	2	.493	3
400			min	-834.808	4	-842.262	7	-663.419	1	-.129	4	-.228	1	-.405	4
401	MP3B	1	max	0	1	.004	4	.001	4	0	3	0	1	0	1
402			min	0	1	-.004	3	-.003	7	0	4	0	1	0	1
403		2	max	37.172	2	103.238	4	200.063	1	.043	1	.048	4	.045	3
404			min	-56.82	1	-153.661	3	-133.135	2	-.036	2	-.056	3	-.027	4
405		3	max	298	6	385.395	4	396.867	1	.043	1	.633	1	.719	3
406			min	75.631	1	-435.818	3	-329.939	2	-.036	2	-.499	2	-.594	4
407		4	max	-8.851	3	26.644	3	26.637	2	0	5	.028	1	.028	3

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
408			min	-26.893	8	-26.653	4	-26.629	1	0	3	-.028	2	-.028	4
409		5	max	0	3	.008	3	.04	5	0	5	0	1	0	3
410			min	0	8	-.041	5	-.006	4	0	3	0	1	0	4
411	M42A	1	max	383.488	3	-93.175	1	361.374	2	.394	2	.078	3	.422	4
412			min	-373.9	4	-351.802	6	-444.197	1	-.549	1	-.08	4	-.478	3
413		2	max	383.488	3	-93.175	1	361.374	2	.394	2	.057	2	.43	4
414			min	-373.9	4	-351.802	6	-444.197	1	-.549	1	-.065	1	-.465	3
415		3	max	383.488	3	-93.175	1	361.374	2	.394	2	.084	2	.438	4
416			min	-373.9	4	-351.802	6	-444.197	1	-.549	1	-.098	1	-.452	3
417		4	max	383.488	3	-93.175	1	361.374	2	.394	2	.111	2	.446	4
418			min	-373.9	4	-351.802	6	-444.197	1	-.549	1	-.131	1	-.439	3
419		5	max	383.488	3	-93.175	1	361.374	2	.394	2	.138	2	.454	4
420			min	-373.9	4	-351.802	6	-444.197	1	-.549	1	-.165	1	-.426	3
421	MP4B	1	max	0	1	.002	4	.001	1	0	7	0	1	0	1
422			min	0	1	-.003	7	-.003	6	0	4	0	1	0	1
423		2	max	358.461	4	173.277	4	178.857	1	.058	4	.038	4	.04	5
424			min	-169.379	3	-194.144	3	-114.916	2	-.058	3	-.047	3	-.004	2
425		3	max	-17.701	2	53.285	3	53.274	2	0	8	.113	1	.113	3
426			min	-53.787	5	-53.29	4	-53.266	1	0	3	-.113	2	-.113	4
427		4	max	-8.851	2	26.648	3	26.638	2	0	8	.028	1	.028	3
428			min	-26.894	5	-26.653	4	-26.629	1	0	3	-.028	2	-.028	4
429		5	max	0	2	.011	3	.043	5	0	8	0	2	0	3
430			min	0	5	-.025	8	0	4	0	3	0	5	0	4
431	M44A	1	max	205.607	3	143.371	3	178.046	2	.177	2	.085	3	.239	4
432			min	-216.836	4	-400.895	8	-242.431	1	-.302	1	-.083	4	-.251	3
433		2	max	205.607	3	143.371	3	178.046	2	.177	2	.071	3	.268	4
434			min	-216.836	4	-400.895	8	-242.431	1	-.302	1	-.073	4	-.262	3
435		3	max	205.607	3	143.371	3	178.046	2	.177	2	.057	3	.297	4
436			min	-216.836	4	-400.895	8	-242.431	1	-.302	1	-.064	4	-.272	3
437		4	max	205.607	3	143.371	3	178.046	2	.177	2	.042	3	.325	4
438			min	-216.836	4	-400.895	8	-242.431	1	-.302	1	-.054	4	-.283	3
439		5	max	205.607	3	143.371	3	178.046	2	.177	2	.028	3	.354	4
440			min	-216.836	4	-400.895	8	-242.431	1	-.302	1	-.045	4	-.294	3
441	M45	1	max	4.318	1	340.351	2	-11.358	4	.374	3	.098	1	.17	2
442			min	-32.715	2	-278.217	1	-145.699	7	-.199	4	-.111	2	-.191	1
443		2	max	4.318	1	340.351	2	-11.358	4	.374	3	.094	1	.145	2
444			min	-32.715	2	-278.217	1	-145.699	7	-.199	4	-.115	2	-.17	1
445		3	max	4.318	1	340.351	2	-11.358	4	.374	3	.09	1	.12	2
446			min	-32.715	2	-278.217	1	-145.699	7	-.199	4	-.119	2	-.15	1
447		4	max	4.318	1	340.351	2	-11.358	4	.374	3	.087	1	.094	2
448			min	-32.715	2	-278.217	1	-145.699	7	-.199	4	-.122	2	-.129	1
449		5	max	4.318	1	340.351	2	-11.358	4	.374	3	.083	1	.069	2
450			min	-32.715	2	-278.217	1	-145.699	7	-.199	4	-.126	2	-.108	1
451	M46A	1	max	246.521	1	6.1	1	7.451	1	.36	3	.035	4	.101	2
452			min	-268.707	2	-138.487	6	-57.618	10	-.303	4	-.034	3	-.112	1
453		2	max	246.521	1	6.1	1	7.451	1	.36	3	.034	4	.108	2
454			min	-268.707	2	-138.487	6	-57.618	10	-.303	4	-.036	3	-.112	1
455		3	max	246.521	1	6.1	1	7.451	1	.36	3	.034	4	.116	2
456			min	-268.707	2	-138.487	6	-57.618	10	-.303	4	-.037	3	-.113	1
457		4	max	246.521	1	6.1	1	7.451	1	.36	3	.033	4	.123	2
458			min	-268.707	2	-138.487	6	-57.618	10	-.303	4	-.038	3	-.113	1
459		5	max	246.521	1	6.1	1	7.451	1	.36	3	.032	4	.13	2
460			min	-268.707	2	-138.487	6	-57.618	10	-.303	4	-.04	3	-.113	1
461	M47	1	max	47.058	2	34.953	1	211.821	4	.292	3	.085	2	.089	2
462			min	-59.875	1	-72.126	10	-121.446	3	-.458	4	-.068	1	-.087	1
463		2	max	47.058	2	34.953	1	211.821	4	.292	3	.089	2	.094	2
464			min	-59.875	1	-72.126	10	-121.446	3	-.458	4	-.065	1	-.09	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
465		3	max	47.058	2	34.953	1	211.821	4	.292	3	.093	2	.099	2
466			min	-59.875	1	-72.126	10	-121.446	3	-.458	4	-.063	1	-.092	1
467		4	max	47.058	2	34.953	1	211.821	4	.292	3	.098	2	.104	2
468			min	-59.875	1	-72.126	10	-121.446	3	-.458	4	-.061	1	-.095	1
469		5	max	47.058	2	34.953	1	211.821	4	.292	3	.108	4	.109	2
470			min	-59.875	1	-72.126	10	-121.446	3	-.458	4	-.063	3	-.097	1
471	M48	1	max	112.137	2	354.717	2	162.027	4	.188	3	.062	3	.219	2
472			min	-102.875	1	-203.763	1	-86.709	3	-.327	4	-.05	4	-.178	1
473		2	max	112.137	2	354.717	2	162.027	4	.188	3	.055	3	.192	2
474			min	-102.875	1	-203.763	1	-86.709	3	-.327	4	-.038	1	-.163	1
475		3	max	112.137	2	354.717	2	162.027	4	.188	3	.056	2	.166	2
476			min	-102.875	1	-203.763	1	-86.709	3	-.327	4	-.034	1	-.148	1
477		4	max	112.137	2	354.717	2	162.027	4	.188	3	.058	2	.139	2
478			min	-102.875	1	-203.763	1	-86.709	3	-.327	4	-.03	1	-.132	1
479		5	max	112.137	2	354.717	2	162.027	4	.188	3	.059	2	.113	2
480			min	-102.875	1	-203.763	1	-86.709	3	-.327	4	-.026	1	-.117	1
481	M49	1	max	0	1	0	1	0	1	0	1	0	1	0	1
482			min	0	1	0	1	0	1	0	1	0	1	0	1
483		2	max	160.156	3	172.912	4	86.286	1	.107	1	.15	4	.005	2
484			min	-104.908	4	-84.582	3	-109.325	2	-.131	2	-.151	3	-.04	10
485		3	max	228.816	10	120.856	4	107.001	1	.024	3	.309	1	-.017	9
486			min	36.513	1	-87.665	3	-117.085	2	-.037	4	-.316	2	-.061	6
487		4	max	171.202	10	79.702	4	191.654	2	.108	2	.227	1	.048	2
488			min	20.369	3	-168.209	3	-179.107	1	-.104	1	-.239	2	-.066	1
489		5	max	0	1	0	1	0	1	0	1	0	1	0	1
490			min	0	1	0	1	0	1	0	1	0	1	0	1
491	M50	1	max	28.345	2	327.147	3	-15.119	2	.326	1	.078	4	.182	3
492			min	-44.588	1	-257.207	4	-123.829	5	-.168	2	-.073	3	-.188	4
493		2	max	28.345	2	327.147	3	-15.119	2	.326	1	.072	4	.158	3
494			min	-44.588	1	-257.207	4	-123.829	5	-.168	2	-.074	3	-.169	4
495		3	max	28.345	2	327.147	3	-15.119	2	.326	1	.067	4	.133	3
496			min	-44.588	1	-257.207	4	-123.829	5	-.168	2	-.075	3	-.149	4
497		4	max	28.345	2	327.147	3	-15.119	2	.326	1	.062	4	.109	3
498			min	-44.588	1	-257.207	4	-123.829	5	-.168	2	-.076	3	-.13	4
499		5	max	28.345	2	327.147	3	-15.119	2	.326	1	.057	4	.085	3
500			min	-44.588	1	-257.207	4	-123.829	5	-.168	2	-.078	3	-.111	4
501	M51	1	max	171.406	4	4.336	4	72.84	4	.368	1	.039	2	.081	3
502			min	-186.56	3	-136.865	7	-103.153	3	-.32	2	-.03	1	-.097	4
503		2	max	171.406	4	4.336	4	72.84	4	.368	1	.037	2	.089	3
504			min	-186.56	3	-136.865	7	-103.153	3	-.32	2	-.03	1	-.097	4
505		3	max	171.406	4	4.336	4	72.84	4	.368	1	.035	2	.096	3
506			min	-186.56	3	-136.865	7	-103.153	3	-.32	2	-.03	1	-.098	4
507		4	max	171.406	4	4.336	4	72.84	4	.368	1	.033	2	.103	3
508			min	-186.56	3	-136.865	7	-103.153	3	-.32	2	-.03	1	-.098	4
509		5	max	171.406	4	4.336	4	72.84	4	.368	1	.031	2	.111	3
510			min	-186.56	3	-136.865	7	-103.153	3	-.32	2	-.03	1	-.098	4
511	M52	1	max	48.39	1	37.473	4	204.905	2	.272	1	.07	3	.07	1
512			min	-58.788	2	-64.145	3	-112.62	1	-.445	2	-.064	4	-.069	2
513		2	max	48.39	1	37.473	4	204.905	2	.272	1	.081	3	.071	1
514			min	-58.788	2	-64.145	3	-112.62	1	-.445	2	-.069	4	-.067	2
515		3	max	48.39	1	37.473	4	204.905	2	.272	1	.092	3	.072	1
516			min	-58.788	2	-64.145	3	-112.62	1	-.445	2	-.073	4	-.066	2
517		4	max	48.39	1	37.473	4	204.905	2	.272	1	.104	3	.073	1
518			min	-58.788	2	-64.145	3	-112.62	1	-.445	2	-.078	4	-.065	2
519		5	max	48.39	1	37.473	4	204.905	2	.272	1	.115	3	.074	1
520			min	-58.788	2	-64.145	3	-112.62	1	-.445	2	-.082	4	-.064	2
521	M53	1	max	82.953	1	331.243	3	174.671	2	.242	1	.066	1	.185	3

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
522			min	-69.194	2	-150.619	4	-99.074	1	-.366	2	-.072	2	-.114	4
523		2	max	82.953	1	331.243	3	174.671	2	.242	1	.059	1	.16	3
524			min	-69.194	2	-150.619	4	-99.074	1	-.366	2	-.059	2	-.102	4
525		3	max	82.953	1	331.243	3	174.671	2	.242	1	.051	1	.139	1
526			min	-69.194	2	-150.619	4	-99.074	1	-.366	2	-.046	2	-.094	2
527		4	max	82.953	1	331.243	3	174.671	2	.242	1	.044	1	.121	1
528			min	-69.194	2	-150.619	4	-99.074	1	-.366	2	-.033	2	-.09	2
529		5	max	82.953	1	331.243	3	174.671	2	.242	1	.046	3	.104	1
530			min	-69.194	2	-150.619	4	-99.074	1	-.366	2	-.032	4	-.086	2
531	M54	1	max	0	1	.007	4	.016	4	0	1	0	1	0	1
532			min	0	1	0	6	-.017	2	0	1	0	1	0	1
533		2	max	128.553	1	154.938	3	95.52	4	.084	4	.157	2	.004	1
534			min	-95.649	2	-66.168	4	-115.285	3	-.107	3	-.15	1	-.039	6
535		3	max	193.676	7	123.57	2	97.417	4	.032	4	.228	4	-.013	2
536			min	-48.46	4	-87.144	1	-107.379	3	-.046	3	-.233	3	-.063	5
537		4	max	133.871	7	104.186	2	109.67	3	.065	3	.219	4	.029	1
538			min	40.176	10	-189.273	1	-103.309	4	-.067	4	-.229	3	-.049	2
539		5	max	0	1	.005	4	.019	3	0	1	0	1	0	1
540			min	0	1	-.008	2	-.01	1	0	1	0	1	0	1
541	M55	1	max	56.668	3	283.399	4	-22.012	9	.36	2	.101	3	.111	1
542			min	-70.922	4	-190.727	3	-127.992	6	-.21	1	-.096	4	-.106	2
543		2	max	56.668	3	283.399	4	-22.012	9	.36	2	.099	3	.096	1
544			min	-70.922	4	-190.727	3	-127.992	6	-.21	1	-.101	4	-.098	2
545		3	max	56.668	3	283.399	4	-22.012	9	.36	2	.098	3	.081	1
546			min	-70.922	4	-190.727	3	-127.992	6	-.21	1	-.106	4	-.089	2
547		4	max	56.668	3	283.399	4	-22.012	9	.36	2	.096	3	.066	1
548			min	-70.922	4	-190.727	3	-127.992	6	-.21	1	-.111	4	-.081	2
549		5	max	56.668	3	283.399	4	-22.012	9	.36	2	.094	3	.051	1
550			min	-70.922	4	-190.727	3	-127.992	6	-.21	1	-.116	4	-.073	2
551	M56	1	max	179.288	3	11.502	3	24.404	4	.325	2	.061	3	.066	4
552			min	-194.504	4	-130.608	8	-63.276	3	-.248	1	-.055	4	-.08	3
553		2	max	179.288	3	11.502	3	24.404	4	.325	2	.056	3	.073	4
554			min	-194.504	4	-130.608	8	-63.276	3	-.248	1	-.053	4	-.081	3
555		3	max	179.288	3	11.502	3	24.404	4	.325	2	.052	3	.08	4
556			min	-194.504	4	-130.608	8	-63.276	3	-.248	1	-.052	4	-.082	3
557		4	max	179.288	3	11.502	3	24.404	4	.325	2	.047	3	.088	4
558			min	-194.504	4	-130.608	8	-63.276	3	-.248	1	-.05	4	-.083	3
559		5	max	179.288	3	11.502	3	24.404	4	.325	2	.042	3	.095	4
560			min	-194.504	4	-130.608	8	-63.276	3	-.248	1	-.048	4	-.084	3
561	M57	1	max	60.408	4	28.318	2	204.793	1	.291	2	.044	4	.088	4
562			min	-69.951	3	-65.653	1	-121.511	2	-.441	1	-.042	3	-.089	3
563		2	max	60.408	4	28.318	2	204.793	1	.291	2	.047	1	.092	4
564			min	-69.951	3	-65.653	1	-121.511	2	-.441	1	-.039	2	-.09	3
565		3	max	60.408	4	28.318	2	204.793	1	.291	2	.063	1	.096	4
566			min	-69.951	3	-65.653	1	-121.511	2	-.441	1	-.048	2	-.091	3
567		4	max	60.408	4	28.318	2	204.793	1	.291	2	.078	1	.1	4
568			min	-69.951	3	-65.653	1	-121.511	2	-.441	1	-.057	2	-.092	3
569		5	max	60.408	4	28.318	2	204.793	1	.291	2	.093	1	.104	4
570			min	-69.951	3	-65.653	1	-121.511	2	-.441	1	-.066	2	-.093	3
571	M58	1	max	124.589	4	349.081	4	150.252	1	.168	2	.072	4	.265	4
572			min	-113.333	3	-178.834	3	-85.693	2	-.3	1	-.075	3	-.2	3
573		2	max	124.589	4	349.081	4	150.252	1	.168	2	.067	4	.239	4
574			min	-113.333	3	-178.834	3	-85.693	2	-.3	1	-.064	3	-.187	3
575		3	max	124.589	4	349.081	4	150.252	1	.168	2	.061	4	.213	4
576			min	-113.333	3	-178.834	3	-85.693	2	-.3	1	-.054	3	-.174	3
577		4	max	124.589	4	349.081	4	150.252	1	.168	2	.056	4	.187	4
578			min	-113.333	3	-178.834	3	-85.693	2	-.3	1	-.043	3	-.16	3

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
579		5	max	124.589	4	349.081	4	150.252	1	.168	2	.05	4	.161	4
580			min	-113.333	3	-178.834	3	-85.693	2	-.3	1	-.033	3	-.147	3
581	M59	1	max	0	1	.008	2	0	6	0	1	0	1	0	1
582			min	0	1	0	7	-.016	4	0	1	0	1	0	1
583		2	max	73.371	8	189.68	1	74.471	2	.07	3	.111	3	.013	4
584			min	-28.157	3	-101.005	2	-90.344	1	-.091	4	-.107	4	-.037	7
585		3	max	190.547	5	111.021	1	66.153	2	.029	2	.247	3	-.008	3
586			min	-49.598	2	-85.78	2	-73.242	1	-.039	1	-.252	4	-.062	8
587		4	max	135.388	5	80.504	3	157.165	4	.108	4	.166	2	.04	4
588			min	-9.383	2	-170.463	4	-147.834	3	-.106	3	-.172	1	-.06	3
589		5	max	0	1	.001	6	.014	2	0	1	0	1	0	1
590			min	0	1	-.008	3	-.027	4	0	1	0	1	0	1
591	M60	1	max	201.096	3	179.074	4	218.789	1	.005	1	.257	3	.282	2
592			min	-220.577	4	-170.537	3	-256.274	2	-.005	2	-.249	4	-.257	1
593		2	max	197.525	3	172.889	4	220.611	1	.005	1	.178	3	.234	4
594			min	-217.006	4	-164.352	3	-254.452	2	-.005	2	-.178	4	-.221	3
595		3	max	193.954	3	166.704	4	222.434	1	.005	1	.101	3	.214	4
596			min	-213.436	4	-158.167	3	-252.63	2	-.005	2	-.107	4	-.212	3
597		4	max	190.384	3	160.519	4	224.256	1	.005	1	.115	1	.196	4
598			min	-209.865	4	-151.982	3	-250.808	2	-.005	2	-.126	2	-.204	3
599		5	max	186.813	3	154.334	4	226.078	1	.005	1	.19	1	.181	4
600			min	-206.294	4	-145.797	3	-248.985	2	-.005	2	-.206	2	-.197	3
601	M61	1	max	203.244	1	158.099	2	215.838	2	.006	2	.322	1	.304	3
602			min	-230.247	2	-127.071	1	-282.32	1	-.006	1	-.312	2	-.248	4
603		2	max	199.673	1	156.037	2	217.66	2	.006	2	.214	1	.259	3
604			min	-226.676	2	-125.01	1	-280.497	1	-.006	1	-.213	2	-.229	4
605		3	max	196.103	1	153.976	2	219.482	2	.006	2	.107	1	.216	3
606			min	-223.105	2	-122.948	1	-278.675	1	-.006	1	-.113	2	-.211	4
607		4	max	192.532	1	151.914	2	221.305	2	.006	2	.105	4	.18	2
608			min	-219.534	2	-120.886	1	-276.853	1	-.006	1	-.117	3	-.196	1
609		5	max	188.961	1	149.852	2	223.127	2	.006	2	.144	4	.199	2
610			min	-215.963	2	-118.825	1	-275.031	1	-.006	1	-.162	3	-.238	1
611	M62	1	max	113.753	4	98.921	1	273.206	3	.007	3	.261	4	.273	1
612			min	-131.173	3	-80.312	4	-328.714	4	-.007	4	-.248	3	-.231	2
613		2	max	113.753	4	98.893	3	275.028	3	.007	3	.153	4	.236	1
614			min	-131.173	3	-80.312	4	-326.892	4	-.007	4	-.149	3	-.214	2
615		3	max	113.753	4	98.893	3	276.85	3	.007	3	.07	2	.202	1
616			min	-131.173	3	-80.312	4	-325.07	4	-.007	4	-.073	1	-.198	2
617		4	max	113.753	4	98.893	3	278.672	3	.007	3	.053	2	.17	1
618			min	-131.173	3	-80.312	4	-323.248	4	-.007	4	-.063	1	-.184	2
619		5	max	113.753	4	98.893	3	280.495	3	.007	3	.151	3	.141	1
620			min	-131.173	3	-80.312	4	-321.426	4	-.007	4	-.169	4	-.172	2
621	M63	1	max	5608.861	5	-9.782	1	120.758	4	0	3	.414	3	-.068	10
622			min	1206.313	2	-86.87	6	-105.661	3	0	4	-.442	4	-.185	6
623		2	max	5586.77	5	-37.914	10	82.274	4	0	3	.288	3	-.009	2
624			min	1177.456	2	-100.429	6	-67.177	3	0	4	-.294	4	-.054	5
625		3	max	5564.679	5	-23.229	2	43.79	4	0	3	.218	3	.11	5
626			min	1148.598	2	-126.004	5	-28.693	3	0	4	-.202	4	.037	2
627		4	max	5542.588	5	-6.388	2	22.12	7	0	3	.204	3	.314	5
628			min	1119.74	2	-153.318	5	1.226	2	0	4	-.166	4	.058	2
629		5	max	5520.497	5	10.453	2	48.275	3	0	3	.247	3	.557	5
630			min	1090.883	2	-180.633	5	-33.178	4	0	4	-.187	4	.055	2
631	M64	1	max	0	1	.012	4	.007	1	0	1	0	1	0	1
632			min	0	1	-.015	7	-.021	6	0	1	0	1	0	1
633		2	max	18.983	5	18.814	4	18.809	1	0	1	.014	1	.014	3
634			min	6.247	4	-18.814	3	-18.812	2	0	1	-.014	2	-.014	4
635		3	max	37.967	5	37.616	4	37.611	1	0	1	.056	1	.056	3

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
636			min	12.495	4	-37.617	3	-37.614	2	0	1	-.056	2	-.056	4
637		4	max	-6.248	4	18.804	3	18.802	2	0	1	.014	1	.014	3
638			min	-18.983	5	-18.803	4	-18.801	1	0	1	-.014	2	-.014	4
639		5	max	0	1	.002	7	.006	5	0	1	0	1	0	1
640			min	0	1	-.001	4	0	2	0	1	0	1	0	1
641	M65	1	max	75.209	4	75.934	6	75.209	1	.075	1	.022	2	.083	3
642			min	-75.21	3	24.956	3	-75.209	2	-.075	2	-.022	1	-.068	4
643		2	max	75.209	4	75.934	6	75.209	1	.075	1	.017	2	.081	3
644			min	-75.21	3	24.956	3	-75.209	2	-.075	2	-.017	1	-.07	4
645		3	max	75.209	4	75.934	6	75.209	1	.075	1	.011	2	.079	3
646			min	-75.21	3	24.956	3	-75.209	2	-.075	2	-.011	1	-.072	4
647		4	max	75.209	4	75.934	6	75.209	1	.075	1	.006	2	.077	3
648			min	-75.21	3	24.956	3	-75.209	2	-.075	2	-.006	1	-.073	4
649		5	max	75.209	4	75.934	6	75.209	1	.075	1	0	4	.075	3
650			min	-75.21	3	24.956	3	-75.209	2	-.075	2	0	1	-.075	4
651	M66	1	max	0	1	.012	4	.007	1	0	1	0	1	0	1
652			min	0	1	-.015	7	-.021	6	0	1	0	1	0	1
653		2	max	18.983	5	18.814	4	18.809	1	0	1	.014	1	.014	3
654			min	6.247	3	-18.814	3	-18.812	2	0	1	-.014	2	-.014	4
655		3	max	37.967	5	37.616	4	37.611	1	0	1	.056	1	.056	3
656			min	12.495	3	-37.617	3	-37.614	2	0	1	-.056	2	-.056	4
657		4	max	-6.247	1	18.804	3	18.802	2	0	1	.014	1	.014	3
658			min	-18.983	7	-18.803	4	-18.801	1	0	1	-.014	2	-.014	4
659		5	max	0	1	.002	7	.006	5	0	1	0	1	0	1
660			min	0	1	-.001	4	0	2	0	1	0	1	0	1
661	M67	1	max	65.133	1	75.934	7	65.143	3	.065	3	.019	4	.073	2
662			min	-65.133	2	24.965	1	-65.124	4	-.065	4	-.019	3	-.058	1
663		2	max	65.133	1	75.934	7	65.143	3	.065	3	.015	4	.071	2
664			min	-65.133	2	24.965	1	-65.124	4	-.065	4	-.015	3	-.06	1
665		3	max	65.133	1	75.934	7	65.143	3	.065	3	.01	4	.069	2
666			min	-65.133	2	24.965	1	-65.124	4	-.065	4	-.01	3	-.061	1
667		4	max	65.133	1	75.934	7	65.143	3	.065	3	.005	4	.067	2
668			min	-65.133	2	24.965	1	-65.124	4	-.065	4	-.005	3	-.063	1
669		5	max	65.133	1	75.934	7	65.143	3	.065	3	0	6	.065	2
670			min	-65.133	2	24.965	1	-65.124	4	-.065	4	0	1	-.065	1
671	M68	1	max	0	1	.008	4	.02	5	0	1	0	1	0	1
672			min	0	1	-.02	7	-.01	2	0	1	0	1	0	1
673		2	max	18.983	5	18.81	4	18.814	1	0	1	.014	1	.014	3
674			min	6.247	3	-18.813	3	-18.812	2	0	1	-.014	2	-.014	4
675		3	max	37.967	5	37.613	4	37.616	1	0	1	.056	1	.056	3
676			min	12.495	3	-37.615	3	-37.614	2	0	1	-.056	2	-.056	4
677		4	max	-6.248	2	18.803	3	18.803	2	0	1	.014	1	.014	3
678			min	-18.983	5	-18.802	4	-18.803	1	0	1	-.014	2	-.014	4
679		5	max	0	1	.005	6	0	3	0	1	0	1	0	1
680			min	0	1	0	1	-.004	8	0	1	0	1	0	1
681	M69	1	max	65.133	2	75.934	7	65.124	4	.065	4	.019	3	.073	1
682			min	-65.133	1	24.965	1	-65.143	3	-.065	3	-.019	4	-.058	2
683		2	max	65.133	2	75.934	7	65.124	4	.065	4	.015	3	.071	1
684			min	-65.133	1	24.965	1	-65.143	3	-.065	3	-.015	4	-.06	2
685		3	max	65.133	2	75.934	7	65.124	4	.065	4	.01	3	.069	1
686			min	-65.133	1	24.965	1	-65.143	3	-.065	3	-.01	4	-.061	2
687		4	max	65.133	2	75.934	7	65.124	4	.065	4	.005	3	.067	1
688			min	-65.133	1	24.965	1	-65.143	3	-.065	3	-.005	4	-.063	2
689		5	max	65.133	2	75.934	7	65.124	4	.065	4	0	2	.065	1
690			min	-65.133	1	24.965	1	-65.143	3	-.065	3	0	1	-.065	2
691	M70	1	max	0	1	.008	4	.02	5	0	1	0	1	0	1
692			min	0	1	-.02	7	-.01	2	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
693		2	max	18.983	6	18.81	4	18.814	1	0	1	.014	1	.014	3
694			min	6.247	1	-18.813	3	-18.812	2	0	1	-.014	2	-.014	4
695		3	max	37.967	6	37.613	4	37.616	1	0	1	.056	1	.056	3
696			min	12.495	1	-37.615	3	-37.614	2	0	1	-.056	2	-.056	4
697		4	max	-6.247	1	18.803	3	18.803	2	0	1	.014	1	.014	3
698			min	-18.983	7	-18.802	4	-18.803	1	0	1	-.014	2	-.014	4
699		5	max	0	1	.005	6	0	3	0	1	0	1	0	1
700			min	0	1	0	1	-.004	8	0	1	0	1	0	1
701	M71	1	max	65.133	2	75.934	7	65.149	4	.065	4	.019	3	.073	1
702			min	-65.133	1	24.962	2	-65.117	3	-.065	3	-.019	4	-.058	2
703		2	max	65.133	2	75.934	7	65.149	4	.065	4	.015	3	.071	1
704			min	-65.133	1	24.962	2	-65.117	3	-.065	3	-.015	4	-.06	2
705		3	max	65.133	2	75.934	7	65.149	4	.065	4	.01	3	.069	1
706			min	-65.133	1	24.962	2	-65.117	3	-.065	3	-.01	4	-.061	2
707		4	max	65.133	2	75.934	7	65.149	4	.065	4	.005	3	.067	1
708			min	-65.133	1	24.962	2	-65.117	3	-.065	3	-.005	4	-.063	2
709		5	max	65.133	2	75.934	7	65.149	4	.065	4	0	2	.065	1
710			min	-65.133	1	24.962	2	-65.117	3	-.065	3	0	4	-.065	2
711	M72	1	max	0	1	.022	8	.016	5	0	1	0	1	0	1
712			min	0	1	-.007	3	-.011	2	0	1	0	1	0	1
713		2	max	18.983	6	18.813	4	18.814	1	0	1	.014	1	.014	3
714			min	6.247	1	-18.81	3	-18.813	2	0	1	-.014	2	-.014	4
715		3	max	37.967	6	37.615	4	37.616	1	0	1	.056	1	.056	3
716			min	12.495	1	-37.612	3	-37.615	2	0	1	-.056	2	-.056	4
717		4	max	-6.247	1	18.801	3	18.803	2	0	1	.014	1	.014	3
718			min	-18.983	7	-18.803	4	-18.803	1	0	1	-.014	2	-.014	4
719		5	max	0	1	0	1	0	2	0	1	0	1	0	1
720			min	0	1	-.006	6	-.002	7	0	1	0	1	0	1
721	M73	1	max	65.133	1	75.934	7	65.116	3	.065	3	.019	4	.073	2
722			min	-65.133	2	24.962	2	-65.149	4	-.065	4	-.019	3	-.058	1
723		2	max	65.133	1	75.934	7	65.116	3	.065	3	.015	4	.071	2
724			min	-65.133	2	24.962	2	-65.149	4	-.065	4	-.015	3	-.06	1
725		3	max	65.133	1	75.934	7	65.116	3	.065	3	.01	4	.069	2
726			min	-65.133	2	24.962	2	-65.149	4	-.065	4	-.01	3	-.061	1
727		4	max	65.133	1	75.934	7	65.116	3	.065	3	.005	4	.067	2
728			min	-65.133	2	24.962	2	-65.149	4	-.065	4	-.005	3	-.063	1
729		5	max	65.133	1	75.934	7	65.116	3	.065	3	0	1	.065	2
730			min	-65.133	2	24.962	2	-65.149	4	-.065	4	0	2	-.065	1
731	M74	1	max	0	1	.022	8	.016	5	0	1	0	1	0	1
732			min	0	1	-.007	3	-.011	2	0	1	0	1	0	1
733		2	max	18.983	7	18.813	4	18.814	1	0	1	.014	1	.014	3
734			min	6.247	2	-18.81	3	-18.813	2	0	1	-.014	2	-.014	4
735		3	max	37.967	7	37.615	4	37.616	1	0	1	.056	1	.056	3
736			min	12.495	2	-37.612	3	-37.615	2	0	1	-.056	2	-.056	4
737		4	max	-6.248	4	18.801	3	18.803	2	0	1	.014	1	.014	3
738			min	-18.983	6	-18.803	4	-18.803	1	0	1	-.014	2	-.014	4
739		5	max	0	1	0	1	0	2	0	1	0	1	0	1
740			min	0	1	-.006	6	-.002	7	0	1	0	1	0	1
741	M75	1	max	5752.226	8	-10.638	4	67.812	2	0	3	.125	1	-.069	4
742			min	1453.826	3	-93.412	7	-55.561	1	0	4	-.148	2	-.198	7
743		2	max	5729.748	8	-41.208	4	36.018	2	0	3	.081	3	-.012	3
744			min	1426.355	3	-107.487	7	-23.768	1	0	4	-.085	4	-.056	8
745		3	max	5707.27	8	-31.017	3	27.39	4	0	3	.07	3	.116	5
746			min	1398.885	3	-130.853	8	-17.602	10	0	4	-.057	4	.044	3
747		4	max	5684.791	8	-16.025	3	43.831	4	0	3	.091	1	.326	8
748			min	1371.414	3	-157.651	8	-31.617	3	0	4	-.06	2	.078	3
749		5	max	5662.313	8	-1.034	3	71.611	1	0	3	.172	1	.575	8

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mom...	LC
750			min	1343.943	3	-184.45	8	-59.361	2	0	4	-.124	2	.09	3
751	M76	1	max	5757.266	7	-12.383	3	84.496	1	0	3	.223	2	-.072	3
752			min	1438.425	4	-93.085	8	-65.91	2	0	4	-.258	1	-.197	8
753		2	max	5734.788	7	-41.829	2	52.703	1	0	3	.15	2	-.012	4
754			min	1410.955	4	-107.161	8	-34.117	2	0	4	-.158	1	-.056	7
755		3	max	5712.309	7	-29.301	4	34.463	4	0	3	.124	2	.116	7
756			min	1383.484	4	-131.291	7	-15.828	3	0	4	-.104	1	.042	4
757		4	max	5689.831	7	-14.31	4	50.903	4	0	3	.144	2	.327	7
758			min	1356.013	4	-158.089	7	-32.269	3	0	4	-.097	1	.074	4
759		5	max	5667.353	7	.682	4	67.343	4	0	3	.21	2	.577	7
760			min	1328.542	4	-184.887	7	-48.709	3	0	4	-.136	1	.084	4

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

	Member	Shape	Code ...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc ...	phi*Pnt [...	phi*Mn y...	phi*Mn z...	Cb	Eqn
1	M1	HSS4x4x4	.315	13.5	2	.077	13.5	z	2	65069.7...	139518	16.181	16.181	2...	H1-1b
2	M2	HSS4x4x4	.264	13.5	1	.058	13.5	y	5	65069.7...	139518	16.181	16.181	2...	H1-1b
3	M3	HSS4x4x4	.308	13.5	4	.062	13.5	y	8	65069.7...	139518	16.181	16.181	2...	H1-1b
4	M4	HSS4x4x4	.354	6.464	6	.092	3.542	y	8	103112....	139518	16.181	16.181	1...	H1-1b
5	M5	HSS4x4x4	.359	6.464	6	.098	3.542	y	6	103112....	139518	16.181	16.181	1...	H1-1b
6	M6	HSS4x4x4	.364	6.464	8	.093	3.542	y	7	103112....	139518	16.181	16.181	1...	H1-1b
7	MP1A	PIPE_2.0	.385	4.161	1	.112	4.161		1	13511.1...	32130	1.872	1.872	3...	H1-1b
8	M31	L2x2x4	.008	0	3	.001	0	y	3	29727.0...	30585.6	.691	1.577	2...	H2-1
9	M32	L2x2x4	.008	0	3	.001	0	y	4	29727.0...	30585.6	.691	1.577	2...	H2-1
10	M33	L2x2x4	.008	.75	4	.001	.75	y	3	29727.0...	30585.6	.691	1.577	2...	H2-1
11	M34	L2x2x4	.008	.75	4	.001	.75	y	3	29727.0...	30585.6	.691	1.577	2...	H2-1
12	M35	L2x2x4	.006	0	1	.001	0	y	2	29727.0...	30585.6	.691	1.577	2...	H2-1
13	M36	L2x2x4	.006	0	1	.001	0	y	2	29727.0...	30585.6	.691	1.577	2...	H2-1
14	M37	L2x2x4	.006	.75	2	.001	.75	y	1	29727.0...	30585.6	.691	1.577	2...	H2-1
15	M38	L2x2x4	.006	.75	2	.001	.75	y	1	29727.0...	30585.6	.691	1.577	2...	H2-1
16	M39	L2x2x4	.006	0	2	.001	0	y	1	29727.0...	30585.6	.691	1.577	2...	H2-1
17	M40	L2x2x4	.006	0	2	.001	0	y	1	29727.0...	30585.6	.691	1.577	2...	H2-1
18	M41	L2x2x4	.006	.75	1	.001	.75	y	2	29727.0...	30585.6	.691	1.577	2...	H2-1
19	M42	L2x2x4	.006	.75	1	.001	.75	y	2	29727.0...	30585.6	.691	1.577	2...	H2-1
20	MP2A	PIPE_2.0	.845	4.25	2	.069	4.161		1	13511.1...	32130	1.872	1.872	4...	H1-1b
21	MP3A	PIPE_2.0	.363	4.25	4	.089	4.25		2	13511.2...	32130	1.872	1.872	1...	H1-1b
22	MP4A	PIPE_2.0	.228	4.161	4	.062	4.161		4	13511.1...	32130	1.872	1.872	3...	H1-1b
23	MP1C	PIPE_2.0	.378	4.161	4	.096	4.161		4	13511.1...	32130	1.872	1.872	3...	H1-1b
24	MP2C	PIPE_2.0	.729	4.25	3	.071	4.161		2	13511.1...	32130	1.872	1.872	1...	H1-1b
25	MP3C	PIPE_2.0	.399	4.25	2	.091	4.25		3	13511.2...	32130	1.872	1.872	2...	H1-1b
26	MP4C	PIPE_2.0	.254	4.161	2	.067	4.161		2	13511.1...	32130	1.872	1.872	3...	H1-1b
27	MP1B	PIPE_2.0	.362	4.161	2	.101	4.161		4	13511.1...	32130	1.872	1.872	3...	H1-1b
28	MP2B	PIPE_2.0	.729	4.25	4	.077	4.161		3	13511.1...	32130	1.872	1.872	1...	H1-1b
29	MP3B	PIPE_2.0	.395	4.25	3	.068	4.25		1	13511.2...	32130	1.872	1.872	1...	H1-1b
30	MP4B	PIPE_2.0	.244	4.161	3	.059	4.161		3	13511.1...	32130	1.872	1.872	3...	H1-1b
31	M49	PIPE_2.0	.278	7.943	2	.173	1.042		2	6295.422	32130	1.872	1.872	3...	H1-1b
32	M54	PIPE_2.0	.234	7.813	3	.142	11.458		4	6295.422	32130	1.872	1.872	3...	H1-1b
33	M59	PIPE_2.0	.244	1.172	1	.186	1.042		4	6295.422	32130	1.872	1.872	4...	H1-1b
34	M60	L2.5x2.5x4	.330	0	4	.045	0	z	2	35826.7...	38556	1.114	2.537	1...	H2-1
35	M61	L2.5x2.5x4	.337	0	2	.052	0	z	1	35826.7...	38556	1.114	2.537	1...	H2-1
36	M62	L2.5x2.5x4	.294	0	4	.061	0	z	4	35826.7...	38556	1.114	2.537	2...	H2-1
37	M63	LL3x3x3x0	.310	5.833	5	.009	5.833	y	5	48998.4...	70632	4.823	2.345	2...	H1-1b
38	M64	PIPE_2.0	.054	4	3	.005	4		3	20866.7...	32130	1.872	1.872	2...	H1-1b
39	M66	PIPE_2.0	.054	4	3	.005	4		3	20866.7...	32130	1.872	1.872	2...	H1-1b
40	M68	PIPE_2.0	.054	4	1	.005	4		1	20866.7...	32130	1.872	1.872	1	H1-1b
41	M70	PIPE_2.0	.054	4	1	.005	4		1	20866.7...	32130	1.872	1.872	1	H1-1b

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

	Member	Shape	Code ...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc ...	phi*Pnt [...	phi*Mn y...	phi*Mn z...	Cb	Eqn
42	M72	PIPE_2.0	.054	4	1	.005	4		1	20866.7...	32130	1.872	1.872	1	H1-1b
43	M74	PIPE_2.0	.054	4	1	.005	4		1	20866.7...	32130	1.872	1.872	1	H1-1b
44	M75	LL3x3x3x0	.318	5.833	8	.009	5.833	y	8	48998.4...	70632	4.823	2.345	2....	H1-1b
45	M76	LL3x3x3x0	.326	5.833	6	.009	5.833	y	7	48998.4...	70632	4.823	2.345	1....	H1-1b

Envelope AISI S100-10: LRFD Cold Formed Steel Code Checks

Member	Shape	Code ...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pn[lb]	phi*Tn[lb]	phi*Mny...	phi*Mnz...	Cb	Cmyy	Cmzz	Eqn
No Data to Print ...																

Envelope AA ADM1-10: ASD - Building Aluminum Code Checks

Member	Shape	Code C...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	Pnc/O...	Pnt/Om...	Mny/O...	Mnz/O...	Vny/O...	Vnz/O...	Cb	Eqn
No Data to Print ...																

EXHIBIT 9

EBI Consulting

environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CTHA629A

51 Stony Lane
Stafford Springs, Connecticut 06076

February 22, 2021

EBI Project Number: 6221000647

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**24.33%**

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

February 22, 2021

T-Mobile
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, Connecticut 06002

Emissions Analysis for Site: CTHA629A

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **51 Stony Lane** in **Stafford Springs, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile 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 ($\mu W/cm^2$). 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.

Public 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 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency 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 T-Mobile Wireless antenna facility located at 51 Stony Lane in Stafford Springs, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile 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 manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.

3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

5) 4 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

6) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

7) 1 LTE channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

8) 1 NR channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

9) 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.

10) 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 manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

11) The antennas used in this modeling are the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector A, the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector B, the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

12) The antenna mounting height centerline of the proposed antennas is 118 feet above ground level (AGL).

13) 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.

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

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32
Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz
Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd
Height (AGL):	118 feet	Height (AGL):	118 feet	Height (AGL):	118 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts
ERP (W):	12,841.53	ERP (W):	12,841.53	ERP (W):	12,841.53
Antenna A1 MPE %:	**3.32%**	Antenna B1 MPE %:	**3.32%**	Antenna C1 MPE %:	**3.32%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd
Height (AGL):	118 feet	Height (AGL):	118 feet	Height (AGL):	118 feet
Channel Count:	7	Channel Count:	7	Channel Count:	7
Total TX Power (W):	320 Watts	Total TX Power (W):	320 Watts	Total TX Power (W):	320 Watts
ERP (W):	8,360.85	ERP (W):	8,360.85	ERP (W):	8,360.85
Antenna A2 MPE %:	**3.64%**	Antenna B2 MPE %:	**3.64%**	Antenna C2 MPE %:	**3.64%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz
Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd
Height (AGL):	118 feet	Height (AGL):	118 feet	Height (AGL):	118 feet
Channel Count:	2	Channel Count:	2	Channel Count:	2
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	38,477.89	ERP (W):	38,477.89	ERP (W):	38,477.89
Antenna A3 MPE %:	**9.93%**	Antenna B3 MPE %:	**9.93%**	Antenna C3 MPE %:	**9.93%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Max at Sector A):	16.89%
Sprint	3.66%
Verizon	3.78%
Site Total MPE % :	24.33%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	16.89%
T-Mobile Sector B Total:	16.89%
T-Mobile Sector C Total:	16.89%
Site Total MPE % :	24.33%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 1900 MHz GSM	4	1028.30	118.0	10.62	1900 MHz GSM	1000	1.06%
T-Mobile 1900 MHz LTE	2	2056.61	118.0	10.62	1900 MHz LTE	1000	1.06%
T-Mobile 2100 MHz LTE	2	2307.55	118.0	11.92	2100 MHz LTE	1000	1.19%
T-Mobile 600 MHz LTE	2	591.73	118.0	3.06	600 MHz LTE	400	0.76%
T-Mobile 600 MHz NR	1	1577.94	118.0	4.07	600 MHz NR	400	1.02%
T-Mobile 700 MHz LTE	2	695.22	118.0	3.59	700 MHz LTE	467	0.77%
T-Mobile 1900 MHz LTE	2	2104.51	118.0	10.87	1900 MHz LTE	1000	1.09%
T-Mobile 2500 MHz LTE	1	19238.94	118.0	49.67	2500 MHz LTE	1000	4.97%
T-Mobile 2500 MHz NR	1	19238.94	118.0	49.67	2500 MHz NR	1000	4.97%
						Total:	**16.89%**

• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

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 T-Mobile 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:

T-Mobile Sector	Power Density Value (%)
Sector A:	16.89%
Sector B:	16.89%
Sector C:	16.89%
T-Mobile Maximum MPE % (Sector A):	16.89%
Site Total:	24.33%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **24.33%** 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.